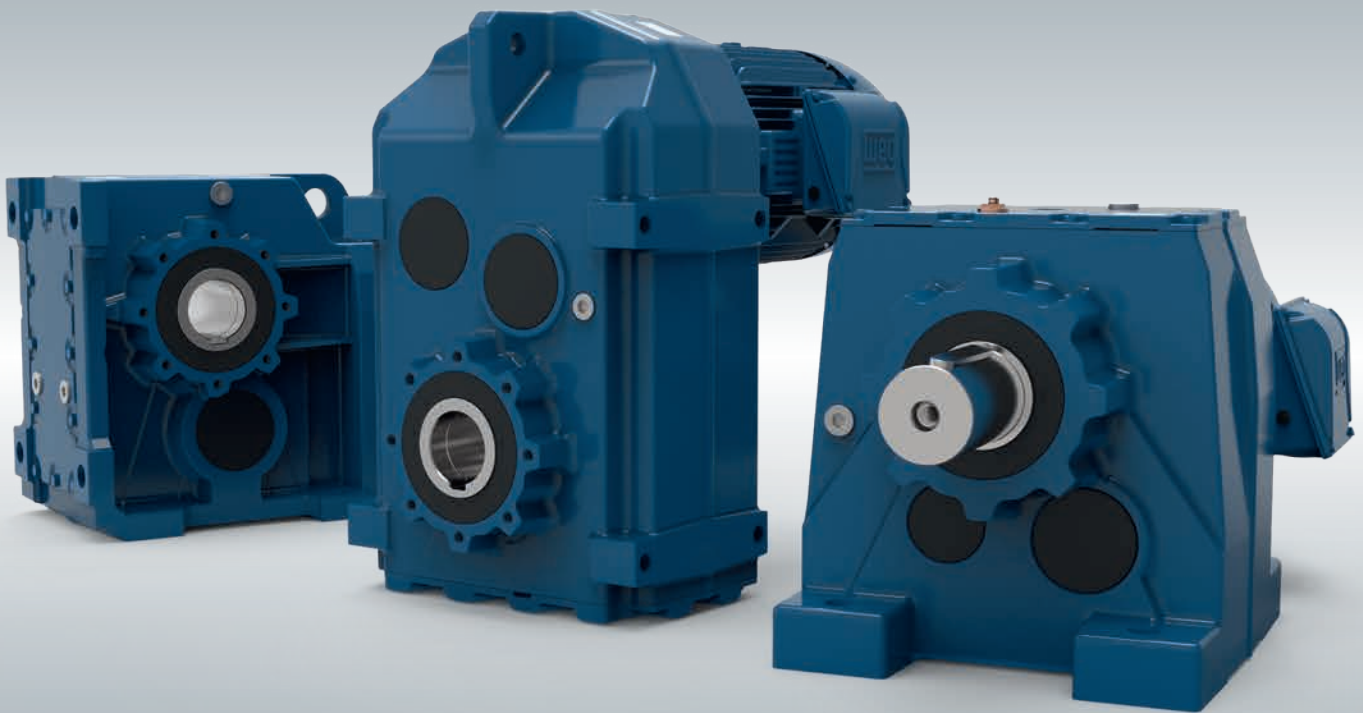


# WG20

Gear Units and Geared Motors up to 159,000 lb-in

TECHNICAL CATALOG



Motors | Automation | Energy | Transmission & Distribution | Coatings



## WEG Group - Transforming energy into solutions.

WEG is a leading global manufacturer and solutions provider of drive technology, automation devices and energy production and distribution.

Founded in Brazil in 1961 by three entrepreneurs, WEG has grown to become one of the most important global manufacturers of electric motors. The WEG Group has more than 33,000 employees around the world. An annual turnover of over 3 billion dollars reflects its increasing success. The company's global presence is supported by branches in 36 countries, production facilities, and a network of authorized dealers on all five continents.



# Your requirements - our expertise

As one of the leading global manufacturers and solutions providers of drive technology, WEG's aim was to expand its extensive range of products with the addition of gear units produced in its own facilities. Perfect coordination of products throughout the drive train has put WEG in a position to offer customers even more superior and efficient solutions.

Under the leadership of Watt Drive, the challenge was to develop a program which not only meets the current demands of the market, but also satisfied WEG's high quality requirements. The Group's own center of excellence for geared motors in Austria, part of the WEG Group since 2011, can draw on more than 40 years of experience in development, production and sales of gear units and geared motors.

In order to satisfy the requirements of state-of-the-art geared motors the following market requirements were taken into account during the development phase:

## Standard mounting dimensions

For users, the aim was to make the new range of geared motors as easy and effortless to use as possible. To ensure installation in an existing system or production line worked effortlessly without incurring unnecessary costs for

conversions, the developers decided to adapt the mounting dimensions of the new gear units to products already established on the market. The objective: worldwide, easy and cost-effective interchangeability.

## Torque transmission

The gear units needed to be compact, efficient, robust and reliable. In order to achieve this goal a transmission had to be designed which allows large ratio ranges in a two-stage model while being able to integrate easily into the newly designed gear housing.

## Efficiency

Energy efficiency has always been of paramount importance to WEG. The aim here was to live up to this demand when designing the new WG20 geared motors. This requires the perfect interaction of sophisticated technology and exclusive use of high quality components.

## Worldwide use

To meet the requirements of global mechanical and plant engineering, it was vital that the new geared motors can be used worldwide, whilst maintaining a high level of flexibility for applications.

The solution is **WG20**.





[www.cat4cad.com](http://www.cat4cad.com)

## Easy product selection

The “cat4CAD®” product configuration tool makes it easy to interactively select products. Comprehensive wizards, user-friendly navigation and many other extra features allow quick configuration of the required drive.

### Advantages

- Extensive product library
- Fast configuration of motors and geared motors
- Creation of project files with comprehensive technical documentation
- Easy modification of generated product data by means of the project file
- Quick request times

### Features

- The entire menu is available in many languages.
- To-scale 2D/3D drawings and PDF and DXF dimension sheet drawings of the previously selected drive.
- The 2D/3D data can be exported for use in standard CAD programs.
- Comprehensive technical data sheets of the configured gear unit and motor at the click of a button.
- The project file allows complete management of previously selected drives on one screen.  
At the click of a button one can save or print this project file, create PDF and DXF dimension drawings, and send enquiries directly to our sales team.

**Online version available at [www.cat4cad.com](http://www.cat4cad.com)**

**Offline version for download at [www.wattdrive.com](http://www.wattdrive.com)**

# WG20 - Geared motors up to 159,000 lb-in

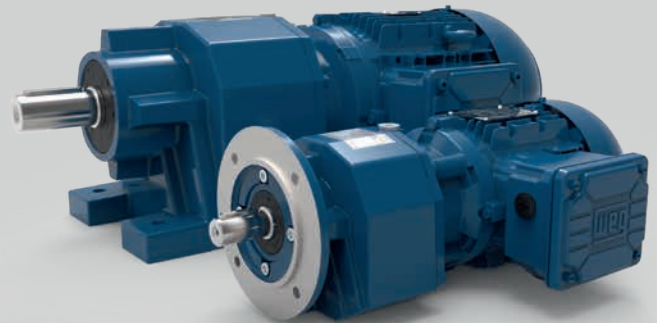
WG20 is the first geared motor range to be completely developed in-house at WEG. It comprises helical, parallel shaft and helical bevel gear units with torques between 440 and 159,000 lb-in. Already the two-stage units excel with their large ratio range, as well as being exceptionally efficient thanks to the sophisticated design. The light aluminium housings of the gear units up to 5,310 lb-in and the robust cast iron housings from 7,260 lb-in provide a highly versatile and reliable product, with a wide range of possible applications.

## Helical geared motors C

Nominal torque: 440 - 159,000 lb-in

Power range: 0.16 - 100 hp

Ratio range: 2.44 - 22,405.25



## Parallel shaft geared motors F

Nominal torque: 1150 - 159,000 lb-in

Power range: 0.16 - 100 hp

Ratio range: 3.85 - 24,805.81

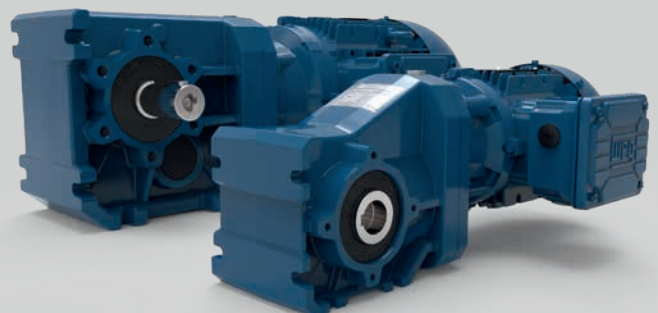


## Helical bevel geared motors K

Nominal torque: 970 - 159,000 lb-in

Power range: 0.16 - 100 hp

Ratio range: 3.82 - 14,005.40







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## Disclaimer

This catalog contains information (descriptions and characteristics), which do not always apply as described in case of actual use. Data can also change due to product development. Characteristics are only binding if explicitly agreed to in the contract. Delivery opportunities and technical modifications subject to change without notice.

# Drive calculation

## 1. Drive power

The required total power is divided into static and dynamic components. The static power is the component at constant speed (friction and lifting force). The dynamic component is the power for accelerating and decelerating of masses.

The selected rated motor power ( $P_N$ ) must be bigger than the required static drive power. The required total power can be bigger than the rated motor power but it must be smaller than the maximum motor power.

|                               | Formula                               | Unit  |
|-------------------------------|---------------------------------------|-------|
| Output speed of the gear unit | $n_2 = \frac{v}{2 \cdot \pi \cdot r}$ | [rpm] |

| Static drive power                                                      |                                                                                                              |         |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|---------|
| Linear movement<br>Horizontal movement<br>(conveyor, travel drive)      | $P_{\text{stat}} = \frac{m \cdot g \cdot \mu \cdot v}{1062000 \cdot \eta}$                                   | [hp]    |
| Inclined movement<br>(inclined conveyor, travel drive with inclination) | $P_{\text{stat}} = \frac{m \cdot g \cdot v \cdot (\sin \alpha + \mu \cdot \cos \alpha)}{1062000 \cdot \eta}$ | [hp]    |
| Vertical movement<br>(lifting drive, hoist, bucket elevator)            | $P_{\text{stat}} = \frac{m \cdot g \cdot v}{1062000 \cdot \eta}$                                             | [hp]    |
| Static output torque                                                    | $T_{2\text{stat}} = \frac{P_{\text{stat}} \cdot 63025}{n_2}$                                                 | [lb-in] |

| Dynamic drive power (acceleration/deceleration power) |                                                                                                      |         |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------|
| Horizontal movement                                   | $P_{\text{dyn,A,(B)}} = \frac{m \cdot v^2}{63690000 \cdot t_{A,(B)} \cdot \eta}$                     | [hp]    |
| Rotary motion                                         | $P_{\text{dyn,A,(B)}} = \frac{\sum J_{\text{red.}} \cdot n_1^2}{1614000 \cdot t_{A,(B)} \cdot \eta}$ | [hp]    |
| Starting respectively braking time                    | $t_{A,(B)} = \frac{\sum J_{\text{red.}} \cdot n_1}{102.8 \cdot (T_{A,(B)} \pm T_L)}$                 | [s]     |
| Minimum starting time against slipping                | $t_{A\text{min}} = \frac{v}{60 \cdot \mu_0 \cdot g}$                                                 | [s]     |
| Load torque of motor                                  | $T_L = \frac{T_{2\text{stat}}}{3 \cdot i}$                                                           | [lb-in] |
| Starting power                                        | $P_A = P_{\text{dyn,A}} + P_{\text{stat}}$                                                           | [hp]    |
| Braking power                                         | $P_B = P_{\text{dyn,B}} \pm P_{\text{stat}}$                                                         | [hp]    |
| Starting / braking torque                             | $T_{2,A,(B)} = \frac{P_{A,(B)} \cdot 63025}{n_2}$                                                    | [lb-in] |

+ $T_L$  for braking when the load acts in a braking manner (e.g. lifts when going up)  
 - $T_L$  for starting or for braking when the load acts accelerative (e.g. lifts when going down)



**Mass moments of inertia**

External load moments of inertia have to be reduced onto the motor shaft by squared ratios.

| Reduced mass moment of inertia                     | $J_{ex.red.} = \frac{J_{ex}}{i^2}$                                                                   | [lb-ft <sup>2</sup> ] |
|----------------------------------------------------|------------------------------------------------------------------------------------------------------|-----------------------|
| <p style="text-align: center;">Solid cylinder</p>  | $J_{ex.red.} = 0.0982 \cdot \rho \cdot l \cdot d_a^4 \cdot \left(\frac{n_x}{n_1}\right)^2$           | [lb-ft <sup>2</sup> ] |
| <p style="text-align: center;">Hollow cylinder</p> | $J_{ex.red.} = 0.0982 \cdot \rho \cdot l \cdot (d_a^4 - d_i^4) \cdot \left(\frac{n_x}{n_1}\right)^2$ | [lb-ft <sup>2</sup> ] |
| <p style="text-align: center;">Linear movement</p> | $J_{ex.red.} = 0.02534 \cdot m \cdot \left(\frac{v}{n_1}\right)^2$                                   | [lb-ft <sup>2</sup> ] |

**Approximate values for friction coefficients:**

Rolling friction:  $\mu_r = 0.005 - 0.02$  steel/steel  
 $\mu_r = 0.02 - 0.06$  plastic/steel  
 $\mu_r = 0.06 - 0.2$  rubber/steel

Static friction:  $\mu_0 = 0.15$  steel/steel

Friction coefficient for conveyors:

$\mu_r = 0.13$  33 foot conveyor length  
 $\mu_r = 0.08$  82 foot conveyor length  
 $\mu_r = 0.06$  164 foot conveyor length  
 $\mu_r = 0.05$  328 foot conveyor length

| Designation       | Unit                  | Description                                                                 |
|-------------------|-----------------------|-----------------------------------------------------------------------------|
| $d_a$             | [ft]                  | Outside diameter                                                            |
| $d_i$             | [ft]                  | Inside diameter                                                             |
| $f_B$             |                       | Service factor                                                              |
| $F_I$             |                       | Inertial factor                                                             |
| $g$               | [ft/s <sup>2</sup> ]  | Acceleration due to gravity                                                 |
| $i$               |                       | Gear ratio                                                                  |
| $J_{ex.red.}$     | [lb-ft <sup>2</sup> ] | All external mass moments of inertia corrected to motor input               |
| $J_{ex}$          | [lb-ft <sup>2</sup> ] | All external mass moments of inertia                                        |
| $J_{mot}$         | [lb-ft <sup>2</sup> ] | Mass moment of inertia of the motor                                         |
| $\Sigma J_{red.}$ | [lb-ft <sup>2</sup> ] | Sum of all $J_{red.}$ values                                                |
| $l$               | [ft]                  | Length                                                                      |
| $m$               | [lb]                  | Mass                                                                        |
| $T_{2,A}$         | [lb-in]               | Output torque of gear unit for starting                                     |
| $T_{2,B}$         | [lb-in]               | Output torque of gear unit for braking                                      |
| $T_{2Nenn}$       | [lb-in]               | Permissible output torque                                                   |
| $T_{2stat}$       | [lb-in]               | Static output torque                                                        |
| $T_A$             | [lb-in]               | Starting torque of the motor (see motor electric data sheets from page 485) |
| $T_B$             | [lb-in]               | Brake torque                                                                |

| Designation | Unit                  | Description                               |
|-------------|-----------------------|-------------------------------------------|
| $T_L$       | [lb-in]               | Load torque of motor                      |
| $n_1$       | [rpm]                 | Input speed (motor speed)                 |
| $n_2$       | [rpm]                 | Output speed (gear unit)                  |
| $n_x$       | [rpm]                 | Speed of calculated components            |
| $P_A$       | [hp]                  | Power of gear unit at start               |
| $P_B$       | [hp]                  | Power of gear unit at stop                |
| $P_{stat}$  | [hp]                  | Static power                              |
| $P_{dyn,A}$ | [hp]                  | Dynamic acceleration power                |
| $P_{dyn,B}$ | [hp]                  | Dynamic deceleration power                |
| $r$         | [ft]                  | Sprocket / roller radius                  |
| $t_{Amin}$  | [s]                   | Minimum starting time with risk of slip   |
| $t_A$       | [s]                   | Starting time                             |
| $t_B$       | [s]                   | Braking time                              |
| $v$         | [fpm]                 | Linear velocity                           |
| $\alpha$    | [°]                   | Angle of inclination                      |
| $\eta$      |                       | Efficiency of the gear unit, system       |
| $\mu$       |                       | Coefficient of friction                   |
| $\mu_0$     |                       | Coefficient of static friction            |
| $\mu_r$     |                       | Coefficient of rolling friction           |
| $\rho$      | [lb/ft <sup>3</sup> ] | Density (steel = 490 lb/ft <sup>3</sup> ) |

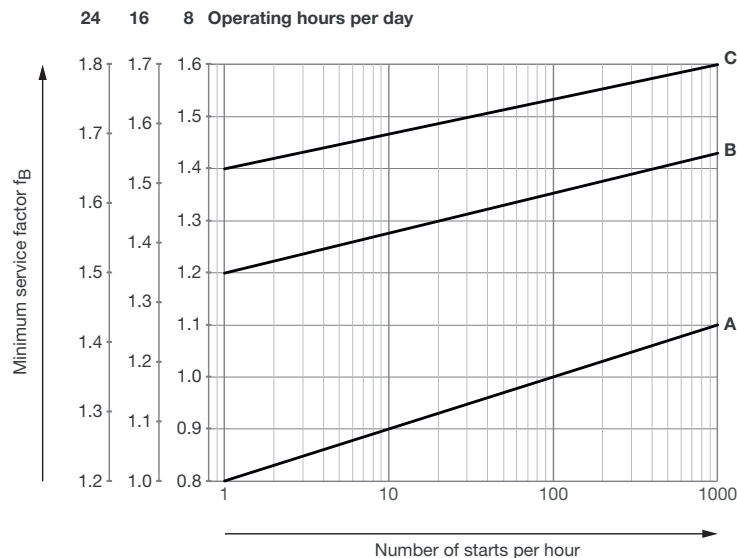
## 2. Load types

| Load type A                                                                                                                                           | Load type B                                                                                                                                                                                                                | Load type C                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Uniform load,<br>small masses to be accelerated,<br>no shocks                                                                                         | Non-uniform load,<br>medium masses to be accelerated,<br>medium shocks                                                                                                                                                     | Extremely rough conditions,<br>high masses to be accelerated,<br>heavy shocks and alternating load                                           |
| Examples:<br>Continuous conveyor for bulk goods, light conveyors,<br>blowers, centrifugal pumps, light elevators,<br>screw conveyors, fluid agitators | Examples:<br>Bucket conveyors, rotary furnaces, printing and dyeing<br>machines, conveyor drums, centrifugal pumps and semi<br>fluid good agitators, wood working machines, elevators,<br>screw conveyors, concrete mixers | Examples:<br>Ramming machines, calenders, duty rolling mills,<br>presses, heavy mixer, stone crushers, shredders,<br>heavy winches and lifts |

## 3. Service factor

The gear unit required can be selected from the following tables showing the power, torque and output speed options. All our gear units are adequately sized for long-life industrial applications and are designed for continuous loading under uniform operating conditions with small masses to be accelerated. Operating times of 8-10 hours a day are considered standard. No drive can be built to withstand all possible conditions, therefore the load conditions at the site have to be determined accurately and the proper load type identified. After determining the daily operating hours, selecting the type and establishing the number of starts (c/h), see the following diagram to find out the necessary service factor  $f_B$ . The inertial factor  $F_I$  assists in evaluating and attributing the masses to be accelerated. The service factor given in the tables indicates the reserve load in the rated torque for the specific gear unit.

In the tables you can usually choose between two types of gear units with the same or similar speeds, but different service factors. When you select the correct gear unit, the  $f_B$  from the diagram below should always be less than or equal to the available  $f_B$  (from the selection tables) for the chosen type. For short time operation, you can sometimes select a smaller gear unit, while for peak operation, a large number of starts or 24-hour continuous operation, a larger type is necessary. The output speed figures shown in the selection tables have been rounded up or rounded off. They may however vary due to the motor size and are valid for nominal load. Deviations of +/- 3 % are permissible.



|                 | Formula                                           | Unit  |
|-----------------|---------------------------------------------------|-------|
| Service factor  | $f_B = \frac{T_{2Nenn}}{T_{2stat}}$               |       |
| Inertial factor | $F_I = \frac{\sum J_{ex,red} + J_{mot}}{J_{mot}}$ | [rpm] |

## Thermal power limit

The thermal power limit  $P_t$  must always be taken into account when designing a drive. It represents the maximum input power which can be transmitted by the gear unit at the given ambient temperature in a continuous operation mode (S1).

The technical data of the geared motors shown in the selection tables apply to an ambient temperature of +68 °F. Thermal power limits for other temperatures can be seen in the table below.

Parameters to be considered:

- Higher / lower temperatures
- Vertical mounting positions (M2 or M4)
- Higher input speed (> 1800 rpm) due to e.g. use of frequency inverter
- Small ratios
- Confined mounting space

For such conditions we recommend consulting WEG. The geared motors can be adapted according to customer requirements by using e.g. lubricant expansion, optimized oil quantities, synthetic oils or Viton seal rings.

| Gear size | Ambient temperature |        |        |        |        |        |         |         |         |
|-----------|---------------------|--------|--------|--------|--------|--------|---------|---------|---------|
|           | -4 °F               | +14 °F | +32 °F | +50 °F | +68 °F | +86 °F | +104 °F | +122 °F | +140 °F |
| C002      | 3.4                 | 2.8    | 2.4    | 2.0    | 1.6    | 1.3    | 0.9     | 0.7     | 0.4     |
| C012      | 6.7                 | 5.8    | 4.8    | 4.0    | 3.4    | 2.7    | 2.0     | 1.5     | 0.9     |
| C032      | 13.4                | 11.7   | 9.9    | 8.3    | 6.7    | 5.4    | 4.0     | 2.8     | 1.7     |
| C033      | 8.2                 | 7.0    | 6.0    | 5.0    | 4.0    | 3.2    | 2.4     | 1.7     | 1.1     |
| C052      | 25.5                | 21.5   | 18.8   | 16.1   | 12.7   | 10.1   | 7.6     | 5.4     | 3.4     |
| C053      | 14.8                | 13.1   | 11.3   | 9.4    | 7.6    | 6.0    | 4.6     | 3.2     | 2.0     |
| C062      | 34.9                | 29.5   | 25.5   | 21.5   | 17.4   | 13.4   | 10.5    | 7.4     | 4.7     |
| C063      | 21.5                | 18.8   | 14.8   | 12.9   | 10.5   | 8.3    | 6.3     | 4.4     | 2.8     |
| C072      | 45.6                | 38.9   | 33.5   | 28.2   | 22.8   | 17.4   | 13.4    | 9.7     | 6.0     |
| C073      | 26.8                | 22.8   | 20.1   | 16.1   | 13.4   | 10.9   | 8.2     | 5.8     | 3.6     |
| C082      | 77.8                | 67.1   | 56.3   | 46.9   | 38.9   | 30.8   | 22.8    | 16.1    | 10.3    |
| C083      | 46.9                | 40.2   | 34.9   | 28.2   | 22.8   | 18.8   | 14.8    | 9.9     | 6.3     |
| C092      | 110.0               | 95.2   | 80.5   | 67.1   | 55.0   | 42.9   | 33.5    | 22.8    | 14.8    |
| C093      | 65.7                | 57.7   | 48.3   | 40.2   | 33.5   | 26.8   | 20.1    | 14.8    | 8.9     |
| C094      | 45.6                | 38.9   | 33.5   | 28.2   | 22.8   | 17.4   | 13.4    | 9.7     | 6.0     |
| C102      | 138.1               | 119.4  | 100.6  | 84.5   | 68.4   | 55.0   | 41.6    | 29.5    | 18.8    |
| C103      | 83.1                | 72.4   | 61.7   | 51.0   | 41.6   | 33.5   | 25.5    | 17.4    | 11.1    |
| C104      | 56.3                | 48.3   | 41.6   | 34.9   | 28.2   | 22.8   | 17.4    | 12.1    | 7.5     |
| C132      | 190.4               | 164.9  | 140.8  | 116.7  | 95.2   | 76.4   | 57.7    | 40.2    | 25.5    |
| C133      | 115.3               | 99.2   | 84.5   | 71.1   | 57.7   | 45.6   | 34.9    | 24.1    | 16.1    |
| C134      | 77.8                | 67.1   | 57.7   | 48.3   | 38.9   | 30.8   | 24.1    | 16.1    | 10.5    |
| C142      | 256.1               | 221.3  | 187.7  | 156.9  | 128.7  | 101.9  | 76.4    | 55.0    | 34.9    |
| C143      | 154.2               | 132.8  | 114.0  | 95.2   | 77.8   | 61.7   | 46.9    | 33.5    | 20.1    |
| C144      | 104.6               | 91.2   | 76.4   | 64.4   | 52.3   | 41.6   | 32.2    | 22.8    | 14.8    |
| C162      | 363.4               | 313.8  | 266.9  | 224.0  | 182.4  | 144.8  | 110.0   | 77.8    | 48.3    |
| C163      | 219.9               | 189.1  | 160.9  | 135.4  | 110.0  | 87.2   | 65.7    | 46.9    | 29.5    |
| C164      | 148.9               | 128.7  | 110.0  | 91.2   | 75.1   | 59.0   | 45.6    | 32.2    | 20.1    |
| C165      | 108.6               | 93.9   | 79.1   | 67.1   | 55.0   | 42.9   | 32.2    | 22.8    | 14.8    |
| F022      | 11.3                | 9.7    | 8.2    | 6.8    | 5.6    | 4.4    | 3.4     | 2.4     | 1.5     |
| F032      | 14.8                | 13.0   | 11.1   | 9.3    | 7.6    | 6.0    | 4.6     | 3.2     | 2.0     |
| F042      | 24.1                | 20.1   | 17.4   | 14.8   | 11.9   | 9.5    | 7.2     | 5.1     | 3.2     |
| F043      | 14.8                | 12.5   | 10.6   | 8.9    | 7.2    | 5.8    | 4.3     | 3.1     | 1.9     |
| F052      | 32.2                | 28.2   | 24.1   | 20.1   | 16.1   | 13.0   | 9.8     | 7.0     | 4.4     |
| F053      | 20.1                | 17.4   | 14.8   | 12.1   | 9.9    | 7.8    | 5.9     | 4.2     | 2.7     |
| F062      | 41.6                | 36.2   | 30.8   | 25.5   | 20.1   | 16.1   | 12.5    | 8.9     | 5.5     |
| F063      | 25.5                | 21.5   | 18.8   | 14.8   | 12.5   | 9.9    | 7.5     | 5.4     | 3.4     |
| F072      | 68.4                | 59.0   | 49.6   | 41.6   | 33.5   | 26.8   | 20.1    | 14.8    | 9.1     |
| F073      | 41.6                | 34.9   | 30.8   | 25.5   | 20.1   | 16.1   | 12.3    | 8.9     | 5.5     |

Thermal power limit  $P_t$  [hp]



|      |       |       |       |       |       |       |       |      |      |
|------|-------|-------|-------|-------|-------|-------|-------|------|------|
| F082 | 97.9  | 84.5  | 72.4  | 60.3  | 49.6  | 38.9  | 29.5  | 21.5 | 13.1 |
| F083 | 59.0  | 51.0  | 42.9  | 36.2  | 29.5  | 24.1  | 17.4  | 12.6 | 7.9  |
| F084 | 40.2  | 34.9  | 29.5  | 24.1  | 20.1  | 16.1  | 12.1  | 8.6  | 5.4  |
| F092 | 143.5 | 123.4 | 104.6 | 87.2  | 71.1  | 56.3  | 42.9  | 30.8 | 18.8 |
| F093 | 85.8  | 75.1  | 63.0  | 53.6  | 42.9  | 34.9  | 25.5  | 18.8 | 11.5 |
| F094 | 59.0  | 51.0  | 42.9  | 36.2  | 29.5  | 22.8  | 17.4  | 12.1 | 7.9  |
| F102 | 210.5 | 182.4 | 154.2 | 128.7 | 105.9 | 83.1  | 63.0  | 45.6 | 28.2 |
| F103 | 127.4 | 110.0 | 93.9  | 77.8  | 64.4  | 51.0  | 38.9  | 26.8 | 17.4 |
| F104 | 85.8  | 75.1  | 63.0  | 53.6  | 42.9  | 34.9  | 25.5  | 18.8 | 12.1 |
| F122 | 295.0 | 254.8 | 217.2 | 181.0 | 147.5 | 116.7 | 88.5  | 63.0 | 40.2 |
| F123 | 178.4 | 154.2 | 131.4 | 110.0 | 89.8  | 71.1  | 53.6  | 37.5 | 24.1 |
| F124 | 120.7 | 104.6 | 88.5  | 73.8  | 60.3  | 48.3  | 36.2  | 25.5 | 16.1 |
| F152 | 451.9 | 390.2 | 331.2 | 277.6 | 226.6 | 179.7 | 135.4 | 96.6 | 60.3 |
| F153 | 272.2 | 236.0 | 199.8 | 167.6 | 136.8 | 108.6 | 81.8  | 57.7 | 36.2 |
| F154 | 185.1 | 159.6 | 135.4 | 114.0 | 92.5  | 73.8  | 56.3  | 40.2 | 25.5 |
| F155 | 134.1 | 116.7 | 99.2  | 83.1  | 67.1  | 53.6  | 40.2  | 28.2 | 17.4 |
| K022 | 13.4  | 11.8  | 9.9   | 8.3   | 6.8   | 5.4   | 4.2   | 3.0  | 1.9  |
| K033 | 13.4  | 11.5  | 9.8   | 8.2   | 6.7   | 5.4   | 4.0   | 2.8  | 1.7  |
| K043 | 21.5  | 18.8  | 16.1  | 13.1  | 10.7  | 8.4   | 6.4   | 4.6  | 2.8  |
| K053 | 28.2  | 24.1  | 20.1  | 17.4  | 13.4  | 11.1  | 8.4   | 6.0  | 3.8  |
| K063 | 30.8  | 26.8  | 22.8  | 18.8  | 16.1  | 12.5  | 9.4   | 6.7  | 4.2  |
| K073 | 49.6  | 42.9  | 36.2  | 30.8  | 25.5  | 20.1  | 14.8  | 10.7 | 6.7  |
| K083 | 59.0  | 51.0  | 42.9  | 36.2  | 29.5  | 22.8  | 17.4  | 12.6 | 7.9  |
| K084 | 40.2  | 34.9  | 29.5  | 24.1  | 20.1  | 16.1  | 12.1  | 8.6  | 5.4  |
| K093 | 83.1  | 72.4  | 61.7  | 51.0  | 41.6  | 33.5  | 25.5  | 17.4 | 11.1 |
| K094 | 56.3  | 48.3  | 41.6  | 34.9  | 28.2  | 22.8  | 17.4  | 12.1 | 7.6  |
| K103 | 127.4 | 110.0 | 92.5  | 77.8  | 63.0  | 51.0  | 38.9  | 26.8 | 17.4 |
| K104 | 85.8  | 73.8  | 63.0  | 52.3  | 42.9  | 34.9  | 25.5  | 18.8 | 11.5 |
| K123 | 175.7 | 151.5 | 128.7 | 107.3 | 88.5  | 69.7  | 52.3  | 37.5 | 24.1 |
| K124 | 119.4 | 103.3 | 87.2  | 73.8  | 60.3  | 46.9  | 36.2  | 25.5 | 16.1 |
| K153 | 248.1 | 214.6 | 182.4 | 152.9 | 124.7 | 99.2  | 75.1  | 53.6 | 33.5 |
| K154 | 169.0 | 146.2 | 123.4 | 103.3 | 84.5  | 67.1  | 51.0  | 36.2 | 22.8 |
| K155 | 122.0 | 105.9 | 89.8  | 75.1  | 61.7  | 48.3  | 37.5  | 26.8 | 16.1 |

Thermal power limit  $P_t$  [hp]

## Input types

### 1. IEC Adapter I

Standard motors complying with DIN EN 50347 IM B5 can be mounted on WG20 gear units with IEC adapters. The adapters are oil-tight. The motors are attached using different couplings, depending on the adapter size:

- **I63 to I100: Plug-in adapter**

The connecting coupling is one part; the motor shaft is inserted directly into the coupling shaft. Before mounting, the motor shaft is to be cleaned and coated with lubricating paste (e.g. Klüberpaste 46 MR 401). This makes it easier to disassemble the shaft when servicing is required and protects the connection against frictional corrosion.

- **I112 to I132: Curved teeth coupling**

The connecting coupling comprises two parts; a coupling hub is mounted on the motor shaft and fixed using a threaded pin. Power is transmitted by means of the internally toothed coupling sleeve.



Plug-in adapter



Adapter with coupling

- **I160 to I280: Claw coupling**

The connecting coupling comprises two parts; a coupling hub is mounted on the motor shaft and fixed using a threaded pin. Power is transmitted by means of a flexible coupling star.

**Complete drive systems with WEG IEC motors:**

By mounting, for example, WEG W22 IEC motors or WEG roller table motors, complete packages can be supplied for a wide range of applications.

## 2. NEMA Adapter N

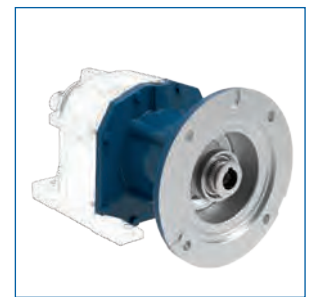
Standard motors complying with NEMA C-face standard can be mounted on WG20 gear units with NEMA adapters. The adapters are oil-tight. The motors are attached using different couplings, depending on the adapter size:

- **N56 to N182: Plug-in adapter**

The connecting coupling is one part; the motor shaft is inserted directly into the coupling shaft. Before mounting, the motor shaft is to be cleaned and coated with lubricating paste (e.g. Klüberpaste 46 MR 401). This makes it easier to disassemble the shaft when servicing is required and protects the connection against frictional corrosion.



*Plug-in adapter*



*Adapter with coupling*

- **N184 to N215: Curved teeth coupling**

The connecting coupling comprises two parts; a coupling hub is mounted on the motor shaft and fixed using a threaded pin. Power is transmitted by means of the internally toothed coupling sleeve.

- **N254 to N364: Claw coupling**

The connecting coupling comprises two parts; a coupling hub is mounted on the motor shaft and fixed using a threaded pin. Power is transmitted by means of a flexible coupling star.

**Complete drive systems with WEG NEMA motors:**

By mounting, for example, WEG W22 NEMA motors, complete packages can be supplied for a wide range of applications.

It is recommended that the motors are sealed with a sealant (e.g. Loctite 510) when IEC and NEMA adapters are mounted to the flange to prevent water or dust ingress. Use screws of strength class 8.8 (or higher) to fasten the motors to the flanges. Observe the corresponding tightening torques according to the mounting Instruction.

## 3. SERVO Adapter S

WG20 gear units with SERVO adapters can be fitted with servo motors from different manufacturers. The adapters are oil-tight, and the motors are mounted using flexible servo couplings. The backlash-free connection between the motor shaft and the adapter shaft is made by means of a clamp connection.

Both servo motors with smooth shaft and servo motors with feather key can be mounted. The mounting clearance between the motor shaft and coupling is reduced to 0 by means of a clamp ring.



*Servo coupling*

- **S92 to S190: Servo coupling**

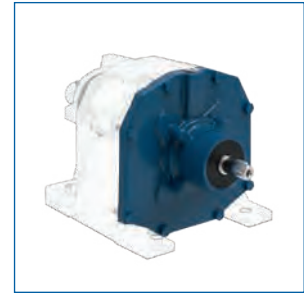
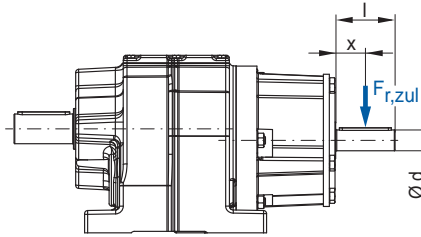
## 4. Input Unit U

Gear unit versions with input unit enable the WG20 gear units to be operated by attaching drive elements such as couplings or belt drives. Permissible shear forces or thermal power limits must be checked accordingly.

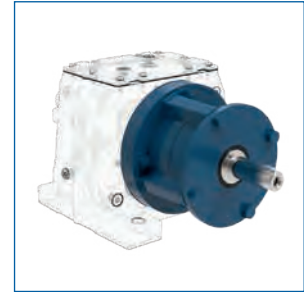
▪ **Input unit sizes: U2, U3, U5, U6, U7**

| Size             | U2    | U3    | U5    |       |        | U6     | U7     |
|------------------|-------|-------|-------|-------|--------|--------|--------|
| Input shaft [mm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |

The shear forces given in the following table (Permissible shear forces - Input unit) apply to input units with force applied to the shaft center  $x = l/2$ . When determining the permissible shear forces, the unfavorable rotating direction and the most unfavorable force direction is assumed, as well as an input speed  $n_1 = 1400$  rpm at a given rated power  $P_N$ . The calculation was made with a standard shaft and standard bearing. For exact determination of the permissible shear force  $F_{r,zul}$ , the direction of force and the rotating direction must be specified.



Input unit U2 and U3



Input unit U5 to U7

| Input shaft unit [mm] |                 |     | $T_{max}$<br>[lb-in]<br>at $F_r = 0$ | Nominal power $P_N$ [hp]                 |      |      |      |      |      |      |      |      |      |      |      |
|-----------------------|-----------------|-----|--------------------------------------|------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
|                       |                 |     |                                      | 0.16                                     | 0.25 | 0.33 | 0.50 | 0.75 | 1.0  | 1.5  | 2.0  | 3.0  | 4.0  | 5.5  | 7.5  |
|                       | $\varnothing d$ | l   |                                      | Permissible shear force $F_{r,zul}$ [lb] |      |      |      |      |      |      |      |      |      |      |      |
| U2                    | 19              | 40  | 159                                  | 585                                      | 562  | 540  | 517  | 450  | 405  | 360  | 292  | 157  | -    | -    | -    |
| U3                    | 24              | 50  | 885                                  | 1124                                     | 1124 | 1124 | 1124 | 1124 | 1124 | 1034 | 944  | 764  | 562  | 495  | 382  |
| U5                    | 28              | 60  | 885                                  | 1461                                     | 1461 | 1461 | 1461 | 1461 | 1461 | 1461 | 1439 | 1439 | 1439 | 1416 | 1416 |
|                       | 38              | 80  | 1505                                 | 2473                                     | 2473 | 2473 | 2473 | 2473 | 2473 | 2473 | 2473 | 2360 | 2360 | 2248 | 2136 |
|                       | 42              | 110 | 2124                                 | 2473                                     | 2473 | 2473 | 2473 | 2473 | 2473 | 2473 | 2473 | 2360 | 2360 | 2248 | 2136 |
| U6                    | 48              | 110 | 4337                                 | 3372                                     | 3372 | 3372 | 3372 | 3372 | 3372 | 3372 | 3372 | 3372 | 3372 | 3260 | 3260 |
| U7                    | 55              | 110 | 8585                                 | 5620                                     | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 |

| Input shaft unit [mm] |                 |     | $T_{max}$<br>[lb-in]<br>at $F_r = 0$ | Nominal power $P_N$ [hp]                 |      |      |      |      |      |      |      |      |      |      |   |
|-----------------------|-----------------|-----|--------------------------------------|------------------------------------------|------|------|------|------|------|------|------|------|------|------|---|
|                       |                 |     |                                      | 10                                       | 12.5 | 15   | 20   | 25   | 30   | 40   | 50   | 60   | 75   | 100  |   |
|                       | $\varnothing d$ | l   |                                      | Permissible shear force $F_{r,zul}$ [lb] |      |      |      |      |      |      |      |      |      |      |   |
| U2                    | 19              | 40  | 159                                  | -                                        | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | - |
| U3                    | 24              | 50  | 885                                  | 225                                      | 112  | -    | -    | -    | -    | -    | -    | -    | -    | -    | - |
| U5                    | 28              | 60  | 885                                  | 1394                                     | 1371 | 1349 | -    | -    | -    | -    | -    | -    | -    | -    | - |
|                       | 38              | 80  | 1505                                 | 2023                                     | 1798 | 1686 | 1349 | 1012 | -    | -    | -    | -    | -    | -    | - |
|                       | 42              | 110 | 2124                                 | 2023                                     | 1798 | 1686 | 1349 | 1012 | 674  | -    | -    | -    | -    | -    | - |
| U6                    | 48              | 110 | 4337                                 | 3147                                     | 3035 | 2923 | 2585 | 2360 | 2136 | 1686 | 1236 | 674  | -    | -    | - |
| U7                    | 55              | 110 | 8585                                 | 5620                                     | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 | 5620 | 5395 | 5171 | 4721 | - |

Permissible shear force - Input unit  $F_{r,zul}$  at  $x = l/2$



# Explosion-proof gear units and geared motors

WG20 type series gear units meet the requirements of Directive 2014/34/EU on equipment for use in potentially hazardous areas. Both gear units and geared motors can be used.



WG20 geared motor for application in zones 2 + 22



WG20 geared motor for application in zones 1 + 21

## General information

The operation of systems requires special measures in areas with explosive air/gas mixtures or air/dust mixtures. The Directive governs the possible uses of equipment within the existing danger zones, whereby both electrical and mechanical equipment, such as gear units, must meet the minimum requirements specified in the standard.

## Zoning

Zoning takes into account whether the Ex atmosphere is a mixture of air with gas or with dust.

## Relevant areas

- **Category 2G/2D and EPL Gb/Db units**

are intended for use in areas in which there is *occasionally* an explosive atmosphere. They are permitted for use in zone 1 (category 2G) and zone 21 (category 2D), and zone 2 (3G) and 22 (3D).

- **Category 3G/3D and EPL Gc/Dc units**

are intended for use in areas in which an explosive atmosphere caused by gases, vapours, mists or suspended dust is unlikely to occur. However, if this does occur, it will occur *only rarely or for a short period of time*. These units are permitted for use in zone 2 (category 3G) or zone 22 (category 3D).

## Marking according to standards

| Category                          | Equipment group I |    | Equipment group II                                |    |                            |                            |                                                               |                            |
|-----------------------------------|-------------------|----|---------------------------------------------------|----|----------------------------|----------------------------|---------------------------------------------------------------|----------------------------|
|                                   | Mines             |    | Other areas with dust or gas explosive atmosphere |    |                            |                            |                                                               |                            |
|                                   | M1                | M2 | 1                                                 |    | 2                          |                            | 3                                                             |                            |
| Presence of explosive atmospheres |                   |    | continuous, frequent or for long periods          |    | likely in normal operation |                            | not likely in normal operation, only for short period of time |                            |
| Surrounding atmosphere            |                   |    | G                                                 | D  | G                          | D                          | G                                                             | D                          |
| Zone                              |                   |    | 0                                                 | 20 | 1                          | 21                         | 2                                                             | 22                         |
| Equipment Protection Level        | Ma                | Mb | Ga                                                | Da | Gb                         | Db                         | Gc                                                            | Dc                         |
| Type of protection (not electric) |                   |    |                                                   |    | h (c, k)                   | h (c, k)                   | h (c, k)                                                      | h (c, k)                   |
| Type of protection (electric)     |                   |    |                                                   |    | d, eb                      | tb                         | ec                                                            | tc                         |
| Ex-marking gear unit              |                   |    |                                                   |    | II 2G Ex h IIC T4 Gb       | II 2D Ex h IIIC T125°C Db  | II 3G Ex h IIC T4 Gc                                          | II 3D Ex h IIIC T125°C Dc  |
| Ex-marking motor                  |                   |    |                                                   |    | II 2G Ex d IIC T4 Gb       | II 2D Ex tb IIIC T125°C Db | II 3G Ex ec IIC T3 Gc                                         | II 3D Ex tc IIIC T125°C Dc |

Possible range of application for WG20 products

## Types of ignition protection used

The ignition of an explosive mixture in the classified zones is to be prevented by the various types of ignition protection used for the equipment.

- **Types of ignition protection for non-electrical equipment: according to EN ISO 80079-36 and -37**

„c“: Protection by means of structural safety

„k“: Protection by means of fluid coupling

▪ **Types of ignition protection for electrical equipment: according to EN ISO 60079-07 and -31**

- „ec“ and „eb“: Protection by means of increased safety
- „tc“ and „tb“: Protection by means of housing
- „d“: flameproof enclosure

**Applicable explosive atmospheres**

For the types of ignition protection used, parts which can be exposed to an explosive atmosphere without restriction must not reach excessively high temperatures.

▪ **Temperature classes for gas explosion protection (G)**

Flammable gases and vapors are divided into temperature classes according to their flammability. The influence of ambient temperature and self-heating of the equipment must also be taken into account.

The maximum surface temperature of the equipment may only assume values that correspond to the temperature class for gases. In fact, the ignition temperature represents the lowest temperature value at which a hot surface can ignite the corresponding explosive atmosphere.

In addition, gases and vapors are classified in explosion groups IIA, IIB and IIC. The hazardousness of gases increases from explosion group IIA to IIC.

**WG20 geared motors can be used in temperature class T3 (max. surface temperature 200 °C / 392 °F).**

**WG20 gear units with input types can be used in temperature class T4 (max. surface temperature 135 °C / 275 °F).**

| Temperature class                    | T1              | T2              | T3              | T4              | T5              | T6             |
|--------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|
| Max. permissible surface temperature | 450 °C / 842 °F | 300 °C / 572 °F | 200 °C / 392 °F | 135 °C / 275 °F | 100 °C / 212 °F | 85 °C / 185 °F |

*Possible range of application for WG20 products*

▪ **Surface temperature for dust explosion protection (D)**

Dusts are not divided into temperature classes, but the value of the minimum ignition temperature is specified.

**WG20 gear units and geared motors are classified with a max. surface temperature of 125 °C / 257 °F.**

| Dust group | Description         | Degree of protection |      |
|------------|---------------------|----------------------|------|
|            |                     | tb                   | tc   |
| IIIA       | Combustible flyings | IP5X                 | IP5X |
| IIIB       | Non-conductive dust | IP6X                 | IP5X |
| IIIC       | Conductive dust     | IP6X                 | IP6X |

*Necessary degree of protection for dust explosive atmospheres*

## Table of lubricants

| Recommended ambient temperatures | +14 °F ... +140 °F              | -4 °F ... +176 °F       | -13 °F ... +140 °F      | -40 °F ... +176 °F                         | -4 °F ... +104 °F    |
|----------------------------------|---------------------------------|-------------------------|-------------------------|--------------------------------------------|----------------------|
| DIN (ISO)                        | CLP (mineral oil) <sup>1)</sup> | CLP PG (polyglycol oil) | CLP PG (polyglycol oil) | CLP-HC (polyalphaolefin oil) <sup>2)</sup> | food grade           |
| ISO VG                           | 220                             | 460                     | 220                     | 220                                        | 220                  |
| ARAL                             | Degol BG 220                    | Degol GS 460            | Degol GS 220            | Degol PAS 220                              | -                    |
| BP                               | Energol GR-XP 220               | Energol SG-XP 460       | Energol SG-XP 220       | Energol HTX 220                            | -                    |
| Castrol                          | Alpha SP 220                    | Alphasyn PG 460         | Alphasyn PG 220         | Alphasyn HTX 220                           | Optileb GT 220       |
| Klüber<br>KLÜBER LUBRICATION     | Klüberoil GEM 1-220 N           | Klübersynth GH 6-460    | Klübersynth GH 6-220    | Klübersynth GEM 4-220 N                    | Klüberoil 4UH1 220 N |
| Mobil                            | Mobilgear 600 XP 220            | Glygoyle 460            | Glygoyle 220            | SHC 630                                    | SHC Cibus 220        |
| Shell                            | Omala S2 G 220                  | Omala S4 WE 460         | Omala S4 WE 220         | Omala S4 GX 220                            | -                    |
| Addinol                          | Gear Oil 220 F                  | Poly Gear PG 460        | Poly Gear PG 220        | Eco Gear 220 S                             | Ecoleb 220 FG        |

1) standard lubricant acc. to DIN 51517 part 3 - CLP ISO VG 220

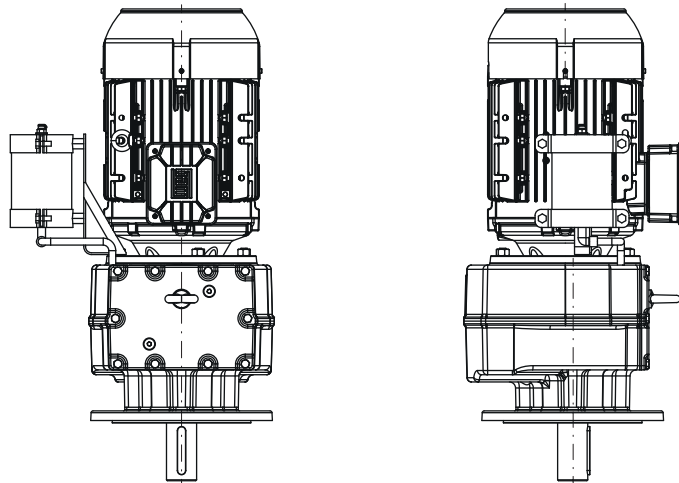
2) note critical starting behaviour at low temperatures

## Lubricant expansion unit

For gear units and geared motors in M4 design, high oil levels are required for lubrication of the first gear stage. To prevent oil leaking from the gear unit during operation, expansion units are to be used at reductions  $i < 20$  or at higher motor speeds (e.g. frequency drives operation  $> 2000$  rpm).

The use of lubricant expansion units is recommended for gear unit sizes from C07 (helical gear unit), F06 (parallel shaft gear unit) and K06 (helical bevel gear unit) and for the conditions described above.

Example: CF082-11P-132S-04E-TH-TF



## Painting

Standard color geared motors: RAL 5009 (RAL 7011, RAL 9005 without additional costs)

In addition to the standard high-grade polyurethane-based surface finish, other special finishes for applications that are subject to specific environmental conditions are offered. Paintwork is basically categorized according to the composition of the applied surface finish. The standard program contains 6 painting systems categorized from LA0 to LC5. Special colors are possible.

| Painting system       | Application                                                      | Layering                                                                                               | NDFT<br>Nominal dry film<br>thickness | Temperature range         | Corrosion category<br>DIN EN ISO 12944-5 |
|-----------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------|------------------------------------------|
| not painted           |                                                                  |                                                                                                        |                                       |                           |                                          |
| LA0                   | Primer                                                           | Dip primer<br>Base coat (2 pack PUR)                                                                   |                                       | -40 °F ... +248 °F        |                                          |
| <b>LC1 (Standard)</b> | <b>Indoor installation,<br/>neutral atmosphere</b>               | <b>Dip primer<br/>Varnish (1K-AY-PUR*) or (2 pack PUR**)</b>                                           | <b>40 µm</b>                          | <b>-40 °F ... +248 °F</b> | <b>C1</b>                                |
| LC2                   | Protected outdoor installation,<br>neutral atmosphere            | Dip primer<br>2x Varnish (2 pack PUR)                                                                  | 140 µm                                | -40 °F ... +248 °F        | C2                                       |
| LC3                   | Outdoor installation,<br>industrial atmosphere                   | Dip primer<br>Base coat (2 pack PUR)<br>Varnish (2 pack PUR)                                           | 160 µm                                | -40 °F ... +248 °F        | C3                                       |
| LC4                   | Outdoor installation,<br>aggressive atmosphere                   | Dip primer<br>Base coat (2 pack PUR)<br>Intermediate base coat (2 pack PUR)<br>Varnish (2 pack PUR)    | 240 µm                                | -40 °F ... +248 °F        | C4                                       |
| LC5                   | Coast or offshore,<br>very aggressive atmosphere,<br>under water | Dip primer<br>Base coat (2 pack PUR)<br>Intermediate base coat (2 pack PUR)<br>2x Varnish (2 pack PUR) | 320 µm                                | -40 °F ... +248 °F        | C5                                       |

\*) Colors RAL 7011, RAL 5009, RAL 9005, RAL 9007

\*\*) All other colors

## Degrees of protection

Degree of protection according to DIN EN 60034-5.

The designation to indicate the degrees of protection consists of the characteristic letters IP followed by two numerals.

**Code figure 1:** degree of protection against contact with live or moving parts and against ingress of solid foreign objects

**Code figure 2:** degree of protection against harm for ingress of water

| Code figure 1 |                                                                                                                                                                        |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | Description                                                                                                                                                            |
| 0             | No protection                                                                                                                                                          |
| 1             | Protected against solid foreign objects of 50 mm (1.97 in) diameter and larger: the probe may not fully penetrate.                                                     |
| 2             | Protected against solid foreign objects of 12.5 mm (0.49 in) diameter and larger: the probe shall not fully penetrate.                                                 |
| 3             | Protected against solid foreign objects of 2.5 mm (0.1 in) diameter: the probe must not penetrate at all.                                                              |
| 4             | Protected against solid foreign objects of 1 mm (0.04 in) and larger: the probe must not penetrate at all.                                                             |
| 5             | Dust protected: ingress of dust is not totally prevented, but dust shall not penetrate in a quantity that the operation of the device is affected or to impair safety. |
| 6             | Dustproof: no ingress of dust at negative pressure of 20 mbar (0.3 psi) in the housing                                                                                 |

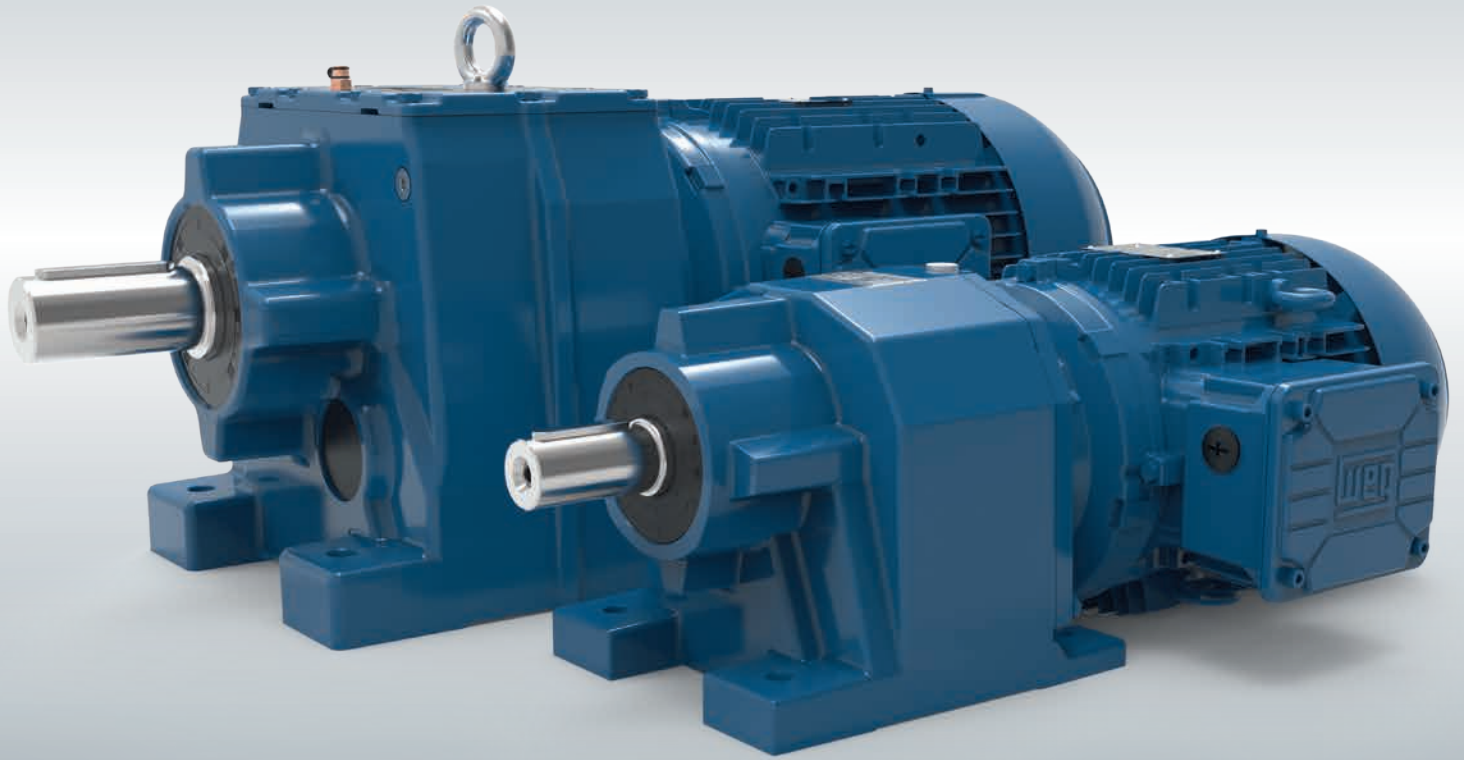
| Code figure 2 |                                                                                                                                                                                                                                                                                                      |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | Description                                                                                                                                                                                                                                                                                          |
| 0             | No protection                                                                                                                                                                                                                                                                                        |
| 1             | Protected against dripping water: vertically falling drops may not have any harmful effects.                                                                                                                                                                                                         |
| 2             | Protected against dripping water when the housing is inclined up to 15°: vertically falling drops may not have any harmful effects when the housing is inclined up to 15° from the vertical.                                                                                                         |
| 3             | Protected against water spray: water sprayed at an angle up to 60° on both sides of the vertical may not have any harmful effects.                                                                                                                                                                   |
| 4             | Protected against splash water: water splashed against the housing from any direction may not have any harmful effects.                                                                                                                                                                              |
| 5             | Protected against water jets: water that is from any direction in jets against the housing may not have any harmful effects.                                                                                                                                                                         |
| 6             | Protected against strong water jets: water that is from any direction in powerful jets against the housing may not have any harmful effects.                                                                                                                                                         |
| 7             | Protected against the effects of temporary (1 m / 3 ft for 30 min) immersion in water: water must not enter in quantities causing harmful effects, if the housing is under standardized conditions of pressure and time temporarily submerged in water.                                              |
| 8             | Protected against the effects of continuous immersion in water: water must not enter in quantities causing harmful effects when the enclosure is permanently submerged in water under conditions to be agreed between manufacturer and user. The conditions must be more stringent than for index 7. |

### Degree of protection:

Modular system motor: IP55 (standard) to IP67

Brake: IP55 (standard) to IP66

Gear unit: IP65 (standard) to IP68



## Helical geared motors C



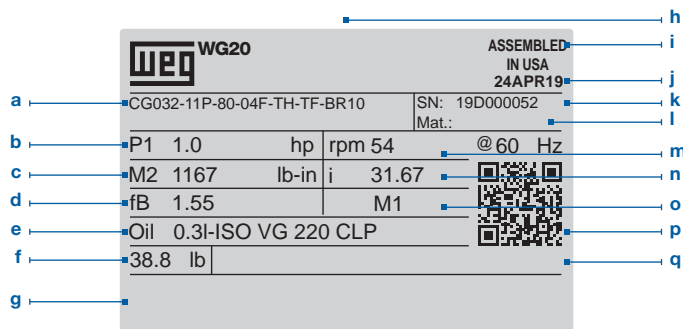


# Technical Data

| Size             |           | C00                                                                                                                                                                                                                                                    | C01          | C03            | C05            | C06            | C07            | C08            | C09             | C10             | C13             | C14             | C16              |
|------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Power            | [hp]      | 0.16 - 1.0                                                                                                                                                                                                                                             | 0.16 - 2.0   | 0.16 - 4.0     | 0.16 - 10.0    | 0.16 - 12.5    | 0.16 - 20      | 0.16 - 30      | 0.16 - 40       | 0.16 - 50       | 0.16 - 75       | 0.16 - 75       | 0.16 - 100       |
| Torque           | [lb-in]   | 440                                                                                                                                                                                                                                                    | 750          | 1770           | 3540           | 5310           | 7260           | 13700          | 26600           | 39800           | 70800           | 115000          | 159000           |
| Ratio            |           | 2.44<br>47.44                                                                                                                                                                                                                                          | 3.09<br>66.5 | 3.34<br>286.32 | 3.69<br>328.43 | 3.73<br>375.71 | 5.30<br>351.33 | 5.12<br>368.94 | 4.22<br>3282.02 | 4.19<br>2636.78 | 4.00<br>1891.77 | 5.17<br>2162.84 | 5.96<br>22405.25 |
| Number of stages |           | 2                                                                                                                                                                                                                                                      | 2            | 2 / 3          | 2 / 3          | 2 / 3          | 2 / 3          | 2 / 3          | 2 / 3 / 4       | 2 / 3 / 4       | 2 / 3 / 4       | 2 / 3 / 4       | 2 / 3 / 4 / 5    |
| Housing material |           | aluminium                                                                                                                                                                                                                                              |              |                |                |                |                | cast iron      |                 |                 |                 |                 |                  |
| Solid shaft      | Type      | with key acc. to DIN 6885.1 and threaded hole acc. to DIN 332 sheet 2                                                                                                                                                                                  |              |                |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Tolerance | < Ø 55 mm (2.165 in): k6 / ≥ Ø 55 mm (2.165 in): m6                                                                                                                                                                                                    |              |                |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | standard: C45E (1.1191) / stainless steel on request                                                                                                                                                                                                   |              |                |                |                |                |                |                 |                 |                 |                 |                  |
| Flanges          | Tolerance | centering ≤ 250 mm (9.842 in): j6 / > 250 mm (9.842 in): h6 acc. to DIN EN 50347                                                                                                                                                                       |              |                |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | cast iron                                                                                                                                                                                                                                              |              |                |                |                |                |                |                 |                 |                 |                 |                  |
| Gear wheels      | Type      | honed                                                                                                                                                                                                                                                  |              |                |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | 16MnCr5 (1.7131) case hardened – minimum 58HRC                                                                                                                                                                                                         |              |                |                |                |                |                |                 |                 |                 |                 |                  |
| Shaft seals      | Type      | type AS acc. to DIN 3760                                                                                                                                                                                                                               |              |                |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | standard NBR / special FKM                                                                                                                                                                                                                             |              |                |                |                |                |                |                 |                 |                 |                 |                  |
| Bearing          |           | standard / reinforced                                                                                                                                                                                                                                  |              |                |                |                |                |                |                 |                 |                 |                 |                  |
| Lubricants       | Type      | standard CLP 220 / special CLP HC 220                                                                                                                                                                                                                  |              |                |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Quantity  | depending on mounting position                                                                                                                                                                                                                         |              |                |                |                |                |                |                 |                 |                 |                 |                  |
| Shaft height     |           | acc. to DIN 747:<br>≤ 50 mm (1.968 in): -0.4 mm (-0.016 in)<br>> 50 mm (1.968 in) to ≤ 250 mm (9.842 in): -0.5 mm (0.020 in)<br>> 250 mm (9.842 in): -1 mm (0.040 in)<br>for foot-mounted gear motors, the motor may extend below the mounting surface |              |                |                |                |                |                |                 |                 |                 |                 |                  |

## General information

### 1. Nameplate



|   |                                     |   |                                                 |
|---|-------------------------------------|---|-------------------------------------------------|
| a | Type code                           | j | Production date                                 |
| b | Motor power                         | k | Serial number                                   |
| c | Output torque                       | l | Material number                                 |
| d | Service factor                      | m | Output speed and Frequency                      |
| e | Type and quantity of lubricant      | n | Total gear ratio                                |
| f | Weight                              | o | Mounting position                               |
| g | Space for ATEX code (if applicable) | p | QR-Code linked online to additional information |
| h | Production company                  | q | Space for additional information                |
| i | Production country                  |   |                                                 |

## 2. Type code

CG083-EX-11P-90S/L-04F ...

1 2 3 4 5 6 7 8 9 10

CG083-EX-I112-HT

1 2 3 4 5 11 12

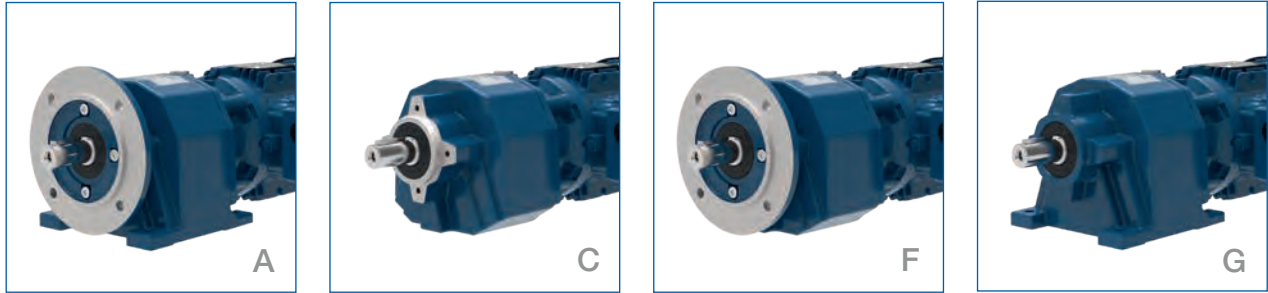
|           |                                 |                                                                                                                                                                                                                                                                                                                                                                           |
|-----------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>  | Type:                           | C = Helical gear unit                                                                                                                                                                                                                                                                                                                                                     |
| <b>2</b>  | Design:                         | A = Foot mounted and B5 flange execution with output shaft<br>C = B14 flange execution with output shaft<br>F = Flange execution with output shaft<br>G = Foot mounted with output shaft<br>W = Foot mounted and B14 flange execution with output shaft                                                                                                                   |
| <b>3</b>  | Size:                           | 00 01 03 05 06 07 08 09 10 13 14 16                                                                                                                                                                                                                                                                                                                                       |
| <b>4</b>  | Number of stages:               | 2 = 2 gear stages 3 = 3 gear stages 4 = 4 gear stages 5 = 5 gear stages                                                                                                                                                                                                                                                                                                   |
| <b>5</b>  | ATEX execution:                 | when operated in explosive atmospheres, see page 482                                                                                                                                                                                                                                                                                                                      |
| <b>6</b>  | Motor type:                     | 11N = Integral motor aluminium IE1<br>11P = Integral motor aluminium IE3 22P = Integral motor cast iron IE3                                                                                                                                                                                                                                                               |
| <b>7</b>  | Motor frame size:               | 63 71 80 L80 90S/L 100L L100L 112M 132S<br>L132M 160M 160L 180M 180L 200L 225S/M 250S/M                                                                                                                                                                                                                                                                                   |
| <b>8</b>  | Number of poles:                | 04 = 4 poles 06 = 6 poles                                                                                                                                                                                                                                                                                                                                                 |
| <b>9</b>  | Power indicator:                | E F G                                                                                                                                                                                                                                                                                                                                                                     |
| <b>10</b> | Motor modules:                  | see from page 493                                                                                                                                                                                                                                                                                                                                                         |
| <b>11</b> | Adapters, Input unit:           | IEC Adapter I63 I71 I80 I90 I100 I112 I132<br>I160 I180 I200 I225 I250 I280<br><br>NEMA Adapter N56 N143 N182 N184 N213<br>N254 N284 N324 N364<br><br>SERVO Adapter S92 S105 S114 S115 S130<br>S141 S142 S180 S189 S190<br><br>Input unit U2 U3 U5 U6 U7<br><br>Direct Mounting (IEC): IEC63 IEC71 IEC80 IEC90 IEC100 IEC112<br>IEC132 IEC160 IEC180 IEC200 IEC225 IEC250 |
| <b>12</b> | High/Low temperature execution: | HT LT                                                                                                                                                                                                                                                                                                                                                                     |

Type code Motor see page 475

### 3. Range

| Size             | C00       | C01 | C03 | C05 | C06 | C07       | C08 | C09 | C10 | C13 | C14 | C16 |
|------------------|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----|-----|
| Housing material | Aluminium |     |     |     |     | Cast iron |     |     |     |     |     |     |

### 4. Design



|          |                                                         |
|----------|---------------------------------------------------------|
| <b>A</b> | Foot mounted and B5 flange execution with output shaft  |
| <b>C</b> | B14 flange execution with output shaft                  |
| <b>F</b> | Flange execution with output shaft                      |
| <b>G</b> | Foot mounted with output shaft                          |
| <b>W</b> | Foot mounted and B14 flange execution with output shaft |

### 5. Venting the gear unit

The helical gear unit sizes C00 to C06 are neither equipped with a vent plug nor an oil drain plug. They are supplied with lifetime-lubrication.

By default, the helical gear units from C07 are equipped with vent plugs with a safety strap for transportation (see illustration). The rubber strap (a) of the vent plugs must be removed entirely before the initial startup. The vent plug is placed accordingly to the mounting position (see chapter Mounting positions, page 26).



### 6. Overhung and axial loads

The overhung loads ( $F_{rN}$ ) indicated in the respective selection tables apply to gear units with the force acting on the shaft center ( $x=l/2$ ). The permissible overhung loads listed are based on the least favorable loading direction and calculated for standard shafts and standard bearings. Other load directions and action can be calculated with equations Q1 and Q2. If transmission elements are placed on the output shaft, an appropriate factor ( $f_z$ ) has to be taken into consideration when determining the overhung load.

| Gear wheels                  | Sprockets                    |                           | V-belts   | Flat belts |
|------------------------------|------------------------------|---------------------------|-----------|------------|
|                              |                              |                           |           |            |
| $f_z=1.1$<br>( $z \leq 17$ ) | $f_z=1.2$<br>( $z \leq 13$ ) | $f_z=1.1$<br>( $z > 13$ ) | $f_z=1.8$ | $f_z=2.5$  |

Use the following equations Q1 and Q2 to calculate the permissible radial loads on the output shaft. Q3 is to calculate the real existing shaft loads for your application. The results are to be compared by using the equation Q4.

|           |                                                         |
|-----------|---------------------------------------------------------|
| <b>Q1</b> | $F_{zL} = F_{rN} \cdot a_1$                             |
| <b>Q2</b> | $F_{zW} = F_W \cdot a_2$                                |
| <b>Q3</b> | $F_{Qvorh} = \frac{0.6691062 \cdot T_2}{d_0} \cdot f_z$ |
| <b>Q4</b> | $F_{Qvorh} \leq F_{zL}$                                 |
|           | $F_{Qvorh} \leq F_{zW}$                                 |

| Variable | Unit    | Description                                                                             |
|----------|---------|-----------------------------------------------------------------------------------------|
| a1       |         | Load action factor - output shaft bearing from table 1                                  |
| a2       |         | Load action factor - output shaft from table 1                                          |
| d0       | [in]    | Effective diameter of the transmission element                                          |
| T2       | [lb-in] | Geared motor output torque (from selection tables) or required calculated output torque |
| FzL      | [lb]    | Permissible overhung load for output shaft bearings                                     |
| FzW      | [lb]    | Permissible overhung load for output shaft                                              |
| FrN      | [lb]    | Permissible overhung load from selection tables                                         |
| Fw       | [lb]    | Permissible overhung load - Output shaft x=l/2 from table 2                             |
| FQvorh   | [lb]    | Existing overhung load at gear shaft                                                    |
| fz       |         | Factor for transmission element                                                         |
| Tmax     | [lb-in] | Highest possible output torque for coupling operation (table 2)                         |

Always use both equations Q1 and Q2 for your calculations.

|                  |      | x / l |      |      |      |      |      |
|------------------|------|-------|------|------|------|------|------|
|                  | 0    | 0.25  | 0.5  | 0.75 | 1    | 1.5  | 2    |
| a1 → Equation Q1 |      |       |      |      |      |      |      |
|                  | 1.39 | 1.18  | 1.00 | 0.85 | 0.73 | 0.52 | 0.38 |
| a2 → Equation Q2 |      |       |      |      |      |      |      |
|                  | 2.00 | 2.00  | 1.00 | 0.55 | 0.38 | 0.23 | 0.17 |

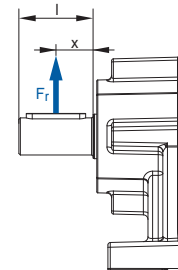


Table 1: Load action factors a1, a2

Intermediate values can be interpolated linearly. Combined load ( $F_r \neq 0$ ;  $F_a = 0$ ) on request.

|              | Tmax<br>at Fr = 0 | Output torque T2 [lb-in]           |      |      |      |      |      |      |       |       |       |       |        |        |
|--------------|-------------------|------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|--------|--------|
|              |                   | 440                                | 890  | 1770 | 2660 | 3540 | 5310 | 7260 | 13700 | 26600 | 39800 | 70800 | 115000 | 159000 |
|              |                   | Fw [lb] at x/l = 0.5 → Equation Q2 |      |      |      |      |      |      |       |       |       |       |        |        |
| Ø 0.750x1.57 | 1220              | 650                                | 490  |      |      |      |      |      |       |       |       |       |        |        |
| Ø 1.000x1.97 | 2820              | 1380                               | 1350 | 1150 |      |      |      |      |       |       |       |       |        |        |
| Ø 1.250x2.36 | 5300              |                                    | 2020 | 1960 | 1800 | 1570 |      |      |       |       |       |       |        |        |
| Ø 1.375x2.76 | 7040              |                                    |      | 2470 | 2470 | 2250 | 1840 |      |       |       |       |       |        |        |
| Ø 1.625x3.15 | 11400             |                                    |      |      | 3370 | 3370 | 3150 | 2810 |       |       |       |       |        |        |
| Ø 2.000x3.94 | 20900             |                                    |      |      |      | 5620 | 5620 | 5620 | 4950  |       |       |       |        |        |
| Ø 2.125x3.94 | 24100             |                                    |      |      |      |      | 6070 | 6070 | 5400  |       |       |       |        |        |
| Ø 2.375x4.72 | 33600             |                                    |      |      |      |      |      | 7190 | 6740  | 5400  |       |       |        |        |
| Ø 2.875x5.51 | 58800             |                                    |      |      |      |      |      |      | 11470 | 10790 | 8090  |       |        |        |
| Ø 3.625x6.69 | 111000            |                                    |      |      |      |      |      |      |       | 17310 | 16860 | 15060 |        |        |
| Ø 4.375x8.27 | 189000            |                                    |      |      |      |      |      |      |       |       | 17760 | 16640 | 13490  |        |
| Ø 4.750x8.27 | 240000            |                                    |      |      |      |      |      |      |       |       |       | 29450 | 27880  | 25180  |

Table 2: Permissible overhung load - output shaft x = l/2

The axial loads ( $F_{aN}$ ) for execution with output shaft, given in the following selection tables, are valid at radial force  $F_{rN} = 0$ . If there are axial loads or radial and axial components acting on the drive which are extraordinarily high, we recommend to contact the manufacturer.

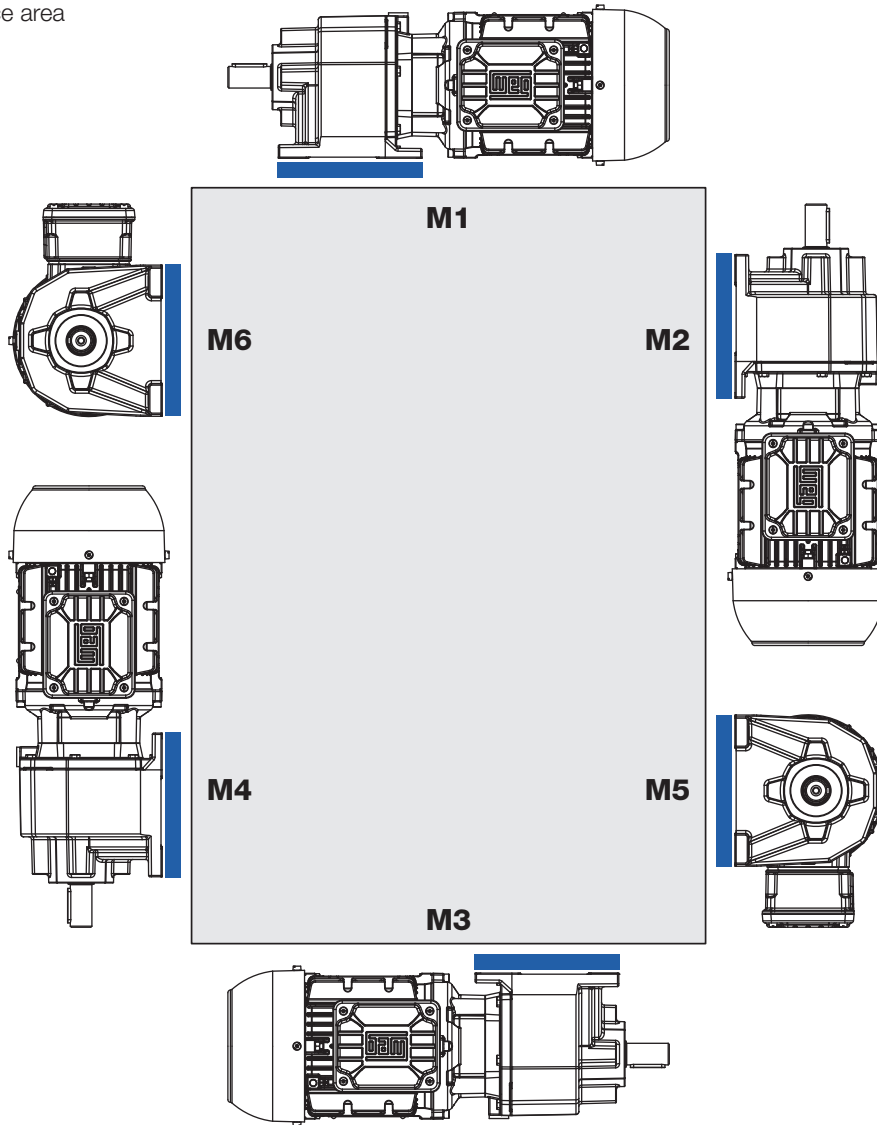
7. **Mounting positions, Position of the terminal box and Cable entry**

**Mounting positions foot type - Sizes C00 to C06**

Gear units C00 to C06 are not vented and supplied with lifetime lubrication.

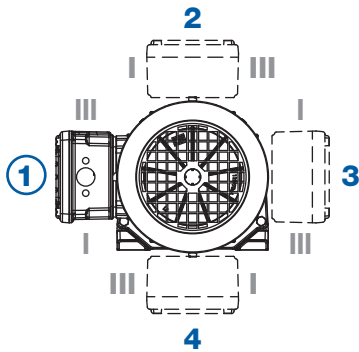
■ Reference area

C



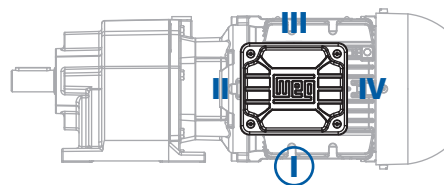
**Position of the terminal box**

Standard: Position 1



**Cable entry**

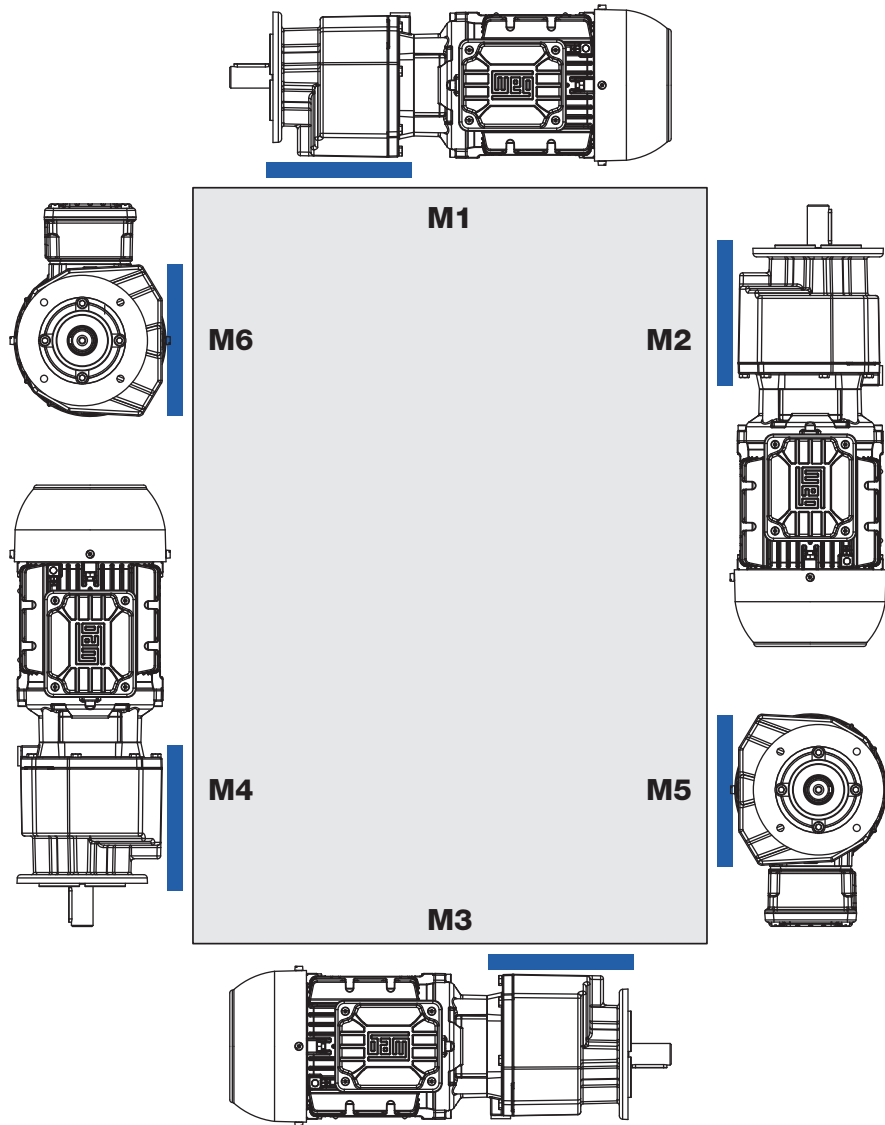
Standard: Position I



### Mounting positions flange type - Sizes C00 to C06

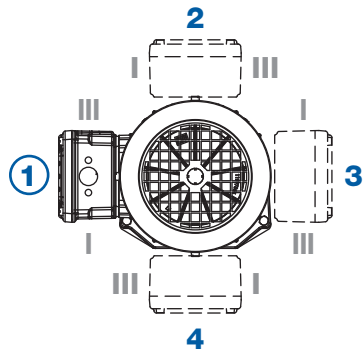
Gear units C00 to C06 are not vented and supplied with lifetime lubrication.

 Reference area



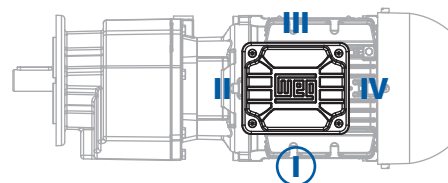
### Position of the terminal box

Standard: Position 1








### Cable entry

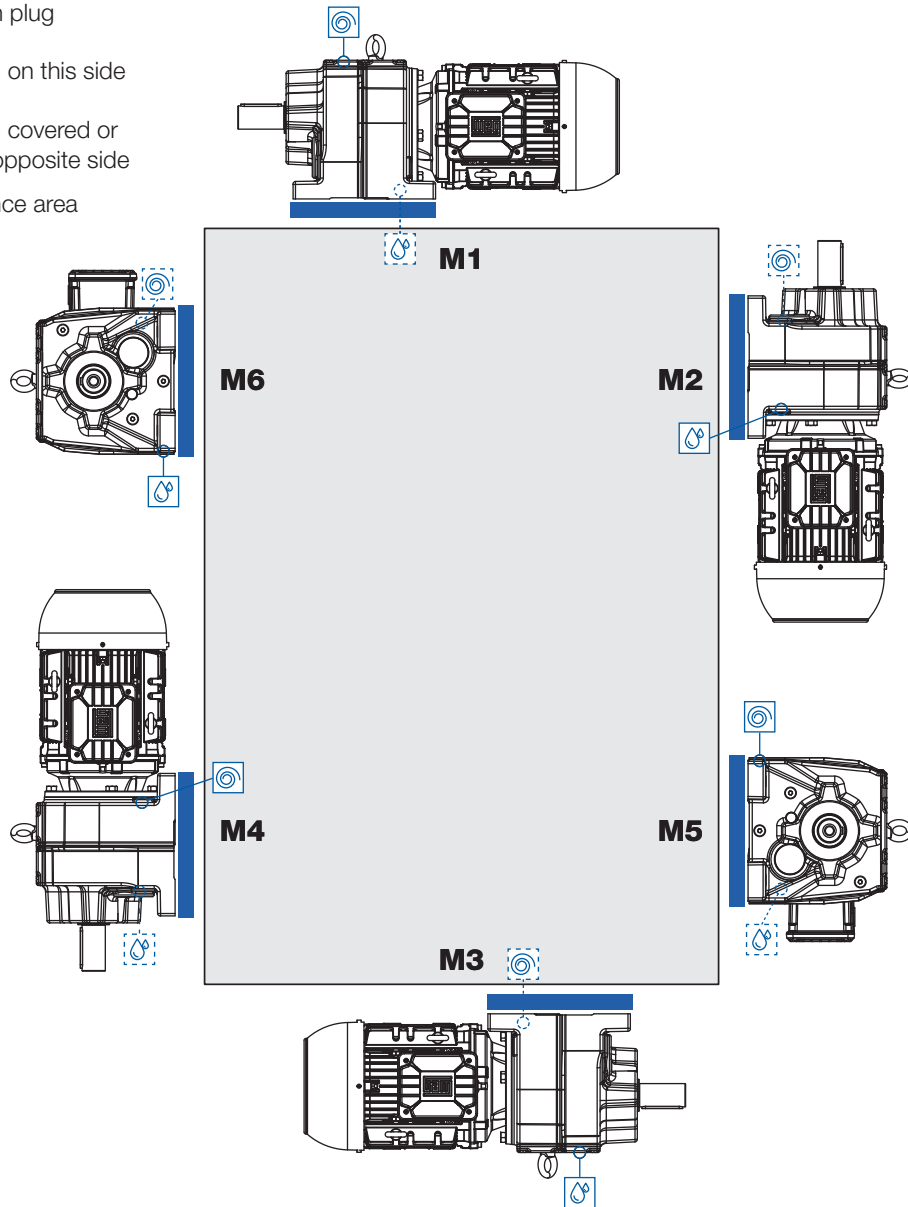
Standard: Position I





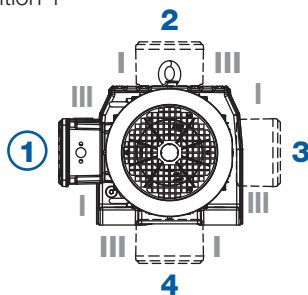
### Mounting positions foot type - Sizes C07 to C16

-  Vent plug
-  Oil drain plug
-  Position on this side
-  Position covered or on the opposite side
-  Reference area



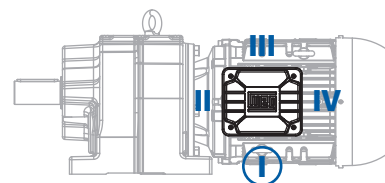
#### Position of the terminal box

Standard: Position 1



#### Cable entry

Standard: Position I



## Mounting positions flange type - Sizes C07 to C16

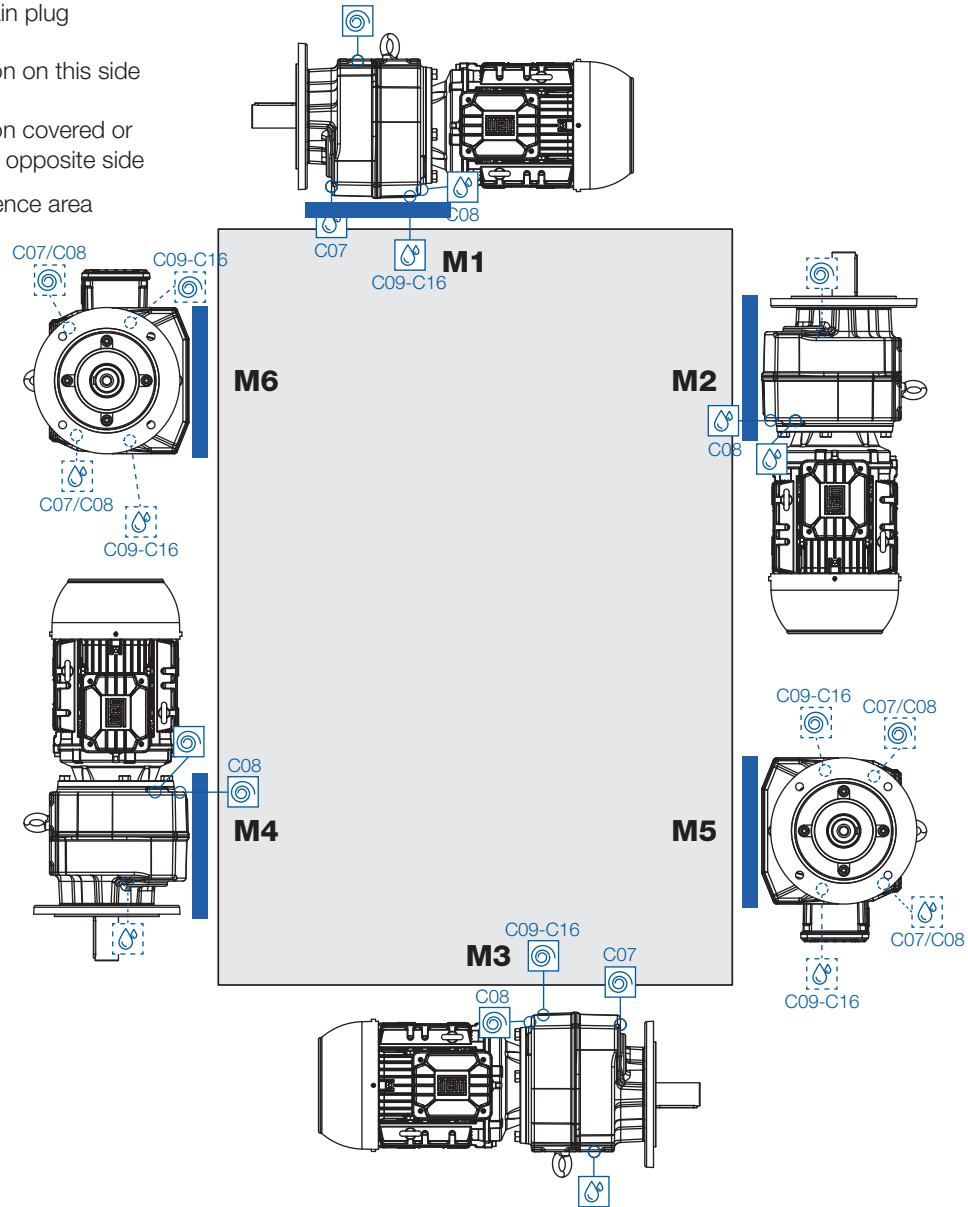
Vent plug

Oil drain plug

Position on this side

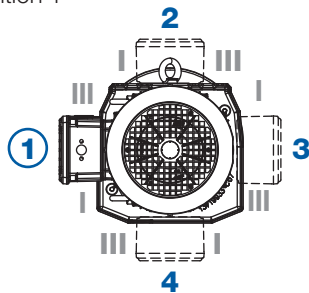
Position covered or on the opposite side

Reference area



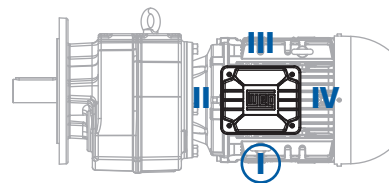
### Position of the terminal box

Standard: Position 1



### Cable entry

Standard: Position I





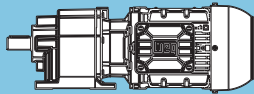
## Selection tables - Geared motors

The technical data of the geared motors shown in the selection tables apply to an ambient temperature of +68 °F.

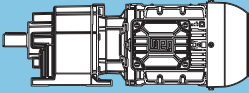
The selection tables are calculated with following motor data:

| Power (IEC frame size)    | Motor series (IE class) |
|---------------------------|-------------------------|
| up to 0.75 hp (63 - 80)   | 11N (IE1) - aluminium   |
| 1.0 - 12.5 hp (80 - 132)  | 11P (IE3) - aluminium   |
| 15.0 - 100 hp (160 - 250) | 22P (IE3) - cast iron   |

### Structure of the selection tables

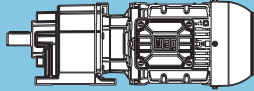
| 1                        |                |                |   |                 |                 |                                                                                    |    |                          |  |
|--------------------------|----------------|----------------|---|-----------------|-----------------|------------------------------------------------------------------------------------|----|--------------------------|--|
| P <sub>N</sub> = 0.16 hp |                |                |   |                 |                 |                                                                                    |    |                          |  |
| 60 Hz                    |                |                |   |                 |                 |                                                                                    |    |                          |  |
| n <sub>60</sub>          | T <sub>2</sub> | f <sub>B</sub> | i | F <sub>rN</sub> | F <sub>aN</sub> |  | m  | Dimension sheet see page |  |
| rpm                      | lb-in          |                |   | lb              | lb              |                                                                                    | lb |                          |  |
| 2                        | 3              | 4              | 5 | 6               | 7               | 8                                                                                  | 9  | 10                       |  |

- 1 Rated power of the motor
- 2 Output speed at 60 Hz
- 3 Output torque
- 4 Service factor
- 5 Total ratio
- 6 Permissible radial load at midpoint of the output shaft extension (standard bearing) at axial load=0
- 7 Permissible axial load (standard bearing) at radial load=0
- 8 Geared motor type
- 9 Weight
- 10 Dimension sheet see page

| <b>P<sub>N</sub> = 0.16 hp</b> |                      |                      |          |                                                                                    |      |                                                    |                                    |                       |
|--------------------------------|----------------------|----------------------|----------|------------------------------------------------------------------------------------|------|----------------------------------------------------|------------------------------------|-----------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> |  |      | <b>m</b>                                           | <b>Dimension sheet</b><br>see page |                       |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          |                                                                                    |      |                                                    |                                    | <b>F<sub>rN</sub></b> |
| rpm                            | lb-in                |                      | lb       | lb                                                                                 | lb   |                                                    |                                    |                       |
| <b>0.05</b>                    | 184012               | 0.90                 | 22405.25 | 22890                                                                              | 4720 | <b>CG165-11N-63-06F</b><br><b>CF165-11N-63-06F</b> | 1530<br>1581                       | 170                   |
| <b>0.06</b>                    | 148945               | 1.10                 | 18322.05 | 25830                                                                              | 5550 |                                                    |                                    |                       |
| <b>0.07</b>                    | 124910               | 1.30                 | 15484.09 | 27360                                                                              | 6110 |                                                    |                                    |                       |
| <b>0.08</b>                    | 116110               | 1.40                 | 14467.28 | 27830                                                                              | 6340 |                                                    |                                    |                       |
| <b>0.09</b>                    | 100842               | 1.60                 | 12662.22 | 28550                                                                              | 6700 |                                                    |                                    |                       |
| <b>0.10</b>                    | 88650                | 1.80                 | 11217.58 | 29050                                                                              | 6990 |                                                    |                                    |                       |
| <b>0.11</b>                    | 78203                | 2.05                 | 9998.22  | 29430                                                                              | 7240 |                                                    |                                    |                       |
| <b>0.12</b>                    | 71074                | 2.25                 | 9181.16  | 29630                                                                              | 7420 |                                                    |                                    |                       |
| <b>0.14</b>                    | 58934                | 2.75                 | 7752.38  | 29970                                                                              | 7690 |                                                    |                                    |                       |
| <b>0.08</b>                    | 117527               | 1.40                 | 22405.25 | 27810                                                                              | 6320 | <b>CG165-11N-63-04E</b><br><b>CF165-11N-63-04E</b> | 1530<br>1581                       | 170                   |
| <b>0.09</b>                    | 94638                | 1.70                 | 18322.05 | 28840                                                                              | 6860 |                                                    |                                    |                       |
| <b>0.11</b>                    | 78955                | 2.05                 | 15484.09 | 29410                                                                              | 7240 |                                                    |                                    |                       |
| <b>0.12</b>                    | 73201                | 2.20                 | 14467.28 | 29580                                                                              | 7370 |                                                    |                                    |                       |
| <b>0.13</b>                    | 63243                | 2.55                 | 12662.22 | 29880                                                                              | 7600 |                                                    |                                    |                       |
| <b>0.15</b>                    | 55162                | 2.90                 | 11217.58 | 30060                                                                              | 7800 |                                                    |                                    |                       |
| <b>0.42</b>                    | 21427                | 1.90                 | 2636.78  | 9600                                                                               | 5400 | <b>CG104-11N-63-06F</b><br><b>CF104-11N-63-06F</b> | 373<br>381                         | 156                   |
| <b>0.50</b>                    | 17892                | 2.25                 | 2229.16  | 9800                                                                               | 5510 |                                                    |                                    |                       |
| <b>0.51</b>                    | 17235                | 2.35                 | 2156.24  | 9820                                                                               | 5530 |                                                    |                                    |                       |
| <b>0.61</b>                    | 14361                | 2.80                 | 1822.91  | 9960                                                                               | 5640 |                                                    |                                    |                       |
| <b>0.65</b>                    | 13302                | 3.00                 | 1702.59  | 10000                                                                              | 5670 |                                                    |                                    |                       |
| <b>0.64</b>                    | 13429                | 3.00                 | 2636.78  | 10000                                                                              | 5670 | <b>CG104-11N-63-04E</b><br><b>CF104-11N-63-04E</b> | 373<br>381                         | 156                   |
| <b>0.34</b>                    | 27449                | 1.00                 | 3282.02  | 4790                                                                               | 5690 | <b>CG094-11N-63-06F</b><br><b>CF094-11N-63-06F</b> | 280<br>276                         | 152                   |
| <b>0.41</b>                    | 22263                | 1.20                 | 2683.89  | 5710                                                                               | 5890 |                                                    |                                    |                       |
| <b>0.43</b>                    | 21548                | 1.25                 | 2597.68  | 5820                                                                               | 5910 |                                                    |                                    |                       |
| <b>0.49</b>                    | 18699                | 1.45                 | 2268.18  | 6180                                                                               | 6020 |                                                    |                                    |                       |
| <b>0.52</b>                    | 17441                | 1.55                 | 2124.27  | 6320                                                                               | 6070 |                                                    |                                    |                       |
| <b>0.60</b>                    | 15104                | 1.80                 | 1854.82  | 6540                                                                               | 6160 |                                                    |                                    |                       |
| <b>0.66</b>                    | 13574                | 2.00                 | 1677.34  | 6650                                                                               | 6230 |                                                    |                                    |                       |
| <b>0.67</b>                    | 13271                | 2.05                 | 1643.20  | 6680                                                                               | 6230 |                                                    |                                    |                       |
| <b>0.75</b>                    | 11731                | 2.30                 | 1464.58  | 6790                                                                               | 6290 |                                                    |                                    |                       |
| <b>0.82</b>                    | 10705                | 2.50                 | 1344.90  | 6860                                                                               | 6340 |                                                    |                                    |                       |
| <b>0.85</b>                    | 10310                | 2.60                 | 1300.57  | 6880                                                                               | 6340 |                                                    |                                    |                       |
| <b>0.97</b>                    | 8872                 | 3.00                 | 1135.60  | 6950                                                                               | 6410 |                                                    |                                    |                       |
| <b>0.52</b>                    | 17567                | 1.55                 | 3282.02  | 6320                                                                               | 6070 | <b>CG094-11N-63-04E</b><br><b>CF094-11N-63-04E</b> | 280<br>276                         | 152                   |
| <b>0.63</b>                    | 14189                | 1.90                 | 2683.89  | 6630                                                                               | 6200 |                                                    |                                    |                       |
| <b>0.65</b>                    | 13705                | 1.95                 | 2597.68  | 6650                                                                               | 6230 |                                                    |                                    |                       |
| <b>0.75</b>                    | 11843                | 2.25                 | 2268.18  | 6790                                                                               | 6290 |                                                    |                                    |                       |
| <b>0.80</b>                    | 11046                | 2.45                 | 2124.27  | 6830                                                                               | 6320 |                                                    |                                    |                       |
| <b>0.91</b>                    | 9506                 | 2.80                 | 1854.82  | 6920                                                                               | 6380 |                                                    |                                    |                       |
| <b>3.1</b>                     | 3225                 | 2.30                 | 351.33   | 3010                                                                               | 3240 | <b>CG073-11N-63-06F</b><br><b>CF073-11N-63-06F</b> | 82<br>90                           | 146                   |
| <b>3.5</b>                     | 2934                 | 2.50                 | 319.60   | 3030                                                                               | 3240 |                                                    |                                    |                       |
| <b>4.0</b>                     | 2556                 | 2.85                 | 278.44   | 3060                                                                               | 3280 |                                                    |                                    |                       |
| <b>2.9</b>                     | 3449                 | 1.55                 | 375.71   | 2250                                                                               | 1550 | <b>CG063-11N-63-06F</b><br><b>CF063-11N-63-06F</b> | 46<br>57                           | 144                   |
| <b>3.2</b>                     | 3162                 | 1.70                 | 344.51   | 2290                                                                               | 1570 |                                                    |                                    |                       |
| <b>3.6</b>                     | 2820                 | 1.90                 | 307.24   | 2340                                                                               | 1600 |                                                    |                                    |                       |
| <b>3.9</b>                     | 2586                 | 2.10                 | 281.73   | 2380                                                                               | 1620 |                                                    |                                    |                       |
| <b>4.6</b>                     | 2227                 | 2.40                 | 242.60   | 2430                                                                               | 1640 |                                                    |                                    |                       |
| <b>5.0</b>                     | 2042                 | 2.65                 | 222.46   | 2430                                                                               | 1660 |                                                    |                                    |                       |
| <b>4.5</b>                     | 2248                 | 2.40                 | 375.71   | 2410                                                                               | 1640 | <b>CG063-11N-63-04E</b><br><b>CF063-11N-63-04E</b> | 46<br>57                           | 144                   |
| <b>4.9</b>                     | 2062                 | 2.60                 | 344.51   | 2430                                                                               | 1660 |                                                    |                                    |                       |
| <b>5.5</b>                     | 1839                 | 2.90                 | 307.24   | 2450                                                                               | 1690 |                                                    |                                    |                       |



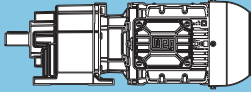
**P<sub>N</sub> = 0.16 hp**

| 60 Hz                  |      | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i    | F <sub>FN</sub><br>lb | F <sub>FN</sub><br>lb                |  | m<br>lb | Dimension<br>sheet<br>see page |
|------------------------|------|-------------------------|----------------|------|-----------------------|--------------------------------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub><br>rpm |      |                         |                |      |                       |                                      |                                                                                    |         |                                |
| 3.4                    | 3015 | 1.20                    | 328.43         | 1280 | 1460                  | CG053-11N-63-06F<br>CF053-11N-63-06F | 35<br>46                                                                           | 142     |                                |
| 3.7                    | 2741 | 1.30                    | 298.57         | 1370 | 1480                  |                                      |                                                                                    |         |                                |
| 4.1                    | 2459 | 1.45                    | 267.93         | 1440 | 1530                  |                                      |                                                                                    |         |                                |
| 4.5                    | 2236 | 1.60                    | 243.57         | 1510 | 1550                  |                                      |                                                                                    |         |                                |
| 5.2                    | 1962 | 1.85                    | 213.71         | 1550 | 1600                  |                                      |                                                                                    |         |                                |
| 5.7                    | 1783 | 2.00                    | 194.29         | 1600 | 1600                  |                                      |                                                                                    |         |                                |
| 6.7                    | 1519 | 2.35                    | 165.45         | 1640 | 1640                  |                                      |                                                                                    |         |                                |
| 7.3                    | 1381 | 2.60                    | 150.41         | 1640 | 1660                  |                                      |                                                                                    |         |                                |
| 8.3                    | 1221 | 2.95                    | 132.97         | 1660 | 1690                  |                                      |                                                                                    |         |                                |
| 5.2                    | 1965 | 1.85                    | 328.43         | 1550 | 1600                  | CG053-11N-63-04E<br>CF053-11N-63-04E | 35<br>46                                                                           | 142     |                                |
| 5.7                    | 1787 | 2.00                    | 298.57         | 1600 | 1600                  |                                      |                                                                                    |         |                                |
| 6.3                    | 1603 | 2.25                    | 267.93         | 1620 | 1640                  |                                      |                                                                                    |         |                                |
| 7.0                    | 1458 | 2.45                    | 243.57         | 1640 | 1640                  |                                      |                                                                                    |         |                                |
| 7.9                    | 1279 | 2.80                    | 213.71         | 1660 | 1660                  |                                      |                                                                                    |         |                                |
| 5.0                    | 2047 | 0.90                    | 223.03         | 920  | 700                   | CG033-11N-63-06F<br>CF033-11N-63-06F | 26<br>31                                                                           | 140     |                                |
| 5.5                    | 1859 | 1.00                    | 202.55         | 1010 | 720                   |                                      |                                                                                    |         |                                |
| 6.1                    | 1660 | 1.10                    | 180.83         | 1080 | 760                   |                                      |                                                                                    |         |                                |
| 6.7                    | 1507 | 1.20                    | 164.23         | 1120 | 790                   |                                      |                                                                                    |         |                                |
| 7.8                    | 1308 | 1.40                    | 142.47         | 1190 | 810                   |                                      |                                                                                    |         |                                |
| 8.5                    | 1188 | 1.50                    | 129.39         | 1210 | 830                   |                                      |                                                                                    |         |                                |
| 10                     | 1008 | 1.80                    | 109.79         | 1240 | 880                   |                                      |                                                                                    |         |                                |
| 11                     | 915  | 1.95                    | 99.71          | 1260 | 880                   |                                      |                                                                                    |         |                                |
| 13                     | 787  | 2.25                    | 85.78          | 1280 | 900                   |                                      |                                                                                    |         |                                |
| 14                     | 715  | 2.50                    | 77.90          | 1280 | 920                   |                                      |                                                                                    |         |                                |
| 5.9                    | 1713 | 1.05                    | 286.32         | 1080 | 760                   | CG033-11N-63-04E<br>CF033-11N-63-04E | 24<br>29                                                                           | 140     |                                |
| 6.5                    | 1556 | 1.15                    | 260.03         | 1120 | 790                   |                                      |                                                                                    |         |                                |
| 7.6                    | 1335 | 1.35                    | 223.03         | 1190 | 810                   |                                      |                                                                                    |         |                                |
| 8.4                    | 1212 | 1.50                    | 202.55         | 1210 | 830                   |                                      |                                                                                    |         |                                |
| 9.4                    | 1082 | 1.65                    | 180.83         | 1240 | 850                   |                                      |                                                                                    |         |                                |
| 10                     | 983  | 1.85                    | 164.23         | 1260 | 880                   |                                      |                                                                                    |         |                                |
| 12                     | 853  | 2.10                    | 142.47         | 1280 | 900                   |                                      |                                                                                    |         |                                |
| 13                     | 774  | 2.30                    | 129.39         | 1280 | 900                   |                                      |                                                                                    |         |                                |
| 15                     | 657  | 2.70                    | 109.79         | 1300 | 920                   |                                      |                                                                                    |         |                                |
| 17                     | 597  | 3.00                    | 99.71          | 1300 | 940                   |                                      |                                                                                    |         |                                |
| 17                     | 610  | 1.25                    | 66.50          | 720  | 270                   | CG012-11N-63-06F<br>CF012-11N-63-06F | 20<br>22                                                                           | 138     |                                |
| 19                     | 547  | 1.40                    | 59.59          | 740  | 270                   |                                      |                                                                                    |         |                                |
| 21                     | 475  | 1.60                    | 51.80          | 760  | 290                   |                                      |                                                                                    |         |                                |
| 24                     | 426  | 1.80                    | 46.42          | 760  | 290                   |                                      |                                                                                    |         |                                |
| 26                     | 386  | 2.00                    | 42.00          | 790  | 290                   |                                      |                                                                                    |         |                                |
| 29                     | 345  | 2.20                    | 37.64          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 33                     | 304  | 2.50                    | 33.09          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 37                     | 272  | 2.80                    | 29.65          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 44                     | 230  | 1.60                    | 25.05          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 25                     | 398  | 1.90                    | 66.50          | 760  | 290                   | CG012-11N-63-04E<br>CF012-11N-63-04E | 19<br>22                                                                           | 138     |                                |
| 28                     | 357  | 2.15                    | 59.59          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 33                     | 310  | 2.45                    | 51.80          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 37                     | 278  | 2.75                    | 46.42          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 40                     | 251  | 3.00                    | 42.00          | 790  | 310                   |                                      |                                                                                    |         |                                |
| 68                     | 150  | 2.45                    | 25.05          | 810  | 340                   |                                      |                                                                                    |         |                                |
| 23                     | 435  | 1.05                    | 47.44          | 810  | 270                   | CG002-11N-63-06F<br>CF002-11N-63-06F | 18<br>21                                                                           | 136     |                                |
| 26                     | 389  | 1.15                    | 42.34          | 830  | 270                   |                                      |                                                                                    |         |                                |
| 30                     | 338  | 1.35                    | 36.85          | 830  | 290                   |                                      |                                                                                    |         |                                |
| 34                     | 302  | 1.50                    | 32.89          | 830  | 290                   |                                      |                                                                                    |         |                                |
| 38                     | 269  | 1.65                    | 29.33          | 850  | 310                   |                                      |                                                                                    |         |                                |
| 42                     | 240  | 1.85                    | 26.18          | 850  | 310                   |                                      |                                                                                    |         |                                |
| 48                     | 211  | 2.10                    | 23.00          | 850  | 310                   |                                      |                                                                                    |         |                                |
| 54                     | 188  | 2.35                    | 20.53          | 830  | 310                   |                                      |                                                                                    |         |                                |
| 64                     | 159  | 2.80                    | 17.29          | 790  | 340                   |                                      |                                                                                    |         |                                |
| 66                     | 155  | 1.80                    | 16.86          | 790  | 310                   |                                      |                                                                                    |         |                                |

Legend see page 29



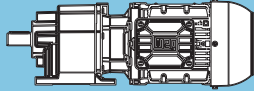
$P_N = 0.16 \text{ hp}$

| 60 Hz           |                | $f_B$ | $i$   | $F_{rN}$ |     |  | $m$<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|-------|-------|----------|-----|------------------------------------------------------------------------------------|-----------|-----------------------------|
| $n_{60}$<br>rpm | $T_2$<br>lb-in |       |       | lb       | lb  |                                                                                    |           |                             |
| 36              | 284            | 1.60  | 47.44 | 830      | 310 | CG002-11N-63-04E<br>CF002-11N-63-04E                                               | 17<br>20  | 136                         |
| 40              | 253            | 1.75  | 42.34 | 850      | 310 |                                                                                    |           |                             |
| 46              | 221            | 2.05  | 36.85 | 850      | 310 |                                                                                    |           |                             |
| 52              | 197            | 2.25  | 32.89 | 850      | 310 |                                                                                    |           |                             |
| 58              | 176            | 2.55  | 29.33 | 810      | 340 |                                                                                    |           |                             |
| 65              | 157            | 2.85  | 26.18 | 790      | 340 |                                                                                    |           |                             |
| 74              | 138            | 3.25  | 23.00 | 760      | 340 |                                                                                    |           |                             |
| 83              | 123            | 3.65  | 20.53 | 740      | 340 |                                                                                    |           |                             |
| 98              | 103            | 4.30  | 17.29 | 700      | 340 |                                                                                    |           |                             |
| 101             | 101            | 2.75  | 16.86 | 670      | 340 |                                                                                    |           |                             |
| 110             | 92             | 4.80  | 15.43 | 670      | 340 |                                                                                    |           |                             |
| 125             | 81             | 5.50  | 13.54 | 650      | 340 |                                                                                    |           |                             |
| 129             | 78             | 4.90  | 13.10 | 630      | 340 |                                                                                    |           |                             |
| 140             | 72             | 6.15  | 12.08 | 630      | 360 |                                                                                    |           |                             |
| 163             | 62             | 6.40  | 10.42 | 580      | 340 |                                                                                    |           |                             |
| 170             | 60             | 7.45  | 9.97  | 580      | 360 |                                                                                    |           |                             |
| 190             | 53             | 8.35  | 8.90  | 560      | 360 |                                                                                    |           |                             |
| 207             | 49             | 8.15  | 8.17  | 540      | 360 |                                                                                    |           |                             |
| 247             | 41             | 10.55 | 6.88  | 520      | 360 |                                                                                    |           |                             |
| 276             | 37             | 10.15 | 6.14  | 490      | 360 |                                                                                    |           |                             |
| 352             | 29             | 12.00 | 4.81  | 450      | 360 |                                                                                    |           |                             |
| 478             | 21             | 14.65 | 3.54  | 430      | 360 |                                                                                    |           |                             |

C

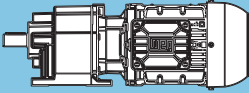
Legend see page 29

**P<sub>N</sub> = 0.25 hp**

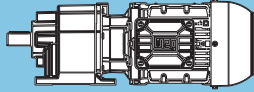
| 60 Hz           |                | f <sub>B</sub> | i        | F <sub>FN</sub> |                 |  | m<br>lb      | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|----------|-----------------|-----------------|------------------------------------------------------------------------------------|--------------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |          | F <sub>FN</sub> | F <sub>FN</sub> |                                                                                    |              |                                |
| rpm             | lb-in          |                |          | lb              | lb              |                                                                                    |              |                                |
| <b>0.07</b>     | 190754         | 0.85           | 15484.09 | 22300           | 4590            | <b>CG165-11N-71-06E</b><br><b>CF165-11N-71-06E</b>                                 | 1534<br>1585 | 170                            |
| <b>0.08</b>     | 177772         | 0.90           | 14467.28 | 23580           | 4880            |                                                                                    |              |                                |
| <b>0.09</b>     | 154798         | 1.05           | 12662.22 | 25470           | 5440            |                                                                                    |              |                                |
| <b>0.10</b>     | 136436         | 1.20           | 11217.58 | 26730           | 5870            |                                                                                    |              |                                |
| <b>0.11</b>     | 120673         | 1.35           | 9998.22  | 27630           | 6250            |                                                                                    |              |                                |
| <b>0.12</b>     | 110244         | 1.45           | 9181.16  | 28150           | 6500            |                                                                                    |              |                                |
| <b>0.14</b>     | 91898          | 1.75           | 7752.38  | 28960           | 6920            |                                                                                    |              |                                |
| <b>0.16</b>     | 83344          | 1.95           | 7067.08  | 29270           | 7130            |                                                                                    |              |                                |
| <b>0.17</b>     | 74060          | 2.20           | 6345.03  | 29560           | 7350            |                                                                                    |              |                                |
| <b>0.21</b>     | 61046          | 2.65           | 5339.57  | 29920           | 7670            |                                                                                    |              |                                |
| <b>0.23</b>     | 55261          | 2.90           | 4884.00  | 30060           | 7800            |                                                                                    |              |                                |
| <b>0.08</b>     | 178954         | 0.90           | 22405.25 | 23380           | 4830            | <b>CG165-11N-63-04F</b><br><b>CF165-11N-63-04F</b>                                 | 1530<br>1581 | 170                            |
| <b>0.09</b>     | 145221         | 1.10           | 18322.05 | 26100           | 5640            |                                                                                    |              |                                |
| <b>0.11</b>     | 121475         | 1.35           | 15484.09 | 27560           | 6200            |                                                                                    |              |                                |
| <b>0.12</b>     | 113207         | 1.45           | 14467.28 | 27990           | 6410            |                                                                                    |              |                                |
| <b>0.13</b>     | 98069          | 1.65           | 12662.22 | 28690           | 6770            |                                                                                    |              |                                |
| <b>0.15</b>     | 86211          | 1.85           | 11217.58 | 29140           | 7040            |                                                                                    |              |                                |
| <b>0.17</b>     | 76051          | 2.10           | 9998.22  | 29490           | 7280            |                                                                                    |              |                                |
| <b>0.19</b>     | 69118          | 2.35           | 9181.16  | 29700           | 7460            |                                                                                    |              |                                |
| <b>0.22</b>     | 57312          | 2.80           | 7752.38  | 30010           | 7730            |                                                                                    |              |                                |
| <b>0.42</b>     | 32808          | 1.25           | 2636.78  | 8680            | 5040            | <b>CG104-11N-71-06E</b><br><b>CF104-11N-71-06E</b>                                 | 377<br>386   | 156                            |
| <b>0.50</b>     | 27510          | 1.45           | 2229.16  | 9170            | 5190            |                                                                                    |              |                                |
| <b>0.51</b>     | 26555          | 1.50           | 2156.24  | 9240            | 5240            |                                                                                    |              |                                |
| <b>0.61</b>     | 22266          | 1.80           | 1822.91  | 9550            | 5370            |                                                                                    |              |                                |
| <b>0.65</b>     | 20668          | 1.95           | 1702.59  | 9640            | 5420            |                                                                                    |              |                                |
| <b>0.77</b>     | 17258          | 2.35           | 1439.39  | 9820            | 5530            |                                                                                    |              |                                |
| <b>0.84</b>     | 15697          | 2.55           | 1320.15  | 9910            | 5600            |                                                                                    |              |                                |
| <b>0.64</b>     | 20848          | 1.95           | 2636.78  | 9620            | 5420            | <b>CG104-11N-63-04F</b><br><b>CF104-11N-63-04F</b>                                 | 373<br>381   | 156                            |
| <b>0.76</b>     | 17408          | 2.30           | 2229.16  | 9820            | 5530            |                                                                                    |              |                                |
| <b>0.79</b>     | 16769          | 2.40           | 2156.24  | 9850            | 5550            |                                                                                    |              |                                |
| <b>0.93</b>     | 13972          | 2.90           | 1822.91  | 9980            | 5640            |                                                                                    |              |                                |
| <b>0.41</b>     | 33877          | 0.80           | 2683.89  | **              | 5440            | <b>CG094-11N-71-06E</b><br><b>CF094-11N-71-06E</b>                                 | 284<br>280   | 152                            |
| <b>0.43</b>     | 32722          | 0.85           | 2597.68  | 3370            | 5490            |                                                                                    |              |                                |
| <b>0.49</b>     | 28454          | 0.95           | 2268.18  | 4590            | 5640            |                                                                                    |              |                                |
| <b>0.52</b>     | 26594          | 1.00           | 2124.27  | 4990            | 5710            |                                                                                    |              |                                |
| <b>0.60</b>     | 23126          | 1.15           | 1854.82  | 5600            | 5850            |                                                                                    |              |                                |
| <b>0.66</b>     | 20828          | 1.30           | 1677.34  | 5930            | 5930            |                                                                                    |              |                                |
| <b>0.67</b>     | 20362          | 1.35           | 1643.20  | 5980            | 5960            |                                                                                    |              |                                |
| <b>0.75</b>     | 18074          | 1.50           | 1464.58  | 6250            | 6050            |                                                                                    |              |                                |
| <b>0.82</b>     | 16495          | 1.65           | 1344.90  | 6410            | 6110            |                                                                                    |              |                                |
| <b>0.85</b>     | 15951          | 1.70           | 1300.57  | 6470            | 6140            |                                                                                    |              |                                |
| <b>0.97</b>     | 13785          | 1.95           | 1135.60  | 6650            | 6200            |                                                                                    |              |                                |
| <b>1.0</b>      | 12868          | 2.10           | 1064.47  | 6720            | 6250            |                                                                                    |              |                                |
| <b>1.1</b>      | 12489          | 2.15           | 1035.22  | 6740            | 6270            |                                                                                    |              |                                |
| <b>1.2</b>      | 11121          | 2.40           | 929.45   | 6830            | 6320            |                                                                                    |              |                                |
| <b>1.3</b>      | 9682           | 2.75           | 819.36   | 6920            | 6360            |                                                                                    |              |                                |
| <b>1.4</b>      | 9204           | 2.90           | 782.16   | 6950            | 6380            |                                                                                    |              |                                |
| <b>0.52</b>     | 26762          | 1.00           | 3282.02  | 4920            | 5710            | <b>CG094-11N-63-04F</b><br><b>CF094-11N-63-04F</b>                                 | 280<br>276   | 152                            |
| <b>0.63</b>     | 21707          | 1.25           | 2683.89  | 5800            | 5910            |                                                                                    |              |                                |
| <b>0.65</b>     | 20966          | 1.30           | 2597.68  | 5890            | 5930            |                                                                                    |              |                                |
| <b>0.75</b>     | 18194          | 1.50           | 2268.18  | 6230            | 6050            |                                                                                    |              |                                |
| <b>0.80</b>     | 16970          | 1.60           | 2124.27  | 6360            | 6090            |                                                                                    |              |                                |
| <b>0.92</b>     | 14696          | 1.85           | 1854.82  | 6560            | 6180            |                                                                                    |              |                                |
| <b>1.0</b>      | 13208          | 2.05           | 1677.34  | 6700            | 6230            |                                                                                    |              |                                |
| <b>1.2</b>      | 11414          | 2.35           | 1464.58  | 6810            | 6290            |                                                                                    |              |                                |
| <b>1.3</b>      | 10395          | 2.60           | 1344.90  | 6880            | 6340            |                                                                                    |              |                                |

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| <b>P<sub>N</sub> = 0.25 hp</b> |                      |                      |          |                       |           |                                                                                    |            |                                 |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|------------|---------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b>   | <b>Dimension sheet see page</b> |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |            |                                 |
| <b>rpm</b>                     | <b>lb-in</b>         |                      |          |                       |           |                                                                                    | <b>lb</b>  |                                 |
| <b>3.0</b>                     | 5080                 | 2.75                 | 368.94   | 5400                  | 4790      | <b>CG083-11N-71-06E</b><br><b>CF083-11N-71-06E</b>                                 | 139<br>148 | 148                             |
| <b>3.1</b>                     | 4837                 | 1.55                 | 351.33   | 2830                  | 3100      | <b>CG073-11N-71-06E</b><br><b>CF073-11N-71-06E</b>                                 | 86<br>95   | 146                             |
| <b>3.5</b>                     | 4400                 | 1.65                 | 319.60   | 2880                  | 3100      |                                                                                    |            |                                 |
| <b>4.0</b>                     | 3834                 | 1.90                 | 278.44   | 2940                  | 3190      |                                                                                    |            |                                 |
| <b>4.4</b>                     | 3488                 | 2.10                 | 253.30   | 2990                  | 3190      |                                                                                    |            |                                 |
| <b>5.1</b>                     | 2977                 | 2.45                 | 216.20   | 3030                  | 3240      |                                                                                    |            |                                 |
| <b>5.6</b>                     | 2708                 | 2.70                 | 196.68   | 3060                  | 3240      |                                                                                    |            |                                 |
| <b>6.2</b>                     | 2442                 | 3.00                 | 177.39   | 3080                  | 3280      |                                                                                    |            |                                 |
| <b>4.8</b>                     | 3144                 | 2.35                 | 351.33   | 3010                  | 3240      | <b>CG073-11N-63-04F</b><br><b>CF073-11N-63-04F</b>                                 | 82<br>90   | 146                             |
| <b>5.3</b>                     | 2860                 | 2.55                 | 319.60   | 3030                  | 3240      |                                                                                    |            |                                 |
| <b>6.1</b>                     | 2492                 | 2.95                 | 278.44   | 3080                  | 3280      |                                                                                    |            |                                 |
| <b>2.9</b>                     | 5173                 | 1.05                 | 375.71   | 1870                  | 1440      | <b>CG063-11N-71-06E</b><br><b>CF063-11N-71-06E</b>                                 | 51<br>62   | 144                             |
| <b>3.2</b>                     | 4744                 | 1.15                 | 344.51   | 1980                  | 1460      |                                                                                    |            |                                 |
| <b>3.6</b>                     | 4230                 | 1.30                 | 307.24   | 2110                  | 1510      |                                                                                    |            |                                 |
| <b>3.9</b>                     | 3879                 | 1.40                 | 281.73   | 2180                  | 1530      |                                                                                    |            |                                 |
| <b>4.6</b>                     | 3340                 | 1.60                 | 242.60   | 2270                  | 1570      |                                                                                    |            |                                 |
| <b>5.0</b>                     | 3063                 | 1.75                 | 222.46   | 2320                  | 1600      |                                                                                    |            |                                 |
| <b>5.9</b>                     | 2590                 | 2.10                 | 188.11   | 2380                  | 1620      |                                                                                    |            |                                 |
| <b>6.4</b>                     | 2375                 | 2.25                 | 172.49   | 2410                  | 1640      |                                                                                    |            |                                 |
| <b>7.2</b>                     | 2120                 | 2.55                 | 153.96   | 2430                  | 1660      |                                                                                    |            |                                 |
| <b>7.8</b>                     | 1944                 | 2.75                 | 141.17   | 2450                  | 1660      |                                                                                    |            |                                 |
| <b>4.5</b>                     | 3362                 | 1.60                 | 375.71   | 2270                  | 1570      | <b>CG063-11N-63-04F</b><br><b>CF063-11N-63-04F</b>                                 | 46<br>57   | 144                             |
| <b>4.9</b>                     | 3083                 | 1.75                 | 344.51   | 2320                  | 1570      |                                                                                    |            |                                 |
| <b>5.5</b>                     | 2750                 | 1.95                 | 307.24   | 2360                  | 1620      |                                                                                    |            |                                 |
| <b>6.0</b>                     | 2521                 | 2.15                 | 281.73   | 2380                  | 1620      |                                                                                    |            |                                 |
| <b>7.0</b>                     | 2171                 | 2.45                 | 242.60   | 2430                  | 1660      |                                                                                    |            |                                 |
| <b>7.6</b>                     | 1991                 | 2.70                 | 222.46   | 2450                  | 1660      |                                                                                    |            |                                 |
| <b>3.4</b>                     | 4522                 | 0.80                 | 328.43   | **                    | 1280      |                                                                                    |            |                                 |
| <b>3.7</b>                     | 4111                 | 0.90                 | 298.57   | 700                   | 1330      |                                                                                    |            |                                 |
| <b>4.1</b>                     | 3689                 | 1.00                 | 267.93   | 990                   | 1390      |                                                                                    |            |                                 |
| <b>4.5</b>                     | 3354                 | 1.10                 | 243.57   | 1150                  | 1420      |                                                                                    |            |                                 |
| <b>5.2</b>                     | 2943                 | 1.25                 | 213.71   | 1300                  | 1460      |                                                                                    |            |                                 |
| <b>5.7</b>                     | 2675                 | 1.35                 | 194.29   | 1390                  | 1510      |                                                                                    |            |                                 |
| <b>6.7</b>                     | 2278                 | 1.60                 | 165.45   | 1510                  | 1550      |                                                                                    |            |                                 |
| <b>7.3</b>                     | 2071                 | 1.75                 | 150.41   | 1530                  | 1570      |                                                                                    |            |                                 |
| <b>8.3</b>                     | 1831                 | 1.95                 | 132.97   | 1570                  | 1600      |                                                                                    |            |                                 |
| <b>9.1</b>                     | 1664                 | 2.15                 | 120.88   | 1620                  | 1620      |                                                                                    |            |                                 |
| <b>11</b>                      | 1398                 | 2.55                 | 101.55   | 1640                  | 1660      |                                                                                    |            |                                 |
| <b>12</b>                      | 1271                 | 2.80                 | 92.32    | 1660                  | 1660      |                                                                                    |            |                                 |
| <b>5.2</b>                     | 2939                 | 1.25                 | 328.43   | 1300                  | 1460      | <b>CG053-11N-63-04F</b><br><b>CF053-11N-63-04F</b>                                 | 35<br>46   | 142                             |
| <b>5.7</b>                     | 2672                 | 1.35                 | 298.57   | 1390                  | 1510      |                                                                                    |            |                                 |
| <b>6.3</b>                     | 2398                 | 1.50                 | 267.93   | 1460                  | 1530      |                                                                                    |            |                                 |
| <b>7.0</b>                     | 2180                 | 1.65                 | 243.57   | 1510                  | 1550      |                                                                                    |            |                                 |
| <b>8.0</b>                     | 1913                 | 1.90                 | 213.71   | 1570                  | 1600      |                                                                                    |            |                                 |
| <b>8.8</b>                     | 1739                 | 2.05                 | 194.29   | 1600                  | 1620      |                                                                                    |            |                                 |
| <b>10</b>                      | 1481                 | 2.40                 | 165.45   | 1640                  | 1640      |                                                                                    |            |                                 |
| <b>11</b>                      | 1346                 | 2.65                 | 150.41   | 1660                  | 1660      |                                                                                    |            |                                 |
| <b>13</b>                      | 1190                 | 3.00                 | 132.97   | 1660                  | 1690      |                                                                                    |            |                                 |
| <b>19</b>                      | 810                  | 2.75                 | 58.85    | 1710                  | 1730      |                                                                                    |            |                                 |
| <b>21</b>                      | 737                  | 2.75                 | 53.50    | 1710                  | 1730      |                                                                                    |            |                                 |
| <b>31</b>                      | 491                  | 2.75                 | 35.67    | 1730                  | 1750      |                                                                                    |            |                                 |

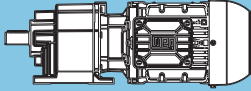
**P<sub>N</sub> = 0.25 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i      | F <sub>FN</sub> |     |  | m<br>lb  | Dimension<br>sheet<br>see page |
|------------------------|-------------------------|----------------|--------|-----------------|-----|------------------------------------------------------------------------------------|----------|--------------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |        | lb              | lb  |                                                                                    |          |                                |
| 6.7                    | 2261                    | 0.80           | 164.23 | **              | 650 | CG033-11N-71-06E<br>CF033-11N-71-06E                                               | 31<br>35 | 140                            |
| 7.8                    | 1962                    | 0.95           | 142.47 | 970             | 720 |                                                                                    |          |                                |
| 8.5                    | 1782                    | 1.00           | 129.39 | 1060            | 740 |                                                                                    |          |                                |
| 10                     | 1512                    | 1.20           | 109.79 | 1120            | 790 |                                                                                    |          |                                |
| 11                     | 1373                    | 1.30           | 99.71  | 1170            | 810 |                                                                                    |          |                                |
| 13                     | 1181                    | 1.50           | 85.78  | 1210            | 830 |                                                                                    |          |                                |
| 14                     | 1073                    | 1.70           | 77.90  | 1240            | 850 |                                                                                    |          |                                |
| 17                     | 882                     | 2.05           | 64.05  | 1260            | 900 |                                                                                    |          |                                |
| 19                     | 801                     | 2.25           | 58.17  | 1280            | 900 |                                                                                    |          |                                |
| 23                     | 664                     | 2.70           | 48.22  | 1300            | 920 |                                                                                    |          |                                |
| 25                     | 603                     | 2.95           | 43.79  | 1300            | 940 |                                                                                    |          |                                |
| 6.5                    | 2327                    | 0.80           | 260.03 | **              | 650 | CG033-11N-63-04F<br>CF033-11N-63-04F                                               | 26<br>31 | 140                            |
| 7.6                    | 1996                    | 0.90           | 223.03 | 940             | 700 |                                                                                    |          |                                |
| 8.4                    | 1813                    | 1.00           | 202.55 | 1030            | 740 |                                                                                    |          |                                |
| 9.4                    | 1618                    | 1.10           | 180.83 | 1100            | 760 |                                                                                    |          |                                |
| 10                     | 1470                    | 1.25           | 164.23 | 1150            | 790 |                                                                                    |          |                                |
| 12                     | 1275                    | 1.40           | 142.47 | 1190            | 830 |                                                                                    |          |                                |
| 13                     | 1158                    | 1.55           | 129.39 | 1210            | 830 |                                                                                    |          |                                |
| 15                     | 983                     | 1.85           | 109.79 | 1260            | 880 |                                                                                    |          |                                |
| 17                     | 892                     | 2.00           | 99.71  | 1260            | 880 |                                                                                    |          |                                |
| 20                     | 768                     | 2.35           | 85.78  | 1280            | 900 |                                                                                    |          |                                |
| 22                     | 697                     | 2.55           | 77.90  | 1280            | 920 |                                                                                    |          |                                |
| 26                     | 590                     | 2.80           | 42.88  | 1300            | 940 | CG032-11N-71-06E<br>CF032-11N-71-06E                                               | 29<br>33 | 140                            |
| 28                     | 536                     | 2.80           | 38.95  | 1300            | 940 |                                                                                    |          |                                |
| 46                     | 331                     | 2.80           | 24.03  | 1300            | 970 |                                                                                    |          |                                |
| 17                     | 916                     | 0.85           | 66.50  | 610             | 200 | CG012-11N-71-06E<br>CF012-11N-71-06E                                               | 24<br>26 | 138                            |
| 19                     | 820                     | 0.95           | 59.59  | 650             | 220 |                                                                                    |          |                                |
| 21                     | 713                     | 1.10           | 51.80  | 700             | 250 |                                                                                    |          |                                |
| 24                     | 639                     | 1.20           | 46.42  | 720             | 250 |                                                                                    |          |                                |
| 26                     | 578                     | 1.35           | 42.00  | 740             | 270 |                                                                                    |          |                                |
| 29                     | 518                     | 1.50           | 37.64  | 740             | 270 |                                                                                    |          |                                |
| 33                     | 456                     | 1.70           | 33.09  | 760             | 290 |                                                                                    |          |                                |
| 37                     | 408                     | 1.85           | 29.65  | 760             | 290 |                                                                                    |          |                                |
| 43                     | 351                     | 2.15           | 25.50  | 790             | 310 |                                                                                    |          |                                |
| 44                     | 345                     | 1.10           | 25.05  | 790             | 290 |                                                                                    |          |                                |
| 48                     | 315                     | 2.40           | 22.85  | 790             | 310 |                                                                                    |          |                                |
| 55                     | 274                     | 2.75           | 19.92  | 790             | 310 |                                                                                    |          |                                |
| 57                     | 269                     | 2.20           | 19.51  | 790             | 290 |                                                                                    |          |                                |
| 70                     | 218                     | 2.70           | 15.82  | 810             | 310 |                                                                                    |          |                                |
| 26                     | 595                     | 1.30           | 66.50  | 720             | 270 | CG012-11N-63-04F<br>CF012-11N-63-04F                                               | 20<br>22 | 138                            |
| 29                     | 533                     | 1.45           | 59.59  | 740             | 270 |                                                                                    |          |                                |
| 33                     | 464                     | 1.65           | 51.80  | 760             | 290 |                                                                                    |          |                                |
| 37                     | 415                     | 1.85           | 46.42  | 760             | 290 |                                                                                    |          |                                |
| 40                     | 376                     | 2.05           | 42.00  | 790             | 290 |                                                                                    |          |                                |
| 45                     | 337                     | 2.25           | 37.64  | 790             | 310 |                                                                                    |          |                                |
| 51                     | 296                     | 2.55           | 33.09  | 790             | 310 |                                                                                    |          |                                |
| 57                     | 265                     | 2.85           | 29.65  | 790             | 310 |                                                                                    |          |                                |
| 68                     | 224                     | 1.65           | 25.05  | 790             | 310 |                                                                                    |          |                                |

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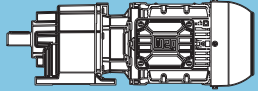


| P <sub>N</sub> = 0.25 hp |                         |                |       |                 |     |                                                                                    |          |                          |
|--------------------------|-------------------------|----------------|-------|-----------------|-----|------------------------------------------------------------------------------------|----------|--------------------------|
| 60 Hz                    |                         | f <sub>B</sub> | i     | F <sub>rN</sub> |     |  | m        | Dimension sheet see page |
| n <sub>60</sub><br>rpm   | T <sub>2</sub><br>lb-in |                |       | lb              | lb  |                                                                                    |          |                          |
| 26                       | 583                     | 0.80           | 42.34 | **              | 250 | CG002-11N-71-06E<br>CF002-11N-71-06E                                               | 22<br>24 | 136                      |
| 30                       | 507                     | 0.90           | 36.85 | 810             | 250 |                                                                                    |          |                          |
| 34                       | 453                     | 1.00           | 32.89 | 810             | 270 |                                                                                    |          |                          |
| 38                       | 404                     | 1.10           | 29.33 | 830             | 270 |                                                                                    |          |                          |
| 42                       | 360                     | 1.25           | 26.18 | 830             | 290 |                                                                                    |          |                          |
| 48                       | 317                     | 1.40           | 23.00 | 830             | 290 |                                                                                    |          |                          |
| 54                       | 283                     | 1.60           | 20.53 | 810             | 310 |                                                                                    |          |                          |
| 64                       | 238                     | 1.90           | 17.29 | 790             | 310 |                                                                                    |          |                          |
| 66                       | 232                     | 1.20           | 16.86 | 760             | 290 |                                                                                    |          |                          |
| 72                       | 212                     | 2.10           | 15.43 | 740             | 310 |                                                                                    |          |                          |
| 82                       | 186                     | 2.40           | 13.54 | 720             | 310 |                                                                                    |          |                          |
| 84                       | 180                     | 2.15           | 13.10 | 720             | 310 |                                                                                    |          |                          |
| 91                       | 166                     | 2.70           | 12.08 | 700             | 340 |                                                                                    |          |                          |
| 106                      | 144                     | 2.80           | 10.42 | 650             | 310 |                                                                                    |          |                          |
| 36                       | 425                     | 1.05           | 47.44 | 830             | 270 | CG002-11N-63-04F<br>CF002-11N-63-04F                                               | 17<br>20 | 136                      |
| 40                       | 379                     | 1.20           | 42.34 | 830             | 290 |                                                                                    |          |                          |
| 46                       | 330                     | 1.35           | 36.85 | 830             | 290 |                                                                                    |          |                          |
| 52                       | 294                     | 1.55           | 32.89 | 830             | 290 |                                                                                    |          |                          |
| 58                       | 263                     | 1.70           | 29.33 | 810             | 310 |                                                                                    |          |                          |
| 65                       | 234                     | 1.90           | 26.18 | 790             | 310 |                                                                                    |          |                          |
| 74                       | 206                     | 2.15           | 23.00 | 740             | 310 |                                                                                    |          |                          |
| 83                       | 184                     | 2.45           | 20.53 | 720             | 310 |                                                                                    |          |                          |
| 98                       | 155                     | 2.90           | 17.29 | 700             | 340 |                                                                                    |          |                          |
| 101                      | 151                     | 1.85           | 16.86 | 670             | 310 |                                                                                    |          |                          |
| 110                      | 138                     | 3.25           | 15.43 | 650             | 340 |                                                                                    |          |                          |
| 126                      | 121                     | 3.70           | 13.54 | 630             | 340 |                                                                                    |          |                          |
| 130                      | 117                     | 3.25           | 13.10 | 630             | 340 |                                                                                    |          |                          |
| 141                      | 108                     | 4.10           | 12.08 | 610             | 340 |                                                                                    |          |                          |
| 163                      | 93                      | 4.30           | 10.42 | 580             | 340 |                                                                                    |          |                          |
| 171                      | 89                      | 5.00           | 9.97  | 580             | 340 |                                                                                    |          |                          |
| 191                      | 80                      | 5.60           | 8.90  | 560             | 340 |                                                                                    |          |                          |
| 208                      | 73                      | 5.45           | 8.17  | 540             | 340 |                                                                                    |          |                          |
| 247                      | 62                      | 7.05           | 6.88  | 520             | 360 |                                                                                    |          |                          |
| 277                      | 55                      | 6.80           | 6.14  | 490             | 340 |                                                                                    |          |                          |
| 353                      | 43                      | 8.05           | 4.81  | 450             | 360 |                                                                                    |          |                          |
| 480                      | 32                      | 9.80           | 3.54  | 400             | 360 |                                                                                    |          |                          |

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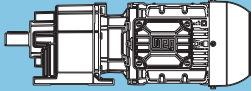
**P<sub>N</sub> = 0.33 hp**

| 60 Hz                  |        | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i     | F <sub>TN</sub> |                                                    |  | m<br>lb | Dimension<br>sheet<br>see page |
|------------------------|--------|-------------------------|----------------|-------|-----------------|----------------------------------------------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub><br>rpm |        |                         |                |       | lb              | lb                                                 |                                                                                    |         |                                |
| <b>0.10</b>            | 191071 | 0.85                    | 11217.58       | 22300 | 4560            | <b>CG165-11N-71-06F</b><br><b>CF165-11N-71-06F</b> | 1537<br>1587                                                                       | 170     |                                |
| <b>0.11</b>            | 169432 | 0.95                    | 9998.22        | 24320 | 5080            |                                                    |                                                                                    |         |                                |
| <b>0.12</b>            | 155188 | 1.05                    | 9181.16        | 25450 | 5420            |                                                    |                                                                                    |         |                                |
| <b>0.14</b>            | 130034 | 1.25                    | 7752.38        | 27110 | 6020            |                                                    |                                                                                    |         |                                |
| <b>0.16</b>            | 117933 | 1.40                    | 7067.08        | 27790 | 6320            |                                                    |                                                                                    |         |                                |
| <b>0.17</b>            | 105071 | 1.55                    | 6345.03        | 28390 | 6610            |                                                    |                                                                                    |         |                                |
| <b>0.21</b>            | 87290  | 1.85                    | 5339.57        | 29110 | 7040            |                                                    |                                                                                    |         |                                |
| <b>0.23</b>            | 79227  | 2.05                    | 4884.00        | 29410 | 7220            |                                                    |                                                                                    |         |                                |
| <b>0.25</b>            | 70160  | 2.30                    | 4369.98        | 29670 | 7440            |                                                    |                                                                                    |         |                                |
| <b>0.30</b>            | 58029  | 2.75                    | 3690.13        | 29990 | 7730            |                                                    |                                                                                    |         |                                |
| <b>0.09</b>            | 204293 | 0.80                    | 18322.05       | **    | 4230            | <b>CG165-11N-71-04E</b><br><b>CF165-11N-71-04E</b> | 1532<br>1583                                                                       | 170     |                                |
| <b>0.11</b>            | 171769 | 0.95                    | 15484.09       | 24030 | 5010            |                                                    |                                                                                    |         |                                |
| <b>0.12</b>            | 159670 | 1.00                    | 14467.28       | 25040 | 5310            |                                                    |                                                                                    |         |                                |
| <b>0.13</b>            | 139034 | 1.15                    | 12662.22       | 26500 | 5780            |                                                    |                                                                                    |         |                                |
| <b>0.15</b>            | 122541 | 1.35                    | 11217.58       | 27490 | 6180            |                                                    |                                                                                    |         |                                |
| <b>0.17</b>            | 108383 | 1.50                    | 9998.22        | 28210 | 6520            |                                                    |                                                                                    |         |                                |
| <b>0.19</b>            | 99016  | 1.65                    | 9181.16        | 28640 | 6740            |                                                    |                                                                                    |         |                                |
| <b>0.22</b>            | 82324  | 1.95                    | 7752.38        | 29270 | 7150            |                                                    |                                                                                    |         |                                |
| <b>0.24</b>            | 74468  | 2.15                    | 7067.08        | 29540 | 7330            |                                                    |                                                                                    |         |                                |
| <b>0.27</b>            | 66171  | 2.45                    | 6345.03        | 29790 | 7530            |                                                    |                                                                                    |         |                                |
| <b>0.32</b>            | 54400  | 2.95                    | 5339.57        | 30080 | 7800            |                                                    |                                                                                    |         |                                |
| <b>0.59</b>            | 31425  | 2.30                    | 1891.77        | 16390 | 5690            | <b>CG134-11N-71-06F</b><br><b>CF134-11N-71-06F</b> | 631<br>635                                                                         | 160     |                                |
| <b>0.68</b>            | 26942  | 2.65                    | 1642.17        | 16550 | 5820            |                                                    |                                                                                    |         |                                |
| <b>0.76</b>            | 23665  | 3.00                    | 1460.54        | 16640 | 5930            |                                                    |                                                                                    |         |                                |
| <b>0.42</b>            | 45829  | 0.90                    | 2636.78        | 6880  | 4590            | <b>CG104-11N-71-06F</b><br><b>CF104-11N-71-06F</b> | 379<br>388                                                                         | 156     |                                |
| <b>0.50</b>            | 38586  | 1.05                    | 2229.16        | 8000  | 4830            |                                                    |                                                                                    |         |                                |
| <b>0.51</b>            | 37248  | 1.10                    | 2156.24        | 8180  | 4880            |                                                    |                                                                                    |         |                                |
| <b>0.61</b>            | 31296  | 1.30                    | 1822.91        | 8830  | 5080            |                                                    |                                                                                    |         |                                |
| <b>0.65</b>            | 29111  | 1.40                    | 1702.59        | 9040  | 5150            |                                                    |                                                                                    |         |                                |
| <b>0.77</b>            | 24409  | 1.65                    | 1439.39        | 9420  | 5310            |                                                    |                                                                                    |         |                                |
| <b>0.84</b>            | 22295  | 1.80                    | 1320.15        | 9550  | 5370            |                                                    |                                                                                    |         |                                |
| <b>0.99</b>            | 18616  | 2.15                    | 1116.07        | 9760  | 5510            |                                                    |                                                                                    |         |                                |
| <b>1.0</b>             | 17986  | 2.25                    | 1080.49        | 9800  | 5510            |                                                    |                                                                                    |         |                                |
| <b>1.2</b>             | 14955  | 2.70                    | 913.46         | 9940  | 5620            |                                                    |                                                                                    |         |                                |
| <b>1.3</b>             | 13504  | 2.95                    | 831.69         | 9980  | 5670            |                                                    |                                                                                    |         |                                |
| <b>0.64</b>            | 29497  | 1.40                    | 2636.78        | 8990  | 5130            | <b>CG104-11N-71-04E</b><br><b>CF104-11N-71-04E</b> | 375<br>384                                                                         | 156     |                                |
| <b>0.76</b>            | 24733  | 1.65                    | 2229.16        | 9370  | 5280            |                                                    |                                                                                    |         |                                |
| <b>0.79</b>            | 23875  | 1.70                    | 2156.24        | 9440  | 5330            |                                                    |                                                                                    |         |                                |
| <b>0.93</b>            | 19936  | 2.00                    | 1822.91        | 9690  | 5440            |                                                    |                                                                                    |         |                                |
| <b>1.0</b>             | 18543  | 2.15                    | 1702.59        | 9760  | 5490            |                                                    |                                                                                    |         |                                |
| <b>1.2</b>             | 15451  | 2.60                    | 1439.39        | 9910  | 5600            |                                                    |                                                                                    |         |                                |
| <b>1.3</b>             | 14054  | 2.85                    | 1320.15        | 9960  | 5640            |                                                    |                                                                                    |         |                                |
| <b>0.60</b>            | 32304  | 0.85                    | 1854.82        | 3530  | 5510            | <b>CG094-11N-71-06F</b><br><b>CF094-11N-71-06F</b> | 287<br>282                                                                         | 152     |                                |
| <b>0.66</b>            | 29153  | 0.95                    | 1677.34        | 4430  | 5620            |                                                    |                                                                                    |         |                                |
| <b>0.68</b>            | 28502  | 0.95                    | 1643.20        | 4590  | 5640            |                                                    |                                                                                    |         |                                |
| <b>0.76</b>            | 25351  | 1.05                    | 1464.58        | 5240  | 5780            |                                                    |                                                                                    |         |                                |
| <b>0.83</b>            | 23185  | 1.15                    | 1344.90        | 5600  | 5850            |                                                    |                                                                                    |         |                                |
| <b>0.85</b>            | 22374  | 1.20                    | 1300.57        | 5710  | 5890            |                                                    |                                                                                    |         |                                |
| <b>0.98</b>            | 19416  | 1.40                    | 1135.60        | 6110  | 6000            |                                                    |                                                                                    |         |                                |
| <b>1.0</b>             | 18163  | 1.50                    | 1064.47        | 6250  | 6050            |                                                    |                                                                                    |         |                                |
| <b>1.1</b>             | 17627  | 1.55                    | 1035.22        | 6290  | 6070            |                                                    |                                                                                    |         |                                |
| <b>1.2</b>             | 15729  | 1.70                    | 929.45         | 6500  | 6140            |                                                    |                                                                                    |         |                                |
| <b>1.4</b>             | 13101  | 2.05                    | 782.16         | 6700  | 6250            |                                                    |                                                                                    |         |                                |
| <b>1.4</b>             | 13752  | 1.95                    | 819.36         | 6650  | 6200            |                                                    |                                                                                    |         |                                |
| <b>1.6</b>             | 11884  | 2.25                    | 715.43         | 6790  | 6290            |                                                    |                                                                                    |         |                                |
| <b>1.7</b>             | 10546  | 2.55                    | 640.13         | 6880  | 6340            |                                                    |                                                                                    |         |                                |
| <b>1.8</b>             | 10157  | 2.65                    | 619.07         | 6900  | 6360            |                                                    |                                                                                    |         |                                |

Legend see page 29

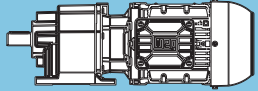
\*\* ... on request

$P_N = 0.33 \text{ hp}$

| 60 Hz           |                | $f_B$ | $i$     | $F_{rN}$ |      |  | $m$<br>lb  | Dimension sheet<br>see page |
|-----------------|----------------|-------|---------|----------|------|------------------------------------------------------------------------------------|------------|-----------------------------|
| $n_{60}$<br>rpm | $T_2$<br>lb-in |       |         | lb       | lb   |                                                                                    |            |                             |
| 0.63            | 30458          | 0.90  | 2683.89 | 4050     | 5550 | CG094-11N-71-04E<br>CF094-11N-71-04E                                               | 282<br>278 | 152                         |
| 0.65            | 29480          | 0.95  | 2597.68 | 4320     | 5600 |                                                                                    |            |                             |
| 0.75            | 25635          | 1.05  | 2268.18 | 5150     | 5760 |                                                                                    |            |                             |
| 0.80            | 23960          | 1.15  | 2124.27 | 5440     | 5820 |                                                                                    |            |                             |
| 0.92            | 20792          | 1.30  | 1854.82 | 5910     | 5930 |                                                                                    |            |                             |
| 1.0             | 18726          | 1.45  | 1677.34 | 6180     | 6020 |                                                                                    |            |                             |
| 1.2             | 16217          | 1.65  | 1464.58 | 6430     | 6110 |                                                                                    |            |                             |
| 1.3             | 14830          | 1.80  | 1344.90 | 6560     | 6160 |                                                                                    |            |                             |
| 1.5             | 12368          | 2.15  | 1135.60 | 6740     | 6270 |                                                                                    |            |                             |
| 1.6             | 11522          | 2.35  | 1064.47 | 6810     | 6290 |                                                                                    |            |                             |
| 1.6             | 11182          | 2.40  | 1035.22 | 6830     | 6320 | CG083-11N-71-06F<br>CF083-11N-71-06F                                               | 141<br>150 | 148                         |
| 1.8             | 9956           | 2.70  | 929.45  | 6900     | 6360 |                                                                                    |            |                             |
| 3.0             | 7024           | 2.00  | 368.94  | 5260     | 4680 |                                                                                    |            |                             |
| 3.9             | 5423           | 2.55  | 284.84  | 5370     | 4770 | CG083-11N-71-04E<br>CF083-11N-71-04E                                               | 137<br>146 | 148                         |
| 4.6             | 4586           | 3.00  | 368.94  | 5420     | 4810 |                                                                                    |            |                             |
| 3.2             | 6688           | 1.10  | 351.33  | 2500     | 2990 | CG073-11N-71-06F<br>CF073-11N-71-06F                                               | 88<br>97   | 146                         |
| 3.5             | 6084           | 1.20  | 319.60  | 2630     | 2970 |                                                                                    |            |                             |
| 4.0             | 5301           | 1.40  | 278.44  | 2770     | 3080 |                                                                                    |            |                             |
| 4.4             | 4822           | 1.55  | 253.30  | 2830     | 3080 |                                                                                    |            |                             |
| 5.1             | 4116           | 1.80  | 216.20  | 2920     | 3170 |                                                                                    |            |                             |
| 5.6             | 3744           | 1.95  | 196.68  | 2970     | 3170 |                                                                                    |            |                             |
| 6.3             | 3377           | 2.15  | 177.39  | 3010     | 3210 |                                                                                    |            |                             |
| 6.9             | 3072           | 2.40  | 161.38  | 3030     | 3210 |                                                                                    |            |                             |
| 8.1             | 2615           | 2.80  | 137.38  | 3060     | 3280 |                                                                                    |            |                             |
| 4.8             | 4367           | 1.70  | 351.33  | 2900     | 3150 | CG073-11N-71-04E<br>CF073-11N-71-04E                                               | 84<br>93   | 146                         |
| 5.3             | 3973           | 1.85  | 319.60  | 2940     | 3150 |                                                                                    |            |                             |
| 6.1             | 3461           | 2.10  | 278.44  | 2990     | 3210 |                                                                                    |            |                             |
| 6.7             | 3148           | 2.35  | 253.30  | 3010     | 3210 |                                                                                    |            |                             |
| 7.9             | 2687           | 2.75  | 216.20  | 3060     | 3260 |                                                                                    |            |                             |
| 8.6             | 2445           | 3.00  | 196.68  | 3080     | 3260 |                                                                                    |            |                             |
| 3.2             | 6559           | 0.85  | 344.51  | 1300     | 1330 | CG063-11N-71-06F<br>CF063-11N-71-06F                                               | 53<br>64   | 144                         |
| 3.6             | 5849           | 0.95  | 307.24  | 1620     | 1370 |                                                                                    |            |                             |
| 3.9             | 5363           | 1.00  | 281.73  | 1800     | 1420 |                                                                                    |            |                             |
| 4.6             | 4618           | 1.15  | 242.60  | 2020     | 1460 |                                                                                    |            |                             |
| 5.0             | 4235           | 1.30  | 222.46  | 2110     | 1510 |                                                                                    |            |                             |
| 5.9             | 3581           | 1.50  | 188.11  | 2230     | 1550 |                                                                                    |            |                             |
| 6.4             | 3284           | 1.65  | 172.49  | 2290     | 1570 |                                                                                    |            |                             |
| 7.2             | 2931           | 1.85  | 153.96  | 2340     | 1600 |                                                                                    |            |                             |
| 7.9             | 2688           | 2.00  | 141.17  | 2360     | 1620 |                                                                                    |            |                             |
| 9.4             | 2256           | 2.40  | 118.51  | 2410     | 1640 |                                                                                    |            |                             |
| 10              | 2069           | 2.60  | 108.67  | 2430     | 1660 | CG063-11N-71-04E<br>CF063-11N-71-04E                                               | 49<br>60   | 144                         |
| 4.5             | 4670           | 1.15  | 375.71  | 2000     | 1460 |                                                                                    |            |                             |
| 4.9             | 4282           | 1.25  | 344.51  | 2090     | 1480 |                                                                                    |            |                             |
| 5.5             | 3819           | 1.40  | 307.24  | 2180     | 1530 |                                                                                    |            |                             |
| 6.0             | 3502           | 1.55  | 281.73  | 2250     | 1550 |                                                                                    |            |                             |
| 7.0             | 3016           | 1.80  | 242.60  | 2320     | 1600 |                                                                                    |            |                             |
| 7.6             | 2765           | 1.95  | 222.46  | 2360     | 1620 |                                                                                    |            |                             |
| 9.0             | 2338           | 2.30  | 188.11  | 2410     | 1640 |                                                                                    |            |                             |
| 9.9             | 2144           | 2.50  | 172.49  | 2430     | 1660 |                                                                                    |            |                             |
| 11              | 1914           | 2.80  | 153.96  | 2450     | 1690 |                                                                                    |            |                             |

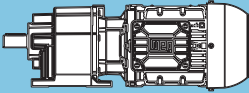
Legend see page 29

$P_N = 0.33 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$    | $F_{rN}$ |          |  | $m$<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|--------|----------|----------|------------------------------------------------------------------------------------|-----------|-----------------------------|
| $n_{60}$ | $T_2$ |       |        | $F_{rN}$ | $F_{aN}$ |                                                                                    |           |                             |
| rpm      | lb-in |       |        | lb       | lb       |                                                                                    |           |                             |
| 4.6      | 4637  | 0.80  | 243.57 | **       | 1260     | CG053-11N-71-06F<br>CF053-11N-71-06F                                               | 42<br>53  | 142                         |
| 5.2      | 4068  | 0.90  | 213.71 | 740      | 1350     |                                                                                    |           |                             |
| 5.7      | 3699  | 1.00  | 194.29 | 990      | 1370     |                                                                                    |           |                             |
| 6.7      | 3150  | 1.15  | 165.45 | 1240     | 1440     |                                                                                    |           |                             |
| 7.4      | 2863  | 1.25  | 150.41 | 1350     | 1480     |                                                                                    |           |                             |
| 8.3      | 2531  | 1.40  | 132.97 | 1440     | 1530     |                                                                                    |           |                             |
| 9.2      | 2301  | 1.55  | 120.88 | 1480     | 1550     |                                                                                    |           |                             |
| 11       | 1933  | 1.85  | 101.55 | 1570     | 1600     |                                                                                    |           |                             |
| 12       | 1758  | 2.05  | 92.32  | 1600     | 1620     |                                                                                    |           |                             |
| 14       | 1481  | 2.40  | 77.79  | 1640     | 1640     |                                                                                    |           |                             |
| 16       | 1346  | 2.65  | 70.71  | 1660     | 1660     |                                                                                    |           |                             |
| 5.2      | 4082  | 0.90  | 328.43 | 700      | 1330     | CG053-11N-71-04E<br>CF053-11N-71-04E                                               | 37<br>49  | 142                         |
| 5.7      | 3711  | 1.00  | 298.57 | 970      | 1370     |                                                                                    |           |                             |
| 6.3      | 3330  | 1.10  | 267.93 | 1150     | 1420     |                                                                                    |           |                             |
| 7.0      | 3028  | 1.20  | 243.57 | 1280     | 1460     |                                                                                    |           |                             |
| 8.0      | 2656  | 1.35  | 213.71 | 1390     | 1510     |                                                                                    |           |                             |
| 8.8      | 2415  | 1.50  | 194.29 | 1460     | 1530     |                                                                                    |           |                             |
| 10       | 2057  | 1.75  | 165.45 | 1550     | 1570     |                                                                                    |           |                             |
| 11       | 1870  | 1.90  | 150.41 | 1570     | 1600     |                                                                                    |           |                             |
| 13       | 1653  | 2.15  | 132.97 | 1620     | 1620     |                                                                                    |           |                             |
| 14       | 1503  | 2.40  | 120.88 | 1640     | 1640     |                                                                                    |           |                             |
| 17       | 1262  | 2.85  | 101.55 | 1660     | 1660     |                                                                                    |           |                             |
| 19       | 1120  | 2.00  | 58.85  | 1690     | 1690     | CG052-11N-71-06F<br>CF052-11N-71-06F                                               | 40<br>51  | 142                         |
| 21       | 1018  | 2.00  | 53.50  | 1690     | 1710     |                                                                                    |           |                             |
| 31       | 679   | 2.00  | 35.67  | 1710     | 1710     |                                                                                    |           |                             |
| 10       | 2090  | 0.85  | 109.79 | 920      | 700      | CG033-11N-71-06F<br>CF033-11N-71-06F                                               | 31<br>35  | 140                         |
| 11       | 1898  | 0.95  | 99.71  | 1010     | 720      |                                                                                    |           |                             |
| 13       | 1633  | 1.10  | 85.78  | 1100     | 760      |                                                                                    |           |                             |
| 14       | 1483  | 1.20  | 77.90  | 1150     | 790      |                                                                                    |           |                             |
| 17       | 1219  | 1.50  | 64.05  | 1210     | 830      |                                                                                    |           |                             |
| 19       | 1107  | 1.60  | 58.17  | 1240     | 850      |                                                                                    |           |                             |
| 23       | 918   | 1.95  | 48.22  | 1260     | 880      |                                                                                    |           |                             |
| 25       | 834   | 2.15  | 43.79  | 1280     | 900      |                                                                                    |           |                             |
| 31       | 674   | 2.65  | 35.38  | 1300     | 920      |                                                                                    |           |                             |
| 35       | 612   | 2.90  | 32.13  | 1300     | 920      |                                                                                    |           |                             |
| 9.4      | 2248  | 0.80  | 180.83 | **       | 670      | CG033-11N-71-04E<br>CF033-11N-71-04E                                               | 26<br>31  | 140                         |
| 10       | 2041  | 0.90  | 164.23 | 940      | 700      |                                                                                    |           |                             |
| 12       | 1771  | 1.00  | 142.47 | 1060     | 740      |                                                                                    |           |                             |
| 13       | 1608  | 1.15  | 129.39 | 1100     | 760      |                                                                                    |           |                             |
| 15       | 1365  | 1.30  | 109.79 | 1170     | 810      |                                                                                    |           |                             |
| 17       | 1239  | 1.45  | 99.71  | 1190     | 830      |                                                                                    |           |                             |
| 20       | 1066  | 1.70  | 85.78  | 1240     | 850      |                                                                                    |           |                             |
| 22       | 968   | 1.85  | 77.90  | 1260     | 880      |                                                                                    |           |                             |
| 27       | 796   | 2.25  | 64.05  | 1280     | 900      |                                                                                    |           |                             |
| 29       | 723   | 2.45  | 58.17  | 1280     | 920      |                                                                                    |           |                             |
| 35       | 599   | 3.00  | 48.22  | 1300     | 940      |                                                                                    |           |                             |
| 26       | 816   | 2.00  | 42.88  | 1280     | 900      | CG032-11N-71-06F<br>CF032-11N-71-06F                                               | 31<br>35  | 140                         |
| 29       | 741   | 2.05  | 38.95  | 1280     | 920      |                                                                                    |           |                             |
| 32       | 664   | 2.70  | 34.88  | 1300     | 920      |                                                                                    |           |                             |
| 35       | 603   | 2.95  | 31.67  | 1300     | 940      |                                                                                    |           |                             |
| 46       | 457   | 2.00  | 24.03  | 1280     | 940      |                                                                                    |           |                             |

Legend see page 29

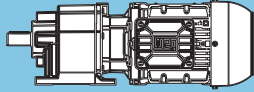
\*\* ... on request

| <b>P<sub>N</sub> = 0.33 hp</b> |                      |                      |          |                       |           |                                                                                    |          |                             |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|----------|-----------------------------|
| <b>60 Hz</b>                   |                      | <b>f<sub>B</sub></b> | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b> | Dimension sheet<br>see page |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> |                      |          | <b>lb</b>             | <b>lb</b> |                                                                                    |          |                             |
| rpm                            | lb-in                |                      |          | lb                    | lb        |                                                                                    | lb       |                             |
| <b>21</b>                      | 986                  | 0.80                 | 51.80    | **                    | 200       | <b>CG012-11N-71-06F</b><br><b>CF012-11N-71-06F</b>                                 | 26<br>29 | 138                         |
| <b>24</b>                      | 884                  | 0.90                 | 46.42    | 630                   | 220       |                                                                                    |          |                             |
| <b>26</b>                      | 800                  | 0.95                 | 42.00    | 650                   | 220       |                                                                                    |          |                             |
| <b>29</b>                      | 716                  | 1.10                 | 37.64    | 700                   | 250       |                                                                                    |          |                             |
| <b>34</b>                      | 630                  | 1.20                 | 33.09    | 720                   | 270       |                                                                                    |          |                             |
| <b>37</b>                      | 565                  | 1.35                 | 29.65    | 740                   | 270       |                                                                                    |          |                             |
| <b>44</b>                      | 485                  | 1.55                 | 25.50    | 760                   | 290       |                                                                                    |          |                             |
| <b>49</b>                      | 435                  | 1.75                 | 22.85    | 760                   | 290       |                                                                                    |          |                             |
| <b>56</b>                      | 379                  | 2.00                 | 19.92    | 790                   | 290       |                                                                                    |          |                             |
| <b>57</b>                      | 371                  | 1.60                 | 19.51    | 790                   | 270       |                                                                                    |          |                             |
| <b>62</b>                      | 340                  | 2.25                 | 17.85    | 790                   | 310       |                                                                                    |          |                             |
| <b>70</b>                      | 301                  | 1.95                 | 15.82    | 790                   | 290       |                                                                                    |          |                             |
| <b>75</b>                      | 283                  | 2.70                 | 14.88    | 790                   | 310       |                                                                                    |          |                             |
| <b>83</b>                      | 254                  | 3.00                 | 13.33    | 760                   | 310       |                                                                                    |          |                             |
| <b>89</b>                      | 237                  | 2.50                 | 12.46    | 740                   | 310       |                                                                                    |          |                             |
| <b>26</b>                      | 827                  | 0.95                 | 66.50    | 650                   | 220       | <b>CG012-11N-71-04E</b><br><b>CF012-11N-71-04E</b>                                 | 21<br>24 | 138                         |
| <b>29</b>                      | 741                  | 1.05                 | 59.59    | 670                   | 250       |                                                                                    |          |                             |
| <b>33</b>                      | 644                  | 1.20                 | 51.80    | 720                   | 250       |                                                                                    |          |                             |
| <b>37</b>                      | 577                  | 1.35                 | 46.42    | 740                   | 270       |                                                                                    |          |                             |
| <b>40</b>                      | 522                  | 1.45                 | 42.00    | 740                   | 270       |                                                                                    |          |                             |
| <b>45</b>                      | 468                  | 1.65                 | 37.64    | 760                   | 290       |                                                                                    |          |                             |
| <b>51</b>                      | 411                  | 1.85                 | 33.09    | 760                   | 290       |                                                                                    |          |                             |
| <b>57</b>                      | 369                  | 2.05                 | 29.65    | 790                   | 290       |                                                                                    |          |                             |
| <b>67</b>                      | 317                  | 2.40                 | 25.50    | 790                   | 310       |                                                                                    |          |                             |
| <b>68</b>                      | 311                  | 1.20                 | 25.05    | 790                   | 290       |                                                                                    |          |                             |
| <b>74</b>                      | 284                  | 2.65                 | 22.85    | 790                   | 310       |                                                                                    |          |                             |
| <b>87</b>                      | 242                  | 2.45                 | 19.51    | 740                   | 310       |                                                                                    |          |                             |
| <b>107</b>                     | 197                  | 3.00                 | 15.82    | 700                   | 310       |                                                                                    |          |                             |
| <b>38</b>                      | 558                  | 0.80                 | 29.33    | **                    | 250       | <b>CG002-11N-71-06F</b><br><b>CF002-11N-71-06F</b>                                 | 24<br>26 | 136                         |
| <b>42</b>                      | 498                  | 0.90                 | 26.18    | 810                   | 250       |                                                                                    |          |                             |
| <b>48</b>                      | 438                  | 1.05                 | 23.00    | 810                   | 270       |                                                                                    |          |                             |
| <b>54</b>                      | 391                  | 1.15                 | 20.53    | 810                   | 270       |                                                                                    |          |                             |
| <b>64</b>                      | 329                  | 1.35                 | 17.29    | 760                   | 290       |                                                                                    |          |                             |
| <b>66</b>                      | 321                  | 0.90                 | 16.86    | 740                   | 270       |                                                                                    |          |                             |
| <b>72</b>                      | 294                  | 1.55                 | 15.43    | 740                   | 290       |                                                                                    |          |                             |
| <b>82</b>                      | 258                  | 1.75                 | 13.54    | 720                   | 310       |                                                                                    |          |                             |
| <b>85</b>                      | 249                  | 1.55                 | 13.10    | 700                   | 290       |                                                                                    |          |                             |
| <b>92</b>                      | 230                  | 1.95                 | 12.08    | 700                   | 310       |                                                                                    |          |                             |
| <b>106</b>                     | 198                  | 2.05                 | 10.42    | 650                   | 290       |                                                                                    |          |                             |
| <b>111</b>                     | 190                  | 2.35                 | 9.97     | 650                   | 310       |                                                                                    |          |                             |
| <b>125</b>                     | 169                  | 2.65                 | 8.90     | 630                   | 340       |                                                                                    |          |                             |
| <b>136</b>                     | 156                  | 2.60                 | 8.17     | 610                   | 310       |                                                                                    |          |                             |

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$P_N = 0.33 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$   | $F_{rN}$ |     |  | $m$ | Dimension sheet see page |
|----------|-------|-------|-------|----------|-----|------------------------------------------------------------------------------------|-----|--------------------------|
| $n_{60}$ | $T_2$ |       |       |          |     |                                                                                    |     |                          |
| rpm      | lb-in |       |       | lb       | lb  |                                                                                    |     |                          |
| 36       | 590   | 0.80  | 47.44 | **       | 250 | 19<br>22                                                                           | 136 |                          |
| 40       | 526   | 0.85  | 42.34 | 810      | 250 |                                                                                    |     |                          |
| 46       | 458   | 1.00  | 36.85 | 810      | 270 |                                                                                    |     |                          |
| 52       | 409   | 1.10  | 32.89 | 810      | 270 |                                                                                    |     |                          |
| 58       | 365   | 1.25  | 29.33 | 790      | 290 |                                                                                    |     |                          |
| 65       | 325   | 1.40  | 26.18 | 760      | 290 |                                                                                    |     |                          |
| 74       | 286   | 1.55  | 23.00 | 740      | 310 |                                                                                    |     |                          |
| 83       | 255   | 1.75  | 20.53 | 700      | 310 |                                                                                    |     |                          |
| 98       | 215   | 2.10  | 17.29 | 670      | 310 |                                                                                    |     |                          |
| 101      | 210   | 1.35  | 16.86 | 650      | 290 |                                                                                    |     |                          |
| 110      | 192   | 2.35  | 15.43 | 650      | 310 |                                                                                    |     |                          |
| 126      | 168   | 2.65  | 13.54 | 630      | 340 |                                                                                    |     |                          |
| 130      | 163   | 2.35  | 13.10 | 610      | 310 |                                                                                    |     |                          |
| 141      | 150   | 2.95  | 12.08 | 610      | 340 |                                                                                    |     |                          |
| 163      | 130   | 3.10  | 10.42 | 560      | 310 |                                                                                    |     |                          |
| 171      | 124   | 3.60  | 9.97  | 560      | 340 |                                                                                    |     |                          |
| 191      | 111   | 4.05  | 8.90  | 560      | 340 |                                                                                    |     |                          |
| 208      | 102   | 3.95  | 8.17  | 540      | 340 |                                                                                    |     |                          |
| 247      | 85    | 5.10  | 6.88  | 520      | 340 |                                                                                    |     |                          |
| 277      | 76    | 4.90  | 6.14  | 490      | 340 |                                                                                    |     |                          |
| 353      | 60    | 5.80  | 4.81  | 450      | 340 |                                                                                    |     |                          |
| 480      | 44    | 7.05  | 3.54  | 400      | 360 |                                                                                    |     |                          |

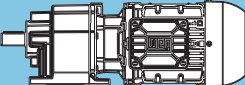
C

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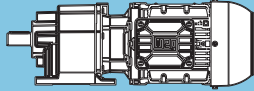
C

| P <sub>N</sub> = 0.50 hp |                         |                |          |                 |      |                                                                                    |              |                             |                                                    |            |     |
|--------------------------|-------------------------|----------------|----------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|----------------------------------------------------|------------|-----|
| 60 Hz                    |                         |                | i        | F <sub>FN</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |                                                    |            |     |
| n <sub>60</sub><br>rpm   | T <sub>2</sub><br>lb-in | f <sub>B</sub> |          | lb              | lb   |                                                                                    |              |                             |                                                    |            |     |
| <b>0.15</b>              | 191971                  | 0.85           | 7752.38  | 22280           | 4560 | <b>CG165-11N-80-06E</b><br><b>CF165-11N-80-06E</b>                                 | 1541<br>1592 | 170                         |                                                    |            |     |
| <b>0.16</b>              | 174554                  | 0.95           | 7067.08  | 23940           | 4990 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.18</b>              | 155920                  | 1.05           | 6345.03  | 25450           | 5420 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.21</b>              | 130207                  | 1.25           | 5339.57  | 27130           | 6020 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.23</b>              | 118489                  | 1.35           | 4884.00  | 27790           | 6320 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.26</b>              | 105204                  | 1.55           | 4369.98  | 28420           | 6610 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.31</b>              | 87702                   | 1.85           | 3690.13  | 29110           | 7040 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.32</b>              | 84002                   | 1.90           | 3543.61  | 29250           | 7130 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.37</b>              | 70491                   | 2.30           | 3020.06  | 29670           | 7440 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.38</b>              | 69060                   | 2.35           | 2966.43  | 29720           | 7460 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.46</b>              | 55697                   | 2.90           | 2448.96  | 30060           | 7780 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.47</b>              | 54537                   | 2.95           | 2404.16  | 30080           | 7820 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.13</b>              | 210814                  | 0.80           | 12662.22 | **              | 4090 | <b>CG165-11N-71-04F</b><br><b>CF165-11N-71-04F</b>                                 | 1534<br>1585 | 170                         |                                                    |            |     |
| <b>0.15</b>              | 186285                  | 0.90           | 11217.58 | 22770           | 4680 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.17</b>              | 165189                  | 1.00           | 9998.22  | 24660           | 5190 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.18</b>              | 150915                  | 1.10           | 9181.16  | 25760           | 5530 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.22</b>              | 126453                  | 1.30           | 7752.38  | 27310           | 6090 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.24</b>              | 114684                  | 1.40           | 7067.08  | 27940           | 6380 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.27</b>              | 102176                  | 1.60           | 6345.03  | 28530           | 6680 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.32</b>              | 84885                   | 1.90           | 5339.57  | 29200           | 7080 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.35</b>              | 77044                   | 2.10           | 4884.00  | 29470           | 7280 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.39</b>              | 68226                   | 2.35           | 4369.98  | 29740           | 7490 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.46</b>              | 56429                   | 2.85           | 3690.13  | 30030           | 7760 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.52</b>              | 52340                   | 2.20           | 2162.84  | 24370           | 4810 | <b>CG144-11N-80-06E</b><br><b>CF144-11N-80-06E</b>                                 | 959<br>999   | 164                         |                                                    |            |     |
| <b>0.60</b>              | 45072                   | 2.60           | 1885.79  | 24550           | 5010 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.68</b>              | 39416                   | 2.95           | 1669.82  | 24660           | 5150 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.60</b>              | 46831                   | 1.55           | 1891.77  | 15710           | 5240 | <b>CG134-11N-80-06E</b><br><b>CF134-11N-80-06E</b>                                 | 635<br>639   | 160                         |                                                    |            |     |
| <b>0.69</b>              | 40319                   | 1.80           | 1642.17  | 16030           | 5440 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.77</b>              | 35565                   | 2.00           | 1460.54  | 16230           | 5580 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.80</b>              | 34478                   | 2.10           | 1418.83  | 16280           | 5600 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.89</b>              | 30555                   | 2.35           | 1267.83  | 16430           | 5730 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.92</b>              | 29398                   | 2.45           | 1224.91  | 16460           | 5760 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.0</b>               | 26019                   | 2.75           | 1095.41  | 16570           | 5870 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.1</b>               | 25203                   | 2.85           | 1063.29  | 16590           | 5890 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.89</b>              | 30575                   | 2.35           | 1891.77  | 16410           | 5710 |                                                                                    |              |                             | <b>CG134-11N-71-04F</b><br><b>CF134-11N-71-04F</b> | 628<br>633 | 160 |
| <b>1.0</b>               | 26212                   | 2.75           | 1642.17  | 16570           | 5850 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.62</b>              | 46062                   | 0.90           | 1822.91  | 6880            | 4590 | <b>CG104-11N-80-06E</b><br><b>CF104-11N-80-06E</b>                                 | 384<br>392   | 156                         |                                                    |            |     |
| <b>0.66</b>              | 42933                   | 0.95           | 1702.59  | 7400            | 4700 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.79</b>              | 36148                   | 1.15           | 1439.39  | 8340            | 4920 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.86</b>              | 33018                   | 1.25           | 1320.15  | 8680            | 5010 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.0</b>               | 26748                   | 1.50           | 1080.49  | 9240            | 5240 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.2</b>               | 22427                   | 1.80           | 913.46   | 9550            | 5370 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.4</b>               | 20294                   | 2.00           | 831.69   | 9670            | 5440 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.6</b>               | 16910                   | 2.40           | 703.12   | 9850            | 5550 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.8</b>               | 14957                   | 2.70           | 628.39   | 9940            | 5620 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.64</b>              | 44681                   | 0.90           | 2636.78  | 7080            | 4630 | <b>CG104-11N-71-04F</b><br><b>CF104-11N-71-04F</b>                                 | 377<br>386   | 156                         |                                                    |            |     |
| <b>0.76</b>              | 37543                   | 1.10           | 2229.16  | 8140            | 4880 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.78</b>              | 36315                   | 1.10           | 2156.24  | 8300            | 4900 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.92</b>              | 30450                   | 1.35           | 1822.91  | 8900            | 5100 |                                                                                    |              |                             |                                                    |            |     |
| <b>0.99</b>              | 28382                   | 1.45           | 1702.59  | 9100            | 5170 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.2</b>               | 23749                   | 1.70           | 1439.39  | 9460            | 5330 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.3</b>               | 21692                   | 1.85           | 1320.15  | 9600            | 5400 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.5</b>               | 18113                   | 2.20           | 1116.07  | 9780            | 5510 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.6</b>               | 17499                   | 2.30           | 1080.49  | 9820            | 5530 |                                                                                    |              |                             |                                                    |            |     |
| <b>1.8</b>               | 14550                   | 2.75           | 913.46   | 9960            | 5620 |                                                                                    |              |                             |                                                    |            |     |

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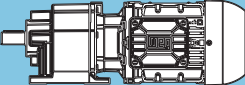
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**P<sub>N</sub> = 0.50 hp**

| 60 Hz           |                | f <sub>B</sub> | i       | F <sub>FN</sub> |                 |  | m   | Dimension sheet see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|------------------------------------------------------------------------------------|-----|--------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |         | F <sub>FN</sub> | F <sub>FN</sub> |                                                                                    |     |                          |
| rpm             | lb-in          |                |         | lb              | lb              |                                                                                    |     |                          |
| <b>0.84</b>     | 34122          | 0.80           | 1344.90 | **              | 5440            | 289<br>284                                                                         | 152 |                          |
| <b>0.87</b>     | 32930          | 0.85           | 1300.57 | 3350            | 5490            |                                                                                    |     |                          |
| <b>1.0</b>      | 28636          | 0.95           | 1135.60 | 4590            | 5640            |                                                                                    |     |                          |
| <b>1.1</b>      | 26787          | 1.00           | 1064.47 | 4990            | 5710            |                                                                                    |     |                          |
| <b>1.2</b>      | 23294          | 1.15           | 929.45  | 5600            | 5850            |                                                                                    |     |                          |
| <b>1.4</b>      | 20409          | 1.35           | 819.36  | 6000            | 5960            |                                                                                    |     |                          |
| <b>1.6</b>      | 17711          | 1.50           | 715.43  | 6290            | 6070            |                                                                                    |     |                          |
| <b>1.8</b>      | 15749          | 1.70           | 640.13  | 6500            | 6140            |                                                                                    |     |                          |
| <b>2.1</b>      | 13163          | 2.05           | 540.55  | 6700            | 6250            |                                                                                    |     |                          |
| <b>2.2</b>      | 12588          | 2.15           | 519.08  | 6740            | 6250            |                                                                                    |     |                          |
| <b>2.6</b>      | 10596          | 2.55           | 442.39  | 6880            | 6340            |                                                                                    |     |                          |
| <b>2.8</b>      | 9759           | 2.75           | 410.85  | 6920            | 6360            |                                                                                    |     |                          |
| <b>0.91</b>     | 31495          | 0.85           | 1854.82 | 3780            | 5530            | 282<br>278                                                                         | 152 |                          |
| <b>1.0</b>      | 28365          | 0.95           | 1677.34 | 4610            | 5640            |                                                                                    |     |                          |
| <b>1.2</b>      | 24666          | 1.10           | 1464.58 | 5350            | 5800            |                                                                                    |     |                          |
| <b>1.3</b>      | 22558          | 1.20           | 1344.90 | 5690            | 5870            |                                                                                    |     |                          |
| <b>1.5</b>      | 18930          | 1.45           | 1135.60 | 6160            | 6000            |                                                                                    |     |                          |
| <b>1.6</b>      | 17672          | 1.55           | 1064.47 | 6290            | 6070            |                                                                                    |     |                          |
| <b>1.8</b>      | 15304          | 1.75           | 929.45  | 6520            | 6160            |                                                                                    |     |                          |
| <b>2.1</b>      | 13380          | 2.00           | 819.36  | 6680            | 6230            |                                                                                    |     |                          |
| <b>2.2</b>      | 12746          | 2.10           | 782.16  | 6720            | 6250            |                                                                                    |     |                          |
| <b>2.4</b>      | 11563          | 2.30           | 715.43  | 6810            | 6290            |                                                                                    |     |                          |
| <b>2.6</b>      | 10260          | 2.60           | 640.13  | 6880            | 6340            |                                                                                    |     |                          |
| <b>2.7</b>      | 9882           | 2.70           | 619.07  | 6900            | 6360            |                                                                                    |     |                          |
| <b>3.1</b>      | 10211          | 1.35           | 368.94  | 4990            | 4520            | 146<br>154                                                                         | 148 |                          |
| <b>4.0</b>      | 7883           | 1.75           | 284.84  | 5220            | 4630            |                                                                                    |     |                          |
| <b>4.7</b>      | 6611           | 2.10           | 238.89  | 5310            | 4700            |                                                                                    |     |                          |
| <b>6.0</b>      | 5189           | 2.65           | 187.48  | 5370            | 4790            |                                                                                    |     |                          |
| <b>4.6</b>      | 6848           | 2.05           | 368.94  | 5280            | 4700            | 139<br>148                                                                         | 148 |                          |
| <b>5.9</b>      | 5287           | 2.60           | 284.84  | 5370            | 4770            |                                                                                    |     |                          |
| <b>3.5</b>      | 8845           | 0.85           | 319.60  | 1870            | 2770            | 93<br>101                                                                          | 146 |                          |
| <b>4.1</b>      | 7706           | 0.95           | 278.44  | 2250            | 2900            |                                                                                    |     |                          |
| <b>4.5</b>      | 7010           | 1.05           | 253.30  | 2430            | 2900            |                                                                                    |     |                          |
| <b>5.2</b>      | 5984           | 1.25           | 216.20  | 2650            | 3030            |                                                                                    |     |                          |
| <b>5.7</b>      | 5443           | 1.35           | 196.68  | 2740            | 3030            |                                                                                    |     |                          |
| <b>6.4</b>      | 4910           | 1.50           | 177.39  | 2830            | 3100            |                                                                                    |     |                          |
| <b>7.0</b>      | 4466           | 1.65           | 161.38  | 2880            | 3100            |                                                                                    |     |                          |
| <b>8.2</b>      | 3802           | 1.95           | 137.38  | 2970            | 3190            |                                                                                    |     |                          |
| <b>9.0</b>      | 3459           | 2.10           | 124.97  | 2990            | 3190            |                                                                                    |     |                          |
| <b>11</b>       | 2892           | 2.55           | 104.50  | 3030            | 3260            |                                                                                    |     |                          |
| <b>12</b>       | 2631           | 2.80           | 95.06   | 3060            | 3260            |                                                                                    |     |                          |
| <b>4.8</b>      | 6521           | 1.15           | 351.33  | 2540            | 2990            | 86<br>95                                                                           | 146 |                          |
| <b>5.3</b>      | 5932           | 1.25           | 319.60  | 2650            | 2990            |                                                                                    |     |                          |
| <b>6.1</b>      | 5168           | 1.45           | 278.44  | 2790            | 3080            |                                                                                    |     |                          |
| <b>6.7</b>      | 4701           | 1.55           | 253.30  | 2860            | 3080            |                                                                                    |     |                          |
| <b>7.8</b>      | 4013           | 1.85           | 216.20  | 2940            | 3170            |                                                                                    |     |                          |
| <b>8.6</b>      | 3650           | 2.00           | 196.68  | 2970            | 3170            |                                                                                    |     |                          |
| <b>9.5</b>      | 3293           | 2.25           | 177.39  | 3010            | 3210            |                                                                                    |     |                          |
| <b>10</b>       | 2995           | 2.45           | 161.38  | 3030            | 3210            |                                                                                    |     |                          |
| <b>12</b>       | 2550           | 2.85           | 137.38  | 3080            | 3280            |                                                                                    |     |                          |

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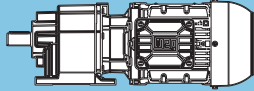
\*\* ... on request

| <b>P<sub>N</sub> = 0.50 hp</b> |                      |                      |          |                       |           |                                                                                    |           |                                 |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|-----------|---------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>F<sub>FN</sub></b> |           |  | <b>m</b>  | <b>Dimension sheet see page</b> |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |           |                                 |
| <b>rpm</b>                     | <b>lb-in</b>         |                      |          |                       |           |                                                                                    | <b>lb</b> |                                 |
| 4.7                            | 6714                 | 0.80                 | 242.60   | **                    | 1330      | <b>CG063-11N-80-06E</b><br><b>CF063-11N-80-06E</b>                                 | 55<br>66  | 144                             |
| 5.1                            | 6157                 | 0.90                 | 222.46   | 1510                  | 1350      |                                                                                    |           |                                 |
| 6.0                            | 5206                 | 1.05                 | 188.11   | 1870                  | 1440      |                                                                                    |           |                                 |
| 6.6                            | 4774                 | 1.15                 | 172.49   | 1980                  | 1460      |                                                                                    |           |                                 |
| 7.3                            | 4261                 | 1.25                 | 153.96   | 2110                  | 1510      |                                                                                    |           |                                 |
| 8.0                            | 3907                 | 1.40                 | 141.17   | 2180                  | 1530      |                                                                                    |           |                                 |
| 9.5                            | 3280                 | 1.65                 | 118.51   | 2290                  | 1570      |                                                                                    |           |                                 |
| 10                             | 3007                 | 1.80                 | 108.67   | 2320                  | 1600      |                                                                                    |           |                                 |
| 13                             | 2478                 | 2.15                 | 89.54    | 2380                  | 1640      |                                                                                    |           |                                 |
| 14                             | 2272                 | 2.35                 | 82.10    | 2410                  | 1640      |                                                                                    |           |                                 |
| 15                             | 2028                 | 2.65                 | 73.28    | 2430                  | 1660      |                                                                                    |           |                                 |
| 17                             | 1860                 | 2.90                 | 67.19    | 2450                  | 1690      |                                                                                    |           |                                 |
| 4.5                            | 6973                 | 0.80                 | 375.71   | **                    | 1300      | <b>CG063-11N-71-04F</b><br><b>CF063-11N-71-04F</b>                                 | 49<br>60  | 144                             |
| 4.9                            | 6394                 | 0.85                 | 344.51   | 1370                  | 1330      |                                                                                    |           |                                 |
| 5.5                            | 5702                 | 0.95                 | 307.24   | 1690                  | 1390      |                                                                                    |           |                                 |
| 6.0                            | 5229                 | 1.05                 | 281.73   | 1840                  | 1420      |                                                                                    |           |                                 |
| 6.9                            | 4503                 | 1.20                 | 242.60   | 2050                  | 1480      |                                                                                    |           |                                 |
| 7.6                            | 4129                 | 1.30                 | 222.46   | 2140                  | 1510      |                                                                                    |           |                                 |
| 9.0                            | 3491                 | 1.55                 | 188.11   | 2250                  | 1550      |                                                                                    |           |                                 |
| 9.8                            | 3201                 | 1.70                 | 172.49   | 2290                  | 1570      |                                                                                    |           |                                 |
| 11                             | 2857                 | 1.90                 | 153.96   | 2340                  | 1600      |                                                                                    |           |                                 |
| 12                             | 2620                 | 2.05                 | 141.17   | 2380                  | 1620      |                                                                                    |           |                                 |
| 14                             | 2200                 | 2.45                 | 118.51   | 2430                  | 1660      |                                                                                    |           |                                 |
| 16                             | 2017                 | 2.65                 | 108.67   | 2430                  | 1660      |                                                                                    |           |                                 |
| 19                             | 1661                 | 2.25                 | 60.00    | 2470                  | 1690      | <b>CG062-11N-80-06E</b><br><b>CF062-11N-80-06E</b>                                 | 55<br>66  | 144                             |
| 21                             | 1523                 | 2.25                 | 55.02    | 2470                  | 1710      |                                                                                    |           |                                 |
| 34                             | 925                  | 2.25                 | 33.43    | 2520                  | 1730      |                                                                                    |           |                                 |
| 6.8                            | 4579                 | 0.80                 | 165.45   | **                    | 1280      | <b>CG053-11N-80-06E</b><br><b>CF053-11N-80-06E</b>                                 | 46<br>57  | 142                             |
| 7.5                            | 4163                 | 0.90                 | 150.41   | 670                   | 1330      |                                                                                    |           |                                 |
| 8.5                            | 3680                 | 1.00                 | 132.97   | 1010                  | 1390      |                                                                                    |           |                                 |
| 9.3                            | 3345                 | 1.10                 | 120.88   | 1170                  | 1420      |                                                                                    |           |                                 |
| 11                             | 2811                 | 1.30                 | 101.55   | 1350                  | 1480      |                                                                                    |           |                                 |
| 12                             | 2555                 | 1.40                 | 92.32    | 1440                  | 1510      |                                                                                    |           |                                 |
| 15                             | 2153                 | 1.65                 | 77.79    | 1530                  | 1570      |                                                                                    |           |                                 |
| 16                             | 1957                 | 1.85                 | 70.71    | 1570                  | 1600      |                                                                                    |           |                                 |
| 18                             | 1706                 | 2.10                 | 61.63    | 1600                  | 1620      |                                                                                    |           |                                 |
| 20                             | 1551                 | 2.30                 | 56.02    | 1620                  | 1640      |                                                                                    |           |                                 |
| 23                             | 1362                 | 2.65                 | 49.20    | 1660                  | 1660      |                                                                                    |           |                                 |
| 25                             | 1238                 | 2.90                 | 44.73    | 1660                  | 1660      |                                                                                    |           |                                 |
| 6.9                            | 4521                 | 0.80                 | 243.57   | **                    | 1280      | <b>CG053-11N-71-04F</b><br><b>CF053-11N-71-04F</b>                                 | 40<br>51  | 142                             |
| 7.9                            | 3967                 | 0.90                 | 213.71   | 810                   | 1350      |                                                                                    |           |                                 |
| 8.7                            | 3606                 | 1.00                 | 194.29   | 1030                  | 1390      |                                                                                    |           |                                 |
| 10                             | 3071                 | 1.20                 | 165.45   | 1260                  | 1460      |                                                                                    |           |                                 |
| 11                             | 2792                 | 1.30                 | 150.41   | 1350                  | 1480      |                                                                                    |           |                                 |
| 13                             | 2468                 | 1.45                 | 132.97   | 1440                  | 1530      |                                                                                    |           |                                 |
| 14                             | 2244                 | 1.60                 | 120.88   | 1510                  | 1550      |                                                                                    |           |                                 |
| 17                             | 1885                 | 1.90                 | 101.55   | 1570                  | 1600      |                                                                                    |           |                                 |
| 18                             | 1714                 | 2.10                 | 92.32    | 1600                  | 1620      |                                                                                    |           |                                 |
| 22                             | 1444                 | 2.50                 | 77.79    | 1640                  | 1640      |                                                                                    |           |                                 |
| 24                             | 1312                 | 2.70                 | 70.71    | 1660                  | 1660      |                                                                                    |           |                                 |
| 19                             | 1629                 | 1.40                 | 58.85    | 1620                  | 1620      | <b>CG052-11N-80-06E</b><br><b>CF052-11N-80-06E</b>                                 | 44<br>55  | 142                             |
| 21                             | 1481                 | 1.40                 | 53.50    | 1640                  | 1640      |                                                                                    |           |                                 |
| 23                             | 1332                 | 2.25                 | 48.13    | 1660                  | 1660      |                                                                                    |           |                                 |
| 26                             | 1211                 | 2.25                 | 43.75    | 1660                  | 1690      |                                                                                    |           |                                 |
| 32                             | 987                  | 1.40                 | 35.67    | 1690                  | 1660      |                                                                                    |           |                                 |
| 39                             | 807                  | 2.25                 | 29.17    | 1710                  | 1710      |                                                                                    |           |                                 |
| 29                             | 1092                 | 2.05                 | 58.85    | 1690                  | 1690      | <b>CG052-11N-71-04F</b><br><b>CF052-11N-71-04F</b>                                 | 37<br>49  | 142                             |
| 31                             | 993                  | 2.05                 | 53.50    | 1690                  | 1710      |                                                                                    |           |                                 |
| 47                             | 662                  | 2.05                 | 35.67    | 1710                  | 1730      |                                                                                    |           |                                 |

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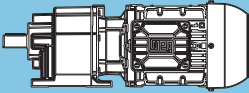
\*\* ... on request

**P<sub>N</sub> = 0.50 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i      | F <sub>TN</sub> |     |  | m        | Dimension sheet see page |
|------------------------|-------------------------|----------------|--------|-----------------|-----|------------------------------------------------------------------------------------|----------|--------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |        | lb              | lb  |                                                                                    |          |                          |
| 15                     | 2156                    | 0.85           | 77.90  | 880             | 670 | CG033-11N-80-06E<br>CF033-11N-80-06E                                               | 35<br>40 | 140                      |
| 18                     | 1773                    | 1.00           | 64.05  | 1060            | 740 |                                                                                    |          |                          |
| 19                     | 1610                    | 1.10           | 58.17  | 1100            | 760 |                                                                                    |          |                          |
| 20                     | 1529                    | 1.20           | 55.25  | 1120            | 790 |                                                                                    |          |                          |
| 23                     | 1389                    | 1.30           | 50.18  | 1170            | 810 |                                                                                    |          |                          |
| 26                     | 1212                    | 1.50           | 43.79  | 1210            | 830 |                                                                                    |          |                          |
| 32                     | 979                     | 1.85           | 35.38  | 1260            | 880 |                                                                                    |          |                          |
| 35                     | 889                     | 2.00           | 32.13  | 1260            | 880 |                                                                                    |          |                          |
| 15                     | 2038                    | 0.90           | 109.79 | 940             | 700 | CG033-11N-71-04F<br>CF033-11N-71-04F                                               | 29<br>33 | 140                      |
| 17                     | 1851                    | 1.00           | 99.71  | 1010            | 720 |                                                                                    |          |                          |
| 20                     | 1592                    | 1.15           | 85.78  | 1100            | 760 |                                                                                    |          |                          |
| 22                     | 1446                    | 1.25           | 77.90  | 1150            | 790 |                                                                                    |          |                          |
| 26                     | 1189                    | 1.50           | 64.05  | 1210            | 830 |                                                                                    |          |                          |
| 29                     | 1080                    | 1.65           | 58.17  | 1240            | 850 |                                                                                    |          |                          |
| 35                     | 895                     | 2.00           | 48.22  | 1260            | 900 |                                                                                    |          |                          |
| 38                     | 813                     | 2.20           | 43.79  | 1280            | 900 |                                                                                    |          |                          |
| 48                     | 657                     | 2.70           | 35.38  | 1240            | 920 |                                                                                    |          |                          |
| 52                     | 596                     | 3.00           | 32.13  | 1210            | 940 |                                                                                    |          |                          |
| 26                     | 1187                    | 1.40           | 42.88  | 1210            | 830 | CG032-11N-80-06E<br>CF032-11N-80-06E                                               | 35<br>40 | 140                      |
| 29                     | 1078                    | 1.40           | 38.95  | 1240            | 850 |                                                                                    |          |                          |
| 32                     | 965                     | 1.85           | 34.88  | 1260            | 880 |                                                                                    |          |                          |
| 36                     | 877                     | 2.05           | 31.67  | 1260            | 900 |                                                                                    |          |                          |
| 41                     | 767                     | 2.35           | 27.71  | 1280            | 900 |                                                                                    |          |                          |
| 45                     | 697                     | 2.55           | 25.17  | 1260            | 920 |                                                                                    |          |                          |
| 47                     | 665                     | 1.40           | 24.03  | 1240            | 900 |                                                                                    |          |                          |
| 53                     | 592                     | 3.00           | 21.40  | 1210            | 940 |                                                                                    |          |                          |
| 58                     | 541                     | 2.10           | 19.54  | 1170            | 920 |                                                                                    |          |                          |
| 73                     | 430                     | 2.70           | 15.53  | 1080            | 940 |                                                                                    |          |                          |
| 39                     | 796                     | 2.05           | 42.88  | 1280            | 900 | CG032-11N-71-04F<br>CF032-11N-71-04F                                               | 29<br>31 | 140                      |
| 43                     | 723                     | 2.10           | 38.95  | 1280            | 920 |                                                                                    |          |                          |
| 48                     | 647                     | 2.75           | 34.88  | 1240            | 920 |                                                                                    |          |                          |
| 70                     | 446                     | 2.05           | 24.03  | 1100            | 940 |                                                                                    |          |                          |
| 34                     | 916                     | 0.85           | 33.09  | 610             | 200 | CG012-11N-80-06E<br>CF012-11N-80-06E                                               | 29<br>31 | 138                      |
| 38                     | 821                     | 0.95           | 29.65  | 650             | 220 |                                                                                    |          |                          |
| 44                     | 706                     | 1.10           | 25.50  | 700             | 250 |                                                                                    |          |                          |
| 49                     | 632                     | 1.20           | 22.85  | 720             | 250 |                                                                                    |          |                          |
| 57                     | 551                     | 1.40           | 19.92  | 740             | 270 |                                                                                    |          |                          |
| 58                     | 540                     | 1.10           | 19.51  | 740             | 250 |                                                                                    |          |                          |
| 63                     | 494                     | 1.55           | 17.85  | 760             | 290 |                                                                                    |          |                          |
| 71                     | 438                     | 1.35           | 15.82  | 760             | 270 |                                                                                    |          |                          |
| 76                     | 412                     | 1.85           | 14.88  | 760             | 290 |                                                                                    |          |                          |
| 85                     | 369                     | 2.05           | 13.33  | 740             | 290 |                                                                                    |          |                          |
| 88                     | 355                     | 2.15           | 12.83  | 720             | 310 |                                                                                    |          |                          |
| 91                     | 345                     | 1.70           | 12.46  | 720             | 290 |                                                                                    |          |                          |
| 98                     | 318                     | 2.40           | 11.50  | 700             | 310 |                                                                                    |          |                          |
| 101                    | 310                     | 2.40           | 11.20  | 700             | 310 |                                                                                    |          |                          |
| 113                    | 278                     | 2.60           | 10.04  | 670             | 310 |                                                                                    |          |                          |
| 118                    | 266                     | 2.20           | 9.60   | 650             | 310 |                                                                                    |          |                          |
| 138                    | 227                     | 3.00           | 8.22   | 630             | 340 |                                                                                    |          |                          |
| 151                    | 208                     | 2.85           | 7.50   | 610             | 310 |                                                                                    |          |                          |

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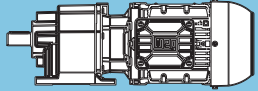
C

| P <sub>N</sub> = 0.50 hp |                         |                |       |                |     |                                                                                    |          |                             |
|--------------------------|-------------------------|----------------|-------|----------------|-----|------------------------------------------------------------------------------------|----------|-----------------------------|
| 60 Hz                    |                         |                | i     | F <sub>N</sub> |     |  | m<br>lb  | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm   | T <sub>2</sub><br>lb-in | f <sub>B</sub> |       | lb             | lb  |                                                                                    |          |                             |
| 33                       | 961                     | 0.80           | 51.80 | **             | 200 | <b>CG012-11N-71-04F</b><br><b>CF012-11N-71-04F</b>                                 | 24<br>26 | 138                         |
| 36                       | 862                     | 0.90           | 46.42 | 630            | 220 |                                                                                    |          |                             |
| 40                       | 780                     | 1.00           | 42.00 | 670            | 220 |                                                                                    |          |                             |
| 45                       | 699                     | 1.10           | 37.64 | 700            | 250 |                                                                                    |          |                             |
| 51                       | 614                     | 1.25           | 33.09 | 720            | 270 |                                                                                    |          |                             |
| 57                       | 550                     | 1.40           | 29.65 | 740            | 270 |                                                                                    |          |                             |
| 66                       | 473                     | 1.60           | 25.50 | 760            | 290 |                                                                                    |          |                             |
| 67                       | 465                     | 0.80           | 25.05 | **             | 250 |                                                                                    |          |                             |
| 74                       | 424                     | 1.80           | 22.85 | 760            | 290 |                                                                                    |          |                             |
| 85                       | 370                     | 2.05           | 19.92 | 740            | 290 |                                                                                    |          |                             |
| 86                       | 362                     | 1.65           | 19.51 | 720            | 270 |                                                                                    |          |                             |
| 94                       | 331                     | 2.30           | 17.85 | 720            | 310 |                                                                                    |          |                             |
| 107                      | 294                     | 2.00           | 15.82 | 670            | 290 |                                                                                    |          |                             |
| 113                      | 276                     | 2.75           | 14.88 | 670            | 310 |                                                                                    |          |                             |
| 135                      | 231                     | 2.55           | 12.46 | 630            | 310 |                                                                                    |          |                             |
| 55                       | 568                     | 0.80           | 20.53 | **             | 250 | <b>CG002-11N-80-06E</b><br><b>CF002-11N-80-06E</b>                                 | 26<br>29 | 136                         |
| 65                       | 478                     | 0.95           | 17.29 | 740            | 270 |                                                                                    |          |                             |
| 73                       | 427                     | 1.05           | 15.43 | 720            | 270 |                                                                                    |          |                             |
| 83                       | 375                     | 1.20           | 13.54 | 700            | 290 |                                                                                    |          |                             |
| 86                       | 362                     | 1.10           | 13.10 | 650            | 250 |                                                                                    |          |                             |
| 94                       | 334                     | 1.35           | 12.08 | 650            | 290 |                                                                                    |          |                             |
| 108                      | 289                     | 1.40           | 10.42 | 630            | 270 |                                                                                    |          |                             |
| 113                      | 276                     | 1.65           | 9.97  | 630            | 310 |                                                                                    |          |                             |
| 127                      | 246                     | 1.80           | 8.90  | 610            | 310 |                                                                                    |          |                             |
| 138                      | 226                     | 1.80           | 8.17  | 580            | 290 |                                                                                    |          |                             |
| 164                      | 190                     | 2.30           | 6.88  | 560            | 310 |                                                                                    |          |                             |
| 184                      | 170                     | 2.20           | 6.14  | 540            | 310 |                                                                                    |          |                             |
| 235                      | 133                     | 2.60           | 4.81  | 490            | 310 |                                                                                    |          |                             |
| 57                       | 544                     | 0.85           | 29.33 | 760            | 250 | <b>CG002-11N-71-04F</b><br><b>CF002-11N-71-04F</b>                                 | 21<br>24 | 136                         |
| 64                       | 486                     | 0.95           | 26.18 | 740            | 270 |                                                                                    |          |                             |
| 73                       | 427                     | 1.05           | 23.00 | 720            | 270 |                                                                                    |          |                             |
| 82                       | 381                     | 1.20           | 20.53 | 700            | 290 |                                                                                    |          |                             |
| 97                       | 321                     | 1.40           | 17.29 | 650            | 290 |                                                                                    |          |                             |
| 100                      | 313                     | 0.90           | 16.86 | 630            | 270 |                                                                                    |          |                             |
| 109                      | 286                     | 1.55           | 15.43 | 630            | 290 |                                                                                    |          |                             |
| 124                      | 251                     | 1.80           | 13.54 | 610            | 310 |                                                                                    |          |                             |
| 129                      | 243                     | 1.60           | 13.10 | 580            | 290 |                                                                                    |          |                             |
| 139                      | 224                     | 2.00           | 12.08 | 580            | 310 |                                                                                    |          |                             |
| 162                      | 193                     | 2.10           | 10.42 | 560            | 310 |                                                                                    |          |                             |
| 169                      | 185                     | 2.40           | 9.97  | 560            | 310 |                                                                                    |          |                             |
| 189                      | 165                     | 2.70           | 8.90  | 540            | 340 |                                                                                    |          |                             |
| 206                      | 152                     | 2.65           | 8.17  | 520            | 310 |                                                                                    |          |                             |
| 245                      | 128                     | 3.40           | 6.88  | 490            | 340 |                                                                                    |          |                             |
| 274                      | 114                     | 3.30           | 6.14  | 470            | 340 |                                                                                    |          |                             |
| 275                      | 114                     | 3.90           | 6.14  | 490            | 340 |                                                                                    |          |                             |
| 350                      | 89                      | 3.90           | 4.81  | 450            | 340 |                                                                                    |          |                             |
| 476                      | 66                      | 4.75           | 3.54  | 400            | 340 |                                                                                    |          |                             |

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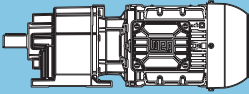
\*\* ... on request

**P<sub>N</sub> = 0.75 hp**

| 60 Hz                  |        | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i     | F <sub>TN</sub> |                                                    |  | m<br>lb | Dimension<br>sheet<br>see page                     |            |     |
|------------------------|--------|-------------------------|----------------|-------|-----------------|----------------------------------------------------|------------------------------------------------------------------------------------|---------|----------------------------------------------------|------------|-----|
| n <sub>60</sub><br>rpm |        |                         |                |       | lb              | lb                                                 |                                                                                    |         |                                                    |            |     |
| <b>0.21</b>            | 194824 | 0.85                    | 5339.57        | 22030 | 4520            | <b>CG165-11N-80-06F</b><br><b>CF165-11N-80-06F</b> | 1543<br>1594                                                                       | 170     |                                                    |            |     |
| <b>0.23</b>            | 177746 | 0.90                    | 4884.00        | 23690 | 4920            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.26</b>            | 158227 | 1.05                    | 4369.98        | 25290 | 5370            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.31</b>            | 132589 | 1.25                    | 3690.13        | 27020 | 5980            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.32</b>            | 126998 | 1.30                    | 3543.61        | 27340 | 6110            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.38</b>            | 107128 | 1.50                    | 3020.06        | 28330 | 6590            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.47</b>            | 85538  | 1.90                    | 2448.96        | 29200 | 7080            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.56</b>            | 70505  | 2.30                    | 2050.07        | 29670 | 7440            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.69</b>            | 55678  | 2.90                    | 1661.50        | 30060 | 7800            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.22</b>            | 186933 | 0.90                    | 7752.38        | 22930 | 4720            | <b>CG165-11N-80-04E</b><br><b>CF165-11N-80-04E</b> | 1539<br>1590                                                                       | 170     |                                                    |            |     |
| <b>0.24</b>            | 169539 | 0.95                    | 7067.08        | 24480 | 5130            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.27</b>            | 151440 | 1.10                    | 6345.03        | 25850 | 5550            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.32</b>            | 126466 | 1.30                    | 5339.57        | 27400 | 6140            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.35</b>            | 115083 | 1.40                    | 4884.00        | 27990 | 6410            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.39</b>            | 102180 | 1.60                    | 4369.98        | 28570 | 6700            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.47</b>            | 85180  | 1.90                    | 3690.13        | 29230 | 7100            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.49</b>            | 81377  | 2.00                    | 3543.61        | 29360 | 7190            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.57</b>            | 68286  | 2.35                    | 3020.06        | 29760 | 7510            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.58</b>            | 67074  | 2.40                    | 2966.43        | 29790 | 7530            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.70</b>            | 53954  | 3.00                    | 2448.96        | 30100 | 7850            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.54</b>            | 74819  | 2.15                    | 2093.95        | 29560 | 7350            | <b>CG164-11N-80-06F</b><br><b>CF164-11N-80-06F</b> | 1515<br>1665                                                                       | 168     |                                                    |            |     |
| <b>0.63</b>            | 63646  | 2.55                    | 1803.51        | 29880 | 7600            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.69</b>            | 58003  | 2.75                    | 1657.33        | 30010 | 7730            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.73</b>            | 54256  | 2.95                    | 1559.96        | 30080 | 7820            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.53</b>            | 79053  | 1.50                    | 2162.84        | 23490 | 4140            | <b>CG144-11N-80-06F</b><br><b>CF144-11N-80-06F</b> | 961<br>1001                                                                        | 164     |                                                    |            |     |
| <b>0.60</b>            | 68361  | 1.70                    | 1885.79        | 23900 | 4410            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.68</b>            | 60035  | 1.95                    | 1669.82        | 24170 | 4630            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.70</b>            | 58281  | 2.00                    | 1624.38        | 24210 | 4680            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.78</b>            | 51807  | 2.25                    | 1455.92        | 24390 | 4830            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.81</b>            | 49729  | 2.35                    | 1400.42        | 24440 | 4880            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.91</b>            | 44074  | 2.65                    | 1254.10        | 24570 | 5040            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.93</b>            | 42823  | 2.70                    | 1221.03        | 24590 | 5060            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.80</b>            | 50756  | 2.30                    | 2162.84        | 24410 | 4880            | <b>CG144-11N-80-04E</b><br><b>CF144-11N-80-04E</b> | 957<br>996                                                                         | 164     |                                                    |            |     |
| <b>0.91</b>            | 43707  | 2.65                    | 1885.79        | 24590 | 5060            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.60</b>            | 70145  | 1.05                    | 1891.77        | 14030 | 4560            | <b>CG134-11N-80-06F</b><br><b>CF134-11N-80-06F</b> | 637<br>642                                                                         | 160     |                                                    |            |     |
| <b>0.69</b>            | 60517  | 1.20                    | 1642.17        | 14840 | 4830            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.78</b>            | 53603  | 1.35                    | 1460.54        | 15310 | 5040            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.80</b>            | 51966  | 1.40                    | 1418.83        | 15420 | 5080            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.90</b>            | 46245  | 1.55                    | 1267.83        | 15740 | 5260            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.93</b>            | 44587  | 1.60                    | 1224.91        | 15830 | 5310            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.0</b>             | 39546  | 1.80                    | 1095.41        | 16070 | 5460            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.1</b>             | 38307  | 1.85                    | 1063.29        | 16120 | 5490            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.2</b>             | 34420  | 2.10                    | 961.31         | 16300 | 5620            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.4</b>             | 29509  | 2.40                    | 834.47         | 16460 | 5760            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.5</b>             | 25965  | 2.75                    | 741.90         | 16570 | 5870            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.6</b>             | 25181  | 2.85                    | 720.98         | 16590 | 5890            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>0.91</b>            | 45508  | 1.60                    | 1891.77        | 15800 | 5280            |                                                    |                                                                                    |         | <b>CG134-11N-80-04E</b><br><b>CF134-11N-80-04E</b> | 633<br>637 | 160 |
| <b>1.1</b>             | 39180  | 1.85                    | 1642.17        | 16100 | 5490            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.2</b>             | 34560  | 2.05                    | 1460.54        | 16300 | 5620            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.4</b>             | 29630  | 2.40                    | 1267.83        | 16460 | 5760            |                                                    |                                                                                    |         |                                                    |            |     |
| <b>1.6</b>             | 25283  | 2.85                    | 1095.41        | 16590 | 5890            |                                                    |                                                                                    |         |                                                    |            |     |

Legend see page 29

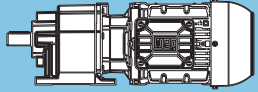


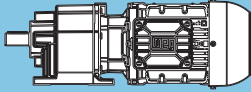
| <b>P<sub>N</sub> = 0.75 hp</b> |                               |                      |          |                       |      |                                                                                    |                |                             |
|--------------------------------|-------------------------------|----------------------|----------|-----------------------|------|------------------------------------------------------------------------------------|----------------|-----------------------------|
| <b>60 Hz</b>                   |                               |                      | <b>i</b> | <b>F<sub>rN</sub></b> |      |  | <b>m</b><br>lb | Dimension sheet<br>see page |
| <b>n<sub>60</sub></b><br>rpm   | <b>T<sub>2</sub></b><br>lb-in | <b>f<sub>B</sub></b> |          | lb                    | lb   |                                                                                    |                |                             |
| <b>0.86</b>                    | 49252                         | 0.85                 | 1320.15  | 6270                  | 4500 | <b>CG104-11N-80-06F</b><br><b>CF104-11N-80-06F</b>                                 | 386<br>395     | 156                         |
| <b>1.0</b>                     | 41468                         | 1.00                 | 1116.07  | 7640                  | 4740 |                                                                                    |                |                             |
| <b>1.1</b>                     | 40064                         | 1.00                 | 1080.49  | 7850                  | 4790 |                                                                                    |                |                             |
| <b>1.2</b>                     | 33663                         | 1.20                 | 913.46   | 8610                  | 5010 |                                                                                    |                |                             |
| <b>1.4</b>                     | 30524                         | 1.35                 | 831.69   | 8920                  | 5100 |                                                                                    |                |                             |
| <b>1.6</b>                     | 25594                         | 1.60                 | 703.12   | 9330                  | 5260 |                                                                                    |                |                             |
| <b>1.8</b>                     | 22733                         | 1.80                 | 628.39   | 9530                  | 5370 |                                                                                    |                |                             |
| <b>2.1</b>                     | 18982                         | 2.10                 | 531.25   | 9760                  | 5490 |                                                                                    |                |                             |
| <b>2.2</b>                     | 18338                         | 2.20                 | 514.28   | 9780                  | 5510 |                                                                                    |                |                             |
| <b>2.6</b>                     | 15280                         | 2.65                 | 434.78   | 9940                  | 5620 |                                                                                    |                |                             |
| <b>2.7</b>                     | 14595                         | 2.75                 | 417.03   | 9960                  | 5640 |                                                                                    |                |                             |
| <b>0.95</b>                    | 44853                         | 0.90                 | 1822.91  | 7150                  | 4650 | <b>CG104-11N-80-04E</b><br><b>CF104-11N-80-04E</b>                                 | 381<br>390     | 156                         |
| <b>1.0</b>                     | 41807                         | 1.00                 | 1702.59  | 7620                  | 4740 |                                                                                    |                |                             |
| <b>1.2</b>                     | 35127                         | 1.15                 | 1439.39  | 8480                  | 4970 |                                                                                    |                |                             |
| <b>1.3</b>                     | 32085                         | 1.25                 | 1320.15  | 8790                  | 5060 |                                                                                    |                |                             |
| <b>1.5</b>                     | 26903                         | 1.50                 | 1116.07  | 9240                  | 5240 |                                                                                    |                |                             |
| <b>1.6</b>                     | 25992                         | 1.55                 | 1080.49  | 9310                  | 5260 |                                                                                    |                |                             |
| <b>1.9</b>                     | 21794                         | 1.85                 | 913.46   | 9600                  | 5400 |                                                                                    |                |                             |
| <b>2.1</b>                     | 19680                         | 2.05                 | 831.69   | 9710                  | 5460 |                                                                                    |                |                             |
| <b>2.5</b>                     | 16432                         | 2.45                 | 703.12   | 9870                  | 5580 |                                                                                    |                |                             |
| <b>2.7</b>                     | 14534                         | 2.75                 | 628.39   | 9960                  | 5640 |                                                                                    |                |                             |
| <b>1.2</b>                     | 34746                         | 0.80                 | 929.45   | **                    | 5420 | <b>CG094-11N-80-06F</b><br><b>CF094-11N-80-06F</b>                                 | 291<br>287     | 152                         |
| <b>1.4</b>                     | 30506                         | 0.90                 | 819.36   | 4140                  | 5580 |                                                                                    |                |                             |
| <b>1.5</b>                     | 29121                         | 0.95                 | 782.16   | 4500                  | 5620 |                                                                                    |                |                             |
| <b>1.6</b>                     | 26528                         | 1.05                 | 715.43   | 5040                  | 5730 |                                                                                    |                |                             |
| <b>1.8</b>                     | 23639                         | 1.15                 | 640.13   | 5550                  | 5850 |                                                                                    |                |                             |
| <b>2.1</b>                     | 19839                         | 1.35                 | 540.55   | 6070                  | 5980 |                                                                                    |                |                             |
| <b>2.2</b>                     | 19012                         | 1.40                 | 519.08   | 6160                  | 6020 |                                                                                    |                |                             |
| <b>2.3</b>                     | 18519                         | 1.45                 | 506.66   | 6230                  | 6020 |                                                                                    |                |                             |
| <b>2.6</b>                     | 16070                         | 1.70                 | 442.39   | 6470                  | 6140 |                                                                                    |                |                             |
| <b>2.8</b>                     | 14832                         | 1.80                 | 410.85   | 6560                  | 6180 |                                                                                    |                |                             |
| <b>3.2</b>                     | 12844                         | 2.10                 | 358.73   | 6720                  | 6250 |                                                                                    |                |                             |
| <b>3.3</b>                     | 12264                         | 2.20                 | 343.93   | 6770                  | 6270 |                                                                                    |                |                             |
| <b>3.8</b>                     | 10598                         | 2.55                 | 300.30   | 6880                  | 6340 |                                                                                    |                |                             |
| <b>4.1</b>                     | 9755                          | 2.75                 | 278.74   | 6920                  | 6360 |                                                                                    |                |                             |
| <b>1.3</b>                     | 33159                         | 0.85                 | 1344.90  | 3370                  | 5490 | <b>CG094-11N-80-04E</b><br><b>CF094-11N-80-04E</b>                                 | 287<br>282     | 152                         |
| <b>1.5</b>                     | 27884                         | 1.00                 | 1135.60  | 4810                  | 5690 |                                                                                    |                |                             |
| <b>1.6</b>                     | 26084                         | 1.05                 | 1064.47  | 5150                  | 5760 |                                                                                    |                |                             |
| <b>1.7</b>                     | 25316                         | 1.05                 | 1035.22  | 5280                  | 5780 |                                                                                    |                |                             |
| <b>1.9</b>                     | 22636                         | 1.20                 | 929.45   | 5710                  | 5890 |                                                                                    |                |                             |
| <b>2.1</b>                     | 19873                         | 1.35                 | 819.36   | 6070                  | 5980 |                                                                                    |                |                             |
| <b>2.2</b>                     | 18893                         | 1.45                 | 782.16   | 6180                  | 6020 |                                                                                    |                |                             |
| <b>2.4</b>                     | 17210                         | 1.55                 | 715.43   | 6360                  | 6090 |                                                                                    |                |                             |
| <b>2.7</b>                     | 15304                         | 1.75                 | 640.13   | 6540                  | 6160 |                                                                                    |                |                             |
| <b>2.8</b>                     | 14770                         | 1.80                 | 619.07   | 6590                  | 6180 |                                                                                    |                |                             |
| <b>3.2</b>                     | 12764                         | 2.10                 | 540.55   | 6740                  | 6250 |                                                                                    |                |                             |
| <b>3.3</b>                     | 12232                         | 2.20                 | 519.08   | 6770                  | 6270 |                                                                                    |                |                             |
| <b>3.4</b>                     | 11915                         | 2.25                 | 506.66   | 6790                  | 6290 |                                                                                    |                |                             |
| <b>3.9</b>                     | 10275                         | 2.60                 | 442.39   | 6900                  | 6360 |                                                                                    |                |                             |
| <b>4.0</b>                     | 10071                         | 2.65                 | 434.54   | 6900                  | 6360 |                                                                                    |                |                             |
| <b>4.2</b>                     | 9483                          | 2.85                 | 410.85   | 6920                  | 6380 |                                                                                    |                |                             |
| <b>3.7</b>                     | 12508                         | 2.15                 | 306.73   | 6740                  | 6270 | <b>CG093-11N-80-06F</b><br><b>CF093-11N-80-06F</b>                                 | 262<br>258     | 150                         |
| <b>4.7</b>                     | 9900                          | 2.70                 | 242.77   | 6900                  | 6360 |                                                                                    |                |                             |

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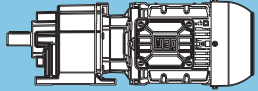
\*\* ... on request

$P_N = 0.75 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$    | $F_{TN}$ |           |  | $m$        | Dimension sheet<br>see page |
|----------|-------|-------|--------|----------|-----------|------------------------------------------------------------------------------------|------------|-----------------------------|
| $n_{60}$ | $T_2$ |       |        | $F_{TN}$ | $F_{aTN}$ |                                                                                    |            |                             |
| rpm      | lb-in |       |        | lb       | lb        |                                                                                    |            |                             |
| 3.1      | 15045 | 0.95  | 368.94 | 4290     | 4270      | CG083-11N-80-06F<br>CF083-11N-80-06F                                               | 148<br>157 | 148                         |
| 4.0      | 11616 | 1.20  | 284.84 | 4830     | 4450      |                                                                                    |            |                             |
| 4.8      | 9742  | 1.45  | 238.89 | 5040     | 4540      |                                                                                    |            |                             |
| 6.1      | 7645  | 1.80  | 187.48 | 5220     | 4650      |                                                                                    |            |                             |
| 7.9      | 5900  | 2.35  | 144.69 | 5350     | 4740      |                                                                                    |            |                             |
| 9.5      | 4880  | 2.85  | 119.68 | 5400     | 4790      |                                                                                    |            |                             |
| 4.7      | 9943  | 1.40  | 368.94 | 5010     | 4540      | CG083-11N-80-04E<br>CF083-11N-80-04E                                               | 143<br>152 | 148                         |
| 6.1      | 7676  | 1.80  | 284.84 | 5220     | 4650      |                                                                                    |            |                             |
| 7.2      | 6438  | 2.15  | 238.89 | 5310     | 4720      |                                                                                    |            |                             |
| 9.2      | 5053  | 2.75  | 187.48 | 5400     | 4790      |                                                                                    |            |                             |
| 5.3      | 8817  | 0.85  | 216.20 | 1890     | 2830      | CG073-11N-80-06F<br>CF073-11N-80-06F                                               | 95<br>104  | 146                         |
| 5.8      | 8020  | 0.95  | 196.68 | 2160     | 2830      |                                                                                    |            |                             |
| 6.4      | 7234  | 1.05  | 177.39 | 2380     | 2940      |                                                                                    |            |                             |
| 7.1      | 6581  | 1.15  | 161.38 | 2520     | 2940      |                                                                                    |            |                             |
| 8.3      | 5602  | 1.30  | 137.38 | 2720     | 3060      |                                                                                    |            |                             |
| 9.1      | 5096  | 1.45  | 124.97 | 2790     | 3060      |                                                                                    |            |                             |
| 11       | 4261  | 1.75  | 104.50 | 2900     | 3150      |                                                                                    |            |                             |
| 12       | 3877  | 1.90  | 95.06  | 2940     | 3150      |                                                                                    |            |                             |
| 13       | 3514  | 2.10  | 86.17  | 2990     | 3210      |                                                                                    |            |                             |
| 15       | 3197  | 2.30  | 78.39  | 3010     | 3210      |                                                                                    |            |                             |
| 16       | 2882  | 2.55  | 70.68  | 3030     | 3260      |                                                                                    |            |                             |
| 18       | 2622  | 2.80  | 64.30  | 3060     | 3260      |                                                                                    |            |                             |
| 19       | 2449  | 3.00  | 60.06  | 3080     | 3280      |                                                                                    |            |                             |
| 4.9      | 9468  | 0.80  | 351.33 | **       | 2790      | CG073-11N-80-04E<br>CF073-11N-80-04E                                               | 90<br>99   | 146                         |
| 5.4      | 8613  | 0.85  | 319.60 | 1980     | 2790      |                                                                                    |            |                             |
| 6.2      | 7504  | 1.00  | 278.44 | 2320     | 2920      |                                                                                    |            |                             |
| 6.8      | 6826  | 1.10  | 253.30 | 2470     | 2920      |                                                                                    |            |                             |
| 8.0      | 5827  | 1.25  | 216.20 | 2680     | 3060      |                                                                                    |            |                             |
| 8.8      | 5300  | 1.40  | 196.68 | 2770     | 3030      |                                                                                    |            |                             |
| 9.7      | 4781  | 1.55  | 177.39 | 2860     | 3120      |                                                                                    |            |                             |
| 11       | 4349  | 1.70  | 161.38 | 2900     | 3120      |                                                                                    |            |                             |
| 13       | 3702  | 2.00  | 137.38 | 2970     | 3190      |                                                                                    |            |                             |
| 14       | 3368  | 2.20  | 124.97 | 3010     | 3190      |                                                                                    |            |                             |
| 17       | 2816  | 2.60  | 104.50 | 3060     | 3260      |                                                                                    |            |                             |
| 18       | 2562  | 2.85  | 95.06  | 3080     | 3260      |                                                                                    |            |                             |
| 6.6      | 7034  | 0.80  | 172.49 | **       | 1280      | CG063-11N-80-06F<br>CF063-11N-80-06F                                               | 57<br>68   | 144                         |
| 7.4      | 6278  | 0.85  | 153.96 | 1460     | 1350      |                                                                                    |            |                             |
| 8.1      | 5757  | 0.95  | 141.17 | 1690     | 1390      |                                                                                    |            |                             |
| 9.6      | 4833  | 1.10  | 118.51 | 1960     | 1460      |                                                                                    |            |                             |
| 10       | 4431  | 1.20  | 108.67 | 2070     | 1480      |                                                                                    |            |                             |
| 13       | 3651  | 1.50  | 89.54  | 2230     | 1550      |                                                                                    |            |                             |
| 14       | 3348  | 1.60  | 82.10  | 2270     | 1570      |                                                                                    |            |                             |
| 16       | 2988  | 1.80  | 73.28  | 2340     | 1600      |                                                                                    |            |                             |
| 17       | 2740  | 1.95  | 67.19  | 2360     | 1620      |                                                                                    |            |                             |
| 19       | 2423  | 2.20  | 59.42  | 2410     | 1640      |                                                                                    |            |                             |
| 21       | 2222  | 2.40  | 54.49  | 2430     | 1640      |                                                                                    |            |                             |
| 23       | 2029  | 2.65  | 49.74  | 2430     | 1660      |                                                                                    |            |                             |
| 25       | 1860  | 2.90  | 45.61  | 2450     | 1690      |                                                                                    |            |                             |
| 7.1      | 6538  | 0.85  | 242.60 | 1350     | 1330      | CG063-11N-80-04E<br>CF063-11N-80-04E                                               | 53<br>64   | 144                         |
| 7.8      | 5995  | 0.90  | 222.46 | 1600     | 1370      |                                                                                    |            |                             |
| 9.2      | 5069  | 1.05  | 188.11 | 1910     | 1440      |                                                                                    |            |                             |
| 10       | 4648  | 1.15  | 172.49 | 2020     | 1460      |                                                                                    |            |                             |
| 11       | 4149  | 1.30  | 153.96 | 2140     | 1510      |                                                                                    |            |                             |
| 12       | 3805  | 1.40  | 141.17 | 2200     | 1530      |                                                                                    |            |                             |
| 15       | 3194  | 1.70  | 118.51 | 2290     | 1570      |                                                                                    |            |                             |
| 16       | 2929  | 1.85  | 108.67 | 2340     | 1600      |                                                                                    |            |                             |
| 19       | 2413  | 2.25  | 89.54  | 2410     | 1640      |                                                                                    |            |                             |
| 21       | 2213  | 2.45  | 82.10  | 2430     | 1660      |                                                                                    |            |                             |
| 24       | 1975  | 2.70  | 73.28  | 2450     | 1660      |                                                                                    |            |                             |
| 26       | 1811  | 2.95  | 67.19  | 2450     | 1690      |                                                                                    |            |                             |

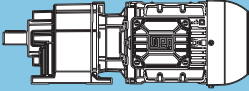
| <b>P<sub>N</sub> = 0.75 hp</b> |                      |                      |          |                       |           |                                                                                    |           |                                 |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|-----------|---------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b>  | <b>Dimension sheet see page</b> |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |           |                                 |
| <b>rpm</b>                     | <b>lb-in</b>         |                      |          |                       |           |                                                                                    | <b>lb</b> |                                 |
| 19                             | 2447                 | 1.55                 | 60.00    | 2410                  | 1640      | <b>CG062-11N-80-06F</b><br><b>CF062-11N-80-06F</b>                                 | 57<br>68  | 144                             |
| 21                             | 2244                 | 1.55                 | 55.02    | 2430                  | 1640      |                                                                                    |           |                                 |
| 24                             | 1939                 | 2.75                 | 47.55    | 2450                  | 1690      |                                                                                    |           |                                 |
| 26                             | 1778                 | 2.85                 | 43.60    | 2450                  | 1690      |                                                                                    |           |                                 |
| 34                             | 1363                 | 1.55                 | 33.43    | 2500                  | 1660      |                                                                                    |           |                                 |
| 43                             | 1080                 | 2.85                 | 26.49    | 2500                  | 1710      |                                                                                    |           |                                 |
| 29                             | 1617                 | 2.30                 | 60.00    | 2470                  | 1710      | <b>CG062-11N-80-04E</b><br><b>CF062-11N-80-04E</b>                                 | 53<br>64  | 144                             |
| 31                             | 1483                 | 2.30                 | 55.02    | 2470                  | 1710      |                                                                                    |           |                                 |
| 52                             | 901                  | 2.30                 | 33.43    | 2500                  | 1730      |                                                                                    |           |                                 |
| 11                             | 4141                 | 0.90                 | 101.55   | 700                   | 1330      | <b>CG053-11N-80-06F</b><br><b>CF053-11N-80-06F</b>                                 | 49<br>60  | 142                             |
| 12                             | 3765                 | 0.95                 | 92.32    | 970                   | 1370      |                                                                                    |           |                                 |
| 15                             | 3172                 | 1.15                 | 77.79    | 1240                  | 1440      |                                                                                    |           |                                 |
| 16                             | 2884                 | 1.25                 | 70.71    | 1330                  | 1480      |                                                                                    |           |                                 |
| 18                             | 2513                 | 1.45                 | 61.63    | 1440                  | 1530      |                                                                                    |           |                                 |
| 20                             | 2285                 | 1.55                 | 56.02    | 1510                  | 1550      |                                                                                    |           |                                 |
| 23                             | 2006                 | 1.80                 | 49.20    | 1550                  | 1570      |                                                                                    |           |                                 |
| 25                             | 1824                 | 1.95                 | 44.73    | 1600                  | 1600      |                                                                                    |           |                                 |
| 10                             | 4459                 | 0.80                 | 165.45   | **                    | 1300      | <b>CG053-11N-80-04E</b><br><b>CF053-11N-80-04E</b>                                 | 44<br>55  | 142                             |
| 11                             | 4053                 | 0.90                 | 150.41   | 790                   | 1350      |                                                                                    |           |                                 |
| 13                             | 3583                 | 1.00                 | 132.97   | 1080                  | 1390      |                                                                                    |           |                                 |
| 14                             | 3258                 | 1.10                 | 120.88   | 1210                  | 1440      |                                                                                    |           |                                 |
| 17                             | 2737                 | 1.30                 | 101.55   | 1390                  | 1510      |                                                                                    |           |                                 |
| 19                             | 2488                 | 1.45                 | 92.32    | 1460                  | 1530      |                                                                                    |           |                                 |
| 22                             | 2096                 | 1.70                 | 77.79    | 1530                  | 1570      |                                                                                    |           |                                 |
| 24                             | 1906                 | 1.90                 | 70.71    | 1570                  | 1600      |                                                                                    |           |                                 |
| 28                             | 1661                 | 2.15                 | 61.63    | 1620                  | 1620      |                                                                                    |           |                                 |
| 31                             | 1510                 | 2.35                 | 56.02    | 1640                  | 1640      |                                                                                    |           |                                 |
| 35                             | 1326                 | 2.70                 | 49.20    | 1660                  | 1660      |                                                                                    |           |                                 |
| 39                             | 1205                 | 2.95                 | 44.73    | 1660                  | 1690      |                                                                                    |           |                                 |
| 19                             | 2400                 | 0.95                 | 58.85    | 1460                  | 1530      | <b>CG052-11N-80-06F</b><br><b>CF052-11N-80-06F</b>                                 | 46<br>57  | 142                             |
| 21                             | 2182                 | 0.95                 | 53.50    | 1530                  | 1550      |                                                                                    |           |                                 |
| 24                             | 1963                 | 1.55                 | 48.13    | 1570                  | 1600      |                                                                                    |           |                                 |
| 26                             | 1784                 | 1.55                 | 43.75    | 1600                  | 1620      |                                                                                    |           |                                 |
| 30                             | 1550                 | 2.30                 | 38.00    | 1640                  | 1640      |                                                                                    |           |                                 |
| 32                             | 1454                 | 0.95                 | 35.67    | 1640                  | 1600      |                                                                                    |           |                                 |
| 33                             | 1409                 | 2.55                 | 34.55    | 1640                  | 1660      |                                                                                    |           |                                 |
| 39                             | 1202                 | 2.95                 | 29.46    | 1660                  | 1690      |                                                                                    |           |                                 |
| 50                             | 939                  | 2.55                 | 23.03    | 1690                  | 1690      |                                                                                    |           |                                 |
| 29                             | 1586                 | 1.40                 | 58.85    | 1620                  | 1640      | <b>CG052-11N-80-04E</b><br><b>CF052-11N-80-04E</b>                                 | 42<br>53  | 142                             |
| 32                             | 1442                 | 1.40                 | 53.50    | 1640                  | 1640      |                                                                                    |           |                                 |
| 36                             | 1297                 | 2.30                 | 48.13    | 1660                  | 1660      |                                                                                    |           |                                 |
| 39                             | 1179                 | 2.35                 | 43.75    | 1690                  | 1690      |                                                                                    |           |                                 |
| 48                             | 961                  | 1.40                 | 35.67    | 1690                  | 1690      |                                                                                    |           |                                 |
| 59                             | 786                  | 2.30                 | 29.17    | 1710                  | 1710      |                                                                                    |           |                                 |
| 21                             | 2253                 | 0.80                 | 55.25    | **                    | 670       | <b>CG033-11N-80-06F</b><br><b>CF033-11N-80-06F</b>                                 | 37<br>42  | 140                             |
| 23                             | 2046                 | 0.90                 | 50.18    | 940                   | 700       |                                                                                    |           |                                 |
| 24                             | 1966                 | 0.95                 | 48.22    | 970                   | 720       |                                                                                    |           |                                 |
| 26                             | 1786                 | 1.00                 | 43.79    | 1060                  | 740       |                                                                                    |           |                                 |
| 32                             | 1443                 | 1.25                 | 35.38    | 1150                  | 810       |                                                                                    |           |                                 |
| 35                             | 1310                 | 1.40                 | 32.13    | 1190                  | 810       |                                                                                    |           |                                 |
| 20                             | 2312                 | 0.80                 | 85.78    | **                    | 650       | <b>CG033-11N-80-04E</b><br><b>CF033-11N-80-04E</b>                                 | 33<br>37  | 140                             |
| 22                             | 2100                 | 0.85                 | 77.90    | 920                   | 700       |                                                                                    |           |                                 |
| 27                             | 1726                 | 1.05                 | 64.05    | 1080                  | 760       |                                                                                    |           |                                 |
| 30                             | 1568                 | 1.15                 | 58.17    | 1120                  | 790       |                                                                                    |           |                                 |
| 31                             | 1489                 | 1.20                 | 55.25    | 1150                  | 790       |                                                                                    |           |                                 |
| 34                             | 1352                 | 1.35                 | 50.18    | 1170                  | 810       |                                                                                    |           |                                 |
| 36                             | 1300                 | 1.40                 | 48.22    | 1190                  | 830       |                                                                                    |           |                                 |
| 39                             | 1180                 | 1.50                 | 43.79    | 1210                  | 830       |                                                                                    |           |                                 |
| 49                             | 953                  | 1.90                 | 35.38    | 1190                  | 880       |                                                                                    |           |                                 |
| 54                             | 866                  | 2.05                 | 32.13    | 1150                  | 900       |                                                                                    |           |                                 |

**P<sub>N</sub> = 0.75 hp**

| 60 Hz           |                | f <sub>B</sub> | i     | F <sub>TN</sub> |                 |  | m<br>lb  | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|------------------------------------------------------------------------------------|----------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>TN</sub> | F <sub>aN</sub> |                                                                                    |          |                                |
| rpm             | lb-in          |                |       | lb              | lb              |                                                                                    |          |                                |
| 27              | 1749           | 0.95           | 42.88 | 1060            | 740             | <b>CG032-11N-80-06F</b><br><b>CF032-11N-80-06F</b>                                 | 37<br>42 | 140                            |
| 29              | 1588           | 0.95           | 38.95 | 1120            | 760             |                                                                                    |          |                                |
| 33              | 1422           | 1.25           | 34.88 | 1170            | 810             |                                                                                    |          |                                |
| 36              | 1292           | 1.40           | 31.67 | 1190            | 830             |                                                                                    |          |                                |
| 41              | 1130           | 1.60           | 27.71 | 1240            | 850             |                                                                                    |          |                                |
| 45              | 1026           | 1.75           | 25.17 | 1210            | 850             |                                                                                    |          |                                |
| 47              | 980            | 0.95           | 24.03 | 1170            | 830             |                                                                                    |          |                                |
| 53              | 873            | 2.05           | 21.40 | 1170            | 900             |                                                                                    |          |                                |
| 58              | 797            | 1.45           | 19.54 | 1120            | 880             |                                                                                    |          |                                |
| 59              | 793            | 2.25           | 19.44 | 1120            | 900             |                                                                                    |          |                                |
| 67              | 697            | 2.55           | 17.09 | 1080            | 920             |                                                                                    |          |                                |
| 73              | 633            | 2.80           | 15.52 | 1060            | 920             |                                                                                    |          |                                |
| 95              | 489            | 2.40           | 11.99 | 990             | 940             |                                                                                    |          |                                |
| 119             | 390            | 2.95           | 9.57  | 920             | 970             |                                                                                    |          |                                |
| 40              | 1156           | 1.45           | 42.88 | 1210            | 850             | <b>CG032-11N-80-04E</b><br><b>CF032-11N-80-04E</b>                                 | 33<br>37 | 140                            |
| 44              | 1050           | 1.45           | 38.95 | 1210            | 850             |                                                                                    |          |                                |
| 49              | 940            | 1.90           | 34.88 | 1190            | 880             |                                                                                    |          |                                |
| 54              | 854            | 2.10           | 31.67 | 1150            | 900             |                                                                                    |          |                                |
| 62              | 747            | 2.40           | 27.71 | 1120            | 920             |                                                                                    |          |                                |
| 69              | 678            | 2.65           | 25.17 | 1080            | 920             |                                                                                    |          |                                |
| 72              | 648            | 1.45           | 24.03 | 1060            | 900             |                                                                                    |          |                                |
| 88              | 527            | 2.20           | 19.54 | 1010            | 920             |                                                                                    |          |                                |
| 111             | 418            | 2.75           | 15.53 | 940             | 940             |                                                                                    |          |                                |
| 50              | 932            | 0.85           | 22.85 | 610             | 200             | <b>CG012-11N-80-06F</b><br><b>CF012-11N-80-06F</b>                                 | 33<br>35 | 138                            |
| 57              | 812            | 0.95           | 19.92 | 650             | 220             |                                                                                    |          |                                |
| 64              | 728            | 1.05           | 17.85 | 700             | 250             |                                                                                    |          |                                |
| 72              | 645            | 0.95           | 15.82 | 720             | 220             |                                                                                    |          |                                |
| 77              | 607            | 1.25           | 14.88 | 720             | 270             |                                                                                    |          |                                |
| 86              | 544            | 1.40           | 13.33 | 700             | 270             |                                                                                    |          |                                |
| 89              | 523            | 1.45           | 12.83 | 700             | 270             |                                                                                    |          |                                |
| 91              | 508            | 1.15           | 12.46 | 670             | 250             |                                                                                    |          |                                |
| 99              | 469            | 1.65           | 11.50 | 670             | 290             |                                                                                    |          |                                |
| 102             | 457            | 1.65           | 11.20 | 670             | 290             |                                                                                    |          |                                |
| 114             | 409            | 1.80           | 10.04 | 650             | 290             |                                                                                    |          |                                |
| 119             | 392            | 1.50           | 9.60  | 630             | 270             |                                                                                    |          |                                |
| 139             | 335            | 2.05           | 8.22  | 630             | 310             |                                                                                    |          |                                |
| 152             | 306            | 1.95           | 7.50  | 580             | 290             |                                                                                    |          |                                |
| 155             | 300            | 2.20           | 7.36  | 610             | 310             |                                                                                    |          |                                |
| 203             | 228            | 2.60           | 5.60  | 540             | 310             |                                                                                    |          |                                |
| 236             | 197            | 3.00           | 4.83  | 520             | 310             |                                                                                    |          |                                |
| 52              | 892            | 0.85           | 33.09 | 630             | 220             | <b>CG012-11N-80-04E</b><br><b>CF012-11N-80-04E</b>                                 | 29<br>31 | 138                            |
| 58              | 799            | 0.95           | 29.65 | 670             | 220             |                                                                                    |          |                                |
| 68              | 687            | 1.10           | 25.50 | 700             | 250             |                                                                                    |          |                                |
| 75              | 616            | 1.25           | 22.85 | 720             | 270             |                                                                                    |          |                                |
| 87              | 537            | 1.45           | 19.92 | 700             | 270             |                                                                                    |          |                                |
| 88              | 526            | 1.15           | 19.51 | 670             | 250             |                                                                                    |          |                                |
| 97              | 481            | 1.60           | 17.85 | 670             | 290             |                                                                                    |          |                                |
| 109             | 426            | 1.40           | 15.82 | 650             | 270             |                                                                                    |          |                                |
| 116             | 401            | 1.90           | 14.88 | 650             | 290             |                                                                                    |          |                                |
| 129             | 359            | 2.10           | 13.33 | 630             | 310             |                                                                                    |          |                                |
| 134             | 346            | 2.20           | 12.83 | 630             | 310             |                                                                                    |          |                                |
| 138             | 336            | 1.75           | 12.46 | 610             | 290             |                                                                                    |          |                                |
| 150             | 310            | 2.45           | 11.50 | 610             | 310             |                                                                                    |          |                                |
| 154             | 302            | 2.50           | 11.20 | 610             | 310             |                                                                                    |          |                                |
| 172             | 270            | 2.70           | 10.04 | 580             | 310             |                                                                                    |          |                                |
| 180             | 259            | 2.30           | 9.60  | 560             | 310             |                                                                                    |          |                                |
| 230             | 202            | 2.90           | 7.50  | 540             | 310             |                                                                                    |          |                                |

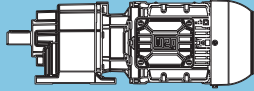
Legend see page 29



| P <sub>N</sub> = 0.75 hp |                         |                |       |                 |     |                                                                                    |          |                          |
|--------------------------|-------------------------|----------------|-------|-----------------|-----|------------------------------------------------------------------------------------|----------|--------------------------|
| 60 Hz                    |                         | f <sub>B</sub> | i     | F <sub>rN</sub> |     |  | m        | Dimension sheet see page |
| n <sub>60</sub><br>rpm   | T <sub>2</sub><br>lb-in |                |       | lb              | lb  |                                                                                    |          |                          |
| <b>84</b>                | 552                     | 0.85           | 13.54 | 650             | 250 | <b>CG002-11N-80-06F</b><br><b>CF002-11N-80-06F</b>                                 | 29<br>31 | 136                      |
| <b>94</b>                | 493                     | 0.90           | 12.08 | 630             | 270 |                                                                                    |          |                          |
| <b>109</b>               | 425                     | 0.95           | 10.42 | 580             | 220 |                                                                                    |          |                          |
| <b>114</b>               | 407                     | 1.10           | 9.97  | 610             | 270 |                                                                                    |          |                          |
| <b>128</b>               | 363                     | 1.25           | 8.90  | 580             | 290 |                                                                                    |          |                          |
| <b>139</b>               | 333                     | 1.20           | 8.17  | 560             | 270 |                                                                                    |          |                          |
| <b>166</b>               | 280                     | 1.55           | 6.88  | 540             | 310 |                                                                                    |          |                          |
| <b>186</b>               | 250                     | 1.80           | 6.14  | 540             | 310 |                                                                                    |          |                          |
| <b>237</b>               | 196                     | 1.80           | 4.81  | 490             | 310 |                                                                                    |          |                          |
| <b>322</b>               | 144                     | 2.15           | 3.54  | 450             | 310 |                                                                                    |          |                          |
| <b>467</b>               | 100                     | 2.80           | 2.44  | 400             | 340 |                                                                                    |          |                          |
| <b>84</b>                | 553                     | 0.80           | 20.53 | **              | 250 | <b>CG002-11N-80-04E</b><br><b>CF002-11N-80-04E</b>                                 | 24<br>26 | 136                      |
| <b>100</b>               | 466                     | 0.95           | 17.29 | 630             | 270 |                                                                                    |          |                          |
| <b>112</b>               | 416                     | 1.10           | 15.43 | 610             | 270 |                                                                                    |          |                          |
| <b>127</b>               | 365                     | 1.25           | 13.54 | 580             | 290 |                                                                                    |          |                          |
| <b>132</b>               | 353                     | 1.10           | 13.10 | 560             | 250 |                                                                                    |          |                          |
| <b>143</b>               | 326                     | 1.40           | 12.08 | 560             | 290 |                                                                                    |          |                          |
| <b>165</b>               | 281                     | 1.45           | 10.42 | 540             | 270 |                                                                                    |          |                          |
| <b>173</b>               | 269                     | 1.65           | 9.97  | 540             | 310 |                                                                                    |          |                          |
| <b>194</b>               | 240                     | 1.85           | 8.90  | 520             | 310 |                                                                                    |          |                          |
| <b>211</b>               | 220                     | 1.85           | 8.17  | 490             | 290 |                                                                                    |          |                          |
| <b>251</b>               | 185                     | 2.35           | 6.88  | 490             | 340 |                                                                                    |          |                          |
| <b>281</b>               | 165                     | 2.70           | 6.14  | 470             | 340 |                                                                                    |          |                          |
| <b>359</b>               | 130                     | 2.70           | 4.81  | 430             | 310 |                                                                                    |          |                          |
| <b>487</b>               | 95                      | 3.25           | 3.54  | 400             | 340 |                                                                                    |          |                          |

Legend see page 29

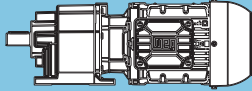
\*\* ... on request

| P <sub>N</sub> = 1.0 hp |                         |                |         |                 |      |                                                                                    |              |                             |
|-------------------------|-------------------------|----------------|---------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| 60 Hz                   |                         |                | i       | F <sub>TN</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in | f <sub>B</sub> |         | lb              | lb   |                                                                                    |              |                             |
| <b>0.28</b>             | 205007                  | 0.80           | 6345.03 | **              | 4290 | <b>CG165-11P-L80-04F</b><br><b>CF165-11P-L80-04F</b>                               | 1556<br>1607 | 170                         |
| <b>0.33</b>             | 171203                  | 0.95           | 5339.57 | 24350           | 5100 |                                                                                    |              |                             |
| <b>0.36</b>             | 156196                  | 1.05           | 4884.00 | 25520           | 5440 |                                                                                    |              |                             |
| <b>0.40</b>             | 139043                  | 1.15           | 4369.98 | 26680           | 5850 |                                                                                    |              |                             |
| <b>0.48</b>             | 116213                  | 1.40           | 3690.13 | 27940           | 6380 |                                                                                    |              |                             |
| <b>0.50</b>             | 111312                  | 1.45           | 3543.61 | 28170           | 6500 |                                                                                    |              |                             |
| <b>0.58</b>             | 93895                   | 1.70           | 3020.06 | 28910           | 6900 |                                                                                    |              |                             |
| <b>0.59</b>             | 91991                   | 1.75           | 2966.43 | 29000           | 6950 |                                                                                    |              |                             |
| <b>0.72</b>             | 74777                   | 2.15           | 2448.96 | 29560           | 7350 |                                                                                    |              |                             |
| <b>0.73</b>             | 73220                   | 2.20           | 2404.16 | 29610           | 7400 |                                                                                    |              |                             |
| <b>0.86</b>             | 61314                   | 2.60           | 2050.07 | 29940           | 7670 |                                                                                    |              |                             |
| <b>0.31</b>             | 182333                  | 0.90           | 3690.13 | 23380           | 4830 | <b>CG165-11P-90S/L-06E</b><br><b>CF165-11P-90S/L-06E</b>                           | 1559<br>1609 | 170                         |
| <b>0.32</b>             | 175093                  | 0.95           | 3543.61 | 24030           | 5010 |                                                                                    |              |                             |
| <b>0.38</b>             | 148082                  | 1.10           | 3020.06 | 26100           | 5640 |                                                                                    |              |                             |
| <b>0.39</b>             | 145453                  | 1.10           | 2966.43 | 26260           | 5690 |                                                                                    |              |                             |
| <b>0.47</b>             | 118550                  | 1.35           | 2448.96 | 27830           | 6320 |                                                                                    |              |                             |
| <b>0.48</b>             | 116381                  | 1.40           | 2404.16 | 27920           | 6380 |                                                                                    |              |                             |
| <b>0.56</b>             | 98225                   | 1.65           | 2050.07 | 28750           | 6810 |                                                                                    |              |                             |
| <b>0.69</b>             | 78184                   | 2.05           | 1661.50 | 29470           | 7280 |                                                                                    |              |                             |
| <b>0.84</b>             | 65404                   | 2.45           | 2093.95 | 29830           | 7580 |                                                                                    |              |                             |
| <b>0.98</b>             | 55404                   | 2.90           | 1803.51 | 30080           | 7800 |                                                                                    |              |                             |
| <b>0.55</b>             | 103483                  | 1.55           | 2093.95 | 28530           | 6680 | <b>CG164-11P-90S/L-06E</b><br><b>CF164-11P-90S/L-06E</b>                           | 1530<br>1581 | 168                         |
| <b>0.63</b>             | 88398                   | 1.85           | 1803.51 | 29110           | 7040 |                                                                                    |              |                             |
| <b>0.69</b>             | 80732                   | 2.00           | 1657.33 | 29380           | 7220 |                                                                                    |              |                             |
| <b>0.73</b>             | 75676                   | 2.15           | 1559.96 | 29540           | 7330 |                                                                                    |              |                             |
| <b>0.79</b>             | 69767                   | 2.30           | 1447.11 | 29720           | 7460 |                                                                                    |              |                             |
| <b>0.80</b>             | 68677                   | 2.35           | 1427.45 | 29740           | 7490 |                                                                                    |              |                             |
| <b>0.90</b>             | 61023                   | 2.65           | 1278.93 | 29940           | 7670 |                                                                                    |              |                             |
| <b>0.92</b>             | 59224                   | 2.70           | 1246.39 | 29990           | 7710 |                                                                                    |              |                             |
| <b>0.93</b>             | 58668                   | 2.75           | 1234.69 | 29990           | 7730 |                                                                                    |              |                             |
| <b>0.81</b>             | 69252                   | 1.70           | 2162.84 | 23870           | 4380 |                                                                                    |              |                             |
| <b>0.93</b>             | 59885                   | 1.95           | 1885.79 | 24170           | 4630 |                                                                                    |              |                             |
| <b>1.1</b>              | 52590                   | 2.20           | 1669.82 | 24370           | 4830 |                                                                                    |              |                             |
| <b>1.2</b>              | 45287                   | 2.55           | 1455.92 | 24550           | 5010 |                                                                                    |              |                             |
| <b>1.3</b>              | 43330                   | 2.70           | 1398.80 | 24590           | 5060 |                                                                                    |              |                             |
| <b>1.4</b>              | 38366                   | 3.00           | 1254.10 | 24680           | 5190 |                                                                                    |              |                             |
| <b>0.53</b>             | 108658                  | 1.10           | 2162.84 | 22080           | 3370 | <b>CG144-11P-90S/L-06E</b><br><b>CF144-11P-90S/L-06E</b>                           | 977<br>1016  | 164                         |
| <b>0.61</b>             | 94158                   | 1.25           | 1885.79 | 22840           | 3750 |                                                                                    |              |                             |
| <b>0.69</b>             | 83033                   | 1.40           | 1669.82 | 23360           | 4050 |                                                                                    |              |                             |
| <b>0.70</b>             | 80608                   | 1.45           | 1624.38 | 23450           | 4090 |                                                                                    |              |                             |
| <b>0.79</b>             | 71804                   | 1.65           | 1455.92 | 23780           | 4320 |                                                                                    |              |                             |
| <b>0.82</b>             | 68925                   | 1.70           | 1400.42 | 23900           | 4410 |                                                                                    |              |                             |
| <b>0.91</b>             | 61343                   | 1.90           | 1254.10 | 24120           | 4590 |                                                                                    |              |                             |
| <b>0.94</b>             | 59602                   | 1.95           | 1221.03 | 24190           | 4630 |                                                                                    |              |                             |
| <b>1.0</b>              | 53206                   | 2.20           | 1099.05 | 24370           | 4810 |                                                                                    |              |                             |
| <b>1.1</b>              | 52173                   | 2.25           | 1079.94 | 24390           | 4830 |                                                                                    |              |                             |
| <b>1.2</b>              | 45818                   | 2.55           | 958.27  | 24550           | 4990 |                                                                                    |              |                             |
| <b>1.3</b>              | 43125                   | 2.70           | 905.71  | 24590           | 5060 |                                                                                    |              |                             |
| <b>1.4</b>              | 38896                   | 3.00           | 825.43  | 24680           | 5170 |                                                                                    |              |                             |
| <b>0.93</b>             | 61704                   | 1.15           | 1891.77 | 14770           | 4810 |                                                                                    |              |                             |
| <b>1.1</b>              | 53233                   | 1.35           | 1642.17 | 15350           | 5060 |                                                                                    |              |                             |
| <b>1.2</b>              | 47055                   | 1.55           | 1460.54 | 15710           | 5240 |                                                                                    |              |                             |
| <b>1.4</b>              | 40511                   | 1.75           | 1267.83 | 16050           | 5440 |                                                                                    |              |                             |
| <b>1.6</b>              | 34643                   | 2.05           | 1095.41 | 16300           | 5620 |                                                                                    |              |                             |
| <b>1.7</b>              | 33557                   | 2.15           | 1063.29 | 16320           | 5640 |                                                                                    |              |                             |
| <b>1.8</b>              | 30089                   | 2.40           | 961.31  | 16460           | 5760 |                                                                                    |              |                             |
| <b>1.9</b>              | 28636                   | 2.50           | 918.68  | 16500           | 5780 |                                                                                    |              |                             |
| <b>2.1</b>              | 25742                   | 2.80           | 834.47  | 16590           | 5870 |                                                                                    |              |                             |

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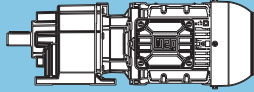
| P <sub>N</sub> = 1.0 hp |                         |                |         |                 |      |                                                                                    |            |                          |
|-------------------------|-------------------------|----------------|---------|-----------------|------|------------------------------------------------------------------------------------|------------|--------------------------|
| 60 Hz                   |                         |                | i       | F <sub>FN</sub> |      |  | m          | Dimension sheet see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in | f <sub>B</sub> |         | lb              | lb   |                                                                                    |            |                          |
| 0.70                    | 83179                   | 0.90           | 1642.17 | 12720           | 4180 | CG134-11P-90S/L-06E<br>CF134-11P-90S/L-06E                                         | 653<br>657 | 160                      |
| 0.78                    | 73677                   | 1.00           | 1460.54 | 13740           | 4450 |                                                                                    |            |                          |
| 0.81                    | 71426                   | 1.00           | 1418.83 | 13960           | 4520 |                                                                                    |            |                          |
| 0.90                    | 63564                   | 1.15           | 1267.83 | 14640           | 4770 |                                                                                    |            |                          |
| 0.93                    | 61412                   | 1.20           | 1224.91 | 14790           | 4830 |                                                                                    |            |                          |
| 1.0                     | 54582                   | 1.30           | 1095.41 | 15260           | 5010 |                                                                                    |            |                          |
| 1.1                     | 52982                   | 1.35           | 1063.29 | 15380           | 5080 |                                                                                    |            |                          |
| 1.2                     | 47606                   | 1.50           | 961.31  | 15690           | 5240 |                                                                                    |            |                          |
| 1.4                     | 40986                   | 1.75           | 834.47  | 16030           | 5420 |                                                                                    |            |                          |
| 1.5                     | 36140                   | 2.00           | 741.90  | 16230           | 5580 |                                                                                    |            |                          |
| 1.6                     | 35048                   | 2.05           | 720.98  | 16280           | 5600 |                                                                                    |            |                          |
| 1.8                     | 31049                   | 2.30           | 644.01  | 16410           | 5710 |                                                                                    |            |                          |
| 1.9                     | 29463                   | 2.45           | 613.66  | 16480           | 5760 |                                                                                    |            |                          |
| 2.1                     | 26494                   | 2.70           | 556.43  | 16570           | 5850 |                                                                                    |            |                          |
| 2.2                     | 24648                   | 2.90           | 521.98  | 16610           | 5910 |                                                                                    |            |                          |
| 1.2                     | 47431                   | 0.85           | 1439.39 | 6700            | 4560 | CG104-11P-L80-04F<br>CF104-11P-L80-04F                                             | 399<br>408 | 156                      |
| 1.3                     | 43324                   | 0.95           | 1320.15 | 7400            | 4700 |                                                                                    |            |                          |
| 1.6                     | 36477                   | 1.10           | 1116.07 | 8320            | 4920 |                                                                                    |            |                          |
| 1.9                     | 29550                   | 1.35           | 913.46  | 9040            | 5150 |                                                                                    |            |                          |
| 2.1                     | 26795                   | 1.50           | 831.69  | 9260            | 5240 |                                                                                    |            |                          |
| 2.5                     | 22421                   | 1.80           | 703.12  | 9550            | 5370 |                                                                                    |            |                          |
| 2.8                     | 19914                   | 2.05           | 628.39  | 9710            | 5460 |                                                                                    |            |                          |
| 3.3                     | 16594                   | 2.45           | 531.25  | 9870            | 5580 |                                                                                    |            |                          |
| 3.4                     | 16030                   | 2.50           | 514.28  | 9890            | 5600 |                                                                                    |            |                          |
| 4.0                     | 13301                   | 3.00           | 434.78  | 10000           | 5690 |                                                                                    |            |                          |
| 1.3                     | 46174                   | 0.90           | 913.46  | 6920            | 4610 | CG104-11P-90S/L-06E<br>CF104-11P-90S/L-06E                                         | 401<br>410 | 156                      |
| 1.4                     | 41955                   | 0.95           | 831.69  | 7600            | 4740 |                                                                                    |            |                          |
| 1.6                     | 35252                   | 1.15           | 703.12  | 8480            | 4970 |                                                                                    |            |                          |
| 1.8                     | 31376                   | 1.30           | 628.39  | 8860            | 5080 |                                                                                    |            |                          |
| 2.2                     | 26308                   | 1.55           | 531.25  | 9280            | 5260 |                                                                                    |            |                          |
| 2.6                     | 21267                   | 1.90           | 434.78  | 9620            | 5420 |                                                                                    |            |                          |
| 2.7                     | 20315                   | 2.00           | 417.03  | 9690            | 5440 |                                                                                    |            |                          |
| 3.2                     | 16962                   | 2.35           | 352.56  | 9850            | 5550 |                                                                                    |            |                          |
| 3.3                     | 16796                   | 2.40           | 349.11  | 9870            | 5580 |                                                                                    |            |                          |
| 3.9                     | 13966                   | 2.90           | 295.14  | 9980            | 5670 |                                                                                    |            |                          |
| 4.0                     | 13305                   | 3.00           | 282.94  | 10000           | 5690 |                                                                                    |            |                          |
| 4.6                     | 13644                   | 2.95           | 246.43  | 10000           | 5670 | CG103-11P-90S/L-06E<br>CF103-11P-90S/L-06E                                         | 373<br>381 | 154                      |
| 1.7                     | 35149                   | 0.80           | 1064.47 | **              | 5400 | CG094-11P-L80-04F<br>CF094-11P-L80-04F                                             | 306<br>302 | 152                      |
| 1.9                     | 30565                   | 0.90           | 929.45  | 4180            | 5580 |                                                                                    |            |                          |
| 2.1                     | 26835                   | 1.00           | 819.36  | 5010            | 5730 |                                                                                    |            |                          |
| 2.3                     | 25564                   | 1.05           | 782.16  | 5260            | 5780 |                                                                                    |            |                          |
| 2.5                     | 23335                   | 1.15           | 715.43  | 5620            | 5850 |                                                                                    |            |                          |
| 2.7                     | 20794                   | 1.30           | 640.13  | 5980            | 5960 |                                                                                    |            |                          |
| 2.8                     | 20068                   | 1.35           | 619.07  | 6050            | 5980 |                                                                                    |            |                          |
| 3.3                     | 17379                   | 1.55           | 540.55  | 6360            | 6090 |                                                                                    |            |                          |
| 3.4                     | 16655                   | 1.60           | 519.08  | 6430            | 6110 |                                                                                    |            |                          |
| 3.5                     | 16256                   | 1.65           | 506.66  | 6450            | 6110 |                                                                                    |            |                          |
| 4.0                     | 14078                   | 1.90           | 442.39  | 6630            | 6200 |                                                                                    |            |                          |
| 4.1                     | 13799                   | 1.95           | 434.54  | 6650            | 6230 |                                                                                    |            |                          |
| 4.3                     | 12993                   | 2.05           | 410.85  | 6720            | 6250 |                                                                                    |            |                          |
| 4.9                     | 11228                   | 2.40           | 358.73  | 6830            | 6320 |                                                                                    |            |                          |
| 5.0                     | 11000                   | 2.45           | 352.17  | 6860            | 6320 |                                                                                    |            |                          |
| 5.1                     | 10720                   | 2.50           | 343.93  | 6860            | 6340 |                                                                                    |            |                          |
| 5.9                     | 9225                    | 2.90           | 300.30  | 6950            | 6380 |                                                                                    |            |                          |

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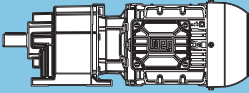


**P<sub>N</sub> = 1.0 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i      | F <sub>TN</sub> |      |  | m<br>lb    | Dimension<br>sheet<br>see page |
|------------------------|-------------------------|----------------|--------|-----------------|------|------------------------------------------------------------------------------------|------------|--------------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |        | lb              | lb   |                                                                                    |            |                                |
| 1.8                    | 32424                   | 0.85           | 640.13 | 3620            | 5510 | CG094-11P-90S/L-06E<br>CF094-11P-90S/L-06E                                         | 306<br>302 | 152                            |
| 2.1                    | 27268                   | 1.00           | 540.55 | 4920            | 5710 |                                                                                    |            |                                |
| 2.2                    | 26132                   | 1.05           | 519.08 | 5150            | 5760 |                                                                                    |            |                                |
| 2.3                    | 25454                   | 1.05           | 506.66 | 5280            | 5780 |                                                                                    |            |                                |
| 2.6                    | 22134                   | 1.20           | 442.39 | 5800            | 5890 |                                                                                    |            |                                |
| 2.8                    | 20472                   | 1.30           | 410.85 | 6000            | 5960 |                                                                                    |            |                                |
| 3.2                    | 17765                   | 1.50           | 358.73 | 6320            | 6070 |                                                                                    |            |                                |
| 3.3                    | 16997                   | 1.60           | 343.93 | 6380            | 6090 |                                                                                    |            |                                |
| 3.8                    | 14719                   | 1.85           | 300.30 | 6590            | 6180 |                                                                                    |            |                                |
| 4.1                    | 13578                   | 2.00           | 278.74 | 6680            | 6230 |                                                                                    |            |                                |
| 4.7                    | 11734                   | 2.30           | 243.38 | 6810            | 6290 | CG093-11P-L80-04F<br>CF093-11P-L80-04F                                             | 278<br>273 | 150                            |
| 5.7                    | 11048                   | 2.45           | 306.73 | 6860            | 6320 |                                                                                    |            |                                |
| 3.7                    | 16982                   | 1.60           | 306.73 | 6380            | 6090 | CG093-11P-90S/L-06E<br>CF093-11P-90S/L-06E                                         | 278<br>273 | 150                            |
| 4.7                    | 13441                   | 2.00           | 242.77 | 6700            | 6230 |                                                                                    |            |                                |
| 5.4                    | 11736                   | 2.30           | 211.98 | 6810            | 6290 |                                                                                    |            |                                |
| 6.1                    | 10372                   | 2.60           | 187.34 | 6880            | 6340 |                                                                                    |            |                                |
| 4.8                    | 13289                   | 1.05           | 368.94 | 4610            | 4360 | CG083-11P-L80-04F<br>CF083-11P-L80-04F                                             | 161<br>170 | 148                            |
| 6.2                    | 10260                   | 1.35           | 284.84 | 4990            | 4520 |                                                                                    |            |                                |
| 7.4                    | 8604                    | 1.60           | 238.89 | 5150            | 4610 |                                                                                    |            |                                |
| 9.4                    | 6753                    | 2.05           | 187.48 | 5280            | 4700 |                                                                                    |            |                                |
| 12                     | 5212                    | 2.65           | 144.69 | 5370            | 4790 |                                                                                    |            |                                |
| 4.0                    | 15770                   | 0.90           | 284.84 | 4180            | 4230 | CG083-11P-90S/L-06E<br>CF083-11P-90S/L-06E                                         | 163<br>172 | 148                            |
| 4.8                    | 13226                   | 1.05           | 238.89 | 4610            | 4360 |                                                                                    |            |                                |
| 6.1                    | 10380                   | 1.35           | 187.48 | 4970            | 4520 |                                                                                    |            |                                |
| 7.9                    | 8011                    | 1.75           | 144.69 | 5190            | 4630 |                                                                                    |            |                                |
| 9.6                    | 6626                    | 2.10           | 119.68 | 5310            | 4700 |                                                                                    |            |                                |
| 11                     | 5636                    | 2.45           | 101.80 | 5350            | 4770 |                                                                                    |            |                                |
| 13                     | 4885                    | 2.85           | 88.23  | 5400            | 4810 |                                                                                    |            |                                |
| 6.9                    | 9123                    | 0.80           | 253.30 | **              | 2740 | CG073-11P-L80-04F<br>CF073-11P-L80-04F                                             | 108<br>117 | 146                            |
| 8.1                    | 7787                    | 0.95           | 216.20 | 2250            | 2900 |                                                                                    |            |                                |
| 8.9                    | 7084                    | 1.05           | 196.68 | 2430            | 2900 |                                                                                    |            |                                |
| 9.9                    | 6390                    | 1.15           | 177.39 | 2590            | 3010 |                                                                                    |            |                                |
| 11                     | 5813                    | 1.25           | 161.38 | 2680            | 3010 |                                                                                    |            |                                |
| 13                     | 4948                    | 1.50           | 137.38 | 2830            | 3100 |                                                                                    |            |                                |
| 14                     | 4501                    | 1.65           | 124.97 | 2880            | 3100 |                                                                                    |            |                                |
| 17                     | 3764                    | 1.95           | 104.50 | 2970            | 3190 |                                                                                    |            |                                |
| 19                     | 3424                    | 2.15           | 95.06  | 3010            | 3190 |                                                                                    |            |                                |
| 20                     | 3104                    | 2.35           | 86.17  | 3030            | 3240 |                                                                                    |            |                                |
| 22                     | 2823                    | 2.60           | 78.39  | 3060            | 3240 |                                                                                    |            |                                |
| 25                     | 2546                    | 2.90           | 70.68  | 3080            | 3280 |                                                                                    |            |                                |
| 7.1                    | 8935                    | 0.85           | 161.38 | 1870            | 2770 | CG073-11P-90S/L-06E<br>CF073-11P-90S/L-06E                                         | 110<br>119 | 146                            |
| 8.3                    | 7606                    | 1.00           | 137.38 | 2290            | 2920 |                                                                                    |            |                                |
| 9.2                    | 6919                    | 1.05           | 124.97 | 2450            | 2920 |                                                                                    |            |                                |
| 11                     | 5786                    | 1.30           | 104.50 | 2700            | 3060 |                                                                                    |            |                                |
| 12                     | 5263                    | 1.40           | 95.06  | 2770            | 3060 |                                                                                    |            |                                |
| 13                     | 4771                    | 1.55           | 86.17  | 2860            | 3120 |                                                                                    |            |                                |
| 15                     | 4340                    | 1.70           | 78.39  | 2900            | 3120 |                                                                                    |            |                                |
| 16                     | 3913                    | 1.90           | 70.68  | 2940            | 3190 |                                                                                    |            |                                |
| 18                     | 3560                    | 2.05           | 64.30  | 2990            | 3190 |                                                                                    |            |                                |
| 19                     | 3325                    | 2.20           | 60.06  | 3010            | 3210 |                                                                                    |            |                                |
| 21                     | 3025                    | 2.40           | 54.63  | 3030            | 3210 |                                                                                    |            |                                |
| 23                     | 2734                    | 2.70           | 49.38  | 3060            | 3260 |                                                                                    |            |                                |
| 25                     | 2487                    | 2.85           | 44.92  | 3080            | 3260 |                                                                                    |            |                                |

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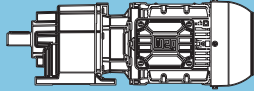
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| <b>P<sub>N</sub> = 1.0 hp</b> |                      |                      |          |                       |           |                                                                                    |          |                                 |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|----------|---------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b> | <b>Dimension sheet see page</b> |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |          |                                 |
| rpm                           | lb-in                |                      |          |                       |           | lb                                                                                 |          |                                 |
| <b>9.4</b>                    | 6775                 | 0.80                 | 188.11   | **                    | 1330      | <b>CG063-11P-L80-04F</b><br><b>CF063-11P-L80-04F</b>                               | 73<br>84 | 144                             |
| <b>10</b>                     | 6213                 | 0.90                 | 172.49   | 1510                  | 1350      |                                                                                    |          |                                 |
| <b>11</b>                     | 5545                 | 1.00                 | 153.96   | 1750                  | 1420      |                                                                                    |          |                                 |
| <b>12</b>                     | 5085                 | 1.05                 | 141.17   | 1910                  | 1440      |                                                                                    |          |                                 |
| <b>15</b>                     | 4268                 | 1.25                 | 118.51   | 2110                  | 1510      |                                                                                    |          |                                 |
| <b>16</b>                     | 3914                 | 1.40                 | 108.67   | 2180                  | 1530      |                                                                                    |          |                                 |
| <b>20</b>                     | 3225                 | 1.65                 | 89.54    | 2290                  | 1570      |                                                                                    |          |                                 |
| <b>21</b>                     | 2957                 | 1.80                 | 82.10    | 2340                  | 1600      |                                                                                    |          |                                 |
| <b>24</b>                     | 2639                 | 2.05                 | 73.28    | 2380                  | 1620      |                                                                                    |          |                                 |
| <b>26</b>                     | 2420                 | 2.20                 | 67.19    | 2410                  | 1640      |                                                                                    |          |                                 |
| <b>30</b>                     | 2140                 | 2.50                 | 59.42    | 2430                  | 1660      |                                                                                    |          |                                 |
| <b>32</b>                     | 1963                 | 2.75                 | 54.49    | 2450                  | 1660      |                                                                                    |          |                                 |
| <b>35</b>                     | 1792                 | 3.00                 | 49.74    | 2450                  | 1690      |                                                                                    |          |                                 |
| <b>9.7</b>                    | 6561                 | 0.85                 | 118.51   | 1350                  | 1330      | <b>CG063-11P-90S/L-06E</b><br><b>CF063-11P-90S/L-06E</b>                           | 73<br>84 | 144                             |
| <b>11</b>                     | 6016                 | 0.90                 | 108.67   | 1600                  | 1370      |                                                                                    |          |                                 |
| <b>13</b>                     | 4957                 | 1.10                 | 89.54    | 1930                  | 1460      |                                                                                    |          |                                 |
| <b>14</b>                     | 4546                 | 1.20                 | 82.10    | 2050                  | 1480      |                                                                                    |          |                                 |
| <b>16</b>                     | 4057                 | 1.35                 | 73.28    | 2160                  | 1530      |                                                                                    |          |                                 |
| <b>17</b>                     | 3720                 | 1.45                 | 67.19    | 2230                  | 1530      |                                                                                    |          |                                 |
| <b>19</b>                     | 3290                 | 1.65                 | 59.42    | 2290                  | 1570      |                                                                                    |          |                                 |
| <b>21</b>                     | 3017                 | 1.80                 | 54.49    | 2340                  | 1600      |                                                                                    |          |                                 |
| <b>23</b>                     | 2754                 | 1.95                 | 49.74    | 2360                  | 1620      |                                                                                    |          |                                 |
| <b>25</b>                     | 2525                 | 2.15                 | 45.61    | 2380                  | 1640      |                                                                                    |          |                                 |
| <b>29</b>                     | 2161                 | 1.75                 | 60.00    | 2430                  | 1660      | <b>CG062-11P-L80-04F</b><br><b>CF062-11P-L80-04F</b>                               | 71<br>82 | 144                             |
| <b>32</b>                     | 1982                 | 1.75                 | 55.02    | 2450                  | 1660      |                                                                                    |          |                                 |
| <b>53</b>                     | 1204                 | 1.75                 | 33.43    | 2450                  | 1690      |                                                                                    |          |                                 |
| <b>19</b>                     | 3322                 | 1.15                 | 60.00    | 2290                  | 1570      | <b>CG062-11P-90S/L-06E</b><br><b>CF062-11P-90S/L-06E</b>                           | 73<br>84 | 144                             |
| <b>21</b>                     | 3046                 | 1.15                 | 55.02    | 2320                  | 1600      |                                                                                    |          |                                 |
| <b>24</b>                     | 2633                 | 2.05                 | 47.55    | 2380                  | 1620      |                                                                                    |          |                                 |
| <b>26</b>                     | 2414                 | 2.10                 | 43.60    | 2410                  | 1640      |                                                                                    |          |                                 |
| <b>31</b>                     | 2044                 | 2.60                 | 36.92    | 2430                  | 1660      |                                                                                    |          |                                 |
| <b>34</b>                     | 1875                 | 2.85                 | 33.86    | 2450                  | 1690      |                                                                                    |          |                                 |
| <b>43</b>                     | 1467                 | 2.10                 | 26.49    | 2470                  | 1660      |                                                                                    |          |                                 |
| <b>56</b>                     | 1139                 | 2.95                 | 20.57    | 2410                  | 1710      |                                                                                    |          |                                 |
| <b>15</b>                     | 4354                 | 0.85                 | 120.88   | 520                   | 1300      | <b>CG053-11P-L80-04F</b><br><b>CF053-11P-L80-04F</b>                               | 62<br>73 | 142                             |
| <b>17</b>                     | 3658                 | 1.00                 | 101.55   | 1030                  | 1390      |                                                                                    |          |                                 |
| <b>19</b>                     | 3325                 | 1.10                 | 92.32    | 1190                  | 1420      |                                                                                    |          |                                 |
| <b>23</b>                     | 2802                 | 1.30                 | 77.79    | 1370                  | 1480      |                                                                                    |          |                                 |
| <b>25</b>                     | 2547                 | 1.40                 | 70.71    | 1440                  | 1530      |                                                                                    |          |                                 |
| <b>29</b>                     | 2220                 | 1.60                 | 61.63    | 1510                  | 1550      |                                                                                    |          |                                 |
| <b>31</b>                     | 2018                 | 1.80                 | 56.02    | 1550                  | 1570      |                                                                                    |          |                                 |
| <b>36</b>                     | 1772                 | 2.00                 | 49.20    | 1600                  | 1620      |                                                                                    |          |                                 |
| <b>39</b>                     | 1611                 | 2.20                 | 44.73    | 1620                  | 1620      |                                                                                    |          |                                 |
| <b>15</b>                     | 4307                 | 0.85                 | 77.79    | 560                   | 1330      | <b>CG053-11P-90S/L-06E</b><br><b>CF053-11P-90S/L-06E</b>                           | 64<br>75 | 142                             |
| <b>16</b>                     | 3915                 | 0.95                 | 70.71    | 880                   | 1350      |                                                                                    |          |                                 |
| <b>19</b>                     | 3412                 | 1.05                 | 61.63    | 1150                  | 1420      |                                                                                    |          |                                 |
| <b>20</b>                     | 3102                 | 1.15                 | 56.02    | 1260                  | 1460      |                                                                                    |          |                                 |
| <b>23</b>                     | 2724                 | 1.30                 | 49.20    | 1390                  | 1510      |                                                                                    |          |                                 |
| <b>26</b>                     | 2476                 | 1.45                 | 44.73    | 1460                  | 1530      |                                                                                    |          |                                 |
| <b>30</b>                     | 2120                 | 1.05                 | 58.85    | 1530                  | 1570      | <b>CG052-11P-L80-04F</b><br><b>CF052-11P-L80-04F</b>                               | 60<br>71 | 142                             |
| <b>33</b>                     | 1927                 | 1.05                 | 53.50    | 1570                  | 1600      |                                                                                    |          |                                 |
| <b>37</b>                     | 1733                 | 1.75                 | 48.13    | 1600                  | 1620      |                                                                                    |          |                                 |
| <b>40</b>                     | 1576                 | 1.75                 | 43.75    | 1620                  | 1640      |                                                                                    |          |                                 |
| <b>46</b>                     | 1369                 | 2.60                 | 38.00    | 1660                  | 1660      |                                                                                    |          |                                 |
| <b>49</b>                     | 1285                 | 1.05                 | 35.67    | 1660                  | 1640      |                                                                                    |          |                                 |
| <b>51</b>                     | 1244                 | 2.85                 | 34.55    | 1660                  | 1660      |                                                                                    |          |                                 |
| <b>60</b>                     | 1051                 | 1.75                 | 29.17    | 1690                  | 1660      |                                                                                    |          |                                 |
| <b>76</b>                     | 830                  | 2.85                 | 23.03    | 1710                  | 1710      |                                                                                    |          |                                 |

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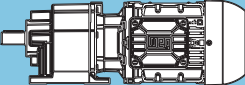
**P<sub>N</sub> = 1.0 hp**

| 60 Hz           |                | f <sub>B</sub> | i     | F <sub>TN</sub> |                 |  | m<br>lb  | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|------------------------------------------------------------------------------------|----------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>TN</sub> | F <sub>aN</sub> |                                                                                    |          |                                |
| rpm             | lb-in          |                |       | lb              | lb              |                                                                                    |          |                                |
| 24              | 2664           | 1.15           | 48.13 | 1420            | 1510            | CG052-11P-90S/L-06E<br>CF052-11P-90S/L-06E                                         | 62<br>73 | 142                            |
| 26              | 2422           | 1.15           | 43.75 | 1460            | 1530            |                                                                                    |          |                                |
| 30              | 2104           | 1.70           | 38.00 | 1530            | 1570            |                                                                                    |          |                                |
| 33              | 1913           | 1.90           | 34.55 | 1570            | 1600            |                                                                                    |          |                                |
| 39              | 1631           | 2.20           | 29.46 | 1620            | 1640            |                                                                                    |          |                                |
| 43              | 1483           | 2.40           | 26.79 | 1640            | 1640            |                                                                                    |          |                                |
| 47              | 1335           | 2.70           | 24.12 | 1660            | 1660            |                                                                                    |          |                                |
| 50              | 1275           | 1.90           | 23.03 | 1660            | 1640            |                                                                                    |          |                                |
| 52              | 1214           | 2.95           | 21.92 | 1660            | 1690            |                                                                                    |          |                                |
| 64              | 989            | 2.40           | 17.86 | 1690            | 1660            |                                                                                    |          |                                |
| 78              | 809            | 2.95           | 14.62 | 1710            | 1710            |                                                                                    |          |                                |
| 27              | 2307           | 0.80           | 64.05 | **              | 650             | CG033-11P-L80-04F<br>CF033-11P-L80-04F                                             | 51<br>55 | 140                            |
| 30              | 2095           | 0.85           | 58.17 | 920             | 700             |                                                                                    |          |                                |
| 32              | 1990           | 0.90           | 55.25 | 970             | 720             |                                                                                    |          |                                |
| 35              | 1807           | 1.00           | 50.18 | 1030            | 740             |                                                                                    |          |                                |
| 36              | 1737           | 1.05           | 48.22 | 1080            | 760             |                                                                                    |          |                                |
| 40              | 1577           | 1.15           | 43.79 | 1120            | 790             |                                                                                    |          |                                |
| 50              | 1274           | 1.40           | 35.38 | 1120            | 830             |                                                                                    |          |                                |
| 55              | 1157           | 1.55           | 32.13 | 1100            | 850             |                                                                                    |          |                                |
| 41              | 1545           | 1.10           | 42.88 | 1120            | 790             | CG032-11P-L80-04F<br>CF032-11P-L80-04F                                             | 51<br>55 | 140                            |
| 45              | 1403           | 1.10           | 38.95 | 1150            | 810             |                                                                                    |          |                                |
| 50              | 1256           | 1.45           | 34.88 | 1120            | 830             |                                                                                    |          |                                |
| 56              | 1141           | 1.60           | 31.67 | 1100            | 850             |                                                                                    |          |                                |
| 64              | 998            | 1.80           | 27.71 | 1060            | 880             |                                                                                    |          |                                |
| 70              | 907            | 2.00           | 25.17 | 1030            | 880             |                                                                                    |          |                                |
| 73              | 865            | 1.10           | 24.03 | 1010            | 880             |                                                                                    |          |                                |
| 82              | 771            | 2.30           | 21.40 | 1010            | 900             |                                                                                    |          |                                |
| 90              | 704            | 1.65           | 19.54 | 970             | 900             |                                                                                    |          |                                |
| 91              | 700            | 2.55           | 19.44 | 970             | 920             |                                                                                    |          |                                |
| 103             | 616            | 2.90           | 17.09 | 940             | 940             |                                                                                    |          |                                |
| 113             | 559            | 2.10           | 15.53 | 900             | 920             |                                                                                    |          |                                |
| 147             | 432            | 2.70           | 11.99 | 850             | 940             |                                                                                    |          |                                |
| 33              | 1931           | 0.95           | 34.88 | 990             | 720             | CG032-11P-90S/L-06E<br>CF032-11P-90S/L-06E                                         | 53<br>57 | 140                            |
| 36              | 1754           | 1.05           | 31.67 | 1060            | 740             |                                                                                    |          |                                |
| 41              | 1534           | 1.20           | 27.71 | 1120            | 790             |                                                                                    |          |                                |
| 45              | 1393           | 1.30           | 25.17 | 1150            | 810             |                                                                                    |          |                                |
| 53              | 1185           | 1.50           | 21.40 | 1120            | 850             |                                                                                    |          |                                |
| 59              | 1076           | 1.65           | 19.44 | 1080            | 850             |                                                                                    |          |                                |
| 67              | 946            | 1.90           | 17.09 | 1060            | 880             |                                                                                    |          |                                |
| 74              | 859            | 2.10           | 15.52 | 1030            | 900             |                                                                                    |          |                                |
| 89              | 715            | 2.45           | 12.92 | 990             | 920             |                                                                                    |          |                                |
| 95              | 664            | 1.75           | 11.99 | 940             | 900             |                                                                                    |          |                                |
| 98              | 649            | 2.70           | 11.73 | 940             | 920             |                                                                                    |          |                                |
| 117             | 544            | 2.95           | 9.82  | 920             | 940             |                                                                                    |          |                                |
| 120             | 530            | 2.20           | 9.57  | 900             | 920             |                                                                                    |          |                                |
| 158             | 401            | 2.90           | 7.24  | 830             | 970             |                                                                                    |          |                                |

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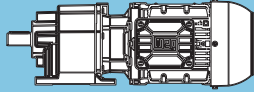
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| P <sub>N</sub> = 1.0 hp |                         |                |       |                 |     |                                                                                    |          |                          |
|-------------------------|-------------------------|----------------|-------|-----------------|-----|------------------------------------------------------------------------------------|----------|--------------------------|
| 60 Hz                   |                         | f <sub>B</sub> | i     | F <sub>rN</sub> |     |  | m        | Dimension sheet see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in |                |       | lb              | lb  |                                                                                    |          |                          |
| 69                      | 918                     | 0.85           | 25.50 | 610             | 200 | CG012-11P-L80-04F<br>CF012-11P-L80-04F                                             | 46<br>49 | 138                      |
| 77                      | 823                     | 0.95           | 22.85 | 650             | 220 |                                                                                    |          |                          |
| 88                      | 718                     | 1.05           | 19.92 | 670             | 250 |                                                                                    |          |                          |
| 90                      | 703                     | 0.85           | 19.51 | 650             | 200 |                                                                                    |          |                          |
| 99                      | 643                     | 1.20           | 17.85 | 650             | 250 |                                                                                    |          |                          |
| 111                     | 570                     | 1.05           | 15.82 | 610             | 220 |                                                                                    |          |                          |
| 118                     | 536                     | 1.45           | 14.88 | 630             | 270 |                                                                                    |          |                          |
| 132                     | 480                     | 1.60           | 13.33 | 610             | 290 |                                                                                    |          |                          |
| 137                     | 462                     | 1.65           | 12.83 | 610             | 290 |                                                                                    |          |                          |
| 141                     | 449                     | 1.35           | 12.46 | 580             | 270 |                                                                                    |          |                          |
| 153                     | 414                     | 1.85           | 11.50 | 580             | 290 |                                                                                    |          |                          |
| 157                     | 403                     | 1.85           | 11.20 | 580             | 290 |                                                                                    |          |                          |
| 175                     | 361                     | 2.00           | 10.04 | 560             | 310 |                                                                                    |          |                          |
| 183                     | 346                     | 1.70           | 9.60  | 540             | 290 |                                                                                    |          |                          |
| 214                     | 296                     | 2.30           | 8.22  | 540             | 310 |                                                                                    |          |                          |
| 235                     | 270                     | 2.20           | 7.50  | 520             | 290 |                                                                                    |          |                          |
| 239                     | 265                     | 2.50           | 7.36  | 520             | 310 |                                                                                    |          |                          |
| 314                     | 202                     | 2.90           | 5.60  | 470             | 310 |                                                                                    |          |                          |
| 64                      | 988                     | 0.80           | 17.85 | **              | 200 | CG012-11P-90S/L-06E<br>CF012-11P-90S/L-06E                                         | 49<br>51 | 138                      |
| 77                      | 824                     | 0.95           | 14.88 | 650             | 220 |                                                                                    |          |                          |
| 86                      | 738                     | 1.05           | 13.33 | 670             | 250 |                                                                                    |          |                          |
| 89                      | 711                     | 1.10           | 12.83 | 670             | 250 |                                                                                    |          |                          |
| 92                      | 690                     | 0.85           | 12.46 | 650             | 200 |                                                                                    |          |                          |
| 100                     | 637                     | 1.20           | 11.50 | 650             | 250 |                                                                                    |          |                          |
| 102                     | 620                     | 1.20           | 11.20 | 650             | 270 |                                                                                    |          |                          |
| 114                     | 556                     | 1.30           | 10.04 | 630             | 270 |                                                                                    |          |                          |
| 119                     | 532                     | 1.10           | 9.60  | 610             | 250 |                                                                                    |          |                          |
| 139                     | 455                     | 1.50           | 8.22  | 610             | 290 |                                                                                    |          |                          |
| 153                     | 415                     | 1.45           | 7.50  | 560             | 270 |                                                                                    |          |                          |
| 155                     | 408                     | 1.65           | 7.36  | 580             | 290 |                                                                                    |          |                          |
| 204                     | 310                     | 1.90           | 5.60  | 540             | 290 |                                                                                    |          |                          |
| 237                     | 268                     | 2.20           | 4.83  | 520             | 310 |                                                                                    |          |                          |
| 271                     | 234                     | 2.55           | 4.22  | 490             | 310 |                                                                                    |          |                          |
| 114                     | 556                     | 0.80           | 15.43 | **              | 250 | CG002-11P-L80-04F<br>CF002-11P-L80-04F                                             | 44<br>46 | 136                      |
| 130                     | 488                     | 0.95           | 13.54 | 560             | 270 |                                                                                    |          |                          |
| 134                     | 472                     | 0.85           | 13.10 | 540             | 220 |                                                                                    |          |                          |
| 146                     | 435                     | 1.05           | 12.08 | 540             | 270 |                                                                                    |          |                          |
| 169                     | 375                     | 1.10           | 10.42 | 520             | 250 |                                                                                    |          |                          |
| 177                     | 359                     | 1.25           | 9.97  | 520             | 290 |                                                                                    |          |                          |
| 198                     | 320                     | 1.40           | 8.90  | 520             | 290 |                                                                                    |          |                          |
| 215                     | 294                     | 1.40           | 8.17  | 470             | 270 |                                                                                    |          |                          |
| 256                     | 248                     | 1.80           | 6.88  | 470             | 310 |                                                                                    |          |                          |
| 287                     | 221                     | 2.05           | 6.14  | 450             | 310 |                                                                                    |          |                          |
| 366                     | 173                     | 2.00           | 4.81  | 430             | 310 |                                                                                    |          |                          |
| 497                     | 128                     | 2.45           | 3.54  | 380             | 310 |                                                                                    |          |                          |

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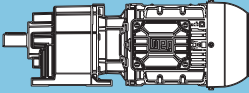
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**P<sub>N</sub> = 1.5 hp**

| 60 Hz           |                | f <sub>B</sub> | i       | F <sub>TN</sub> |                 |  | m<br>lb      | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|------------------------------------------------------------------------------------|--------------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |         | F <sub>TN</sub> | F <sub>aN</sub> |                                                                                    |              |                                |
| rpm             | lb-in          |                |         | lb              | lb              |                                                                                    |              |                                |
| <b>0.40</b>     | 207084         | 0.80           | 4369.98 | **              | 4290            | <b>CG165-11P-90S/L-04E</b><br><b>CF165-11P-90S/L-04E</b>                           | 1554<br>1605 | 170                            |
| <b>0.48</b>     | 173531         | 0.95           | 3690.13 | 24260           | 5060            |                                                                                    |              |                                |
| <b>0.50</b>     | 166641         | 1.00           | 3543.61 | 24820           | 5240            |                                                                                    |              |                                |
| <b>0.58</b>     | 140934         | 1.15           | 3020.06 | 26620           | 5820            |                                                                                    |              |                                |
| <b>0.59</b>     | 138077         | 1.20           | 2966.43 | 26800           | 5890            |                                                                                    |              |                                |
| <b>0.72</b>     | 112826         | 1.45           | 2448.96 | 28150           | 6470            |                                                                                    |              |                                |
| <b>0.73</b>     | 110762         | 1.45           | 2404.16 | 28240           | 6520            |                                                                                    |              |                                |
| <b>0.86</b>     | 93242          | 1.75           | 2050.07 | 28980           | 6950            |                                                                                    |              |                                |
| <b>1.1</b>      | 74216          | 2.15           | 1661.50 | 29610           | 7370            |                                                                                    |              |                                |
| <b>0.84</b>     | 98537          | 1.65           | 2093.95 | 28750           | 6810            | <b>CG164-11P-90S/L-04E</b><br><b>CF164-11P-90S/L-04E</b>                           | 1526<br>1576 | 168                            |
| <b>0.98</b>     | 83999          | 1.90           | 1803.51 | 29290           | 7150            |                                                                                    |              |                                |
| <b>1.1</b>      | 76714          | 2.10           | 1657.33 | 29520           | 7330            |                                                                                    |              |                                |
| <b>1.2</b>      | 66294          | 2.45           | 1447.11 | 29830           | 7550            |                                                                                    |              |                                |
| <b>1.4</b>      | 57864          | 2.80           | 1278.93 | 30030           | 7760            |                                                                                    |              |                                |
| <b>0.81</b>     | 103466         | 1.15           | 2162.84 | 22390           | 3530            | <b>CG144-11P-90S/L-04E</b><br><b>CF144-11P-90S/L-04E</b>                           | 972<br>1012  | 164                            |
| <b>0.93</b>     | 89659          | 1.30           | 1885.79 | 23090           | 3890            |                                                                                    |              |                                |
| <b>1.1</b>      | 78903          | 1.50           | 1669.82 | 23540           | 4160            |                                                                                    |              |                                |
| <b>1.2</b>      | 68372          | 1.70           | 1455.92 | 23920           | 4430            |                                                                                    |              |                                |
| <b>1.3</b>      | 65630          | 1.80           | 1400.42 | 24010           | 4500            |                                                                                    |              |                                |
| <b>1.4</b>      | 58290          | 2.00           | 1254.10 | 24230           | 4680            |                                                                                    |              |                                |
| <b>1.6</b>      | 50558          | 2.30           | 1099.05 | 24440           | 4880            |                                                                                    |              |                                |
| <b>1.7</b>      | 48183          | 2.40           | 1051.77 | 24480           | 4950            |                                                                                    |              |                                |
| <b>1.8</b>      | 43537          | 2.65           | 958.27  | 24590           | 5060            |                                                                                    |              |                                |
| <b>1.9</b>      | 40893          | 2.85           | 905.71  | 24640           | 5130            |                                                                                    |              |                                |
| <b>0.93</b>     | 91617          | 0.80           | 1891.77 | **              | 3960            | <b>CG134-11P-90S/L-04E</b><br><b>CF134-11P-90S/L-04E</b>                           | 648<br>653   | 160                            |
| <b>1.1</b>      | 79204          | 0.90           | 1642.17 | 13240           | 4320            |                                                                                    |              |                                |
| <b>1.2</b>      | 70156          | 1.05           | 1460.54 | 14120           | 4590            |                                                                                    |              |                                |
| <b>1.4</b>      | 60526          | 1.20           | 1267.83 | 14880           | 4860            |                                                                                    |              |                                |
| <b>1.6</b>      | 51974          | 1.40           | 1095.41 | 15440           | 5100            |                                                                                    |              |                                |
| <b>1.7</b>      | 50346          | 1.45           | 1063.29 | 15560           | 5150            |                                                                                    |              |                                |
| <b>1.8</b>      | 45331          | 1.60           | 961.31  | 15830           | 5310            |                                                                                    |              |                                |
| <b>1.9</b>      | 43142          | 1.65           | 918.68  | 15940           | 5370            |                                                                                    |              |                                |
| <b>2.1</b>      | 39027          | 1.85           | 834.47  | 16120           | 5490            |                                                                                    |              |                                |
| <b>2.4</b>      | 34341          | 2.10           | 741.90  | 16300           | 5620            |                                                                                    |              |                                |
| <b>2.7</b>      | 29503          | 2.40           | 644.01  | 16480           | 5780            |                                                                                    |              |                                |
| <b>2.9</b>      | 27996          | 2.55           | 613.66  | 16520           | 5820            |                                                                                    |              |                                |
| <b>3.2</b>      | 25123          | 2.85           | 556.43  | 16610           | 5890            |                                                                                    |              |                                |
| <b>3.3</b>      | 23951          | 3.00           | 532.69  | 16640           | 5930            |                                                                                    |              |                                |
| <b>1.6</b>      | 52327          | 0.80           | 1080.49 | **              | 4410            | <b>CG104-11P-90S/L-04E</b><br><b>CF104-11P-90S/L-04E</b>                           | 397<br>406   | 156                            |
| <b>1.9</b>      | 44057          | 0.95           | 913.46  | 7330            | 4680            |                                                                                    |              |                                |
| <b>2.1</b>      | 39950          | 1.00           | 831.69  | 7940            | 4810            |                                                                                    |              |                                |
| <b>2.5</b>      | 33567          | 1.20           | 703.12  | 8680            | 5010            |                                                                                    |              |                                |
| <b>2.8</b>      | 29815          | 1.35           | 628.39  | 9010            | 5150            |                                                                                    |              |                                |
| <b>3.3</b>      | 25000          | 1.60           | 531.25  | 9400            | 5310            |                                                                                    |              |                                |
| <b>3.4</b>      | 24151          | 1.65           | 514.28  | 9460            | 5330            |                                                                                    |              |                                |
| <b>4.0</b>      | 20208          | 2.00           | 434.78  | 9690            | 5460            |                                                                                    |              |                                |
| <b>4.2</b>      | 19304          | 2.10           | 417.03  | 9760            | 5490            |                                                                                    |              |                                |
| <b>5.0</b>      | 16118          | 2.50           | 352.56  | 9890            | 5600            |                                                                                    |              |                                |

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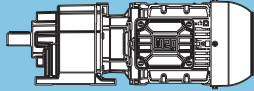
\*\* ... on request

| <b>P<sub>N</sub> = 1.5 hp</b> |                      |                      |          |                       |           |                                                                                    |            |                          |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|------------|--------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>F<sub>IN</sub></b> |           |  | <b>m</b>   | Dimension sheet see page |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |            |                          |
| rpm                           | lb-in                |                      |          |                       |           | lb                                                                                 |            |                          |
| 2.5                           | 34648                | 0.80                 | 715.43   | **                    | 5440      | <b>CG094-11P-90S/L-04E</b><br><b>CF094-11P-90S/L-04E</b>                           | 302<br>298 | 152                      |
| 2.7                           | 30875                | 0.90                 | 640.13   | 4140                  | 5580      |                                                                                    |            |                          |
| 2.8                           | 29859                | 0.90                 | 619.07   | 4410                  | 5620      |                                                                                    |            |                          |
| 3.3                           | 25965                | 1.05                 | 540.55   | 5220                  | 5760      |                                                                                    |            |                          |
| 3.4                           | 24883                | 1.10                 | 519.08   | 5400                  | 5800      |                                                                                    |            |                          |
| 3.5                           | 24237                | 1.10                 | 506.66   | 5510                  | 5820      |                                                                                    |            |                          |
| 4.0                           | 21076                | 1.30                 | 442.39   | 5960                  | 5960      |                                                                                    |            |                          |
| 4.1                           | 20660                | 1.30                 | 434.54   | 6000                  | 5960      |                                                                                    |            |                          |
| 4.3                           | 19493                | 1.40                 | 410.85   | 6140                  | 6000      |                                                                                    |            |                          |
| 4.9                           | 16916                | 1.60                 | 358.73   | 6410                  | 6110      |                                                                                    |            |                          |
| 5.0                           | 16573                | 1.65                 | 352.17   | 6450                  | 6110      |                                                                                    |            |                          |
| 5.1                           | 16151                | 1.65                 | 343.93   | 6470                  | 6140      |                                                                                    |            |                          |
| 5.9                           | 13987                | 1.90                 | 300.30   | 6650                  | 6200      |                                                                                    |            |                          |
| 6.3                           | 12929                | 2.10                 | 278.74   | 6740                  | 6250      |                                                                                    |            |                          |
| 7.2                           | 11150                | 2.40                 | 243.38   | 6860                  | 6320      |                                                                                    |            |                          |
| 5.7                           | 16204                | 1.65                 | 306.73   | 6470                  | 6140      | <b>CG093-11P-90S/L-04E</b><br><b>CF093-11P-90S/L-04E</b>                           | 273<br>269 | 150                      |
| 7.2                           | 12825                | 2.10                 | 242.77   | 6740                  | 6250      |                                                                                    |            |                          |
| 8.3                           | 11198                | 2.40                 | 211.98   | 6830                  | 6320      |                                                                                    |            |                          |
| 9.4                           | 9897                 | 2.70                 | 187.34   | 6920                  | 6360      |                                                                                    |            |                          |
| 6.2                           | 15048                | 0.95                 | 284.84   | 4320                  | 4270      | <b>CG083-11P-90S/L-04E</b><br><b>CF083-11P-90S/L-04E</b>                           | 159<br>168 | 148                      |
| 7.4                           | 12620                | 1.10                 | 238.89   | 4720                  | 4410      |                                                                                    |            |                          |
| 9.4                           | 9904                 | 1.40                 | 187.48   | 5040                  | 4540      |                                                                                    |            |                          |
| 12                            | 7644                 | 1.80                 | 144.69   | 5240                  | 4650      |                                                                                    |            |                          |
| 15                            | 6322                 | 2.20                 | 119.68   | 5330                  | 4720      |                                                                                    |            |                          |
| 17                            | 5378                 | 2.60                 | 101.80   | 5370                  | 4770      |                                                                                    |            |                          |
| 20                            | 4661                 | 2.95                 | 88.23    | 5420                  | 4810      | <b>CG073-11P-90S/L-04E</b><br><b>CF073-11P-90S/L-04E</b>                           | 106<br>115 | 146                      |
| 9.9                           | 9371                 | 0.80                 | 177.39   | **                    | 2790      |                                                                                    |            |                          |
| 11                            | 8525                 | 0.90                 | 161.38   | 2020                  | 2790      |                                                                                    |            |                          |
| 13                            | 7257                 | 1.05                 | 137.38   | 2380                  | 2940      |                                                                                    |            |                          |
| 14                            | 6602                 | 1.10                 | 124.97   | 2540                  | 2940      |                                                                                    |            |                          |
| 17                            | 5520                 | 1.35                 | 104.50   | 2740                  | 3080      |                                                                                    |            |                          |
| 19                            | 5022                 | 1.45                 | 95.06    | 2810                  | 3080      |                                                                                    |            |                          |
| 20                            | 4552                 | 1.60                 | 86.17    | 2880                  | 3150      |                                                                                    |            |                          |
| 22                            | 4141                 | 1.80                 | 78.39    | 2920                  | 3150      |                                                                                    |            |                          |
| 25                            | 3734                 | 1.95                 | 70.68    | 2970                  | 3190      |                                                                                    |            |                          |
| 27                            | 3397                 | 2.15                 | 64.30    | 3010                  | 3190      |                                                                                    |            |                          |
| 29                            | 3173                 | 2.30                 | 60.06    | 3030                  | 3240      |                                                                                    |            |                          |
| 32                            | 2886                 | 2.55                 | 54.63    | 3060                  | 3240      |                                                                                    |            |                          |
| 36                            | 2609                 | 2.80                 | 49.38    | 3080                  | 3280      |                                                                                    |            |                          |
| 39                            | 2373                 | 3.00                 | 44.92    | 3080                  | 3280      |                                                                                    |            |                          |
| 15                            | 6260                 | 0.85                 | 118.51   | 1510                  | 1350      | <b>CG063-11P-90S/L-04E</b><br><b>CF063-11P-90S/L-04E</b>                           | 68<br>79   | 144                      |
| 16                            | 5741                 | 0.95                 | 108.67   | 1710                  | 1390      |                                                                                    |            |                          |
| 20                            | 4730                 | 1.15                 | 89.54    | 2000                  | 1460      |                                                                                    |            |                          |
| 21                            | 4337                 | 1.25                 | 82.10    | 2090                  | 1510      |                                                                                    |            |                          |
| 24                            | 3871                 | 1.40                 | 73.28    | 2200                  | 1530      |                                                                                    |            |                          |
| 26                            | 3550                 | 1.50                 | 67.19    | 2250                  | 1550      |                                                                                    |            |                          |
| 30                            | 3139                 | 1.70                 | 59.42    | 2320                  | 1600      |                                                                                    |            |                          |
| 32                            | 2878                 | 1.85                 | 54.49    | 2360                  | 1600      |                                                                                    |            |                          |
| 35                            | 2628                 | 2.05                 | 49.74    | 2380                  | 1620      |                                                                                    |            |                          |
| 39                            | 2410                 | 2.25                 | 45.61    | 2410                  | 1640      |                                                                                    |            |                          |
| 29                            | 3170                 | 1.20                 | 60.00    | 2320                  | 1600      | <b>CG062-11P-90S/L-04E</b><br><b>CF062-11P-90S/L-04E</b>                           | 68<br>79   | 144                      |
| 32                            | 2906                 | 1.20                 | 55.02    | 2340                  | 1600      |                                                                                    |            |                          |
| 37                            | 2512                 | 2.15                 | 47.55    | 2380                  | 1640      |                                                                                    |            |                          |
| 40                            | 2304                 | 2.20                 | 43.60    | 2410                  | 1640      |                                                                                    |            |                          |
| 48                            | 1951                 | 2.75                 | 36.92    | 2450                  | 1690      |                                                                                    |            |                          |
| 52                            | 1789                 | 3.00                 | 33.86    | 2430                  | 1690      |                                                                                    |            |                          |
| 53                            | 1766                 | 1.20                 | 33.43    | 2410                  | 1640      |                                                                                    |            |                          |
| 66                            | 1400                 | 2.20                 | 26.49    | 2250                  | 1660      |                                                                                    |            |                          |

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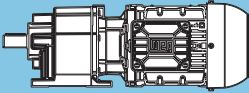
\*\* ... on request

**P<sub>N</sub> = 1.5 hp**

| 60 Hz                  |                       | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i    | F <sub>FN</sub>       |                                                          |  | m<br>lb | Dimension sheet<br>see page                              |
|------------------------|-----------------------|-------------------------|----------------|------|-----------------------|----------------------------------------------------------|------------------------------------------------------------------------------------|---------|----------------------------------------------------------|
| n <sub>60</sub><br>rpm | F <sub>FN</sub><br>lb |                         |                |      | F <sub>aN</sub><br>lb |                                                          |                                                                                    |         |                                                          |
| 23                     | 4109                  | 0.90                    | 77.79          | 760  | 1350                  | <b>CG053-11P-90S/L-04E</b><br><b>CF053-11P-90S/L-04E</b> | 60<br>71                                                                           | 142     |                                                          |
| 25                     | 3736                  | 0.95                    | 70.71          | 1010 | 1370                  |                                                          |                                                                                    |         |                                                          |
| 29                     | 3256                  | 1.10                    | 61.63          | 1210 | 1440                  |                                                          |                                                                                    |         |                                                          |
| 31                     | 2960                  | 1.20                    | 56.02          | 1330 | 1460                  |                                                          |                                                                                    |         |                                                          |
| 36                     | 2599                  | 1.40                    | 49.20          | 1440 | 1530                  |                                                          |                                                                                    |         |                                                          |
| 39                     | 2363                  | 1.50                    | 44.73          | 1480 | 1550                  | <b>CG052-11P-90S/L-04E</b><br><b>CF052-11P-90S/L-04E</b> | 57<br>68                                                                           | 142     |                                                          |
| 37                     | 2542                  | 1.20                    | 48.13          | 1440 | 1530                  |                                                          |                                                                                    |         |                                                          |
| 40                     | 2311                  | 1.20                    | 43.75          | 1510 | 1550                  |                                                          |                                                                                    |         |                                                          |
| 46                     | 2007                  | 1.80                    | 38.00          | 1550 | 1600                  |                                                          |                                                                                    |         |                                                          |
| 51                     | 1825                  | 1.95                    | 34.55          | 1600 | 1600                  |                                                          |                                                                                    |         |                                                          |
| 60                     | 1557                  | 2.30                    | 29.46          | 1640 | 1640                  |                                                          |                                                                                    |         |                                                          |
| 66                     | 1415                  | 2.55                    | 26.79          | 1640 | 1660                  |                                                          |                                                                                    |         |                                                          |
| 73                     | 1274                  | 2.80                    | 24.12          | 1660 | 1660                  |                                                          |                                                                                    |         |                                                          |
| 76                     | 1217                  | 1.95                    | 23.03          | 1660 | 1640                  |                                                          |                                                                                    |         |                                                          |
| 99                     | 943                   | 2.55                    | 17.86          | 1550 | 1690                  | <b>CG032-11P-90S/L-04E</b><br><b>CF032-11P-90S/L-04E</b> | 49<br>53                                                                           | 140     |                                                          |
| 50                     | 1842                  | 1.00                    | 34.88          | 1030 | 740                   |                                                          |                                                                                    |         |                                                          |
| 56                     | 1673                  | 1.10                    | 31.67          | 1010 | 760                   |                                                          |                                                                                    |         |                                                          |
| 64                     | 1464                  | 1.25                    | 27.71          | 990  | 810                   |                                                          |                                                                                    |         |                                                          |
| 70                     | 1330                  | 1.35                    | 25.17          | 970  | 810                   |                                                          |                                                                                    |         |                                                          |
| 82                     | 1131                  | 1.60                    | 21.40          | 940  | 850                   |                                                          |                                                                                    |         |                                                          |
| 90                     | 1032                  | 1.10                    | 19.54          | 900  | 830                   |                                                          |                                                                                    |         |                                                          |
| 91                     | 1027                  | 1.75                    | 19.44          | 920  | 880                   |                                                          |                                                                                    |         |                                                          |
| 103                    | 903                   | 2.00                    | 17.09          | 900  | 900                   |                                                          |                                                                                    |         |                                                          |
| 113                    | 820                   | 2.20                    | 15.52          | 880  | 900                   |                                                          |                                                                                    |         |                                                          |
| 136                    | 682                   | 2.55                    | 12.92          | 830  | 920                   |                                                          |                                                                                    |         |                                                          |
| 147                    | 634                   | 1.85                    | 11.99          | 810  | 920                   |                                                          |                                                                                    |         |                                                          |
| 150                    | 620                   | 2.85                    | 11.73          | 810  | 940                   |                                                          |                                                                                    |         |                                                          |
| 184                    | 506                   | 2.30                    | 9.57           | 760  | 940                   |                                                          |                                                                                    |         | <b>CG012-11P-90S/L-04E</b><br><b>CF012-11P-90S/L-04E</b> |
| 99                     | 943                   | 0.80                    | 17.85          | **   | 200                   |                                                          |                                                                                    |         |                                                          |
| 118                    | 786                   | 1.00                    | 14.88          | 580  | 250                   |                                                          |                                                                                    |         |                                                          |
| 132                    | 704                   | 1.10                    | 13.33          | 580  | 250                   |                                                          |                                                                                    |         |                                                          |
| 137                    | 678                   | 1.15                    | 12.83          | 560  | 250                   |                                                          |                                                                                    |         |                                                          |
| 141                    | 658                   | 0.90                    | 12.46          | 540  | 220                   |                                                          |                                                                                    |         |                                                          |
| 153                    | 608                   | 1.25                    | 11.50          | 560  | 270                   |                                                          |                                                                                    |         |                                                          |
| 157                    | 592                   | 1.30                    | 11.20          | 560  | 270                   |                                                          |                                                                                    |         |                                                          |
| 175                    | 530                   | 1.40                    | 10.04          | 540  | 270                   |                                                          |                                                                                    |         |                                                          |
| 183                    | 507                   | 1.20                    | 9.60           | 520  | 250                   |                                                          |                                                                                    |         |                                                          |
| 214                    | 434                   | 1.55                    | 8.22           | 520  | 290                   |                                                          |                                                                                    |         |                                                          |
| 235                    | 396                   | 1.50                    | 7.50           | 490  | 270                   |                                                          |                                                                                    |         |                                                          |
| 239                    | 389                   | 1.70                    | 7.36           | 490  | 290                   |                                                          |                                                                                    |         |                                                          |
| 314                    | 296                   | 2.00                    | 5.60           | 450  | 290                   |                                                          |                                                                                    |         |                                                          |
| 364                    | 255                   | 2.30                    | 4.83           | 450  | 310                   |                                                          |                                                                                    |         |                                                          |
| 417                    | 223                   | 2.65                    | 4.22           | 430  | 310                   |                                                          |                                                                                    |         |                                                          |

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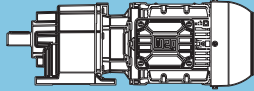
| <b>P<sub>N</sub> = 2.0 hp</b> |                               |                      |          |                       |      |                                                                                    |                |                             |
|-------------------------------|-------------------------------|----------------------|----------|-----------------------|------|------------------------------------------------------------------------------------|----------------|-----------------------------|
| <b>60 Hz</b>                  |                               |                      | <b>i</b> | <b>F<sub>FN</sub></b> |      |  | <b>m</b><br>lb | Dimension sheet<br>see page |
| <b>n<sub>60</sub></b><br>rpm  | <b>T<sub>2</sub></b><br>lb-in | <b>f<sub>B</sub></b> |          | lb                    | lb   |                                                                                    |                |                             |
| <b>0.58</b>                   | 195212                        | 0.85                 | 3020.06  | 22230                 | 4560 | <b>CG165-11P-90S/L-04F</b><br><b>CF165-11P-90S/L-04F</b>                           | 1556<br>1607   | 170                         |
| <b>0.59</b>                   | 191746                        | 0.85                 | 2966.43  | 22590                 | 4630 |                                                                                    |                |                             |
| <b>0.72</b>                   | 157087                        | 1.05                 | 2448.96  | 25540                 | 5440 |                                                                                    |                |                             |
| <b>0.73</b>                   | 153819                        | 1.05                 | 2404.16  | 25760                 | 5530 |                                                                                    |                |                             |
| <b>0.86</b>                   | 130160                        | 1.25                 | 2050.07  | 27250                 | 6070 |                                                                                    |                |                             |
| <b>1.1</b>                    | 104143                        | 1.55                 | 1661.50  | 28530                 | 6680 |                                                                                    |                |                             |
| <b>0.84</b>                   | 136704                        | 1.20                 | 2093.95  | 26860                 | 5910 | <b>CG164-11P-90S/L-04F</b><br><b>CF164-11P-90S/L-04F</b>                           | 1528<br>1579   | 168                         |
| <b>0.97</b>                   | 117020                        | 1.40                 | 1803.51  | 27940                 | 6380 |                                                                                    |                |                             |
| <b>1.1</b>                    | 107094                        | 1.50                 | 1657.33  | 28390                 | 6610 |                                                                                    |                |                             |
| <b>1.2</b>                    | 92743                         | 1.75                 | 1447.11  | 28980                 | 6950 |                                                                                    |                |                             |
| <b>1.4</b>                    | 81291                         | 2.00                 | 1278.93  | 29380                 | 7220 |                                                                                    |                |                             |
| <b>1.6</b>                    | 69296                         | 2.30                 | 1101.54  | 29740                 | 7490 |                                                                                    |                |                             |
| <b>1.8</b>                    | 59074                         | 2.70                 | 952.78   | 29990                 | 7730 |                                                                                    |                |                             |
| <b>1.9</b>                    | 57634                         | 2.80                 | 931.50   | 30030                 | 7760 |                                                                                    |                |                             |
| <b>0.81</b>                   | 142948                        | 0.85                 | 2162.84  | 19690                 | 2520 | <b>CG144-11P-90S/L-04F</b><br><b>CF144-11P-90S/L-04F</b>                           | 974<br>1014    | 164                         |
| <b>0.93</b>                   | 124128                        | 0.95                 | 1885.79  | 21130                 | 2990 |                                                                                    |                |                             |
| <b>1.1</b>                    | 109463                        | 1.10                 | 1669.82  | 22050                 | 3370 |                                                                                    |                |                             |
| <b>1.2</b>                    | 94856                         | 1.25                 | 1455.92  | 22840                 | 3750 |                                                                                    |                |                             |
| <b>1.3</b>                    | 91240                         | 1.30                 | 1400.42  | 23020                 | 3840 |                                                                                    |                |                             |
| <b>1.4</b>                    | 81205                         | 1.45                 | 1254.10  | 23450                 | 4090 |                                                                                    |                |                             |
| <b>1.6</b>                    | 70727                         | 1.65                 | 1099.05  | 23850                 | 4360 |                                                                                    |                |                             |
| <b>1.7</b>                    | 67406                         | 1.75                 | 1051.77  | 23960                 | 4450 |                                                                                    |                |                             |
| <b>1.8</b>                    | 61035                         | 1.90                 | 958.27   | 24140                 | 4610 |                                                                                    |                |                             |
| <b>1.9</b>                    | 57450                         | 2.05                 | 905.71   | 24260                 | 4700 |                                                                                    |                |                             |
| <b>2.1</b>                    | 53580                         | 2.15                 | 848.21   | 24370                 | 4810 |                                                                                    |                |                             |
| <b>2.4</b>                    | 46140                         | 2.50                 | 739.56   | 24530                 | 4990 |                                                                                    |                |                             |
| <b>2.5</b>                    | 44254                         | 2.60                 | 710.80   | 24570                 | 5040 |                                                                                    |                |                             |
| <b>2.8</b>                    | 39170                         | 2.95                 | 637.04   | 24680                 | 5170 |                                                                                    |                |                             |
| <b>1.2</b>                    | 93966                         | 0.80                 | 1418.83  | **                    | 3890 | <b>CG134-11P-90S/L-04F</b><br><b>CF134-11P-90S/L-04F</b>                           | 650<br>655     | 160                         |
| <b>1.4</b>                    | 83794                         | 0.85                 | 1267.83  | 12720                 | 4180 |                                                                                    |                |                             |
| <b>1.6</b>                    | 71955                         | 1.00                 | 1095.41  | 13940                 | 4520 |                                                                                    |                |                             |
| <b>1.7</b>                    | 69845                         | 1.05                 | 1063.29  | 14140                 | 4590 |                                                                                    |                |                             |
| <b>1.8</b>                    | 62888                         | 1.15                 | 961.31   | 14700                 | 4790 |                                                                                    |                |                             |
| <b>1.9</b>                    | 59976                         | 1.20                 | 918.68   | 14930                 | 4880 |                                                                                    |                |                             |
| <b>2.1</b>                    | 54256                         | 1.35                 | 834.47   | 15310                 | 5040 |                                                                                    |                |                             |
| <b>2.4</b>                    | 47941                         | 1.50                 | 741.90   | 15690                 | 5240 |                                                                                    |                |                             |
| <b>2.7</b>                    | 41274                         | 1.75                 | 644.01   | 16030                 | 5420 |                                                                                    |                |                             |
| <b>2.9</b>                    | 39248                         | 1.85                 | 613.66   | 16120                 | 5490 |                                                                                    |                |                             |
| <b>3.2</b>                    | 35295                         | 2.05                 | 556.43   | 16280                 | 5600 |                                                                                    |                |                             |
| <b>3.3</b>                    | 33719                         | 2.10                 | 532.69   | 16320                 | 5640 |                                                                                    |                |                             |
| <b>3.4</b>                    | 32973                         | 2.15                 | 521.98   | 16370                 | 5670 |                                                                                    |                |                             |
| <b>3.8</b>                    | 28774                         | 2.50                 | 460.25   | 16500                 | 5800 |                                                                                    |                |                             |
| <b>3.9</b>                    | 28269                         | 2.55                 | 453.11   | 16520                 | 5800 |                                                                                    |                |                             |
| <b>4.5</b>                    | 24146                         | 2.95                 | 392.69   | 16640                 | 5930 |                                                                                    |                |                             |
| <b>2.5</b>                    | 46376                         | 0.90                 | 703.12   | 6950                  | 4610 | <b>CG104-11P-90S/L-04F</b><br><b>CF104-11P-90S/L-04F</b>                           | 399<br>408     | 156                         |
| <b>2.8</b>                    | 41362                         | 1.00                 | 628.39   | 7730                  | 4770 |                                                                                    |                |                             |
| <b>3.3</b>                    | 34754                         | 1.15                 | 531.25   | 8540                  | 4990 |                                                                                    |                |                             |
| <b>3.4</b>                    | 33575                         | 1.20                 | 514.28   | 8680                  | 5010 |                                                                                    |                |                             |
| <b>4.0</b>                    | 28153                         | 1.45                 | 434.78   | 9170                  | 5190 |                                                                                    |                |                             |
| <b>4.2</b>                    | 26948                         | 1.50                 | 417.03   | 9260                  | 5240 |                                                                                    |                |                             |
| <b>5.0</b>                    | 22549                         | 1.80                 | 352.56   | 9550                  | 5370 |                                                                                    |                |                             |
| <b>5.9</b>                    | 18644                         | 2.15                 | 295.14   | 9780                  | 5510 |                                                                                    |                |                             |
| <b>6.2</b>                    | 17836                         | 2.25                 | 282.94   | 9820                  | 5530 |                                                                                    |                |                             |
| <b>7.3</b>                    | 14830                         | 2.70                 | 239.20   | 9960                  | 5640 |                                                                                    |                |                             |
| <b>7.1</b>                    | 17803                         | 2.25                 | 246.43   | 9820                  | 5530 |                                                                                    |                |                             |
| <b>8.4</b>                    | 15051                         | 2.65                 | 208.33   | 9940                  | 5620 |                                                                                    |                |                             |

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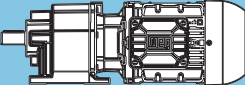


**P<sub>N</sub> = 2.0 hp**

| 60 Hz           |                | f <sub>B</sub> | i      | F <sub>rn</sub> |                 |  | m<br>lb    | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|------------------------------------------------------------------------------------|------------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |        | F <sub>rn</sub> | F <sub>an</sub> |                                                                                    |            |                                |
| rpm             | lb-in          |                |        | lb              | lb              |                                                                                    |            |                                |
| 3.4             | 34378          | 0.80           | 519.08 | **              | 5440            | CG094-11P-90S/L-04F<br>CF094-11P-90S/L-04F                                         | 306<br>302 | 152                            |
| 3.5             | 33486          | 0.80           | 506.66 | **              | 5490            |                                                                                    |            |                                |
| 4.0             | 29119          | 0.95           | 442.39 | 4560            | 5640            |                                                                                    |            |                                |
| 4.3             | 26988          | 1.00           | 410.85 | 5010            | 5730            |                                                                                    |            |                                |
| 4.9             | 23468          | 1.15           | 358.73 | 5620            | 5850            |                                                                                    |            |                                |
| 5.0             | 22992          | 1.20           | 352.17 | 5690            | 5870            |                                                                                    |            |                                |
| 5.1             | 22454          | 1.20           | 343.93 | 5760            | 5890            |                                                                                    |            |                                |
| 5.8             | 19485          | 1.40           | 300.30 | 6140            | 6000            |                                                                                    |            |                                |
| 6.3             | 18012          | 1.50           | 278.74 | 6290            | 6070            |                                                                                    |            |                                |
| 7.2             | 15598          | 1.75           | 243.38 | 6520            | 6160            |                                                                                    |            |                                |
| 5.7             | 22159          | 1.20           | 306.73 | 5800            | 5910            | CG093-11P-90S/L-04F<br>CF093-11P-90S/L-04F                                         | 278<br>273 | 150                            |
| 7.2             | 17539          | 1.55           | 242.77 | 6340            | 6070            |                                                                                    |            |                                |
| 8.3             | 15314          | 1.75           | 211.98 | 6540            | 6160            |                                                                                    |            |                                |
| 9.4             | 13534          | 2.00           | 187.34 | 6700            | 6230            |                                                                                    |            |                                |
| 11              | 11445          | 2.35           | 158.42 | 6830            | 6320            |                                                                                    |            |                                |
| 13              | 9838           | 2.70           | 136.18 | 6920            | 6360            |                                                                                    |            |                                |
| 7.3             | 17258          | 0.80           | 238.89 | **              | 4160            | CG083-11P-90S/L-04F<br>CF083-11P-90S/L-04F                                         | 161<br>170 | 148                            |
| 9.4             | 13544          | 1.05           | 187.48 | 4590            | 4340            |                                                                                    |            |                                |
| 12              | 10453          | 1.35           | 144.69 | 4970            | 4520            |                                                                                    |            |                                |
| 15              | 8646           | 1.60           | 119.68 | 5150            | 4610            |                                                                                    |            |                                |
| 17              | 7354           | 1.90           | 101.80 | 5260            | 4680            |                                                                                    |            |                                |
| 20              | 6374           | 2.20           | 88.23  | 5330            | 4720            |                                                                                    |            |                                |
| 24              | 5382           | 2.55           | 74.50  | 5370            | 4770            |                                                                                    |            |                                |
| 14              | 9028           | 0.85           | 124.97 | 1840            | 2770            | CG073-11P-90S/L-04F<br>CF073-11P-90S/L-04F                                         | 108<br>117 | 146                            |
| 17              | 7549           | 1.00           | 104.50 | 2320            | 2920            |                                                                                    |            |                                |
| 18              | 6867           | 1.10           | 95.06  | 2470            | 2920            |                                                                                    |            |                                |
| 20              | 6225           | 1.20           | 86.17  | 2610            | 3010            |                                                                                    |            |                                |
| 22              | 5663           | 1.30           | 78.39  | 2720            | 3010            |                                                                                    |            |                                |
| 25              | 5106           | 1.45           | 70.68  | 2810            | 3100            |                                                                                    |            |                                |
| 27              | 4645           | 1.60           | 64.30  | 2880            | 3100            |                                                                                    |            |                                |
| 29              | 4339           | 1.70           | 60.06  | 2900            | 3150            |                                                                                    |            |                                |
| 32              | 3947           | 1.85           | 54.63  | 2940            | 3150            |                                                                                    |            |                                |
| 36              | 3567           | 2.05           | 49.38  | 2990            | 3210            |                                                                                    |            |                                |
| 39              | 3245           | 2.20           | 44.92  | 3010            | 3210            |                                                                                    |            |                                |
| 45              | 2830           | 2.40           | 39.17  | 3060            | 3260            |                                                                                    |            |                                |
| 49              | 2574           | 2.50           | 35.63  | 3080            | 3260            |                                                                                    |            |                                |
| 45              | 2812           | 2.60           | 38.92  | 3060            | 3260            | CG072-11P-90S/L-04F<br>CF072-11P-90S/L-04F                                         | 106<br>115 | 146                            |
| 50              | 2558           | 2.85           | 35.41  | 3080            | 3260            |                                                                                    |            |                                |
| 20              | 6469           | 0.85           | 89.54  | 1420            | 1350            | CG063-11P-90S/L-04F<br>CF063-11P-90S/L-04F                                         | 73<br>84   | 144                            |
| 21              | 5931           | 0.90           | 82.10  | 1640            | 1370            |                                                                                    |            |                                |
| 24              | 5294           | 1.05           | 73.28  | 1840            | 1440            |                                                                                    |            |                                |
| 26              | 4854           | 1.10           | 67.19  | 1980            | 1460            |                                                                                    |            |                                |
| 30              | 4293           | 1.25           | 59.42  | 2110            | 1510            |                                                                                    |            |                                |
| 32              | 3936           | 1.35           | 54.49  | 2180            | 1530            |                                                                                    |            |                                |
| 35              | 3594           | 1.50           | 49.74  | 2250            | 1550            |                                                                                    |            |                                |
| 38              | 3295           | 1.65           | 45.61  | 2290            | 1570            |                                                                                    |            |                                |
| 29              | 4335           | 0.90           | 60.00  | 2090            | 1510            | CG062-11P-90S/L-04F<br>CF062-11P-90S/L-04F                                         | 73<br>84   | 144                            |
| 32              | 3975           | 0.90           | 55.02  | 2180            | 1530            |                                                                                    |            |                                |
| 37              | 3435           | 1.55           | 47.55  | 2270            | 1570            |                                                                                    |            |                                |
| 40              | 3150           | 1.60           | 43.60  | 2320            | 1570            |                                                                                    |            |                                |
| 48              | 2667           | 2.00           | 36.92  | 2380            | 1620            |                                                                                    |            |                                |
| 52              | 2446           | 2.20           | 33.86  | 2360            | 1640            |                                                                                    |            |                                |
| 53              | 2415           | 0.90           | 33.43  | 2340            | 1570            |                                                                                    |            |                                |
| 58              | 2189           | 2.45           | 30.30  | 2290            | 1660            |                                                                                    |            |                                |
| 63              | 2007           | 2.65           | 27.78  | 2250            | 1660            |                                                                                    |            |                                |
| 66              | 1914           | 1.60           | 26.49  | 2200            | 1620            |                                                                                    |            |                                |
| 85              | 1486           | 2.25           | 20.57  | 2050            | 1660            |                                                                                    |            |                                |
| 104             | 1219           | 2.75           | 16.88  | 1930            | 1690            |                                                                                    |            |                                |

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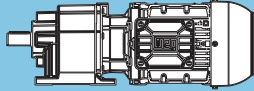
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| <b>P<sub>N</sub> = 2.0 hp</b> |                      |                      |          |                       |           |                                                                                    |          |                             |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|----------|-----------------------------|
| <b>60 Hz</b>                  |                      | <b>f<sub>B</sub></b> | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b> | Dimension sheet<br>see page |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> |                      |          | <b>lb</b>             | <b>lb</b> |                                                                                    |          |                             |
| rpm                           | lb-in                |                      |          | lb                    | lb        |                                                                                    | lb       |                             |
| <b>28</b>                     | 4452                 | 0.80                 | 61.63    | **                    | 1300      | <b>CG053-11P-90S/L-04F</b><br><b>CF053-11P-90S/L-04F</b>                           | 62<br>73 | 142                         |
| <b>31</b>                     | 4047                 | 0.90                 | 56.02    | 810                   | 1350      |                                                                                    |          |                             |
| <b>36</b>                     | 3554                 | 1.00                 | 49.20    | 1100                  | 1420      |                                                                                    |          |                             |
| <b>39</b>                     | 3231                 | 1.10                 | 44.73    | 1240                  | 1440      |                                                                                    |          |                             |
| <b>36</b>                     | 3477                 | 0.90                 | 48.13    | 1120                  | 1420      | <b>CG052-11P-90S/L-04F</b><br><b>CF052-11P-90S/L-04F</b>                           | 60<br>71 | 142                         |
| <b>40</b>                     | 3161                 | 0.90                 | 43.75    | 1260                  | 1440      |                                                                                    |          |                             |
| <b>46</b>                     | 2745                 | 1.30                 | 38.00    | 1390                  | 1510      |                                                                                    |          |                             |
| <b>51</b>                     | 2496                 | 1.45                 | 34.55    | 1460                  | 1530      |                                                                                    |          |                             |
| <b>60</b>                     | 2129                 | 1.70                 | 29.46    | 1530                  | 1570      |                                                                                    |          |                             |
| <b>66</b>                     | 1935                 | 1.85                 | 26.79    | 1570                  | 1600      |                                                                                    |          |                             |
| <b>73</b>                     | 1742                 | 2.05                 | 24.12    | 1600                  | 1620      |                                                                                    |          |                             |
| <b>76</b>                     | 1664                 | 1.45                 | 23.03    | 1620                  | 1570      |                                                                                    |          |                             |
| <b>80</b>                     | 1584                 | 2.25                 | 21.92    | 1620                  | 1640      |                                                                                    |          |                             |
| <b>95</b>                     | 1341                 | 2.65                 | 18.56    | 1550                  | 1660      |                                                                                    |          |                             |
| <b>98</b>                     | 1290                 | 1.85                 | 17.86    | 1510                  | 1640      |                                                                                    |          |                             |
| <b>104</b>                    | 1219                 | 2.95                 | 16.88    | 1510                  | 1690      |                                                                                    |          |                             |
| <b>120</b>                    | 1056                 | 2.25                 | 14.62    | 1440                  | 1660      |                                                                                    |          |                             |
| <b>156</b>                    | 813                  | 2.95                 | 11.25    | 1330                  | 1710      |                                                                                    |          |                             |
| <b>55</b>                     | 2288                 | 0.80                 | 31.67    | **                    | 650       | <b>CG032-11P-90S/L-04F</b><br><b>CF032-11P-90S/L-04F</b>                           | 51<br>55 | 140                         |
| <b>63</b>                     | 2002                 | 0.90                 | 27.71    | 920                   | 720       |                                                                                    |          |                             |
| <b>70</b>                     | 1818                 | 1.00                 | 25.17    | 900                   | 740       |                                                                                    |          |                             |
| <b>82</b>                     | 1546                 | 1.15                 | 21.40    | 880                   | 790       |                                                                                    |          |                             |
| <b>90</b>                     | 1404                 | 1.30                 | 19.44    | 880                   | 810       |                                                                                    |          |                             |
| <b>103</b>                    | 1235                 | 1.45                 | 17.09    | 850                   | 830       |                                                                                    |          |                             |
| <b>113</b>                    | 1121                 | 1.60                 | 15.52    | 830                   | 850       |                                                                                    |          |                             |
| <b>136</b>                    | 933                  | 1.85                 | 12.92    | 810                   | 880       |                                                                                    |          |                             |
| <b>146</b>                    | 866                  | 1.35                 | 11.99    | 790                   | 880       |                                                                                    |          |                             |
| <b>150</b>                    | 847                  | 2.10                 | 11.73    | 790                   | 900       |                                                                                    |          |                             |
| <b>179</b>                    | 709                  | 2.25                 | 9.82     | 760                   | 920       |                                                                                    |          |                             |
| <b>183</b>                    | 692                  | 1.70                 | 9.57     | 740                   | 900       |                                                                                    |          |                             |
| <b>197</b>                    | 644                  | 2.55                 | 8.92     | 740                   | 920       |                                                                                    |          |                             |
| <b>230</b>                    | 552                  | 2.75                 | 7.64     | 720                   | 940       |                                                                                    |          |                             |
| <b>243</b>                    | 523                  | 2.25                 | 7.24     | 700                   | 940       |                                                                                    |          |                             |
| <b>319</b>                    | 397                  | 2.90                 | 5.50     | 650                   | 970       |                                                                                    |          |                             |
| <b>132</b>                    | 963                  | 0.80                 | 13.33    | **                    | 200       | <b>CG012-11P-90S/L-04F</b><br><b>CF012-11P-90S/L-04F</b>                           | 46<br>49 | 138                         |
| <b>137</b>                    | 927                  | 0.85                 | 12.83    | 540                   | 200       |                                                                                    |          |                             |
| <b>153</b>                    | 831                  | 0.95                 | 11.50    | 520                   | 220       |                                                                                    |          |                             |
| <b>157</b>                    | 809                  | 0.95                 | 11.20    | 520                   | 220       |                                                                                    |          |                             |
| <b>175</b>                    | 725                  | 1.00                 | 10.04    | 520                   | 250       |                                                                                    |          |                             |
| <b>183</b>                    | 694                  | 0.85                 | 9.60     | 490                   | 200       |                                                                                    |          |                             |
| <b>214</b>                    | 594                  | 1.15                 | 8.22     | 490                   | 270       |                                                                                    |          |                             |
| <b>234</b>                    | 542                  | 1.10                 | 7.50     | 470                   | 250       |                                                                                    |          |                             |
| <b>238</b>                    | 532                  | 1.25                 | 7.36     | 470                   | 270       |                                                                                    |          |                             |
| <b>313</b>                    | 405                  | 1.45                 | 5.60     | 430                   | 270       |                                                                                    |          |                             |
| <b>363</b>                    | 349                  | 1.70                 | 4.83     | 430                   | 290       |                                                                                    |          |                             |
| <b>416</b>                    | 305                  | 1.95                 | 4.22     | 400                   | 290       |                                                                                    |          |                             |

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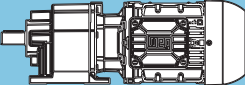
**P<sub>N</sub> = 3.0 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i       | F <sub>TN</sub> |      |  | m            | Dimension sheet see page |
|------------------------|-------------------------|----------------|---------|-----------------|------|------------------------------------------------------------------------------------|--------------|--------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |         | lb              | lb   |                                                                                    |              |                          |
| <b>0.85</b>            | 195467                  | 0.85           | 2050.07 | 22120           | 4540 | <b>CG165-11P-100L-04E</b><br><b>CF165-11P-100L-04E</b>                             | 1579         | 170                      |
| <b>1.1</b>             | 157207                  | 1.05           | 1661.50 | 25470           | 5420 |                                                                                    | 1629         |                          |
| <b>0.83</b>            | 204560                  | 0.80           | 2093.95 | **              | 4320 | <b>CG164-11P-100L-04E</b><br><b>CF164-11P-100L-04E</b>                             | 1550<br>1601 | 168                      |
| <b>0.97</b>            | 175467                  | 0.95           | 1803.51 | 24010           | 4990 |                                                                                    |              |                          |
| <b>1.1</b>             | 160587                  | 1.00           | 1657.33 | 25220           | 5350 |                                                                                    |              |                          |
| <b>1.2</b>             | 139644                  | 1.15           | 1447.11 | 26660           | 5850 |                                                                                    |              |                          |
| <b>1.4</b>             | 122658                  | 1.30           | 1278.93 | 27630           | 6230 |                                                                                    |              |                          |
| <b>1.6</b>             | 104995                  | 1.55           | 1101.54 | 28460           | 6650 |                                                                                    |              |                          |
| <b>1.8</b>             | 89886                   | 1.80           | 952.78  | 29070           | 6990 |                                                                                    |              |                          |
| <b>1.9</b>             | 87878                   | 1.85           | 931.50  | 29140           | 7060 |                                                                                    |              |                          |
| <b>2.2</b>             | 75776                   | 2.15           | 811.56  | 29540           | 7330 |                                                                                    |              |                          |
| <b>2.5</b>             | 64460                   | 2.50           | 698.99  | 29850           | 7600 |                                                                                    |              |                          |
| <b>2.6</b>             | 61574                   | 2.60           | 670.48  | 29920           | 7670 |                                                                                    |              |                          |
| <b>2.9</b>             | 54950                   | 2.90           | 604.60  | 30080           | 7820 |                                                                                    |              |                          |
| <b>1.2</b>             | 141940                  | 0.85           | 1455.92 | 19720           | 2520 | <b>CG144-11P-100L-04E</b><br><b>CF144-11P-100L-04E</b>                             | 996<br>1036  | 164                      |
| <b>1.4</b>             | 121764                  | 0.95           | 1254.10 | 21270           | 3030 |                                                                                    |              |                          |
| <b>1.6</b>             | 106274                  | 1.10           | 1099.05 | 22210           | 3440 |                                                                                    |              |                          |
| <b>1.7</b>             | 101494                  | 1.15           | 1051.77 | 22480           | 3570 |                                                                                    |              |                          |
| <b>1.8</b>             | 92093                   | 1.25           | 958.27  | 22950           | 3800 |                                                                                    |              |                          |
| <b>1.9</b>             | 86863                   | 1.35           | 905.71  | 23200           | 3930 |                                                                                    |              |                          |
| <b>2.1</b>             | 81015                   | 1.45           | 848.21  | 23450           | 4090 |                                                                                    |              |                          |
| <b>2.4</b>             | 70203                   | 1.65           | 739.56  | 23850           | 4360 |                                                                                    |              |                          |
| <b>2.5</b>             | 67196                   | 1.75           | 710.80  | 23940           | 4450 |                                                                                    |              |                          |
| <b>2.7</b>             | 59851                   | 1.95           | 637.04  | 24190           | 4630 |                                                                                    |              |                          |
| <b>2.9</b>             | 57354                   | 2.05           | 611.72  | 24260           | 4700 |                                                                                    |              |                          |
| <b>3.2</b>             | 50904                   | 2.30           | 548.57  | 24410           | 4880 |                                                                                    |              |                          |
| <b>3.3</b>             | 48794                   | 2.40           | 526.92  | 24480           | 4920 |                                                                                    |              |                          |
| <b>3.4</b>             | 48083                   | 2.40           | 520.33  | 24480           | 4950 |                                                                                    |              |                          |
| <b>3.8</b>             | 41412                   | 2.80           | 453.75  | 24640           | 5100 |                                                                                    |              |                          |
| <b>3.9</b>             | 41156                   | 2.80           | 450.95  | 24640           | 5130 |                                                                                    |              |                          |
| <b>4.0</b>             | 39695                   | 2.90           | 436.75  | 24660           | 5150 |                                                                                    |              |                          |
| <b>1.8</b>             | 93911                   | 0.80           | 961.31  | **              | 3870 | <b>CG134-11P-100L-04E</b><br><b>CF134-11P-100L-04E</b>                             | 672<br>677   | 160                      |
| <b>1.9</b>             | 89747                   | 0.80           | 918.68  | **              | 4000 |                                                                                    |              |                          |
| <b>2.1</b>             | 81187                   | 0.90           | 834.47  | 12970           | 4250 |                                                                                    |              |                          |
| <b>2.4</b>             | 71887                   | 1.00           | 741.90  | 13920           | 4520 |                                                                                    |              |                          |
| <b>2.7</b>             | 62146                   | 1.15           | 644.01  | 14750           | 4810 |                                                                                    |              |                          |
| <b>2.8</b>             | 59096                   | 1.20           | 613.66  | 14970           | 4900 |                                                                                    |              |                          |
| <b>3.1</b>             | 53365                   | 1.35           | 556.43  | 15350           | 5060 |                                                                                    |              |                          |
| <b>3.3</b>             | 50984                   | 1.40           | 532.69  | 15490           | 5130 |                                                                                    |              |                          |
| <b>3.8</b>             | 43689                   | 1.65           | 460.25  | 15890           | 5350 |                                                                                    |              |                          |
| <b>3.9</b>             | 42923                   | 1.65           | 453.11  | 15940           | 5370 |                                                                                    |              |                          |
| <b>4.4</b>             | 36894                   | 1.95           | 392.69  | 16210           | 5550 |                                                                                    |              |                          |
| <b>4.5</b>             | 36781                   | 1.95           | 391.48  | 16210           | 5550 |                                                                                    |              |                          |
| <b>4.6</b>             | 35817                   | 2.00           | 382.01  | 16250           | 5580 |                                                                                    |              |                          |
| <b>4.7</b>             | 34466                   | 2.10           | 368.37  | 16300           | 5620 |                                                                                    |              |                          |
| <b>5.1</b>             | 31549                   | 2.25           | 339.29  | 16410           | 5710 |                                                                                    |              |                          |
| <b>5.3</b>             | 30771                   | 2.35           | 331.61  | 16430           | 5730 |                                                                                    |              |                          |
| <b>5.5</b>             | 29549                   | 2.40           | 319.76  | 16480           | 5760 |                                                                                    |              |                          |
| <b>6.1</b>             | 26203                   | 2.75           | 286.51  | 16570           | 5870 |                                                                                    |              |                          |
| <b>6.3</b>             | 25162                   | 2.85           | 276.28  | 16590           | 5890 |                                                                                    |              |                          |
| <b>6.4</b>             | 24880                   | 2.85           | 273.18  | 16610           | 5890 |                                                                                    |              |                          |

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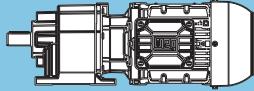
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| P <sub>N</sub> = 3.0 hp |                         |                |        |                 |      |                                                                                    |            |                             |
|-------------------------|-------------------------|----------------|--------|-----------------|------|------------------------------------------------------------------------------------|------------|-----------------------------|
| 60 Hz                   |                         |                | i      | F <sub>FN</sub> |      |  | m<br>lb    | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | lb              | lb   |                                                                                    |            |                             |
| 3.3                     | 51898                   | 0.80           | 531.25 | **              | 4410 | CG104-11P-100L-04E<br>CF104-11P-100L-04E                                           | 421<br>430 | 156                         |
| 3.4                     | 50138                   | 0.80           | 514.28 | **              | 4470 |                                                                                    |            |                             |
| 4.0                     | 42214                   | 0.95           | 434.78 | 7580            | 4740 |                                                                                    |            |                             |
| 4.2                     | 40408                   | 1.00           | 417.03 | 7850            | 4790 |                                                                                    |            |                             |
| 4.9                     | 33952                   | 1.20           | 352.56 | 8610            | 5010 |                                                                                    |            |                             |
| 5.0                     | 33619                   | 1.20           | 349.11 | 8660            | 5010 |                                                                                    |            |                             |
| 5.9                     | 28189                   | 1.45           | 295.14 | 9150            | 5190 |                                                                                    |            |                             |
| 6.2                     | 26968                   | 1.50           | 282.94 | 9240            | 5240 |                                                                                    |            |                             |
| 6.4                     | 25952                   | 1.55           | 272.83 | 9330            | 5260 |                                                                                    |            |                             |
| 7.3                     | 22612                   | 1.80           | 239.20 | 9550            | 5370 |                                                                                    |            |                             |
| 7.6                     | 21715                   | 1.85           | 230.65 | 9600            | 5400 |                                                                                    |            |                             |
| 7.1                     | 26260                   | 1.55           | 246.43 | 9310            | 5260 | CG103-11P-100L-04E<br>CF103-11P-100L-04E                                           | 392<br>401 | 154                         |
| 8.4                     | 22201                   | 1.80           | 208.33 | 9580            | 5400 |                                                                                    |            |                             |
| 9.7                     | 19218                   | 2.10           | 180.35 | 9760            | 5490 |                                                                                    |            |                             |
| 11                      | 17021                   | 2.35           | 159.72 | 9850            | 5550 |                                                                                    |            |                             |
| 13                      | 14724                   | 2.75           | 138.17 | 9960            | 5640 |                                                                                    |            |                             |
| 4.9                     | 35045                   | 0.80           | 358.73 | **              | 5420 | CG094-11P-100L-04E<br>CF094-11P-100L-04E                                           | 328<br>324 | 152                         |
| 5.0                     | 34404                   | 0.80           | 352.17 | **              | 5440 |                                                                                    |            |                             |
| 5.1                     | 33599                   | 0.80           | 343.93 | **              | 5460 |                                                                                    |            |                             |
| 5.8                     | 29217                   | 0.95           | 300.30 | 4520            | 5640 |                                                                                    |            |                             |
| 6.3                     | 27008                   | 1.00           | 278.74 | 4990            | 5710 |                                                                                    |            |                             |
| 6.5                     | 26044                   | 1.05           | 268.78 | 5170            | 5760 |                                                                                    |            |                             |
| 7.2                     | 23486                   | 1.15           | 243.38 | 5600            | 5850 |                                                                                    |            |                             |
| 7.4                     | 22601                   | 1.20           | 234.69 | 5730            | 5890 |                                                                                    |            |                             |
| 5.7                     | 32686                   | 0.85           | 306.73 | 3550            | 5510 | CG093-11P-100L-04E<br>CF093-11P-100L-04E                                           | 300<br>295 | 150                         |
| 7.2                     | 25871                   | 1.05           | 242.77 | 5220            | 5760 |                                                                                    |            |                             |
| 8.2                     | 22589                   | 1.20           | 211.98 | 5730            | 5890 |                                                                                    |            |                             |
| 9.3                     | 19964                   | 1.35           | 187.34 | 6070            | 5980 |                                                                                    |            |                             |
| 11                      | 16882                   | 1.60           | 158.42 | 6410            | 6090 |                                                                                    |            |                             |
| 13                      | 14512                   | 1.85           | 136.18 | 6610            | 6180 |                                                                                    |            |                             |
| 14                      | 13009                   | 2.05           | 122.08 | 6720            | 6250 |                                                                                    |            |                             |
| 15                      | 12668                   | 2.10           | 118.88 | 6740            | 6270 |                                                                                    |            |                             |
| 16                      | 11359                   | 2.35           | 106.60 | 6830            | 6320 |                                                                                    |            |                             |
| 17                      | 10854                   | 2.45           | 101.85 | 6860            | 6340 |                                                                                    |            |                             |
| 18                      | 10466                   | 2.55           | 98.21  | 6880            | 6340 |                                                                                    |            |                             |
| 19                      | 10039                   | 2.65           | 94.21  | 6900            | 6360 |                                                                                    |            |                             |
| 20                      | 9237                    | 2.90           | 86.68  | 6950            | 6380 |                                                                                    |            |                             |
| 12                      | 15419                   | 0.90           | 144.69 | 4250            | 4250 | CG083-11P-100L-04E<br>CF083-11P-100L-04E                                           | 183<br>192 | 148                         |
| 15                      | 12754                   | 1.10           | 119.68 | 4680            | 4380 |                                                                                    |            |                             |
| 17                      | 10848                   | 1.30           | 101.80 | 4920            | 4500 |                                                                                    |            |                             |
| 20                      | 9402                    | 1.50           | 88.23  | 5080            | 4560 |                                                                                    |            |                             |
| 23                      | 7939                    | 1.75           | 74.50  | 5220            | 4630 |                                                                                    |            |                             |
| 24                      | 7656                    | 1.80           | 71.84  | 5240            | 4650 |                                                                                    |            |                             |
| 28                      | 6540                    | 2.10           | 61.37  | 5310            | 4720 |                                                                                    |            |                             |
| 32                      | 5773                    | 2.40           | 54.18  | 5350            | 4770 | CG082-11P-100L-04E<br>CF082-11P-100L-04E                                           | 181<br>190 | 148                         |
| 56                      | 3328                    | 3.00           | 31.23  | 4610            | 4860 |                                                                                    |            |                             |
| 20                      | 9182                    | 0.80           | 86.17  | **              | 2810 | CG073-11P-100L-04E<br>CF073-11P-100L-04E                                           | 130<br>139 | 146                         |
| 22                      | 8353                    | 0.90           | 78.39  | 2070            | 2810 |                                                                                    |            |                             |
| 25                      | 7532                    | 1.00           | 70.68  | 2320            | 2920 |                                                                                    |            |                             |
| 27                      | 6852                    | 1.10           | 64.30  | 2470            | 2920 |                                                                                    |            |                             |
| 29                      | 6400                    | 1.15           | 60.06  | 2590            | 3010 |                                                                                    |            |                             |
| 32                      | 5822                    | 1.25           | 54.63  | 2680            | 3010 |                                                                                    |            |                             |
| 35                      | 5262                    | 1.40           | 49.38  | 2790            | 3080 |                                                                                    |            |                             |
| 37                      | 5074                    | 1.45           | 47.62  | 2810            | 3100 |                                                                                    |            |                             |
| 39                      | 4787                    | 1.50           | 44.92  | 2860            | 3080 |                                                                                    |            |                             |
| 40                      | 4616                    | 1.50           | 43.32  | 2880            | 3100 |                                                                                    |            |                             |
| 45                      | 4174                    | 1.65           | 39.17  | 2920            | 3170 |                                                                                    |            |                             |
| 49                      | 3797                    | 1.70           | 35.63  | 2970            | 3170 |                                                                                    |            |                             |

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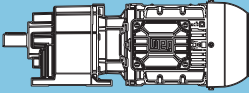
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**P<sub>N</sub> = 3.0 hp**

| 60 Hz                  |                       | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i    | F <sub>FN</sub>       |                                                        |  | m<br>lb | Dimension<br>sheet<br>see page |
|------------------------|-----------------------|-------------------------|----------------|------|-----------------------|--------------------------------------------------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub><br>rpm | F <sub>FN</sub><br>lb |                         |                |      | F <sub>aN</sub><br>lb |                                                        |                                                                                    |         |                                |
| 45                     | 4148                  | 1.75                    | 38.92          | 2920 | 3170                  | <b>CG072-11P-100L-04E</b><br><b>CF072-11P-100L-04E</b> | 128<br>137                                                                         | 146     |                                |
| 49                     | 3773                  | 1.95                    | 35.41          | 2970 | 3170                  |                                                        |                                                                                    |         |                                |
| 57                     | 3255                  | 2.25                    | 30.55          | 3010 | 3240                  |                                                        |                                                                                    |         |                                |
| 63                     | 2961                  | 2.50                    | 27.79          | 3030 | 3240                  |                                                        |                                                                                    |         |                                |
| 74                     | 2512                  | 2.85                    | 23.58          | 3080 | 3280                  |                                                        |                                                                                    |         |                                |
| 85                     | 2200                  | 2.80                    | 20.65          | 3100 | 3210                  |                                                        |                                                                                    |         |                                |
| 29                     | 6332                  | 0.85                    | 59.42          | 1460 | 1350                  | <b>CG063-11P-100L-04E</b><br><b>CF063-11P-100L-04E</b> | 95<br>106                                                                          | 144     |                                |
| 32                     | 5806                  | 0.95                    | 54.49          | 1690 | 1390                  |                                                        |                                                                                    |         |                                |
| 35                     | 5301                  | 1.05                    | 49.74          | 1840 | 1420                  |                                                        |                                                                                    |         |                                |
| 38                     | 4861                  | 1.10                    | 45.61          | 1980 | 1460                  |                                                        |                                                                                    |         |                                |
| 47                     | 3935                  | 1.35                    | 36.92          | 2180 | 1530                  | <b>CG062-11P-100L-04E</b><br><b>CF062-11P-100L-04E</b> | 93<br>104                                                                          | 144     |                                |
| 52                     | 3608                  | 1.50                    | 33.86          | 2250 | 1550                  |                                                        |                                                                                    |         |                                |
| 58                     | 3228                  | 1.65                    | 30.30          | 2200 | 1570                  |                                                        |                                                                                    |         |                                |
| 63                     | 2960                  | 1.80                    | 27.78          | 2160 | 1600                  |                                                        |                                                                                    |         |                                |
| 74                     | 2500                  | 2.15                    | 23.46          | 2070 | 1640                  |                                                        |                                                                                    |         |                                |
| 81                     | 2293                  | 2.35                    | 21.51          | 2020 | 1640                  |                                                        |                                                                                    |         |                                |
| 85                     | 2192                  | 1.55                    | 20.57          | 1980 | 1600                  |                                                        |                                                                                    |         |                                |
| 98                     | 1902                  | 2.80                    | 17.85          | 1930 | 1690                  |                                                        |                                                                                    |         |                                |
| 103                    | 1799                  | 1.90                    | 16.88          | 1890 | 1620                  |                                                        |                                                                                    |         |                                |
| 133                    | 1393                  | 2.40                    | 13.07          | 1750 | 1660                  |                                                        |                                                                                    |         |                                |
| 59                     | 3140                  | 1.15                    | 29.46          | 1260 | 1460                  | <b>CG052-11P-100L-04E</b><br><b>CF052-11P-100L-04E</b> | 82<br>93                                                                           | 142     |                                |
| 65                     | 2854                  | 1.25                    | 26.79          | 1350 | 1480                  |                                                        |                                                                                    |         |                                |
| 72                     | 2570                  | 1.40                    | 24.12          | 1440 | 1530                  |                                                        |                                                                                    |         |                                |
| 80                     | 2336                  | 1.55                    | 21.92          | 1480 | 1550                  |                                                        |                                                                                    |         |                                |
| 94                     | 1978                  | 1.80                    | 18.56          | 1480 | 1600                  |                                                        |                                                                                    |         |                                |
| 98                     | 1903                  | 1.25                    | 17.86          | 1440 | 1530                  |                                                        |                                                                                    |         |                                |
| 103                    | 1798                  | 2.00                    | 16.88          | 1440 | 1620                  |                                                        |                                                                                    |         |                                |
| 119                    | 1557                  | 1.55                    | 14.62          | 1370 | 1600                  |                                                        |                                                                                    |         |                                |
| 124                    | 1495                  | 2.40                    | 14.03          | 1370 | 1640                  |                                                        |                                                                                    |         |                                |
| 137                    | 1359                  | 2.65                    | 12.75          | 1350 | 1660                  |                                                        |                                                                                    |         |                                |
| 152                    | 1223                  | 2.90                    | 11.48          | 1300 | 1690                  |                                                        |                                                                                    |         |                                |
| 155                    | 1199                  | 2.00                    | 11.25          | 1280 | 1640                  |                                                        |                                                                                    |         |                                |
| 205                    | 906                   | 2.65                    | 8.50           | 1190 | 1690                  |                                                        |                                                                                    |         |                                |
| 82                     | 2281                  | 0.80                    | 21.40          | **   | 670                   | <b>CG032-11P-100L-04E</b><br><b>CF032-11P-100L-04E</b> | 73<br>77                                                                           | 140     |                                |
| 90                     | 2072                  | 0.90                    | 19.44          | 760  | 700                   |                                                        |                                                                                    |         |                                |
| 102                    | 1821                  | 1.00                    | 17.09          | 760  | 740                   |                                                        |                                                                                    |         |                                |
| 112                    | 1654                  | 1.10                    | 15.52          | 760  | 760                   |                                                        |                                                                                    |         |                                |
| 135                    | 1376                  | 1.25                    | 12.92          | 740  | 810                   |                                                        |                                                                                    |         |                                |
| 146                    | 1278                  | 0.95                    | 11.99          | 700  | 790                   |                                                        |                                                                                    |         |                                |
| 149                    | 1250                  | 1.45                    | 11.73          | 720  | 830                   |                                                        |                                                                                    |         |                                |
| 178                    | 1046                  | 1.55                    | 9.82           | 700  | 880                   |                                                        |                                                                                    |         |                                |
| 182                    | 1020                  | 1.15                    | 9.57           | 670  | 830                   |                                                        |                                                                                    |         |                                |
| 196                    | 950                   | 1.75                    | 8.92           | 700  | 880                   |                                                        |                                                                                    |         |                                |
| 228                    | 814                   | 1.85                    | 7.64           | 670  | 900                   |                                                        |                                                                                    |         |                                |
| 241                    | 771                   | 1.50                    | 7.24           | 650  | 880                   |                                                        |                                                                                    |         |                                |
| 252                    | 739                   | 2.05                    | 6.94           | 650  | 920                   |                                                        |                                                                                    |         |                                |
| 293                    | 635                   | 2.25                    | 5.96           | 630  | 920                   |                                                        |                                                                                    |         |                                |
| 317                    | 586                   | 2.00                    | 5.50           | 610  | 920                   |                                                        |                                                                                    |         |                                |
| 322                    | 577                   | 2.45                    | 5.41           | 630  | 940                   |                                                        |                                                                                    |         |                                |
| 408                    | 456                   | 2.55                    | 4.28           | 580  | 940                   |                                                        |                                                                                    |         |                                |

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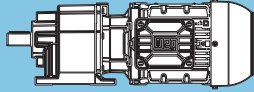
\*\* ... on request

| <b>P<sub>N</sub> = 4.0 hp</b> |                      |                      |          |                       |           |                                                                                    |              |                                 |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|--------------|---------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>F<sub>FN</sub></b> |           |  | <b>m</b>     | <b>Dimension sheet see page</b> |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |              |                                 |
| <b>rpm</b>                    | <b>lb-in</b>         |                      |          |                       |           |                                                                                    | <b>lb</b>    |                                 |
| 1.1                           | 209443               | 0.80                 | 1602.16  | **                    | 4230      | <b>CG165-11P-L100L-04F</b><br><b>CF165-11P-L100L-04F</b>                           | 1594<br>1645 | 170                             |
| 1.1                           | 208406               | 0.80                 | 1559.96  | **                    | 4270      | <b>CG164-11P-L100L-04F</b><br><b>CF164-11P-L100L-04F</b>                           | 1565<br>1616 | 168                             |
| 1.2                           | 192936               | 0.85                 | 1447.11  | 22500                 | 4630      |                                                                                    |              |                                 |
| 1.4                           | 169817               | 0.95                 | 1278.93  | 24570                 | 5150      |                                                                                    |              |                                 |
| 1.6                           | 145366               | 1.10                 | 1101.54  | 26350                 | 5730      |                                                                                    |              |                                 |
| 1.8                           | 124964               | 1.30                 | 952.78   | 27540                 | 6200      |                                                                                    |              |                                 |
| 1.9                           | 122172               | 1.35                 | 931.50   | 27700                 | 6270      |                                                                                    |              |                                 |
| 2.1                           | 105787               | 1.55                 | 811.56   | 28460                 | 6650      |                                                                                    |              |                                 |
| 2.2                           | 104808               | 1.55                 | 805.70   | 28510                 | 6680      |                                                                                    |              |                                 |
| 2.5                           | 90180                | 1.80                 | 698.99   | 29090                 | 7010      |                                                                                    |              |                                 |
| 2.6                           | 86324                | 1.85                 | 670.48   | 29230                 | 7100      |                                                                                    |              |                                 |
| 2.9                           | 77201                | 2.10                 | 604.60   | 29520                 | 7310      |                                                                                    |              |                                 |
| 3.0                           | 73586                | 2.20                 | 577.48   | 29630                 | 7400      |                                                                                    |              |                                 |
| 3.4                           | 65326                | 2.45                 | 517.99   | 29850                 | 7580      |                                                                                    |              |                                 |
| 3.5                           | 62863                | 2.55                 | 499.49   | 29900                 | 7640      |                                                                                    |              |                                 |
| 3.9                           | 54682                | 2.95                 | 440.86   | 30100                 | 7820      |                                                                                    |              |                                 |
| 1.6                           | 146831               | 0.80                 | 1099.05  | **                    | 2430      | <b>CG144-11P-L100L-04F</b><br><b>CF144-11P-L100L-04F</b>                           | 1012<br>1052 | 164                             |
| 1.7                           | 140227               | 0.85                 | 1051.77  | 19940                 | 2590      |                                                                                    |              |                                 |
| 1.8                           | 127500               | 0.95                 | 958.27   | 20910                 | 2920      |                                                                                    |              |                                 |
| 1.9                           | 120260               | 1.00                 | 905.71   | 21400                 | 3100      |                                                                                    |              |                                 |
| 2.1                           | 112395               | 1.05                 | 848.21   | 21900                 | 3300      |                                                                                    |              |                                 |
| 2.4                           | 97397                | 1.20                 | 739.56   | 22730                 | 3690      |                                                                                    |              |                                 |
| 2.5                           | 92208                | 1.25                 | 701.59   | 22980                 | 3820      |                                                                                    |              |                                 |
| 2.7                           | 83380                | 1.40                 | 637.04   | 23360                 | 4050      |                                                                                    |              |                                 |
| 2.8                           | 79903                | 1.45                 | 611.72   | 23520                 | 4140      |                                                                                    |              |                                 |
| 2.9                           | 77789                | 1.50                 | 596.77   | 23580                 | 4180      |                                                                                    |              |                                 |
| 3.2                           | 71213                | 1.65                 | 548.57   | 23830                 | 4360      |                                                                                    |              |                                 |
| 3.3                           | 68262                | 1.70                 | 526.92   | 23920                 | 4430      |                                                                                    |              |                                 |
| 3.4                           | 66865                | 1.75                 | 517.20   | 23990                 | 4470      |                                                                                    |              |                                 |
| 3.8                           | 58180                | 2.00                 | 453.75   | 24230                 | 4700      |                                                                                    |              |                                 |
| 3.9                           | 57820                | 2.00                 | 450.95   | 24260                 | 4700      |                                                                                    |              |                                 |
| 4.0                           | 55769                | 2.10                 | 436.75   | 24300                 | 4740      |                                                                                    |              |                                 |
| 4.1                           | 53666                | 2.15                 | 421.15   | 24370                 | 4810      |                                                                                    |              |                                 |
| 4.5                           | 49191                | 2.35                 | 388.44   | 24460                 | 4920      |                                                                                    |              |                                 |
| 4.6                           | 48124                | 2.40                 | 380.80   | 24500                 | 4950      |                                                                                    |              |                                 |
| 4.7                           | 46213                | 2.50                 | 367.20   | 24530                 | 4990      |                                                                                    |              |                                 |
| 4.8                           | 45187                | 2.55                 | 359.79   | 24550                 | 5010      |                                                                                    |              |                                 |
| 5.2                           | 41749                | 2.80                 | 334.50   | 24640                 | 5100      |                                                                                    |              |                                 |
| 5.3                           | 40855                | 2.85                 | 328.01   | 24640                 | 5130      |                                                                                    |              |                                 |
| 5.5                           | 39232                | 2.95                 | 316.30   | 24680                 | 5170      |                                                                                    |              |                                 |
| 2.7                           | 85863                | 0.85                 | 644.01   | 12480                 | 4110      | <b>CG134-11P-L100L-04F</b><br><b>CF134-11P-L100L-04F</b>                           | 688<br>692   | 160                             |
| 2.8                           | 81649                | 0.90                 | 613.66   | 12970                 | 4250      |                                                                                    |              |                                 |
| 3.1                           | 73883                | 1.00                 | 556.43   | 13780                 | 4470      |                                                                                    |              |                                 |
| 3.3                           | 70587                | 1.05                 | 532.69   | 14070                 | 4560      |                                                                                    |              |                                 |
| 3.8                           | 60613                | 1.20                 | 460.25   | 14880                 | 4860      |                                                                                    |              |                                 |
| 4.4                           | 51399                | 1.40                 | 392.69   | 15490                 | 5130      |                                                                                    |              |                                 |
| 4.6                           | 49898                | 1.45                 | 382.01   | 15580                 | 5170      |                                                                                    |              |                                 |
| 4.7                           | 48017                | 1.50                 | 368.37   | 15690                 | 5240      |                                                                                    |              |                                 |
| 5.1                           | 44045                | 1.65                 | 339.29   | 15890                 | 5350      |                                                                                    |              |                                 |
| 5.2                           | 42959                | 1.65                 | 331.61   | 15940                 | 5370      |                                                                                    |              |                                 |
| 5.4                           | 41340                | 1.75                 | 319.76   | 16030                 | 5420      |                                                                                    |              |                                 |
| 5.5                           | 40685                | 1.75                 | 314.70   | 16050                 | 5440      |                                                                                    |              |                                 |
| 6.1                           | 36812                | 1.95                 | 286.51   | 16210                 | 5550      |                                                                                    |              |                                 |
| 6.3                           | 35351                | 2.05                 | 276.28   | 16280                 | 5600      |                                                                                    |              |                                 |
| 6.4                           | 34954                | 2.05                 | 273.18   | 16300                 | 5620      |                                                                                    |              |                                 |
| 7.4                           | 29828                | 2.40                 | 236.02   | 16480                 | 5760      |                                                                                    |              |                                 |

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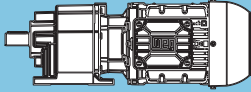
\*\* ... on request

**P<sub>N</sub> = 4.0 hp**

| 60 Hz           |                | f <sub>B</sub> | i      | F <sub>TN</sub> |                 |  | m<br>lb    | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|------------------------------------------------------------------------------------|------------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |        | F <sub>TN</sub> | F <sub>aN</sub> |                                                                                    |            |                                |
| rpm             | lb-in          |                |        | lb              | lb              |                                                                                    |            |                                |
| 4.9             | 46909          | 0.85           | 352.56 | 6860            | 4590            | CG104-11P-L100L-04F<br>CF104-11P-L100L-04F                                         | 437<br>445 | 156                            |
| 5.0             | 46449          | 0.90           | 349.11 | 6950            | 4610            |                                                                                    |            |                                |
| 5.9             | 39108          | 1.05           | 295.14 | 8050            | 4830            |                                                                                    |            |                                |
| 6.1             | 37415          | 1.10           | 282.94 | 8250            | 4900            |                                                                                    |            |                                |
| 6.4             | 36005          | 1.15           | 272.83 | 8410            | 4950            |                                                                                    |            |                                |
| 7.3             | 31437          | 1.30           | 239.20 | 8880            | 5100            |                                                                                    |            |                                |
| 7.5             | 30252          | 1.35           | 230.65 | 8990            | 5130            | CG103-11P-L100L-04F<br>CF103-11P-L100L-04F                                         | 408<br>417 | 154                            |
| 7.1             | 35912          | 1.15           | 246.43 | 8430            | 4950            |                                                                                    |            |                                |
| 8.4             | 30361          | 1.35           | 208.33 | 8970            | 5130            |                                                                                    |            |                                |
| 9.6             | 26282          | 1.55           | 180.35 | 9310            | 5260            |                                                                                    |            |                                |
| 11              | 23277          | 1.75           | 159.72 | 9510            | 5350            |                                                                                    |            |                                |
| 13              | 20136          | 2.00           | 138.17 | 9710            | 5460            |                                                                                    |            |                                |
| 14              | 17782          | 2.25           | 122.02 | 9820            | 5530            |                                                                                    |            |                                |
| 15              | 17132          | 2.35           | 117.56 | 9850            | 5550            |                                                                                    |            |                                |
| 17              | 15033          | 2.65           | 103.15 | 9800            | 5620            | CG094-11P-L100L-04F<br>CF094-11P-L100L-04F                                         | 342<br>337 | 152                            |
| 7.1             | 32449          | 0.85           | 243.38 | 3710            | 5510            |                                                                                    |            |                                |
| 7.4             | 31226          | 0.90           | 234.69 | 4070            | 5580            | CG093-11P-L100L-04F<br>CF093-11P-L100L-04F                                         | 313<br>309 | 150                            |
| 7.2             | 35380          | 0.80           | 242.77 | **              | 5420            |                                                                                    |            |                                |
| 8.2             | 30892          | 0.90           | 211.98 | 4160            | 5580            |                                                                                    |            |                                |
| 9.3             | 27302          | 1.00           | 187.34 | 4970            | 5710            |                                                                                    |            |                                |
| 11              | 23087          | 1.20           | 158.42 | 5690            | 5870            |                                                                                    |            |                                |
| 13              | 19845          | 1.35           | 136.18 | 6090            | 6000            |                                                                                    |            |                                |
| 14              | 17791          | 1.50           | 122.08 | 6320            | 6070            |                                                                                    |            |                                |
| 15              | 17325          | 1.55           | 118.88 | 6360            | 6090            |                                                                                    |            |                                |
| 16              | 15534          | 1.75           | 106.60 | 6540            | 6160            |                                                                                    |            |                                |
| 17              | 14843          | 1.80           | 101.85 | 6590            | 6180            |                                                                                    |            |                                |
| 18              | 14313          | 1.90           | 98.21  | 6630            | 6200            |                                                                                    |            |                                |
| 20              | 12633          | 2.15           | 86.68  | 6740            | 6270            |                                                                                    |            |                                |
| 22              | 11610          | 2.30           | 79.66  | 6810            | 6290            |                                                                                    |            |                                |
| 24              | 10597          | 2.55           | 72.72  | 6880            | 6340            |                                                                                    |            |                                |
| 25              | 9979           | 2.70           | 68.48  | 6900            | 6360            |                                                                                    |            |                                |
| 28              | 8930           | 3.00           | 61.28  | 6970            | 6410            | CG083-11P-L100L-04F<br>CF083-11P-L100L-04F                                         | 198<br>207 | 148                            |
| 15              | 17441          | 0.80           | 119.68 | **              | 4140            |                                                                                    |            |                                |
| 17              | 14835          | 0.95           | 101.80 | 4360            | 4290            |                                                                                    |            |                                |
| 20              | 12857          | 1.10           | 88.23  | 4680            | 4380            |                                                                                    |            |                                |
| 23              | 10857          | 1.30           | 74.50  | 4920            | 4500            |                                                                                    |            |                                |
| 24              | 10469          | 1.35           | 71.84  | 4970            | 4520            |                                                                                    |            |                                |
| 28              | 8944           | 1.55           | 61.37  | 5130            | 4590            | CG082-11P-L100L-04F<br>CF082-11P-L100L-04F                                         | 196<br>205 | 148                            |
| 32              | 7895           | 1.75           | 54.18  | 5220            | 4650            |                                                                                    |            |                                |
| 41              | 6249           | 2.20           | 42.88  | 5220            | 4720            |                                                                                    |            |                                |
| 46              | 5456           | 2.55           | 37.44  | 4990            | 4770            |                                                                                    |            |                                |
| 53              | 4822           | 2.85           | 33.09  | 4740            | 4810            |                                                                                    |            |                                |
| 56              | 4551           | 2.20           | 31.23  | 4680            | 4770            |                                                                                    |            |                                |
| 70              | 3602           | 2.80           | 24.72  | 4290            | 4830            | CG073-11P-L100L-04F<br>CF073-11P-L100L-04F                                         | 146<br>154 | 146                            |
| 27              | 9370           | 0.80           | 64.30  | **              | 2720            |                                                                                    |            |                                |
| 29              | 8752           | 0.85           | 60.06  | 1960            | 2830            |                                                                                    |            |                                |
| 32              | 7962           | 0.95           | 54.63  | 2200            | 2830            |                                                                                    |            |                                |
| 35              | 7196           | 1.05           | 49.38  | 2410            | 2940            |                                                                                    |            |                                |
| 37              | 6939           | 1.05           | 47.62  | 2470            | 2970            |                                                                                    |            |                                |
| 39              | 6546           | 1.10           | 44.92  | 2560            | 2940            |                                                                                    |            |                                |
| 40              | 6312           | 1.10           | 43.32  | 2610            | 2970            |                                                                                    |            |                                |
| 44              | 5708           | 1.20           | 39.17  | 2720            | 3060            |                                                                                    |            |                                |
| 49              | 5192           | 1.25           | 35.63  | 2790            | 3060            |                                                                                    |            |                                |

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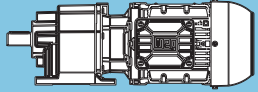
| P <sub>N</sub> = 4.0 hp |                         |                |       |                 |      |                                                                                    |            |                             |
|-------------------------|-------------------------|----------------|-------|-----------------|------|------------------------------------------------------------------------------------|------------|-----------------------------|
| 60 Hz                   |                         |                | i     | F <sub>FN</sub> |      |  | m<br>lb    | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in | f <sub>B</sub> |       | lb              | lb   |                                                                                    |            |                             |
| 45                      | 5672                    | 1.30           | 38.92 | 2720            | 3060 | CG072-11P-L100L-04F<br>CF072-11P-L100L-04F                                         | 143<br>152 | 146                         |
| 49                      | 5160                    | 1.45           | 35.41 | 2790            | 3060 |                                                                                    |            |                             |
| 57                      | 4452                    | 1.65           | 30.55 | 2900            | 3150 |                                                                                    |            |                             |
| 63                      | 4050                    | 1.80           | 27.79 | 2940            | 3150 |                                                                                    |            |                             |
| 74                      | 3436                    | 2.10           | 23.58 | 3010            | 3210 |                                                                                    |            |                             |
| 81                      | 3125                    | 2.25           | 21.45 | 3030            | 3210 |                                                                                    |            |                             |
| 84                      | 3009                    | 2.05           | 20.65 | 3010            | 3120 |                                                                                    |            |                             |
| 89                      | 2842                    | 2.40           | 19.50 | 3060            | 3260 |                                                                                    |            |                             |
| 98                      | 2585                    | 2.55           | 17.74 | 3080            | 3260 |                                                                                    |            |                             |
| 105                     | 2417                    | 2.65           | 16.59 | 3030            | 3280 |                                                                                    |            |                             |
| 107                     | 2361                    | 2.55           | 16.20 | 2970            | 3210 |                                                                                    |            |                             |
| 115                     | 2199                    | 2.85           | 15.09 | 2940            | 3280 |                                                                                    |            |                             |
| 121                     | 2095                    | 2.95           | 14.38 | 2880            | 3300 |                                                                                    |            |                             |
| 38                      | 6647                    | 0.80           | 45.61 | **              | 1330 | CG063-11P-L100L-04F<br>CF063-11P-L100L-04F                                         | 108<br>119 | 144                         |
| 47                      | 5381                    | 1.00           | 36.92 | 1820            | 1420 | CG062-11P-L100L-04F<br>CF062-11P-L100L-04F                                         | 108<br>119 | 144                         |
| 51                      | 4934                    | 1.10           | 33.86 | 1960            | 1460 |                                                                                    |            |                             |
| 57                      | 4415                    | 1.25           | 30.30 | 2090            | 1480 |                                                                                    |            |                             |
| 63                      | 4048                    | 1.35           | 27.78 | 2070            | 1530 |                                                                                    |            |                             |
| 74                      | 3419                    | 1.60           | 23.46 | 2000            | 1570 |                                                                                    |            |                             |
| 81                      | 3135                    | 1.70           | 21.51 | 1960            | 1600 |                                                                                    |            |                             |
| 85                      | 2998                    | 1.15           | 20.57 | 1910            | 1510 |                                                                                    |            |                             |
| 98                      | 2601                    | 2.05           | 17.85 | 1870            | 1620 |                                                                                    |            |                             |
| 103                     | 2460                    | 1.40           | 16.88 | 1820            | 1550 |                                                                                    |            |                             |
| 106                     | 2385                    | 2.25           | 16.36 | 1820            | 1640 |                                                                                    |            |                             |
| 118                     | 2145                    | 2.50           | 14.72 | 1780            | 1660 |                                                                                    |            |                             |
| 129                     | 1966                    | 2.75           | 13.49 | 1730            | 1660 |                                                                                    |            |                             |
| 133                     | 1905                    | 1.80           | 13.07 | 1710            | 1620 |                                                                                    |            |                             |
| 175                     | 1449                    | 2.35           | 9.94  | 1570            | 1660 |                                                                                    |            |                             |
| 212                     | 1195                    | 2.80           | 8.20  | 1510            | 1690 |                                                                                    |            |                             |
| 59                      | 4294                    | 0.85           | 29.46 | 610             | 1330 | CG052-11P-L100L-04F<br>CF052-11P-L100L-04F                                         | 97<br>108  | 142                         |
| 65                      | 3904                    | 0.95           | 26.79 | 920             | 1370 |                                                                                    |            |                             |
| 72                      | 3514                    | 1.05           | 24.12 | 1120            | 1420 |                                                                                    |            |                             |
| 79                      | 3195                    | 1.15           | 21.92 | 1240            | 1440 |                                                                                    |            |                             |
| 94                      | 2705                    | 1.35           | 18.56 | 1390            | 1510 |                                                                                    |            |                             |
| 97                      | 2602                    | 0.95           | 17.86 | 1370            | 1440 |                                                                                    |            |                             |
| 103                     | 2459                    | 1.45           | 16.88 | 1370            | 1530 |                                                                                    |            |                             |
| 119                     | 2130                    | 1.15           | 14.62 | 1300            | 1510 |                                                                                    |            |                             |
| 124                     | 2044                    | 1.75           | 14.03 | 1330            | 1570 |                                                                                    |            |                             |
| 136                     | 1858                    | 1.95           | 12.75 | 1280            | 1600 |                                                                                    |            |                             |
| 152                     | 1673                    | 2.15           | 11.48 | 1260            | 1620 |                                                                                    |            |                             |
| 155                     | 1639                    | 1.45           | 11.25 | 1240            | 1570 |                                                                                    |            |                             |
| 167                     | 1521                    | 2.35           | 10.43 | 1240            | 1640 |                                                                                    |            |                             |
| 187                     | 1356                    | 2.55           | 9.31  | 1190            | 1660 |                                                                                    |            |                             |
| 205                     | 1239                    | 1.95           | 8.50  | 1170            | 1640 |                                                                                    |            |                             |
| 206                     | 1233                    | 2.65           | 8.46  | 1170            | 1690 |                                                                                    |            |                             |
| 223                     | 1135                    | 2.75           | 7.79  | 1150            | 1690 |                                                                                    |            |                             |
| 246                     | 1032                    | 2.85           | 7.08  | 1120            | 1710 |                                                                                    |            |                             |
| 250                     | 1014                    | 2.35           | 6.96  | 1100            | 1660 |                                                                                    |            |                             |
| 276                     | 920                     | 2.95           | 6.31  | 1080            | 1710 |                                                                                    |            |                             |
| 286                     | 887                     | 3.00           | 6.09  | 1080            | 1710 |                                                                                    |            |                             |
| 308                     | 822                     | 2.80           | 5.64  | 1030            | 1710 |                                                                                    |            |                             |
| 368                     | 688                     | 3.00           | 4.72  | 990             | 1730 |                                                                                    |            |                             |

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**P<sub>N</sub> = 4.0 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i     | F <sub>rN</sub> |     |  | m<br>lb | Dimension<br>sheet<br>see page |
|------------------------|-------------------------|----------------|-------|-----------------|-----|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |       | lb              | lb  |                                                                                    |         |                                |
| 112                    | 2262                    | 0.80           | 15.52 | **              | 670 |                                                                                    |         |                                |
| 135                    | 1882                    | 0.95           | 12.92 | 670             | 740 |                                                                                    |         |                                |
| 148                    | 1710                    | 1.05           | 11.73 | 650             | 760 |                                                                                    |         |                                |
| 177                    | 1431                    | 1.15           | 9.82  | 650             | 810 |                                                                                    |         |                                |
| 182                    | 1395                    | 0.85           | 9.57  | 630             | 760 |                                                                                    |         |                                |
| 195                    | 1299                    | 1.25           | 8.92  | 630             | 830 |                                                                                    |         |                                |
| 228                    | 1113                    | 1.35           | 7.64  | 630             | 850 |                                                                                    |         |                                |
| 240                    | 1055                    | 1.10           | 7.24  | 610             | 830 |                                                                                    |         |                                |
| 251                    | 1011                    | 1.50           | 6.94  | 610             | 880 |                                                                                    |         |                                |
| 292                    | 869                     | 1.65           | 5.96  | 610             | 900 |                                                                                    |         |                                |
| 316                    | 802                     | 1.45           | 5.50  | 580             | 880 |                                                                                    |         |                                |
| 321                    | 789                     | 1.80           | 5.41  | 580             | 900 |                                                                                    |         |                                |
| 407                    | 624                     | 1.85           | 4.28  | 540             | 920 |                                                                                    |         |                                |

CG032-11P-L100L-04F  
CF032-11P-L100L-04F

88  
93

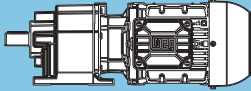
140

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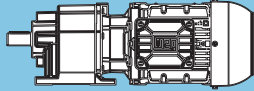
**P<sub>N</sub> = 5.4 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i       | F <sub>FN</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
|------------------------|-------------------------|----------------|---------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |         | lb              | lb   |                                                                                    |              |                             |
| 1.6                    | 194143                  | 0.85           | 1101.54 | 22350           | 4590 | <b>CG164-11P-112M-04E</b><br><b>CF164-11P-112M-04E</b>                             | 1567<br>1618 | 168                         |
| 1.8                    | 167239                  | 1.00           | 952.78  | 24770           | 5220 |                                                                                    |              |                             |
| 1.9                    | 163169                  | 1.00           | 931.50  | 25090           | 5310 |                                                                                    |              |                             |
| 2.2                    | 141577                  | 1.15           | 811.56  | 26570           | 5800 |                                                                                    |              |                             |
| 2.5                    | 121191                  | 1.35           | 698.99  | 27720           | 6290 |                                                                                    |              |                             |
| 2.6                    | 116009                  | 1.40           | 670.48  | 27990           | 6410 |                                                                                    |              |                             |
| 2.9                    | 103967                  | 1.55           | 604.60  | 28530           | 6680 |                                                                                    |              |                             |
| 3.0                    | 101761                  | 1.60           | 591.77  | 28620           | 6740 |                                                                                    |              |                             |
| 3.4                    | 88344                   | 1.85           | 517.99  | 29140           | 7060 |                                                                                    |              |                             |
| 3.5                    | 85013                   | 1.90           | 499.49  | 29270           | 7130 |                                                                                    |              |                             |
| 4.0                    | 74263                   | 2.15           | 440.86  | 29610           | 7370 |                                                                                    |              |                             |
| 4.1                    | 71873                   | 2.25           | 427.56  | 29670           | 7440 |                                                                                    |              |                             |
| 4.2                    | 70175                   | 2.30           | 418.32  | 29720           | 7460 |                                                                                    |              |                             |
| 4.7                    | 61399                   | 2.60           | 369.82  | 29940           | 7670 |                                                                                    |              |                             |
| 4.9                    | 59570                   | 2.70           | 360.30  | 29990           | 7710 |                                                                                    |              |                             |
| 2.1                    | 149800                  | 0.80           | 848.21  | **              | 2340 | <b>CG144-11P-112M-04E</b><br><b>CF144-11P-112M-04E</b>                             | 1014<br>1054 | 164                         |
| 2.4                    | 130078                  | 0.90           | 739.56  | 20700           | 2830 |                                                                                    |              |                             |
| 2.5                    | 124765                  | 0.95           | 710.80  | 21090           | 2970 |                                                                                    |              |                             |
| 2.8                    | 111360                  | 1.05           | 637.04  | 21940           | 3330 |                                                                                    |              |                             |
| 2.9                    | 106935                  | 1.10           | 611.72  | 22210           | 3440 |                                                                                    |              |                             |
| 3.2                    | 95503                   | 1.25           | 548.57  | 22820           | 3730 |                                                                                    |              |                             |
| 3.3                    | 91546                   | 1.30           | 526.92  | 23000           | 3820 |                                                                                    |              |                             |
| 3.4                    | 90215                   | 1.30           | 520.33  | 23070           | 3870 |                                                                                    |              |                             |
| 3.9                    | 78188                   | 1.50           | 453.75  | 23560           | 4180 |                                                                                    |              |                             |
| 4.0                    | 75104                   | 1.55           | 436.75  | 23690           | 4250 |                                                                                    |              |                             |
| 4.2                    | 72273                   | 1.60           | 421.15  | 23780           | 4320 |                                                                                    |              |                             |
| 4.5                    | 66385                   | 1.75           | 388.44  | 23990           | 4470 |                                                                                    |              |                             |
| 4.6                    | 64946                   | 1.80           | 380.80  | 24030           | 4520 |                                                                                    |              |                             |
| 4.8                    | 62497                   | 1.85           | 367.20  | 24100           | 4590 |                                                                                    |              |                             |
| 4.9                    | 61110                   | 1.90           | 359.79  | 24140           | 4610 |                                                                                    |              |                             |
| 5.2                    | 56579                   | 2.05           | 334.50  | 24280           | 4720 |                                                                                    |              |                             |
| 5.4                    | 55368                   | 2.10           | 328.01  | 24300           | 4770 |                                                                                    |              |                             |
| 5.5                    | 53281                   | 2.20           | 316.30  | 24370           | 4810 |                                                                                    |              |                             |
| 5.6                    | 52844                   | 2.20           | 313.70  | 24370           | 4830 |                                                                                    |              |                             |
| 6.2                    | 47091                   | 2.45           | 282.46  | 24530           | 4970 |                                                                                    |              |                             |
| 6.4                    | 45315                   | 2.55           | 272.37  | 24550           | 5010 |                                                                                    |              |                             |
| 6.5                    | 44863                   | 2.60           | 270.22  | 24570           | 5040 |                                                                                    |              |                             |
| 8.5                    | 39855                   | 2.90           | 206.88  | 24660           | 5150 | <b>CG143-11P-112M-04E</b><br><b>CF143-11P-112M-04E</b>                             | 961<br>1001  | 162                         |
| 3.3                    | 94078                   | 0.80           | 532.69  | **              | 3890 | <b>CG134-11P-112M-04E</b><br><b>CF134-11P-112M-04E</b>                             | 690<br>694   | 160                         |
| 3.4                    | 92185                   | 0.80           | 521.98  | **              | 3930 |                                                                                    |              |                             |
| 3.8                    | 80952                   | 0.90           | 460.25  | 13040           | 4270 |                                                                                    |              |                             |
| 3.9                    | 79695                   | 0.90           | 453.11  | 13170           | 4290 |                                                                                    |              |                             |
| 4.5                    | 68646                   | 1.05           | 392.69  | 14250           | 4630 |                                                                                    |              |                             |
| 4.6                    | 66779                   | 1.10           | 382.01  | 14410           | 4680 |                                                                                    |              |                             |
| 4.8                    | 64262                   | 1.15           | 368.37  | 14610           | 4740 |                                                                                    |              |                             |
| 5.2                    | 59068                   | 1.20           | 339.29  | 14990           | 4900 |                                                                                    |              |                             |
| 5.3                    | 57612                   | 1.25           | 331.61  | 15080           | 4950 |                                                                                    |              |                             |
| 5.5                    | 55441                   | 1.30           | 319.76  | 15240           | 5010 |                                                                                    |              |                             |
| 5.6                    | 54563                   | 1.30           | 314.70  | 15290           | 5040 |                                                                                    |              |                             |
| 6.1                    | 49471                   | 1.45           | 286.51  | 15600           | 5190 |                                                                                    |              |                             |
| 6.4                    | 47607                   | 1.50           | 276.28  | 15690           | 5240 |                                                                                    |              |                             |
| 7.4                    | 40254                   | 1.80           | 236.02  | 16070           | 5460 |                                                                                    |              |                             |
| 8.6                    | 39469                   | 1.80           | 204.88  | 16100           | 5490 | <b>CG133-11P-112M-04E</b><br><b>CF133-11P-112M-04E</b>                             | 637<br>642   | 158                         |
| 9.7                    | 34860                   | 2.05           | 180.95  | 16300           | 5620 |                                                                                    |              |                             |
| 11                     | 30261                   | 2.35           | 157.08  | 16460           | 5760 |                                                                                    |              |                             |
| 12                     | 29180                   | 2.45           | 151.47  | 16480           | 5780 |                                                                                    |              |                             |
| 13                     | 26145                   | 2.75           | 135.71  | 16570           | 5870 |                                                                                    |              |                             |

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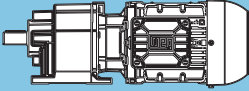
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$P_N = 5.4 \text{ hp}$

| 60 Hz           |                | $f_B$ | $i$    | $F_{TN}$ |      |  | $m$        | Dimension sheet<br>see page |
|-----------------|----------------|-------|--------|----------|------|------------------------------------------------------------------------------------|------------|-----------------------------|
| $n_{60}$<br>rpm | $T_2$<br>lb-in |       |        | lb       | lb   |                                                                                    |            |                             |
| 5.9             | 52124          | 0.80  | 295.14 | **       | 4410 | CG104-11P-112M-04E<br>CF104-11P-112M-04E                                           | 439<br>448 | 156                         |
| 6.2             | 49867          | 0.80  | 282.94 | **       | 4500 |                                                                                    |            |                             |
| 6.4             | 48086          | 0.85  | 272.83 | 6630     | 4540 |                                                                                    |            |                             |
| 7.3             | 41986          | 0.95  | 239.20 | 7640     | 4740 |                                                                                    |            |                             |
| 7.6             | 40403          | 1.00  | 230.65 | 7870     | 4790 |                                                                                    |            |                             |
| 7.1             | 47474          | 0.85  | 246.43 | 6740     | 4560 | CG103-11P-112M-04E<br>CF103-11P-112M-04E                                           | 410<br>419 | 154                         |
| 8.4             | 40135          | 1.00  | 208.33 | 7890     | 4810 |                                                                                    |            |                             |
| 9.7             | 34743          | 1.15  | 180.35 | 8540     | 4990 |                                                                                    |            |                             |
| 11              | 30770          | 1.30  | 159.72 | 8950     | 5100 |                                                                                    |            |                             |
| 13              | 26619          | 1.50  | 138.17 | 9280     | 5240 |                                                                                    |            |                             |
| 14              | 23506          | 1.70  | 122.02 | 9510     | 5350 |                                                                                    |            |                             |
| 15              | 22648          | 1.80  | 117.56 | 9550     | 5370 |                                                                                    |            |                             |
| 17              | 19872          | 2.05  | 103.15 | 9710     | 5460 |                                                                                    |            |                             |
| 18              | 19274          | 2.10  | 100.05 | 9760     | 5490 |                                                                                    |            |                             |
| 20              | 16627          | 2.40  | 86.31  | 9370     | 5580 |                                                                                    |            |                             |
| 20              | 17203          | 2.35  | 89.30  | 9400     | 5550 |                                                                                    |            |                             |
| 22              | 15236          | 2.65  | 79.08  | 9060     | 5620 |                                                                                    |            |                             |
| 11              | 30520          | 0.90  | 158.42 | 4230     | 5600 | CG093-11P-112M-04E<br>CF093-11P-112M-04E                                           | 315<br>311 | 150                         |
| 13              | 26234          | 1.05  | 136.18 | 5170     | 5760 |                                                                                    |            |                             |
| 14              | 23519          | 1.15  | 122.08 | 5620     | 5850 |                                                                                    |            |                             |
| 15              | 22902          | 1.20  | 118.88 | 5710     | 5870 |                                                                                    |            |                             |
| 16              | 20535          | 1.30  | 106.60 | 6020     | 5960 |                                                                                    |            |                             |
| 17              | 19622          | 1.40  | 101.85 | 6110     | 6000 |                                                                                    |            |                             |
| 18              | 18921          | 1.45  | 98.21  | 6200     | 6020 |                                                                                    |            |                             |
| 19              | 18149          | 1.50  | 94.21  | 6290     | 6050 |                                                                                    |            |                             |
| 20              | 16700          | 1.60  | 86.68  | 6430     | 6110 |                                                                                    |            |                             |
| 22              | 15347          | 1.75  | 79.66  | 6540     | 6160 |                                                                                    |            |                             |
| 24              | 14009          | 1.90  | 72.72  | 6650     | 6200 |                                                                                    |            |                             |
| 26              | 13192          | 2.05  | 68.48  | 6720     | 6250 |                                                                                    |            |                             |
| 29              | 11805          | 2.25  | 61.28  | 6810     | 6290 |                                                                                    |            |                             |
| 34              | 9867           | 2.70  | 51.22  | 6900     | 6360 |                                                                                    |            |                             |
| 36              | 9514           | 2.80  | 49.39  | 6770     | 6380 |                                                                                    |            |                             |
| 20              | 16997          | 0.85  | 88.23  | 3930     | 4160 | CG083-11P-112M-04E<br>CF083-11P-112M-04E                                           | 201<br>209 | 148                         |
| 24              | 14353          | 1.00  | 74.50  | 4450     | 4320 |                                                                                    |            |                             |
| 29              | 11824          | 1.20  | 61.37  | 4810     | 4430 |                                                                                    |            |                             |
| 32              | 10437          | 1.35  | 54.18  | 4970     | 4520 | CG082-11P-112M-04E<br>CF082-11P-112M-04E                                           | 198<br>207 | 148                         |
| 41              | 8261           | 1.70  | 42.88  | 5190     | 4630 |                                                                                    |            |                             |
| 47              | 7213           | 1.95  | 37.44  | 5040     | 4680 |                                                                                    |            |                             |
| 53              | 6375           | 2.20  | 33.09  | 4810     | 4720 |                                                                                    |            |                             |
| 56              | 6017           | 1.65  | 31.23  | 4740     | 4680 |                                                                                    |            |                             |
| 63              | 5391           | 2.55  | 27.98  | 4520     | 4770 |                                                                                    |            |                             |
| 71              | 4762           | 2.10  | 24.72  | 4340     | 4770 |                                                                                    |            |                             |
| 73              | 4634           | 2.85  | 24.05  | 4270     | 4810 |                                                                                    |            |                             |
| 81              | 4158           | 2.85  | 21.58  | 4140     | 4790 |                                                                                    |            |                             |
| 36              | 9513           | 0.80  | 49.38  | **       | 2790 | CG073-11P-112M-04E<br>CF073-11P-112M-04E                                           | 148<br>157 | 146                         |
| 37              | 9173           | 0.80  | 47.62  | **       | 2810 |                                                                                    |            |                             |
| 39              | 8654           | 0.85  | 44.92  | 1980     | 2790 |                                                                                    |            |                             |
| 41              | 8345           | 0.85  | 43.32  | 2090     | 2810 |                                                                                    |            |                             |
| 45              | 7545           | 0.90  | 39.17  | 2320     | 2920 |                                                                                    |            |                             |
| 49              | 6864           | 0.95  | 35.63  | 2470     | 2920 |                                                                                    |            |                             |

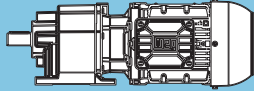
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| <b>P<sub>N</sub> = 5.4 hp</b> |                               |                      |          |                             |                             |                                                                                    |                |                             |
|-------------------------------|-------------------------------|----------------------|----------|-----------------------------|-----------------------------|------------------------------------------------------------------------------------|----------------|-----------------------------|
| <b>60 Hz</b>                  |                               |                      | <b>i</b> |                             |                             |  | <b>m</b><br>lb | Dimension sheet<br>see page |
| <b>n<sub>60</sub></b><br>rpm  | <b>T<sub>2</sub></b><br>lb-in | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b><br>lb | <b>F<sub>2N</sub></b><br>lb |                                                                                    |                |                             |
| 45                            | 7498                          | 1.00                 | 38.92    | 2340                        | 2920                        | <b>CG072-11P-112M-04E</b><br><b>CF072-11P-112M-04E</b>                             | 146<br>154     | 146                         |
| 50                            | 6821                          | 1.10                 | 35.41    | 2450                        | 2920                        |                                                                                    |                |                             |
| 57                            | 5885                          | 1.25                 | 30.55    | 2630                        | 3030                        |                                                                                    |                |                             |
| 63                            | 5353                          | 1.40                 | 27.79    | 2650                        | 3030                        |                                                                                    |                |                             |
| 74                            | 4542                          | 1.60                 | 23.58    | 2740                        | 3150                        |                                                                                    |                |                             |
| 82                            | 4132                          | 1.70                 | 21.45    | 2740                        | 3150                        |                                                                                    |                |                             |
| 85                            | 3977                          | 1.55                 | 20.65    | 2590                        | 3030                        |                                                                                    |                |                             |
| 90                            | 3757                          | 1.80                 | 19.50    | 2770                        | 3190                        |                                                                                    |                |                             |
| 99                            | 3417                          | 1.95                 | 17.74    | 2740                        | 3190                        |                                                                                    |                |                             |
| 106                           | 3195                          | 2.00                 | 16.59    | 2770                        | 3240                        |                                                                                    |                |                             |
| 108                           | 3122                          | 1.95                 | 16.20    | 2630                        | 3120                        |                                                                                    |                |                             |
| 116                           | 2907                          | 2.15                 | 15.09    | 2740                        | 3240                        |                                                                                    |                |                             |
| 122                           | 2769                          | 2.25                 | 14.38    | 2740                        | 3260                        |                                                                                    |                |                             |
| 134                           | 2519                          | 2.40                 | 13.08    | 2700                        | 3260                        |                                                                                    |                |                             |
| 140                           | 2409                          | 2.30                 | 12.51    | 2610                        | 3190                        |                                                                                    |                |                             |
| 145                           | 2339                          | 2.50                 | 12.14    | 2700                        | 3300                        |                                                                                    |                |                             |
| 150                           | 2255                          | 2.55                 | 11.71    | 2680                        | 3300                        |                                                                                    |                |                             |
| 159                           | 2127                          | 2.70                 | 11.04    | 2650                        | 3300                        |                                                                                    |                |                             |
| 165                           | 2051                          | 2.75                 | 10.65    | 2610                        | 3300                        |                                                                                    |                |                             |
| 170                           | 1993                          | 2.60                 | 10.34    | 2560                        | 3240                        |                                                                                    |                |                             |
| 176                           | 1926                          | 2.85                 | 10.00    | 2540                        | 3330                        |                                                                                    |                |                             |
| 199                           | 1695                          | 2.90                 | 8.80     | 2450                        | 3280                        |                                                                                    |                |                             |
| 52                            | 6523                          | 0.85                 | 33.86    | 1370                        | 1330                        | <b>CG062-11P-112M-04E</b><br><b>CF062-11P-112M-04E</b>                             | 110<br>121     | 144                         |
| 58                            | 5836                          | 0.95                 | 30.30    | 1660                        | 1390                        |                                                                                    |                |                             |
| 63                            | 5352                          | 1.00                 | 27.78    | 1840                        | 1420                        |                                                                                    |                |                             |
| 75                            | 4520                          | 1.20                 | 23.46    | 1890                        | 1480                        |                                                                                    |                |                             |
| 82                            | 4145                          | 1.30                 | 21.51    | 1840                        | 1510                        |                                                                                    |                |                             |
| 85                            | 3963                          | 0.85                 | 20.57    | 1820                        | 1390                        |                                                                                    |                |                             |
| 98                            | 3438                          | 1.55                 | 17.85    | 1800                        | 1570                        |                                                                                    |                |                             |
| 104                           | 3252                          | 1.05                 | 16.88    | 1730                        | 1480                        |                                                                                    |                |                             |
| 107                           | 3153                          | 1.70                 | 16.36    | 1750                        | 1570                        |                                                                                    |                |                             |
| 119                           | 2835                          | 1.90                 | 14.72    | 1710                        | 1620                        |                                                                                    |                |                             |
| 130                           | 2600                          | 2.05                 | 13.49    | 1660                        | 1620                        |                                                                                    |                |                             |
| 134                           | 2518                          | 1.35                 | 13.07    | 1640                        | 1550                        |                                                                                    |                |                             |
| 145                           | 2325                          | 2.30                 | 12.07    | 1640                        | 1640                        |                                                                                    |                |                             |
| 159                           | 2132                          | 2.50                 | 11.07    | 1600                        | 1660                        |                                                                                    |                |                             |
| 171                           | 1976                          | 2.70                 | 10.26    | 1570                        | 1660                        |                                                                                    |                |                             |
| 177                           | 1915                          | 1.75                 | 9.94     | 1530                        | 1620                        |                                                                                    |                |                             |
| 187                           | 1812                          | 2.90                 | 9.40     | 1530                        | 1690                        |                                                                                    |                |                             |
| 208                           | 1625                          | 3.00                 | 8.43     | 1480                        | 1710                        |                                                                                    |                |                             |
| 214                           | 1579                          | 2.15                 | 8.20     | 1460                        | 1660                        |                                                                                    |                |                             |
| 261                           | 1296                          | 2.60                 | 6.73     | 1390                        | 1690                        |                                                                                    |                |                             |
| 307                           | 1101                          | 3.00                 | 5.71     | 1330                        | 1710                        |                                                                                    |                |                             |

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**P<sub>N</sub> = 5.4 hp**

| 60 Hz           |                | f <sub>B</sub> | i     | F <sub>rN</sub> |                 |  | m | Dimension sheet see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|------------------------------------------------------------------------------------|---|--------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |   |                          |
| rpm             | lb-in          |                |       | lb              | lb              |                                                                                    |   |                          |
| 73              | 4646           | 0.80           | 24.12 | **              | 1280            |                                                                                    |   |                          |
| 80              | 4223           | 0.85           | 21.92 | 670             | 1330            |                                                                                    |   |                          |
| 95              | 3576           | 1.00           | 18.56 | 1080            | 1390            |                                                                                    |   |                          |
| 104             | 3251           | 1.10           | 16.88 | 1210            | 1440            |                                                                                    |   |                          |
| 120             | 2816           | 0.85           | 14.62 | 1210            | 1420            |                                                                                    |   |                          |
| 125             | 2702           | 1.35           | 14.03 | 1240            | 1510            |                                                                                    |   |                          |
| 138             | 2456           | 1.45           | 12.75 | 1210            | 1530            |                                                                                    |   |                          |
| 153             | 2211           | 1.65           | 11.48 | 1190            | 1570            |                                                                                    |   |                          |
| 156             | 2167           | 1.10           | 11.25 | 1170            | 1510            |                                                                                    |   |                          |
| 168             | 2010           | 1.80           | 10.43 | 1170            | 1570            |                                                                                    |   |                          |
| 189             | 1793           | 1.95           | 9.31  | 1150            | 1620            |                                                                                    |   |                          |
| 206             | 1638           | 1.45           | 8.50  | 1100            | 1570            |                                                                                    |   |                          |
| 207             | 1630           | 2.00           | 8.46  | 1120            | 1620            |                                                                                    |   |                          |
| 225             | 1501           | 2.05           | 7.79  | 1100            | 1640            |                                                                                    |   |                          |
| 248             | 1365           | 2.15           | 7.08  | 1080            | 1660            |                                                                                    |   |                          |
| 252             | 1340           | 1.80           | 6.96  | 1060            | 1620            |                                                                                    |   |                          |
| 278             | 1217           | 2.25           | 6.31  | 1060            | 1690            |                                                                                    |   |                          |
| 288             | 1173           | 2.30           | 6.09  | 1030            | 1690            |                                                                                    |   |                          |
| 306             | 1106           | 2.35           | 5.74  | 1010            | 1690            |                                                                                    |   |                          |
| 311             | 1087           | 2.15           | 5.64  | 1010            | 1660            |                                                                                    |   |                          |
| 317             | 1066           | 2.35           | 5.54  | 1010            | 1690            |                                                                                    |   |                          |
| 372             | 910            | 2.25           | 4.72  | 970             | 1690            |                                                                                    |   |                          |
| 459             | 737            | 2.45           | 3.83  | 920             | 1710            |                                                                                    |   |                          |
| 476             | 711            | 2.45           | 3.69  | 900             | 1710            |                                                                                    |   |                          |

CG052-11P-112M-04E  
CF052-11P-112M-04E

99  
110

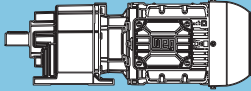
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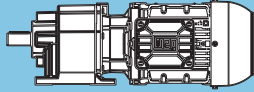
**P<sub>N</sub> = 7.5 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i      | F <sub>N</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
|------------------------|-------------------------|----------------|--------|----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |        | lb             | lb   |                                                                                    |              |                             |
| 2.2                    | 195558                  | 0.85           | 811.56 | 22300          | 4560 | <b>CG164-11P-132S-04E</b><br><b>CF164-11P-132S-04E</b>                             | 1607<br>1658 | 168                         |
| 2.5                    | 167745                  | 0.95           | 698.99 | 24800          | 5220 |                                                                                    |              |                             |
| 2.6                    | 160573                  | 1.00           | 670.48 | 25340          | 5400 |                                                                                    |              |                             |
| 2.9                    | 144203                  | 1.15           | 604.60 | 26460          | 5760 |                                                                                    |              |                             |
| 3.0                    | 141144                  | 1.15           | 591.77 | 26640          | 5850 |                                                                                    |              |                             |
| 3.1                    | 137453                  | 1.20           | 577.48 | 26860          | 5910 |                                                                                    |              |                             |
| 3.4                    | 122789                  | 1.30           | 517.99 | 27670          | 6250 |                                                                                    |              |                             |
| 3.5                    | 120820                  | 1.35           | 509.69 | 27760          | 6290 |                                                                                    |              |                             |
| 3.6                    | 117432                  | 1.40           | 496.41 | 27940          | 6380 |                                                                                    |              |                             |
| 4.0                    | 103649                  | 1.55           | 440.86 | 28570          | 6700 |                                                                                    |              |                             |
| 4.1                    | 100315                  | 1.60           | 427.56 | 28710          | 6790 |                                                                                    |              |                             |
| 4.2                    | 98148                   | 1.65           | 418.32 | 28800          | 6830 |                                                                                    |              |                             |
| 4.8                    | 86056                   | 1.90           | 369.82 | 29250          | 7100 |                                                                                    |              |                             |
| 4.9                    | 83667                   | 1.95           | 360.30 | 29320          | 7170 |                                                                                    |              |                             |
| 5.7                    | 71625                   | 2.25           | 311.64 | 29670          | 7440 |                                                                                    |              |                             |
| 2.9                    | 147706                  | 0.80           | 611.72 | **             | 2410 | <b>CG144-11P-132S-04E</b><br><b>CF144-11P-132S-04E</b>                             | 1054<br>1093 | 164                         |
| 3.0                    | 143802                  | 0.85           | 596.77 | 19670          | 2520 |                                                                                    |              |                             |
| 3.2                    | 131917                  | 0.90           | 548.57 | 20610          | 2810 |                                                                                    |              |                             |
| 3.3                    | 126452                  | 0.95           | 526.92 | 21020          | 2940 |                                                                                    |              |                             |
| 3.4                    | 124869                  | 0.95           | 520.33 | 21130          | 2990 |                                                                                    |              |                             |
| 3.9                    | 108447                  | 1.10           | 453.75 | 22140          | 3420 |                                                                                    |              |                             |
| 4.0                    | 104169                  | 1.15           | 436.75 | 22390          | 3530 |                                                                                    |              |                             |
| 4.2                    | 100243                  | 1.15           | 421.15 | 22590          | 3620 |                                                                                    |              |                             |
| 4.5                    | 92268                   | 1.25           | 388.44 | 22980          | 3820 |                                                                                    |              |                             |
| 4.6                    | 91678                   | 1.30           | 385.96 | 23020          | 3840 |                                                                                    |              |                             |
| 4.8                    | 87045                   | 1.35           | 367.20 | 23220          | 3960 |                                                                                    |              |                             |
| 4.9                    | 85113                   | 1.40           | 359.79 | 23310          | 4000 |                                                                                    |              |                             |
| 5.3                    | 78804                   | 1.50           | 334.50 | 23560          | 4160 |                                                                                    |              |                             |
| 5.4                    | 77277                   | 1.50           | 328.01 | 23630          | 4200 |                                                                                    |              |                             |
| 5.6                    | 74364                   | 1.55           | 316.30 | 23720          | 4270 |                                                                                    |              |                             |
| 6.2                    | 66000                   | 1.75           | 282.46 | 24010          | 4500 |                                                                                    |              |                             |
| 6.5                    | 63381                   | 1.85           | 272.37 | 24100          | 4560 |                                                                                    |              |                             |
| 7.6                    | 53591                   | 2.15           | 232.69 | 24370          | 4810 |                                                                                    |              |                             |
| 8.5                    | 54490                   | 2.15           | 206.88 | 24350          | 4790 | <b>CG143-11P-132S-04E</b><br><b>CF143-11P-132S-04E</b>                             | 1001<br>1041 | 162                         |
| 9.8                    | 47510                   | 2.45           | 180.38 | 24500          | 4970 |                                                                                    |              |                             |
| 10                     | 45814                   | 2.55           | 173.94 | 24550          | 5010 |                                                                                    |              |                             |
| 11                     | 40924                   | 2.85           | 155.38 | 24640          | 5130 |                                                                                    |              |                             |
| 4.6                    | 92240                   | 0.80           | 382.01 | **             | 3930 |                                                                                    |              |                             |
| 4.8                    | 88764                   | 0.80           | 368.37 | **             | 4050 | <b>CG134-11P-132S-04E</b><br><b>CF134-11P-132S-04E</b>                             | 730<br>734   | 160                         |
| 5.2                    | 81589                   | 0.90           | 339.29 | 13020          | 4250 |                                                                                    |              |                             |
| 5.3                    | 79743                   | 0.90           | 331.61 | 13220          | 4320 |                                                                                    |              |                             |
| 5.5                    | 76738                   | 0.95           | 319.76 | 13510          | 4410 |                                                                                    |              |                             |
| 5.6                    | 75522                   | 0.95           | 314.70 | 13650          | 4430 |                                                                                    |              |                             |
| 6.2                    | 68476                   | 1.05           | 286.51 | 14280          | 4630 |                                                                                    |              |                             |
| 6.4                    | 66030                   | 1.10           | 276.28 | 14480          | 4700 |                                                                                    |              |                             |
| 6.5                    | 65156                   | 1.10           | 273.18 | 14570          | 4740 |                                                                                    |              |                             |
| 7.5                    | 56064                   | 1.30           | 236.02 | 15220          | 4990 |                                                                                    |              |                             |
| 8.6                    | 53963                   | 1.35           | 204.88 | 15350          | 5060 |                                                                                    |              |                             |
| 9.8                    | 47661                   | 1.50           | 180.95 | 15710          | 5240 |                                                                                    |              |                             |
| 11                     | 41373                   | 1.75           | 157.08 | 16030          | 5420 |                                                                                    |              |                             |
| 12                     | 39895                   | 1.80           | 151.47 | 16100          | 5460 |                                                                                    |              |                             |
| 13                     | 35746                   | 2.00           | 135.71 | 16250          | 5600 |                                                                                    |              |                             |
| 15                     | 30590                   | 2.35           | 116.14 | 16460          | 5730 |                                                                                    |              |                             |
| 17                     | 26827                   | 2.65           | 101.85 | 16570          | 5850 |                                                                                    |              |                             |
| 18                     | 26421                   | 2.70           | 100.31 | 16570          | 5870 |                                                                                    |              |                             |
| 20                     | 23694                   | 3.00           | 89.96  | 16640          | 5930 |                                                                                    |              |                             |

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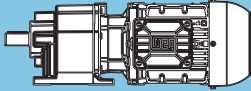
\*\* ... on request

**P<sub>N</sub> = 7.5 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i      | F <sub>TN</sub> |      |  | m<br>lb    | Dimension<br>sheet<br>see page |
|------------------------|-------------------------|----------------|--------|-----------------|------|------------------------------------------------------------------------------------|------------|--------------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |        | lb              | lb   |                                                                                    |            |                                |
| <b>9.8</b>             | 47501                   | 0.85           | 180.35 | 6790            | 4560 | <b>CG103-11P-132S-04E</b><br><b>CF103-11P-132S-04E</b>                             | 450<br>459 | 154                            |
| <b>11</b>              | 42069                   | 0.95           | 159.72 | 7670            | 4740 |                                                                                    |            |                                |
| <b>13</b>              | 36393                   | 1.10           | 138.17 | 8390            | 4950 |                                                                                    |            |                                |
| <b>14</b>              | 32138                   | 1.25           | 122.02 | 8830            | 5080 |                                                                                    |            |                                |
| <b>15</b>              | 30964                   | 1.30           | 117.56 | 8920            | 5100 |                                                                                    |            |                                |
| <b>17</b>              | 27170                   | 1.50           | 103.15 | 9240            | 5240 |                                                                                    |            |                                |
| <b>18</b>              | 26351                   | 1.55           | 100.05 | 9310            | 5260 |                                                                                    |            |                                |
| <b>20</b>              | 23520                   | 1.70           | 89.30  | 9510            | 5350 |                                                                                    |            |                                |
| <b>22</b>              | 20830                   | 1.95           | 79.08  | 9260            | 5440 |                                                                                    |            |                                |
| <b>26</b>              | 18020                   | 2.25           | 68.41  | 8700            | 5530 |                                                                                    |            |                                |
| <b>27</b>              | 17376                   | 2.30           | 65.97  | 8570            | 5550 |                                                                                    |            |                                |
| <b>30</b>              | 15332                   | 2.60           | 58.21  | 8230            | 5620 |                                                                                    |            |                                |
| <b>14</b>              | 32155                   | 0.85           | 122.08 | 3820            | 5530 | <b>CG093-11P-132S-04E</b><br><b>CF093-11P-132S-04E</b>                             | 357<br>353 | 150                            |
| <b>15</b>              | 31312                   | 0.85           | 118.88 | 4070            | 5580 |                                                                                    |            |                                |
| <b>17</b>              | 28076                   | 0.95           | 106.60 | 4830            | 5690 |                                                                                    |            |                                |
| <b>18</b>              | 25869                   | 1.05           | 98.21  | 5240            | 5780 |                                                                                    |            |                                |
| <b>19</b>              | 24813                   | 1.10           | 94.21  | 5420            | 5800 |                                                                                    |            |                                |
| <b>20</b>              | 22832                   | 1.20           | 86.68  | 5730            | 5890 |                                                                                    |            |                                |
| <b>22</b>              | 20983                   | 1.30           | 79.66  | 5980            | 5960 |                                                                                    |            |                                |
| <b>24</b>              | 19153                   | 1.40           | 72.72  | 6180            | 6020 |                                                                                    |            |                                |
| <b>26</b>              | 18037                   | 1.50           | 68.48  | 6320            | 6070 |                                                                                    |            |                                |
| <b>29</b>              | 16140                   | 1.65           | 61.28  | 6500            | 6140 |                                                                                    |            |                                |
| <b>30</b>              | 15745                   | 1.70           | 59.78  | 6520            | 6160 |                                                                                    |            |                                |
| <b>34</b>              | 13490                   | 2.00           | 51.22  | 6700            | 6230 |                                                                                    |            |                                |
| <b>36</b>              | 13008                   | 2.05           | 49.39  | 6720            | 6250 |                                                                                    |            |                                |
| <b>40</b>              | 11481                   | 2.25           | 43.59  | 6630            | 6320 |                                                                                    |            |                                |
| <b>48</b>              | 9631                    | 2.50           | 36.57  | 6180            | 6380 |                                                                                    |            |                                |
| <b>57</b>              | 8116                    | 2.75           | 30.81  | 5800            | 6430 |                                                                                    |            |                                |
| <b>45</b>              | 10430                   | 2.55           | 39.60  | 6340            | 6360 | <b>CG092-11P-132S-04E</b><br><b>CF092-11P-132S-04E</b>                             | 353<br>348 | 150                            |
| <b>78</b>              | 5948                    | 2.55           | 22.58  | 5190            | 6430 |                                                                                    |            |                                |
| <b>29</b>              | 16165                   | 0.85           | 61.37  | 4140            | 4230 | <b>CG083-11P-132S-04E</b><br><b>CF083-11P-132S-04E</b>                             | 240<br>249 | 148                            |
| <b>33</b>              | 14269                   | 1.00           | 54.18  | 4470            | 4320 | <b>CG082-11P-132S-04E</b><br><b>CF082-11P-132S-04E</b>                             | 238<br>247 | 148                            |
| <b>41</b>              | 11294                   | 1.25           | 42.88  | 4880            | 4470 |                                                                                    |            |                                |
| <b>47</b>              | 9861                    | 1.40           | 37.44  | 5040            | 4540 |                                                                                    |            |                                |
| <b>53</b>              | 8715                    | 1.60           | 33.09  | 4920            | 4610 |                                                                                    |            |                                |
| <b>57</b>              | 8226                    | 1.25           | 31.23  | 4830            | 4540 |                                                                                    |            |                                |
| <b>63</b>              | 7370                    | 1.90           | 27.98  | 4610            | 4680 |                                                                                    |            |                                |
| <b>71</b>              | 6511                    | 1.55           | 24.72  | 4430            | 4650 |                                                                                    |            |                                |
| <b>73</b>              | 6335                    | 2.10           | 24.05  | 4360            | 4720 |                                                                                    |            |                                |
| <b>82</b>              | 5685                    | 2.05           | 21.58  | 4200            | 4700 |                                                                                    |            |                                |
| <b>84</b>              | 5530                    | 2.30           | 21.00  | 4140            | 4770 |                                                                                    |            |                                |
| <b>93</b>              | 5024                    | 2.35           | 19.08  | 4000            | 4740 |                                                                                    |            |                                |
| <b>98</b>              | 4738                    | 2.55           | 17.99  | 3910            | 4810 |                                                                                    |            |                                |
| <b>102</b>             | 4569                    | 2.60           | 17.35  | 3840            | 4810 |                                                                                    |            |                                |
| <b>109</b>             | 4249                    | 2.75           | 16.13  | 3780            | 4790 |                                                                                    |            |                                |
| <b>115</b>             | 4033                    | 2.85           | 15.31  | 3690            | 4860 |                                                                                    |            |                                |
| <b>127</b>             | 3652                    | 3.00           | 13.87  | 3570            | 4830 |                                                                                    |            |                                |

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**P<sub>N</sub> = 7.5 hp**

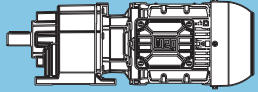
| 60 Hz                  |                         | f <sub>B</sub> | i     | F <sub>FN</sub> |      |  | m          | Dimension sheet<br>see page |
|------------------------|-------------------------|----------------|-------|-----------------|------|------------------------------------------------------------------------------------|------------|-----------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |       | lb              | lb   |                                                                                    |            |                             |
| 50                     | 9326                    | 0.80           | 35.41 | **              | 2740 |                                                                                    |            |                             |
| 58                     | 8046                    | 0.95           | 30.55 | 1780            | 2900 |                                                                                    |            |                             |
| 64                     | 7319                    | 1.00           | 27.79 | 1870            | 2900 |                                                                                    |            |                             |
| 75                     | 6209                    | 1.15           | 23.58 | 2090            | 3030 |                                                                                    |            |                             |
| 82                     | 5649                    | 1.25           | 21.45 | 2160            | 3010 |                                                                                    |            |                             |
| 85                     | 5438                    | 1.15           | 20.65 | 1960            | 2880 |                                                                                    |            |                             |
| 91                     | 5136                    | 1.35           | 19.50 | 2230            | 3100 |                                                                                    |            |                             |
| 99                     | 4672                    | 1.40           | 17.74 | 2270            | 3100 |                                                                                    |            |                             |
| 106                    | 4369                    | 1.50           | 16.59 | 2320            | 3150 |                                                                                    |            |                             |
| 109                    | 4268                    | 1.40           | 16.20 | 2110            | 2990 |                                                                                    |            |                             |
| 117                    | 3974                    | 1.60           | 15.09 | 2320            | 3150 |                                                                                    |            |                             |
| 123                    | 3786                    | 1.65           | 14.38 | 2340            | 3190 |                                                                                    |            |                             |
| 135                    | 3444                    | 1.75           | 13.08 | 2340            | 3190 |                                                                                    |            |                             |
| 141                    | 3294                    | 1.70           | 12.51 | 2230            | 3100 |                                                                                    |            |                             |
| 145                    | 3197                    | 1.85           | 12.14 | 2360            | 3240 |                                                                                    |            |                             |
| 151                    | 3083                    | 1.90           | 11.71 | 2360            | 3240 |                                                                                    |            |                             |
| 160                    | 2909                    | 1.95           | 11.04 | 2340            | 3240 |                                                                                    |            |                             |
| 166                    | 2805                    | 2.00           | 10.65 | 2340            | 3240 |                                                                                    |            |                             |
| 171                    | 2724                    | 1.90           | 10.34 | 2230            | 3170 |                                                                                    |            |                             |
| 177                    | 2634                    | 2.10           | 10.00 | 2360            | 3280 |                                                                                    |            |                             |
| 194                    | 2396                    | 2.25           | 9.10  | 2340            | 3280 |                                                                                    |            |                             |
| 201                    | 2317                    | 2.15           | 8.80  | 2230            | 3210 |                                                                                    |            |                             |
| 231                    | 2008                    | 2.35           | 7.63  | 2230            | 3240 |                                                                                    |            |                             |
| 274                    | 1696                    | 2.65           | 6.44  | 2180            | 3280 |                                                                                    |            |                             |
| 284                    | 1635                    | 2.70           | 6.21  | 2180            | 3280 |                                                                                    |            |                             |
| 333                    | 1397                    | 3.00           | 5.30  | 2070            | 3300 |                                                                                    |            |                             |
| 75                     | 6180                    | 0.90           | 23.46 | 1550            | 1370 |                                                                                    |            |                             |
| 82                     | 5666                    | 0.95           | 21.51 | 1730            | 1390 |                                                                                    |            |                             |
| 99                     | 4701                    | 1.15           | 17.85 | 1690            | 1480 |                                                                                    |            |                             |
| 105                    | 4446                    | 0.80           | 16.88 | **              | 1350 |                                                                                    |            |                             |
| 108                    | 4310                    | 1.25           | 16.36 | 1640            | 1510 |                                                                                    |            |                             |
| 120                    | 3876                    | 1.40           | 14.72 | 1620            | 1530 |                                                                                    |            |                             |
| 131                    | 3554                    | 1.50           | 13.49 | 1600            | 1550 |                                                                                    |            |                             |
| 135                    | 3443                    | 1.00           | 13.07 | 1550            | 1460 |                                                                                    |            |                             |
| 146                    | 3179                    | 1.70           | 12.07 | 1550            | 1600 |                                                                                    |            |                             |
| 159                    | 2915                    | 1.85           | 11.07 | 1530            | 1600 |                                                                                    |            |                             |
| 172                    | 2701                    | 2.00           | 10.26 | 1510            | 1620 |                                                                                    |            |                             |
| 178                    | 2619                    | 1.30           | 9.94  | 1460            | 1550 |                                                                                    |            |                             |
| 188                    | 2477                    | 2.15           | 9.40  | 1460            | 1640 |                                                                                    |            |                             |
| 209                    | 2221                    | 2.20           | 8.43  | 1440            | 1660 |                                                                                    |            |                             |
| 215                    | 2159                    | 1.55           | 8.20  | 1390            | 1600 |                                                                                    |            |                             |
| 217                    | 2142                    | 2.25           | 8.13  | 1420            | 1660 |                                                                                    |            |                             |
| 228                    | 2037                    | 2.25           | 7.73  | 1390            | 1660 |                                                                                    |            |                             |
| 237                    | 1964                    | 2.30           | 7.46  | 1390            | 1660 |                                                                                    |            |                             |
| 262                    | 1771                    | 1.90           | 6.73  | 1330            | 1640 |                                                                                    |            |                             |
| 264                    | 1762                    | 2.40           | 6.69  | 1350            | 1690 |                                                                                    |            |                             |
| 288                    | 1616                    | 2.45           | 6.13  | 1330            | 1710 |                                                                                    |            |                             |
| 309                    | 1505                    | 2.20           | 5.71  | 1280            | 1660 |                                                                                    |            |                             |
| 376                    | 1238                    | 2.35           | 4.70  | 1210            | 1690 |                                                                                    |            |                             |
| 390                    | 1193                    | 2.40           | 4.53  | 1210            | 1690 |                                                                                    |            |                             |
| 474                    | 982                     | 2.55           | 3.73  | 1150            | 1710 |                                                                                    |            |                             |
|                        |                         |                |       |                 |      | CG072-11P-132S-04E<br>CF072-11P-132S-04E                                           | 185<br>194 | 146                         |
|                        |                         |                |       |                 |      | CG062-11P-132S-04E<br>CF062-11P-132S-04E                                           | 152<br>163 | 144                         |

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$P_N = 7.5 \text{ hp}$

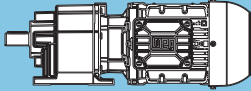
| 60 Hz    |       | $f_B$ | $i$   | $F_{rN}$ |      |  | $m$ | Dimension sheet see page |
|----------|-------|-------|-------|----------|------|------------------------------------------------------------------------------------|-----|--------------------------|
| $n_{60}$ | $T_2$ |       |       |          |      |                                                                                    |     |                          |
| rpm      | lb-in |       |       | lb       | lb   |                                                                                    |     |                          |
| 105      | 4445  | 0.80  | 16.88 | **       | 1300 | 139<br>150                                                                         | 142 |                          |
| 126      | 3694  | 1.00  | 14.03 | 1030     | 1390 |                                                                                    |     |                          |
| 138      | 3358  | 1.10  | 12.75 | 1120     | 1420 |                                                                                    |     |                          |
| 154      | 3023  | 1.20  | 11.48 | 1100     | 1460 |                                                                                    |     |                          |
| 157      | 2963  | 0.80  | 11.25 | **       | 1390 |                                                                                    |     |                          |
| 169      | 2748  | 1.30  | 10.43 | 1080     | 1510 |                                                                                    |     |                          |
| 190      | 2452  | 1.40  | 9.31  | 1080     | 1530 |                                                                                    |     |                          |
| 208      | 2239  | 1.10  | 8.50  | 1030     | 1480 |                                                                                    |     |                          |
| 209      | 2229  | 1.45  | 8.46  | 1060     | 1550 |                                                                                    |     |                          |
| 227      | 2052  | 1.50  | 7.79  | 1030     | 1570 |                                                                                    |     |                          |
| 249      | 1866  | 1.60  | 7.08  | 1010     | 1600 |                                                                                    |     |                          |
| 254      | 1832  | 1.30  | 6.96  | 990      | 1550 |                                                                                    |     |                          |
| 280      | 1663  | 1.65  | 6.31  | 990      | 1620 |                                                                                    |     |                          |
| 290      | 1604  | 1.65  | 6.09  | 990      | 1640 |                                                                                    |     |                          |
| 307      | 1512  | 1.70  | 5.74  | 970      | 1640 |                                                                                    |     |                          |
| 313      | 1486  | 1.55  | 5.64  | 970      | 1600 |                                                                                    |     |                          |
| 319      | 1458  | 1.75  | 5.54  | 970      | 1640 |                                                                                    |     |                          |
| 374      | 1244  | 1.65  | 4.72  | 920      | 1640 |                                                                                    |     |                          |
| 461      | 1008  | 1.80  | 3.83  | 880      | 1660 |                                                                                    |     |                          |
| 478      | 972   | 1.80  | 3.69  | 880      | 1690 |                                                                                    |     |                          |

C

Legend see page 29

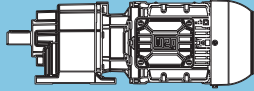
\*\* ... on request

**P<sub>N</sub> = 10 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i      | F <sub>FN</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
|------------------------|-------------------------|----------------|--------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |        | lb              | lb   |                                                                                    |              |                             |
| 2.9                    | 198103                  | 0.85           | 604.60 | 21990           | 4500 | <b>CG164-11P-L132M-04F</b><br><b>CF164-11P-L132M-04F</b>                           | 1638<br>1689 | 168                         |
| 3.0                    | 196226                  | 0.85           | 598.87 | 22170           | 4540 |                                                                                    |              |                             |
| 3.1                    | 189218                  | 0.85           | 577.48 | 22860           | 4700 |                                                                                    |              |                             |
| 3.4                    | 169034                  | 0.95           | 517.99 | 24640           | 5170 |                                                                                    |              |                             |
| 3.5                    | 166323                  | 1.00           | 509.69 | 24860           | 5240 |                                                                                    |              |                             |
| 3.6                    | 161659                  | 1.00           | 496.41 | 25220           | 5350 |                                                                                    |              |                             |
| 4.0                    | 142981                  | 1.15           | 440.86 | 26500           | 5780 |                                                                                    |              |                             |
| 4.1                    | 138383                  | 1.20           | 427.56 | 26770           | 5890 |                                                                                    |              |                             |
| 4.2                    | 135393                  | 1.20           | 418.32 | 26950           | 5960 |                                                                                    |              |                             |
| 4.8                    | 118960                  | 1.35           | 369.82 | 27850           | 6340 |                                                                                    |              |                             |
| 4.9                    | 115898                  | 1.40           | 360.30 | 28010           | 6410 |                                                                                    |              |                             |
| 5.7                    | 99425                   | 1.65           | 311.64 | 28730           | 6790 |                                                                                    |              |                             |
| 3.9                    | 148981                  | 0.80           | 453.75 | **              | 2360 | <b>CG144-11P-L132M-04F</b><br><b>CF144-11P-L132M-04F</b>                           | 1085<br>1124 | 164                         |
| 4.1                    | 143106                  | 0.85           | 436.75 | 19690           | 2520 |                                                                                    |              |                             |
| 4.2                    | 137995                  | 0.85           | 421.15 | 20120           | 2650 |                                                                                    |              |                             |
| 4.6                    | 127016                  | 0.95           | 388.44 | 20950           | 2920 |                                                                                    |              |                             |
| 4.8                    | 119827                  | 1.00           | 367.20 | 21450           | 3100 |                                                                                    |              |                             |
| 4.9                    | 117169                  | 1.00           | 359.79 | 21600           | 3170 |                                                                                    |              |                             |
| 5.3                    | 108708                  | 1.10           | 334.50 | 22120           | 3390 |                                                                                    |              |                             |
| 5.4                    | 106601                  | 1.10           | 328.01 | 22230           | 3440 |                                                                                    |              |                             |
| 5.6                    | 102584                  | 1.15           | 316.30 | 22460           | 3550 |                                                                                    |              |                             |
| 6.3                    | 91235                   | 1.30           | 282.46 | 23020           | 3840 |                                                                                    |              |                             |
| 6.5                    | 87796                   | 1.35           | 272.37 | 23180           | 3930 |                                                                                    |              |                             |
| 6.6                    | 87100                   | 1.35           | 270.22 | 23200           | 3960 |                                                                                    |              |                             |
| 7.6                    | 74391                   | 1.55           | 232.69 | 23720           | 4270 |                                                                                    |              |                             |
| 8.6                    | 74095                   | 1.60           | 206.88 | 23720           | 4290 | <b>CG143-11P-L132M-04F</b><br><b>CF143-11P-L132M-04F</b>                           | 1032<br>1071 | 162                         |
| 9.8                    | 64604                   | 1.80           | 180.38 | 24050           | 4520 |                                                                                    |              |                             |
| 10                     | 62297                   | 1.85           | 173.94 | 24120           | 4590 |                                                                                    |              |                             |
| 11                     | 55648                   | 2.10           | 155.38 | 24300           | 4770 |                                                                                    |              |                             |
| 13                     | 47920                   | 2.45           | 133.80 | 24500           | 4950 |                                                                                    |              |                             |
| 15                     | 41859                   | 2.75           | 116.88 | 24640           | 5100 |                                                                                    |              |                             |
| 16                     | 40567                   | 2.85           | 113.27 | 24660           | 5150 |                                                                                    |              |                             |
| 19                     | 34108                   | 3.00           | 95.23  | 24770           | 5310 |                                                                                    |              |                             |
| 6.2                    | 94070                   | 0.80           | 286.51 | **              | 3890 | <b>CG134-11P-L132M-04F</b><br><b>CF134-11P-L132M-04F</b>                           | 761<br>765   | 160                         |
| 6.4                    | 90710                   | 0.80           | 276.28 | **              | 3980 |                                                                                    |              |                             |
| 6.5                    | 89510                   | 0.80           | 273.18 | **              | 4020 |                                                                                    |              |                             |
| 7.5                    | 77021                   | 0.95           | 236.02 | 13470           | 4380 |                                                                                    |              |                             |
| 8.6                    | 73378                   | 1.00           | 204.88 | 13830           | 4500 | <b>CG133-11P-L132M-04F</b><br><b>CF133-11P-L132M-04F</b>                           | 708<br>712   | 158                         |
| 9.8                    | 64809                   | 1.10           | 180.95 | 14570           | 4740 |                                                                                    |              |                             |
| 11                     | 56258                   | 1.30           | 157.08 | 15200           | 4990 |                                                                                    |              |                             |
| 12                     | 54249                   | 1.35           | 151.47 | 15310           | 5060 |                                                                                    |              |                             |
| 13                     | 48607                   | 1.50           | 135.71 | 15650           | 5220 |                                                                                    |              |                             |
| 15                     | 41596                   | 1.75           | 116.14 | 16010           | 5420 |                                                                                    |              |                             |
| 17                     | 36479                   | 1.95           | 101.85 | 16230           | 5580 |                                                                                    |              |                             |
| 18                     | 35927                   | 2.00           | 100.31 | 16250           | 5580 |                                                                                    |              |                             |
| 20                     | 32219                   | 2.20           | 89.96  | 16390           | 5690 |                                                                                    |              |                             |
| 23                     | 27968                   | 2.55           | 78.09  | 16520           | 5820 |                                                                                    |              |                             |
| 24                     | 26969                   | 2.65           | 75.30  | 16550           | 5850 |                                                                                    |              |                             |
| 26                     | 24165                   | 2.95           | 67.47  | 16640           | 5930 |                                                                                    |              |                             |
| 59                     | 10693                   | 3.00           | 29.86  | 16880           | 6320 | <b>CG132-11P-L132M-04F</b><br><b>CF132-11P-L132M-04F</b>                           | 688<br>692   | 158                         |
| 104                    | 6089                    | 3.00           | 17.00  | 16930           | 6410 |                                                                                    |              |                             |

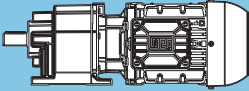
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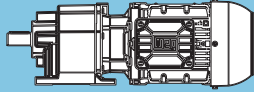
| <b>P<sub>N</sub> = 10 hp</b> |                      |                      |          |                       |           |                                                                                    |            |                                 |
|------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|------------|---------------------------------|
| <b>60 Hz</b>                 |                      |                      | <b>i</b> | <b>F<sub>TN</sub></b> |           |  | <b>m</b>   | <b>Dimension sheet see page</b> |
| <b>n<sub>60</sub></b>        | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |            |                                 |
| <b>rpm</b>                   | <b>lb-in</b>         |                      |          |                       |           |                                                                                    | <b>lb</b>  |                                 |
| 13                           | 49487                | 0.85                 | 138.17   | 6360                  | 4500      | <b>CG103-11P-L132M-04F</b><br><b>CF103-11P-L132M-04F</b>                           | 481<br>489 | 154                             |
| 15                           | 43701                | 0.95                 | 122.02   | 7400                  | 4700      |                                                                                    |            |                                 |
| 17                           | 36945                | 1.10                 | 103.15   | 8320                  | 4920      |                                                                                    |            |                                 |
| 18                           | 35832                | 1.15                 | 100.05   | 8430                  | 4950      |                                                                                    |            |                                 |
| 20                           | 31982                | 1.25                 | 89.30    | 8830                  | 5080      |                                                                                    |            |                                 |
| 21                           | 30912                | 1.30                 | 86.31    | 8920                  | 5100      |                                                                                    |            |                                 |
| 22                           | 28325                | 1.45                 | 79.08    | 9150                  | 5190      |                                                                                    |            |                                 |
| 26                           | 24503                | 1.65                 | 68.41    | 8950                  | 5330      |                                                                                    |            |                                 |
| 27                           | 23628                | 1.70                 | 65.97    | 8810                  | 5350      |                                                                                    |            |                                 |
| 30                           | 20848                | 1.95                 | 58.21    | 8430                  | 5440      |                                                                                    |            |                                 |
| 36                           | 17742                | 2.25                 | 49.54    | 7870                  | 5530      |                                                                                    |            |                                 |
| 41                           | 15306                | 2.65                 | 42.74    | 7460                  | 5620      |                                                                                    |            |                                 |
| 54                           | 11823                | 2.80                 | 33.01    | 6720                  | 5730      | <b>CG102-11P-L132M-04F</b><br><b>CF102-11P-L132M-04F</b>                           | 470<br>478 | 154                             |
| 73                           | 8741                 | 3.00                 | 24.40    | 6000                  | 5820      |                                                                                    |            |                                 |
| 92                           | 6864                 | 2.80                 | 19.17    | 5550                  | 5800      |                                                                                    |            |                                 |
| 125                          | 5075                 | 3.00                 | 14.17    | 4970                  | 5890      |                                                                                    |            |                                 |
| 18                           | 35176                | 0.80                 | 98.21    | **                    | 5420      | <b>CG093-11P-L132M-04F</b><br><b>CF093-11P-L132M-04F</b>                           | 388<br>384 | 150                             |
| 19                           | 33741                | 0.80                 | 94.21    | **                    | 5460      |                                                                                    |            |                                 |
| 20                           | 31047                | 0.90                 | 86.68    | 4110                  | 5580      |                                                                                    |            |                                 |
| 22                           | 28532                | 0.95                 | 79.66    | 4720                  | 5670      |                                                                                    |            |                                 |
| 24                           | 26044                | 1.05                 | 72.72    | 5220                  | 5760      |                                                                                    |            |                                 |
| 26                           | 24526                | 1.10                 | 68.48    | 5460                  | 5820      |                                                                                    |            |                                 |
| 29                           | 21947                | 1.25                 | 61.28    | 5850                  | 5910      |                                                                                    |            |                                 |
| 30                           | 21410                | 1.25                 | 59.78    | 5910                  | 5930      |                                                                                    |            |                                 |
| 35                           | 18344                | 1.45                 | 51.22    | 6270                  | 6050      |                                                                                    |            |                                 |
| 36                           | 17688                | 1.50                 | 49.39    | 6340                  | 6070      |                                                                                    |            |                                 |
| 41                           | 15612                | 1.65                 | 43.59    | 6520                  | 6160      |                                                                                    |            |                                 |
| 48                           | 13096                | 1.85                 | 36.57    | 6340                  | 6250      |                                                                                    |            |                                 |
| 57                           | 11036                | 2.05                 | 30.81    | 5930                  | 6320      |                                                                                    |            |                                 |
| 45                           | 14183                | 1.90                 | 39.60    | 6520                  | 6200      | <b>CG092-11P-L132M-04F</b><br><b>CF092-11P-L132M-04F</b>                           | 384<br>379 | 150                             |
| 53                           | 11990                | 2.25                 | 33.48    | 6090                  | 6290      |                                                                                    |            |                                 |
| 61                           | 10380                | 2.55                 | 28.98    | 5780                  | 6360      |                                                                                    |            |                                 |
| 69                           | 9193                 | 2.90                 | 25.67    | 5510                  | 6410      |                                                                                    |            |                                 |
| 78                           | 8088                 | 1.90                 | 22.58    | 5310                  | 6340      |                                                                                    |            |                                 |
| 83                           | 7668                 | 3.00                 | 21.41    | 5130                  | 6450      |                                                                                    |            |                                 |
| 93                           | 6838                 | 2.25                 | 19.09    | 4950                  | 6380      |                                                                                    |            |                                 |
| 107                          | 5919                 | 2.55                 | 16.53    | 4700                  | 6430      |                                                                                    |            |                                 |
| 145                          | 4373                 | 3.00                 | 12.21    | 4200                  | 6520      |                                                                                    |            |                                 |
| 41                           | 15358                | 0.90                 | 42.88    | 4270                  | 4250      | <b>CG082-11P-L132M-04F</b><br><b>CF082-11P-L132M-04F</b>                           | 269<br>278 | 148                             |
| 47                           | 13410                | 1.05                 | 37.44    | 4610                  | 4360      |                                                                                    |            |                                 |
| 53                           | 11851                | 1.20                 | 33.09    | 4810                  | 4430      |                                                                                    |            |                                 |
| 57                           | 11185                | 0.90                 | 31.23    | 4900                  | 4340      |                                                                                    |            |                                 |
| 63                           | 10022                | 1.40                 | 27.98    | 4740                  | 4540      |                                                                                    |            |                                 |
| 72                           | 8853                 | 1.15                 | 24.72    | 4540                  | 4500      |                                                                                    |            |                                 |
| 74                           | 8614                 | 1.55                 | 24.05    | 4450                  | 4610      |                                                                                    |            |                                 |
| 82                           | 7730                 | 1.55                 | 21.58    | 4320                  | 4560      |                                                                                    |            |                                 |
| 84                           | 7520                 | 1.70                 | 21.00    | 4230                  | 4680      |                                                                                    |            |                                 |
| 93                           | 6832                 | 1.70                 | 19.08    | 4110                  | 4630      |                                                                                    |            |                                 |
| 98                           | 6443                 | 1.90                 | 17.99    | 3980                  | 4720      |                                                                                    |            |                                 |
| 102                          | 6213                 | 1.95                 | 17.35    | 3930                  | 4740      |                                                                                    |            |                                 |
| 110                          | 5777                 | 2.00                 | 16.13    | 3840                  | 4700      |                                                                                    |            |                                 |
| 116                          | 5484                 | 2.10                 | 15.31    | 3730                  | 4770      |                                                                                    |            |                                 |
| 128                          | 4966                 | 2.20                 | 13.87    | 3620                  | 4740      |                                                                                    |            |                                 |
| 138                          | 4600                 | 2.35                 | 12.84    | 3510                  | 4810      |                                                                                    |            |                                 |
| 146                          | 4335                 | 2.45                 | 12.10    | 3440                  | 4790      |                                                                                    |            |                                 |
| 164                          | 3876                 | 2.65                 | 10.82    | 3280                  | 4860      |                                                                                    |            |                                 |
| 171                          | 3714                 | 2.70                 | 10.37    | 3260                  | 4830      |                                                                                    |            |                                 |
| 177                          | 3582                 | 2.75                 | 10.00    | 3210                  | 4830      |                                                                                    |            |                                 |
| 201                          | 3161                 | 3.00                 | 8.83     | 3060                  | 4860      |                                                                                    |            |                                 |

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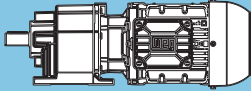
| <b>P<sub>N</sub> = 10 hp</b> |                               |                      |          |                       |           |                                                                                    |            |                             |
|------------------------------|-------------------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|------------|-----------------------------|
| <b>60 Hz</b>                 |                               |                      | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b>   | Dimension sheet<br>see page |
| <b>n<sub>60</sub></b><br>rpm | <b>T<sub>2</sub></b><br>lb-in | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |            |                             |
| 75                           | 8444                          | 0.85                 | 23.58    | 1210                  | 2860      | <b>CG072-11P-L132M-04F</b><br><b>CF072-11P-L132M-04F</b>                           | 216<br>225 | 146                         |
| 83                           | 7681                          | 0.90                 | 21.45    | 1330                  | 2860      |                                                                                    |            |                             |
| 86                           | 7395                          | 0.85                 | 20.65    | 1100                  | 2650      |                                                                                    |            |                             |
| 91                           | 6984                          | 1.00                 | 19.50    | 1510                  | 2970      |                                                                                    |            |                             |
| 100                          | 6353                          | 1.05                 | 17.74    | 1600                  | 2970      |                                                                                    |            |                             |
| 107                          | 5941                          | 1.10                 | 16.59    | 1690                  | 3030      |                                                                                    |            |                             |
| 109                          | 5803                          | 1.05                 | 16.20    | 1460                  | 2830      |                                                                                    |            |                             |
| 117                          | 5404                          | 1.15                 | 15.09    | 1750                  | 3030      |                                                                                    |            |                             |
| 123                          | 5148                          | 1.20                 | 14.38    | 1800                  | 3100      |                                                                                    |            |                             |
| 135                          | 4684                          | 1.30                 | 13.08    | 1840                  | 3100      |                                                                                    |            |                             |
| 142                          | 4479                          | 1.25                 | 12.51    | 1690                  | 2970      |                                                                                    |            |                             |
| 146                          | 4348                          | 1.35                 | 12.14    | 1910                  | 3150      |                                                                                    |            |                             |
| 151                          | 4192                          | 1.40                 | 11.71    | 1930                  | 3170      |                                                                                    |            |                             |
| 160                          | 3955                          | 1.45                 | 11.04    | 1930                  | 3150      |                                                                                    |            |                             |
| 166                          | 3814                          | 1.50                 | 10.65    | 1960                  | 3170      |                                                                                    |            |                             |
| 171                          | 3705                          | 1.40                 | 10.34    | 1800                  | 3060      |                                                                                    |            |                             |
| 177                          | 3582                          | 1.55                 | 10.00    | 1980                  | 3210      |                                                                                    |            |                             |
| 195                          | 3258                          | 1.65                 | 9.10     | 1980                  | 3210      |                                                                                    |            |                             |
| 201                          | 3151                          | 1.60                 | 8.80     | 1870                  | 3120      |                                                                                    |            |                             |
| 232                          | 2731                          | 1.75                 | 7.63     | 1890                  | 3170      |                                                                                    |            |                             |
| 275                          | 2306                          | 1.95                 | 6.44     | 1910                  | 3210      |                                                                                    |            |                             |
| 285                          | 2224                          | 2.00                 | 6.21     | 1910                  | 3210      |                                                                                    |            |                             |
| 334                          | 1900                          | 2.20                 | 5.30     | 1910                  | 3260      |                                                                                    |            |                             |
| 99                           | 6392                          | 0.85                 | 17.85    | 1460                  | 1350      | <b>CG062-11P-L132M-04F</b><br><b>CF062-11P-L132M-04F</b>                           | 181<br>192 | 144                         |
| 108                          | 5861                          | 0.95                 | 16.36    | 1510                  | 1370      |                                                                                    |            |                             |
| 120                          | 5271                          | 1.05                 | 14.72    | 1510                  | 1440      |                                                                                    |            |                             |
| 131                          | 4833                          | 1.10                 | 13.49    | 1460                  | 1460      |                                                                                    |            |                             |
| 147                          | 4323                          | 1.25                 | 12.07    | 1440                  | 1510      |                                                                                    |            |                             |
| 160                          | 3964                          | 1.35                 | 11.07    | 1420                  | 1530      |                                                                                    |            |                             |
| 173                          | 3673                          | 1.45                 | 10.26    | 1420                  | 1550      |                                                                                    |            |                             |
| 178                          | 3561                          | 0.95                 | 9.94     | 1370                  | 1440      |                                                                                    |            |                             |
| 188                          | 3368                          | 1.55                 | 9.40     | 1390                  | 1570      |                                                                                    |            |                             |
| 210                          | 3020                          | 1.65                 | 8.43     | 1350                  | 1600      |                                                                                    |            |                             |
| 216                          | 2936                          | 1.15                 | 8.20     | 1330                  | 1510      |                                                                                    |            |                             |
| 218                          | 2912                          | 1.65                 | 8.13     | 1350                  | 1600      |                                                                                    |            |                             |
| 229                          | 2770                          | 1.70                 | 7.73     | 1330                  | 1620      |                                                                                    |            |                             |
| 237                          | 2671                          | 1.70                 | 7.46     | 1330                  | 1620      |                                                                                    |            |                             |
| 263                          | 2409                          | 1.40                 | 6.73     | 1280                  | 1570      |                                                                                    |            |                             |
| 265                          | 2396                          | 1.75                 | 6.69     | 1280                  | 1640      |                                                                                    |            |                             |
| 289                          | 2197                          | 1.80                 | 6.13     | 1260                  | 1660      |                                                                                    |            |                             |
| 310                          | 2047                          | 1.65                 | 5.71     | 1240                  | 1600      |                                                                                    |            |                             |
| 377                          | 1683                          | 1.75                 | 4.70     | 1170                  | 1640      |                                                                                    |            |                             |
| 391                          | 1623                          | 1.75                 | 4.53     | 1170                  | 1640      |                                                                                    |            |                             |
| 475                          | 1335                          | 1.90                 | 3.73     | 1100                  | 1690      |                                                                                    |            |                             |
| 139                          | 4566                          | 0.80                 | 12.75    | **                    | 1280      | <b>CG052-11P-L132M-04F</b><br><b>CF052-11P-L132M-04F</b>                           | 170<br>181 | 142                         |
| 154                          | 4111                          | 0.90                 | 11.48    | 760                   | 1350      |                                                                                    |            |                             |
| 170                          | 3737                          | 0.95                 | 10.43    | 970                   | 1370      |                                                                                    |            |                             |
| 190                          | 3334                          | 1.05                 | 9.31     | 970                   | 1440      |                                                                                    |            |                             |
| 208                          | 3044                          | 0.80                 | 8.50     | **                    | 1370      |                                                                                    |            |                             |
| 209                          | 3031                          | 1.10                 | 8.46     | 970                   | 1460      |                                                                                    |            |                             |
| 227                          | 2791                          | 1.15                 | 7.79     | 970                   | 1510      |                                                                                    |            |                             |
| 250                          | 2537                          | 1.15                 | 7.08     | 940                   | 1530      |                                                                                    |            |                             |
| 254                          | 2492                          | 0.95                 | 6.96     | 920                   | 1460      |                                                                                    |            |                             |
| 280                          | 2262                          | 1.20                 | 6.31     | 920                   | 1550      |                                                                                    |            |                             |
| 291                          | 2181                          | 1.25                 | 6.09     | 920                   | 1570      |                                                                                    |            |                             |
| 308                          | 2056                          | 1.25                 | 5.74     | 920                   | 1570      |                                                                                    |            |                             |
| 314                          | 2020                          | 1.15                 | 5.64     | 900                   | 1530      |                                                                                    |            |                             |
| 320                          | 1983                          | 1.30                 | 5.54     | 900                   | 1600      |                                                                                    |            |                             |
| 375                          | 1691                          | 1.25                 | 4.72     | 880                   | 1570      |                                                                                    |            |                             |
| 462                          | 1371                          | 1.30                 | 3.83     | 830                   | 1620      |                                                                                    |            |                             |
| 480                          | 1322                          | 1.35                 | 3.69     | 830                   | 1620      |                                                                                    |            |                             |

**P<sub>N</sub> = 12.5 hp**

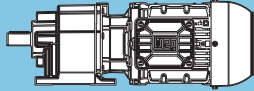
| 60 Hz                  |                       | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i     | F <sub>TN</sub>       |                                                          |  | m<br>lb | Dimension<br>sheet<br>see page |
|------------------------|-----------------------|-------------------------|----------------|-------|-----------------------|----------------------------------------------------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub><br>rpm | F <sub>TN</sub><br>lb |                         |                |       | F <sub>aN</sub><br>lb |                                                          |                                                                                    |         |                                |
| 3.4                    | 209215                | 0.80                    | 517.99         | **    | 4250                  | <b>CG164-11P-L132M-04G</b><br><b>CF164-11P-L132M-04G</b> | 1649<br>1700                                                                       | 168     |                                |
| 3.5                    | 205861                | 0.80                    | 509.69         | **    | 4320                  |                                                          |                                                                                    |         |                                |
| 3.6                    | 200089                | 0.80                    | 496.41         | **    | 4450                  |                                                          |                                                                                    |         |                                |
| 4.0                    | 177334                | 0.90                    | 440.86         | 23940 | 4990                  |                                                          |                                                                                    |         |                                |
| 4.1                    | 171632                | 0.95                    | 427.56         | 24440 | 5130                  |                                                          |                                                                                    |         |                                |
| 4.2                    | 167924                | 0.95                    | 418.32         | 24730 | 5190                  |                                                          |                                                                                    |         |                                |
| 4.8                    | 147847                | 1.10                    | 369.82         | 26190 | 5670                  |                                                          |                                                                                    |         |                                |
| 4.9                    | 143746                | 1.15                    | 360.30         | 26440 | 5760                  |                                                          |                                                                                    |         |                                |
| 5.7                    | 123571                | 1.30                    | 311.64         | 27610 | 6230                  |                                                          |                                                                                    |         |                                |
| 4.8                    | 148311                | 0.80                    | 367.20         | **    | 2380                  | <b>CG144-11P-L132M-04G</b><br><b>CF144-11P-L132M-04G</b> | 1096<br>1135                                                                       | 164     |                                |
| 4.9                    | 145022                | 0.80                    | 359.79         | **    | 2470                  |                                                          |                                                                                    |         |                                |
| 5.3                    | 134550                | 0.90                    | 334.50         | 20390 | 2740                  |                                                          |                                                                                    |         |                                |
| 5.4                    | 131943                | 0.90                    | 328.01         | 20590 | 2790                  |                                                          |                                                                                    |         |                                |
| 5.6                    | 127231                | 0.95                    | 316.30         | 20930 | 2920                  |                                                          |                                                                                    |         |                                |
| 6.2                    | 113156                | 1.05                    | 282.46         | 21850 | 3280                  |                                                          |                                                                                    |         |                                |
| 6.5                    | 108891                | 1.10                    | 272.37         | 22100 | 3390                  |                                                          |                                                                                    |         |                                |
| 7.6                    | 92456                 | 1.25                    | 232.69         | 22950 | 3820                  |                                                          |                                                                                    |         |                                |
| 8.5                    | 91148                 | 1.30                    | 206.88         | 23020 | 3840                  | <b>CG143-11P-L132M-04G</b><br><b>CF143-11P-L132M-04G</b> | 1043<br>1082                                                                       | 162     |                                |
| 9.8                    | 79472                 | 1.45                    | 180.38         | 23520 | 4140                  |                                                          |                                                                                    |         |                                |
| 10                     | 76634                 | 1.55                    | 173.94         | 23630 | 4230                  |                                                          |                                                                                    |         |                                |
| 11                     | 68455                 | 1.70                    | 155.38         | 23920 | 4430                  |                                                          |                                                                                    |         |                                |
| 13                     | 58949                 | 2.00                    | 133.80         | 24210 | 4680                  |                                                          |                                                                                    |         |                                |
| 15                     | 51493                 | 2.25                    | 116.88         | 24410 | 4860                  |                                                          |                                                                                    |         |                                |
| 16                     | 49904                 | 2.35                    | 113.27         | 24460 | 4900                  |                                                          |                                                                                    |         |                                |
| 18                     | 43511                 | 2.65                    | 98.76          | 24590 | 5060                  |                                                          |                                                                                    |         |                                |
| 19                     | 41957                 | 2.45                    | 95.23          | 24620 | 5100                  |                                                          |                                                                                    |         |                                |
| 8.6                    | 90265                 | 0.80                    | 204.88         | **    | 4000                  | <b>CG133-11P-L132M-04G</b><br><b>CF133-11P-L132M-04G</b> | 719<br>723                                                                         | 158     |                                |
| 9.8                    | 79724                 | 0.90                    | 180.95         | 13170 | 4290                  |                                                          |                                                                                    |         |                                |
| 11                     | 69205                 | 1.05                    | 157.08         | 14210 | 4610                  |                                                          |                                                                                    |         |                                |
| 12                     | 66734                 | 1.10                    | 151.47         | 14410 | 4680                  |                                                          |                                                                                    |         |                                |
| 13                     | 59793                 | 1.20                    | 135.71         | 14950 | 4880                  |                                                          |                                                                                    |         |                                |
| 15                     | 51169                 | 1.40                    | 116.14         | 15510 | 5130                  |                                                          |                                                                                    |         |                                |
| 17                     | 44874                 | 1.60                    | 101.85         | 15850 | 5330                  |                                                          |                                                                                    |         |                                |
| 18                     | 44195                 | 1.65                    | 100.31         | 15870 | 5350                  |                                                          |                                                                                    |         |                                |
| 20                     | 39634                 | 1.80                    | 89.96          | 16100 | 5460                  |                                                          |                                                                                    |         |                                |
| 23                     | 33176                 | 2.15                    | 75.30          | 16340 | 5670                  |                                                          |                                                                                    |         |                                |
| 23                     | 34405                 | 2.10                    | 78.09          | 16300 | 5620                  |                                                          |                                                                                    |         |                                |
| 26                     | 29726                 | 2.40                    | 67.47          | 16480 | 5760                  |                                                          |                                                                                    |         |                                |
| 31                     | 25438                 | 2.80                    | 57.74          | 16590 | 5890                  |                                                          |                                                                                    |         |                                |
| 59                     | 13155                 | 2.45                    | 29.86          | 16860 | 6250                  | <b>CG132-11P-L132M-04G</b><br><b>CF132-11P-L132M-04G</b> | 699<br>703                                                                         | 158     |                                |
| 104                    | 7490                  | 2.45                    | 17.00          | 16910 | 6360                  |                                                          |                                                                                    |         |                                |
| 15                     | 51794                 | 0.80                    | 117.56         | **    | 4430                  | <b>CG103-11P-L132M-04G</b><br><b>CF103-11P-L132M-04G</b> | 492<br>500                                                                         | 154     |                                |
| 17                     | 45448                 | 0.90                    | 103.15         | 7100  | 4630                  |                                                          |                                                                                    |         |                                |
| 18                     | 44078                 | 0.95                    | 100.05         | 7330  | 4680                  |                                                          |                                                                                    |         |                                |
| 20                     | 39342                 | 1.05                    | 89.30          | 8000  | 4830                  |                                                          |                                                                                    |         |                                |
| 22                     | 34843                 | 1.15                    | 79.08          | 8540  | 4990                  |                                                          |                                                                                    |         |                                |
| 26                     | 30142                 | 1.35                    | 68.41          | 8990  | 5130                  |                                                          |                                                                                    |         |                                |
| 27                     | 29066                 | 1.40                    | 65.97          | 9010  | 5170                  |                                                          |                                                                                    |         |                                |
| 30                     | 25645                 | 1.60                    | 58.21          | 8610  | 5280                  |                                                          |                                                                                    |         |                                |
| 36                     | 21825                 | 1.85                    | 49.54          | 8000  | 5400                  |                                                          |                                                                                    |         |                                |
| 41                     | 18828                 | 2.15                    | 42.74          | 7600  | 5510                  |                                                          |                                                                                    |         |                                |
| 53                     | 14544                 | 2.25                    | 33.01          | 6880  | 5640                  | <b>CG102-11P-L132M-04G</b><br><b>CF102-11P-L132M-04G</b> | 481<br>489                                                                         | 154     |                                |
| 72                     | 10752                 | 2.45                    | 24.40          | 6110  | 5760                  |                                                          |                                                                                    |         |                                |
| 92                     | 8444                  | 2.25                    | 19.17          | 5620  | 5730                  |                                                          |                                                                                    |         |                                |
| 125                    | 6243                  | 2.45                    | 14.17          | 5010  | 5850                  |                                                          |                                                                                    |         |                                |

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| P <sub>N</sub> = 12.5 hp |                         |                |       |                 |      |                                                                                    |            |                             |                                                          |            |     |
|--------------------------|-------------------------|----------------|-------|-----------------|------|------------------------------------------------------------------------------------|------------|-----------------------------|----------------------------------------------------------|------------|-----|
| 60 Hz                    |                         |                | i     | F <sub>FN</sub> |      |  | m<br>lb    | Dimension sheet<br>see page |                                                          |            |     |
| n <sub>60</sub><br>rpm   | T <sub>2</sub><br>lb-in | f <sub>B</sub> |       | lb              | lb   |                                                                                    |            |                             |                                                          |            |     |
| 22                       | 35099                   | 0.80           | 79.66 | **              | 5420 | <b>CG093-11P-L132M-04G</b><br><b>CF093-11P-L132M-04G</b>                           | 399<br>395 | 150                         |                                                          |            |     |
| 24                       | 32037                   | 0.85           | 72.72 | 3820            | 5530 |                                                                                    |            |                             |                                                          |            |     |
| 26                       | 30170                   | 0.90           | 68.48 | 4340            | 5600 |                                                                                    |            |                             |                                                          |            |     |
| 29                       | 26998                   | 1.00           | 61.28 | 5040            | 5730 |                                                                                    |            |                             |                                                          |            |     |
| 30                       | 26338                   | 1.05           | 59.78 | 5150            | 5760 |                                                                                    |            |                             |                                                          |            |     |
| 34                       | 22565                   | 1.20           | 51.22 | 5760            | 5890 |                                                                                    |            |                             |                                                          |            |     |
| 36                       | 21759                   | 1.25           | 49.39 | 5870            | 5910 |                                                                                    |            |                             |                                                          |            |     |
| 40                       | 19205                   | 1.35           | 43.59 | 6180            | 6020 |                                                                                    |            |                             |                                                          |            |     |
| 48                       | 16110                   | 1.50           | 36.57 | 6470            | 6140 |                                                                                    |            |                             |                                                          |            |     |
| 57                       | 13576                   | 1.65           | 30.81 | 6050            | 6230 |                                                                                    |            |                             |                                                          |            |     |
| 45                       | 17447                   | 1.55           | 39.60 | 6360            | 6090 | <b>CG092-11P-L132M-04G</b><br><b>CF092-11P-L132M-04G</b>                           | 395<br>390 | 150                         |                                                          |            |     |
| 53                       | 14750                   | 1.80           | 33.48 | 6230            | 6180 |                                                                                    |            |                             |                                                          |            |     |
| 61                       | 12768                   | 2.10           | 28.98 | 5890            | 6270 |                                                                                    |            |                             |                                                          |            |     |
| 69                       | 11308                   | 2.35           | 25.67 | 5600            | 6320 |                                                                                    |            |                             |                                                          |            |     |
| 78                       | 9949                    | 1.55           | 22.58 | 5400            | 6230 |                                                                                    |            |                             |                                                          |            |     |
| 79                       | 9783                    | 2.75           | 22.20 | 5310            | 6380 |                                                                                    |            |                             |                                                          |            |     |
| 82                       | 9433                    | 2.45           | 21.41 | 5240            | 6380 |                                                                                    |            |                             |                                                          |            |     |
| 92                       | 8411                    | 1.80           | 19.09 | 5060            | 6320 |                                                                                    |            |                             |                                                          |            |     |
| 107                      | 7281                    | 2.10           | 16.53 | 4770            | 6360 |                                                                                    |            |                             |                                                          |            |     |
| 121                      | 6449                    | 2.50           | 14.64 | 4540            | 6410 |                                                                                    |            |                             |                                                          |            |     |
| 139                      | 5578                    | 2.90           | 12.66 | 4320            | 6450 |                                                                                    |            |                             |                                                          |            |     |
| 145                      | 5379                    | 2.45           | 12.21 | 4250            | 6470 |                                                                                    |            |                             |                                                          |            |     |
| 47                       | 16496                   | 0.85           | 37.44 | 4050            | 4200 |                                                                                    |            |                             | <b>CG082-11P-L132M-04G</b><br><b>CF082-11P-L132M-04G</b> | 280<br>289 | 148 |
| 53                       | 14579                   | 0.95           | 33.09 | 4410            | 4290 |                                                                                    |            |                             |                                                          |            |     |
| 63                       | 12328                   | 1.15           | 27.98 | 4740            | 4410 |                                                                                    |            |                             |                                                          |            |     |
| 71                       | 10891                   | 0.95           | 24.72 | 4680            | 4360 |                                                                                    |            |                             |                                                          |            |     |
| 73                       | 10597                   | 1.25           | 24.05 | 4560            | 4500 |                                                                                    |            |                             |                                                          |            |     |
| 82                       | 9509                    | 1.25           | 21.58 | 4410            | 4450 |                                                                                    |            |                             |                                                          |            |     |
| 84                       | 9251                    | 1.40           | 21.00 | 4320            | 4560 |                                                                                    |            |                             |                                                          |            |     |
| 93                       | 8404                    | 1.40           | 19.08 | 4180            | 4520 |                                                                                    |            |                             |                                                          |            |     |
| 98                       | 7926                    | 1.55           | 17.99 | 4070            | 4650 |                                                                                    |            |                             |                                                          |            |     |
| 102                      | 7643                    | 1.55           | 17.35 | 4000            | 4650 |                                                                                    |            |                             |                                                          |            |     |
| 109                      | 7107                    | 1.65           | 16.13 | 3930            | 4610 |                                                                                    |            |                             |                                                          |            |     |
| 115                      | 6746                    | 1.70           | 15.31 | 3820            | 4700 |                                                                                    |            |                             |                                                          |            |     |
| 127                      | 6109                    | 1.80           | 13.87 | 3690            | 4680 |                                                                                    |            |                             |                                                          |            |     |
| 137                      | 5659                    | 1.95           | 12.84 | 3550            | 4770 |                                                                                    |            |                             |                                                          |            |     |
| 146                      | 5333                    | 2.00           | 12.10 | 3510            | 4720 |                                                                                    |            |                             |                                                          |            |     |
| 163                      | 4768                    | 2.15           | 10.82 | 3330            | 4810 |                                                                                    |            |                             |                                                          |            |     |
| 170                      | 4569                    | 2.20           | 10.37 | 3300            | 4770 |                                                                                    |            |                             |                                                          |            |     |
| 177                      | 4406                    | 2.25           | 10.00 | 3260            | 4790 |                                                                                    |            |                             |                                                          |            |     |
| 200                      | 3889                    | 2.45           | 8.83  | 3100            | 4810 |                                                                                    |            |                             |                                                          |            |     |
| 238                      | 3262                    | 2.75           | 7.40  | 2900            | 4860 |                                                                                    |            |                             |                                                          |            |     |
| 91                       | 8591                    | 0.80           | 19.50 | **              | 2860 | <b>CG072-11P-L132M-04G</b><br><b>CF072-11P-L132M-04G</b>                           | 227<br>236 | 146                         |                                                          |            |     |
| 99                       | 7816                    | 0.85           | 17.74 | 1030            | 2860 |                                                                                    |            |                             |                                                          |            |     |
| 106                      | 7308                    | 0.90           | 16.59 | 1170            | 2940 |                                                                                    |            |                             |                                                          |            |     |
| 109                      | 7139                    | 0.85           | 16.20 | 880             | 2700 |                                                                                    |            |                             |                                                          |            |     |
| 117                      | 6648                    | 0.95           | 15.09 | 1260            | 2940 |                                                                                    |            |                             |                                                          |            |     |
| 123                      | 6333                    | 1.00           | 14.38 | 1350            | 3010 |                                                                                    |            |                             |                                                          |            |     |
| 135                      | 5761                    | 1.05           | 13.08 | 1440            | 3010 |                                                                                    |            |                             |                                                          |            |     |
| 141                      | 5509                    | 1.00           | 12.51 | 1260            | 2860 |                                                                                    |            |                             |                                                          |            |     |
| 145                      | 5348                    | 1.10           | 12.14 | 1530            | 3080 |                                                                                    |            |                             |                                                          |            |     |
| 151                      | 5157                    | 1.15           | 11.71 | 1550            | 3100 |                                                                                    |            |                             |                                                          |            |     |
| 160                      | 4865                    | 1.20           | 11.04 | 1570            | 3080 |                                                                                    |            |                             |                                                          |            |     |
| 166                      | 4691                    | 1.20           | 10.65 | 1600            | 3100 |                                                                                    |            |                             |                                                          |            |     |
| 171                      | 4557                    | 1.15           | 10.34 | 1440            | 2970 |                                                                                    |            |                             |                                                          |            |     |
| 177                      | 4406                    | 1.25           | 10.00 | 1660            | 3150 |                                                                                    |            |                             |                                                          |            |     |
| 194                      | 4008                    | 1.35           | 9.10  | 1690            | 3150 |                                                                                    |            |                             |                                                          |            |     |
| 201                      | 3876                    | 1.30           | 8.80  | 1550            | 3030 |                                                                                    |            |                             |                                                          |            |     |
| 231                      | 3359                    | 1.40           | 7.63  | 1640            | 3100 |                                                                                    |            |                             |                                                          |            |     |
| 274                      | 2837                    | 1.60           | 6.44  | 1690            | 3150 |                                                                                    |            |                             |                                                          |            |     |
| 284                      | 2736                    | 1.60           | 6.21  | 1690            | 3170 |                                                                                    |            |                             |                                                          |            |     |
| 333                      | 2337                    | 1.80           | 5.30  | 1710            | 3210 |                                                                                    |            |                             |                                                          |            |     |

**P<sub>N</sub> = 12.5 hp**

| 60 Hz           |                | f <sub>B</sub> | i     | F <sub>rN</sub> |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |       | lb              | lb              |                                                                                    |         |                             |
| 120             | 6483           | 0.85           | 14.72 | 1390            | 1350            |                                                                                    |         |                             |
| 131             | 5945           | 0.90           | 13.49 | 1370            | 1370            |                                                                                    |         |                             |
| 146             | 5318           | 1.00           | 12.07 | 1370            | 1420            |                                                                                    |         |                             |
| 159             | 4877           | 1.10           | 11.07 | 1350            | 1460            |                                                                                    |         |                             |
| 172             | 4519           | 1.20           | 10.26 | 1350            | 1480            |                                                                                    |         |                             |
| 178             | 4381           | 0.80           | 9.94  | **              | 1350            |                                                                                    |         |                             |
| 188             | 4144           | 1.30           | 9.40  | 1330            | 1510            |                                                                                    |         |                             |
| 209             | 3715           | 1.35           | 8.43  | 1300            | 1550            |                                                                                    |         |                             |
| 215             | 3612           | 0.95           | 8.20  | 1260            | 1440            |                                                                                    |         |                             |
| 217             | 3583           | 1.35           | 8.13  | 1280            | 1550            |                                                                                    |         |                             |
| 228             | 3407           | 1.35           | 7.73  | 1280            | 1570            |                                                                                    |         |                             |
| 237             | 3285           | 1.40           | 7.46  | 1260            | 1570            |                                                                                    |         |                             |
| 262             | 2963           | 1.15           | 6.73  | 1210            | 1510            |                                                                                    |         |                             |
| 264             | 2947           | 1.45           | 6.69  | 1240            | 1600            |                                                                                    |         |                             |
| 288             | 2702           | 1.50           | 6.13  | 1210            | 1620            |                                                                                    |         |                             |
| 309             | 2518           | 1.35           | 5.71  | 1190            | 1550            |                                                                                    |         |                             |
| 376             | 2070           | 1.40           | 4.70  | 1150            | 1600            |                                                                                    |         |                             |
| 390             | 1996           | 1.45           | 4.53  | 1120            | 1620            |                                                                                    |         |                             |
| 474             | 1642           | 1.55           | 3.73  | 1080            | 1640            |                                                                                    |         |                             |

**CG062-11P-L132M-04G**  
**CF062-11P-L132M-04G**

192  
203

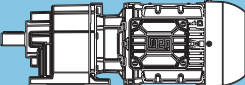
144



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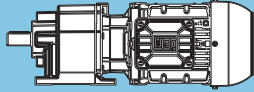
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| P <sub>N</sub> = 15 hp |                         |                |        |                 |      |                                                                                    |              |                             |
|------------------------|-------------------------|----------------|--------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| 60 Hz                  |                         |                | i      | F <sub>rn</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | lb              | lb   |                                                                                    |              |                             |
| 4.0                    | 211699                  | 0.80           | 440.86 | **              | 4180 | CG164-22P-160M-04E<br>CF164-22P-160M-04E                                           | 1786<br>1836 | 168                         |
| 4.2                    | 205312                  | 0.80           | 427.56 | **              | 4340 |                                                                                    |              |                             |
| 4.8                    | 176861                  | 0.95           | 369.82 | 24010           | 4990 |                                                                                    |              |                             |
| 4.9                    | 171955                  | 0.95           | 360.30 | 24410           | 5100 |                                                                                    |              |                             |
| 5.2                    | 163353                  | 1.00           | 342.97 | 25090           | 5310 |                                                                                    |              |                             |
| 5.7                    | 148126                  | 1.10           | 311.64 | 26170           | 5670 |                                                                                    |              |                             |
| 6.0                    | 140120                  | 1.15           | 295.40 | 26680           | 5850 |                                                                                    |              |                             |
| 6.9                    | 120454                  | 1.35           | 255.51 | 27790           | 6320 |                                                                                    |              |                             |
| 7.6                    | 122922                  | 1.30           | 234.67 | 27650           | 6250 | CG163-22P-160M-04E<br>CF163-22P-160M-04E                                           | 1684<br>1735 | 166                         |
| 8.8                    | 105872                  | 1.55           | 202.12 | 28460           | 6650 |                                                                                    |              |                             |
| 10                     | 91575                   | 1.75           | 174.82 | 29050           | 6970 |                                                                                    |              |                             |
| 12                     | 80776                   | 2.00           | 154.21 | 29410           | 7240 |                                                                                    |              |                             |
| 13                     | 69375                   | 2.30           | 132.44 | 29740           | 7490 |                                                                                    |              |                             |
| 14                     | 68373                   | 2.35           | 130.53 | 29760           | 7510 |                                                                                    |              |                             |
| 16                     | 58890                   | 2.75           | 112.42 | 30010           | 7730 |                                                                                    |              |                             |
| 5.7                    | 150640                  | 0.80           | 313.70 | **              | 2320 | CG144-22P-160M-04E<br>CF144-22P-160M-04E                                           | 1232<br>1272 | 164                         |
| 6.3                    | 135085                  | 0.90           | 282.46 | 20370           | 2720 |                                                                                    |              |                             |
| 6.6                    | 129228                  | 0.90           | 270.22 | 20790           | 2880 |                                                                                    |              |                             |
| 7.6                    | 110601                  | 1.05           | 232.69 | 22010           | 3350 |                                                                                    |              |                             |
| 8.6                    | 108367                  | 1.10           | 206.88 | 22140           | 3420 | CG143-22P-160M-04E<br>CF143-22P-160M-04E                                           | 1179<br>1219 | 162                         |
| 9.8                    | 94485                   | 1.25           | 180.38 | 22860           | 3750 |                                                                                    |              |                             |
| 11                     | 81388                   | 1.45           | 155.38 | 23450           | 4090 |                                                                                    |              |                             |
| 13                     | 70085                   | 1.65           | 133.80 | 23870           | 4380 |                                                                                    |              |                             |
| 15                     | 61221                   | 1.90           | 116.88 | 24140           | 4610 |                                                                                    |              |                             |
| 16                     | 59331                   | 1.95           | 113.27 | 24210           | 4650 |                                                                                    |              |                             |
| 18                     | 52883                   | 2.20           | 100.96 | 24390           | 4830 |                                                                                    |              |                             |
| 21                     | 44560                   | 2.60           | 85.07  | 24570           | 5040 |                                                                                    |              |                             |
| 24                     | 38372                   | 3.00           | 73.25  | 24680           | 5190 |                                                                                    |              |                             |
| 11                     | 82279                   | 0.90           | 157.08 | 12900           | 4230 | CG133-22P-160M-04E<br>CF133-22P-160M-04E                                           | 855<br>860   | 158                         |
| 13                     | 71089                   | 1.00           | 135.71 | 14050           | 4560 |                                                                                    |              |                             |
| 15                     | 60836                   | 1.20           | 116.14 | 14880           | 4860 |                                                                                    |              |                             |
| 18                     | 52544                   | 1.35           | 100.31 | 15420           | 5100 |                                                                                    |              |                             |
| 20                     | 47122                   | 1.55           | 89.96  | 15740           | 5260 |                                                                                    |              |                             |
| 21                     | 44431                   | 1.60           | 84.82  | 15870           | 5330 |                                                                                    |              |                             |
| 23                     | 40904                   | 1.75           | 78.09  | 16050           | 5440 |                                                                                    |              |                             |
| 26                     | 36255                   | 2.00           | 69.21  | 16230           | 5580 |                                                                                    |              |                             |
| 31                     | 30244                   | 2.35           | 57.74  | 16460           | 5760 |                                                                                    |              |                             |
| 32                     | 29416                   | 2.45           | 56.16  | 16480           | 5780 |                                                                                    |              |                             |
| 36                     | 26122                   | 2.75           | 49.87  | 16590           | 5870 |                                                                                    |              |                             |
| 50                     | 18602                   | 2.55           | 35.51  | 16770           | 6090 | CG132-22P-160M-04E<br>CF132-22P-160M-04E                                           | 836<br>840   | 158                         |
| 88                     | 10591                   | 2.55           | 20.22  | 16880           | 6250 |                                                                                    |              |                             |
| 18                     | 52405                   | 0.80           | 100.05 | **              | 4410 | CG103-22P-160M-04E<br>CF103-22P-160M-04E                                           | 628<br>637   | 154                         |
| 21                     | 45210                   | 0.90           | 86.31  | 7150            | 4650 |                                                                                    |              |                             |
| 22                     | 41426                   | 1.00           | 79.08  | 7730            | 4770 |                                                                                    |              |                             |
| 25                     | 37925                   | 1.10           | 72.40  | 8180            | 4880 |                                                                                    |              |                             |
| 26                     | 35836                   | 1.15           | 68.41  | 8430            | 4950 |                                                                                    |              |                             |
| 30                     | 30836                   | 1.30           | 58.87  | 8790            | 5100 |                                                                                    |              |                             |
| 36                     | 25948                   | 1.55           | 49.54  | 8160            | 5260 |                                                                                    |              |                             |
| 39                     | 24110                   | 1.70           | 46.03  | 7910            | 5330 |                                                                                    |              |                             |
| 42                     | 22385                   | 1.80           | 42.74  | 7670            | 5400 |                                                                                    |              |                             |
| 50                     | 18778                   | 2.15           | 35.85  | 7150            | 5510 |                                                                                    |              |                             |
| 61                     | 15268                   | 2.65           | 29.15  | 6610            | 5620 |                                                                                    |              |                             |
| 61                     | 15272                   | 2.65           | 29.16  | 6610            | 5620 | CG102-22P-160M-04E<br>CF102-22P-160M-04E                                           | 617<br>626   | 154                         |
| 105                    | 8867                    | 2.70           | 16.93  | 5420            | 5710 |                                                                                    |              |                             |

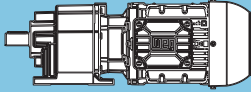


**P<sub>N</sub> = 15 hp**

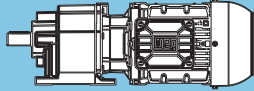
| 60 Hz                  |                         | f <sub>B</sub> | i     | F <sub>TN</sub> |      |  | m<br>lb    | Dimension<br>sheet<br>see page |
|------------------------|-------------------------|----------------|-------|-----------------|------|------------------------------------------------------------------------------------|------------|--------------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |       | lb              | lb   |                                                                                    |            |                                |
| <b>29</b>              | 32098                   | 0.85           | 61.28 | 3820            | 5530 | <b>CG093-22P-160M-04E</b><br><b>CF093-22P-160M-04E</b>                             | 536<br>531 | 150                            |
| <b>30</b>              | 31314                   | 0.85           | 59.78 | 4050            | 5550 |                                                                                    |            |                                |
| <b>35</b>              | 26828                   | 1.00           | 51.22 | 5060            | 5730 |                                                                                    |            |                                |
| <b>35</b>              | 26317                   | 1.00           | 50.24 | 5150            | 5760 |                                                                                    |            |                                |
| <b>41</b>              | 22833                   | 1.15           | 43.59 | 5710            | 5890 |                                                                                    |            |                                |
| <b>49</b>              | 19154                   | 1.25           | 36.57 | 6180            | 6020 |                                                                                    |            |                                |
| <b>58</b>              | 16141                   | 1.40           | 30.81 | 6110            | 6140 |                                                                                    |            |                                |
| <b>70</b>              | 13234                   | 1.60           | 25.26 | 5670            | 6250 |                                                                                    |            |                                |
| <b>69</b>              | 13445                   | 2.00           | 25.67 | 5690            | 6230 | <b>CG092-22P-160M-04E</b><br><b>CF092-22P-160M-04E</b>                             | 531<br>527 | 150                            |
| <b>80</b>              | 11631                   | 2.30           | 22.20 | 5370            | 6290 |                                                                                    |            |                                |
| <b>94</b>              | 9896                    | 2.70           | 18.89 | 5040            | 6360 |                                                                                    |            |                                |
| <b>121</b>             | 7667                    | 2.10           | 14.64 | 4610            | 6340 |                                                                                    |            |                                |
| <b>140</b>             | 6632                    | 2.45           | 12.66 | 4360            | 6410 |                                                                                    |            |                                |
| <b>165</b>             | 5643                    | 2.90           | 10.77 | 4090            | 6450 |                                                                                    |            |                                |
| <b>85</b>              | 10999                   | 1.15           | 21.00 | 4380            | 4470 | <b>CG082-22P-160M-04E</b><br><b>CF082-22P-160M-04E</b>                             | 417<br>425 | 148                            |
| <b>99</b>              | 9423                    | 1.30           | 17.99 | 4110            | 4560 |                                                                                    |            |                                |
| <b>116</b>             | 8020                    | 1.45           | 15.31 | 3870            | 4630 |                                                                                    |            |                                |
| <b>138</b>             | 6728                    | 1.65           | 12.84 | 3600            | 4700 |                                                                                    |            |                                |
| <b>147</b>             | 6340                    | 1.65           | 12.10 | 3550            | 4650 |                                                                                    |            |                                |
| <b>164</b>             | 5669                    | 1.85           | 10.82 | 3370            | 4770 |                                                                                    |            |                                |
| <b>171</b>             | 5432                    | 1.85           | 10.37 | 3350            | 4720 |                                                                                    |            |                                |
| <b>200</b>             | 4648                    | 2.10           | 8.87  | 3120            | 4810 |                                                                                    |            |                                |
| <b>201</b>             | 4623                    | 2.05           | 8.83  | 3150            | 4770 |                                                                                    |            |                                |
| <b>240</b>             | 3878                    | 2.30           | 7.40  | 2920            | 4810 |                                                                                    |            |                                |
| <b>284</b>             | 3268                    | 2.55           | 6.24  | 2740            | 4860 |                                                                                    |            |                                |
| <b>347</b>             | 2680                    | 2.95           | 5.12  | 2560            | 4880 |                                                                                    |            |                                |
| <b>123</b>             | 7530                    | 0.85           | 14.38 | 900             | 2920 | <b>CG072-22P-160M-04E</b><br><b>CF072-22P-160M-04E</b>                             | 364<br>373 | 146                            |
| <b>136</b>             | 6850                    | 0.90           | 13.08 | 990             | 2920 |                                                                                    |            |                                |
| <b>146</b>             | 6359                    | 0.95           | 12.14 | 1120            | 3010 |                                                                                    |            |                                |
| <b>161</b>             | 5784                    | 1.00           | 11.04 | 1210            | 3010 |                                                                                    |            |                                |
| <b>178</b>             | 5238                    | 1.05           | 10.00 | 1330            | 3100 |                                                                                    |            |                                |
| <b>195</b>             | 4765                    | 1.15           | 9.10  | 1390            | 3080 |                                                                                    |            |                                |
| <b>233</b>             | 3994                    | 1.20           | 7.63  | 1350            | 3030 |                                                                                    |            |                                |
| <b>276</b>             | 3373                    | 1.35           | 6.44  | 1440            | 3100 |                                                                                    |            |                                |
| <b>335</b>             | 2778                    | 1.50           | 5.30  | 1530            | 3170 |                                                                                    |            |                                |

Legend see page 29



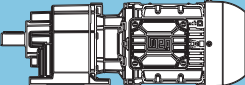
| P <sub>N</sub> = 20 hp |                         |                |        |                 |      |                                                                                    |              |                             |
|------------------------|-------------------------|----------------|--------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| 60 Hz                  |                         |                | i      | F <sub>FN</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
| n <sub>50</sub><br>rpm | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | lb              | lb   |                                                                                    |              |                             |
| 5.7                    | 204067                  | 0.80           | 311.64 | **              | 4340 | CG164-22P-160L-04F<br>CF164-22P-160L-04F                                           | 1836         | 168                         |
| 6.0                    | 193039                  | 0.85           | 295.40 | 22440           | 4610 |                                                                                    | 1887         |                             |
| 6.9                    | 166289                  | 1.00           | 255.51 | 24820           | 5240 |                                                                                    |              |                             |
| 7.6                    | 167621                  | 1.00           | 234.67 | 24730           | 5190 | CG163-22P-160L-04F<br>CF163-22P-160L-04F                                           | 1735<br>1786 | 166                         |
| 8.8                    | 144371                  | 1.15           | 202.12 | 26390           | 5730 |                                                                                    |              |                             |
| 10                     | 124875                  | 1.30           | 174.82 | 27540           | 6200 |                                                                                    |              |                             |
| 12                     | 110150                  | 1.45           | 154.21 | 28260           | 6540 |                                                                                    |              |                             |
| 13                     | 94602                   | 1.70           | 132.44 | 28910           | 6900 |                                                                                    |              |                             |
| 14                     | 93237                   | 1.75           | 130.53 | 28960           | 6920 |                                                                                    |              |                             |
| 16                     | 80304                   | 2.00           | 112.42 | 29410           | 7240 |                                                                                    |              |                             |
| 18                     | 69460                   | 2.30           | 97.24  | 29740           | 7490 |                                                                                    |              |                             |
| 19                     | 65308                   | 2.45           | 91.43  | 29850           | 7580 |                                                                                    |              |                             |
| 21                     | 61269                   | 2.65           | 85.78  | 29940           | 7670 |                                                                                    |              |                             |
| 7.6                    | 152371                  | 0.80           | 232.69 | **              | 2270 |                                                                                    |              |                             |
| 8.6                    | 147773                  | 0.80           | 206.88 | **              | 2380 | CG143-22P-160L-04F<br>CF143-22P-160L-04F                                           | 1230<br>1270 | 162                         |
| 9.8                    | 128844                  | 0.90           | 180.38 | 20790           | 2880 |                                                                                    |              |                             |
| 11                     | 110983                  | 1.05           | 155.38 | 21960           | 3330 |                                                                                    |              |                             |
| 13                     | 95571                   | 1.25           | 133.80 | 22800           | 3730 |                                                                                    |              |                             |
| 15                     | 83483                   | 1.40           | 116.88 | 23360           | 4050 |                                                                                    |              |                             |
| 16                     | 80906                   | 1.45           | 113.27 | 23450           | 4090 |                                                                                    |              |                             |
| 18                     | 72113                   | 1.60           | 100.96 | 23780           | 4340 |                                                                                    |              |                             |
| 21                     | 60764                   | 1.90           | 85.07  | 24170           | 4630 |                                                                                    |              |                             |
| 24                     | 52325                   | 2.20           | 73.25  | 24390           | 4830 |                                                                                    |              |                             |
| 26                     | 49074                   | 2.35           | 68.70  | 24460           | 4920 |                                                                                    |              |                             |
| 28                     | 45707                   | 2.55           | 63.99  | 24550           | 5010 |                                                                                    |              |                             |
| 32                     | 39482                   | 2.95           | 55.27  | 24660           | 5170 |                                                                                    |              |                             |
| 47                     | 26773                   | 2.40           | 37.48  | 24860           | 5490 |                                                                                    |              |                             |
| 83                     | 15267                   | 2.40           | 21.37  | 24980           | 5710 |                                                                                    |              |                             |
| 15                     | 82958                   | 0.90           | 116.14 | 12790           | 4200 | CG133-22P-160L-04F<br>CF133-22P-160L-04F                                           | 906<br>911   | 158                         |
| 18                     | 71651                   | 1.00           | 100.31 | 13960           | 4540 |                                                                                    |              |                             |
| 20                     | 64257                   | 1.15           | 89.96  | 14590           | 4740 |                                                                                    |              |                             |
| 21                     | 60587                   | 1.20           | 84.82  | 14880           | 4860 |                                                                                    |              |                             |
| 23                     | 55779                   | 1.30           | 78.09  | 15220           | 4990 |                                                                                    |              |                             |
| 26                     | 49439                   | 1.45           | 69.21  | 15600           | 5190 |                                                                                    |              |                             |
| 31                     | 41242                   | 1.75           | 57.74  | 16030           | 5420 |                                                                                    |              |                             |
| 32                     | 40113                   | 1.80           | 56.16  | 16070           | 5460 |                                                                                    |              |                             |
| 36                     | 35621                   | 2.00           | 49.87  | 16250           | 5600 |                                                                                    |              |                             |
| 42                     | 30121                   | 2.40           | 42.17  | 16460           | 5760 |                                                                                    |              |                             |
| 52                     | 24578                   | 2.90           | 34.41  | 16610           | 5910 |                                                                                    |              |                             |
| 50                     | 25366                   | 1.90           | 35.51  | 16590           | 5890 |                                                                                    |              |                             |
| 57                     | 22117                   | 2.40           | 30.96  | 16680           | 5980 |                                                                                    |              |                             |
| 88                     | 14443                   | 1.90           | 20.22  | 16840           | 6110 |                                                                                    |              |                             |
| 101                    | 12593                   | 2.40           | 17.63  | 16860           | 6180 |                                                                                    |              |                             |
| 25                     | 51716                   | 0.80           | 72.40  | **              | 4430 | CG103-22P-160L-04F<br>CF103-22P-160L-04F                                           | 679<br>688   | 154                         |
| 26                     | 48868                   | 0.85           | 68.41  | 6470            | 4520 |                                                                                    |              |                             |
| 30                     | 42050                   | 0.95           | 58.87  | 7620            | 4740 |                                                                                    |              |                             |
| 36                     | 35383                   | 1.15           | 49.54  | 8480            | 4970 |                                                                                    |              |                             |
| 39                     | 32878                   | 1.25           | 46.03  | 8250            | 5040 |                                                                                    |              |                             |
| 42                     | 30525                   | 1.35           | 42.74  | 7980            | 5130 |                                                                                    |              |                             |
| 50                     | 25606                   | 1.60           | 35.85  | 7420            | 5280 |                                                                                    |              |                             |
| 61                     | 20820                   | 1.95           | 29.15  | 6810            | 5440 |                                                                                    |              |                             |
| 78                     | 16279                   | 2.45           | 22.79  | 6180            | 5580 |                                                                                    |              |                             |
| 61                     | 20826                   | 1.95           | 29.16  | 6810            | 5440 |                                                                                    |              |                             |
| 70                     | 18078                   | 2.25           | 25.31  | 6450            | 5530 |                                                                                    |              |                             |
| 81                     | 15619                   | 2.55           | 21.87  | 6070            | 5600 |                                                                                    |              |                             |
| 95                     | 13366                   | 3.00           | 18.71  | 5710            | 5690 |                                                                                    |              |                             |
| 105                    | 12091                   | 2.00           | 16.93  | 5550            | 5580 |                                                                                    |              |                             |
| 121                    | 10496                   | 2.30           | 14.69  | 5240            | 5640 |                                                                                    |              |                             |
| 140                    | 9068                    | 2.65           | 12.70  | 4950            | 5710 |                                                                                    |              |                             |

**P<sub>N</sub> = 20 hp**

| 60 Hz                  |                 | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i    | F <sub>TN</sub> |                                                        |  | m<br>lb | Dimension<br>sheet<br>see page |
|------------------------|-----------------|-------------------------|----------------|------|-----------------|--------------------------------------------------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub><br>rpm | F <sub>aN</sub> |                         |                |      |                 |                                                        |                                                                                    |         |                                |
|                        | lb              |                         |                |      | lb              |                                                        |                                                                                    |         |                                |
| <b>41</b>              | 31136           | 0.85                    | 43.59          | 4070 | 5580            | <b>CG093-22P-160L-04F</b><br><b>CF093-22P-160L-04F</b> | 586                                                                                | 150     |                                |
| <b>49</b>              | 26119           | 0.95                    | 36.57          | 5170 | 5760            |                                                        | 582                                                                                |         |                                |
| <b>58</b>              | 22010           | 1.05                    | 30.81          | 5820 | 5910            |                                                        |                                                                                    |         |                                |
| <b>70</b>              | 18046           | 1.15                    | 25.26          | 5890 | 6070            |                                                        |                                                                                    |         |                                |
| <b>69</b>              | 18334           | 1.45                    | 25.67          | 5910 | 6050            | <b>CG092-22P-160L-04F</b><br><b>CF092-22P-160L-04F</b> | 582<br>578                                                                         | 150     |                                |
| <b>80</b>              | 15860           | 1.70                    | 22.20          | 5550 | 6140            |                                                        |                                                                                    |         |                                |
| <b>94</b>              | 13494           | 2.00                    | 18.89          | 5190 | 6230            |                                                        |                                                                                    |         |                                |
| <b>110</b>             | 11484           | 2.35                    | 16.08          | 4880 | 6320            |                                                        |                                                                                    |         |                                |
| <b>121</b>             | 10455           | 1.55                    | 14.64          | 4740 | 6200            |                                                        |                                                                                    |         |                                |
| <b>128</b>             | 9907            | 2.70                    | 13.87          | 4590 | 6360            |                                                        |                                                                                    |         |                                |
| <b>140</b>             | 9044            | 1.80                    | 12.66          | 4470 | 6270            |                                                        |                                                                                    |         |                                |
| <b>165</b>             | 7695            | 2.10                    | 10.77          | 4200 | 6340            |                                                        |                                                                                    |         |                                |
| <b>194</b>             | 6549            | 2.50                    | 9.17           | 3930 | 6410            |                                                        |                                                                                    |         |                                |
| <b>224</b>             | 5649            | 2.85                    | 7.91           | 3730 | 6450            |                                                        |                                                                                    |         |                                |
| <b>85</b>              | 14998           | 0.85                    | 21.00          | 4340 | 4270            | <b>CG082-22P-160L-04F</b><br><b>CF082-22P-160L-04F</b> | 467<br>476                                                                         | 148     |                                |
| <b>99</b>              | 12850           | 0.95                    | 17.99          | 4290 | 4380            |                                                        |                                                                                    |         |                                |
| <b>116</b>             | 10936           | 1.05                    | 15.31          | 4000 | 4500            |                                                        |                                                                                    |         |                                |
| <b>138</b>             | 9174            | 1.20                    | 12.84          | 3730 | 4590            |                                                        |                                                                                    |         |                                |
| <b>147</b>             | 8646            | 1.25                    | 12.10          | 3660 | 4520            |                                                        |                                                                                    |         |                                |
| <b>164</b>             | 7731            | 1.35                    | 10.82          | 3460 | 4650            |                                                        |                                                                                    |         |                                |
| <b>171</b>             | 7407            | 1.35                    | 10.37          | 3440 | 4590            |                                                        |                                                                                    |         |                                |
| <b>200</b>             | 6338            | 1.55                    | 8.87           | 3210 | 4720            |                                                        |                                                                                    |         |                                |
| <b>201</b>             | 6304            | 1.50                    | 8.83           | 3240 | 4650            |                                                        |                                                                                    |         |                                |
| <b>240</b>             | 5289            | 1.70                    | 7.40           | 3010 | 4720            |                                                        |                                                                                    |         |                                |
| <b>284</b>             | 4457            | 1.90                    | 6.24           | 2810 | 4770            |                                                        |                                                                                    |         |                                |
| <b>347</b>             | 3654            | 2.15                    | 5.12           | 2610 | 4830            |                                                        |                                                                                    |         |                                |
| <b>178</b>             | 7143            | 0.80                    | 10.00          | **   | 2940            | <b>CG072-22P-160L-04F</b><br><b>CF072-22P-160L-04F</b> | 414<br>423                                                                         | 146     |                                |
| <b>195</b>             | 6498            | 0.85                    | 9.10           | 720  | 2940            |                                                        |                                                                                    |         |                                |
| <b>233</b>             | 5446            | 0.90                    | 7.63           | 720  | 2880            |                                                        |                                                                                    |         |                                |
| <b>276</b>             | 4599            | 1.00                    | 6.44           | 920  | 2970            |                                                        |                                                                                    |         |                                |
| <b>335</b>             | 3789            | 1.10                    | 5.30           | 1080 | 3060            |                                                        |                                                                                    |         |                                |

Legend see page 29

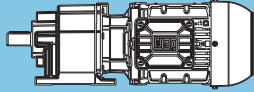
\*\*... on request

| <b>P<sub>N</sub> = 25 hp</b> |                      |                      |          |                       |           |                                                                                    |              |                                 |
|------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|--------------|---------------------------------|
| <b>60 Hz</b>                 |                      |                      | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b>     | <b>Dimension sheet see page</b> |
| <b>n<sub>50</sub></b>        | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |              |                                 |
| <b>rpm</b>                   | <b>lb-in</b>         |                      |          |                       |           |                                                                                    | <b>lb</b>    |                                 |
| <b>6.9</b>                   | 206352               | 0.80                 | 255.51   | **                    | 4320      | <b>CG164-22P-180M-04E</b><br><b>CF164-22P-180M-04E</b>                             | 1867<br>1918 | 168                             |
| <b>7.6</b>                   | 206732               | 0.80                 | 234.67   | **                    | 4290      | <b>CG163-22P-180M-04E</b><br><b>CF163-22P-180M-04E</b>                             | 1766<br>1817 | 166                             |
| <b>8.8</b>                   | 178057               | 0.90                 | 202.12   | 23900                 | 4970      |                                                                                    |              |                                 |
| <b>10</b>                    | 154012               | 1.05                 | 174.82   | 25790                 | 5530      |                                                                                    |              |                                 |
| <b>12</b>                    | 135851               | 1.20                 | 154.21   | 26930                 | 5960      |                                                                                    |              |                                 |
| <b>13</b>                    | 116676               | 1.40                 | 132.44   | 27970                 | 6380      |                                                                                    |              |                                 |
| <b>14</b>                    | 114992               | 1.40                 | 130.53   | 28060                 | 6430      |                                                                                    |              |                                 |
| <b>16</b>                    | 99042                | 1.65                 | 112.42   | 28750                 | 6810      |                                                                                    |              |                                 |
| <b>18</b>                    | 85667                | 1.90                 | 97.24    | 29250                 | 7130      |                                                                                    |              |                                 |
| <b>19</b>                    | 80546                | 2.00                 | 91.43    | 29410                 | 7240      |                                                                                    |              |                                 |
| <b>21</b>                    | 75565                | 2.15                 | 85.78    | 29560                 | 7350      |                                                                                    |              |                                 |
| <b>23</b>                    | 67172                | 2.40                 | 76.25    | 29810                 | 7550      |                                                                                    |              |                                 |
| <b>24</b>                    | 64899                | 2.50                 | 73.67    | 29850                 | 7600      |                                                                                    |              |                                 |
| <b>27</b>                    | 57736                | 2.80                 | 65.54    | 30030                 | 7760      |                                                                                    |              |                                 |
| <b>29</b>                    | 53996                | 3.00                 | 61.29    | 30100                 | 7850      |                                                                                    |              |                                 |
| <b>11</b>                    | 136879               | 0.85                 | 155.38   | 20210                 | 2680      | <b>CG143-22P-180M-04E</b><br><b>CF143-22P-180M-04E</b>                             | 1261<br>1301 | 162                             |
| <b>13</b>                    | 117871               | 1.00                 | 133.80   | 21560                 | 3170      |                                                                                    |              |                                 |
| <b>15</b>                    | 102962               | 1.15                 | 116.88   | 22440                 | 3550      |                                                                                    |              |                                 |
| <b>18</b>                    | 88939                | 1.30                 | 100.96   | 23130                 | 3910      |                                                                                    |              |                                 |
| <b>21</b>                    | 74942                | 1.55                 | 85.07    | 23690                 | 4270      |                                                                                    |              |                                 |
| <b>24</b>                    | 64535                | 1.80                 | 73.25    | 24050                 | 4520      |                                                                                    |              |                                 |
| <b>26</b>                    | 60524                | 1.95                 | 68.70    | 24170                 | 4630      |                                                                                    |              |                                 |
| <b>28</b>                    | 56372                | 2.05                 | 63.99    | 24280                 | 4740      |                                                                                    |              |                                 |
| <b>31</b>                    | 49751                | 2.35                 | 56.47    | 24460                 | 4900      |                                                                                    |              |                                 |
| <b>32</b>                    | 48694                | 2.40                 | 55.27    | 24480                 | 4950      |                                                                                    |              |                                 |
| <b>37</b>                    | 42240                | 2.75                 | 47.95    | 24620                 | 5100      |                                                                                    |              |                                 |
| <b>39</b>                    | 40270                | 2.90                 | 45.71    | 24660                 | 5150      |                                                                                    |              |                                 |
| <b>47</b>                    | 33020                | 1.95                 | 37.48    | 24770                 | 5330      | <b>CG142-22P-180M-04E</b><br><b>CF142-22P-180M-04E</b>                             | 1230<br>1270 | 162                             |
| <b>55</b>                    | 28440                | 2.95                 | 32.28    | 24840                 | 5460      |                                                                                    |              |                                 |
| <b>83</b>                    | 18829                | 1.95                 | 21.37    | 24950                 | 5600      |                                                                                    |              |                                 |
| <b>96</b>                    | 16218                | 2.95                 | 18.41    | 24980                 | 5670      |                                                                                    |              |                                 |
| <b>18</b>                    | 88370                | 0.85                 | 100.31   | 12180                 | 4050      | <b>CG133-22P-180M-04E</b><br><b>CF133-22P-180M-04E</b>                             | 937<br>941   | 158                             |
| <b>21</b>                    | 74724                | 0.95                 | 84.82    | 13710                 | 4450      |                                                                                    |              |                                 |
| <b>23</b>                    | 68794                | 1.05                 | 78.09    | 14250                 | 4630      |                                                                                    |              |                                 |
| <b>26</b>                    | 60975                | 1.20                 | 69.21    | 14860                 | 4860      |                                                                                    |              |                                 |
| <b>31</b>                    | 50865                | 1.40                 | 57.74    | 15530                 | 5150      |                                                                                    |              |                                 |
| <b>32</b>                    | 49473                | 1.45                 | 56.16    | 15600                 | 5190      |                                                                                    |              |                                 |
| <b>36</b>                    | 43932                | 1.65                 | 49.87    | 15890                 | 5350      |                                                                                    |              |                                 |
| <b>40</b>                    | 39497                | 1.80                 | 44.83    | 16100                 | 5490      |                                                                                    |              |                                 |
| <b>42</b>                    | 37149                | 1.95                 | 42.17    | 16210                 | 5550      |                                                                                    |              |                                 |
| <b>52</b>                    | 30313                | 2.35                 | 34.41    | 16460                 | 5760      |                                                                                    |              |                                 |
| <b>64</b>                    | 24595                | 2.90                 | 27.92    | 16610                 | 5910      |                                                                                    |              |                                 |
| <b>57</b>                    | 27277                | 1.95                 | 30.96    | 16550                 | 5850      |                                                                                    |              |                                 |
| <b>67</b>                    | 23496                | 2.95                 | 26.67    | 16660                 | 5930      |                                                                                    |              |                                 |
| <b>101</b>                   | 15531                | 1.95                 | 17.63    | 16820                 | 6070      |                                                                                    |              |                                 |
| <b>117</b>                   | 13378                | 2.95                 | 15.19    | 16840                 | 6160      |                                                                                    |              |                                 |
| <b>70</b>                    | 22296                | 1.80                 | 25.31    | 6610                  | 5400      | <b>CG102-22P-180M-04E</b><br><b>CF102-22P-180M-04E</b>                             | 699<br>708   | 154                             |
| <b>81</b>                    | 19264                | 2.10                 | 21.87    | 6200                  | 5490      |                                                                                    |              |                                 |
| <b>95</b>                    | 16485                | 2.45                 | 18.71    | 5820                  | 5580      |                                                                                    |              |                                 |
| <b>110</b>                   | 14238                | 2.80                 | 16.16    | 5490                  | 5640      |                                                                                    |              |                                 |
| <b>121</b>                   | 12945                | 1.85                 | 14.69    | 5350                  | 5530      |                                                                                    |              |                                 |
| <b>140</b>                   | 11184                | 2.15                 | 12.70    | 5040                  | 5620      |                                                                                    |              |                                 |
| <b>163</b>                   | 9571                 | 2.50                 | 10.86    | 4740                  | 5690      |                                                                                    |              |                                 |
| <b>189</b>                   | 8267                 | 2.90                 | 9.38     | 4500                  | 5760      |                                                                                    |              |                                 |

Legend see page 29

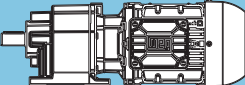
\*\* ... on request

**P<sub>N</sub> = 25 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i     | F <sub>FN</sub> |      |  | m<br>lb    | Dimension<br>sheet<br>see page |
|------------------------|-------------------------|----------------|-------|-----------------|------|------------------------------------------------------------------------------------|------------|--------------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |       | lb              | lb   |                                                                                    |            |                                |
| <b>80</b>              | 19561                   | 1.40           | 22.20 | 5730            | 6000 | <b>CG092-22P-180M-04E</b><br><b>CF092-22P-180M-04E</b>                             | 613<br>608 | 150                            |
| <b>94</b>              | 16642                   | 1.60           | 18.89 | 5350            | 6110 |                                                                                    |            |                                |
| <b>110</b>             | 14163                   | 1.90           | 16.08 | 4990            | 6200 |                                                                                    |            |                                |
| <b>128</b>             | 12219                   | 2.20           | 13.87 | 4700            | 6270 |                                                                                    |            |                                |
| <b>140</b>             | 11154                   | 1.45           | 12.66 | 4590            | 6180 |                                                                                    |            |                                |
| <b>153</b>             | 10250                   | 2.60           | 11.63 | 4360            | 6360 |                                                                                    |            |                                |
| <b>165</b>             | 9490                    | 1.70           | 10.77 | 4270            | 6250 |                                                                                    |            |                                |
| <b>188</b>             | 8334                    | 3.00           | 9.46  | 4020            | 6430 |                                                                                    |            |                                |
| <b>194</b>             | 8076                    | 2.00           | 9.17  | 4000            | 6340 |                                                                                    |            |                                |
| <b>224</b>             | 6968                    | 2.35           | 7.91  | 3780            | 6380 |                                                                                    |            |                                |
| <b>268</b>             | 5845                    | 2.80           | 6.63  | 3530            | 6450 | <b>CG082-22P-180M-04E</b><br><b>CF082-22P-180M-04E</b>                             | 498<br>507 | 148                            |
| <b>99</b>              | 15848                   | 0.80           | 17.99 | **              | 4230 |                                                                                    |            |                                |
| <b>116</b>             | 13488                   | 0.85           | 15.31 | 4140            | 4360 |                                                                                    |            |                                |
| <b>138</b>             | 11315                   | 1.00           | 12.84 | 3820            | 4470 |                                                                                    |            |                                |
| <b>164</b>             | 9535                    | 1.10           | 10.82 | 3550            | 4560 |                                                                                    |            |                                |
| <b>171</b>             | 9136                    | 1.10           | 10.37 | 3530            | 4470 |                                                                                    |            |                                |
| <b>200</b>             | 7817                    | 1.25           | 8.87  | 3280            | 4650 |                                                                                    |            |                                |
| <b>201</b>             | 7775                    | 1.25           | 8.83  | 3300            | 4560 |                                                                                    |            |                                |
| <b>240</b>             | 6523                    | 1.40           | 7.40  | 3080            | 4650 |                                                                                    |            |                                |
| <b>284</b>             | 5496                    | 1.55           | 6.24  | 2880            | 4720 |                                                                                    |            |                                |
| <b>347</b>             | 4506                    | 1.75           | 5.12  | 2650            | 4770 |                                                                                    |            |                                |

Legend see page 29

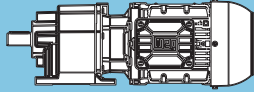
\*\*... on request

| P <sub>N</sub> = 30 hp |                         |                |        |                 |      |                                                                                    |              |                             |
|------------------------|-------------------------|----------------|--------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| 60 Hz                  |                         |                | i      | F <sub>IN</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
| n <sub>50</sub><br>rpm | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | lb              | lb   |                                                                                    |              |                             |
| 8.8                    | 211744                  | 0.80           | 202.12 | **              | 4180 | <b>CG163-22P-180L-04F</b><br><b>CF163-22P-180L-04F</b>                             | 1812<br>1863 | 166                         |
| 10                     | 183149                  | 0.90           | 174.82 | 23450           | 4860 |                                                                                    |              |                             |
| 12                     | 161553                  | 1.00           | 154.21 | 25220           | 5350 |                                                                                    |              |                             |
| 13                     | 138750                  | 1.15           | 132.44 | 26770           | 5890 |                                                                                    |              |                             |
| 14                     | 136747                  | 1.20           | 130.53 | 26890           | 5930 |                                                                                    |              |                             |
| 16                     | 117779                  | 1.40           | 112.42 | 27920           | 6360 |                                                                                    |              |                             |
| 18                     | 101874                  | 1.60           | 97.24  | 28640           | 6740 |                                                                                    |              |                             |
| 19                     | 95785                   | 1.70           | 91.43  | 28870           | 6880 |                                                                                    |              |                             |
| 21                     | 89861                   | 1.80           | 85.78  | 29090           | 7010 |                                                                                    |              |                             |
| 23                     | 79880                   | 2.00           | 76.25  | 29430           | 7240 |                                                                                    |              |                             |
| 24                     | 77177                   | 2.10           | 73.67  | 29520           | 7310 |                                                                                    |              |                             |
| 27                     | 68659                   | 2.35           | 65.54  | 29760           | 7510 |                                                                                    |              |                             |
| 29                     | 64212                   | 2.50           | 61.29  | 29880           | 7620 |                                                                                    |              |                             |
| 35                     | 53279                   | 3.00           | 50.86  | 30120           | 7870 |                                                                                    |              |                             |
| 13                     | 140171                  | 0.85           | 133.80 | 19960           | 2590 | <b>CG143-22P-180L-04F</b><br><b>CF143-22P-180L-04F</b>                             | 1307<br>1347 | 162                         |
| 15                     | 122442                  | 0.95           | 116.88 | 21270           | 3030 |                                                                                    |              |                             |
| 18                     | 105765                  | 1.10           | 100.96 | 22280           | 3460 |                                                                                    |              |                             |
| 21                     | 89120                   | 1.30           | 85.07  | 23110           | 3890 |                                                                                    |              |                             |
| 24                     | 76744                   | 1.50           | 73.25  | 23630           | 4230 |                                                                                    |              |                             |
| 26                     | 71975                   | 1.60           | 68.70  | 23810           | 4340 |                                                                                    |              |                             |
| 28                     | 67037                   | 1.75           | 63.99  | 23960           | 4470 |                                                                                    |              |                             |
| 31                     | 59163                   | 1.95           | 56.47  | 24210           | 4680 |                                                                                    |              |                             |
| 32                     | 57907                   | 2.00           | 55.27  | 24260           | 4700 |                                                                                    |              |                             |
| 37                     | 50231                   | 2.30           | 47.95  | 24440           | 4900 |                                                                                    |              |                             |
| 39                     | 47888                   | 2.45           | 45.71  | 24500           | 4950 |                                                                                    |              |                             |
| 47                     | 39407                   | 2.95           | 37.61  | 24680           | 5170 |                                                                                    |              |                             |
| 47                     | 39267                   | 1.65           | 37.48  | 24680           | 5170 | <b>CG142-22P-180L-04F</b><br><b>CF142-22P-180L-04F</b>                             | 1276<br>1316 | 162                         |
| 55                     | 33820                   | 2.45           | 32.28  | 24770           | 5310 |                                                                                    |              |                             |
| 83                     | 22392                   | 1.65           | 21.37  | 24930           | 5490 |                                                                                    |              |                             |
| 96                     | 19286                   | 2.45           | 18.41  | 24950           | 5580 |                                                                                    |              |                             |
| 21                     | 88861                   | 0.80           | 84.82  | **              | 4050 | <b>CG133-22P-180L-04F</b><br><b>CF133-22P-180L-04F</b>                             | 983<br>988   | 158                         |
| 23                     | 81809                   | 0.90           | 78.09  | 12970           | 4250 |                                                                                    |              |                             |
| 26                     | 72511                   | 1.00           | 69.21  | 13920           | 4520 |                                                                                    |              |                             |
| 31                     | 60488                   | 1.20           | 57.74  | 14900           | 4860 |                                                                                    |              |                             |
| 32                     | 58832                   | 1.25           | 56.16  | 15020           | 4920 |                                                                                    |              |                             |
| 36                     | 52244                   | 1.40           | 49.87  | 15440           | 5100 |                                                                                    |              |                             |
| 40                     | 46970                   | 1.55           | 44.83  | 15740           | 5260 |                                                                                    |              |                             |
| 42                     | 44177                   | 1.65           | 42.17  | 15890           | 5350 |                                                                                    |              |                             |
| 52                     | 36048                   | 2.00           | 34.41  | 16250           | 5580 |                                                                                    |              |                             |
| 64                     | 29248                   | 2.45           | 27.92  | 16480           | 5780 |                                                                                    |              |                             |
| 57                     | 32438                   | 1.65           | 30.96  | 16390           | 5690 | <b>CG132-22P-180L-04F</b><br><b>CF132-22P-180L-04F</b>                             | 963<br>968   | 158                         |
| 67                     | 27941                   | 2.45           | 26.67  | 16520           | 5820 |                                                                                    |              |                             |
| 77                     | 24061                   | 2.95           | 22.97  | 16640           | 5930 |                                                                                    |              |                             |
| 101                    | 18469                   | 1.65           | 17.63  | 16770           | 5980 |                                                                                    |              |                             |
| 117                    | 15909                   | 2.45           | 15.19  | 16590           | 6070 |                                                                                    |              |                             |
| 70                     | 26514                   | 1.55           | 25.31  | 6770            | 5260 | <b>CG102-22P-180L-04F</b><br><b>CF102-22P-180L-04F</b>                             | 745<br>754   | 154                         |
| 81                     | 22908                   | 1.75           | 21.87  | 6340            | 5370 |                                                                                    |              |                             |
| 95                     | 19604                   | 2.05           | 18.71  | 5930            | 5490 |                                                                                    |              |                             |
| 110                    | 16932                   | 2.40           | 16.16  | 5600            | 5580 |                                                                                    |              |                             |
| 121                    | 15394                   | 1.60           | 14.69  | 5440            | 5440 |                                                                                    |              |                             |
| 130                    | 14318                   | 2.80           | 13.67  | 5220            | 5640 |                                                                                    |              |                             |
| 140                    | 13300                   | 1.80           | 12.70  | 5130            | 5530 |                                                                                    |              |                             |
| 163                    | 11382                   | 2.10           | 10.86  | 4830            | 5600 |                                                                                    |              |                             |
| 189                    | 9831                    | 2.45           | 9.38   | 4540            | 5690 |                                                                                    |              |                             |
| 224                    | 8313                    | 2.90           | 7.93   | 4250            | 5760 |                                                                                    |              |                             |

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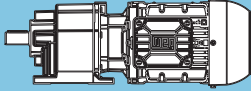
\*\* ... on request

**P<sub>N</sub> = 30 hp**

| 60 Hz                  |                         | f <sub>B</sub> | i     | F <sub>FN</sub> |      |  | m<br>lb    | Dimension sheet<br>see page |
|------------------------|-------------------------|----------------|-------|-----------------|------|------------------------------------------------------------------------------------|------------|-----------------------------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in |                |       | lb              | lb   |                                                                                    |            |                             |
| <b>80</b>              | 23261                   | 1.15           | 22.20 | 5670            | 5870 | <b>CG092-22P-180L-04F</b><br><b>CF092-22P-180L-04F</b>                             | 659<br>655 | 150                         |
| <b>94</b>              | 19791                   | 1.35           | 18.89 | 5490            | 6000 |                                                                                    |            |                             |
| <b>110</b>             | 16843                   | 1.60           | 16.08 | 5100            | 6110 |                                                                                    |            |                             |
| <b>128</b>             | 14530                   | 1.85           | 13.87 | 4790            | 6200 |                                                                                    |            |                             |
| <b>140</b>             | 13265                   | 1.25           | 12.66 | 4680            | 6070 |                                                                                    |            |                             |
| <b>153</b>             | 12189                   | 2.20           | 11.63 | 4450            | 6290 |                                                                                    |            |                             |
| <b>165</b>             | 11286                   | 1.45           | 10.77 | 4360            | 6160 |                                                                                    |            |                             |
| <b>188</b>             | 9911                    | 2.55           | 9.46  | 4090            | 6360 |                                                                                    |            |                             |
| <b>194</b>             | 9604                    | 1.70           | 9.17  | 4090            | 6250 |                                                                                    |            |                             |
| <b>224</b>             | 8286                    | 1.95           | 7.91  | 3840            | 6320 |                                                                                    |            |                             |
| <b>240</b>             | 7749                    | 3.00           | 7.40  | 3710            | 6450 |                                                                                    |            |                             |
| <b>268</b>             | 6951                    | 2.35           | 6.63  | 3600            | 6380 |                                                                                    |            |                             |
| <b>329</b>             | 5651                    | 2.85           | 5.39  | 3300            | 6450 |                                                                                    |            |                             |
| <b>138</b>             | 13455                   | 0.85           | 12.84 | 3930            | 4360 | <b>CG082-22P-180L-04F</b><br><b>CF082-22P-180L-04F</b>                             | 545<br>553 | 148                         |
| <b>164</b>             | 11338                   | 0.95           | 10.82 | 3640            | 4470 |                                                                                    |            |                             |
| <b>171</b>             | 10864                   | 0.95           | 10.37 | 3640            | 4360 |                                                                                    |            |                             |
| <b>200</b>             | 9296                    | 1.05           | 8.87  | 3350            | 4560 |                                                                                    |            |                             |
| <b>201</b>             | 9246                    | 1.05           | 8.83  | 3390            | 4470 |                                                                                    |            |                             |
| <b>240</b>             | 7756                    | 1.15           | 7.40  | 3150            | 4560 |                                                                                    |            |                             |
| <b>284</b>             | 6536                    | 1.30           | 6.24  | 2920            | 4650 |                                                                                    |            |                             |
| <b>347</b>             | 5359                    | 1.50           | 5.12  | 2700            | 4720 |                                                                                    |            |                             |

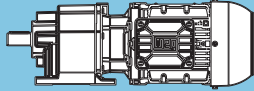
**C**

Legend see page 29

| <b>P<sub>N</sub> = 40 hp</b> |                      |                      |          |                       |           |                                                                                    |              |                          |
|------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|--------------|--------------------------|
| <b>60 Hz</b>                 |                      |                      | <b>i</b> | <b>F<sub>FN</sub></b> |           |  | <b>m</b>     | Dimension sheet see page |
| <b>n<sub>60</sub></b>        | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |              |                          |
| rpm                          | lb-in                |                      |          |                       |           | lb                                                                                 |              |                          |
| 13                           | 188672               | 0.85                 | 132.44   | 23000                 | 4740      | <b>CG163-22P-200L-04E</b><br><b>CF163-22P-200L-04E</b>                             | 1940<br>1991 | 166                      |
| 16                           | 156975               | 1.05                 | 110.19   | 25610                 | 5460      |                                                                                    |              |                          |
| 18                           | 138529               | 1.20                 | 97.24    | 26820                 | 5890      |                                                                                    |              |                          |
| 19                           | 130249               | 1.25                 | 91.43    | 27290                 | 6090      |                                                                                    |              |                          |
| 21                           | 122194               | 1.35                 | 85.78    | 27720                 | 6270      |                                                                                    |              |                          |
| 23                           | 108621               | 1.50                 | 76.25    | 28370                 | 6590      |                                                                                    |              |                          |
| 24                           | 104946               | 1.55                 | 73.67    | 28530                 | 6680      |                                                                                    |              |                          |
| 27                           | 93362                | 1.75                 | 65.54    | 28980                 | 6950      |                                                                                    |              |                          |
| 29                           | 87315                | 1.85                 | 61.29    | 29200                 | 7080      |                                                                                    |              |                          |
| 31                           | 80796                | 2.00                 | 56.72    | 29410                 | 7240      |                                                                                    |              |                          |
| 35                           | 72449                | 2.20                 | 50.86    | 29670                 | 7420      |                                                                                    |              |                          |
| 42                           | 60419                | 2.65                 | 42.41    | 29970                 | 7710      |                                                                                    |              |                          |
| 54                           | 47011                | 2.65                 | 33.00    | 30260                 | 8030      | <b>CG162-22P-200L-04E</b><br><b>CF162-22P-200L-04E</b>                             | 1885<br>1936 | 166                      |
| 101                          | 25209                | 2.65                 | 17.70    | 30550                 | 8450      |                                                                                    |              |                          |
| 18                           | 143820               | 0.85                 | 100.96   | 19690                 | 2520      | <b>CG143-22P-200L-04E</b><br><b>CF143-22P-200L-04E</b>                             | 1435<br>1475 | 162                      |
| 21                           | 118938               | 1.00                 | 83.49    | 21540                 | 3150      |                                                                                    |              |                          |
| 24                           | 104357               | 1.15                 | 73.25    | 22390                 | 3530      |                                                                                    |              |                          |
| 26                           | 97872                | 1.20                 | 68.70    | 22730                 | 3690      |                                                                                    |              |                          |
| 28                           | 91158                | 1.30                 | 63.99    | 23040                 | 3870      |                                                                                    |              |                          |
| 32                           | 80450                | 1.45                 | 56.47    | 23490                 | 4140      |                                                                                    |              |                          |
| 37                           | 68305                | 1.70                 | 47.95    | 23940                 | 4430      |                                                                                    |              |                          |
| 39                           | 65119                | 1.80                 | 45.71    | 24030                 | 4520      |                                                                                    |              |                          |
| 43                           | 58303                | 2.00                 | 40.93    | 24230                 | 4700      |                                                                                    |              |                          |
| 47                           | 53585                | 2.15                 | 37.61    | 24370                 | 4810      |                                                                                    |              |                          |
| 58                           | 44047                | 2.60                 | 30.92    | 24590                 | 5060      |                                                                                    |              |                          |
| 68                           | 37397                | 2.90                 | 26.25    | 24710                 | 5240      |                                                                                    |              |                          |
| 64                           | 39778                | 2.65                 | 27.92    | 24660                 | 5170      | <b>CG142-22P-200L-04E</b><br><b>CF142-22P-200L-04E</b>                             | 1404<br>1444 | 162                      |
| 112                          | 22684                | 2.65                 | 15.92    | 24930                 | 5460      |                                                                                    |              |                          |
| 31                           | 82252                | 0.90                 | 57.74    | 12950                 | 4250      | <b>CG133-22P-200L-04E</b><br><b>CF133-22P-200L-04E</b>                             | 1111<br>1116 | 158                      |
| 32                           | 80001                | 0.90                 | 56.16    | 13200                 | 4320      |                                                                                    |              |                          |
| 36                           | 71042                | 1.00                 | 49.87    | 14070                 | 4560      |                                                                                    |              |                          |
| 40                           | 63870                | 1.15                 | 44.83    | 14660                 | 4770      |                                                                                    |              |                          |
| 42                           | 60072                | 1.20                 | 42.17    | 14950                 | 4880      |                                                                                    |              |                          |
| 52                           | 49019                | 1.45                 | 34.41    | 15650                 | 5220      |                                                                                    |              |                          |
| 64                           | 39772                | 1.80                 | 27.92    | 16100                 | 5490      |                                                                                    |              |                          |
| 80                           | 31752                | 2.25                 | 22.29    | 16410                 | 5710      |                                                                                    |              |                          |
| 78                           | 32718                | 2.20                 | 22.97    | 16370                 | 5690      |                                                                                    |              |                          |
| 89                           | 28580                | 2.50                 | 20.06    | 16430                 | 5800      | <b>CG132-22P-200L-04E</b><br><b>CF132-22P-200L-04E</b>                             | 1091<br>1096 | 158                      |
| 103                          | 24687                | 2.90                 | 17.33    | 16190                 | 5910      |                                                                                    |              |                          |
| 136                          | 18629                | 2.35                 | 13.08    | 15220                 | 5960      |                                                                                    |              |                          |
| 156                          | 16273                | 2.70                 | 11.42    | 14900                 | 6050      |                                                                                    |              |                          |
| 95                           | 26658                | 1.50                 | 18.71    | 6200                  | 5260      |                                                                                    |              |                          |
| 110                          | 23024                | 1.75                 | 16.16    | 5820                  | 5370      | <b>CG102-22P-200L-04E</b><br><b>CF102-22P-200L-04E</b>                             | 873<br>882   | 154                      |
| 130                          | 19469                | 2.05                 | 13.67    | 5420                  | 5490      |                                                                                    |              |                          |
| 160                          | 15887                | 2.55                 | 11.15    | 4970                  | 5600      |                                                                                    |              |                          |
| 164                          | 15477                | 1.55                 | 10.86    | 4990                  | 5420      |                                                                                    |              |                          |
| 190                          | 13368                | 1.80                 | 9.38     | 4700                  | 5530      |                                                                                    |              |                          |
| 224                          | 11304                | 2.15                 | 7.93     | 4380                  | 5620      |                                                                                    |              |                          |
| 275                          | 9224                 | 2.60                 | 6.47     | 4050                  | 5710      |                                                                                    |              |                          |
| 111                          | 22903                | 1.20                 | 16.08    | 5370                  | 5890      |                                                                                    |              |                          |
| 128                          | 19758                | 1.35                 | 13.87    | 5040                  | 6000      | <b>CG092-22P-200L-04E</b><br><b>CF092-22P-200L-04E</b>                             | 787<br>783   | 150                      |
| 153                          | 16574                | 1.60                 | 11.63    | 4650                  | 6110      |                                                                                    |              |                          |
| 188                          | 13476                | 1.85                 | 9.46     | 4250                  | 6230      |                                                                                    |              |                          |
| 194                          | 13060                | 1.25                 | 9.17     | 4250                  | 6070      |                                                                                    |              |                          |
| 225                          | 11267                | 1.45                 | 7.91     | 4000                  | 6160      |                                                                                    |              |                          |
| 241                          | 10537                | 2.20                 | 7.40     | 3820                  | 6340      |                                                                                    |              |                          |
| 268                          | 9451                 | 1.75                 | 6.63     | 3710                  | 6250      |                                                                                    |              |                          |
| 330                          | 7685                 | 2.10                 | 5.39     | 3390                  | 6360      |                                                                                    |              |                          |
| 422                          | 6009                 | 2.70                 | 4.22     | 3080                  | 6430      |                                                                                    |              |                          |

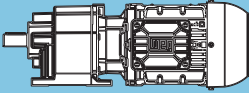
Legend see page 29



| <b>P<sub>N</sub> = 50 hp</b> |                      |                      |          |                       |           |                                                                                    |              |                          |
|------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|--------------|--------------------------|
| <b>60 Hz</b>                 |                      |                      | <b>i</b> | <b>F<sub>TN</sub></b> |           |  | <b>m</b>     | Dimension sheet see page |
| <b>n<sub>60</sub></b>        | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>lb</b>             | <b>lb</b> |                                                                                    |              |                          |
| rpm                          | lb-in                |                      |          |                       |           | lb                                                                                 |              |                          |
| 16                           | 193386               | 0.85                 | 110.19   | 22530                 | 4630      | <b>CG163-22P-200L-04F</b><br><b>CF163-22P-200L-04F</b>                             | 2000<br>2050 | 166                      |
| 18                           | 170661               | 0.95                 | 97.24    | 24570                 | 5150      |                                                                                    |              |                          |
| 19                           | 160460               | 1.00                 | 91.43    | 25340                 | 5400      |                                                                                    |              |                          |
| 21                           | 150537               | 1.10                 | 85.78    | 26030                 | 5620      |                                                                                    |              |                          |
| 23                           | 133816               | 1.20                 | 76.25    | 27090                 | 6000      |                                                                                    |              |                          |
| 24                           | 129289               | 1.25                 | 73.67    | 27340                 | 6110      |                                                                                    |              |                          |
| 27                           | 115018               | 1.40                 | 65.54    | 28060                 | 6450      |                                                                                    |              |                          |
| 29                           | 107568               | 1.50                 | 61.29    | 28390                 | 6610      |                                                                                    |              |                          |
| 31                           | 99537                | 1.65                 | 56.72    | 28730                 | 6790      |                                                                                    |              |                          |
| 35                           | 89254                | 1.80                 | 50.86    | 29140                 | 7040      |                                                                                    |              |                          |
| 42                           | 74433                | 2.15                 | 42.41    | 29610                 | 7370      |                                                                                    |              |                          |
| 49                           | 63977                | 2.50                 | 36.45    | 29880                 | 7620      |                                                                                    |              |                          |
| 56                           | 55366                | 2.80                 | 31.55    | 30080                 | 7820      |                                                                                    |              |                          |
| 54                           | 57915                | 2.15                 | 33.00    | 30030                 | 7760      | <b>CG162-22P-200L-04F</b><br><b>CF162-22P-200L-04F</b>                             | 1944<br>1995 | 166                      |
| 101                          | 31056                | 2.15                 | 17.70    | 30480                 | 8300      |                                                                                    |              |                          |
| 21                           | 146525               | 0.80                 | 83.49    | **                    | 2450      | <b>CG143-22P-200L-04F</b><br><b>CF143-22P-200L-04F</b>                             | 1495<br>1534 | 162                      |
| 24                           | 128563               | 0.90                 | 73.25    | 20860                 | 2900      |                                                                                    |              |                          |
| 26                           | 120573               | 1.00                 | 68.70    | 21420                 | 3100      |                                                                                    |              |                          |
| 28                           | 112302               | 1.05                 | 63.99    | 21920                 | 3300      |                                                                                    |              |                          |
| 32                           | 99111                | 1.20                 | 56.47    | 22660                 | 3640      |                                                                                    |              |                          |
| 37                           | 84148                | 1.40                 | 47.95    | 23340                 | 4020      |                                                                                    |              |                          |
| 39                           | 80223                | 1.45                 | 45.71    | 23520                 | 4140      |                                                                                    |              |                          |
| 44                           | 71826                | 1.65                 | 40.93    | 23810                 | 4340      |                                                                                    |              |                          |
| 47                           | 66014                | 1.75                 | 37.61    | 24010                 | 4500      |                                                                                    |              |                          |
| 58                           | 54263                | 2.10                 | 30.92    | 24350                 | 4790      |                                                                                    |              |                          |
| 68                           | 46071                | 2.35                 | 26.25    | 24550                 | 5010      |                                                                                    |              |                          |
| 80                           | 39325                | 2.60                 | 22.41    | 24680                 | 5170      |                                                                                    |              |                          |
| 64                           | 49005                | 2.15                 | 27.92    | 24480                 | 4920      | <b>CG142-22P-200L-04F</b><br><b>CF142-22P-200L-04F</b>                             | 1464<br>1504 | 162                      |
| 72                           | 43226                | 2.70                 | 24.63    | 24590                 | 5080      |                                                                                    |              |                          |
| 112                          | 27945                | 2.15                 | 15.92    | 24140                 | 5310      |                                                                                    |              |                          |
| 127                          | 24650                | 2.95                 | 14.05    | 23630                 | 5420      |                                                                                    |              |                          |
| 36                           | 87520                | 0.85                 | 49.87    | 12320                 | 4090      | <b>CG133-22P-200L-04F</b><br><b>CF133-22P-200L-04F</b>                             | 1171<br>1175 | 158                      |
| 40                           | 78684                | 0.90                 | 44.83    | 13330                 | 4340      |                                                                                    |              |                          |
| 42                           | 74006                | 1.00                 | 42.17    | 13800                 | 4470      |                                                                                    |              |                          |
| 52                           | 60389                | 1.20                 | 34.41    | 14750                 | 4880      |                                                                                    |              |                          |
| 64                           | 48997                | 1.45                 | 27.92    | 15170                 | 5220      |                                                                                    |              |                          |
| 80                           | 39117                | 1.85                 | 22.29    | 15330                 | 5490      |                                                                                    |              |                          |
| 78                           | 40307                | 1.80                 | 22.97    | 15310                 | 5460      | <b>CG132-22P-200L-04F</b><br><b>CF132-22P-200L-04F</b>                             | 1151<br>1155 | 158                      |
| 89                           | 35209                | 2.05                 | 20.06    | 15310                 | 5600      |                                                                                    |              |                          |
| 103                          | 30414                | 2.35                 | 17.33    | 15220                 | 5760      |                                                                                    |              |                          |
| 124                          | 25152                | 2.85                 | 14.33    | 14990                 | 5890      |                                                                                    |              |                          |
| 136                          | 22950                | 1.90                 | 13.08    | 14410                 | 5820      |                                                                                    |              |                          |
| 156                          | 20047                | 2.20                 | 11.42    | 14190                 | 5910      |                                                                                    |              |                          |
| 181                          | 17317                | 2.55                 | 9.87     | 13920                 | 6000      |                                                                                    |              |                          |
| 95                           | 32841                | 1.25                 | 18.71    | 6430                  | 5060      | <b>CG102-22P-200L-04F</b><br><b>CF102-22P-200L-04F</b>                             | 933<br>941   | 154                      |
| 110                          | 28365                | 1.45                 | 16.16    | 6020                  | 5190      |                                                                                    |              |                          |
| 130                          | 23985                | 1.70                 | 13.67    | 5580                  | 5330      |                                                                                    |              |                          |
| 160                          | 19572                | 2.05                 | 11.15    | 5100                  | 5490      |                                                                                    |              |                          |
| 164                          | 19067                | 1.30                 | 10.86    | 5130                  | 5260      |                                                                                    |              |                          |
| 190                          | 16468                | 1.50                 | 9.38     | 4810                  | 5370      |                                                                                    |              |                          |
| 197                          | 15880                | 2.55                 | 9.05     | 4680                  | 5600      |                                                                                    |              |                          |
| 225                          | 13926                | 1.75                 | 7.93     | 4500                  | 5490      |                                                                                    |              |                          |
| 247                          | 12678                | 3.15                 | 7.22     | 4250                  | 5710      |                                                                                    |              |                          |
| 275                          | 11363                | 2.15                 | 6.47     | 4140                  | 5620      |                                                                                    |              |                          |
| 339                          | 9220                 | 2.60                 | 5.25     | 3800                  | 5710      |                                                                                    |              |                          |
| 425                          | 7361                 | 3.25                 | 4.19     | 3460                  | 5780      |                                                                                    |              |                          |

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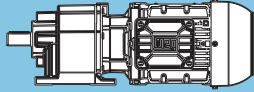
\*\* ... on request

| P <sub>N</sub> = 60 hp |                         |                |       |                 |      |                                                                                    |              |                             |
|------------------------|-------------------------|----------------|-------|-----------------|------|------------------------------------------------------------------------------------|--------------|-----------------------------|
| 60 Hz                  |                         |                | i     | F <sub>FN</sub> |      |  | m<br>lb      | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in | f <sub>B</sub> |       | lb              | lb   |                                                                                    |              |                             |
| 18                     | 207560                  | 0.80           | 97.24 | **              | 4290 | <b>CG163-22P-225S/M-04F</b><br><b>CF163-22P-225S/M-04F</b>                         | 2302<br>2352 | 166                         |
| 19                     | 195154                  | 0.85           | 91.43 | 22350           | 4590 |                                                                                    |              |                             |
| 21                     | 183085                  | 0.90           | 85.78 | 23520           | 4860 |                                                                                    |              |                             |
| 23                     | 162749                  | 1.00           | 76.25 | 25180           | 5330 |                                                                                    |              |                             |
| 24                     | 157243                  | 1.05           | 73.67 | 25580           | 5460 |                                                                                    |              |                             |
| 27                     | 139886                  | 1.15           | 65.54 | 26730           | 5870 |                                                                                    |              |                             |
| 29                     | 130826                  | 1.25           | 61.29 | 27250           | 6070 |                                                                                    |              |                             |
| 31                     | 121058                  | 1.35           | 56.72 | 27760           | 6290 |                                                                                    |              |                             |
| 35                     | 108552                  | 1.50           | 50.86 | 28350           | 6590 |                                                                                    |              |                             |
| 42                     | 90527                   | 1.80           | 42.41 | 29090           | 7010 |                                                                                    |              |                             |
| 49                     | 77810                   | 2.05           | 36.45 | 29490           | 7310 |                                                                                    |              |                             |
| 56                     | 67337                   | 2.30           | 31.55 | 29810           | 7550 |                                                                                    |              |                             |
| 54                     | 70437                   | 1.75           | 33.00 | 29720           | 7460 | <b>CG162-22P-225S/M-04F</b><br><b>CF162-22P-225S/M-04F</b>                         | 2247<br>2297 | 166                         |
| 71                     | 53690                   | 3.00           | 25.15 | 30120           | 7870 |                                                                                    |              |                             |
| 101                    | 37771                   | 1.75           | 17.70 | 30390           | 8120 |                                                                                    |              |                             |
| 26                     | 146643                  | 0.80           | 68.70 | **              | 2430 | <b>CG143-22P-225S/M-04F</b><br><b>CF143-22P-225S/M-04F</b>                         | 1797<br>1836 | 162                         |
| 28                     | 136583                  | 0.85           | 63.99 | 20280           | 2700 |                                                                                    |              |                             |
| 32                     | 120540                  | 1.00           | 56.47 | 21420           | 3100 |                                                                                    |              |                             |
| 37                     | 102342                  | 1.15           | 47.95 | 22480           | 3570 |                                                                                    |              |                             |
| 39                     | 97569                   | 1.20           | 45.71 | 22730           | 3690 |                                                                                    |              |                             |
| 44                     | 87356                   | 1.35           | 40.93 | 23200           | 3960 |                                                                                    |              |                             |
| 47                     | 80288                   | 1.45           | 37.61 | 23490           | 4140 |                                                                                    |              |                             |
| 58                     | 65996                   | 1.75           | 30.92 | 24010           | 4500 |                                                                                    |              |                             |
| 68                     | 56033                   | 1.95           | 26.25 | 24300           | 4740 |                                                                                    |              |                             |
| 80                     | 47828                   | 2.15           | 22.41 | 24500           | 4970 |                                                                                    |              |                             |
| 64                     | 59601                   | 1.75           | 27.92 | 24210           | 4650 | <b>CG142-22P-225S/M-04F</b><br><b>CF142-22P-225S/M-04F</b>                         | 1766<br>1806 | 162                         |
| 72                     | 52573                   | 2.20           | 24.63 | 24390           | 4830 |                                                                                    |              |                             |
| 84                     | 45152                   | 2.55           | 21.15 | 24570           | 5040 |                                                                                    |              |                             |
| 112                    | 33987                   | 1.75           | 15.92 | 23160           | 5130 |                                                                                    |              |                             |
| 127                    | 29979                   | 2.45           | 14.05 | 22750           | 5240 |                                                                                    |              |                             |
| 148                    | 25748                   | 2.80           | 12.06 | 22210           | 5370 |                                                                                    |              |                             |
| 42                     | 90007                   | 0.80           | 42.17 | **              | 4000 | <b>CG133-22P-225S/M-04F</b><br><b>CF133-22P-225S/M-04F</b>                         | 1473<br>1477 | 158                         |
| 52                     | 73445                   | 1.00           | 34.41 | 12540           | 4500 |                                                                                    |              |                             |
| 64                     | 59591                   | 1.20           | 27.92 | 13380           | 4900 |                                                                                    |              |                             |
| 80                     | 47575                   | 1.50           | 22.29 | 13890           | 5240 |                                                                                    |              |                             |
| 78                     | 49022                   | 1.45           | 22.97 | 13830           | 5220 | <b>CG132-22P-225S/M-04F</b><br><b>CF132-22P-225S/M-04F</b>                         | 1453<br>1457 | 158                         |
| 89                     | 42822                   | 1.70           | 20.06 | 14010           | 5400 |                                                                                    |              |                             |
| 103                    | 36989                   | 1.95           | 17.33 | 14100           | 5550 |                                                                                    |              |                             |
| 124                    | 30590                   | 2.35           | 14.33 | 14070           | 5730 |                                                                                    |              |                             |
| 136                    | 27912                   | 1.55           | 13.08 | 13470           | 5640 |                                                                                    |              |                             |
| 151                    | 25172                   | 2.85           | 11.79 | 13890           | 5890 |                                                                                    |              |                             |
| 156                    | 24382                   | 1.80           | 11.42 | 13380           | 5760 |                                                                                    |              |                             |
| 181                    | 21061                   | 2.10           | 9.87  | 13220           | 5890 |                                                                                    |              |                             |
| 184                    | 20691                   | 3.45           | 9.69  | 13600           | 6020 |                                                                                    |              |                             |
| 217                    | 17567                   | 4.05           | 8.23  | 13310           | 6110 |                                                                                    |              |                             |
| 218                    | 17417                   | 2.55           | 8.16  | 12970           | 6000 |                                                                                    |              |                             |
| 254                    | 14995                   | 4.75           | 7.03  | 12990           | 6200 |                                                                                    |              |                             |
| 265                    | 14332                   | 3.10           | 6.71  | 12630           | 6110 |                                                                                    |              |                             |
| 323                    | 11781                   | 3.75           | 5.52  | 12230           | 6200 |                                                                                    |              |                             |
| 380                    | 10003                   | 4.40           | 4.69  | 11870           | 6270 |                                                                                    |              |                             |
| 446                    | 8538                    | 5.15           | 4.00  | 11510           | 6320 |                                                                                    |              |                             |

Legend see page 29

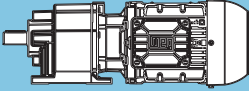
\*\* ... on request

**P<sub>N</sub> = 75 hp**

| 60 Hz                  |                       | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i     | F <sub>TN</sub>       |                                                            |  | m<br>lb | Dimension sheet<br>see page |
|------------------------|-----------------------|-------------------------|----------------|-------|-----------------------|------------------------------------------------------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub><br>rpm | F <sub>TN</sub><br>lb |                         |                |       | F <sub>aN</sub><br>lb |                                                            |                                                                                    |         |                             |
| <b>23</b>              | 198581                | 0.85                    | 76.25          | 21960 | 4500                  | <b>CG163-22P-225S/M-04G</b><br><b>CF163-22P-225S/M-04G</b> | 2407<br>2458                                                                       | 166     |                             |
| <b>24</b>              | 191863                | 0.85                    | 73.67          | 22640 | 4650                  |                                                            |                                                                                    |         |                             |
| <b>27</b>              | 170685                | 0.95                    | 65.54          | 24550 | 5150                  |                                                            |                                                                                    |         |                             |
| <b>29</b>              | 159630                | 1.00                    | 61.29          | 25380 | 5400                  |                                                            |                                                                                    |         |                             |
| <b>31</b>              | 147711                | 1.10                    | 56.72          | 26210 | 5690                  |                                                            |                                                                                    |         |                             |
| <b>35</b>              | 132451                | 1.25                    | 50.86          | 27130 | 6020                  |                                                            |                                                                                    |         |                             |
| <b>42</b>              | 110458                | 1.45                    | 42.41          | 28260 | 6540                  |                                                            |                                                                                    |         |                             |
| <b>49</b>              | 94941                 | 1.70                    | 36.45          | 28910 | 6900                  |                                                            |                                                                                    |         |                             |
| <b>57</b>              | 82162                 | 1.90                    | 31.55          | 29360 | 7190                  |                                                            |                                                                                    |         |                             |
| <b>71</b>              | 65511                 | 2.45                    | 25.15          | 29850 | 7580                  | <b>CG162-22P-225S/M-04G</b><br><b>CF162-22P-225S/M-04G</b> | 2352<br>2403                                                                       | 166     |                             |
| <b>85</b>              | 55005                 | 2.90                    | 21.12          | 30100 | 7820                  |                                                            |                                                                                    |         |                             |
| <b>132</b>             | 35129                 | 2.55                    | 13.49          | 30440 | 8180                  |                                                            |                                                                                    |         |                             |
| <b>32</b>              | 147079                | 0.80                    | 56.47          | **    | 2430                  | <b>CG143-22P-225S/M-04G</b><br><b>CF143-22P-225S/M-04G</b> | 1903<br>1942                                                                       | 162     |                             |
| <b>37</b>              | 124875                | 0.95                    | 47.95          | 21110 | 2990                  |                                                            |                                                                                    |         |                             |
| <b>39</b>              | 119050                | 1.00                    | 45.71          | 21490 | 3150                  |                                                            |                                                                                    |         |                             |
| <b>44</b>              | 106589                | 1.10                    | 40.93          | 22260 | 3460                  |                                                            |                                                                                    |         |                             |
| <b>47</b>              | 97964                 | 1.20                    | 37.61          | 22710 | 3690                  |                                                            |                                                                                    |         |                             |
| <b>58</b>              | 80526                 | 1.40                    | 30.92          | 23110 | 4110                  |                                                            |                                                                                    |         |                             |
| <b>68</b>              | 68369                 | 1.60                    | 26.25          | 23270 | 4430                  |                                                            |                                                                                    |         |                             |
| <b>80</b>              | 58358                 | 1.75                    | 22.41          | 23160 | 4700                  |                                                            |                                                                                    |         |                             |
| <b>72</b>              | 64147                 | 1.80                    | 24.63          | 23340 | 4540                  | <b>CG142-22P-225S/M-04G</b><br><b>CF142-22P-225S/M-04G</b> | 1872<br>1911                                                                       | 162     |                             |
| <b>84</b>              | 55093                 | 2.10                    | 21.15          | 23180 | 4770                  |                                                            |                                                                                    |         |                             |
| <b>101</b>             | 45837                 | 2.55                    | 17.60          | 22860 | 5010                  |                                                            |                                                                                    |         |                             |
| <b>127</b>             | 36580                 | 2.00                    | 14.05          | 21650 | 5040                  |                                                            |                                                                                    |         |                             |
| <b>148</b>             | 31417                 | 2.30                    | 12.06          | 21270 | 5190                  |                                                            |                                                                                    |         |                             |
| <b>52</b>              | 89616                 | 0.80                    | 34.41          | **    | 4020                  | <b>CG133-22P-225S/M-04G</b><br><b>CF133-22P-225S/M-04G</b> | 1579<br>1583                                                                       | 158     |                             |
| <b>64</b>              | 72711                 | 1.00                    | 27.92          | 11130 | 4520                  |                                                            |                                                                                    |         |                             |
| <b>80</b>              | 58049                 | 1.25                    | 22.29          | 12120 | 4950                  |                                                            |                                                                                    |         |                             |
| <b>89</b>              | 52250                 | 1.40                    | 20.06          | 12410 | 5100                  | <b>CG132-22P-225S/M-04G</b><br><b>CF132-22P-225S/M-04G</b> | 1559<br>1563                                                                       | 158     |                             |
| <b>103</b>             | 45133                 | 1.60                    | 17.33          | 12700 | 5310                  |                                                            |                                                                                    |         |                             |
| <b>125</b>             | 37325                 | 1.90                    | 14.33          | 12880 | 5550                  |                                                            |                                                                                    |         |                             |
| <b>151</b>             | 30714                 | 2.35                    | 11.79          | 12950 | 5730                  |                                                            |                                                                                    |         |                             |
| <b>156</b>             | 29750                 | 1.50                    | 11.42          | 12340 | 5580                  |                                                            |                                                                                    |         |                             |
| <b>181</b>             | 25698                 | 1.75                    | 9.87           | 12340 | 5710                  |                                                            |                                                                                    |         |                             |
| <b>184</b>             | 25247                 | 2.85                    | 9.69           | 12810 | 5890                  |                                                            |                                                                                    |         |                             |
| <b>217</b>             | 21435                 | 3.35                    | 8.23           | 12660 | 6000                  |                                                            |                                                                                    |         |                             |
| <b>219</b>             | 21252                 | 2.10                    | 8.16           | 12230 | 5870                  |                                                            |                                                                                    |         |                             |
| <b>254</b>             | 18296                 | 3.90                    | 7.03           | 12430 | 6090                  |                                                            |                                                                                    |         |                             |
| <b>266</b>             | 17488                 | 2.55                    | 6.71           | 12000 | 6000                  |                                                            |                                                                                    |         |                             |
| <b>323</b>             | 14375                 | 3.05                    | 5.52           | 11740 | 6110                  |                                                            |                                                                                    |         |                             |
| <b>381</b>             | 12205                 | 3.60                    | 4.69           | 11440 | 6200                  |                                                            |                                                                                    |         |                             |
| <b>446</b>             | 10418                 | 4.25                    | 4.00           | 11150 | 6250                  |                                                            |                                                                                    |         |                             |

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| <b>P<sub>N</sub> = 100 hp</b> |                      |                      |          |                       |           |                                                                                    |              |                          |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------|------------------------------------------------------------------------------------|--------------|--------------------------|
| <b>60 Hz</b>                  |                      | <b>f<sub>B</sub></b> | <b>i</b> | <b>F<sub>rN</sub></b> |           |  | <b>m</b>     | Dimension sheet see page |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> |                      |          | <b>lb</b>             | <b>lb</b> |                                                                                    |              |                          |
| rpm                           | lb-in                |                      |          | lb                    | lb        |                                                                                    | lb           |                          |
| <b>31</b>                     | 201991               | 0.80                 | 56.72    | **                    | 4430      | <b>CG163-22P-250S/M-04F</b><br><b>CF163-22P-250S/M-04F</b>                         | 2637<br>2687 | 166                      |
| <b>35</b>                     | 181123               | 0.90                 | 50.86    | 23690                 | 4920      |                                                                                    |              |                          |
| <b>42</b>                     | 151048               | 1.10                 | 42.41    | 26010                 | 5620      |                                                                                    |              |                          |
| <b>49</b>                     | 129829               | 1.25                 | 36.45    | 27310                 | 6090      |                                                                                    |              |                          |
| <b>56</b>                     | 112354               | 1.40                 | 31.55    | 28190                 | 6500      |                                                                                    |              |                          |
| <b>71</b>                     | 89584                | 1.80                 | 25.15    | 29110                 | 7040      | <b>CG162-22P-250S/M-04F</b><br><b>CF162-22P-250S/M-04F</b>                         | 2582<br>2632 | 166                      |
| <b>84</b>                     | 75217                | 2.15                 | 21.12    | 29580                 | 7370      |                                                                                    |              |                          |
| <b>102</b>                    | 61895                | 2.60                 | 17.38    | 29940                 | 7670      |                                                                                    |              |                          |
| <b>132</b>                    | 48038                | 1.85                 | 13.49    | 28960                 | 7850      |                                                                                    |              |                          |
| <b>157</b>                    | 40334                | 2.50                 | 11.33    | 28390                 | 8050      |                                                                                    |              |                          |
| <b>191</b>                    | 33190                | 3.00                 | 9.32     | 27610                 | 8230      |                                                                                    |              |                          |

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# Selection tables - Gear units

## Structure of the selection tables

| 1<br>Type                   | 2<br>i | 3<br>$T_{2max}$<br>[lb-in] | 4<br>$n_2$<br>[rpm] | 5<br>$i_{exact}$ | 6<br>$n_{1max}$<br>[rpm] | 7<br>IEC motor frame size |          |      |      |          |          |          |          |      |      |      |      |      |  |
|-----------------------------|--------|----------------------------|---------------------|------------------|--------------------------|---------------------------|----------|------|------|----------|----------|----------|----------|------|------|------|------|------|--|
|                             |        |                            |                     |                  |                          | 63                        | 71       | 80   | 90   | 100      | 112      | 132      | 160      | 180  | 200  | 225  | 250  | -    |  |
|                             |        |                            |                     |                  |                          | 8<br>IEC adapter          |          |      |      |          |          |          |          |      |      |      |      |      |  |
|                             |        |                            |                     |                  |                          | I63                       | I71      | I80  | I90  | I100     | I112     | I132     | I160     | I180 | I200 | I225 | I250 | I280 |  |
| 9<br>NEMA adapter           |        |                            |                     |                  |                          |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
|                             |        |                            |                     |                  |                          | N56                       | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | N364 | -    | -    |      |      |  |
| <b>C002</b>                 |        |                            |                     |                  |                          |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| 2 stages                    | 10     |                            |                     |                  |                          |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| $n_1=1750$ rpm              | 11     |                            |                     |                  |                          |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| Maximum torque<br>443 lb-in | 12     |                            |                     |                  |                          |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |

| 1<br>Type | 2<br>i | 13<br>SERVO adapter      |                   |      |      |      |      |      |      |      |      | 15<br>Input unit         |                       |       |       |       |       |        |        |        |  |
|-----------|--------|--------------------------|-------------------|------|------|------|------|------|------|------|------|--------------------------|-----------------------|-------|-------|-------|-------|--------|--------|--------|--|
|           |        | 3<br>$n_{1max}$<br>[rpm] | 4<br>Adapter size |      |      |      |      |      |      |      |      | 3<br>$n_{1max}$<br>[rpm] | 6<br>Input shaft [mm] |       |       |       |       |        |        |        |  |
|           |        |                          | S92               | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 |                          | S190                  | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
|           |        |                          |                   |      |      |      |      |      |      |      |      |                          |                       |       |       |       |       |        |        |        |  |

- 1 Type of gear unit
- 2 Total ratio
- 3 Permissible output torque at S1 operation ( $f_b = 1.0$ )
- 4 Output speed (gear unit) at  $n_1 = 1750$  rpm
- 5 Exact mathematical ratio
- 6 Maximum permissible input speed gear unit, valid for direct mounting and IEC / NEMA adapter  
Max. perm. input speed IEC / NEMA adapter: I63 - I132 / N56 - N213 = 3000 rpm, I160 - I280 / N254 - N364 = 2500 rpm  
Max. perm. motor speed (Direct mounting): motor frame size 63 - 180 = 3000 rpm, 200 - 250 = 2500 rpm, higher motor speed on request
- 7 Possible motor frame sizes (Direct mounting)
- 8 Possible IEC adapter sizes
- 9 Possible NEMA adapter sizes
- 10 Number of gear stages
- 11 Motor speed
- 12 Maximum torque
- 13 Maximum input speed - SERVO adapter
- 14 Possible SERVO adapter sizes
- 15 Maximum input speed - input unit (higher input speeds on request)
- 16 Possible input shafts of the input unit

| Type         | i     | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |    |    |    |   |   |   |   |   |   |   |   |
|--------------|-------|-------------------|----------------|--------------------|-------------------|----------------------|----|----|----|---|---|---|---|---|---|---|---|
|              |       |                   |                |                    |                   | 63                   | 71 | 80 | 90 | - | - | - | - | - | - | - | - |
|              |       | IEC adapter       |                |                    |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
|              |       | 163               | 171            |                    |                   | 180                  | -  | -  | -  | - | - | - | - | - | - |   |   |
| NEMA adapter |       |                   |                |                    |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
|              |       | [lb-in]           | [rpm]          |                    |                   | N56                  | -  | -  | -  | - | - | - | - | - | - |   |   |
| <b>C002</b>  | 47.44 | 443               | 37             | 759/16             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 42.34 | 443               | 41             | 1863/44            | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 36.85 | 443               | 47             | 737/20             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 32.89 | 443               | 53             | 1809/55            | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 29.33 | 443               | 60             | 88/3               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 26.18 | 443               | 67             | 288/11             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 23.00 | 443               | 76             | 23/1               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 20.53 | 443               | 85             | 2484/121           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 17.29 | 443               | 101            | 121/7              | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 16.86 | 274               | 104            | 2967/176           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 15.43 | 443               | 113            | 108/7              | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 13.54 | 443               | 129            | 176/13             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 13.10 | 381               | 134            | 2881/220           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 12.08 | 443               | 145            | 1728/143           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 10.42 | 398               | 168            | 344/33             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 9.97  | 443               | 176            | 319/32             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 8.90  | 443               | 197            | 783/88             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 8.17  | 398               | 214            | 989/121            | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 6.88  | 434               | 255            | 55/8               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 6.14  | 372               | 285            | 43/7               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
| 6.14         | 443   | 285               | 135/22         | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 4.81         | 345   | 364               | 688/143        | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 3.54         | 310   | 494               | 1247/352       | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 2.44         | 274   | 716               | 215/88         | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| <b>C012</b>  | 66.50 | 752               | 26             | 133/2              | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 59.59 | 752               | 29             | 1311/22            | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 51.80 | 752               | 34             | 259/5              | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 46.42 | 752               | 38             | 2553/55            | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 42.00 | 752               | 42             | 42/1               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 37.64 | 752               | 46             | 414/11             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 33.09 | 752               | 53             | 364/11             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 29.65 | 752               | 59             | 3588/121           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 25.50 | 752               | 69             | 51/2               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 25.05 | 363               | 70             | 551/22             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 22.85 | 752               | 77             | 3519/154           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 19.92 | 752               | 88             | 259/13             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 19.51 | 584               | 90             | 1073/55            | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 17.85 | 752               | 98             | 2553/143           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 15.82 | 584               | 111            | 174/11             | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 14.88 | 752               | 118            | 119/8              | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 13.33 | 752               | 131            | 1173/88            | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 12.83 | 752               | 136            | 77/6               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 12.46 | 584               | 140            | 1508/121           | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
|              | 11.50 | 752               | 152            | 23/2               | 6000              |                      |    |    |    |   |   |   |   |   |   |   |   |
| 11.20        | 743   | 156               | 56/5           | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 10.04        | 717   | 174               | 552/55         | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 9.60         | 584   | 182               | 1479/154       | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 8.22         | 673   | 213               | 189/23         | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 7.50         | 584   | 233               | 1073/143       | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 7.36         | 655   | 238               | 81/11          | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 5.60         | 584   | 312               | 493/88         | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 4.83         | 584   | 362               | 29/6           | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 4.22         | 584   | 415               | 232/55         | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |
| 3.09         | 558   | 565               | 783/253        | 6000               |                   |                      |    |    |    |   |   |   |   |   |   |   |   |

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| Type        | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|-------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|-----|--|----------|--|---|---|---|---|---|---|--|--|--|--|--|--|--|
|             |        |                   |                |                    |                   | IEC adapter          |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             |        | NEMA adapter      |                |                    |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             |        | [lb-in]           | [rpm]          |                    |                   | [rpm]                | N56 |  | N143/145 |  | - | - | - | - | - | - |  |  |  |  |  |  |  |
| <b>C032</b> | 42.88  | 1629              | 41             | 2573/60            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 38.95  | 1487              | 45             | 5063/130           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 34.88  | 1770              | 50             | 279/8              | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 31.67  | 1770              | 55             | 1647/52            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 27.71  | 1770              | 63             | 1829/66            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 25.17  | 1770              | 70             | 3599/143           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 24.03  | 912               | 73             | 913/38             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 21.40  | 1770              | 82             | 899/42             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 19.54  | 1133              | 90             | 1485/76            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 19.44  | 1770              | 90             | 1769/91            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 17.09  | 1770              | 102            | 1333/78            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 15.53  | 1151              | 113            | 295/19             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 15.52  | 1770              | 113            | 2623/169           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 12.92  | 1717              | 135            | 155/12             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 11.99  | 1151              | 146            | 1595/133           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 11.73  | 1752              | 149            | 305/26             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 9.82   | 1593              | 178            | 589/60             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 9.57   | 1151              | 183            | 2365/247           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 8.92   | 1620              | 196            | 1159/130           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 7.64   | 1496              | 229            | 527/69             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 7.24        | 1151   | 242               | 275/38         | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 6.94        | 1513   | 252               | 2074/299       | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 5.96        | 1398   | 294               | 155/26         | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 5.50        | 1151   | 318               | 11/2           | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 5.41        | 1407   | 323               | 915/169        | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 4.28        | 1151   | 409               | 1870/437       | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 3.34        | 1151   | 524               | 825/247        | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| <b>C033</b> | 286.32 | 1770              | 6.1            | 20615/72           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 260.03 | 1770              | 6.7            | 40565/156          | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 223.03 | 1770              | 7.8            | 8029/36            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 202.55 | 1770              | 8.6            | 15799/78           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 180.83 | 1770              | 9.7            | 1085/6             | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 164.23 | 1770              | 11             | 2135/13            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 142.47 | 1770              | 12             | 14105/99           | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 129.39 | 1770              | 14             | 4270/33            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 109.79 | 1770              | 16             | 2635/24            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 99.71  | 1770              | 18             | 5185/52            | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 85.78  | 1770              | 20             | 40145/468          | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 77.90  | 1770              | 22             | 78995/1014         | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 64.05  | 1770              | 27             | 18445/288          | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 58.17  | 1770              | 30             | 36295/624          | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 55.25  | 1770              | 32             | 11935/216          | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 50.18  | 1770              | 35             | 23485/468          | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|             | 48.22  | 1770              | 36             | 434/9              | 6000              |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 43.79       | 1770   | 40                | 1708/39        | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 35.38       | 1770   | 49                | 3255/92        | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| 32.13       | 1770   | 54                | 19215/598      | 6000               |                   |                      |     |  |          |  |   |   |   |   |   |   |  |  |  |  |  |  |  |

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| Type         | i                            | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |     |     |     |   |   |   |   |
|--------------|------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|-----|-----|-----|---|---|---|---|
|              |                              |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100 | 112 | 132 | - | - | - | - |
|              |                              | IEC adapter       |                |                    |                   |                      |          |      |      |     |     |     |   |   |   |   |
|              |                              | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | -   | -   | -   | - | - |   |   |
| NEMA adapter |                              |                   |                |                    |                   |                      |          |      |      |     |     |     |   |   |   |   |
|              |                              | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | -   | -   | -   | - | - | - |   |
| C052         | 58.85                        | 2213              | 30             | 1177/20            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 53.50                        | 2009              | 33             | 107/2              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 48.13                        | 2983              | 36             | 385/8              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 43.75                        | 2717              | 40             | 175/4              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 38.00                        | 3540              | 46             | 38/1               | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 35.67                        | 1336              | 49             | 107/3              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 34.55                        | 3540              | 51             | 380/11             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 29.46                        | 3540              | 59             | 825/28             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 29.17                        | 1806              | 60             | 175/6              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 26.79                        | 3540              | 65             | 375/14             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 24.12                        | 3540              | 73             | 627/26             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 23.03                        | 2363              | 76             | 760/33             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 21.92                        | 3540              | 80             | 285/13             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 18.56                        | 3540              | 94             | 297/16             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 17.86                        | 2363              | 98             | 125/7              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 16.88                        | 3540              | 104            | 135/8              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 14.62                        | 2363              | 120            | 190/13             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 14.03                        | 3540              | 125            | 561/40             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 12.75                        | 3540              | 137            | 51/4               | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 11.48                        | 3540              | 152            | 264/23             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | Maximum torque<br>3540 lb-in | 11.25             | 2363           | 156                | 45/4              | 6000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 10.43             | 3540           | 168                | 240/23            | 6000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 9.31              | 3416           | 188                | 121/13            | 6000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 8.50              | 2363           | 206                | 17/2              | 6000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 8.46              | 3231           | 207                | 110/13            | 6000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 7.79              | 3071           | 225                | 187/24            | 5600                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 7.08              | 2903           | 247                | 85/12             | 5600                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 6.96              | 2363           | 252                | 160/23            | 6000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 6.31              | 2708           | 277                | 341/54            | 5000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 6.09              | 2646           | 287                | 341/56            | 4800                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 5.74              | 2558           | 305                | 155/27            | 5000                 |          |      |      |     |     |     |   |   |   |   |
|              |                              | 5.64              | 2292           | 310                | 220/39            | 6000                 |          |      |      |     |     |     |   |   |   |   |
|              | 5.54                         | 2505              | 316            | 155/28             | 4800              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 4.72                         | 2036              | 371            | 85/18              | 5600              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 3.83                         | 1770              | 457            | 310/81             | 5000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 3.69                         | 1726              | 474            | 155/42             | 4800              |                      |          |      |      |     |     |     |   |   |   |   |
| C053         | 328.43                       | 3540              | 5.3            | 2299/7             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 298.57                       | 3540              | 5.9            | 2090/7             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 267.93                       | 3540              | 6.5            | 3751/14            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 243.57                       | 3540              | 7.2            | 1705/7             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 213.71                       | 3540              | 8.2            | 1496/7             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 194.29                       | 3540              | 9.0            | 1360/7             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 165.45                       | 3540              | 11             | 8107/49            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 150.41                       | 3540              | 12             | 7370/49            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 132.97                       | 3540              | 13             | 12100/91           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 120.88                       | 3540              | 14             | 11000/91           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 101.55                       | 3540              | 17             | 5687/56            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 92.32                        | 3540              | 19             | 2585/28            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 77.79                        | 3540              | 22             | 1089/14            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 70.71                        | 3540              | 25             | 495/7              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 61.63                        | 3540              | 28             | 9922/161           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 56.02                        | 3540              | 31             | 9020/161           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
| 49.20        | 3540                         | 36                | 4477/91        | 6000               |                   |                      |          |      |      |     |     |     |   |   |   |   |
| 44.73        | 3540                         | 39                | 4070/91        | 6000               |                   |                      |          |      |      |     |     |     |   |   |   |   |

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| Type         | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |     |     |     |   |   |   |   |
|--------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|-----|-----|-----|---|---|---|---|
|              |        |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100 | 112 | 132 | - | - | - | - |
|              |        | IEC adapter       |                |                    |                   |                      |          |      |      |     |     |     |   |   |   |   |
|              |        | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | -   | -   | -   | - | - |   |   |
| NEMA adapter |        |                   |                |                    |                   |                      |          |      |      |     |     |     |   |   |   |   |
|              |        | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | -   | -   | -   | - | - | - |   |
| C062         | 60.00  | 3717              | 29             | 60/1               | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 55.02  | 3408              | 32             | 3081/56            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 47.55  | 5310              | 37             | 6800/143           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 43.60  | 4983              | 40             | 6715/154           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 36.92  | 5310              | 47             | 480/13             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 33.86  | 5310              | 52             | 237/7              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 33.43  | 2071              | 52             | 234/7              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 30.30  | 5310              | 58             | 5120/169           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 27.78  | 5310              | 63             | 2528/91            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 26.49  | 3027              | 66             | 2040/77            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 23.46  | 5310              | 75             | 305/13             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 21.51  | 5310              | 81             | 4819/224           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 20.57  | 3337              | 85             | 144/7              | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 17.85  | 5310              | 98             | 232/13             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 16.88  | 3337              | 104            | 1536/91            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 16.36  | 5310              | 107            | 2291/140           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 14.72  | 5310              | 119            | 4400/299           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 13.49  | 5310              | 130            | 4345/322           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 13.07  | 3337              | 134            | 183/14             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 12.07  | 5310              | 145            | 2040/169           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 11.07  | 5310              | 158            | 4029/364           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 10.26  | 5310              | 171            | 400/39             | 5600              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 9.94   | 3337              | 176            | 348/35             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 9.40   | 5213              | 186            | 395/42             | 5600              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 8.43   | 4841              | 208            | 2960/351           | 5000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 8.20   | 3337              | 213            | 1320/161           | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 8.13   | 4726              | 215            | 740/91             | 4800              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 7.73   | 4576              | 226            | 2923/378           | 5000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 7.46   | 4461              | 235            | 2923/392           | 4800              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 6.73   | 3337              | 260            | 612/91             | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 6.69   | 4151              | 262            | 2000/299           | 4400              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 6.13   | 3921              | 285            | 1975/322           | 4400              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 5.71   | 3284              | 306            | 40/7               | 5600              |                      |          |      |      |     |     |     |   |   |   |   |
| 4.70         | 2876   | 372               | 296/63         | 5000               |                   |                      |          |      |      |     |     |     |   |   |   |   |
| 4.53         | 2815   | 386               | 222/49         | 4800               |                   |                      |          |      |      |     |     |     |   |   |   |   |
| 3.73         | 2469   | 470               | 600/161        | 4400               |                   |                      |          |      |      |     |     |     |   |   |   |   |
| C063         | 375.71 | 5310              | 4.7            | 83032/221          | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 344.51 | 5310              | 5.1            | 819941/2380        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 307.24 | 5310              | 5.7            | 67900/221          | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 281.73 | 5310              | 6.2            | 38315/136          | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 242.60 | 5310              | 7.2            | 589760/2431        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 222.46 | 5310              | 7.9            | 291194/1309        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 188.11 | 5310              | 9.3            | 291000/1547        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 172.49 | 5310              | 10             | 574725/3332        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 153.96 | 5310              | 11             | 442320/2873        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 141.17 | 5310              | 12             | 436791/3094        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 118.51 | 5310              | 15             | 26190/221          | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 108.67 | 5310              | 16             | 206901/1904        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 89.54  | 5310              | 20             | 1164/13            | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 82.10  | 5310              | 21             | 22989/280          | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 73.28  | 5310              | 24             | 372480/5083        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 67.19  | 5310              | 26             | 183912/2737        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 59.42  | 5310              | 29             | 170720/2873        | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
|              | 54.49  | 5310              | 32             | 84293/1547         | 6000              |                      |          |      |      |     |     |     |   |   |   |   |
| 49.74        | 5310   | 35                | 1940/39        | 5600               |                   |                      |          |      |      |     |     |     |   |   |   |   |
| 45.61        | 5310   | 38                | 7663/168       | 5600               |                   |                      |          |      |      |     |     |     |   |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
| <b>C062</b> | 60.00  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 55.02  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 47.55  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 43.60  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 36.92  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 33.86  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 33.43  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 30.30  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 27.78  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 26.49  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 23.46  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 21.51  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 20.57  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 17.85  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 16.88  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 16.36  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 14.72  | 4500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 13.49  | 4500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 13.07  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 12.07  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 11.07  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 10.26  | 3600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 9.94   | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 9.40   | 3600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 8.43   | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 8.20   | 4500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 8.13   | 3100              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 7.73   | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 7.46   | 3100              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 6.73   | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 6.69   | 2800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2800  |       |       |       |       |        |        |        |  |
|             | 6.13   | 2800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2800  |       |       |       |       |        |        |        |  |
|             | 5.71   | 3600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 4.70   | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 4.53   | 3100              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 3.73   | 2800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2800  |       |       |       |       |        |        |        |  |
| <b>C063</b> | 375.71 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 344.51 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 307.24 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 281.73 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 242.60 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 222.46 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 188.11 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 172.49 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 153.96 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 141.17 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 118.51 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 108.67 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 89.54  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 82.10  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 73.28  | 4500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 67.19  | 4500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 59.42  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 54.49  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 49.74  | 3600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 45.61  | 3600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |

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| Type | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |     |   |   |   |
|------|--------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|-----|---|---|---|
|      |        |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | 160 | - | - | - |
|      |        | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |
|      |        | 163               | 171            | 180                | 190               | 1100                 | 1112     | 1132 | -    | -        | -   | -   | -   |   |   |   |
|      |        | NEMA adapter      |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |
|      |        | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | -   | - | - |   |
| C072 | 38.92  | 7258              | 45             | 506/13             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 35.41  | 7258              | 49             | 5984/169           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 30.55  | 7258              | 57             | 1955/64            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 27.79  | 7258              | 63             | 1445/52            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 23.58  | 7098              | 74             | 943/40             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 21.45  | 6904              | 82             | 1394/65            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 20.65  | 6072              | 85             | 1342/65            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 19.50  | 6700              | 90             | 39/2               | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 17.74  | 6514              | 99             | 408/23             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 16.59  | 6373              | 106            | 1725/104           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 16.20  | 5939              | 108            | 1037/64            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 15.09  | 6196              | 116            | 2550/169           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 14.38  | 6098              | 122            | 115/8              | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 13.08  | 5930              | 134            | 170/13             | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 12.51  | 5470              | 140            | 2501/200           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 12.14  | 5788              | 144            | 437/36             | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 11.71  | 5726              | 150            | 1311/112           | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 11.04  | 5638              | 158            | 1292/117           | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 10.65  | 5576              | 164            | 969/91             | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 10.34  | 5151              | 169            | 2379/230           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 10.00  | 5461              | 175            | 10/1               | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 9.10   | 5310              | 192            | 2720/299           | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 8.80   | 4886              | 199            | 915/104            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 7.63   | 4673              | 230            | 61/8               | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
| 6.44 | 4425   | 272               | 1159/180       | 5000               |                   |                      |          |      |      |          |     |     |     |   |   |   |
| 6.21 | 4372   | 282               | 3477/560       | 4800               |                   |                      |          |      |      |          |     |     |     |   |   |   |
| 5.30 | 4160   | 330               | 122/23         | 4400               |                   |                      |          |      |      |          |     |     |     |   |   |   |
| C073 | 351.33 | 7258              | 5.0            | 14053/40           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 319.60 | 7258              | 5.5            | 1598/5             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 278.44 | 7258              | 6.3            | 18377/66           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 253.30 | 7258              | 6.9            | 108664/429         | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 216.20 | 7258              | 8.1            | 1081/5             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 196.68 | 7258              | 8.9            | 12784/65           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 177.39 | 7258              | 9.9            | 34592/195          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 161.38 | 7258              | 11             | 409088/2535        | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 137.38 | 7258              | 13             | 65941/480          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 124.97 | 7258              | 14             | 48739/390          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 104.50 | 7258              | 17             | 31349/300          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 95.06  | 7258              | 18             | 92684/975          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 86.17  | 7258              | 20             | 517/6              | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 78.39  | 7258              | 22             | 70312/897          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 70.68  | 7258              | 25             | 18377/260          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 64.30  | 7258              | 27             | 54332/845          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 60.06  | 7258              | 29             | 1081/18            | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 54.63  | 7258              | 32             | 6392/117           | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 49.38  | 7258              | 35             | 39997/810          | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 47.62  | 7249              | 37             | 39997/840          | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 44.92  | 7027              | 39             | 236504/5265        | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 43.32  | 6921              | 40             | 59126/1365         | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 39.17  | 6771              | 45             | 235/6              | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
|      | 35.63  | 6426              | 49             | 31960/897          | 4400              |                      |          |      |      |          |     |     |     |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
| <b>C072</b> | 38.92  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 35.41  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 30.55  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 27.79  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 23.58  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 21.45  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 20.65  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 19.50  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 17.74  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 16.59  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 16.20  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 15.09  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 14.38  | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 13.08  | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 12.51  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 12.14  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 11.71  | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 11.04  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 10.65  | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 10.34  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 10.00  | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 9.10   | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 8.80   | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 7.63   | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 6.44   | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 6.21   | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 5.30   | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
| <b>C073</b> | 351.33 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 319.60 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 278.44 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 253.30 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 216.20 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 196.68 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 177.39 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 161.38 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 137.38 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 124.97 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 104.50 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 95.06  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 86.17  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 78.39  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 70.68  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 64.30  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 60.06  | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 54.63  | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 49.38  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 47.62  | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 44.92  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 43.32  | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 39.17  | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |
|             | 35.63  | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |

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| Type         | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |     |     |     |   |   |   |
|--------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|-----|-----|-----|---|---|---|
|              |        |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132 | 160 | 180 | - | - | - |
|              |        | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |     |     |     |   |   |   |
|              |        | 163               | 171            | 180                | 190               | 1100                 | 1112     | 1132 | 1160 | -        | -        | -   | -   | -   |   |   |   |
| NEMA adapter |        |                   |                |                    |                   |                      |          |      |      |          |          |     |     |     |   |   |   |
|              |        | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | -   | -   | -   | - | - |   |
| <b>C082</b>  | 54.18  | 13719             | 32             | 4930/91            | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 42.88  | 13719             | 41             | 9605/224           | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 37.44  | 13719             | 47             | 3145/84            | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 33.09  | 13719             | 53             | 1853/56            | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 31.23  | 9886              | 56             | 406/13             | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 27.98  | 13710             | 63             | 4505/161           | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 24.72  | 9913              | 71             | 791/32             | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 24.05  | 13090             | 73             | 8755/364           | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 21.58  | 11648             | 81             | 259/12             | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 21.00  | 12550             | 83             | 7055/336           | 5600              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 19.08  | 11559             | 92             | 763/40             | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 17.99  | 11975             | 97             | 3400/189           | 5000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 17.35  | 11842             | 101            | 850/49             | 4800              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 16.13  | 11488             | 108            | 371/23             | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 15.31  | 11400             | 114            | 2465/161           | 4400              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 13.87  | 10913             | 126            | 721/52             | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 12.84  | 10798             | 136            | 4675/364           | 3900              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 12.10  | 10417             | 145            | 581/48             | 5600              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 10.82  | 10249             | 162            | 3485/322           | 3500              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 10.37  | 9886              | 169            | 280/27             | 5000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 10.00  | 9762              | 175            | 10/1               | 4800              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 8.87   | 9647              | 197            | 1615/182           | 3100              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 8.83   | 9355              | 198            | 203/23             | 4400              |                      |          |      |      |          |          |     |     |     |   |   |   |
| 7.40         | 8815   | 236               | 385/52         | 3900               |                   |                      |          |      |      |          |          |     |     |     |   |   |   |
| 6.24         | 8311   | 280               | 287/46         | 3500               |                   |                      |          |      |      |          |          |     |     |     |   |   |   |
| 5.12         | 7771   | 342               | 133/26         | 3100               |                   |                      |          |      |      |          |          |     |     |     |   |   |   |
| <b>C083</b>  | 368.94 | 13719             | 4.7            | 909075/2464        | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 284.84 | 13719             | 6.1            | 893265/3136        | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 238.89 | 13719             | 7.3            | 86955/364          | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 187.48 | 13719             | 9.3            | 671925/3584        | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 144.69 | 13719             | 12             | 64821/448          | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 119.68 | 13719             | 15             | 308295/2576        | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 101.80 | 13719             | 17             | 592875/5824        | 6000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 88.23  | 13719             | 20             | 39525/448          | 5600              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 74.50  | 13719             | 23             | 50065/672          | 5000              |                      |          |      |      |          |          |     |     |     |   |   |   |
|              | 71.84  | 13719             | 24             | 450585/6272        | 4800              |                      |          |      |      |          |          |     |     |     |   |   |   |
| 61.37        | 13719  | 29                | 39525/644      | 4400               |                   |                      |          |      |      |          |          |     |     |     |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| <b>C082</b> | 54.18  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 42.88  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 37.44  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 33.09  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 31.23  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 27.98  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 24.72  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 24.05  | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 21.58  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 21.00  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 19.08  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 17.99  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 17.35  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 16.13  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 15.31  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 13.87  | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 12.84  | 2900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 12.10  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 10.82  | 2600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 10.37  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 10.00  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 8.87   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |
|             | 8.83   | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 7.40   | 2900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 6.24   | 2600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 5.12   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |
| <b>C083</b> | 368.94 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |
|             | 284.84 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 238.89 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 187.48 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 144.69 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 119.68 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 101.80 | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 88.23  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 74.50  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 71.84  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 61.37  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |



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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| <b>C092</b> | 39.60  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 33.48  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 28.98  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 25.67  | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 22.58  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 22.20  | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 21.41  | 3900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 19.09  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 18.89  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 16.53  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 16.08  | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 14.64  | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 13.87  | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 12.66  | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 12.21  | 3900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 11.63  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 10.77  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 9.46   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2200             |       |       |       |       |       |        |        |
|             | 9.17   | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 7.91   | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 7.40   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1900             |       |       |       |       |       |        |        |
|             | 6.63   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 5.39   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2200             |       |       |       |       |       |        |        |
|             | 4.22   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1900             |       |       |       |       |       |        |        |
| <b>C093</b> | 306.73 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 242.77 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 211.98 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 187.34 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 158.42 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 154.24 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 136.18 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 122.08 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 118.88 | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 106.60 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 101.85 | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 98.21  | 3900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 94.21  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 86.68  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 79.66  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 72.72  | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 68.48  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 61.28  | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 59.78  | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 51.22  | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 50.24  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 49.39  | 3900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 43.59  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 36.57  | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 30.81  | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 25.26  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| <b>C102</b> | 33.01  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 29.16  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 25.31  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 24.40  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 21.87  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 19.17  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 18.71  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 16.93  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 16.16  | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 14.69  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 14.17  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 13.67  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 12.70  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 11.15  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |
|             | 10.86  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 9.38   | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 9.05   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2000             |       |       |       |       |       |        |        |
|             | 7.93   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 7.22   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|             | 6.47   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |
|             | 5.25   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2000             |       |       |       |       |       |        |        |
|             | 4.19   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
| <b>C103</b> | 246.43 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 208.33 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 180.35 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 159.72 | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 138.17 | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 133.24 | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 122.02 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 117.56 | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 103.15 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 100.05 | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 89.30  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 86.31  | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 79.08  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 72.40  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 68.41  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 65.97  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 58.87  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |
|             | 58.21  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 49.54  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 46.03  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2000             |       |       |       |       |       |        |        |
|             | 42.74  | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 35.85  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 29.15  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |
|             | 22.79  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2000             |       |       |       |       |       |        |        |

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| Type                                 | i                             | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|--------------------------------------|-------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|---|---|---|---|--|--|--|--|--|--|--|--|--|
|                                      |                               |                   |                |                    |                   | IEC adapter          |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | NEMA adapter      |                |                    |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | - | - | - | - |  |  |  |  |  |  |  |  |  |
| <b>C104</b>                          | 2636.78                       | 39828             | 0.7            | 7580736/2875       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 4 stages<br>n <sub>1</sub> =1750 rpm | 2229.16                       | 39828             | 0.8            | 5896128/2645       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 2156.24                       | 39828             | 0.8            | 247968/115         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1822.91                       | 39828             | 1.0            | 964320/529         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1702.59                       | 39828             | 1.0            | 10768896/6325      | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1439.39                       | 39828             | 1.2            | 8375808/5819       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1320.15                       | 39828             | 1.3            | 212544/161         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1116.07                       | 39828             | 1.6            | 590400/529         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1080.49                       | 39828             | 1.6            | 8076672/7475       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 913.46                        | 39828             | 1.9            | 6281856/6877       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 831.69                        | 39828             | 2.1            | 478224/575         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 703.12                        | 39828             | 2.5            | 371952/529         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | Maximum torque<br>39828 lb-in | 628.39            | 39828          | 2.8                | 1806624/2875      | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 531.25            | 39828          | 3.3                | 1405152/2645      | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 514.28            | 39828          | 3.4                | 6801408/13225     | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 434.78            | 39828          | 4.0                | 5289984/12167     | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 417.03            | 39828          | 4.2                | 3117312/7475      | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 352.56                               |                               | 39828             | 5.0            | 2424576/6877       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 349.11                               |                               | 39828             | 5.0            | 200736/575         | 5600              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 295.14                               |                               | 39828             | 5.9            | 156128/529         | 5600              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 282.94                               |                               | 39828             | 6.2            | 162688/575         | 5000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 272.83                               |                               | 39828             | 6.4            | 1098144/4025       | 4800              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 239.20                               | 39828                         | 7.3               | 1138816/4761   | 5000               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 230.65                               | 39828                         | 7.6               | 122016/529     | 4800               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |

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| Type        | i       | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |  |
|-------------|---------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|
|             |         | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |
|             |         |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
| <b>C104</b> | 2636.78 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 2229.16 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 2156.24 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1822.91 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1702.59 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1439.39 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1320.15 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1116.07 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1080.49 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 913.46  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 831.69  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 703.12  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 628.39  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 531.25  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 514.28  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 434.78  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 417.03  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 352.56  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 349.11  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 295.14  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 282.94  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 272.83  | 4100              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 239.20  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 230.65  | 4100              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |



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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      |                   | Input unit       |      |       |       |       |       |       |        |        |        |  |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|-------------------|------------------|------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      | n <sub>1max</sub> | Input shaft [mm] |      |       |       |       |       |       |        |        |        |  |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 |                   | S189             | S190 | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |
| <b>C132</b> | 35.51  | 5000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 30.96  | 4500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 29.86  | 4400              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 26.67  | 4000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 22.97  | 3500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 20.22  | 5000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 20.06  | 3200              |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 17.63  | 4500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 17.33  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 17.00  | 4400              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 15.19  | 4000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 14.33  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 13.08  | 3500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 11.79  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 11.42  | 3200              |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 9.87   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 9.69   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 8.23   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1700 |       |       |       |       |       |        |        |        |  |  |
|             | 8.16   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 7.03   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1500 |       |       |       |       |       |        |        |        |  |  |
|             | 6.71   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 5.52   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 4.69   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1700 |       |       |       |       |       |        |        |        |  |  |
|             | 4.00   | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1500 |       |       |       |       |       |        |        |        |  |  |
| <b>C133</b> | 204.88 | 5000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 180.95 | 5000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 157.08 | 4500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 151.47 | 4400              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 135.71 | 4000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 116.14 | 3500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 101.85 | 5000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 100.31 | 3200              |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 89.96  | 5000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 84.82  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 78.09  | 4500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 75.30  | 4400              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 69.21  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 67.47  | 4000              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 57.74  | 3500              |              |     |      |      |      |      |      |      |      |                   |                  | 2500 |       |       |       |       |       |        |        |        |  |  |
|             | 56.16  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 49.87  | 3200              |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 44.83  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 42.17  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 34.41  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 27.92  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |
|             | 22.29  | -                 |              |     |      |      |      |      |      |      |      |                   |                  | 1800 |       |       |       |       |       |        |        |        |  |  |

C

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| Type         | i                             | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |     |     |   |   |   |
|--------------|-------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|-----|-----|---|---|---|
|              |                               |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132 | 160 | - | - | - |
|              |                               | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |                               | 163               | 171            |                    | 180               | 190                  | 1100     | 1112 | 1132 | 1160     | -        | -   | -   | - | - |   |
| NEMA adapter |                               |                   |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |                               | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | -   | -   | - | - | - |
| C134         | 1891.77                       | 70806             | 0.9            | 437000/231         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1642.17                       | 70806             | 1.1            | 6828125/4158       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1460.54                       | 70806             | 1.2            | 214700/147         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1418.83                       | 70806             | 1.2            | 109250/77          | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1267.83                       | 70806             | 1.4            | 6709375/5292       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1224.91                       | 70806             | 1.4            | 334400/273         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1095.41                       | 70806             | 1.6            | 53675/49           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1063.29                       | 70806             | 1.6            | 2612500/2457       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 961.31                        | 70806             | 1.8            | 40375/42           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 918.68                        | 70806             | 1.9            | 83600/91           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 834.47                        | 70806             | 2.1            | 5046875/6048       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 741.90                        | 70806             | 2.4            | 15580/21           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 720.98                        | 70806             | 2.4            | 40375/56           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 644.01                        | 70806             | 2.7            | 486875/756         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 4 stages                      | 613.66            | 70806          | 2.9                | 98800/161         | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 556.43            | 70806          | 3.1                | 3895/7            | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 532.69            | 70806          | 3.3                | 771875/1449       | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              | Maximum torque<br>70806 lb-in | 521.98            | 70806          | 3.4                | 47500/91          | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 460.25            | 70806          | 3.8                | 74100/161         | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 453.11            | 70806          | 3.9                | 1484375/3276      | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 452.38            | 70806          | 3.9                | 9500/21           | 5600                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 392.69            | 70806          | 4.5                | 296875/756        | 5600                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 391.48            | 70806          | 4.5                | 35625/91          | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 382.01            | 70806          | 4.6                | 72200/189         | 5000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 368.37            | 70806          | 4.8                | 18050/49          | 4800                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 339.29            | 70806          | 5.2                | 2375/7            | 5600                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 331.61            | 70806          | 5.3                | 1128125/3402      | 5000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 319.76            | 70806          | 5.5                | 1128125/3528      | 4800                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 314.70            | 70806          | 5.6                | 152000/483        | 4400                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 286.51            | 70806          | 6.1                | 18050/63          | 5000                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 276.28            | 70806          | 6.3                | 27075/98          | 4800                 |          |      |      |          |          |     |     |   |   |   |
|              |                               | 273.18            | 70806          | 6.4                | 1187500/4347      | 4400                 |          |      |      |          |          |     |     |   |   |   |
|              | 236.02                        | 70806             | 7.4            | 38000/161          | 4400              |                      |          |      |      |          |          |     |     |   |   |   |

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| Type        | i       | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                     |       |       |       |        |        |        |  |  |  |  |
|-------------|---------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|---------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|
|             |         | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft<br>[mm] |       |       |       |        |        |        |  |  |  |  |
|             |         |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40               | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |
| <b>C134</b> | 1891.77 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |
|             | 1642.17 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |
|             | 1460.54 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1418.83 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |
|             | 1267.83 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1224.91 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1095.41 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1063.29 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 961.31  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 918.68  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 834.47  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 741.90  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 720.98  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 644.01  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 613.66  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 556.43  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 532.69  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 521.98  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 460.25  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 453.11  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 452.38  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 392.69  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 391.48  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 382.01  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 368.37  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 339.29  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 331.61  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 319.76  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 314.70  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 286.51  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 276.28  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 273.18  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 236.02  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |



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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |        |        |        |  |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|--------|--------|--------|--|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |        |        |        |  |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                   | [rpm]            | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |
| <b>C142</b> | 37.48  | 4800              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 32.28  | 4200              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 27.92  | 3700              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 24.63  | 3400              |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 21.37  | 4800              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 21.15  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 18.41  | 4200              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 17.60  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 15.92  | 3700              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 14.60  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 14.05  | 3400              |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 12.18  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 12.06  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 10.47  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 10.04  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 9.06   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1600              |                  |       |       |       |       |        |        |        |  |  |
|             | 8.33   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 6.94   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 5.97   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 5.17   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1600              |                  |       |       |       |       |        |        |        |  |  |
| <b>C143</b> | 206.88 | 5000              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 180.38 | 4800              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 173.94 | 4600              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 155.38 | 4200              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 133.80 | 3700              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 116.88 | 3400              |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 113.27 | 5000              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 100.96 | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 98.76  | 4800              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 95.23  | 4600              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 85.07  | 4200              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 83.49  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 73.25  | 3700              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |  |
|             | 68.70  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 63.99  | 3400              |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 56.47  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 55.27  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 47.95  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 45.71  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 40.93  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1600              |                  |       |       |       |       |        |        |        |  |  |
|             | 37.61  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 30.92  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 26.25  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |  |
|             | 22.41  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1600              |                  |       |       |       |       |        |        |        |  |  |



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| Type        | i       | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |
|-------------|---------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|
|             |         | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |
|             |         |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| <b>C144</b> | 2162.84 | 5000              |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |
|             | 1885.79 | 5000              |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |
|             | 1669.82 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 1624.38 | 5000              |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |
|             | 1455.92 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 1400.42 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 1398.80 | 5000              |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |
|             | 1254.10 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 1221.03 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 1099.05 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 1079.94 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 1051.77 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 958.27  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 905.71  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 848.21  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 825.43  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 739.56  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 710.80  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 701.59  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 637.04  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 611.72  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 596.77  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 548.57  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 526.92  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 520.33  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 517.20  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 453.75  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 450.95  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 448.20  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 436.75  | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 421.15  | 4600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 388.44  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 385.96  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 380.80  | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 367.20  | 4600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 359.79  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 334.50  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 328.01  | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 316.30  | 4600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 313.70  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 282.46  | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 272.37  | 4600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 270.22  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 232.69  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |



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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |
| <b>C162</b> | 33.00  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 25.15  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 21.12  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 17.70  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 17.38  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 14.79  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 13.49  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 12.77  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 11.33  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 11.12  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1700             |       |       |       |       |       |        |        |        |
|             | 9.32   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 7.93   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 6.85   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 5.96   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1700             |       |       |       |       |       |        |        |        |
| <b>C163</b> | 234.67 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 202.12 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 174.82 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 154.21 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 132.44 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 130.53 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 112.42 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 110.19 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 97.24  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 91.43  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 85.78  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 76.25  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 73.67  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 65.54  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 61.29  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 56.72  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1700             |       |       |       |       |       |        |        |        |
|             | 50.86  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 42.41  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 36.45  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |        |
|             | 31.55  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1700             |       |       |       |       |       |        |        |        |



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| Type         | i       | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |          |          |     |     |   |   |
|--------------|---------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|----------|----------|-----|-----|---|---|
|              |         |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132      | 160      | 180 | 200 | - | - |
|              |         | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |          |          |     |     |   |   |
|              |         | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | 1160     | 1180     | 1200     | -   | -   | - |   |
| NEMA adapter |         |                   |                |                    |                   |                      |          |      |      |          |          |          |          |     |     |   |   |
|              |         | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | -   | -   | - |   |
| C164         | 2093.95 | 159313            | 0.8            | 81664/39           | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1803.51 | 159313            | 1.0            | 12402720/6877      | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1657.33 | 159313            | 1.1            | 4972/3             | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1559.96 | 159313            | 1.1            | 6063552/3887       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1447.11 | 159313            | 1.2            | 13024/9            | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1427.45 | 159313            | 1.2            | 1510245/1058       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1278.93 | 159313            | 1.4            | 19184/15           | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1246.39 | 159313            | 1.4            | 659340/529         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1234.69 | 159313            | 1.4            | 369171/299         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1101.54 | 159313            | 1.6            | 582714/529         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1081.51 | 159313            | 1.6            | 74624/69           | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1078.07 | 159313            | 1.6            | 322344/299         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 952.78  | 159313            | 1.8            | 1424412/1495       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 931.50  | 159313            | 1.9            | 11333520/12167     | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 929.64  | 159313            | 1.9            | 36256/39           | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 811.56  | 159313            | 2.2            | 7304/9             | 5600              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 805.70  | 159313            | 2.2            | 5540832/6877       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 800.70  | 159313            | 2.2            | 5506380/6877       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 698.99  | 159313            | 2.5            | 369765/529         | 5600              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 695.31  | 159313            | 2.5            | 56320/81           | 5000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 692.57  | 159313            | 2.5            | 2692008/3887       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 670.48  | 159313            | 2.6            | 14080/21           | 4800              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 604.60  | 159313            | 2.9            | 180774/299         | 5600              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 598.87  | 159313            | 2.9            | 316800/529         | 5000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 591.77  | 159313            | 3.0            | 40832/69           | 4400              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 577.48  | 159313            | 3.0            | 2138400/3703       | 4800              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 517.99  | 159313            | 3.4            | 154880/299         | 5000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 509.69  | 159313            | 3.4            | 6201360/12167      | 4400              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 499.49  | 159313            | 3.5            | 1045440/2093       | 4800              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 496.41  | 159313            | 3.5            | 19360/39           | 3900              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 440.86  | 159313            | 4.0            | 3031776/6877       | 4400              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 427.56  | 159313            | 4.1            | 2940300/6877       | 3900              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 418.32  | 159313            | 4.2            | 28864/69           | 3500              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 369.82  | 159313            | 4.7            | 1437480/3887       | 3900              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 360.30  | 159313            | 4.9            | 4383720/12167      | 3500              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 342.97  | 159313            | 5.1            | 13376/39           | 3100              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 311.64  | 159313            | 5.6            | 2143152/6877       | 3500              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 295.40  | 159313            | 5.9            | 2031480/6877       | 3100              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 255.51  | 159313            | 6.8            | 993168/3887        | 3100              |                      |          |      |      |          |          |          |          |     |     |   |   |

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| Type        | i       | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                  |       |       |       |        |        |        |  |  |  |  |  |
|-------------|---------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|--|
|             |         | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft [mm] |       |       |       |        |        |        |  |  |  |  |  |
|             |         |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40            | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |  |
| <b>C164</b> | 2093.95 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1803.51 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1657.33 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1559.96 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1447.11 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1427.45 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1278.93 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1246.39 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1234.69 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1101.54 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1081.51 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1078.07 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 952.78  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 931.50  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 929.64  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 811.56  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 805.70  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 800.70  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 698.99  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 695.31  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 692.57  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 670.48  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 604.60  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 598.87  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 591.77  | 4300                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 577.48  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 517.99  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 509.69  | 4300                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 499.49  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 496.41  | 3800                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 440.86  | 4300                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 427.56  | 3800                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 418.32  | 3500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 369.82  | 3800                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 360.30  | 3500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 342.97  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 311.64  | 3500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 295.40  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 255.51  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |



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| Type    | i        | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|---------|----------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|---|---|---|---|--|--|--|--|--|--|--|
|         |          |                   |                |                    |                   | IEC adapter          |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         |          | NEMA adapter      |                |                    |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         |          | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | - | - | - | - |  |  |  |  |  |  |  |
| C165    | 22405.25 | 159313            | 0.1            | 4369024/195        | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 18322.05 | 159313            | 0.1            | 714560/39          | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 15484.09 | 159313            | 0.1            | 696784/45          | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 14467.28 | 159313            | 0.1            | 564224/39          | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 12662.22 | 159313            | 0.1            | 113960/9           | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 11217.58 | 159313            | 0.2            | 1020800/91         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 9998.22  | 159313            | 0.2            | 89984/9            | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 9181.16  | 159313            | 0.2            | 1551616/169        | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 7752.38  | 159313            | 0.2            | 162800/21          | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 7067.08  | 159313            | 0.2            | 91872/13           | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 6345.03  | 159313            | 0.3            | 247456/39          | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 5339.57  | 159313            | 0.3            | 347072/65          | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 4884.00  | 159313            | 0.4            | 4884/1             | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 4369.98  | 159313            | 0.4            | 1306624/299        | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 3690.13  | 159313            | 0.5            | 55352/15           | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 3543.61  | 159313            | 0.5            | 1796608/507        | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 3020.06  | 159313            | 0.6            | 208384/69          | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 2966.43  | 159313            | 0.6            | 347072/117         | 5600              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 2448.96  | 159313            | 0.7            | 286528/117         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
|         | 2404.16  | 159313            | 0.7            | 2531584/1053       | 5000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
| 2318.30 | 159313   | 0.8               | 632896/273     | 4800               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
| 2050.07 | 159313   | 0.9               | 55352/27       | 5600               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
| 1661.50 | 159313   | 1.1               | 403744/243     | 5000               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |
| 1602.16 | 159313   | 1.1               | 100936/63      | 4800               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |

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| Type        | i        | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                     |       |       |       |        |        |        |  |  |  |  |  |  |
|-------------|----------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|---------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|--|--|
|             |          | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft<br>[mm] |       |       |       |        |        |        |  |  |  |  |  |  |
|             |          |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40               | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |  |  |
| <b>C165</b> | 22405.25 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 18322.05 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 15484.09 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 14467.28 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 12662.22 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 11217.58 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 9998.22  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 9181.16  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 7752.38  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 7067.08  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 6345.03  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 5339.57  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 4884.00  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 4369.98  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 3690.13  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 3543.61  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 3020.06  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 2966.43  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 2448.96  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 2404.16  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 2318.30  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 2050.07  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1661.50  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1602.16  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |  |  |

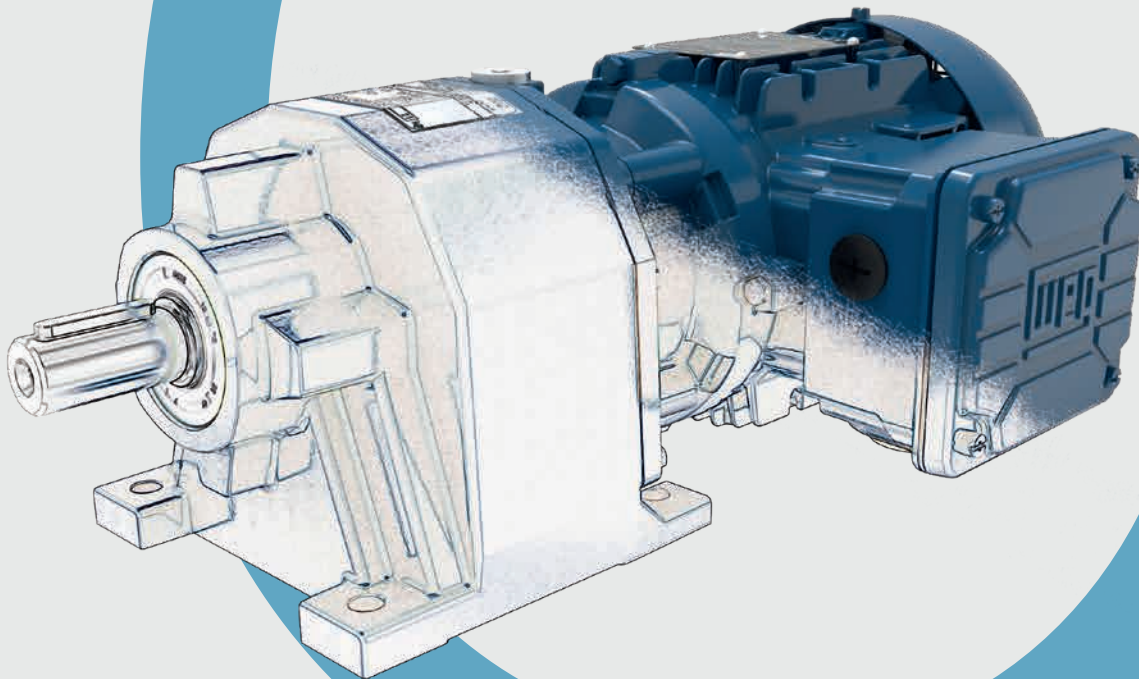


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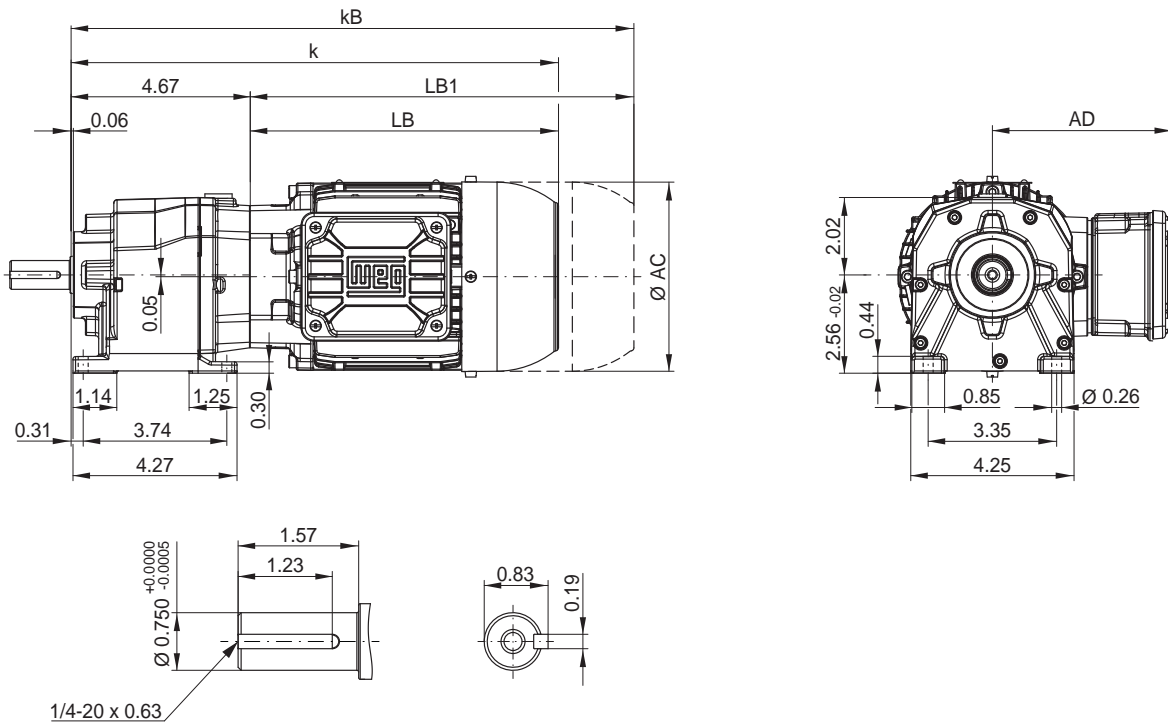




Dimension sheets - Geared motors

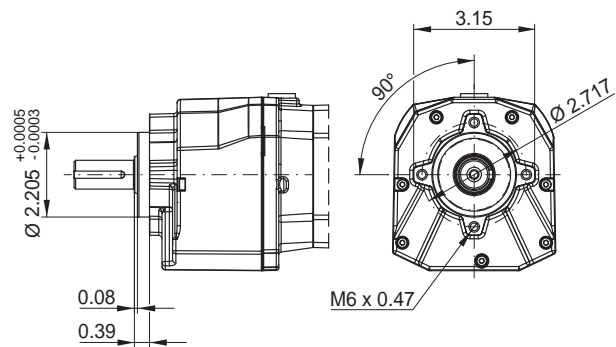
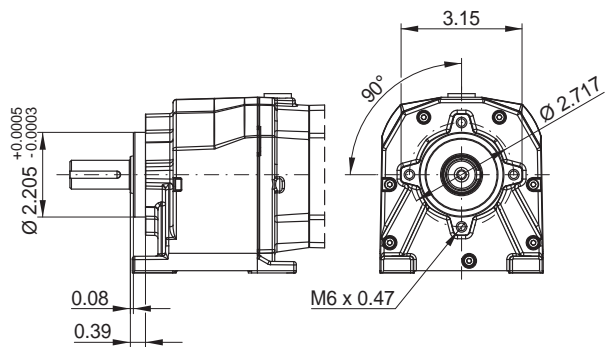


### CG00 - Foot mounted



### CW00 - Foot mounted with flange execution + centering and threaded hole

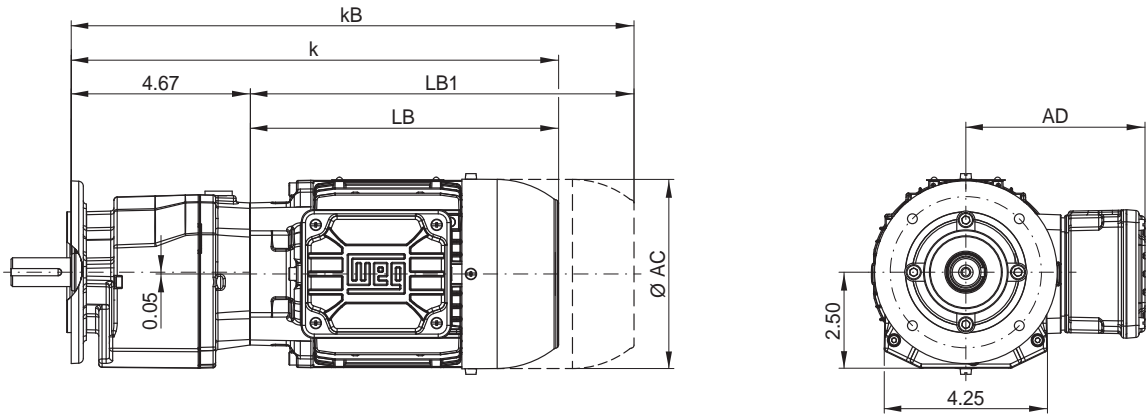
### CC00 - Flange execution + centering and threaded hole



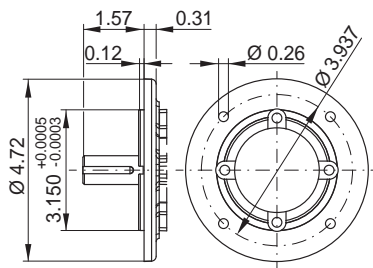
| Motor fr. | 63    | 71    | 80    | 80L   |
|-----------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  |
| k         | 12.72 | 14.06 | 14.37 | 15.30 |
| kB        | 14.45 | 15.98 | 16.65 | 17.58 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 |

Motor dimension sheets see from page 488  
Description of motor lengths LB and LB1 see page 492

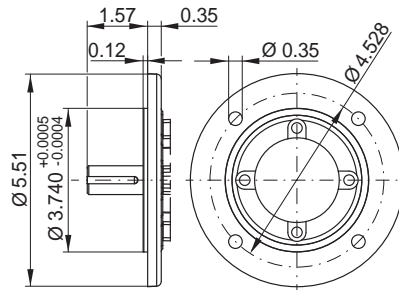
### CF00 - Flange execution



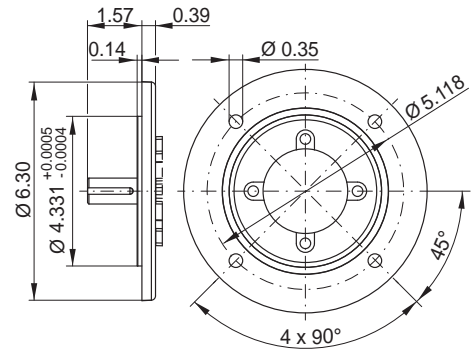
#### Flange Ø 4.72 in (Ø 120 mm)



#### Flange Ø 5.51 in (Ø 140 mm)

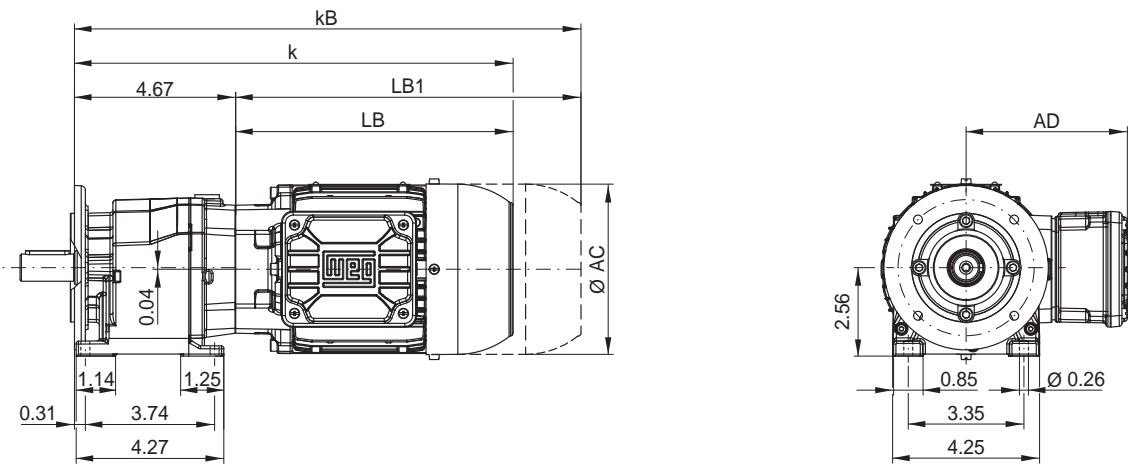


#### Flange Ø 6.30 in (Ø 160 mm)



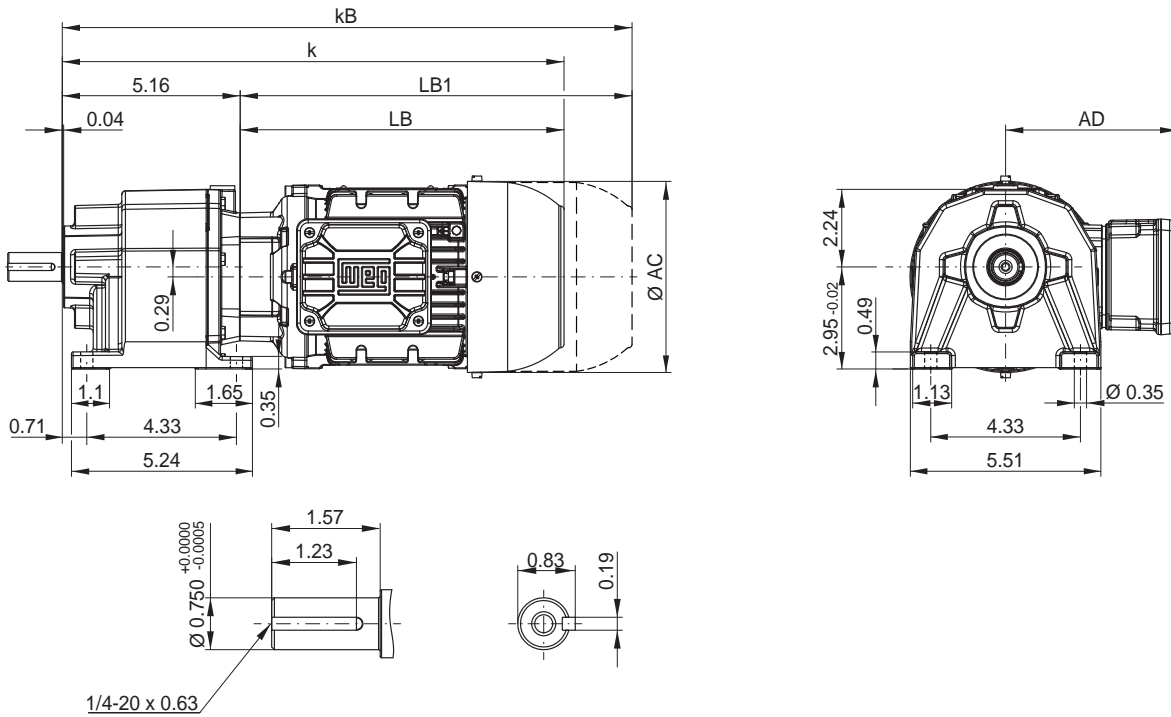
### CA00 - Foot mounted and flange execution

mountable flange sizes on the housing: Ø 4.72 in (Ø 120 mm)



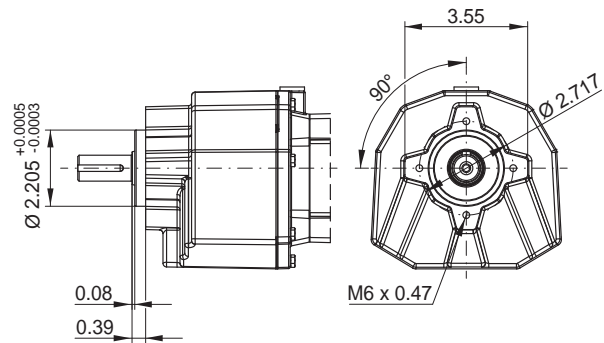
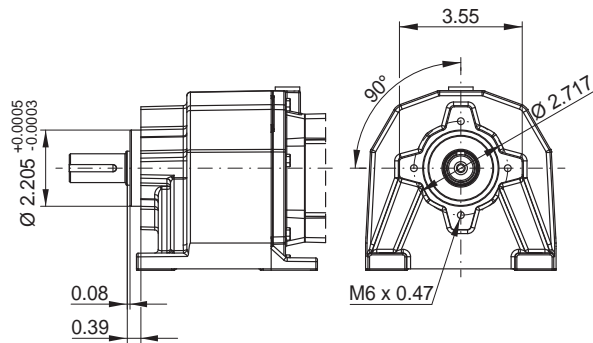
Dimensions in inch.

### CG01 - Foot mounted



### CW01 - Foot mounted with flange execution + centering and threaded hole

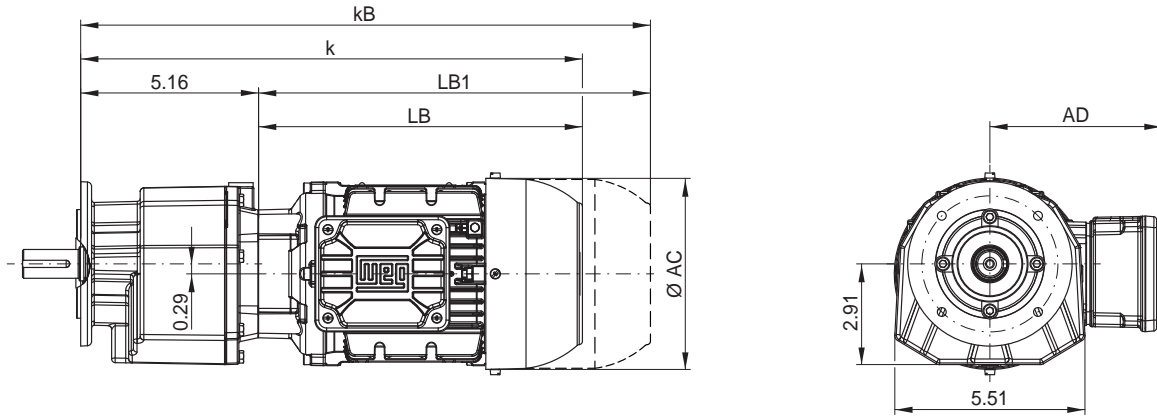
### CC01 - Flange execution + centering and threaded hole



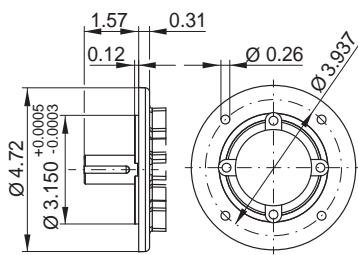
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L |
|-----------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  |
| k         | 13.19 | 14.53 | 14.84 | 15.79 | 16.50 |
| kB        | 14.92 | 16.46 | 17.13 | 18.07 | 19.37 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

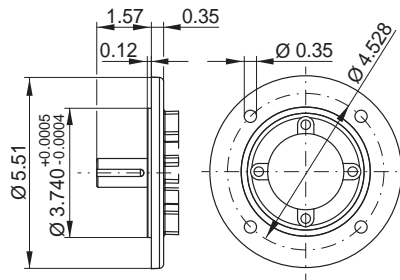
### CF01 - Flange execution



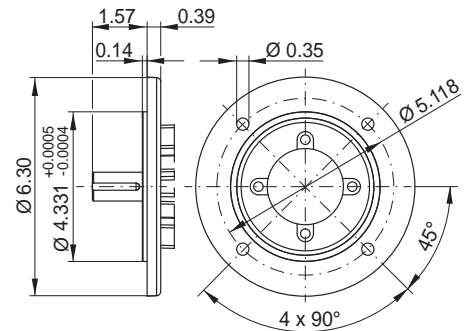
#### Flange $\varnothing 4.72$ in ( $\varnothing 120$ mm)



#### Flange $\varnothing 5.51$ in ( $\varnothing 140$ mm)

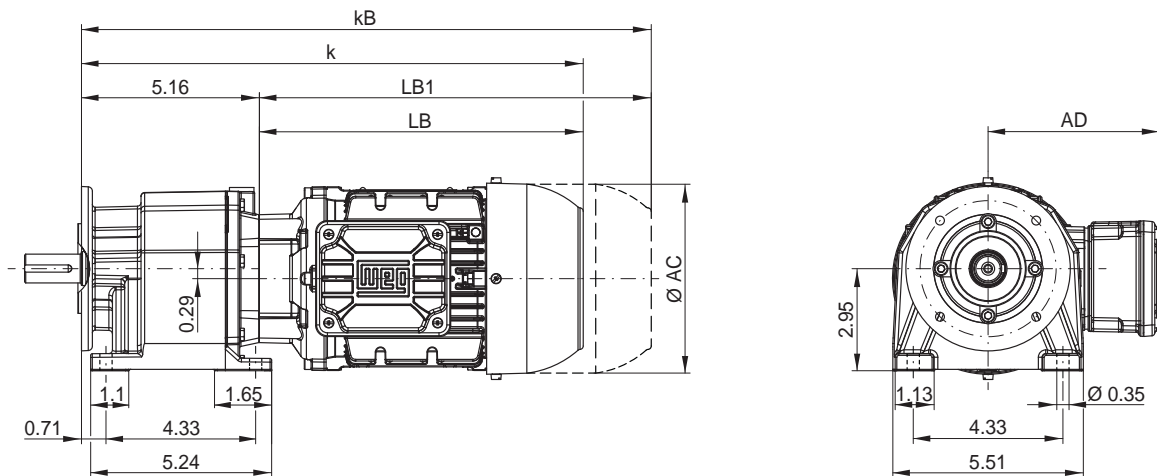


#### Flange $\varnothing 6.30$ in ( $\varnothing 160$ mm)



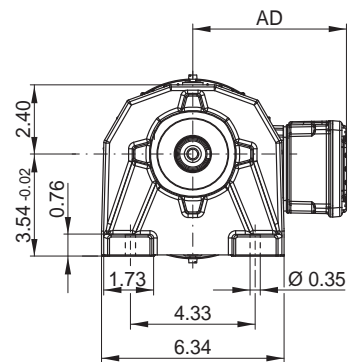
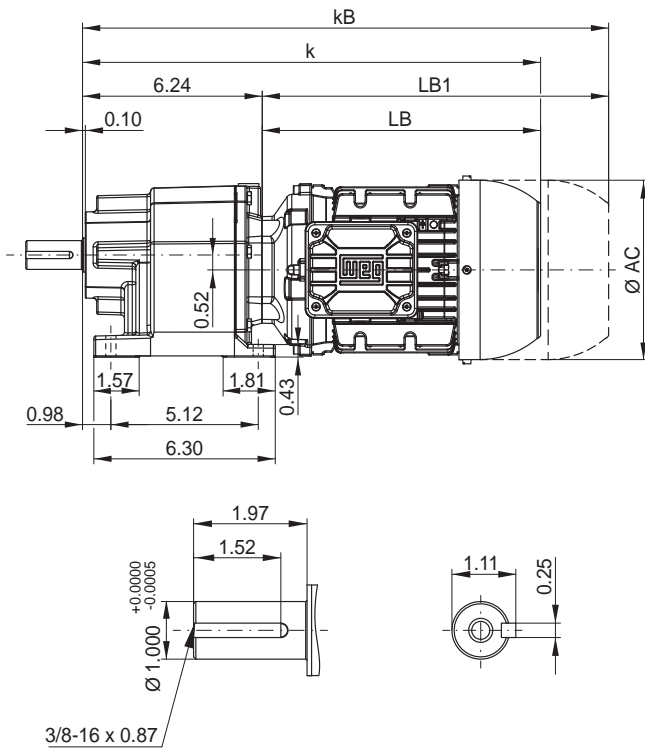
### CA01 - Foot mounted and flange execution

mountable flange sizes on the housing:  $\varnothing 4.72$  in ( $\varnothing 120$  mm) and  $\varnothing 5.51$  in ( $\varnothing 140$  mm)

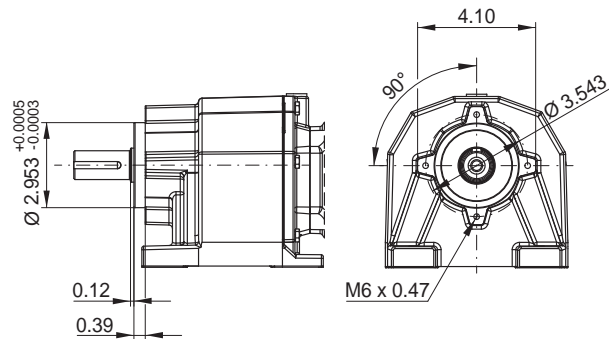


Dimensions in inch.

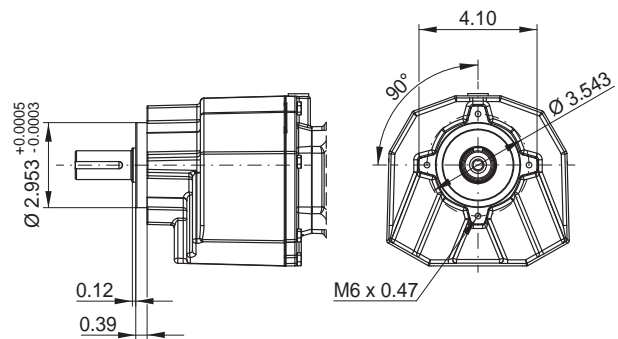
### CG03 - Foot mounted



### CW03 - Foot mounted with flange execution + centering and threaded hole



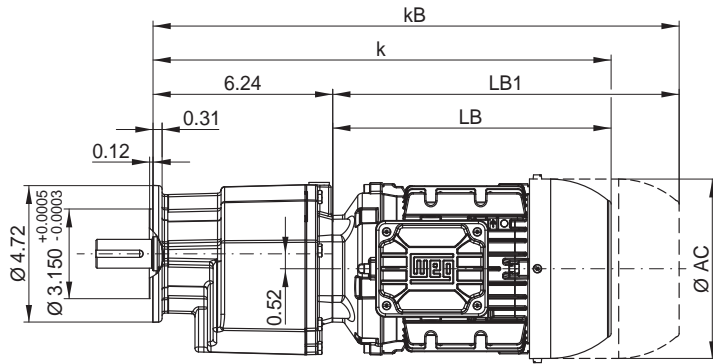
### CC03 - Flange execution + centering and threaded hole



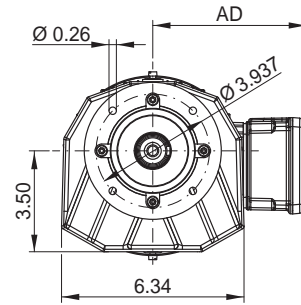
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  |
| k         | 14.29 | 15.63 | 15.94 | 16.87 | 17.60 | 19.57 | 21.06 |
| kB        | 16.02 | 17.56 | 18.23 | 19.15 | 20.47 | 22.87 | 24.37 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

### CF03 - Flange execution



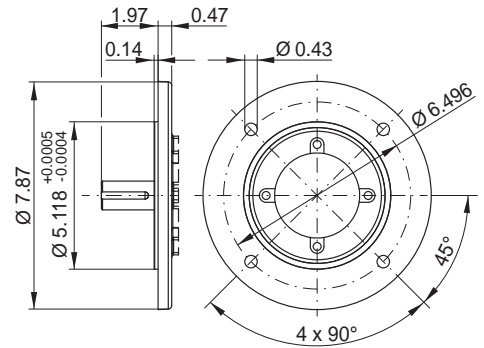
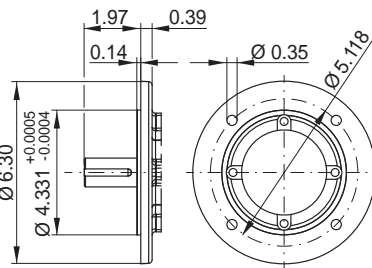
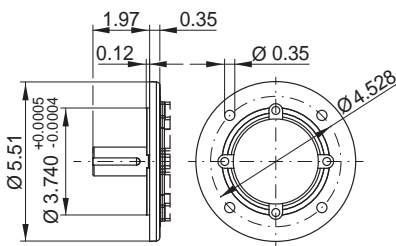
Flange Ø 4.72 in (Ø 120 mm)



Flange Ø 5.51 in (Ø 140 mm)

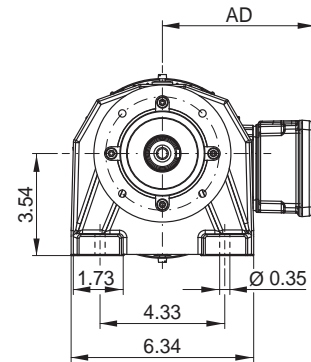
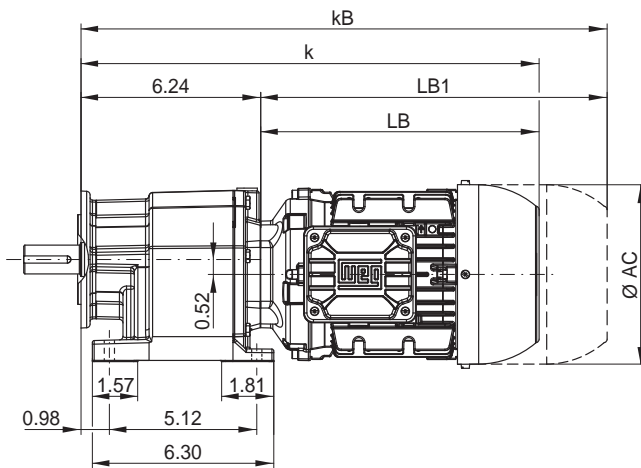
Flange Ø 6.30 in (Ø 160 mm)

Flange Ø 7.87 in (Ø 200 mm)



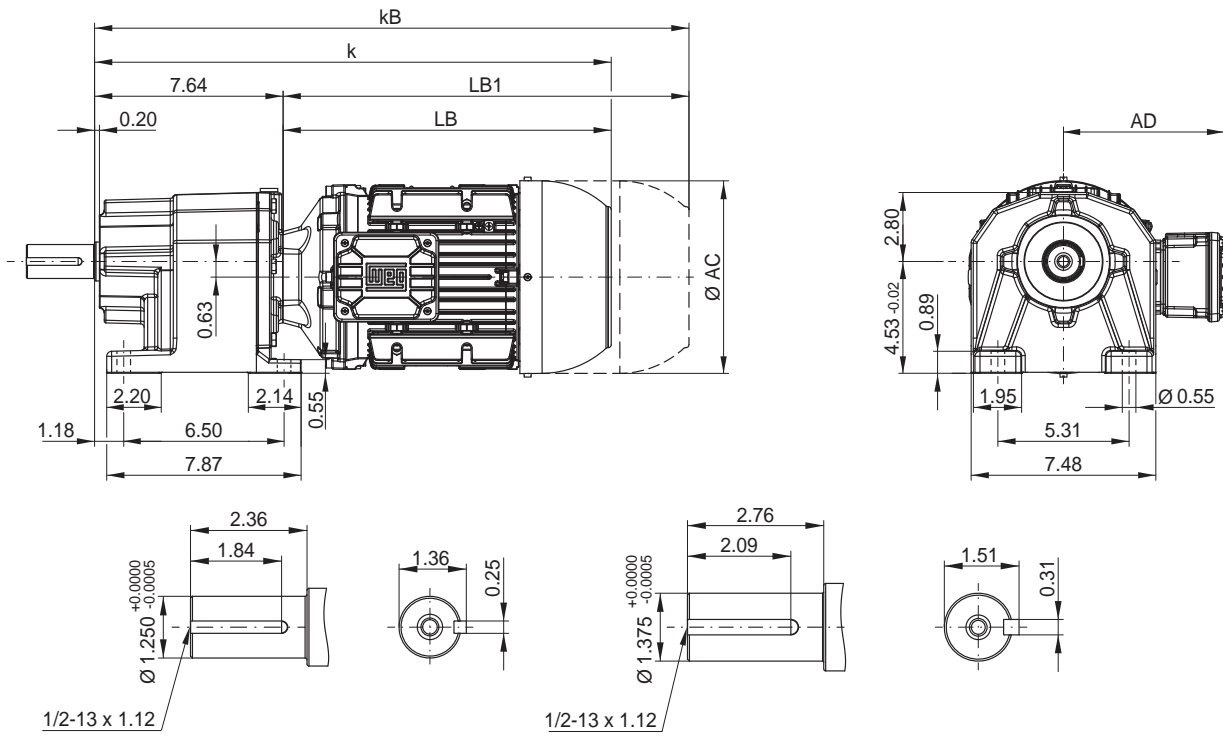
### CA03 - Foot mounted and flange execution

mountable flange sizes on the housing: Ø 4.72 in (Ø 120 mm), Ø 5.51 in (Ø 140 mm) and Ø 6.30 in (Ø 160 mm)

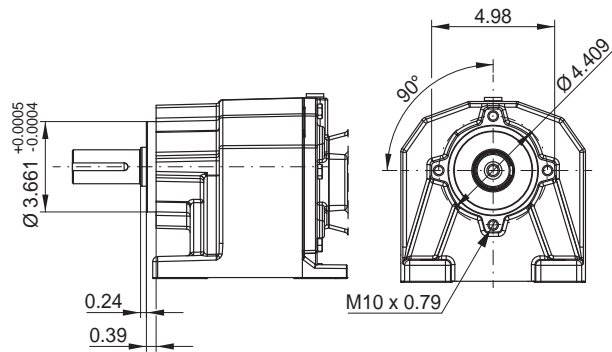


Dimensions in inch.

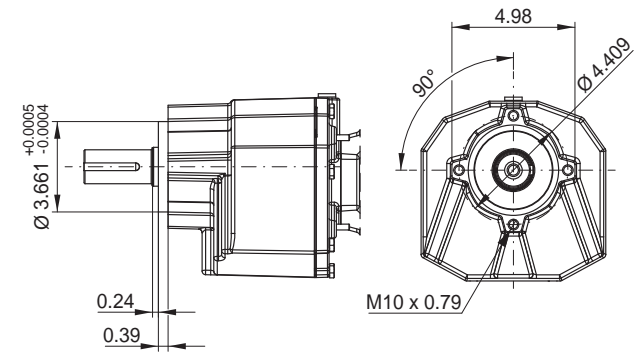
### CG05 - Foot mounted



### CW05 - Foot mounted with flange execution + centering and threaded hole



### CC05 - Flange execution + centering and threaded hole

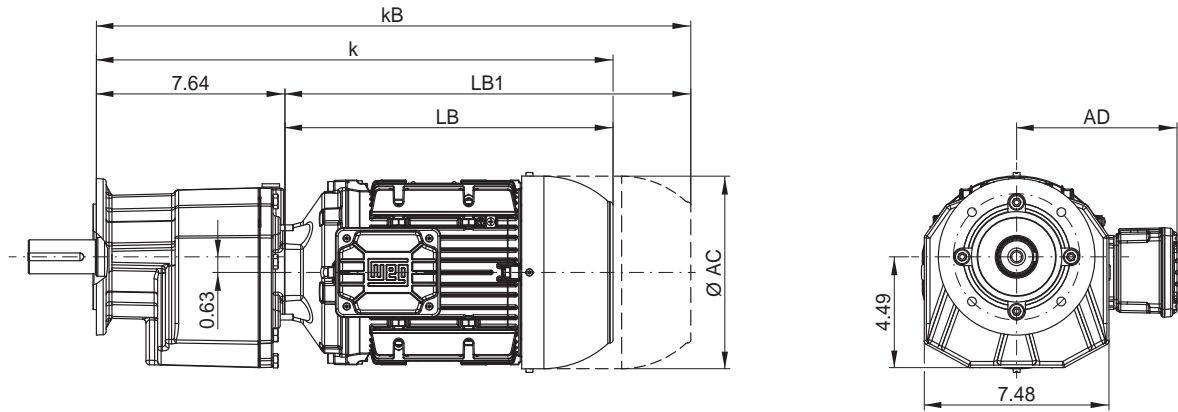


| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 15.67 | 17.01 | 17.32 | 18.27 | 19.57 | 21.54 | 23.03 | 21.93 | 24.49 | 25.98 |
| kB        | 17.40 | 18.94 | 19.61 | 20.55 | 22.44 | 24.84 | 26.34 | 25.35 | 29.13 | 30.63 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

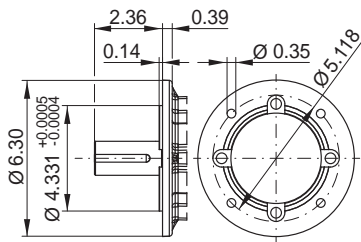
Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492



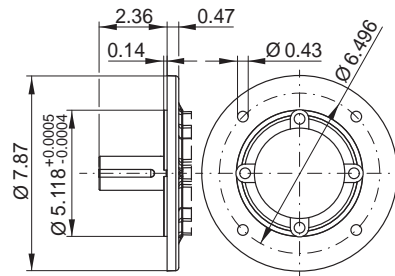
### CF05 - Flange execution



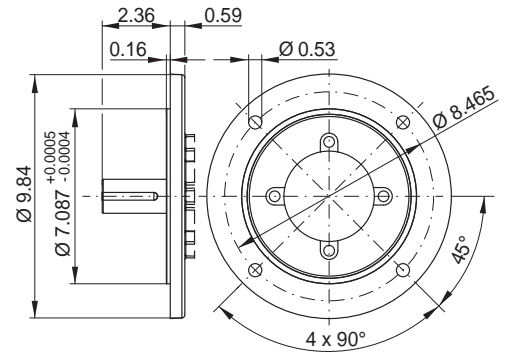
#### Flange Ø 6.30 in (Ø 160 mm)



#### Flange Ø 7.87 in (Ø 200 mm)

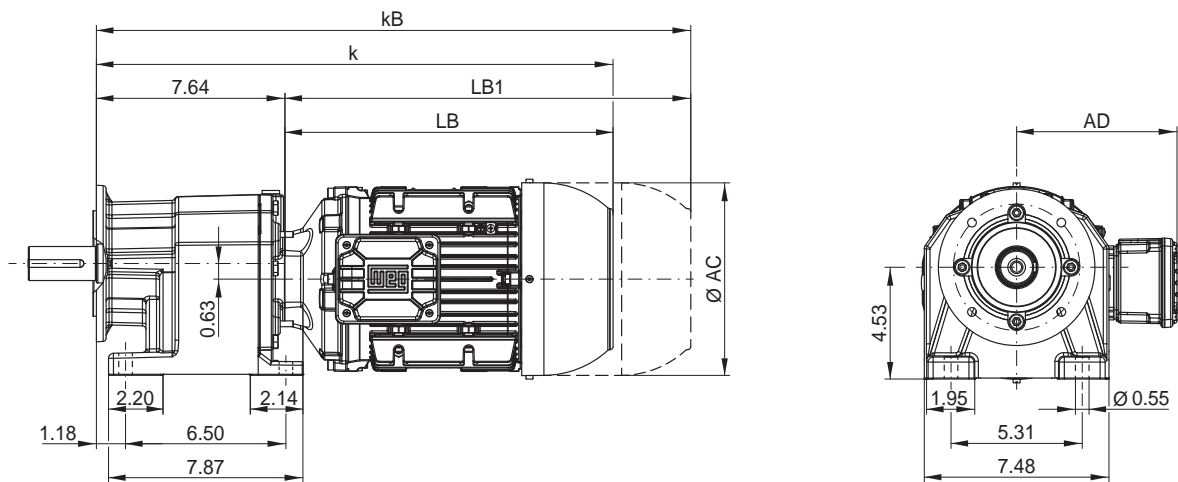


#### Flange Ø 9.84 in (Ø 250 mm)



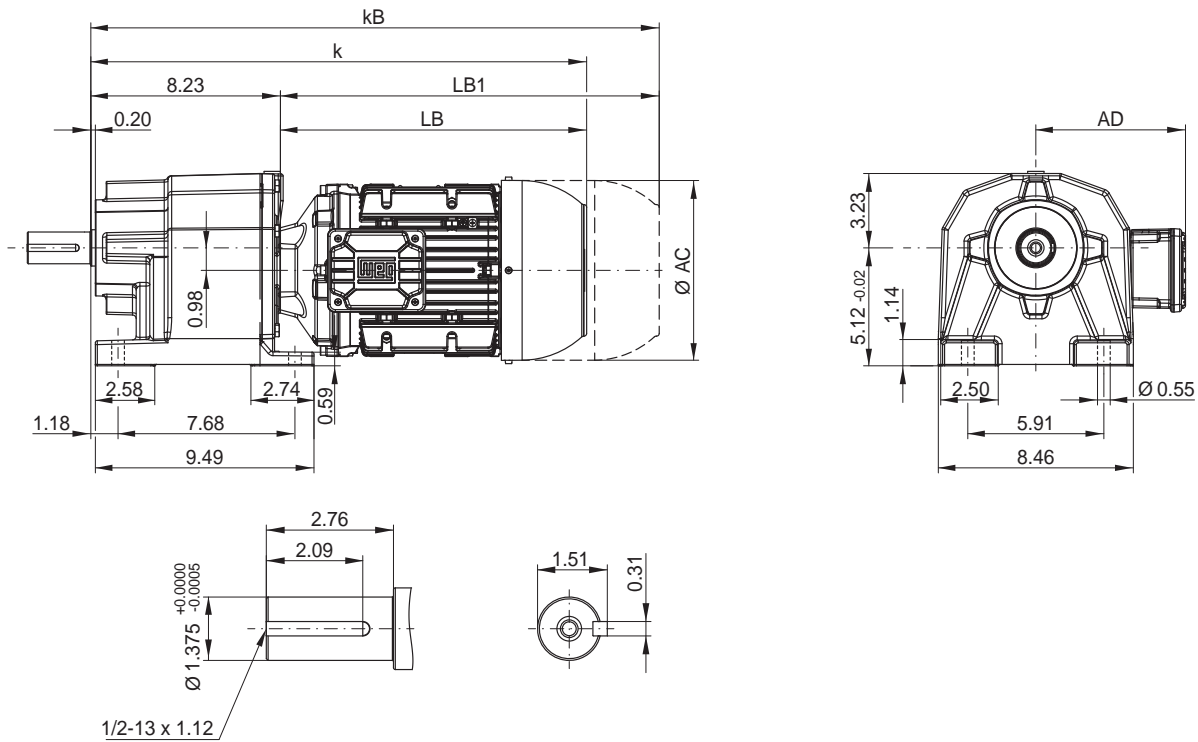
### CA05 - Foot mounted and flange execution

mountable flange sizes on the housing: Ø 6.30 in (Ø 160 mm) and Ø 7.87 in (Ø 200 mm)

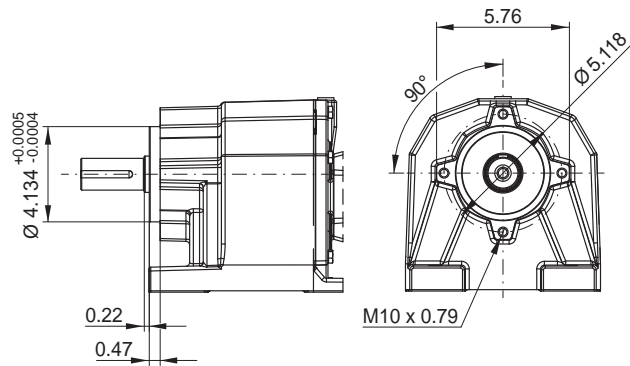


Dimensions in inch.

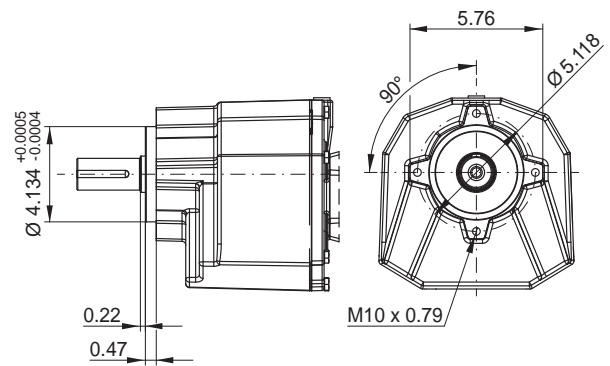
### CG06 - Foot mounted



### CW06 - Foot mounted with flange execution + centering and threaded hole



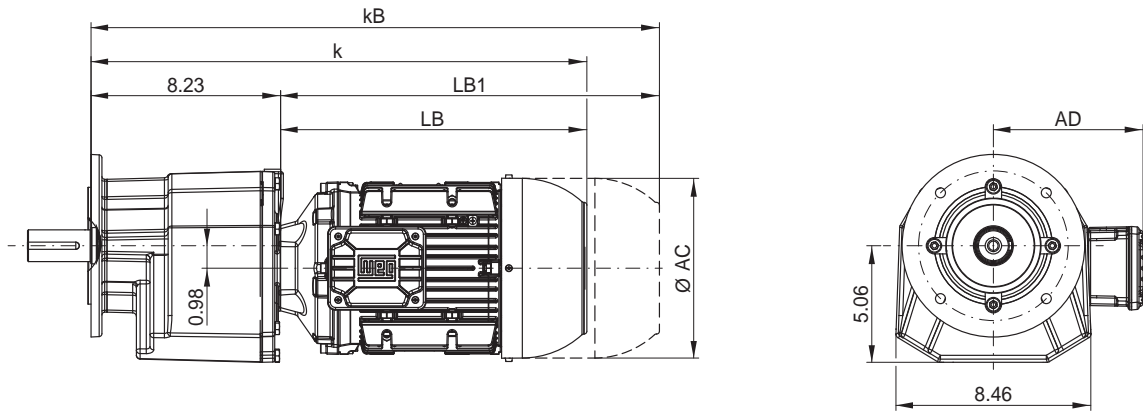
### CC06 - Flange execution + centering and threaded hole



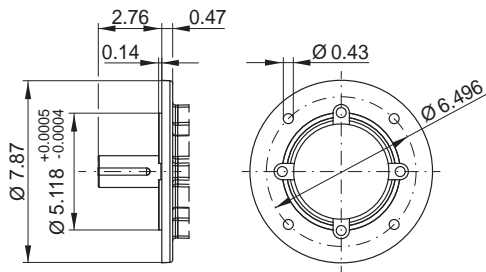
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 16.26 | 17.60 | 17.91 | 18.86 | 19.57 | 21.54 | 23.03 | 21.93 | 24.49 | 25.98 |
| kB        | 17.99 | 19.53 | 20.20 | 21.14 | 22.44 | 24.84 | 26.34 | 25.35 | 29.13 | 30.63 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

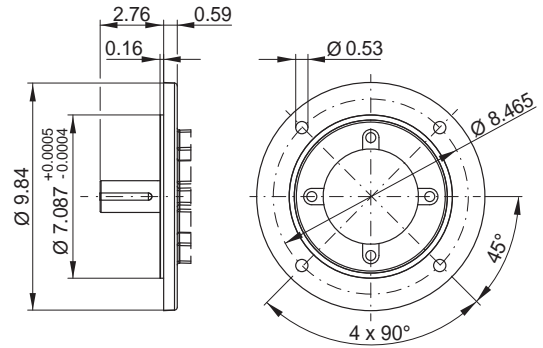
### CF06 - Flange execution



### Flange $\varnothing 7.87$ in ( $\varnothing 200$ mm)

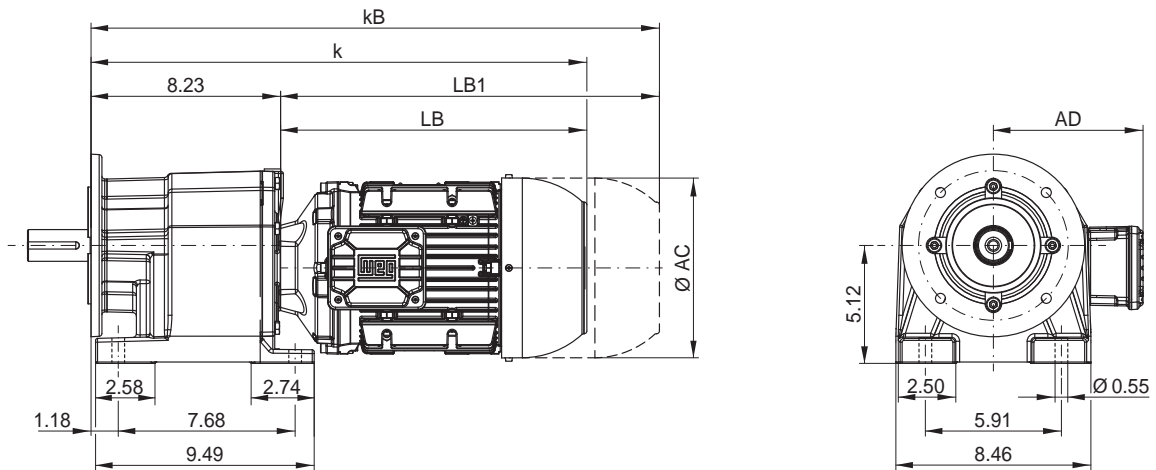


### Flange $\varnothing 9.84$ in ( $\varnothing 250$ mm)



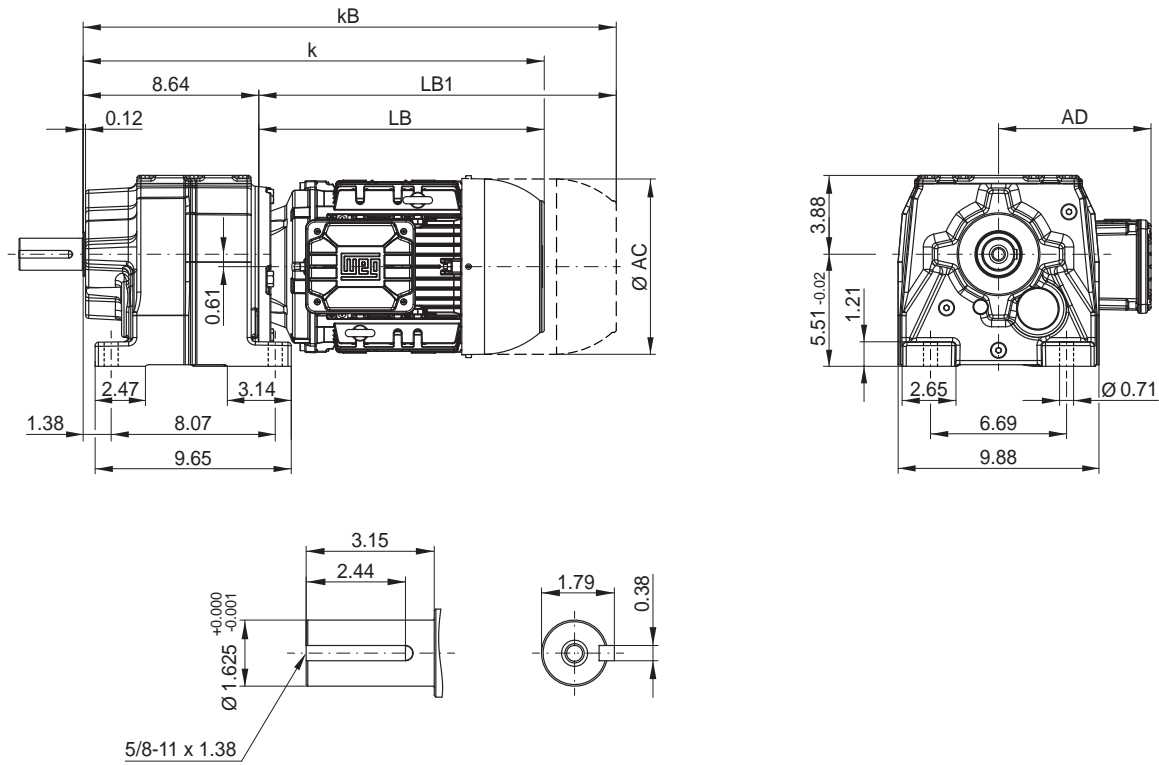
### CA06 - Foot mounted and flange execution

mountable flange sizes on the housing:  $\varnothing 7.87$  in ( $\varnothing 200$  mm)

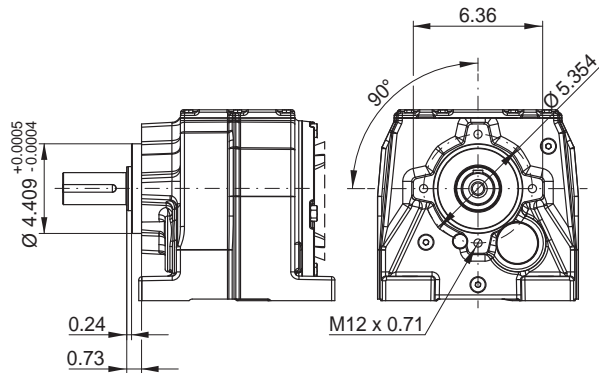


Dimensions in inch.

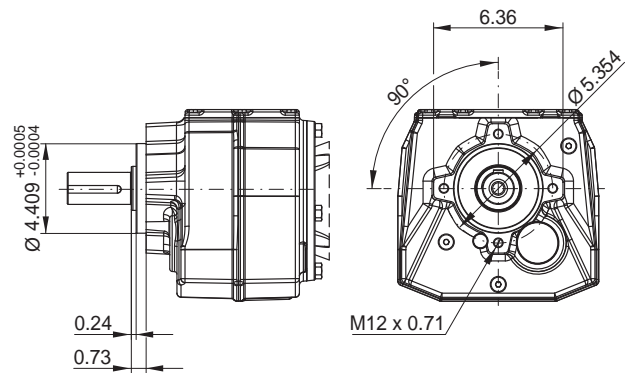
### CG07 - Foot mounted



### CW07 - Foot mounted with flange execution + centering and threaded hole



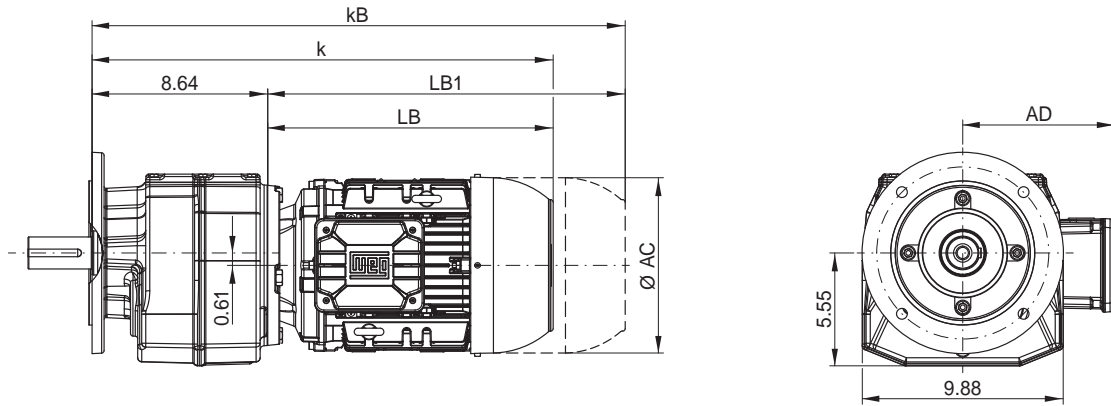
### CC07 - Flange execution + centering and threaded hole



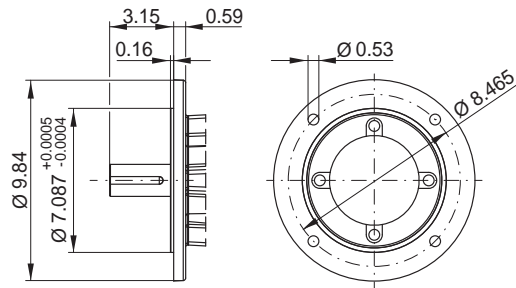
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 |
| k         | 16.69 | 18.03 | 18.35 | 19.27 | 20.00 | 21.97 | 23.46 | 22.36 | 24.92 | 26.42 | 30.12 | 31.85 |
| kB        | 18.43 | 19.96 | 20.63 | 21.56 | 22.87 | 25.28 | 26.77 | 25.79 | 29.57 | 31.06 | 35.00 | 36.73 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.46 | 23.19 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 26.34 | 28.07 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

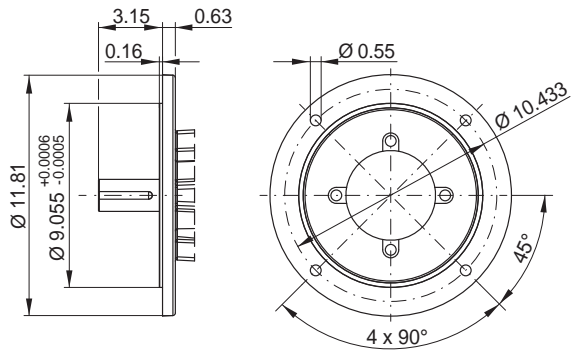
### CF07 - Flange execution



### Flange $\varnothing 9.84$ in ( $\varnothing 250$ mm)

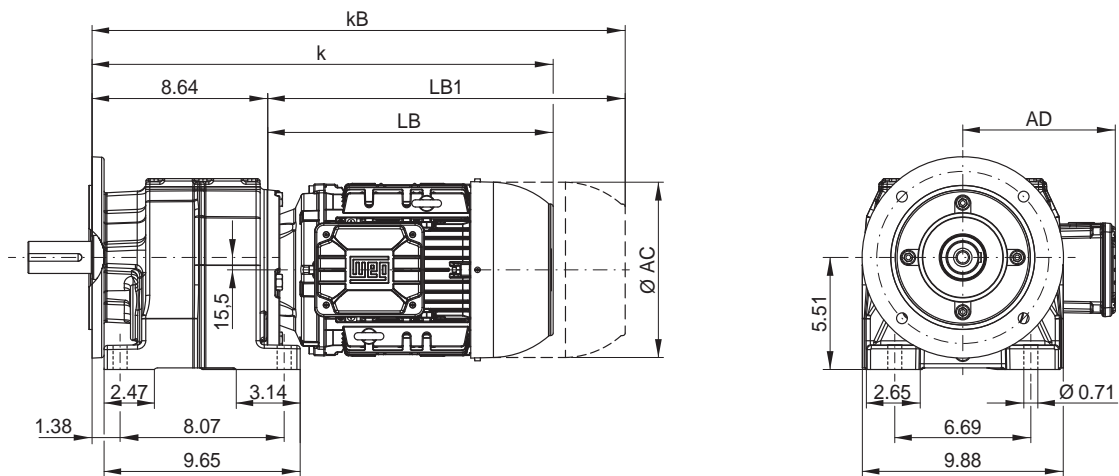


### Flange $\varnothing 11.81$ in ( $\varnothing 300$ mm)



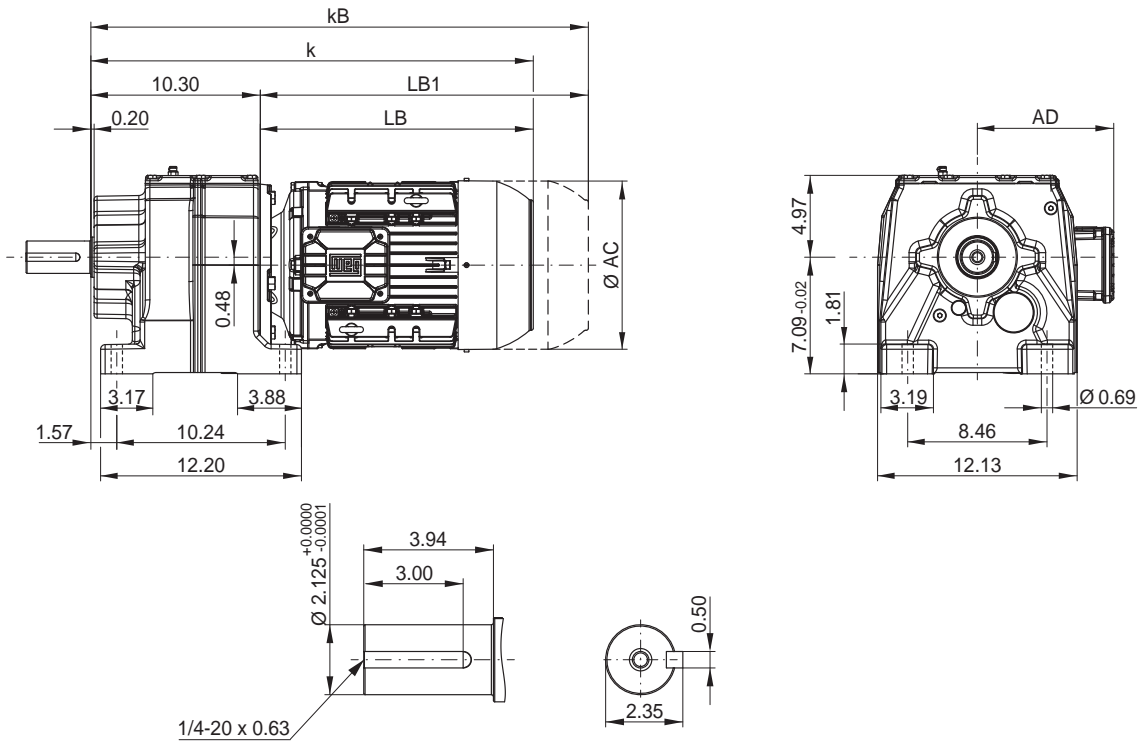
### CA07 - Foot mounted and flange execution

mountable flange sizes on the housing:  $\varnothing 9.84$  in ( $\varnothing 250$  mm)

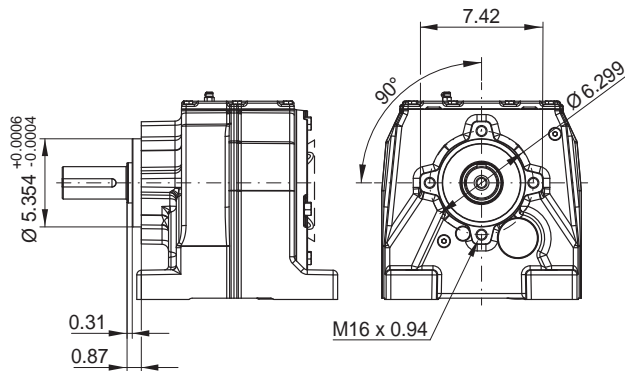


Dimensions in inch.

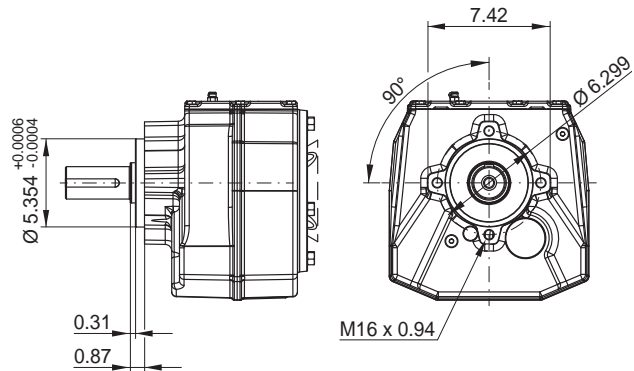
### CG08 - Foot mounted



### CW08 - Foot mounted with flange execution + centering and threaded hole



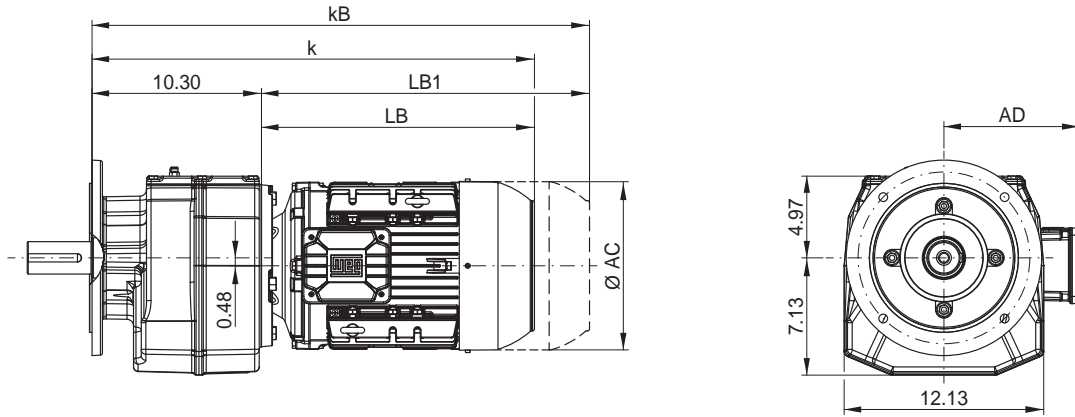
### CC08 - Flange execution + centering and threaded hole



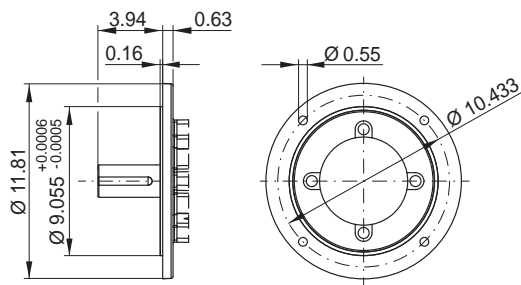
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 |
| k         | 18.35 | 19.69 | 20.00 | 20.93 | 21.65 | 23.62 | 25.12 | 24.02 | 26.57 | 28.07 | 31.57 | 33.31 | 34.25 | 35.75 |
| kB        | 20.08 | 21.61 | 22.28 | 23.21 | 24.53 | 26.93 | 28.43 | 27.44 | 31.22 | 32.72 | 36.46 | 38.19 | 38.90 | 40.39 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.26 | 22.99 | 23.94 | 25.43 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 26.14 | 27.87 | 28.58 | 30.08 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

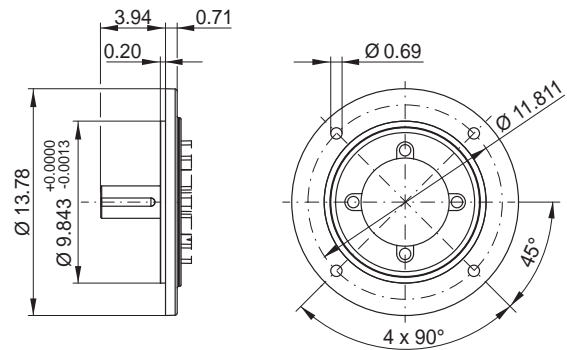
### CF08 - Flange execution



### Flange Ø 11.81 in (Ø 300 mm)

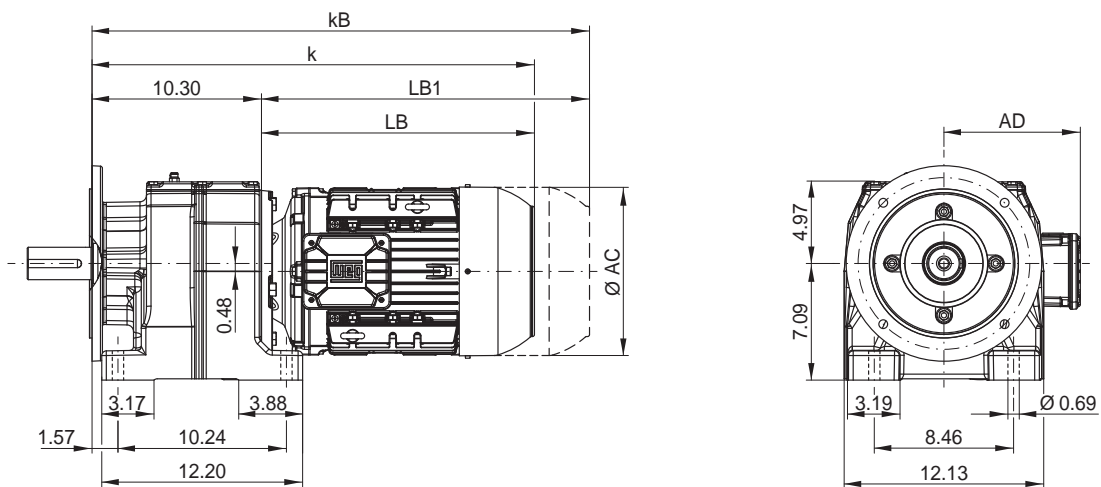


### Flange Ø 13.78 in (Ø 350 mm)



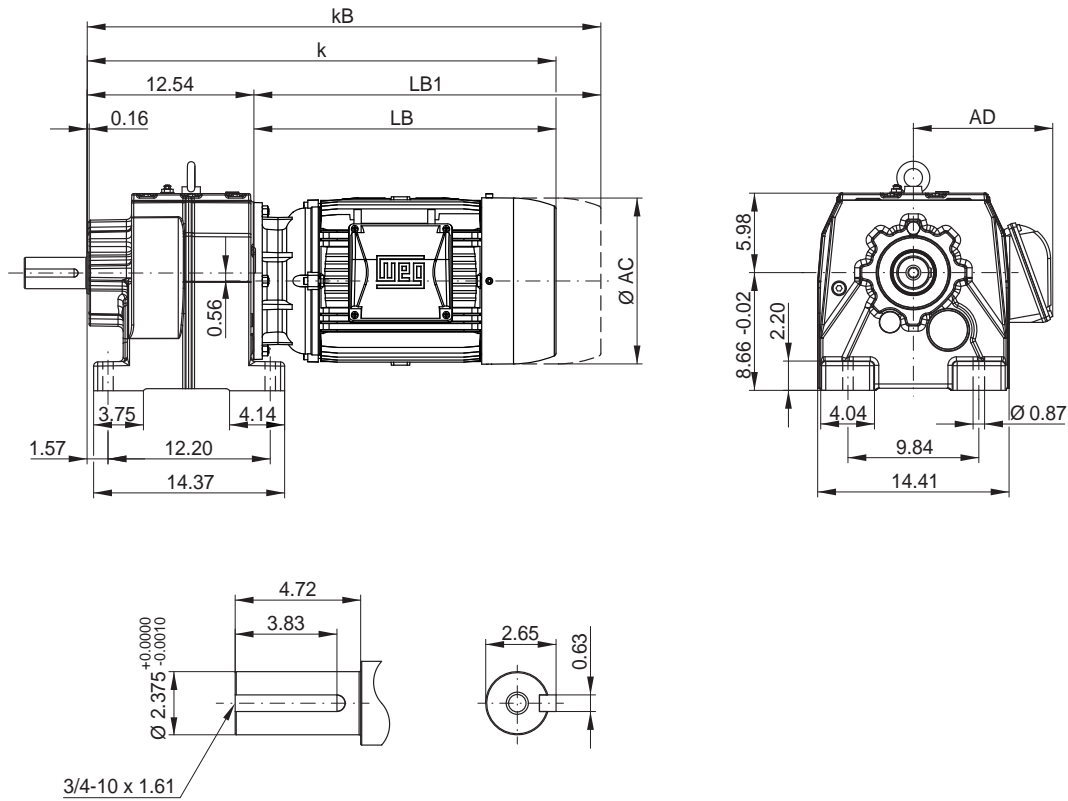
### CA08 - Foot mounted and flange execution

mountable flange sizes on the housing: Ø 11.81 in (Ø 300 mm)



Dimensions in inch.

CG092 / CG093 - Foot mounted

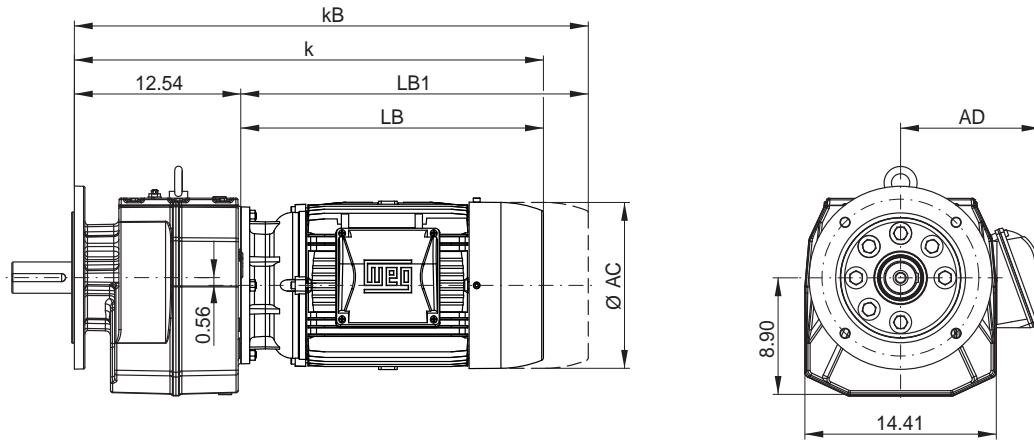


| Motor fr.<br>Dimension | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC                     | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 |
| AD                     | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 |
| k                      | 20.59 | 21.93 | 22.24 | 23.17 | 23.90 | 25.87 | 27.36 | 26.26 | 28.82 | 30.31 | 33.62 | 35.35 | 36.30 | 37.80 | 41.42 |
| kB                     | 22.32 | 23.86 | 24.53 | 25.45 | 26.77 | 29.17 | 30.67 | 29.69 | 33.46 | 34.96 | 38.50 | 40.24 | 40.94 | 42.44 | 46.38 |
| LB                     | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 | 28.86 |
| LB1                    | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 25.94 | 27.68 | 28.39 | 29.88 | 33.82 |

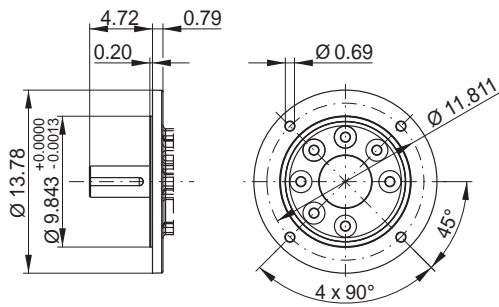
Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492



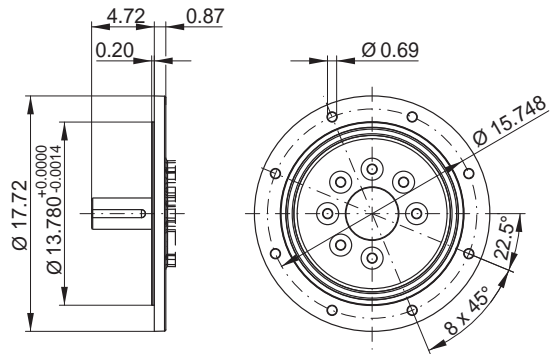
**CF092 / CF093 - Flange execution**



**Flange Ø 13.78 in (Ø 350 mm)**

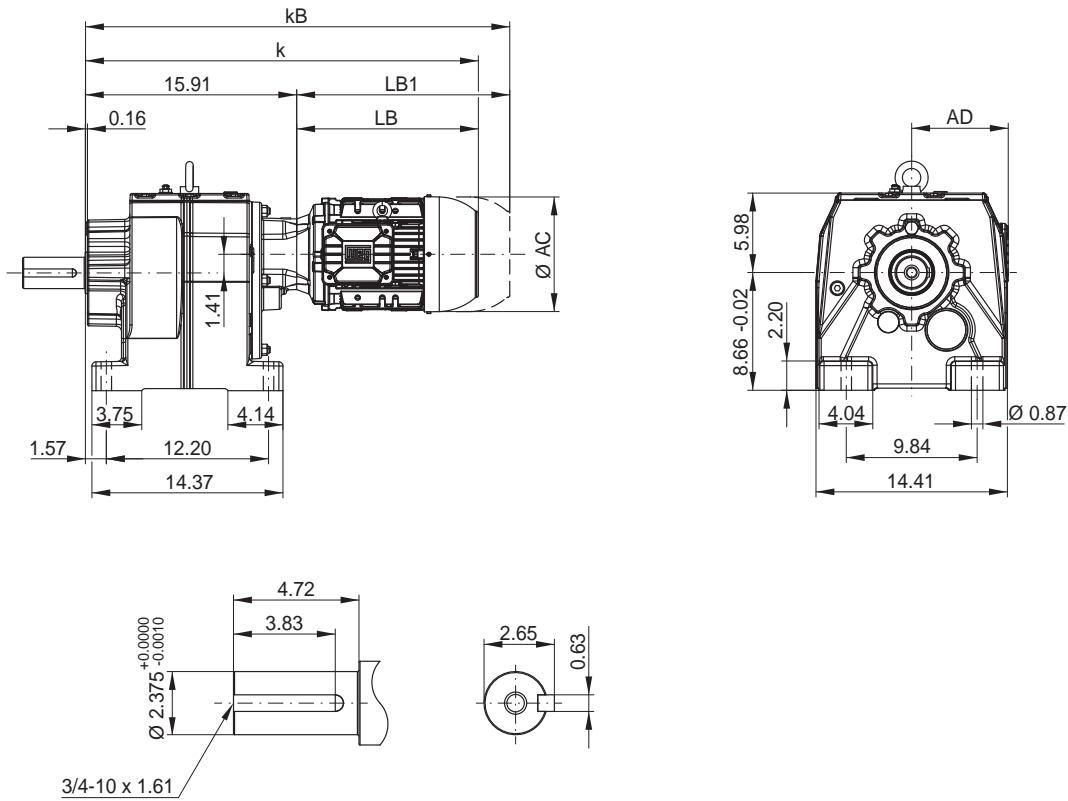


**Flange Ø 17.72 in (Ø 450 mm)**



Dimensions in inch.

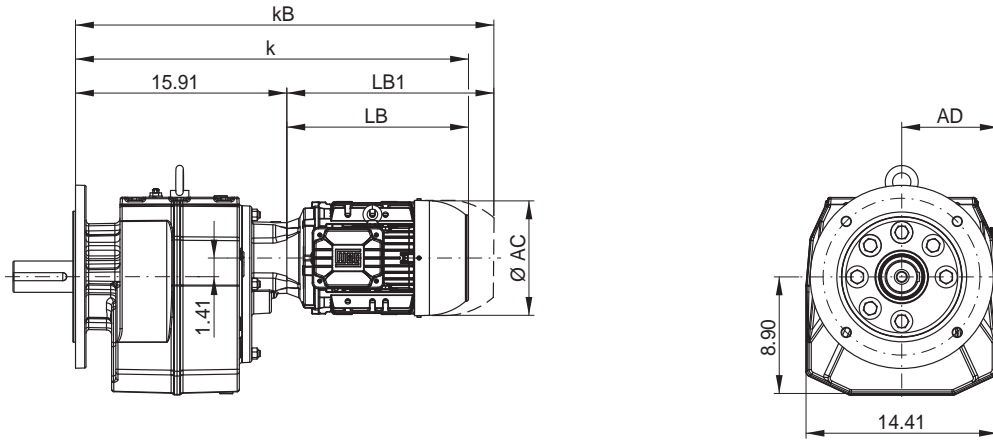
### CG094 - Foot mounted



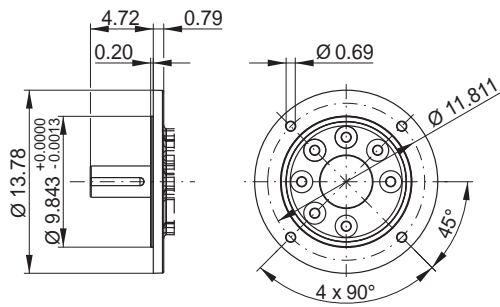
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 23.94 | 25.28 | 25.59 | 26.54 | 27.24 | 29.21 | 30.71 | 29.61 | 32.17 | 33.66 |
| kB        | 25.67 | 27.20 | 27.87 | 28.82 | 30.12 | 32.52 | 34.02 | 33.03 | 36.81 | 38.31 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

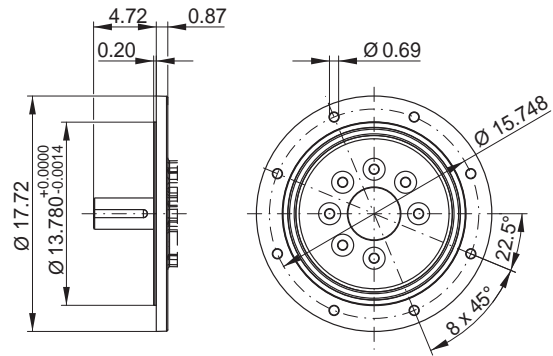
**CF094 - Flange execution**



**Flange  $\varnothing 13.78$  in ( $\varnothing 350$  mm)**

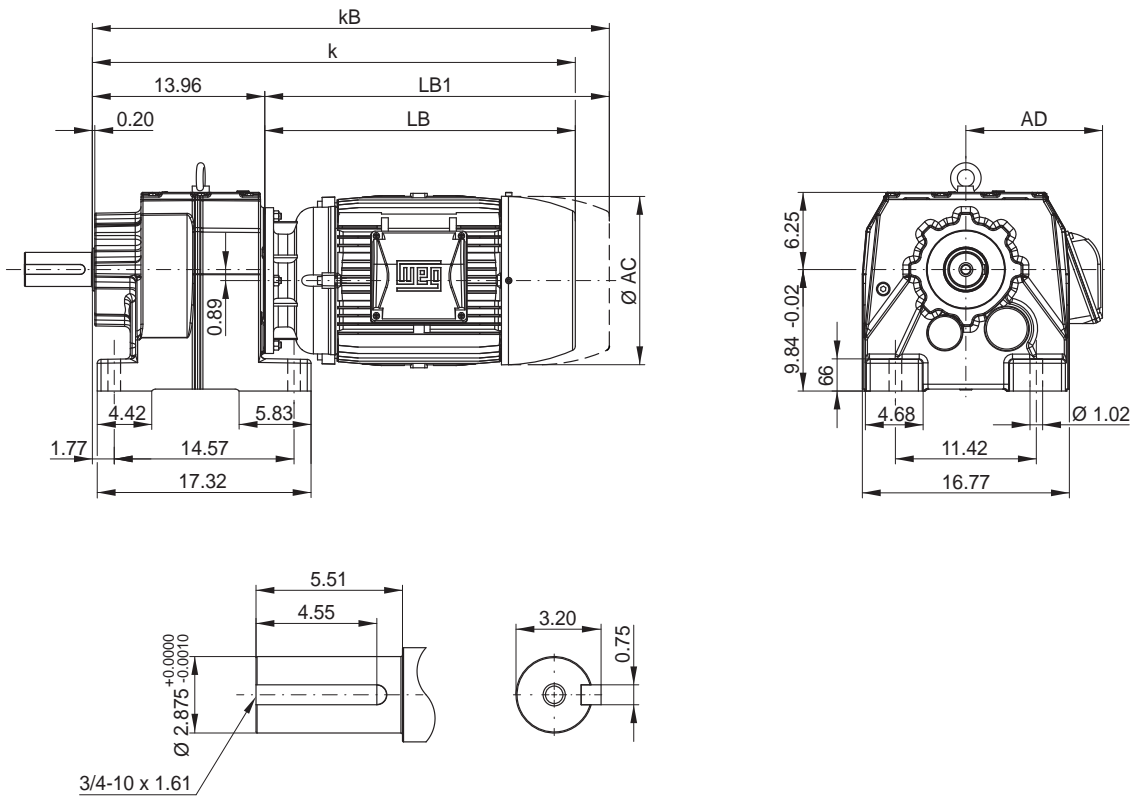


**Flange  $\varnothing 17.72$  in ( $\varnothing 450$  mm)**



Dimensions in inch.

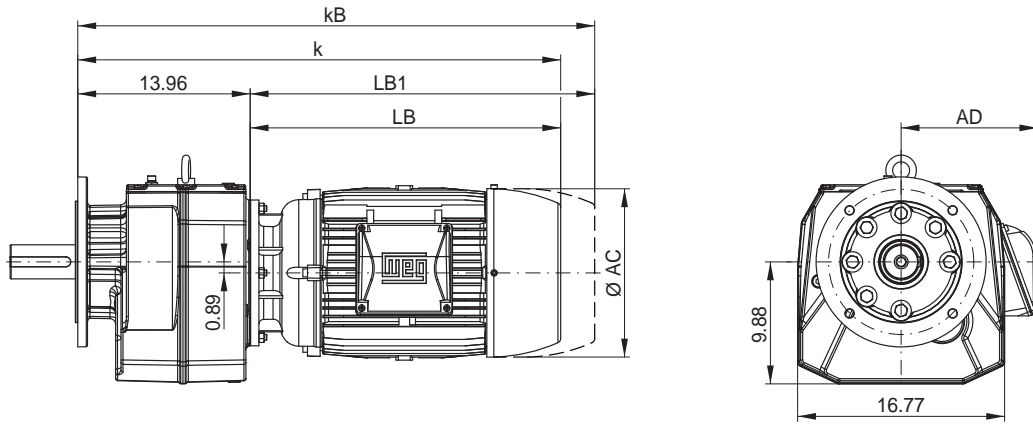
CG102 / CG103 - Foot mounted



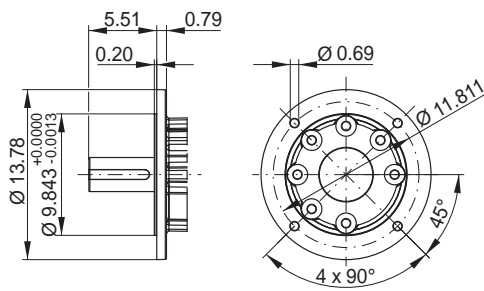
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 |
| k         | 22.01 | 23.35 | 23.66 | 24.60 | 25.31 | 27.28 | 28.78 | 27.68 | 30.24 | 31.73 | 35.04 | 36.77 | 37.72 | 39.21 | 42.83 |
| kB        | 23.74 | 25.28 | 25.94 | 26.88 | 28.19 | 30.59 | 32.09 | 31.10 | 34.88 | 36.38 | 39.92 | 41.65 | 42.36 | 43.86 | 47.80 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 | 28.86 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 25.94 | 27.68 | 28.39 | 29.88 | 33.82 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

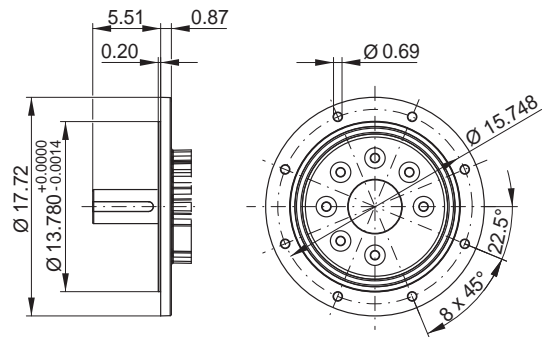
**CF102 / CF103 - Flange execution**



**Flange Ø 13.78 in (Ø 350 mm)**

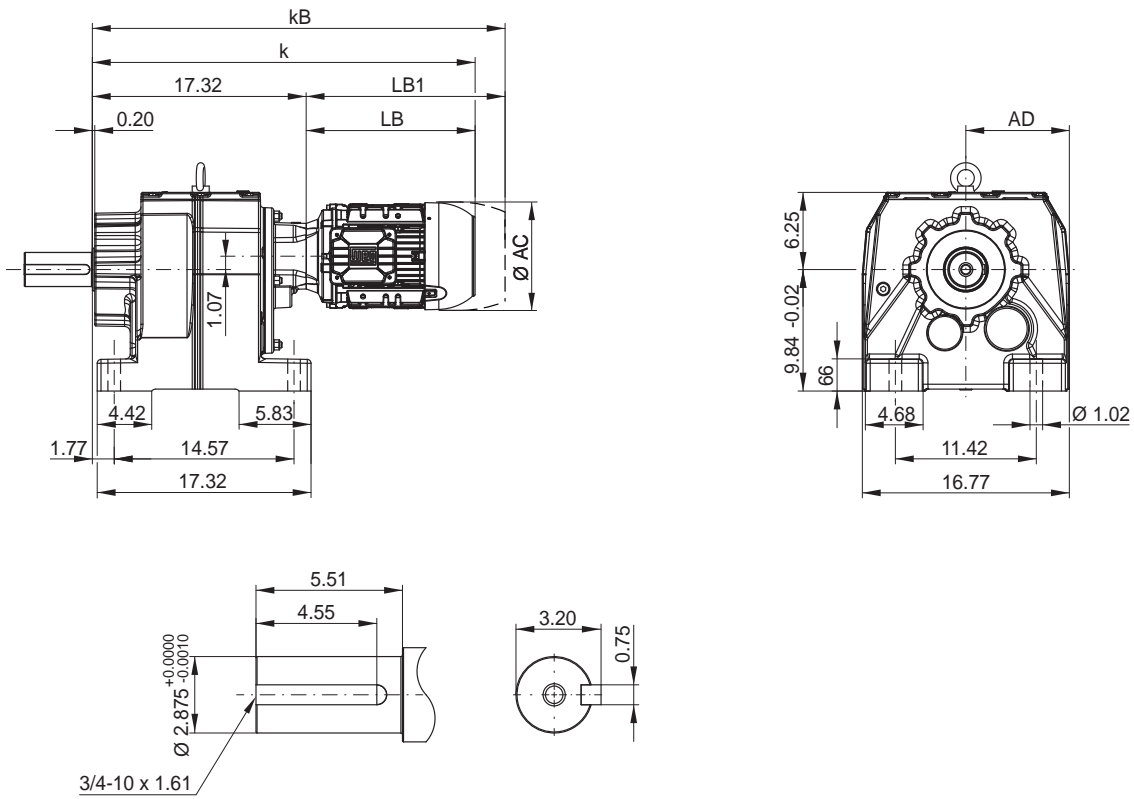


**Flange Ø 17.72 in (Ø 450 mm)**



Dimensions in inch.

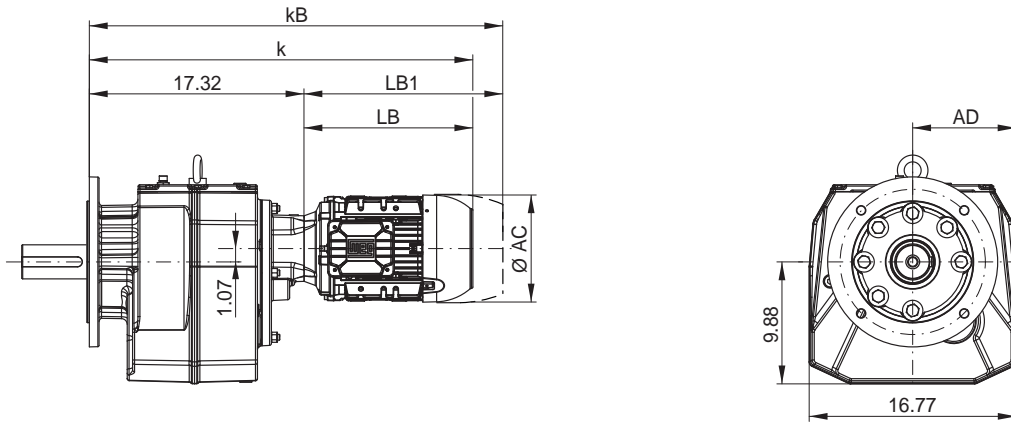
### CG104 - Foot mounted



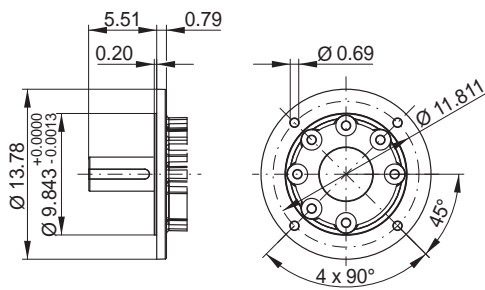
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 25.35 | 26.69 | 27.01 | 27.95 | 28.66 | 30.63 | 32.13 | 31.02 | 33.58 | 35.08 |
| kB        | 27.09 | 28.62 | 29.29 | 30.24 | 31.54 | 33.94 | 35.43 | 34.45 | 38.23 | 39.72 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

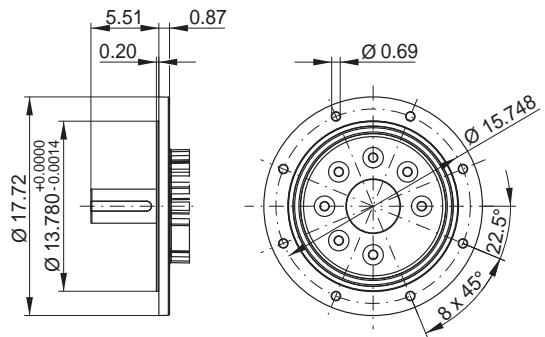
### CF104 - Flange execution



### Flange Ø 13.78 in (Ø 350 mm)

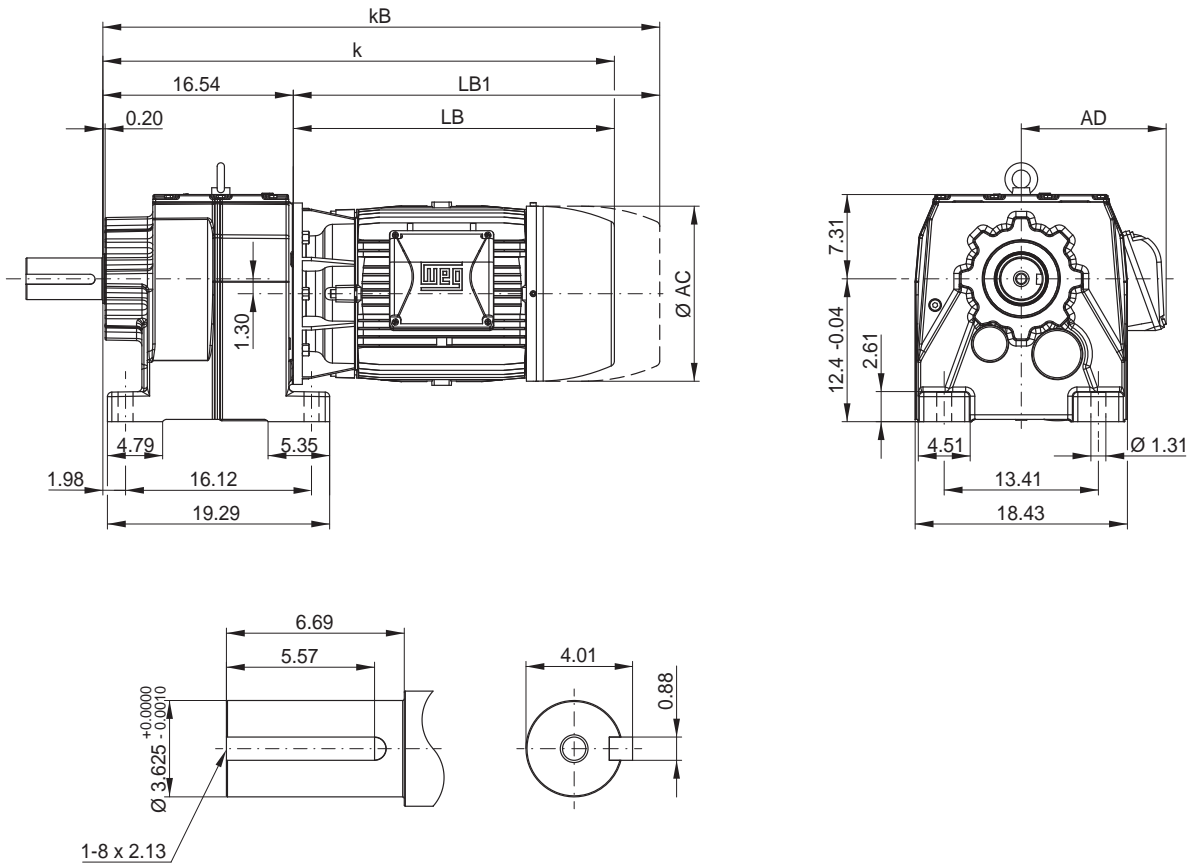


### Flange Ø 17.72 in (Ø 450 mm)



Dimensions in inch.

CG132 / CG133 - Foot mounted

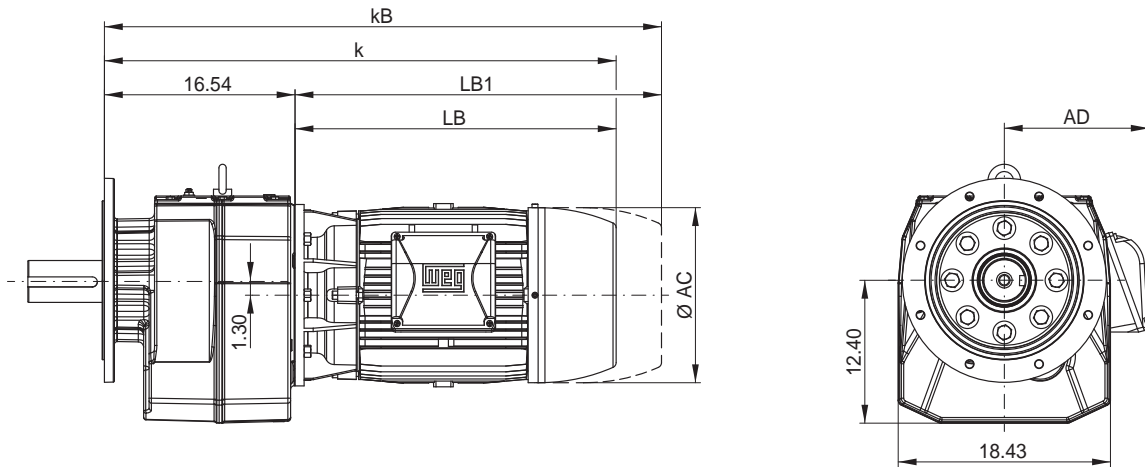


| Motor fr. | 63 | 71 | 80 | 80L | 90S/L | 100L | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M |
|-----------|----|----|----|-----|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| AC        | -  | -  | -  | -   | -     | -    | -     | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  |
| AD        | -  | -  | -  | -   | -     | -    | -     | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  |
| k         | -  | -  | -  | -   | -     | -    | -     | 30.24 | 32.80 | 34.29 | 37.09 | 38.82 | 39.76 | 41.26 | 44.88 | 49.13  |
| kB        | -  | -  | -  | -   | -     | -    | -     | 33.66 | 37.44 | 38.94 | 41.97 | 43.70 | 44.41 | 45.91 | 49.84 | 53.78  |
| LB        | -  | -  | -  | -   | -     | -    | -     | 13.70 | 16.26 | 17.76 | 20.55 | 22.28 | 23.23 | 24.72 | 28.35 | 32.60  |
| LB1       | -  | -  | -  | -   | -     | -    | -     | 17.13 | 20.91 | 22.40 | 25.43 | 27.17 | 27.87 | 29.37 | 33.31 | 37.24  |

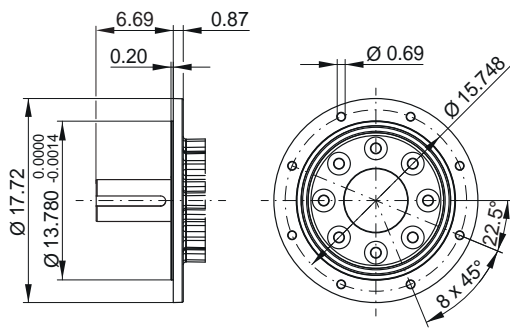
Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492



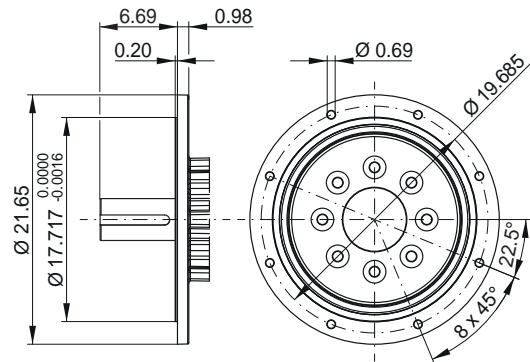
**CF132 / CF133 - Flange execution**



**Flange Ø 17.72 in (Ø 450 mm)**

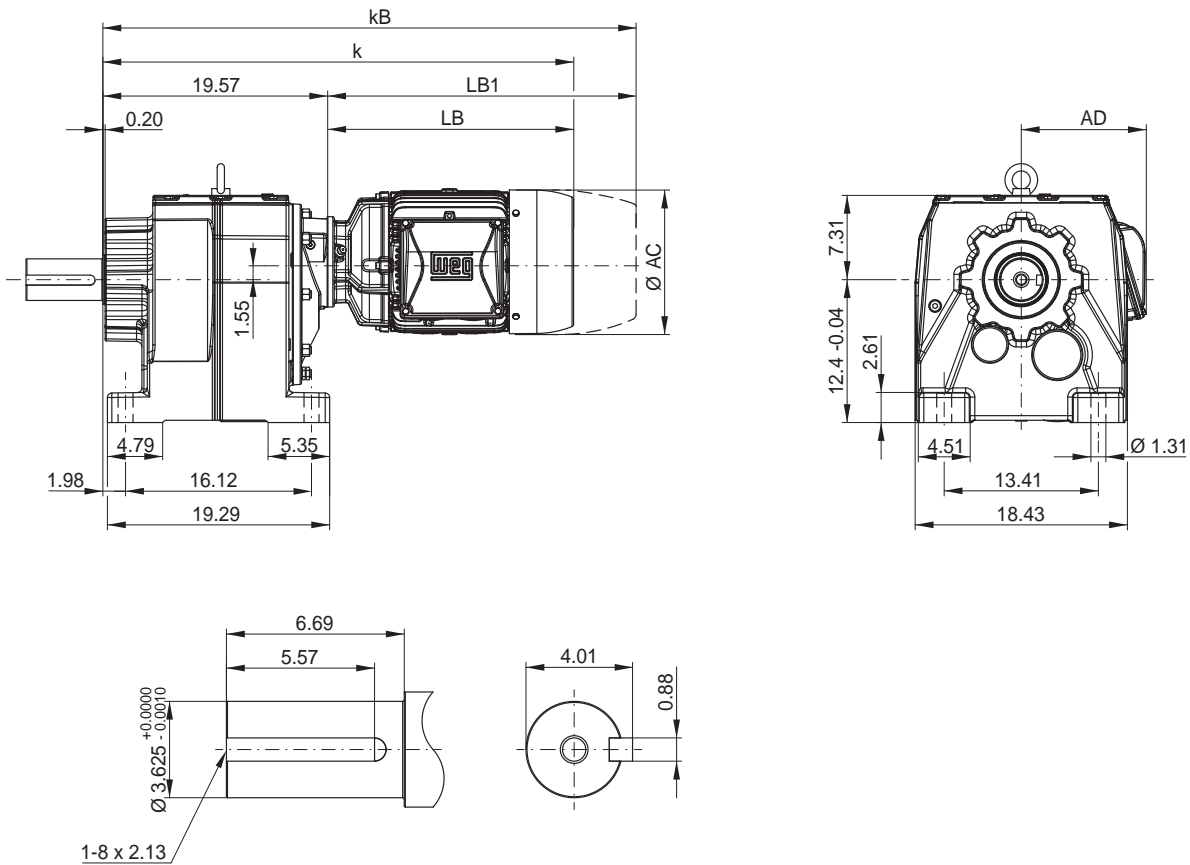


**Flange Ø 21.65 in (Ø 550 mm)**



Dimensions in inch.

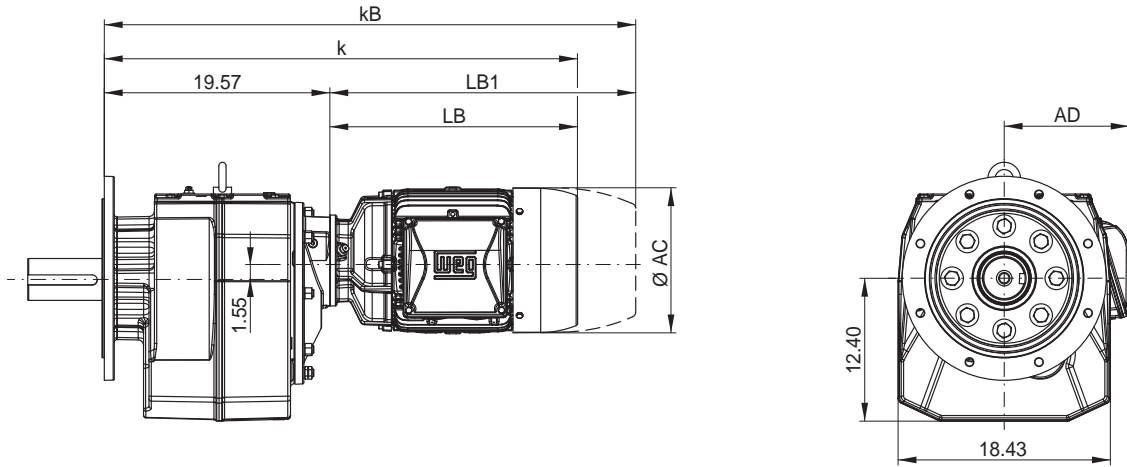
### CG134 - Foot mounted



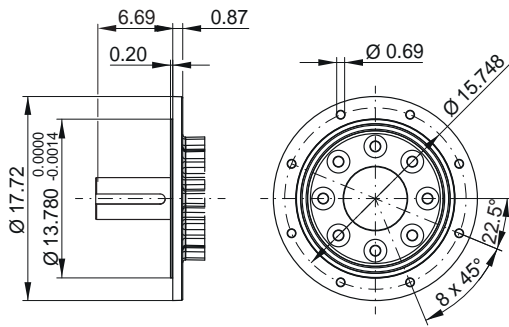
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 |
| k         | 27.60 | 28.94 | 29.25 | 30.20 | 30.91 | 32.87 | 34.37 | 33.27 | 35.83 | 37.32 | 41.02 | 42.76 |
| kB        | 29.33 | 30.87 | 31.54 | 32.48 | 33.78 | 36.18 | 37.68 | 36.69 | 40.47 | 41.97 | 45.91 | 47.64 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.46 | 23.19 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 26.34 | 28.07 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

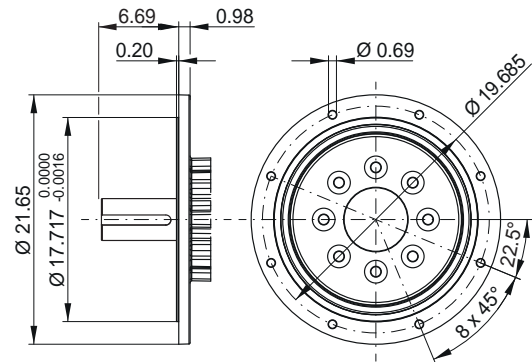
### CF134 - Flange execution



### Flange $\varnothing 17.72$ in ( $\varnothing 450$ mm)

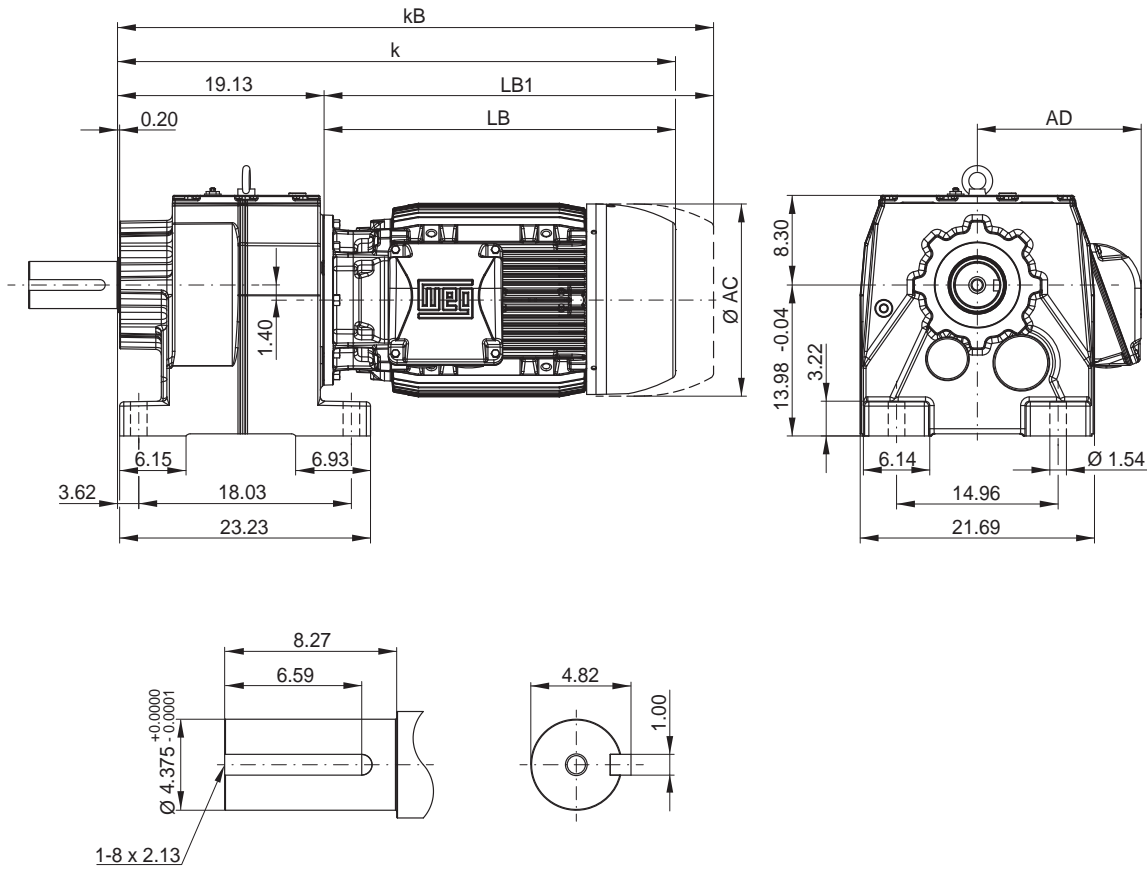


### Flange $\varnothing 21.65$ in ( $\varnothing 550$ mm)



Dimensions in inch.

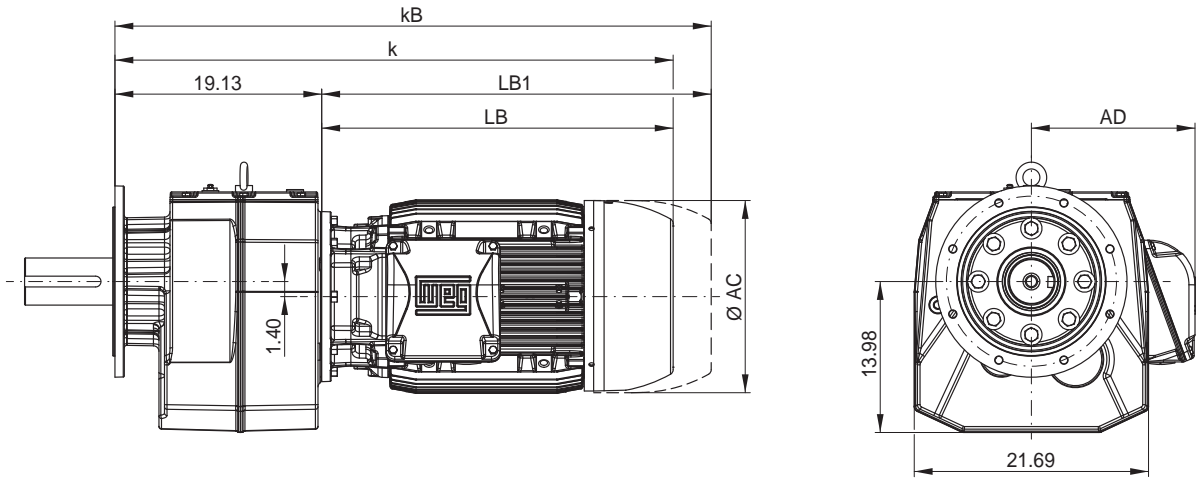
### CG142 / CG143 - Foot mounted



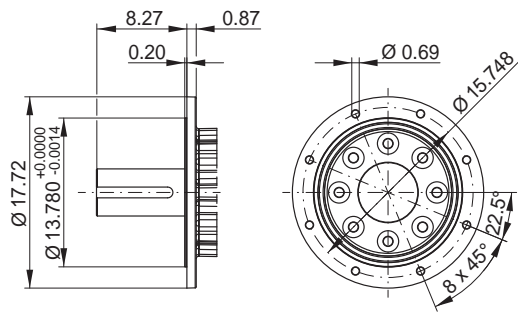
| Motor fr. | 63 | 71 | 80 | 80L | 90S/L | 100L | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M |
|-----------|----|----|----|-----|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| AC        | -  | -  | -  | -   | -     | -    | -     | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  |
| AD        | -  | -  | -  | -   | -     | -    | -     | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  |
| k         | -  | -  | -  | -   | -     | -    | -     | 32.83 | 35.39 | 36.89 | 39.69 | 41.42 | 42.36 | 43.86 | 47.48 | 51.73  |
| kB        | -  | -  | -  | -   | -     | -    | -     | 36.26 | 40.04 | 41.54 | 44.57 | 46.30 | 47.01 | 48.50 | 52.44 | 56.38  |
| LB        | -  | -  | -  | -   | -     | -    | -     | 13.70 | 16.26 | 17.76 | 20.55 | 22.28 | 23.23 | 24.72 | 28.35 | 32.60  |
| LB1       | -  | -  | -  | -   | -     | -    | -     | 17.13 | 20.91 | 22.40 | 25.43 | 27.17 | 27.87 | 29.37 | 33.31 | 37.24  |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

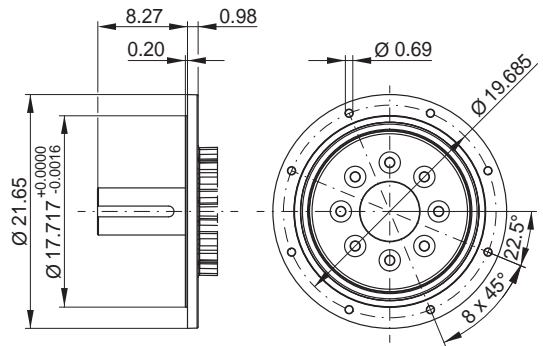
**CF142 / CF143 - Flange execution**



**Flange Ø 17.72 in (Ø 450 mm)**

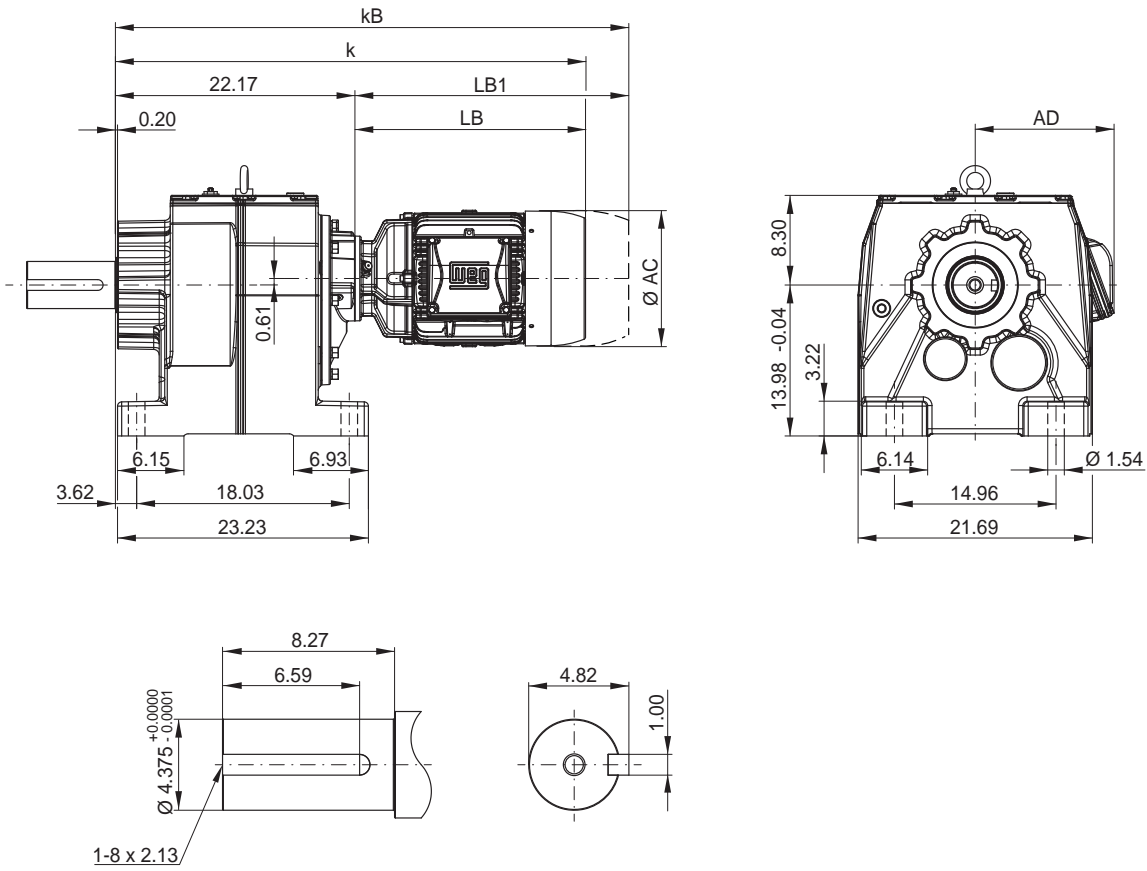


**Flange Ø 21.65 in (Ø 550 mm)**



Dimensions in inch.

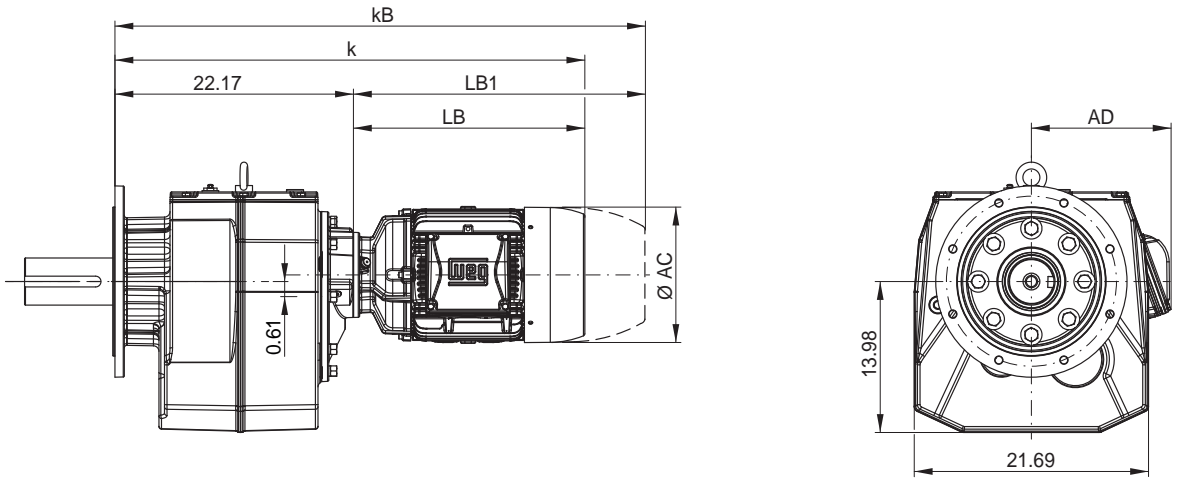
### CG144 - Foot mounted



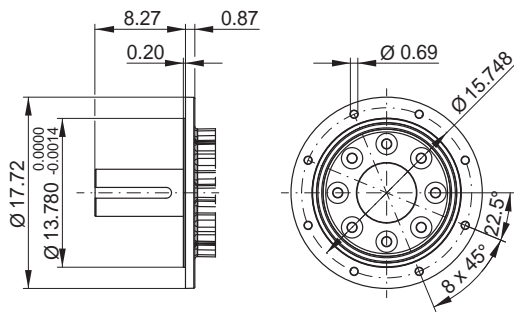
| Motor fr.<br>Dimension | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC                     | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 |
| AD                     | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 |
| k                      | 30.20 | 31.54 | 31.85 | 32.80 | 33.50 | 35.47 | 36.97 | 35.87 | 38.43 | 39.92 | 43.62 | 45.35 |
| kB                     | 31.93 | 33.46 | 34.13 | 35.08 | 36.38 | 38.78 | 40.28 | 39.29 | 43.07 | 44.57 | 48.50 | 50.24 |
| LB                     | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.46 | 23.19 |
| LB1                    | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 26.34 | 28.07 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

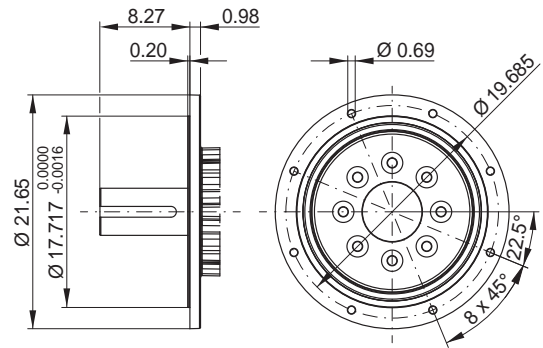
### CF144 - Flange execution



### Flange $\varnothing 17.72$ in ( $\varnothing 450$ mm)

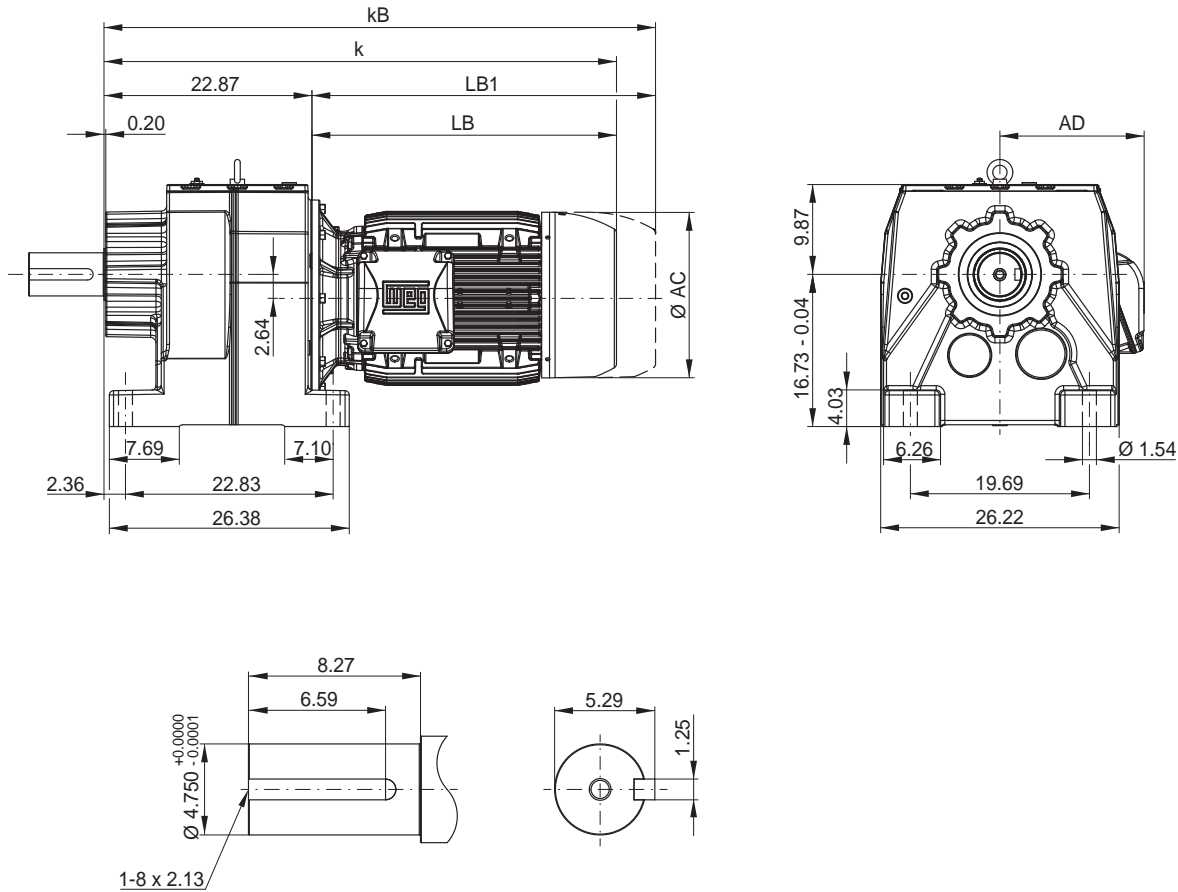


### Flange $\varnothing 21.65$ in ( $\varnothing 550$ mm)



Dimensions in inch.

**CG162 / CG163 - Foot mounted**

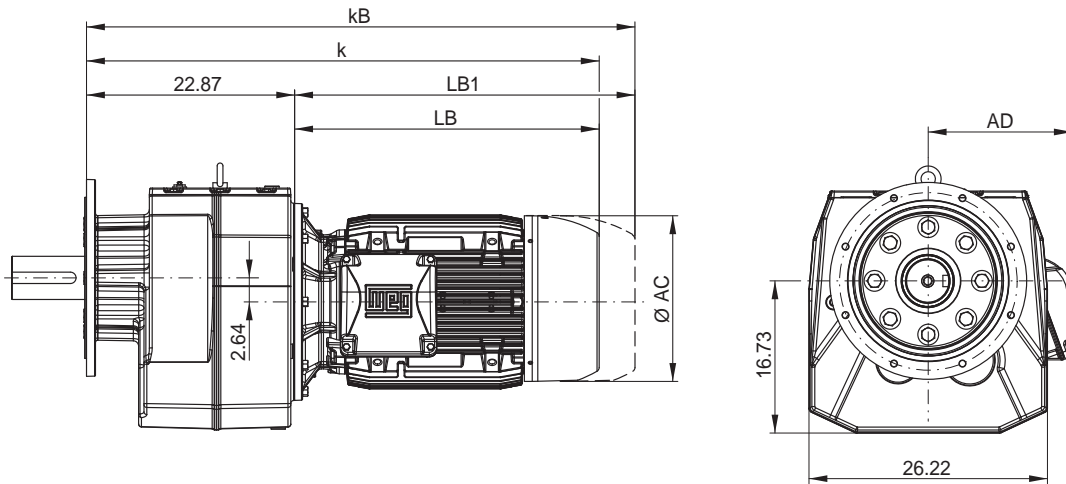


| Motor fr.<br>Dimension | 63 | 71 | 80 | 80L | 90S/L | 100L | L100L | 112M | 132S | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M | 250S/M |
|------------------------|----|----|----|-----|-------|------|-------|------|------|-------|-------|-------|-------|-------|-------|--------|--------|
| AC                     | -  | -  | -  | -   | -     | -    | -     | -    | -    | -     | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  | 18.98  |
| AD                     | -  | -  | -  | -   | -     | -    | -     | -    | -    | -     | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  | 15.87  |
| k                      | -  | -  | -  | -   | -     | -    | -     | -    | -    | -     | 42.80 | 44.53 | 45.47 | 46.97 | 50.59 | 54.84  | 56.38  |
| kB                     | -  | -  | -  | -   | -     | -    | -     | -    | -    | -     | 47.68 | 49.41 | 50.12 | 51.61 | 55.55 | 59.49  | 61.02  |
| LB                     | -  | -  | -  | -   | -     | -    | -     | -    | -    | -     | 19.92 | 21.65 | 22.60 | 24.09 | 27.72 | 31.97  | 33.50  |
| LB1                    | -  | -  | -  | -   | -     | -    | -     | -    | -    | -     | 24.80 | 26.54 | 27.24 | 28.74 | 32.68 | 36.61  | 38.15  |

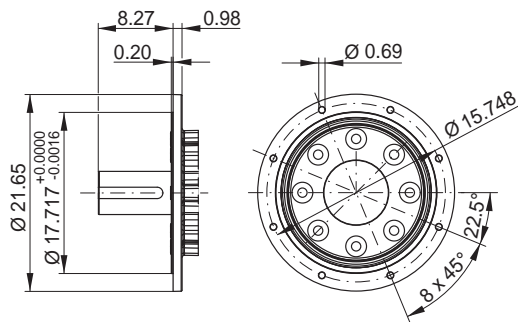
Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492



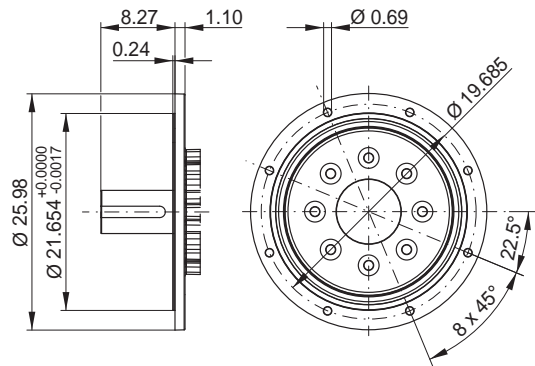
**CF162 / CF163 - Flange execution**



**Flange Ø 21.65 in (Ø 550 mm)**

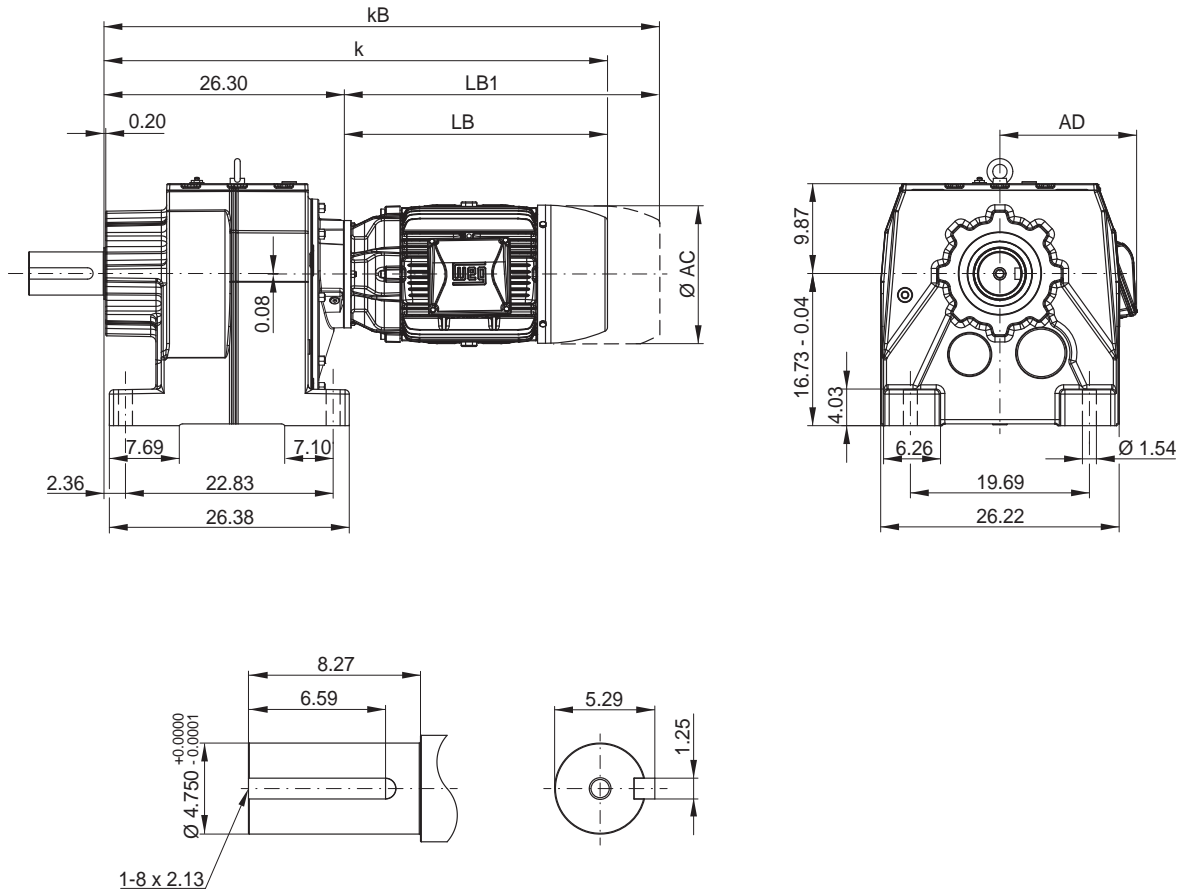


**Flange Ø 25.98 in (Ø 660 mm)**



Dimensions in inch.

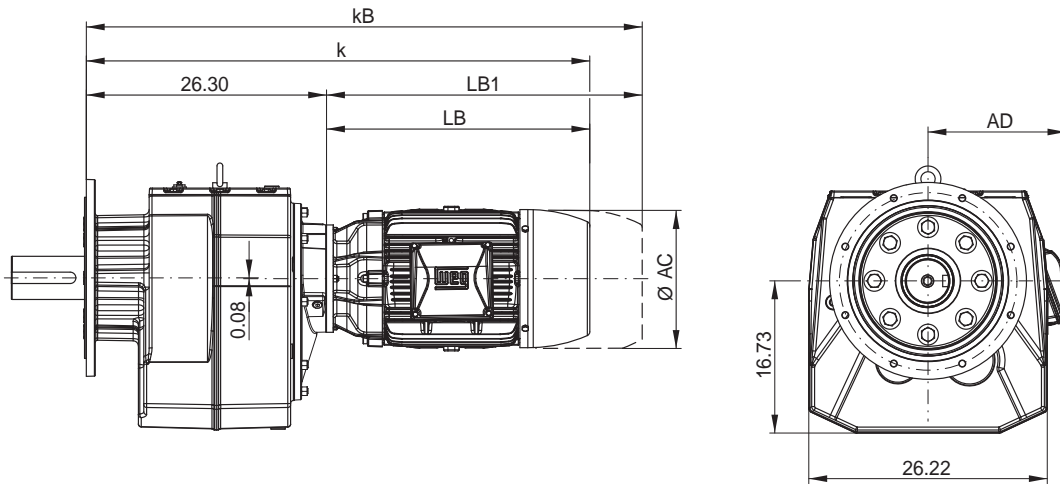
### CG164 - Foot mounted



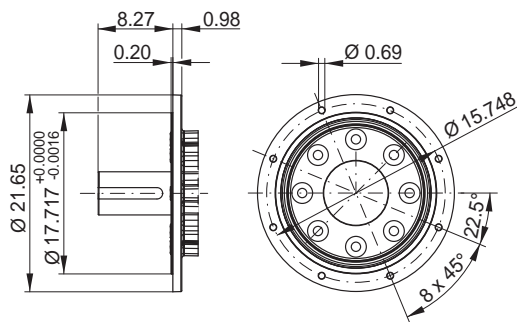
| Motor fr.<br>Dimension | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC                     | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 |
| AD                     | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 |
| k                      | 8.03  | 9.37  | 9.69  | 36.93 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 | 28.86 |
| kB                     | 36.06 | 37.60 | 38.27 | 39.21 | 40.51 | 42.91 | 44.41 | 43.43 | 47.20 | 48.70 | 52.24 | 53.98 | 54.69 | 56.18 | 60.12 |
| LB                     | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 | 28.86 |
| LB1                    | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 25.94 | 27.68 | 28.39 | 29.88 | 33.82 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

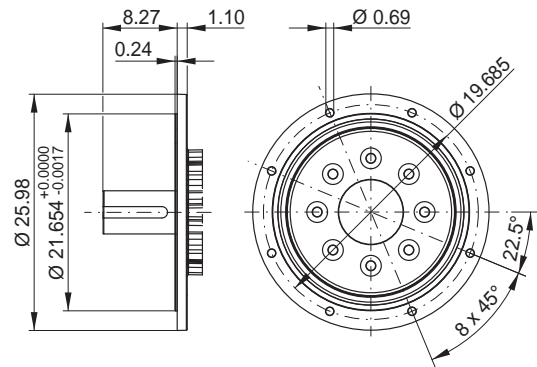
### CF164 - Flange execution



### Flange $\varnothing 21.65$ in ( $\varnothing 550$ mm)

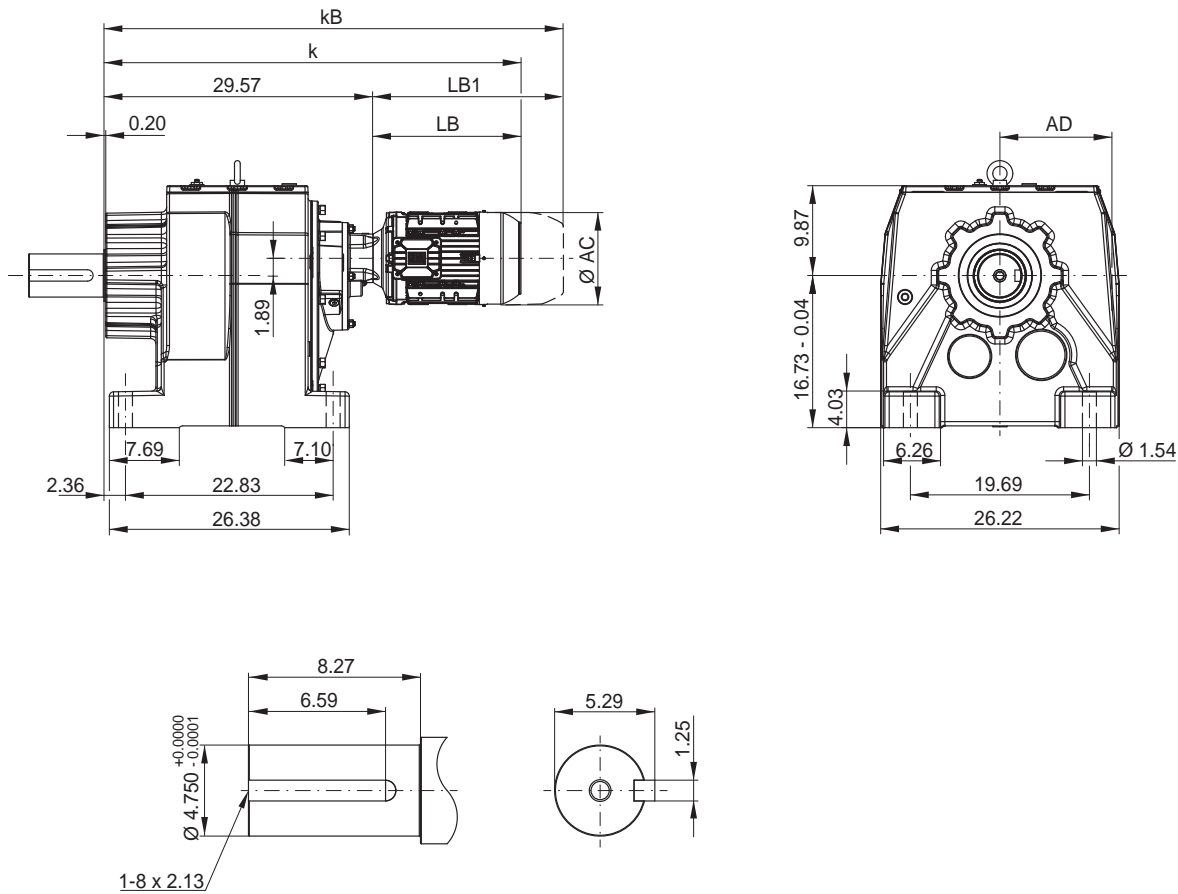


### Flange $\varnothing 25.98$ in ( $\varnothing 660$ mm)



Dimensions in inch.

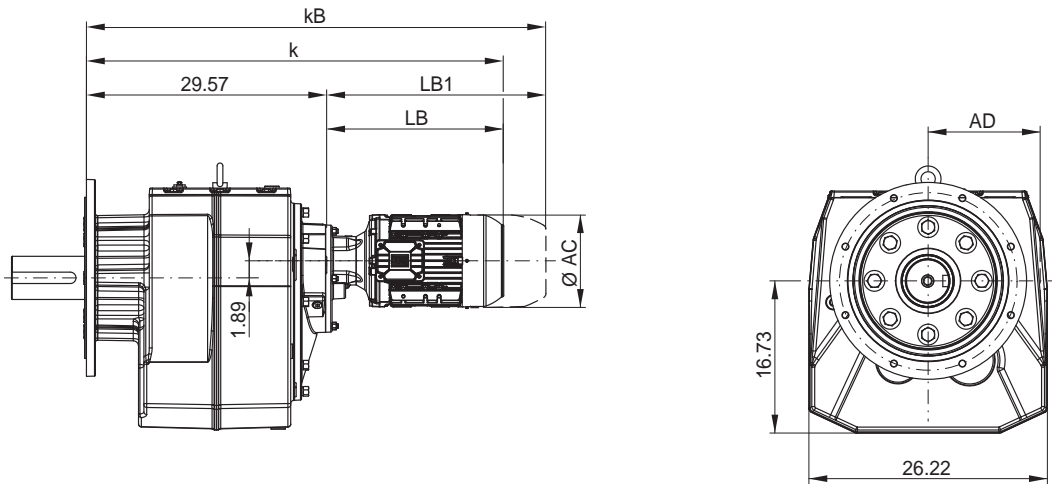
### CG165 - Foot mounted



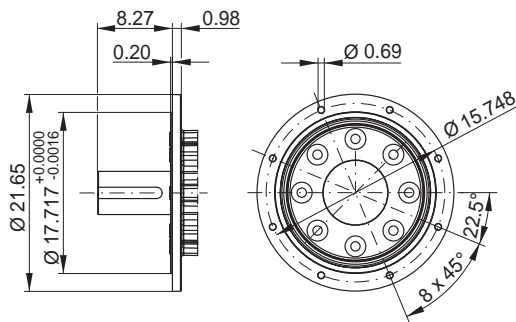
| Motor fr. | 63    | 71    | 80    | 80L   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 37.60 | 38.94 | 39.25 | 40.20 | 40.91 | 42.87 | 44.37 | 43.27 | 45.83 | 47.32 |
| kB        | 39.33 | 40.87 | 41.54 | 42.48 | 43.78 | 46.18 | 47.68 | 46.69 | 50.47 | 51.97 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

Motor dimension sheets see from page 488  
 Description of motor lengths LB and LB1 see page 492

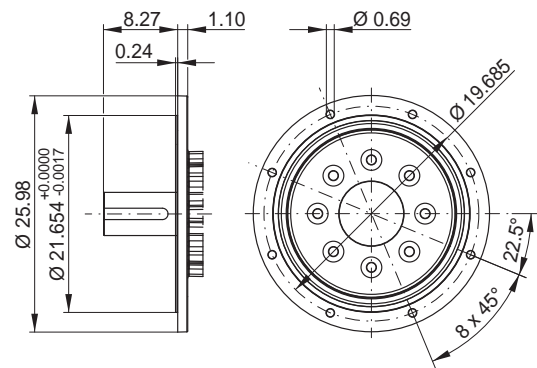
### CF165 - Flange execution



### Flange Ø 21.65 in (Ø 550 mm)



### Flange Ø 25.98 in (Ø 660 mm)



Dimensions in inch.

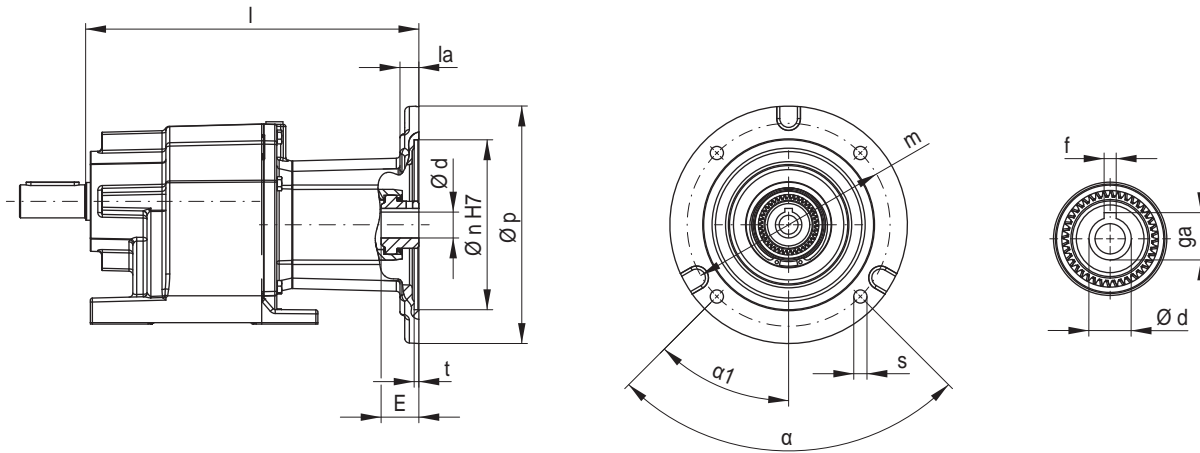


# Dimension sheets - Input types



## IEC Adapter I63 to I280

C



| Type            | I63       | I71       | I80  | I90  | I100 | I112 | I132  | I160  | I180  | I200  | I225  | I250  | I280  |
|-----------------|-----------|-----------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| p               | 6.30      | 6.30      | 7.87 | 7.87 | 9.84 | 9.84 | 11.81 | 13.78 | 13.78 | 15.75 | 17.72 | 21.65 | 21.65 |
| n               | 3.74      | 4.33      | 5.12 | 5.12 | 7.09 | 7.09 | 9.06  | 9.84  | 9.84  | 11.81 | 13.78 | 17.72 | 17.72 |
| la              | 0.89      | 0.39      | 0.51 | 0.51 | 0.59 | 0.79 | 0.59  | 1.38  | 1.38  | 0.79  | 0.79  | 0.79  | 0.79  |
| m               | 4.53      | 5.12      | 6.50 | 6.50 | 8.46 | 8.46 | 10.43 | 11.81 | 11.81 | 13.78 | 15.75 | 19.69 | 19.69 |
| t               | 0.18      | 0.18      | 0.18 | 0.18 | 0.20 | 0.20 | 0.20  | 0.20  | 0.20  | 0.22  | 0.20  | 0.20  | 0.20  |
| s               | M8 x 0.63 | M8 x 0.39 | 0.47 | 0.47 | 0.55 | 0.55 | 0.55  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  |
| α               | 3.54      | 3.54      | 3.54 | 3.54 | 3.54 | 3.54 | 3.54  | 3.54  | 3.54  | 3.54  | 1.77  | 1.77  | 1.77  |
| α <sub>1</sub>  | 1.38      | 1.77      | 1.77 | 1.77 | 1.77 | 1.77 | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  |
| d               | 0.43      | 0.55      | 0.75 | 0.94 | 1.10 | 1.10 | 1.50  | 1.65  | 1.89  | 2.17  | 2.36  | 2.56  | 2.95  |
| f               | 0.16      | 0.20      | 0.24 | 0.31 | 0.31 | 0.31 | 0.39  | 0.47  | 0.55  | 0.63  | 0.71  | 0.71  | 0.79  |
| ga              | 0.50      | 0.64      | 0.86 | 1.07 | 1.23 | 1.23 | 1.63  | 1.78  | 2.04  | 2.33  | 2.54  | 2.73  | 3.15  |
| E <sup>1)</sup> | 0.98      | 1.26      | 1.69 | 1.87 | 2.48 | 3.94 | 3.37  | 4.39  | 4.39  | 4.51  | 5.51  | 5.75  | 5.75  |

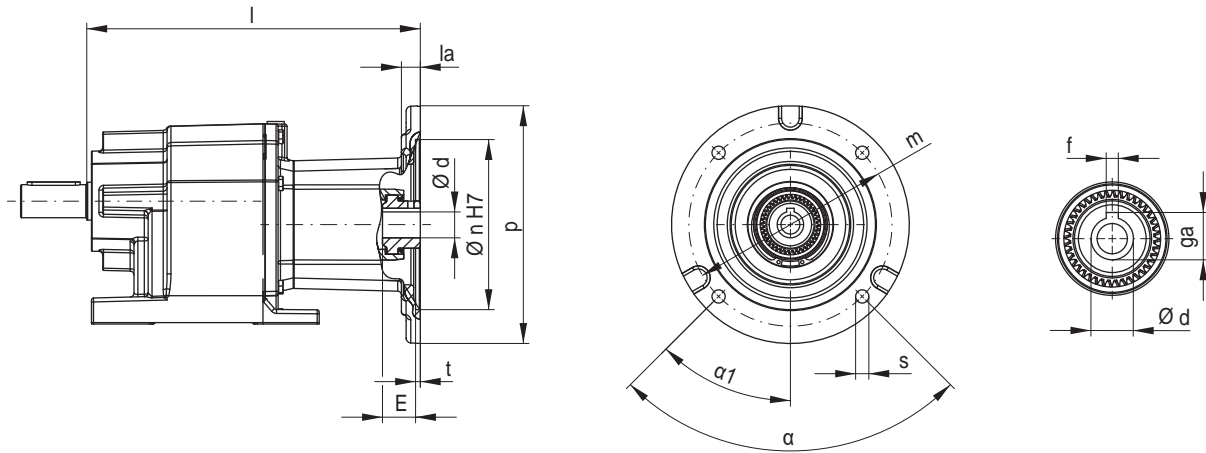
<sup>1)</sup> Maximum motor shaft length for motors with key

| Gear unit size | I63   | I71   | I80   | I90   | I100  | I112  | I132  | I160  | I180  | I200  | I225  | I250  | I280  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | l     |       |       |       |       |       |       |       |       |       |       |       |       |
| C00            | 5.93  | 5.93  | 7.03  | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| C01            | 6.42  | 6.42  | 7.52  | 7.52  | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| C03            | 7.50  | 7.50  | 8.60  | 8.60  | 9.82  | -     | -     | -     | -     | -     | -     | -     | -     |
| C05            | 8.90  | 8.90  | 10.00 | 10.00 | 11.22 | 13.31 | 13.74 | -     | -     | -     | -     | -     | -     |
| C06            | 9.49  | 9.49  | 10.59 | 10.59 | 11.81 | 13.90 | 14.33 | -     | -     | -     | -     | -     | -     |
| C07            | 9.94  | 9.94  | 11.04 | 11.04 | 12.26 | 14.35 | 14.78 | 18.17 | -     | -     | -     | -     | -     |
| C08            | 11.56 | 11.56 | 12.66 | 12.66 | 13.88 | 15.96 | 16.40 | 19.63 | 19.63 | -     | -     | -     | -     |
| C09            | 13.50 | 13.50 | 14.61 | 14.61 | 15.83 | 17.91 | 18.35 | 21.67 | 21.67 | 22.80 | -     | -     | -     |
| C10            | 14.92 | 14.92 | 16.02 | 16.02 | 17.24 | 19.33 | 19.76 | 23.09 | 23.09 | 24.21 | -     | -     | -     |
| C13            | -     | -     | -     | -     | -     | 21.48 | 21.91 | 25.14 | 25.14 | 26.26 | 27.44 | -     | -     |
| C14            | -     | -     | -     | -     | -     | 24.07 | 24.51 | 27.74 | 27.74 | 28.86 | 30.04 | 33.54 | -     |
| C16            | -     | -     | -     | -     | -     | -     | -     | 30.85 | 30.85 | 31.97 | 33.15 | 36.65 | 36.65 |

Dimensions in inch.



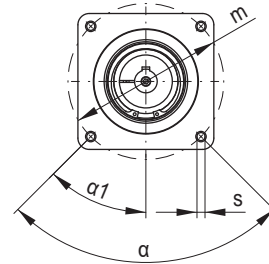
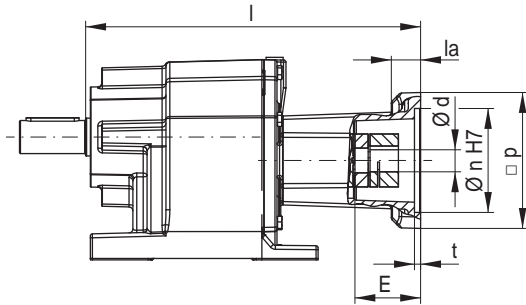
## NEMA Adapter N56 to N364



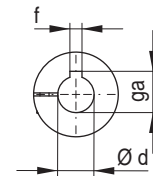
| Type           | N56  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | N364  |
|----------------|------|----------|------|------|----------|----------|----------|----------|-------|
| p              | 6.69 | 6.69     | 9.84 | 9.84 | 11.81    | 8.86     | 11.02    | 13.78    | 15.75 |
| n              | 4.50 | 4.50     | 8.50 | 8.50 | 8.50     | 8.50     | 10.50    | 12.50    | 12.50 |
| la             | 0.51 | 0.51     | 0.39 | 0.66 | 0.39     | 1.18     | 1.38     | 0.59     | 0.59  |
| m              | 5.88 | 5.88     | 7.25 | 7.25 | 7.25     | 7.25     | 9.00     | 11.00    | 11.00 |
| t              | 0.18 | 0.18     | 0.20 | 0.13 | 0.20     | 0.20     | 0.12     | 0.20     | 0.20  |
| s              | 0.43 | 0.43     | 0.55 | 0.55 | 0.55     | 0.55     | 0.55     | 0.75     | 0.75  |
| α              | 90°  | 90°      | 90°  | 90°  | 90°      | 90°      | 90°      | 90°      | 90°   |
| α <sub>1</sub> | 45°  | 45°      | 45°  | 45°  | 45°      | 45°      | 45°      | 45°      | 45°   |
| d              | 0.63 | 0.88     | 1.13 | 1.13 | 1.38     | 1.63     | 1.88     | 2.13     | 2.38  |
| f              | 0.19 | 0.19     | 0.25 | 0.25 | 0.31     | 0.38     | 0.50     | 0.50     | 0.63  |
| ga             | 0.71 | 0.96     | 1.24 | 1.24 | 1.52     | 1.80     | 2.10     | 2.35     | 2.65  |
| E              | 2.17 | 2.17     | 2.66 | 3.81 | 3.17     | 4.15     | 4.39     | 4.31     | 4.31  |

| Gear unit size | N56   | N143/145 | N182  | N184  | N213/215 | N254/256 | N284/286 | N324/326 | N364  |
|----------------|-------|----------|-------|-------|----------|----------|----------|----------|-------|
|                | l     |          |       |       |          |          |          |          |       |
| C00            | 7.03  | 7.03     | -     | -     | -        | -        | -        | -        | -     |
| C01            | 7.52  | 7.52     | -     | -     | -        | -        | -        | -        | -     |
| C03            | 8.60  | 8.60     | 9.82  | -     | -        | -        | -        | -        | -     |
| C05            | 10.00 | 10.00    | 11.22 | 13.31 | 13.74    | -        | -        | -        | -     |
| C06            | 10.59 | 10.59    | 11.81 | 13.90 | 14.33    | -        | -        | -        | -     |
| C07            | 11.04 | 11.04    | 12.26 | 14.35 | 14.78    | 18.17    | -        | -        | -     |
| C08            | 12.66 | 12.66    | 13.88 | 15.96 | 16.40    | 19.63    | 19.74    | -        | -     |
| C09            | 14.61 | 14.61    | 15.83 | 17.91 | 18.35    | 21.67    | 21.79    | 23.66    | -     |
| C10            | 16.02 | 16.02    | 17.24 | 19.33 | 19.76    | 23.09    | 23.21    | 25.08    | -     |
| C13            | -     | -        | -     | 21.48 | 21.91    | 25.14    | 25.26    | 27.13    | 27.74 |
| C14            | -     | -        | -     | 24.07 | 24.51    | 27.74    | 27.85    | 29.72    | 30.33 |
| C16            | -     | -        | -     | -     | -        | 30.85    | 30.96    | 33.44    | 33.44 |

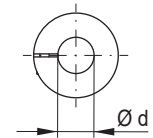
## SERVO Adapter S92 to S190



Shaft with key



Smooth shaft



| Type            | S92                | S105    | S114        | S115    | S130                      | S141    | S142        | S180 | S189        | S190 |
|-----------------|--------------------|---------|-------------|---------|---------------------------|---------|-------------|------|-------------|------|
| p               | 3.98               | 5.67    | 5.67        | 5.67    | 5.67                      | 5.67    | 5.67        | 7.76 | 7.76        | 7.76 |
| n               | 3.15               | 3.74    | 3.74        | 4.33    | 4.33                      | 4.33    | 5.12        | 4.50 | 5.12        | 7.09 |
| la              | 0.69               | 1.22    | 1.22        | 1.22    | 1.22                      | 1.22    | 1.22        | 1.38 | 1.26        | 1.50 |
| m               | 3.94               | 4.53    | 5.12        | 5.12    | 5.71                      | 6.50    | 6.50        | 7.87 | 8.46        | 8.46 |
| t               | 0.26               | 0.26    | 0.26        | 0.26    | 0.26                      | 0.26    | 0.26        | 0.26 | 0.26        | 0.26 |
| s               | M6x0.47            | M8x0.63 | M8x0.63     | M8x0.63 | M8x0.63                   | M8x0.63 | M8x16       | 0.53 | 0.59        | 0.59 |
| α               | 90°                | 90°     | 90°         | 90°     | 90°                       | 90°     | 90°         | 90°  | 90°         | 90°  |
| α <sub>1</sub>  | 45°                | 45°     | 45°         | 45°     | 45°                       | 45°     | 45°         | 45°  | 45°         | 45°  |
| d <sup>1)</sup> | 0.55   0.63   0.75 | 0.75    | 0.75   0.94 | 0.94    | 0.75   0.87   0.94   1.10 | 0.94    | 0.94   1.26 | 1.38 | 1.26   1.50 | 1.50 |
| f               | 0.20   0.20   0.24 | 0.24    | 0.24   0.31 | 0.31    | 0.24   0.24   0.31   0.31 | 0.31    | 0.31   0.39 | 0.39 | 0.39   0.39 | 0.39 |
| ga              | 0.64   0.72   0.86 | 0.86    | 0.86   1.07 | 1.07    | 0.86   0.98   1.07   1.23 | 1.07    | 1.07   1.39 | 1.51 | 1.39   1.39 | 1.63 |
| E <sup>2)</sup> | 1.87               | 2.74    | 2.74   2.11 | 2.11    | 2.97   2.97   2.46   2.46 | 2.62    | 2.46   2.46 | 2.58 | 2.89   2.34 | 3.41 |
| E <sup>3)</sup> | 1.87               | 2.74    | 2.74   2.62 | 2.62    | 2.97   2.97   2.97   2.46 | 2.11    | 2.97   2.46 | 3.41 | 2.89   2.34 | 3.41 |

<sup>1)</sup> Other shaft diameters on request

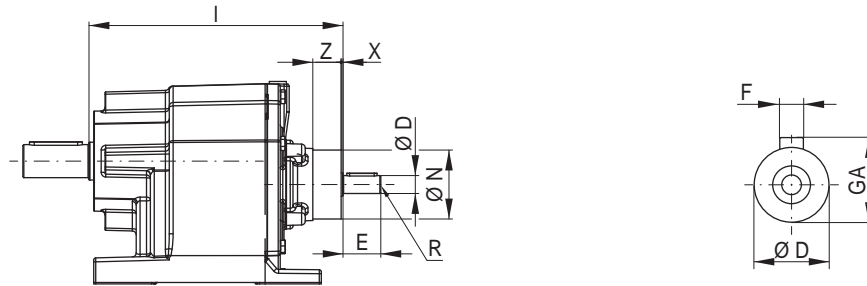
<sup>2)</sup> Maximum motor shaft length for motors with key

<sup>3)</sup> Maximum motor shaft length for motors with smooth shaft

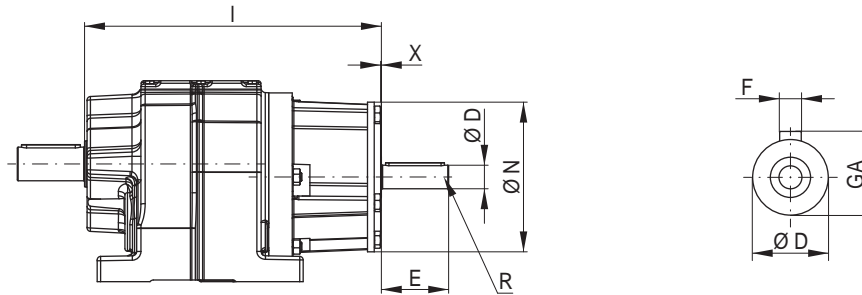
| Gear unit size | S92   | S105  | S114  | S115  | S130  | S141  | S142  | S180  | S189  | S190  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | l     |       |       |       |       |       |       |       |       |       |
| C00            | 8.50  | 10.39 | 10.39 | 10.39 | 10.39 | 10.39 | 10.39 | -     | -     | -     |
| C01            | 9.00  | 10.89 | 10.89 | 10.89 | 10.89 | 10.89 | 10.89 | -     | -     | -     |
| C03            | 10.08 | 11.97 | 11.97 | 11.97 | 11.97 | 11.97 | 11.97 | -     | -     | -     |
| C05            | 11.48 | 13.37 | 13.37 | 13.37 | 13.37 | 13.37 | 13.37 | 16.14 | 15.91 | 16.97 |
| C06            | 12.07 | 13.96 | 13.96 | 13.96 | 13.96 | 13.96 | 13.96 | 16.73 | 16.50 | 17.56 |
| C07            | 12.52 | 14.41 | 14.41 | 14.41 | 14.41 | 14.41 | 14.41 | 17.19 | 16.95 | 18.01 |
| C08            | 14.13 | 16.02 | 16.02 | 16.02 | 16.02 | 16.02 | 16.02 | 18.80 | 18.56 | 19.63 |
| C09            | 16.08 | 17.97 | 17.97 | 17.97 | 17.97 | 17.97 | 17.97 | 20.75 | 20.51 | 21.57 |
| C10            | 17.50 | 19.39 | 19.39 | 19.39 | 19.39 | 19.39 | 19.39 | 22.17 | 21.93 | 22.99 |
| C13            | -     | -     | -     | -     | -     | -     | -     | 24.31 | 24.07 | 25.14 |
| C14            | -     | -     | -     | -     | -     | -     | -     | 26.91 | 26.67 | 27.74 |
| C16            | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |

Dimensions in inch.

### Input Unit U, U3



### Input Unit U5, U6, U7



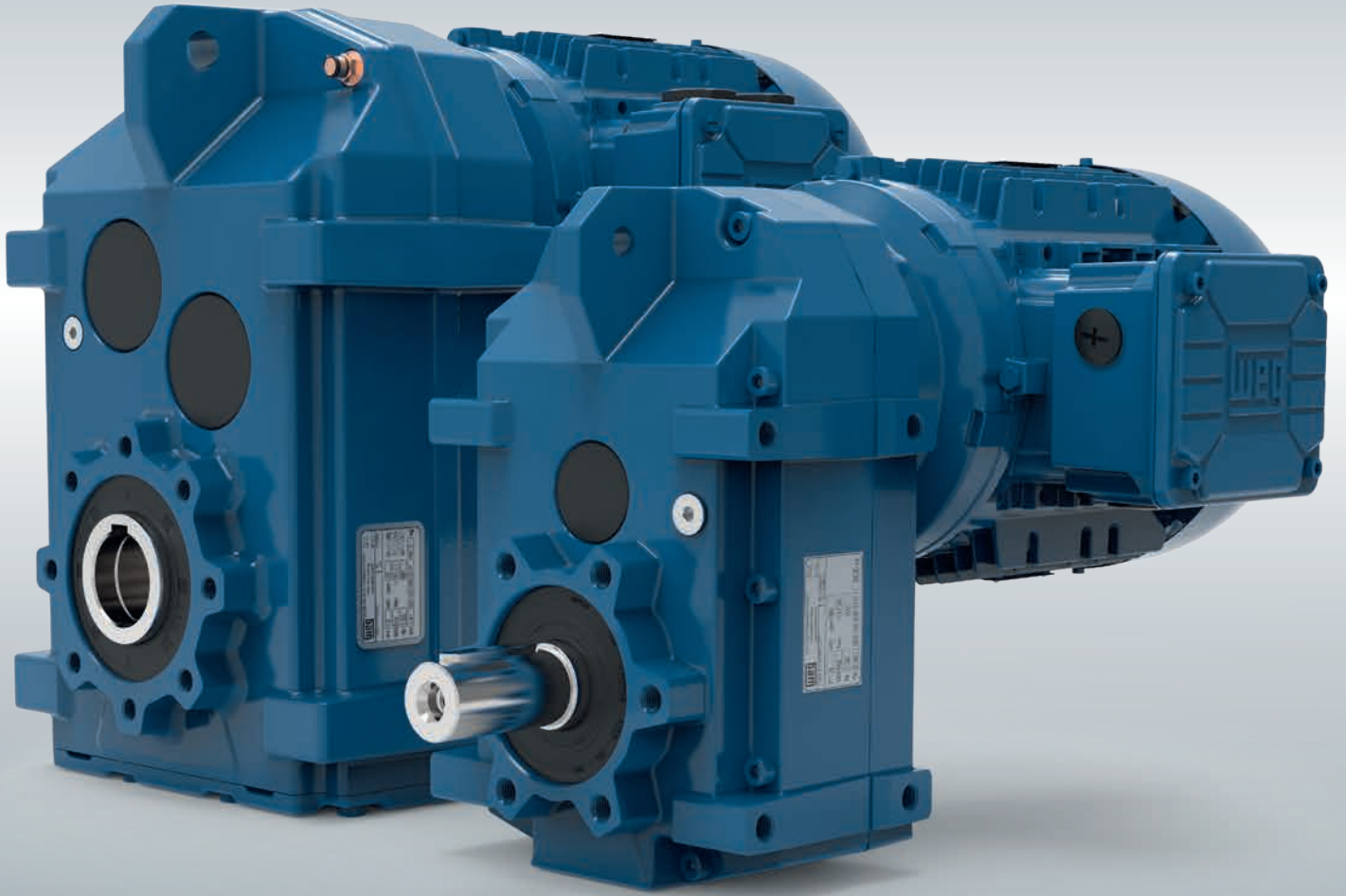
| Type | Input shaft |        |        |        |         |         |         |
|------|-------------|--------|--------|--------|---------|---------|---------|
|      | 19x40*      | 24x50* | 28x60* | 38x80* | 42x110* | 48x110* | 55x110* |
|      | U2          | U3     | U5     |        |         | U6      | U7      |
| D    | 0.75        | 0.94   | 1.10   | 1.50   | 1.65    | 1.89    | 2.17    |
| F    | 0.24        | 0.31   | 0.31   | 0.39   | 0.47    | 0.55    | 0.63    |
| GA   | 0.85        | 1.06   | 1.22   | 1.61   | 1.77    | 2.03    | 2.32    |
| E    | 1.57        | 1.97   | 2.36   | 3.15   | 4.33    | 4.33    | 4.33    |
| N    | 2.87        | 3.98   | 7.01   |        |         | 9.25    | 11.42   |
| X    | 0.08        | 0.10   | 0.07   |        |         | 0.26    | 0.16    |
| Z    | 0.12        | 1.38   | -      |        |         | -       | -       |
| R    | M6          | M10    | M10    | M12    | M16     | M16     | M20     |

| Tolerances     |                                |    |
|----------------|--------------------------------|----|
| Dimension name | ISO tolerance DIN EN ISO 286-2 |    |
| D              | < Ø 55 mm (2.165 in)           | k6 |
|                | ≥ Ø 55 mm (2.165 in)           | m6 |

| Gear unit size | Input shaft |        |                             |         |         |
|----------------|-------------|--------|-----------------------------|---------|---------|
|                | 19x40*      | 24x50* | 28x60*<br>38x80*<br>42x110* | 48x110* | 55x110* |
|                | U2          | U3     | U5                          | U6      | U7      |
|                | I           |        |                             |         |         |
| C00            | 7.03        | -      | -                           | -       | -       |
| C01            | 7.52        | -      | -                           | -       | -       |
| C03            | 8.60        | -      | -                           | -       | -       |
| C05            | 10.00       | 11.26  | -                           | -       | -       |
| C06            | 10.59       | 11.85  | -                           | -       | -       |
| C07            | 11.04       | 12.30  | 13.98                       | -       | -       |
| C08            | 12.66       | 13.92  | 15.43                       | -       | -       |
| C09            | 14.61       | 15.87  | 17.48                       | 18.35   | -       |
| C10            | 16.02       | 17.28  | 18.90                       | 19.76   | -       |
| C13            | -           | 19.43  | 20.94                       | 21.81   | 24.53   |
| C14            | -           | 22.03  | 23.54                       | 24.41   | 27.13   |
| C16            | -           | -      | 26.65                       | 27.52   | 30.24   |

\* Shaft sizes in mm.





## Parallel shaft geared motors F

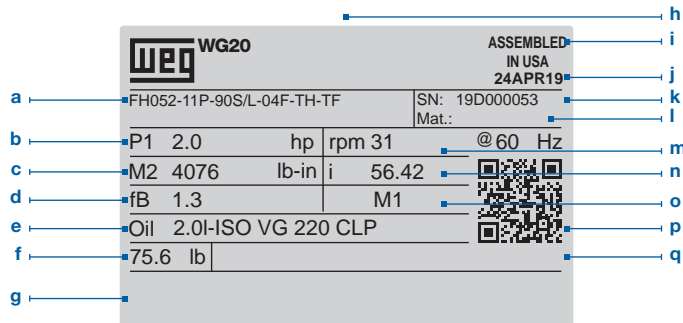


# Technical Data

| Size             |           | F02                                                                                                                                                                   | F03           | F04            | F05            | F06            | F07            | F08             | F09             | F10             | F12             | F15              |
|------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Power            | [hp]      | 0.16 - 2.0                                                                                                                                                            | 0.16 - 4.0    | 0.16 - 4.0     | 0.16 - 12.5    | 0.16 - 20      | 0.16 - 20      | 0.16 - 30       | 0.16 - 50       | 0.16 - 75       | 0.16 - 75       | 0.16 - 100       |
| Torque           | [lb-in]   | 1150                                                                                                                                                                  | 1950          | 3540           | 5310           | 7260           | 13280          | 26600           | 39800           | 70800           | 115000          | 159000           |
| Ratio            |           | 3.93<br>97.85                                                                                                                                                         | 3.85<br>70.17 | 4.26<br>422.98 | 4.98<br>487.67 | 4.41<br>412.64 | 4.29<br>385.37 | 4.09<br>3836.13 | 4.16<br>3086.96 | 4.38<br>2276.77 | 4.64<br>2307.03 | 5.84<br>24805.81 |
| Number of stages |           | 2                                                                                                                                                                     | 2             | 2/3            | 2/3            | 2/3            | 2/3            | 2/3/4           | 2/3/4           | 2/3/4           | 2/3/4           | 2/3/4/5          |
| Housing material |           | aluminium                                                                                                                                                             |               |                |                |                | cast iron      |                 |                 |                 |                 |                  |
| Solid shaft      | Type      | with key acc. to DIN 6885.1 and threaded hole acc. to DIN 332 sheet 2                                                                                                 |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Tolerance | < Ø 55 mm (2.165 in): k6 / ≥ Ø 55 mm (2.165 in): m6                                                                                                                   |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | standard: C45E (1.1191) / stainless steel on request                                                                                                                  |               |                |                |                |                |                 |                 |                 |                 |                  |
| Hollow shaft     | Type      | with key acc. to DIN 6885.1                                                                                                                                           |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Tolerance | H7                                                                                                                                                                    |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | standard: C45E (1.1191) / stainless steel on request                                                                                                                  |               |                |                |                |                |                 |                 |                 |                 |                  |
| Flanges          | Tolerance | centering ≤ 250 mm (9.842 in): j6 / > 250 mm (9.842 in): h6 acc. to DIN EN 50347                                                                                      |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | cast iron                                                                                                                                                             |               |                |                |                |                |                 |                 |                 |                 |                  |
| Gear wheels      | Type      | honed                                                                                                                                                                 |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | 16MnCr5 (1.7131) case hardened – minimum 58HRC                                                                                                                        |               |                |                |                |                |                 |                 |                 |                 |                  |
| Shaft seals      | Type      | type AS acc. to DIN 3760                                                                                                                                              |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Material  | standard NBR / special FKM                                                                                                                                            |               |                |                |                |                |                 |                 |                 |                 |                  |
| Bearing          |           | standard / reinforced                                                                                                                                                 |               |                |                |                |                |                 |                 |                 |                 |                  |
| Lubricants       | Type      | standard CLP 220 / special CLP HC 220                                                                                                                                 |               |                |                |                |                |                 |                 |                 |                 |                  |
|                  | Quantity  | depending on mounting position                                                                                                                                        |               |                |                |                |                |                 |                 |                 |                 |                  |
| Shaft height     |           | acc. to DIN 747:<br>≤ 50 mm (1.968 in): -0.4 mm (-0.016 in)<br>> 50 mm (1.968 in) to ≤ 250 mm (9.842 in): -0.5 mm (0.020 in)<br>> 250 mm (9.842 in): -1 mm (0.040 in) |               |                |                |                |                |                 |                 |                 |                 |                  |

## General information

### 1. Nameplate



|   |                                     |   |                                                 |
|---|-------------------------------------|---|-------------------------------------------------|
| a | Type code                           | j | Production date                                 |
| b | Motor power                         | k | Serial number                                   |
| c | Output torque                       | l | Material number                                 |
| d | Service factor                      | m | Output speed and Frequency                      |
| e | Type and quantity of lubricant      | n | Total gear ratio                                |
| f | Weight                              | o | Mounting position                               |
| g | Space for ATEX code (if applicable) | p | QR-Code linked online to additional information |
| h | Production company                  | q | Space for additional information                |
| i | Production country                  |   |                                                 |

## 2. Type code

FH073-EX-11P-90S/L-04F ...

1 2 3 4 5 6 7 8 9 10

FH073-EX-I112-HT

1 2 3 4 5 11 12


|           |                                 |                                                                                                                                                                                                                                                |                                                                                                                                                                                                             |
|-----------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>  | Type:                           | F = Parallel shaft gear unit                                                                                                                                                                                                                   |                                                                                                                                                                                                             |
| <b>2</b>  | Design:                         | D = Hollow shaft with shrink disc<br>E = Hollow shaft with EasyLock<br>F = B5 flange execution with output shaft<br>H = Hollow shaft<br>O = B5 flange execution with hollow shaft<br>P = B5 flange execution with hollow shaft and shrink disc | Q = B5 flange execution with EasyLock<br>S = Output shaft<br>T = Hollow shaft with rubber buffer<br>U = Hollow shaft with shrink disc and rubber buffer<br>V = Hollow shaft with rubber buffer and EasyLock |
| <b>3</b>  | Size:                           | 02                                                                                                                                                                                                                                             | 03    04    05    06    07    08    09    10    12    15                                                                                                                                                    |
| <b>4</b>  | Number of stages:               | 2 = 2 gear stages                                                                                                                                                                                                                              | 3 = 3 gear stages    4 = 4 gear stages    5 = 5 gear stages                                                                                                                                                 |
| <b>5</b>  | ATEX execution:                 | when operated in explosive atmospheres, see page 482                                                                                                                                                                                           |                                                                                                                                                                                                             |
| <b>6</b>  | Motor type:                     | 11N = Integral motor aluminium IE1<br>11P = Integral motor aluminium IE3                                                                                                                                                                       | 22P = Integral motor cast iron IE3                                                                                                                                                                          |
| <b>7</b>  | Motor frame size:               | 63    71    80    L80    90S/L    100L    L100L    112M    132S<br>L132M    160M    160L    180M    180L    200L    225S/M    250S/M                                                                                                           |                                                                                                                                                                                                             |
| <b>8</b>  | Number of poles:                | 04 = 4 poles                                                                                                                                                                                                                                   | 06 = 6 poles                                                                                                                                                                                                |
| <b>9</b>  | Power indicator:                | E    F    G                                                                                                                                                                                                                                    |                                                                                                                                                                                                             |
| <b>10</b> | Motor modules:                  | see from page 493                                                                                                                                                                                                                              |                                                                                                                                                                                                             |
| <b>11</b> | Adapters, Input unit:           | IEC Adapter                                                                                                                                                                                                                                    | I63    I71    I80    I90    I100    I112    I132<br>I160    I180    I200    I225    I250    I280                                                                                                            |
|           |                                 | NEMA Adapter                                                                                                                                                                                                                                   | N56    N143    N182    N184    N213<br>N254    N284    N324    N364                                                                                                                                         |
|           |                                 | SERVO Adapter                                                                                                                                                                                                                                  | S92    S105    S114    S115    S130<br>S141    S142    S180    S189    S190                                                                                                                                 |
|           |                                 | Input unit                                                                                                                                                                                                                                     | U2    U3    U5    U6    U7                                                                                                                                                                                  |
|           | Direct Mounting (IEC):          | IEC63    IEC71    IEC80    IEC90    IEC100    IEC112<br>IEC132    IEC160    IEC180    IEC200    IEC225    IEC250                                                                                                                               |                                                                                                                                                                                                             |
| <b>12</b> | High/Low temperature execution: | HT                                                                                                                                                                                                                                             | LT                                                                                                                                                                                                          |

Type code Motor see page 475


### 3. Range

| Size             | F02       | F03 | F04 | F05 | F06 | F07       | F08 | F09 | F10 | F12 | F15 |
|------------------|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----|
| Housing material | Aluminium |     |     |     |     | Cast iron |     |     |     |     |     |


### 4. Design




D




F




H




O




P




S




T




U



E



Q



V

| D                         | Hollow shaft with shrink disc                   |
|---------------------------|-------------------------------------------------|
| F                         | B5 flange execution with output shaft           |
| H                         | Hollow shaft                                    |
| O                         | B5 flange execution with hollow shaft           |
| P                         | B5 flange exec. with hollow s. and shrink disc  |
| S                         | Output shaft                                    |
| T                         | Hollow shaft with rubber buffer                 |
| U                         | Hollow shaft with shrink disc and rubber buffer |
| Executions using EasyLock |                                                 |
| E                         | Hollow shaft with EasyLock                      |
| Q                         | B5 flange execution with EasyLock               |
| V                         | Hollow shaft with rubber buffer and EasyLock    |

### 5. Venting the gear unit





The parallel shaft gear unit sizes F02 to F05 are neither equipped with a vent plug nor an oil drain plug. They are supplied with lifetime-lubrication.

By default, the parallel shaft gear units from F06 are equipped with vent plug with a safety strap for transportation (see illustration). The rubber strap (a) of the vent plug must be removed entirely before the initial startup. The vent plug is placed accordingly to the mounting position (see chapter Mounting positions, page 185)



### 6. Overhung and axial loads

The overhung loads ( $F_{rN}$ ) indicated in the respective selection tables apply to gear units with the force acting on the shaft center ( $x=l/2$ ). The permissible overhung loads listed are based on the least favorable loading direction and calculated for standard shafts and standard bearings. Other load directions and action can be calculated with equations Q1 and Q2. If transmission elements are placed on the output shaft, an appropriate factor ( $f_z$ ) has to be taken into consideration when determining the overhung load.

| Gear wheels                                                                         | Sprockets                                                                           |                        | V-belts                                                                              | Flat belts                                                                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |                        |  |  |
| $f_z=1.1$ ( $z \leq 17$ )                                                           | $f_z=1.2$ ( $z \leq 13$ )                                                           | $f_z=1.1$ ( $z > 13$ ) | $f_z=1.8$                                                                            | $f_z=2.5$                                                                             |



Use the following equations Q1 and Q2 to calculate the permissible radial loads on the output shaft. Q3 is to calculate the real existing shaft loads for your application. The results are to be compared by using the equation Q4.

**Q1**  $F_{zL} = F_{rN} \cdot a_1$

**Q2**  $F_{zW} = F_W \cdot a_2$

**Q3**  $F_{Qvorh} = \frac{0.6691062 \cdot T_2}{d_0} \cdot f_z$

**Q4**  $F_{Qvorh} \leq F_{zL}$   
 $F_{Qvorh} \leq F_{zW}$

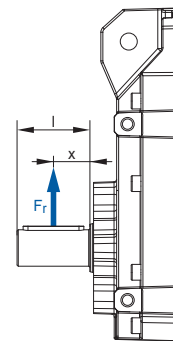
| Variable | Unit    | Description                                                                             |
|----------|---------|-----------------------------------------------------------------------------------------|
| a1       |         | Load action factor - output shaft bearing from table 1                                  |
| a2       |         | Load action factor - output shaft from table 1                                          |
| d0       | [in]    | Effective diameter of the transmission element                                          |
| T2       | [lb-in] | Geared motor output torque (from selection tables) or required calculated output torque |
| FzL      | [lb]    | Permissible overhung load for output shaft bearings                                     |
| FzW      | [lb]    | Permissible overhung load for output shaft                                              |
| FrN      | [lb]    | Permissible overhung load from selection tables                                         |
| FW       | [lb]    | Permissible overhung load - Output shaft x=l/2 from table 2                             |
| FQvorh   | [lb]    | Existing overhung load at gear shaft                                                    |
| fz       |         | Factor for transmission element                                                         |
| Tmax     | [lb-in] | Highest possible output torque for coupling operation (table 2)                         |

**F**

Always use both equations Q1 and Q2 for your calculations.

| x / l            |      |      |      |      |      |      |
|------------------|------|------|------|------|------|------|
| 0                | 0.25 | 0.5  | 0.75 | 1    | 1.5  | 2    |
| a1 → Equation Q1 |      |      |      |      |      |      |
| 1.39             | 1.18 | 1.00 | 0.85 | 0.73 | 0.52 | 0.38 |
| a2 → Equation Q2 |      |      |      |      |      |      |
| 2.00             | 2.00 | 1.00 | 0.55 | 0.38 | 0.23 | 0.17 |

Table 1: Load action factors a<sub>1</sub>, a<sub>2</sub>



Intermediate values can be interpolated linearly. Combined load ( $F_r \neq 0$ ;  $F_a = 0$ ) on request.

|                                                | T <sub>max</sub><br>at F <sub>r</sub> = 0 | Output torque T <sub>2</sub> [lb-in] |      |      |      |      |      |      |       |       |       |       |        |        |
|------------------------------------------------|-------------------------------------------|--------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|--------|--------|
|                                                |                                           | 440                                  | 890  | 1770 | 2660 | 3540 | 5310 | 7260 | 13700 | 26600 | 39800 | 70800 | 115000 | 159000 |
| F <sub>w</sub> [lb] at x/l = 0.5 → Equation Q2 |                                           |                                      |      |      |      |      |      |      |       |       |       |       |        |        |
| Ø 0.750x1.57                                   | 1220                                      | 650                                  | 490  |      |      |      |      |      |       |       |       |       |        |        |
| Ø 1.000x1.97                                   | 2820                                      | 1380                                 | 1350 | 1150 |      |      |      |      |       |       |       |       |        |        |
| Ø 1.250x2.36                                   | 5300                                      |                                      | 2020 | 1960 | 1800 | 1570 |      |      |       |       |       |       |        |        |
| Ø 1.375x2.76                                   | 7040                                      |                                      |      | 2470 | 2470 | 2250 | 1840 |      |       |       |       |       |        |        |
| Ø 1.625x3.15                                   | 11400                                     |                                      |      |      | 3370 | 3370 | 3150 | 2810 |       |       |       |       |        |        |
| Ø 2.000x3.94                                   | 20900                                     |                                      |      |      |      | 5620 | 5620 | 5620 | 4950  |       |       |       |        |        |
| Ø 2.125x3.94                                   | 24100                                     |                                      |      |      |      |      | 6070 | 6070 | 5400  |       |       |       |        |        |
| Ø 2.375x4.72                                   | 33600                                     |                                      |      |      |      |      |      | 7190 | 6740  | 5400  |       |       |        |        |
| Ø 2.875x5.51                                   | 58800                                     |                                      |      |      |      |      |      |      | 11470 | 10790 | 8090  |       |        |        |
| Ø 3.625x6.69                                   | 111000                                    |                                      |      |      |      |      |      |      |       | 17310 | 16860 | 15060 |        |        |
| Ø 4.375x8.27                                   | 189000                                    |                                      |      |      |      |      |      |      |       |       | 17760 | 16640 | 13490  |        |
| Ø 4.750x8.27                                   | 240000                                    |                                      |      |      |      |      |      |      |       |       |       | 29450 | 27880  | 25180  |

Table 2: Permissible overhung load - output shaft x = l/2

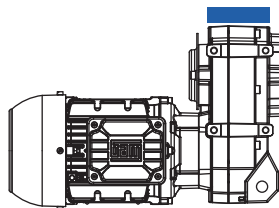
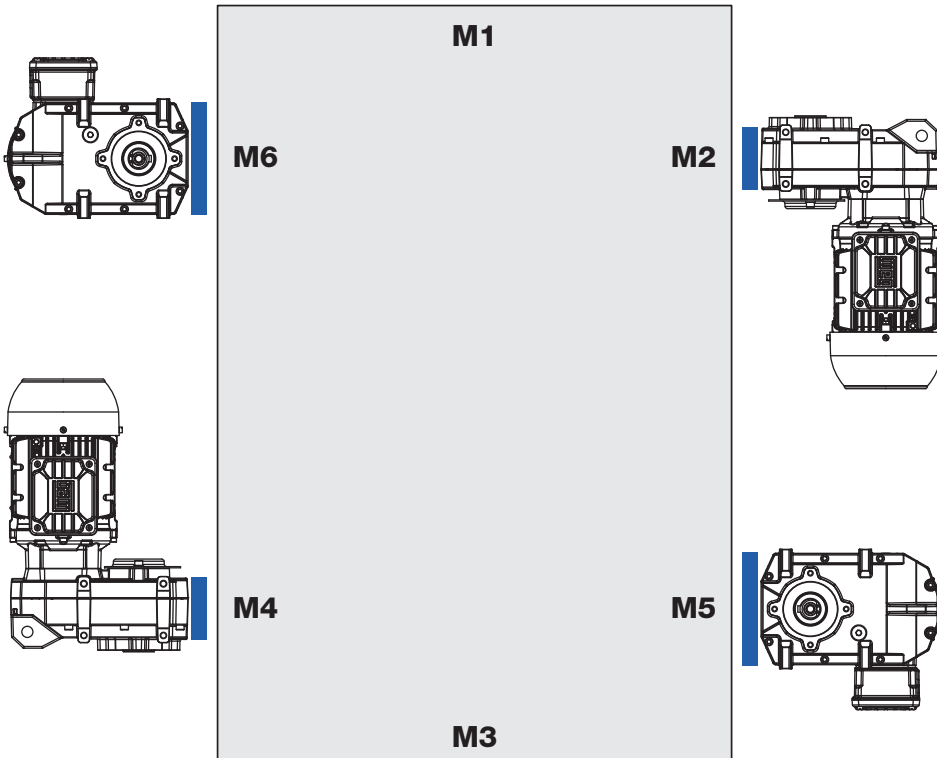
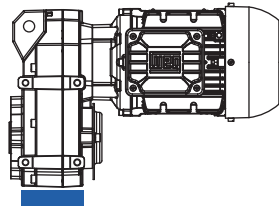
The axial loads (F<sub>aN</sub>) for the respective execution (output shaft or hollow shaft), given in the following selection tables, are valid at radial force F<sub>rN</sub> = 0. If there are axial loads or radial and axial components acting on the drive which are extraordinarily high, we recommend to contact the manufacturer.

## 7. Mounting positions, Position of the terminal box and Cable entry

### Mounting positions - Sizes F02 to F05

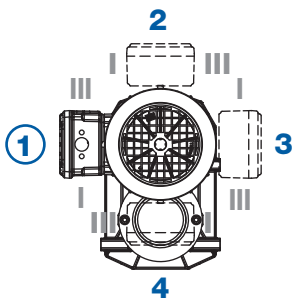
Gear units F02 to F05 are not vented and supplied with lifetime lubrication.

■ Reference area



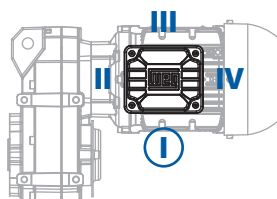
### Position of the terminal box

Standard: Position 1

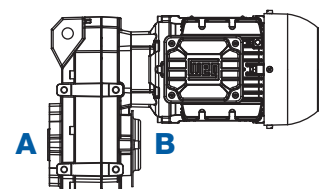


### Cable entry






Standard: Position I

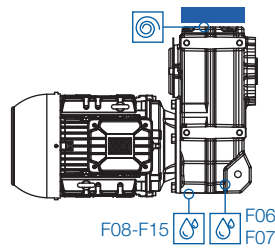
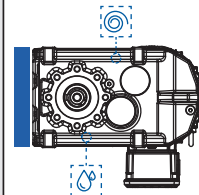
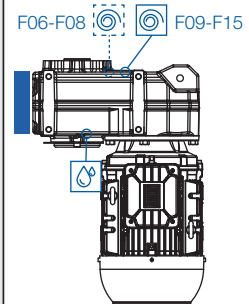
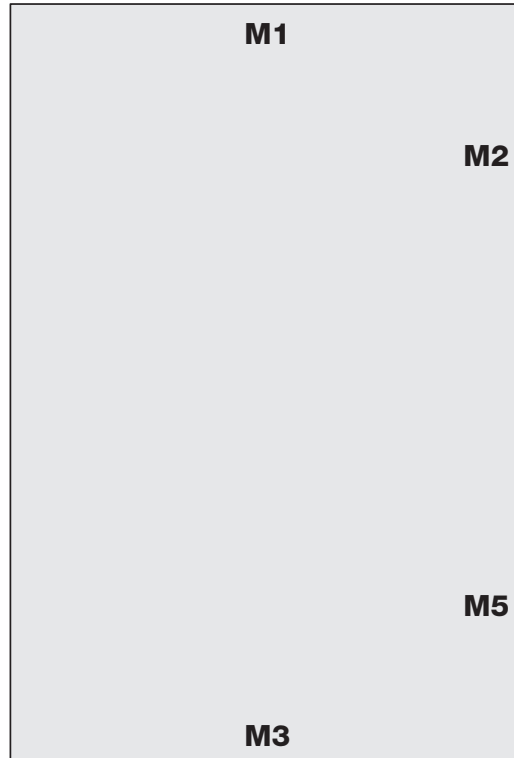
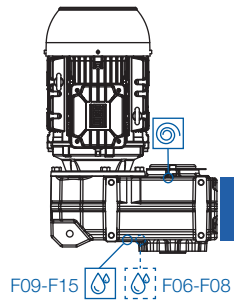
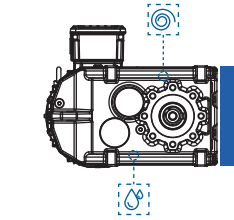
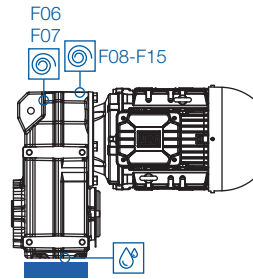


### Side indication



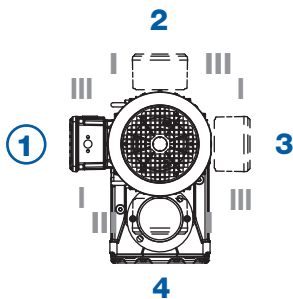
**Mounting positions - Sizes F06 to F15**

-  Vent plug
-  Oil drain plug
-  Position on this side
-  Position covered or on the opposite side
-  Reference area



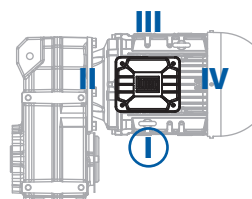
**Position of the terminal box**

Standard: Position 1

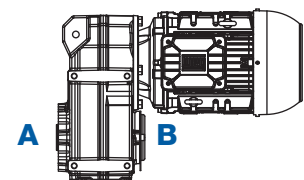


**Cable entry**

Standard: Position I



**Side indication**





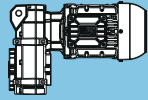
## Selection tables - Geared motors

The technical data of the geared motors shown in the selection tables apply to an ambient temperature of +68 °F.

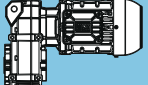
The selection tables are calculated with following motor data:

| Power (IEC frame size)    | Motor series (IE class) |
|---------------------------|-------------------------|
| up to 0.75 hp (63 - 80)   | 11N (IE1) - aluminium   |
| 1.0 - 12.5 hp (80 - 132)  | 11P (IE3) - aluminium   |
| 15.0 - 100 hp (160 - 250) | 22P (IE3) - cast iron   |

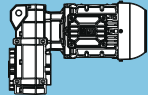
### Structure of the selection tables

| 1                        |                |                |   |                 |                 |                 |                 |    |                                                                                     |    |                          |
|--------------------------|----------------|----------------|---|-----------------|-----------------|-----------------|-----------------|----|-------------------------------------------------------------------------------------|----|--------------------------|
| P <sub>N</sub> = 0.16 hp |                |                |   |                 |                 |                 |                 |    |                                                                                     |    |                          |
| 60 Hz                    |                |                |   |                 | Output shaft    |                 | Hollow shaft    |    |  |    | Dimension sheet see page |
| n <sub>60</sub>          | T <sub>2</sub> | f <sub>B</sub> | i | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> | m  |                                                                                     |    |                          |
| rpm                      | lb-in          |                |   | lb              | lb              | lb              | lb              | lb |                                                                                     |    |                          |
| 2                        | 3              | 4              | 5 | 6               | 7               | 8               | 9               | 10 | 11                                                                                  | 12 |                          |

- 1 Rated power of the motor
- 2 Output speed at 60 Hz
- 3 Output torque
- 4 Service factor
- 5 Total ratio
- 6 Permissible radial load - Execution with output shaft at midpoint of the shaft (standard bearing) at axial load=0
- 7 Permissible axial load - Execution with output shaft (standard bearing) at axial load=0
- 8 Permissible radial load - Execution with hollow shaft at midpoint of x=l/2 (standard bearing) at axial load=0
- 9 Permissible axial load - Execution with hollow shaft (standard bearing) at axial load=0
- 10 Geared motor type
- 11 Weight
- 12 Dimension sheet see page

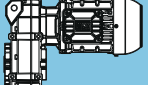
| <b>P<sub>N</sub> = 0.16 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |                         |      |     |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|-------------------------|------|-----|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |                         |      |     |
| <b>n<sub>50</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |                         |      |     |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |                         |      |     |
| <b>0.04</b>                    | 204249               | 0.80                 | 24805.81 | **                    | **                    | **                    | **                    | <b>FH155-11N-63-06F</b>                                                            | 1508           | 320                                |                         |      |     |
| <b>0.05</b>                    | 165750               | 1.00                 | 20285.13 | 16210                 | 25650                 | **                    | **                    |                                                                                    |                |                                    |                         |      |     |
| <b>0.06</b>                    | 139004               | 1.15                 | 17143.10 | 19040                 | 26240                 | 19040                 | 26240                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.07</b>                    | 129544               | 1.25                 | 16017.35 | 19850                 | 26440                 | 19850                 | 26440                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.08</b>                    | 112511               | 1.45                 | 14018.89 | 21090                 | 26800                 | 21090                 | 26800                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.09</b>                    | 98909                | 1.65                 | 12419.47 | 21920                 | 27090                 | 21920                 | 27090                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.10</b>                    | 87254                | 1.85                 | 11069.46 | 22530                 | 27340                 | 22530                 | 27340                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.11</b>                    | 79506                | 2.05                 | 10164.86 | 22860                 | 27520                 | 22860                 | 27520                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.13</b>                    | 66100                | 2.45                 | 8582.99  | 23380                 | 27810                 | 23380                 | 27810                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.14</b>                    | 59481                | 2.70                 | 7824.26  | 23600                 | 27940                 | 23600                 | 27940                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.07</b>                    | 130789               | 1.25                 | 24805.81 | 19830                 | 26420                 | 19830                 | 26420                 |                                                                                    |                |                                    | <b>FH155-11N-63-04E</b> | 1508 | 320 |
| <b>0.08</b>                    | 105589               | 1.55                 | 20285.13 | 21580                 | 26950                 | 21580                 | 26950                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.10</b>                    | 88093                | 1.85                 | 17143.10 | 22500                 | 27340                 | 22500                 | 27340                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.11</b>                    | 81885                | 1.95                 | 16017.35 | 22800                 | 27470                 | 22800                 | 27470                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.12</b>                    | 70749                | 2.30                 | 14018.89 | 23250                 | 27720                 | 23250                 | 27720                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.14</b>                    | 61870                | 2.60                 | 12419.47 | 23540                 | 27900                 | 23540                 | 27900                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.15</b>                    | 54292                | 2.95                 | 11069.46 | 23760                 | 28060                 | 23760                 | 28060                 |                                                                                    |                |                                    |                         |      |     |
| <b>0.36</b>                    | 25293                | 1.60                 | 3086.96  | 7940                  | 9240                  | 7940                  | 9240                  | <b>FH094-11N-63-06F</b>                                                            | 384            | 306                                |                         |      |     |
| <b>0.42</b>                    | 21164                | 1.90                 | 2609.75  | 8250                  | 9370                  | 8250                  | 9370                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.44</b>                    | 20429                | 1.95                 | 2524.38  | 8300                  | 9400                  | 8300                  | 9400                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.52</b>                    | 17058                | 2.35                 | 2134.14  | 8520                  | 9530                  | 8520                  | 9530                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.55</b>                    | 15834                | 2.55                 | 1993.28  | 8590                  | 9550                  | 8590                  | 9550                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.55</b>                    | 15986                | 2.50                 | 3086.96  | 8590                  | 9550                  | 8590                  | 9550                  | <b>FH094-11N-63-04E</b>                                                            | 384            | 306                                |                         |      |     |
| <b>0.65</b>                    | 13292                | 3.00                 | 2609.75  | 8700                  | 9670                  | 8700                  | 9670                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.29</b>                    | 32214                | 0.85                 | 3836.13  | 2160                  | 3010                  | **                    | **                    | <b>FH084-11N-63-06F</b>                                                            | 265            | 302                                |                         |      |     |
| <b>0.35</b>                    | 26182                | 1.05                 | 3137.02  | 4230                  | 7400                  | 4230                  | **                    |                                                                                    |                |                                    |                         |      |     |
| <b>0.36</b>                    | 25341                | 1.05                 | 3036.24  | 4430                  | 7820                  | 4430                  | **                    |                                                                                    |                |                                    |                         |      |     |
| <b>0.42</b>                    | 21991                | 1.25                 | 2651.12  | 5060                  | 9220                  | 5060                  | 1910                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.45</b>                    | 20554                | 1.30                 | 2482.91  | 5280                  | 9280                  | 5280                  | 1980                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.51</b>                    | 17836                | 1.50                 | 2167.97  | 5640                  | 9400                  | 5640                  | 2090                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.56</b>                    | 16030                | 1.70                 | 1960.53  | 5850                  | 9460                  | 5850                  | 2160                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.58</b>                    | 15672                | 1.70                 | 1920.62  | 5870                  | 9490                  | 5870                  | 2180                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.65</b>                    | 13882                | 1.95                 | 1711.85  | 6050                  | 9550                  | 6050                  | 2250                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.70</b>                    | 12669                | 2.10                 | 1571.96  | 6140                  | 9600                  | 6140                  | 2290                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.73</b>                    | 12226                | 2.20                 | 1520.15  | 6180                  | 9620                  | 6180                  | 2320                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.83</b>                    | 10544                | 2.55                 | 1327.33  | 6290                  | 9690                  | 6290                  | 2380                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.89</b>                    | 9822                 | 2.75                 | 1244.18  | 6340                  | 9710                  | 6340                  | 2410                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.91</b>                    | 9532                 | 2.80                 | 1209.99  | 6360                  | 9730                  | 6360                  | 2430                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.44</b>                    | 20702                | 1.30                 | 3836.13  | 5280                  | 9280                  | 5280                  | 1980                  | <b>FH084-11N-63-04E</b>                                                            | 265            | 302                                |                         |      |     |
| <b>0.54</b>                    | 16756                | 1.60                 | 3137.02  | 5780                  | 9440                  | 5780                  | 2140                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.56</b>                    | 16185                | 1.65                 | 3036.24  | 5850                  | 9460                  | 5850                  | 2160                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.64</b>                    | 14016                | 1.90                 | 2651.12  | 6050                  | 9550                  | 6050                  | 2250                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.68</b>                    | 13072                | 2.05                 | 2482.91  | 6110                  | 9600                  | 6110                  | 2290                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.78</b>                    | 11273                | 2.40                 | 2167.97  | 6250                  | 9670                  | 6250                  | 2360                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.86</b>                    | 10111                | 2.65                 | 1960.53  | 6320                  | 9710                  | 6320                  | 2410                  |                                                                                    |                |                                    |                         |      |     |
| <b>0.88</b>                    | 9884                 | 2.70                 | 1920.62  | 6340                  | 9710                  | 6340                  | 2410                  |                                                                                    |                |                                    |                         |      |     |
| <b>2.7</b>                     | 3788                 | 1.95                 | 412.64   | 2590                  | 3100                  | 2590                  | 880                   |                                                                                    |                |                                    | <b>FH063-11N-63-06F</b> | 79   | 296 |
| <b>2.9</b>                     | 3473                 | 2.10                 | 378.37   | 2610                  | 3120                  | 2610                  | 900                   |                                                                                    |                |                                    |                         |      |     |
| <b>3.3</b>                     | 3097                 | 2.35                 | 337.44   | 2650                  | 3170                  | 2650                  | 920                   |                                                                                    |                |                                    |                         |      |     |
| <b>3.6</b>                     | 2840                 | 2.60                 | 309.42   | 2680                  | 3190                  | 2680                  | 940                   |                                                                                    |                |                                    |                         |      |     |
| <b>4.1</b>                     | 2446                 | 3.00                 | 266.44   | 2720                  | 3210                  | 2720                  | 990                   |                                                                                    |                |                                    |                         |      |     |
| <b>4.1</b>                     | 2469                 | 2.95                 | 412.64   | 2720                  | 3210                  | 2720                  | 990                   | <b>FH063-11N-63-04E</b>                                                            | 79             | 296                                |                         |      |     |
| <b>2.3</b>                     | 4476                 | 1.20                 | 487.67   | 1600                  | 2340                  | 1600                  | 830                   | <b>FH053-11N-63-06F</b>                                                            | 44             | 294                                |                         |      |     |
| <b>2.5</b>                     | 4090                 | 1.30                 | 445.56   | 1710                  | 2360                  | 1710                  | 850                   |                                                                                    |                |                                    |                         |      |     |
| <b>2.9</b>                     | 3487                 | 1.55                 | 379.87   | 1870                  | 2430                  | 1870                  | 920                   |                                                                                    |                |                                    |                         |      |     |
| <b>3.2</b>                     | 3186                 | 1.70                 | 347.07   | 1910                  | 2430                  | 1910                  | 920                   |                                                                                    |                |                                    |                         |      |     |
| <b>3.6</b>                     | 2827                 | 1.90                 | 308.00   | 1980                  | 2470                  | 1980                  | 970                   |                                                                                    |                |                                    |                         |      |     |
| <b>3.9</b>                     | 2583                 | 2.05                 | 281.41   | 2020                  | 2500                  | 2020                  | 990                   |                                                                                    |                |                                    |                         |      |     |
| <b>4.6</b>                     | 2228                 | 2.40                 | 242.67   | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |                |                                    |                         |      |     |
| <b>5.0</b>                     | 2035                 | 2.60                 | 221.71   | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |                         |      |     |

**P<sub>N</sub> = 0.16 hp**

| 60 Hz           |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>an</sub> | F <sub>rn</sub> | F <sub>an</sub> |                                                                                     |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                     |         |                             |
| 3.5             | 2918           | 1.85           | 487.67 | 1960            | 2470            | 1960            | 970             | <b>FH053-11N-63-04E</b>                                                             | 44      | 294                         |
| 3.8             | 2666           | 2.00           | 445.56 | 2000            | 2470            | 2000            | 970             |                                                                                     |         |                             |
| 4.5             | 2273           | 2.35           | 379.87 | 2070            | 2520            | 2070            | 1010            |                                                                                     |         |                             |
| 4.9             | 2077           | 2.55           | 347.07 | 2090            | 2540            | 2090            | 1030            |                                                                                     |         |                             |
| 5.5             | 1843           | 2.90           | 308.00 | 2110            | 2540            | 2110            | 1030            |                                                                                     |         |                             |
| 2.6             | 3883           | 0.95           | 422.98 | 470             | 580             | **              | **              | <b>FH043-11N-63-06F</b>                                                             | 31      | 292                         |
| 2.9             | 3542           | 1.00           | 385.85 | 790             | 1240            | 790             | **              |                                                                                     |         |                             |
| 3.4             | 3024           | 1.20           | 329.48 | 1060            | 1820            | 1060            | 580             |                                                                                     |         |                             |
| 3.7             | 2759           | 1.30           | 300.55 | 1170            | 1890            | 1170            | 630             |                                                                                     |         |                             |
| 4.1             | 2452           | 1.45           | 267.14 | 1260            | 1910            | 1260            | 650             |                                                                                     |         |                             |
| 4.5             | 2237           | 1.60           | 243.69 | 1330            | 1930            | 1330            | 670             |                                                                                     |         |                             |
| 5.2             | 1932           | 1.85           | 210.48 | 1390            | 1960            | 1390            | 700             |                                                                                     |         |                             |
| 5.8             | 1762           | 2.05           | 192.00 | 1420            | 1980            | 1420            | 720             |                                                                                     |         |                             |
| 6.8             | 1489           | 2.40           | 162.19 | 1460            | 2000            | 1460            | 740             |                                                                                     |         |                             |
| 7.5             | 1358           | 2.65           | 147.96 | 1480            | 2000            | 1480            | 740             |                                                                                     |         |                             |
| 4.0             | 2531           | 1.40           | 422.98 | 1240            | 1910            | 1240            | 650             | <b>FH043-11N-63-04E</b>                                                             | 31      | 292                         |
| 4.4             | 2309           | 1.55           | 385.85 | 1300            | 1930            | 1300            | 670             |                                                                                     |         |                             |
| 5.1             | 1972           | 1.80           | 329.48 | 1390            | 1960            | 1390            | 700             |                                                                                     |         |                             |
| 5.6             | 1799           | 2.00           | 300.55 | 1420            | 1980            | 1420            | 720             |                                                                                     |         |                             |
| 6.3             | 1599           | 2.25           | 267.14 | 1460            | 1980            | 1460            | 720             |                                                                                     |         |                             |
| 7.0             | 1458           | 2.45           | 243.69 | 1480            | 2000            | 1480            | 740             |                                                                                     |         |                             |
| 8.1             | 1260           | 2.85           | 210.48 | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                             |
| 11              | 898            | 1.30           | 97.85  | 1100            | 470             | 1100            | 470             | <b>FH022-11N-63-06F</b>                                                             | 22      | 288                         |
| 13              | 809            | 1.45           | 88.09  | 1120            | 520             | 1120            | 520             |                                                                                     |         |                             |
| 14              | 700            | 1.65           | 76.22  | 1150            | 520             | 1150            | 520             |                                                                                     |         |                             |
| 16              | 630            | 1.85           | 68.62  | 1150            | 540             | 1150            | 540             |                                                                                     |         |                             |
| 18              | 567            | 2.05           | 61.80  | 1150            | 540             | 1150            | 540             |                                                                                     |         |                             |
| 20              | 511            | 2.30           | 55.64  | 1170            | 560             | 1170            | 560             |                                                                                     |         |                             |
| 23              | 447            | 2.60           | 48.69  | 1170            | 540             | 1170            | 540             |                                                                                     |         |                             |
| 25              | 402            | 2.90           | 43.83  | 1170            | 560             | 1170            | 560             |                                                                                     |         |                             |
| 35              | 292            | 1.65           | 31.79  | 1170            | 580             | 1170            | 580             |                                                                                     |         |                             |
| 17              | 586            | 2.00           | 97.85  | 1150            | 520             | 1150            | 520             |                                                                                     |         |                             |
| 19              | 527            | 2.20           | 88.09  | 1150            | 560             | 1150            | 560             |                                                                                     |         |                             |
| 22              | 456            | 2.55           | 76.22  | 1170            | 540             | 1170            | 540             |                                                                                     |         |                             |
| 25              | 411            | 2.85           | 68.62  | 1170            | 560             | 1170            | 560             |                                                                                     |         |                             |
| 27              | 370            | 3.15           | 61.80  | 1170            | 560             | 1170            | 560             |                                                                                     |         |                             |
| 30              | 333            | 3.50           | 55.64  | 1170            | 580             | 1170            | 580             |                                                                                     |         |                             |
| 35              | 291            | 3.95           | 48.69  | 1170            | 560             | 1170            | 560             |                                                                                     |         |                             |
| 39              | 262            | 4.40           | 43.83  | 1170            | 580             | 1170            | 580             |                                                                                     |         |                             |
| 45              | 225            | 5.15           | 37.52  | 1170            | 580             | 1170            | 580             |                                                                                     |         |                             |
| 50              | 202            | 5.70           | 33.78  | 1170            | 580             | 1170            | 580             |                                                                                     |         |                             |
| 53              | 190            | 2.50           | 31.79  | 1170            | 610             | 1170            | 610             |                                                                                     |         |                             |
| 58              | 175            | 6.60           | 29.32  | 1170            | 580             | 1170            | 580             |                                                                                     |         |                             |
| 64              | 158            | 7.30           | 26.39  | 1170            | 610             | 1170            | 610             |                                                                                     |         |                             |
| 68              | 148            | 5.05           | 24.76  | 1170            | 610             | 1170            | 610             |                                                                                     |         |                             |
| 77              | 131            | 8.80           | 21.89  | 1190            | 610             | 1190            | 610             |                                                                                     |         |                             |
| 84              | 120            | 6.20           | 20.08  | 1170            | 610             | 1170            | 610             |                                                                                     |         |                             |
| 86              | 118            | 9.80           | 19.70  | 1170            | 610             | 1170            | 610             |                                                                                     |         |                             |
| 103             | 99             | 11.70          | 16.48  | 1100            | 610             | 1100            | 610             |                                                                                     |         |                             |
| 107             | 95             | 7.90           | 15.82  | 1080            | 610             | 1080            | 610             |                                                                                     |         |                             |
| 114             | 89             | 13.00          | 14.84  | 1060            | 610             | 1060            | 610             |                                                                                     |         |                             |
| 139             | 73             | 10.20          | 12.19  | 990             | 610             | 990             | 610             |                                                                                     |         |                             |
| 140             | 72             | 15.95          | 12.09  | 990             | 610             | 990             | 610             |                                                                                     |         |                             |
| 156             | 65             | 17.70          | 10.89  | 940             | 610             | 940             | 610             |                                                                                     |         |                             |
| 178             | 57             | 13.10          | 9.52   | 900             | 610             | 900             | 610             |                                                                                     |         |                             |
| 238             | 43             | 17.50          | 7.11   | 830             | 610             | 830             | 610             |                                                                                     |         |                             |
| 317             | 32             | 23.25          | 5.35   | 740             | 610             | 740             | 610             |                                                                                     |         |                             |
| 431             | 24             | 27.10          | 3.93   | 670             | 610             | 670             | 610             |                                                                                     |         |                             |

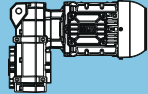
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\*\* ... on request

| <b>P<sub>N</sub> = 0.25 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.06</b>                    | 211732               | 0.80                 | 17143.10 | **                    | **                    | **                    | **                    | <b>FH155-11N-71-06E</b>                                                            | 1512           | 320                                |
| <b>0.07</b>                    | 197323               | 0.85                 | 16017.35 | 11240                 | 18250                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.08</b>                    | 172263               | 0.95                 | 14018.89 | 15470                 | 25540                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.09</b>                    | 151830               | 1.05                 | 12419.47 | 17890                 | 25970                 | 17890                 | **                    |                                                                                    |                |                                    |
| <b>0.10</b>                    | 134290               | 1.20                 | 11069.46 | 19510                 | 26350                 | 19510                 | 26350                 |                                                                                    |                |                                    |
| <b>0.11</b>                    | 123000               | 1.30                 | 10164.86 | 20410                 | 26590                 | 20410                 | 26590                 |                                                                                    |                |                                    |
| <b>0.13</b>                    | 102533               | 1.60                 | 8582.99  | 21740                 | 27020                 | 21740                 | 27020                 |                                                                                    |                |                                    |
| <b>0.14</b>                    | 92989                | 1.75                 | 7824.26  | 22260                 | 27220                 | 22260                 | 27220                 |                                                                                    |                |                                    |
| <b>0.16</b>                    | 82632                | 1.95                 | 7024.85  | 22750                 | 27450                 | 22750                 | 27450                 |                                                                                    |                |                                    |
| <b>0.19</b>                    | 68468                | 2.35                 | 5911.67  | 23310                 | 27760                 | 23310                 | 27760                 |                                                                                    |                |                                    |
| <b>0.20</b>                    | 61981                | 2.60                 | 5407.29  | 23540                 | 27900                 | 23540                 | 27900                 |                                                                                    |                |                                    |
| <b>0.23</b>                    | 54600                | 2.95                 | 4838.19  | 23760                 | 28060                 | 23760                 | 28060                 |                                                                                    |                |                                    |
| <b>0.07</b>                    | 199143               | 0.80                 | 24805.81 | **                    | **                    | **                    | **                    | <b>FH155-11N-63-04F</b>                                                            | 1508           | 320                                |
| <b>0.08</b>                    | 161606               | 1.00                 | 20285.13 | 16730                 | 25740                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.10</b>                    | 135529               | 1.20                 | 17143.10 | 19360                 | 26300                 | 19360                 | 26300                 |                                                                                    |                |                                    |
| <b>0.11</b>                    | 125981               | 1.30                 | 16017.35 | 20140                 | 26500                 | 20140                 | 26500                 |                                                                                    |                |                                    |
| <b>0.12</b>                    | 109417               | 1.50                 | 14018.89 | 21290                 | 26860                 | 21290                 | 26860                 |                                                                                    |                |                                    |
| <b>0.14</b>                    | 96189                | 1.70                 | 12419.47 | 22080                 | 27160                 | 22080                 | 27160                 |                                                                                    |                |                                    |
| <b>0.15</b>                    | 84854                | 1.90                 | 11069.46 | 22640                 | 27400                 | 22640                 | 27400                 |                                                                                    |                |                                    |
| <b>0.17</b>                    | 77319                | 2.10                 | 10164.86 | 22950                 | 27560                 | 22950                 | 27560                 |                                                                                    |                |                                    |
| <b>0.20</b>                    | 64281                | 2.50                 | 8582.99  | 23450                 | 27830                 | 23450                 | 27830                 |                                                                                    |                |                                    |
| <b>0.22</b>                    | 57843                | 2.80                 | 7824.26  | 23650                 | 27990                 | 23650                 | 27990                 |                                                                                    |                |                                    |
| <b>0.49</b>                    | 27016                | 2.65                 | 2276.77  | 13420                 | 14770                 | 13420                 | 14770                 | <b>FH104-11N-71-06E</b>                                                            | 619            | 310                                |
| <b>0.36</b>                    | 38647                | 1.05                 | 3086.96  | 6290                  | 8770                  | 6290                  | **                    | <b>FH094-11N-71-06E</b>                                                            | 388            | 306                                |
| <b>0.42</b>                    | 32472                | 1.25                 | 2609.75  | 7190                  | 8990                  | 7190                  | 8990                  |                                                                                    |                |                                    |
| <b>0.44</b>                    | 31346                | 1.30                 | 2524.38  | 7330                  | 9040                  | 7330                  | 9040                  |                                                                                    |                |                                    |
| <b>0.52</b>                    | 26283                | 1.55                 | 2134.14  | 7850                  | 9220                  | 7850                  | 9220                  |                                                                                    |                |                                    |
| <b>0.55</b>                    | 24447                | 1.65                 | 1993.28  | 8000                  | 9260                  | 8000                  | 9260                  |                                                                                    |                |                                    |
| <b>0.66</b>                    | 20456                | 1.95                 | 1685.14  | 8320                  | 9400                  | 8320                  | 9400                  |                                                                                    |                |                                    |
| <b>0.71</b>                    | 18646                | 2.15                 | 1545.54  | 8430                  | 9460                  | 8430                  | 9460                  |                                                                                    |                |                                    |
| <b>0.85</b>                    | 15536                | 2.60                 | 1306.62  | 8590                  | 9580                  | 8590                  | 9580                  |                                                                                    |                |                                    |
| <b>0.87</b>                    | 15010                | 2.70                 | 1264.97  | 8630                  | 9600                  | 8630                  | 9600                  |                                                                                    |                |                                    |
| <b>0.55</b>                    | 24610                | 1.65                 | 3086.96  | 7980                  | 9260                  | 7980                  | 9260                  |                                                                                    |                |                                    |
| <b>0.65</b>                    | 20592                | 1.95                 | 2609.75  | 8300                  | 9400                  | 8300                  | 9400                  |                                                                                    |                |                                    |
| <b>0.67</b>                    | 19877                | 2.05                 | 2524.38  | 8340                  | 9420                  | 8340                  | 9420                  |                                                                                    |                |                                    |
| <b>0.80</b>                    | 16597                | 2.40                 | 2134.14  | 8540                  | 9530                  | 8540                  | 9530                  |                                                                                    |                |                                    |
| <b>0.85</b>                    | 15406                | 2.60                 | 1993.28  | 8610                  | 9580                  | 8610                  | 9580                  |                                                                                    |                |                                    |
| <b>0.42</b>                    | 33463                | 0.80                 | 2651.12  | **                    | **                    | **                    | **                    | <b>FH084-11N-71-06E</b>                                                            | 269            | 302                                |
| <b>0.45</b>                    | 31276                | 0.85                 | 2482.91  | 2700                  | 4140                  | **                    | **                    |                                                                                    |                |                                    |
| <b>0.51</b>                    | 27197                | 1.00                 | 2167.97  | 4020                  | 6950                  | **                    | **                    |                                                                                    |                |                                    |
| <b>0.56</b>                    | 24494                | 1.10                 | 1960.53  | 4630                  | 8270                  | 4630                  | 1820                  |                                                                                    |                |                                    |
| <b>0.58</b>                    | 23996                | 1.15                 | 1920.62  | 4720                  | 8480                  | 4720                  | 1840                  |                                                                                    |                |                                    |
| <b>0.65</b>                    | 21256                | 1.25                 | 1711.85  | 5190                  | 9260                  | 5190                  | 1960                  |                                                                                    |                |                                    |
| <b>0.70</b>                    | 19439                | 1.40                 | 1571.96  | 5440                  | 9330                  | 5440                  | 2020                  |                                                                                    |                |                                    |
| <b>0.73</b>                    | 18799                | 1.45                 | 1520.15  | 5530                  | 9350                  | 5530                  | 2050                  |                                                                                    |                |                                    |
| <b>0.83</b>                    | 16280                | 1.65                 | 1327.33  | 5820                  | 9460                  | 5820                  | 2160                  |                                                                                    |                |                                    |
| <b>0.89</b>                    | 15197                | 1.75                 | 1244.18  | 5930                  | 9510                  | 5930                  | 2200                  |                                                                                    |                |                                    |
| <b>0.91</b>                    | 14749                | 1.85                 | 1209.99  | 5980                  | 9530                  | 5980                  | 2230                  |                                                                                    |                |                                    |
| <b>1.0</b>                     | 13160                | 2.05                 | 1086.37  | 6110                  | 9580                  | 6110                  | 2270                  |                                                                                    |                |                                    |
| <b>1.2</b>                     | 11482                | 2.35                 | 957.69   | 6230                  | 9640                  | 6230                  | 2340                  |                                                                                    |                |                                    |
| <b>1.3</b>                     | 9902                 | 2.70                 | 836.22   | 6340                  | 9710                  | 6340                  | 2410                  |                                                                                    |                |                                    |



**P<sub>N</sub> = 0.25 hp**

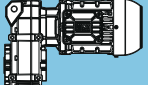
| 60 Hz           |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| <b>0.44</b>     | 31409          | 0.85           | 3836.13 | 2590            | 3890            | **              | **              | <b>FH084-11N-63-04F</b>                                                             | 265     | 302                            |
| <b>0.54</b>     | 25528          | 1.05           | 3137.02 | 4380            | 7730            | 4380            | **              |                                                                                     |         |                                |
| <b>0.56</b>     | 24657          | 1.10           | 3036.24 | 4560            | 8140            | 4560            | 1820            |                                                                                     |         |                                |
| <b>0.64</b>     | 21441          | 1.25           | 2651.12 | 5150            | 9240            | 5150            | 1930            |                                                                                     |         |                                |
| <b>0.68</b>     | 19999          | 1.35           | 2482.91 | 5350            | 9310            | 5350            | 2000            |                                                                                     |         |                                |
| <b>0.69</b>     | 19951          | 1.35           | 2477.02 | 5370            | 9310            | 5370            | 2000            |                                                                                     |         |                                |
| <b>0.78</b>     | 17355          | 1.55           | 2167.97 | 5690            | 9420            | 5690            | 2110            |                                                                                     |         |                                |
| <b>0.87</b>     | 15598          | 1.75           | 1960.53 | 5890            | 9490            | 5890            | 2180            |                                                                                     |         |                                |
| <b>0.89</b>     | 15249          | 1.75           | 1920.62 | 5910            | 9510            | 5910            | 2200            |                                                                                     |         |                                |
| <b>0.99</b>     | 13507          | 2.00           | 1711.85 | 6070            | 9580            | 6070            | 2270            |                                                                                     |         |                                |
| <b>1.1</b>      | 12327          | 2.20           | 1571.96 | 6160            | 9620            | 6160            | 2320            |                                                                                     |         |                                |
| <b>1.3</b>      | 10259          | 2.60           | 1327.33 | 6320            | 9710            | 6320            | 2410            |                                                                                     |         |                                |
| <b>1.4</b>      | 9556           | 2.80           | 1244.18 | 6360            | 9730            | 6360            | 2430            |                                                                                     |         |                                |
| <b>2.9</b>      | 5306           | 2.55           | 385.37  | 4430            | 3980            | 4430            | 1460            | <b>FH073-11N-71-06E</b>                                                             | 134     | 298                            |
| <b>2.7</b>      | 5682           | 1.30           | 412.64  | 2270            | 2940            | 2270            | 720             | <b>FH063-11N-71-06E</b>                                                             | 84      | 296                            |
| <b>2.9</b>      | 5210           | 1.40           | 378.37  | 2360            | 2990            | 2360            | 740             |                                                                                     |         |                                |
| <b>3.3</b>      | 4646           | 1.60           | 337.44  | 2450            | 3030            | 2450            | 810             |                                                                                     |         |                                |
| <b>3.6</b>      | 4260           | 1.75           | 309.42  | 2520            | 3060            | 2520            | 830             |                                                                                     |         |                                |
| <b>4.1</b>      | 3669           | 2.00           | 266.44  | 2590            | 3120            | 2590            | 880             |                                                                                     |         |                                |
| <b>4.5</b>      | 3364           | 2.20           | 244.32  | 2630            | 3150            | 2630            | 900             |                                                                                     |         |                                |
| <b>5.3</b>      | 2844           | 2.60           | 206.59  | 2680            | 3190            | 2680            | 940             |                                                                                     |         |                                |
| <b>5.8</b>      | 2608           | 2.80           | 189.44  | 2700            | 3210            | 2700            | 970             |                                                                                     |         |                                |
| <b>4.1</b>      | 3693           | 2.00           | 412.64  | 2590            | 3120            | 2590            | 880             | <b>FH063-11N-63-04F</b>                                                             | 79      | 296                            |
| <b>4.5</b>      | 3386           | 2.15           | 378.37  | 2630            | 3150            | 2630            | 900             |                                                                                     |         |                                |
| <b>5.0</b>      | 3020           | 2.45           | 337.44  | 2650            | 3170            | 2650            | 940             |                                                                                     |         |                                |
| <b>5.5</b>      | 2769           | 2.65           | 309.42  | 2680            | 3190            | 2680            | 940             |                                                                                     |         |                                |
| <b>2.3</b>      | 6715           | 0.80           | 487.67  | **              | **              | **              | **              | <b>FH053-11N-71-06E</b>                                                             | 49      | 294                            |
| <b>2.5</b>      | 6135           | 0.90           | 445.56  | 830             | 1170            | **              | **              |                                                                                     |         |                                |
| <b>2.9</b>      | 5230           | 1.05           | 379.87  | 1350            | 2270            | 1350            | **              |                                                                                     |         |                                |
| <b>3.2</b>      | 4779           | 1.15           | 347.07  | 1510            | 2320            | 1510            | 810             |                                                                                     |         |                                |
| <b>3.6</b>      | 4241           | 1.30           | 308.00  | 1690            | 2360            | 1690            | 850             |                                                                                     |         |                                |
| <b>3.9</b>      | 3875           | 1.40           | 281.41  | 1780            | 2380            | 1780            | 880             |                                                                                     |         |                                |
| <b>4.6</b>      | 3341           | 1.60           | 242.67  | 1890            | 2430            | 1890            | 920             |                                                                                     |         |                                |
| <b>5.0</b>      | 3053           | 1.75           | 221.71  | 1930            | 2450            | 1930            | 940             |                                                                                     |         |                                |
| <b>5.9</b>      | 2575           | 2.10           | 187.00  | 2020            | 2500            | 2020            | 990             |                                                                                     |         |                                |
| <b>6.5</b>      | 2352           | 2.25           | 170.85  | 2050            | 2520            | 2050            | 1010            |                                                                                     |         |                                |
| <b>7.6</b>      | 2012           | 2.65           | 146.10  | 2090            | 2540            | 2090            | 1030            |                                                                                     |         |                                |
| <b>8.3</b>      | 1838           | 2.90           | 133.49  | 2110            | 2540            | 2110            | 1030            |                                                                                     |         |                                |
| <b>3.5</b>      | 4364           | 1.25           | 487.67  | 1640            | 2340            | 1640            | 830             | <b>FH053-11N-63-04F</b>                                                             | 44      | 294                            |
| <b>3.8</b>      | 3988           | 1.35           | 445.56  | 1750            | 2380            | 1750            | 880             |                                                                                     |         |                                |
| <b>4.5</b>      | 3400           | 1.60           | 379.87  | 1870            | 2430            | 1870            | 920             |                                                                                     |         |                                |
| <b>4.9</b>      | 3106           | 1.75           | 347.07  | 1930            | 2450            | 1930            | 940             |                                                                                     |         |                                |
| <b>5.5</b>      | 2756           | 1.95           | 308.00  | 1980            | 2470            | 1980            | 970             |                                                                                     |         |                                |
| <b>6.0</b>      | 2519           | 2.10           | 281.41  | 2020            | 2500            | 2020            | 990             |                                                                                     |         |                                |
| <b>7.0</b>      | 2172           | 2.45           | 242.67  | 2070            | 2520            | 2070            | 1010            |                                                                                     |         |                                |
| <b>7.7</b>      | 1984           | 2.70           | 221.71  | 2090            | 2540            | 2090            | 1030            |                                                                                     |         |                                |
| <b>13</b>       | 1203           | 2.75           | 87.38   | 2160            | 2610            | 2160            | 1100            | <b>FH052-11N-71-06E</b>                                                             | 49      | 294                            |
| <b>14</b>       | 1099           | 2.75           | 79.84   | 2160            | 2610            | 2160            | 1100            |                                                                                     |         |                                |
| <b>23</b>       | 663            | 2.75           | 48.15   | 2180            | 2630            | 2180            | 1120            |                                                                                     |         |                                |

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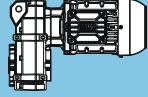
$P_N = 0.25 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$    | Output shaft |          | Hollow shaft |          |  | $m$<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|--------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|-----------|-----------------------------|
| $n_{50}$ | $T_2$ |       |        | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                    |           |                             |
| rpm      | lb-in |       |        | lb           | lb       | lb           | lb       |                                                                                    |           |                             |
| 3.4      | 4537  | 0.80  | 329.48 | **           | **       | **           | **       | FH043-11N-71-06E                                                                   | 35        | 292                         |
| 3.7      | 4138  | 0.90  | 300.55 | **           | **       | **           | **       |                                                                                    |           |                             |
| 4.1      | 3678  | 1.00  | 267.14 | 700          | 1060     | **           | **       |                                                                                    |           |                             |
| 4.5      | 3355  | 1.10  | 243.69 | 900          | 1480     | 900          | 560      |                                                                                    |           |                             |
| 5.2      | 2898  | 1.25  | 210.48 | 1120         | 1870     | 1120         | 610      |                                                                                    |           |                             |
| 5.8      | 2644  | 1.35  | 192.00 | 1210         | 1890     | 1210         | 630      |                                                                                    |           |                             |
| 6.8      | 2233  | 1.60  | 162.19 | 1330         | 1930     | 1330         | 670      |                                                                                    |           |                             |
| 7.5      | 2037  | 1.75  | 147.96 | 1370         | 1960     | 1370         | 700      |                                                                                    |           |                             |
| 8.7      | 1745  | 2.05  | 126.72 | 1440         | 1980     | 1440         | 720      |                                                                                    |           |                             |
| 9.6      | 1592  | 2.25  | 115.60 | 1460         | 1980     | 1460         | 720      |                                                                                    |           |                             |
| 12       | 1303  | 2.75  | 94.61  | 1510         | 2020     | 1510         | 760      |                                                                                    |           |                             |
| 13       | 1188  | 3.00  | 86.31  | 1510         | 2020     | 1510         | 760      |                                                                                    |           |                             |
| 4.0      | 3786  | 0.95  | 422.98 | 580          | 810      | **           | **       |                                                                                    |           |                             |
| 4.4      | 3453  | 1.05  | 385.85 | 830          | 1350     | 830          | **       |                                                                                    |           |                             |
| 5.2      | 2949  | 1.25  | 329.48 | 1100         | 1870     | 1100         | 610      |                                                                                    |           |                             |
| 5.7      | 2690  | 1.35  | 300.55 | 1190         | 1890     | 1190         | 630      |                                                                                    |           |                             |
| 6.4      | 2391  | 1.50  | 267.14 | 1280         | 1910     | 1280         | 650      |                                                                                    |           |                             |
| 7.0      | 2181  | 1.65  | 243.69 | 1330         | 1930     | 1330         | 670      |                                                                                    |           |                             |
| 8.1      | 1884  | 1.90  | 210.48 | 1390         | 1960     | 1390         | 700      |                                                                                    |           |                             |
| 8.9      | 1718  | 2.10  | 192.00 | 1440         | 1980     | 1440         | 720      |                                                                                    |           |                             |
| 10       | 1452  | 2.45  | 162.19 | 1480         | 2000     | 1480         | 740      |                                                                                    |           |                             |
| 11       | 1324  | 2.70  | 147.96 | 1510         | 2020     | 1510         | 760      |                                                                                    |           |                             |
| 15       | 1044  | 2.75  | 75.79  | 1530         | 2050     | 1530         | 790      | FH042-11N-71-06E                                                                   | 35        | 292                         |
| 16       | 952   | 2.75  | 69.14  | 1530         | 2050     | 1530         | 790      |                                                                                    |           |                             |
| 27       | 567   | 2.75  | 41.20  | 1570         | 2070     | 1570         | 810      |                                                                                    |           |                             |
| 16       | 966   | 2.05  | 70.17  | 1060         | 670      | 1060         | 670      | FH032-11N-71-06E                                                                   | 33        | 290                         |
| 17       | 876   | 2.25  | 63.63  | 1080         | 720      | 1080         | 720      |                                                                                    |           |                             |
| 19       | 786   | 2.50  | 57.07  | 1100         | 700      | 1100         | 700      |                                                                                    |           |                             |
| 21       | 713   | 2.75  | 51.75  | 1100         | 740      | 1100         | 740      |                                                                                    |           |                             |
| 40       | 381   | 2.80  | 27.67  | 1150         | 760      | 1150         | 760      |                                                                                    |           |                             |
| 11       | 1347  | 0.90  | 97.85  | 1010         | 400      | **           | **       | FH022-11N-71-06E                                                                   | 26        | 288                         |
| 13       | 1213  | 0.95  | 88.09  | 1030         | 470      | **           | **       |                                                                                    |           |                             |
| 14       | 1049  | 1.10  | 76.22  | 1080         | 450      | 1080         | 450      |                                                                                    |           |                             |
| 16       | 945   | 1.25  | 68.62  | 1100         | 520      | 1100         | 520      |                                                                                    |           |                             |
| 18       | 851   | 1.40  | 61.80  | 1120         | 490      | 1120         | 490      |                                                                                    |           |                             |
| 20       | 766   | 1.55  | 55.64  | 1120         | 540      | 1120         | 540      |                                                                                    |           |                             |
| 23       | 670   | 1.75  | 48.69  | 1150         | 520      | 1150         | 520      |                                                                                    |           |                             |
| 25       | 603   | 1.95  | 43.83  | 1150         | 540      | 1150         | 540      |                                                                                    |           |                             |
| 29       | 517   | 2.25  | 37.52  | 1150         | 540      | 1150         | 540      |                                                                                    |           |                             |
| 33       | 465   | 2.50  | 33.78  | 1170         | 560      | 1170         | 560      |                                                                                    |           |                             |
| 35       | 438   | 1.10  | 31.79  | 1170         | 560      | 1170         | 560      |                                                                                    |           |                             |
| 38       | 404   | 2.90  | 29.32  | 1170         | 560      | 1170         | 560      |                                                                                    |           |                             |
| 45       | 341   | 2.20  | 24.76  | 1170         | 580      | 1170         | 580      |                                                                                    |           |                             |
| 55       | 276   | 2.70  | 20.08  | 1170         | 580      | 1170         | 580      |                                                                                    |           |                             |

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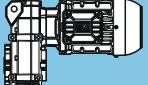
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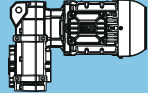
$P_N = 0.25 \text{ hp}$

| 60 Hz    |       |       | i     | Output shaft |          | Hollow shaft |          |  | m<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|-------|--------------|----------|--------------|----------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| $n_{60}$ | $T_2$ | $f_B$ |       | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                     |         |                             |
| rpm      | lb-in |       |       | lb           | lb       | lb           | lb       |                                                                                     |         |                             |
| 17       | 876   | 1.35  | 97.85 | 1100         | 470      | 1100         | 470      | FH022-11N-63-04F                                                                    | 22      | 288                         |
| 19       | 788   | 1.50  | 88.09 | 1120         | 520      | 1120         | 520      |                                                                                     |         |                             |
| 22       | 682   | 1.70  | 76.22 | 1150         | 520      | 1150         | 520      |                                                                                     |         |                             |
| 25       | 614   | 1.90  | 68.62 | 1150         | 540      | 1150         | 540      |                                                                                     |         |                             |
| 28       | 553   | 2.10  | 61.80 | 1150         | 540      | 1150         | 540      |                                                                                     |         |                             |
| 31       | 498   | 2.35  | 55.64 | 1170         | 560      | 1170         | 560      |                                                                                     |         |                             |
| 35       | 436   | 2.65  | 48.69 | 1170         | 540      | 1170         | 540      |                                                                                     |         |                             |
| 39       | 392   | 2.95  | 43.83 | 1170         | 560      | 1170         | 560      |                                                                                     |         |                             |
| 45       | 336   | 3.45  | 37.52 | 1170         | 560      | 1170         | 560      |                                                                                     |         |                             |
| 50       | 302   | 3.85  | 33.78 | 1170         | 580      | 1170         | 580      |                                                                                     |         |                             |
| 53       | 285   | 1.65  | 31.79 | 1170         | 580      | 1170         | 580      |                                                                                     |         |                             |
| 58       | 262   | 4.40  | 29.32 | 1170         | 580      | 1170         | 580      |                                                                                     |         |                             |
| 64       | 236   | 4.90  | 26.39 | 1170         | 580      | 1170         | 580      |                                                                                     |         |                             |
| 69       | 222   | 3.40  | 24.76 | 1170         | 580      | 1170         | 580      |                                                                                     |         |                             |
| 78       | 196   | 5.90  | 21.89 | 1170         | 580      | 1170         | 580      |                                                                                     |         |                             |
| 85       | 180   | 4.15  | 20.08 | 1170         | 610      | 1170         | 610      |                                                                                     |         |                             |
| 86       | 176   | 6.55  | 19.70 | 1170         | 610      | 1170         | 610      |                                                                                     |         |                             |
| 103      | 147   | 7.85  | 16.48 | 1100         | 580      | 1100         | 580      |                                                                                     |         |                             |
| 107      | 142   | 5.30  | 15.82 | 1080         | 610      | 1080         | 610      |                                                                                     |         |                             |
| 115      | 133   | 8.70  | 14.84 | 1060         | 610      | 1060         | 610      |                                                                                     |         |                             |
| 139      | 109   | 6.85  | 12.19 | 990          | 610      | 990          | 610      |                                                                                     |         |                             |
| 141      | 108   | 10.65 | 12.09 | 990          | 610      | 990          | 610      |                                                                                     |         |                             |
| 156      | 97    | 11.85 | 10.89 | 940          | 610      | 940          | 610      |                                                                                     |         |                             |
| 179      | 85    | 8.75  | 9.52  | 900          | 610      | 900          | 610      |                                                                                     |         |                             |
| 239      | 64    | 11.70 | 7.11  | 830          | 610      | 830          | 610      |                                                                                     |         |                             |
| 318      | 48    | 15.55 | 5.35  | 740          | 610      | 740          | 610      |                                                                                     |         |                             |
| 433      | 35    | 18.15 | 3.93  | 670          | 610      | 670          | 610      |                                                                                     |         |                             |

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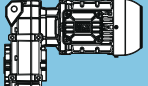
| <b>P<sub>N</sub> = 0.33 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.09</b>                    | 212084               | 0.80                 | 12419.47 | **                    | **                    | **                    | **                    | <b>FH155-11N-71-06F</b>                                                            | 1515           | 320                                |
| <b>0.10</b>                    | 188548               | 0.85                 | 11069.46 | 12990                 | 21940                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.11</b>                    | 172697               | 0.95                 | 10164.86 | 15440                 | 25520                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.13</b>                    | 144706               | 1.15                 | 8582.99  | 18610                 | 26120                 | 18610                 | 26120                 |                                                                                    |                |                                    |
| <b>0.14</b>                    | 131240               | 1.25                 | 7824.26  | 19780                 | 26420                 | 19780                 | 26420                 |                                                                                    |                |                                    |
| <b>0.16</b>                    | 116928               | 1.40                 | 7024.85  | 20840                 | 26730                 | 20840                 | 26730                 |                                                                                    |                |                                    |
| <b>0.19</b>                    | 97392                | 1.65                 | 5911.67  | 22030                 | 27130                 | 22030                 | 27130                 |                                                                                    |                |                                    |
| <b>0.21</b>                    | 88397                | 1.85                 | 5407.29  | 22480                 | 27340                 | 22480                 | 27340                 |                                                                                    |                |                                    |
| <b>0.23</b>                    | 78484                | 2.05                 | 4838.19  | 22930                 | 27540                 | 22930                 | 27540                 |                                                                                    |                |                                    |
| <b>0.27</b>                    | 65085                | 2.45                 | 4085.50  | 23450                 | 27830                 | 23450                 | 27830                 |                                                                                    |                |                                    |
| <b>0.10</b>                    | 190659               | 0.85                 | 17143.10 | 12390                 | 20660                 | **                    | **                    | <b>FH155-11N-71-04E</b>                                                            | 1510           | 320                                |
| <b>0.11</b>                    | 177684               | 0.90                 | 16017.35 | 14570                 | 25310                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.12</b>                    | 154721               | 1.05                 | 14018.89 | 17490                 | 25900                 | 17490                 | **                    |                                                                                    |                |                                    |
| <b>0.14</b>                    | 136368               | 1.20                 | 12419.47 | 19290                 | 26280                 | 19290                 | 26280                 |                                                                                    |                |                                    |
| <b>0.15</b>                    | 120613               | 1.35                 | 11069.46 | 20550                 | 26620                 | 20550                 | 26620                 |                                                                                    |                |                                    |
| <b>0.17</b>                    | 110189               | 1.45                 | 10164.86 | 21240                 | 26840                 | 21240                 | 26840                 |                                                                                    |                |                                    |
| <b>0.20</b>                    | 92089                | 1.75                 | 8582.99  | 22280                 | 27250                 | 22280                 | 27250                 |                                                                                    |                |                                    |
| <b>0.22</b>                    | 83302                | 1.95                 | 7824.26  | 22710                 | 27430                 | 22710                 | 27430                 |                                                                                    |                |                                    |
| <b>0.24</b>                    | 74023                | 2.20                 | 7024.85  | 23090                 | 27630                 | 23090                 | 27630                 |                                                                                    |                |                                    |
| <b>0.29</b>                    | 61174                | 2.65                 | 5911.67  | 23560                 | 27900                 | 23560                 | 27900                 |                                                                                    |                |                                    |
| <b>0.31</b>                    | 55233                | 2.90                 | 5407.29  | 23740                 | 28030                 | 23740                 | 28030                 |                                                                                    |                |                                    |
| <b>0.49</b>                    | 38371                | 1.85                 | 2276.77  | 12900                 | 14430                 | 12900                 | 14430                 | <b>FH104-11N-71-06F</b>                                                            | 622            | 310                                |
| <b>0.56</b>                    | 32966                | 2.15                 | 1976.36  | 13170                 | 14590                 | 13170                 | 14590                 |                                                                                    |                |                                    |
| <b>0.63</b>                    | 29018                | 2.45                 | 1757.78  | 13350                 | 14700                 | 13350                 | 14700                 |                                                                                    |                |                                    |
| <b>0.65</b>                    | 28131                | 2.55                 | 1707.58  | 13380                 | 14720                 | 13380                 | 14720                 |                                                                                    |                |                                    |
| <b>0.73</b>                    | 24826                | 2.90                 | 1525.85  | 13510                 | 14840                 | 13510                 | 14840                 |                                                                                    |                |                                    |
| <b>0.75</b>                    | 23936                | 3.00                 | 1474.19  | 13530                 | 14860                 | 13530                 | 14860                 |                                                                                    |                |                                    |
| <b>0.75</b>                    | 24137                | 2.95                 | 2276.77  | 13530                 | 14840                 | 13530                 | 14840                 | <b>FH104-11N-71-04E</b>                                                            | 617            | 310                                |
| <b>0.43</b>                    | 45359                | 0.90                 | 2609.75  | 4920                  | 8270                  | **                    | **                    | <b>FH094-11N-71-06F</b>                                                            | 390            | 306                                |
| <b>0.44</b>                    | 43875                | 0.95                 | 2524.38  | 5280                  | 8590                  | **                    | **                    |                                                                                    |                |                                    |
| <b>0.52</b>                    | 36866                | 1.10                 | 2134.14  | 6590                  | 8830                  | 6590                  | 8830                  |                                                                                    |                |                                    |
| <b>0.56</b>                    | 34362                | 1.20                 | 1993.28  | 6950                  | 8920                  | 6950                  | 8920                  |                                                                                    |                |                                    |
| <b>0.66</b>                    | 28812                | 1.40                 | 1685.14  | 7600                  | 9130                  | 7600                  | 9130                  |                                                                                    |                |                                    |
| <b>0.72</b>                    | 26317                | 1.55                 | 1545.54  | 7850                  | 9220                  | 7850                  | 9220                  |                                                                                    |                |                                    |
| <b>0.85</b>                    | 22021                | 1.85                 | 1306.62  | 8210                  | 9350                  | 8210                  | 9350                  |                                                                                    |                |                                    |
| <b>0.88</b>                    | 21275                | 1.90                 | 1264.97  | 8250                  | 9370                  | 8250                  | 9370                  |                                                                                    |                |                                    |
| <b>1.0</b>                     | 17765                | 2.25                 | 1069.42  | 8480                  | 9510                  | 8480                  | 9510                  |                                                                                    |                |                                    |
| <b>1.1</b>                     | 16041                | 2.50                 | 973.69   | 8570                  | 9550                  | 8570                  | 9550                  |                                                                                    |                |                                    |
| <b>1.3</b>                     | 13338                | 3.00                 | 823.17   | 8700                  | 9640                  | 8700                  | 9640                  |                                                                                    |                |                                    |
| <b>0.55</b>                    | 34747                | 1.15                 | 3086.96  | 6860                  | 8900                  | 6860                  | 8900                  | <b>FH094-11N-71-04E</b>                                                            | 386            | 306                                |
| <b>0.65</b>                    | 29195                | 1.40                 | 2609.75  | 7550                  | 9100                  | 7550                  | 9100                  |                                                                                    |                |                                    |
| <b>0.67</b>                    | 28182                | 1.45                 | 2524.38  | 7640                  | 9130                  | 7640                  | 9130                  |                                                                                    |                |                                    |
| <b>0.80</b>                    | 23582                | 1.70                 | 2134.14  | 8070                  | 9280                  | 8070                  | 9280                  |                                                                                    |                |                                    |
| <b>0.85</b>                    | 21935                | 1.85                 | 1993.28  | 8210                  | 9350                  | 8210                  | 9350                  |                                                                                    |                |                                    |
| <b>1.0</b>                     | 18353                | 2.20                 | 1685.14  | 8430                  | 9490                  | 8430                  | 9490                  |                                                                                    |                |                                    |
| <b>1.1</b>                     | 16694                | 2.40                 | 1545.54  | 8540                  | 9530                  | 8540                  | 9530                  |                                                                                    |                |                                    |
| <b>1.3</b>                     | 13881                | 2.90                 | 1306.62  | 8680                  | 9640                  | 8680                  | 9640                  |                                                                                    |                |                                    |

| <b>P<sub>N</sub> = 0.33 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                     |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                     |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                     |                |                                    |
| <b>0.57</b>                    | 34215                | 0.80                 | 1960.53  | **                    | **                    | **                    | **                    | <b>FH084-11N-71-06F</b>                                                             | 271            | 302                                |
| <b>0.58</b>                    | 33519                | 0.80                 | 1920.62  | **                    | **                    | **                    | **                    |                                                                                     |                |                                    |
| <b>0.65</b>                    | 29753                | 0.90                 | 1711.85  | 3300                  | 5420                  | **                    | **                    |                                                                                     |                |                                    |
| <b>0.71</b>                    | 27266                | 1.00                 | 1571.96  | 4020                  | 6950                  | **                    | **                    |                                                                                     |                |                                    |
| <b>0.73</b>                    | 26313                | 1.05                 | 1520.15  | 4250                  | 7440                  | 4250                  | **                    |                                                                                     |                |                                    |
| <b>0.84</b>                    | 22882                | 1.20                 | 1327.33  | 4920                  | 8920                  | 4920                  | 1890                  |                                                                                     |                |                                    |
| <b>0.89</b>                    | 21360                | 1.25                 | 1244.18  | 5170                  | 9260                  | 5170                  | 1960                  |                                                                                     |                |                                    |
| <b>0.92</b>                    | 20773                | 1.30                 | 1209.99  | 5260                  | 9280                  | 5260                  | 1980                  |                                                                                     |                |                                    |
| <b>1.0</b>                     | 18537                | 1.45                 | 1086.37  | 5580                  | 9370                  | 5580                  | 2070                  |                                                                                     |                |                                    |
| <b>1.2</b>                     | 16240                | 1.65                 | 957.69   | 5820                  | 9460                  | 5820                  | 2160                  |                                                                                     |                |                                    |
| <b>1.3</b>                     | 14064                | 1.90                 | 836.22   | 6050                  | 9550                  | 6050                  | 2250                  |                                                                                     |                |                                    |
| <b>1.5</b>                     | 12480                | 2.15                 | 748.21   | 6160                  | 9620                  | 6160                  | 2320                  |                                                                                     |                |                                    |
| <b>1.8</b>                     | 10387                | 2.60                 | 631.81   | 6320                  | 9690                  | 6320                  | 2380                  |                                                                                     |                |                                    |
| <b>1.9</b>                     | 9675                 | 2.75                 | 592.20   | 6340                  | 9730                  | 6340                  | 2430                  |                                                                                     |                |                                    |
| <b>0.56</b>                    | 34598                | 0.80                 | 3036.24  | **                    | **                    | **                    | **                    | <b>FH084-11N-71-04E</b>                                                             | 267            | 302                                |
| <b>0.64</b>                    | 30086                | 0.90                 | 2651.12  | 3120                  | 5040                  | **                    | **                    |                                                                                     |                |                                    |
| <b>0.68</b>                    | 28120                | 0.95                 | 2482.91  | 3750                  | 6360                  | **                    | **                    |                                                                                     |                |                                    |
| <b>0.69</b>                    | 28053                | 0.95                 | 2477.02  | 3750                  | 6360                  | **                    | **                    |                                                                                     |                |                                    |
| <b>0.78</b>                    | 24453                | 1.10                 | 2167.97  | 4610                  | 8230                  | 4610                  | 1820                  |                                                                                     |                |                                    |
| <b>0.87</b>                    | 22022                | 1.25                 | 1960.53  | 5060                  | 9220                  | 5060                  | 1910                  |                                                                                     |                |                                    |
| <b>0.89</b>                    | 21574                | 1.25                 | 1920.62  | 5130                  | 9240                  | 5130                  | 1930                  |                                                                                     |                |                                    |
| <b>0.99</b>                    | 19111                | 1.40                 | 1711.85  | 5490                  | 9350                  | 5490                  | 2050                  |                                                                                     |                |                                    |
| <b>1.1</b>                     | 17477                | 1.55                 | 1571.96  | 5690                  | 9420                  | 5690                  | 2110                  |                                                                                     |                |                                    |
| <b>1.3</b>                     | 14606                | 1.85                 | 1327.33  | 5980                  | 9530                  | 5980                  | 2230                  |                                                                                     |                |                                    |
| <b>1.4</b>                     | 13635                | 1.95                 | 1244.18  | 6070                  | 9550                  | 6070                  | 2250                  |                                                                                     |                |                                    |
| <b>1.6</b>                     | 11783                | 2.30                 | 1086.37  | 6200                  | 9640                  | 6200                  | 2340                  |                                                                                     |                |                                    |
| <b>1.8</b>                     | 10280                | 2.60                 | 957.69   | 6320                  | 9690                  | 6320                  | 2380                  |                                                                                     |                |                                    |
| <b>1.9</b>                     | 9773                 | 2.75                 | 914.22   | 6340                  | 9710                  | 6340                  | 2410                  |                                                                                     |                |                                    |
| <b>2.9</b>                     | 7336                 | 1.85                 | 385.37   | 4270                  | 3890                  | 4270                  | 1350                  | <b>FH074-11N-71-06F</b>                                                             | 137            | 298                                |
| <b>3.6</b>                     | 5814                 | 2.30                 | 305.42   | 4410                  | 3960                  | 4410                  | 1440                  |                                                                                     |                |                                    |
| <b>4.7</b>                     | 4515                 | 2.95                 | 237.15   | 4470                  | 4020                  | 4470                  | 1510                  |                                                                                     |                |                                    |
| <b>4.4</b>                     | 4790                 | 2.80                 | 385.37   | 4470                  | 4020                  | 4470                  | 1480                  | <b>FH073-11N-71-04E</b>                                                             | 132            | 298                                |
| <b>2.7</b>                     | 7855                 | 0.95                 | 412.64   | 1640                  | 2610                  | **                    | **                    | <b>FH063-11N-71-06F</b>                                                             | 86             | 296                                |
| <b>2.9</b>                     | 7203                 | 1.05                 | 378.37   | 1870                  | 2810                  | 1870                  | **                    |                                                                                     |                |                                    |
| <b>3.3</b>                     | 6424                 | 1.15                 | 337.44   | 2090                  | 2880                  | 2090                  | 650                   |                                                                                     |                |                                    |
| <b>3.6</b>                     | 5890                 | 1.25                 | 309.42   | 2230                  | 2920                  | 2230                  | 700                   |                                                                                     |                |                                    |
| <b>4.2</b>                     | 5072                 | 1.45                 | 266.44   | 2380                  | 2990                  | 2380                  | 760                   |                                                                                     |                |                                    |
| <b>4.5</b>                     | 4651                 | 1.60                 | 244.32   | 2450                  | 3030                  | 2450                  | 790                   |                                                                                     |                |                                    |
| <b>5.4</b>                     | 3933                 | 1.85                 | 206.59   | 2560                  | 3100                  | 2560                  | 850                   |                                                                                     |                |                                    |
| <b>5.9</b>                     | 3606                 | 2.05                 | 189.44   | 2610                  | 3120                  | 2610                  | 880                   |                                                                                     |                |                                    |
| <b>6.6</b>                     | 3219                 | 2.30                 | 169.09   | 2650                  | 3150                  | 2650                  | 920                   |                                                                                     |                |                                    |
| <b>7.2</b>                     | 2952                 | 2.50                 | 155.05   | 2680                  | 3170                  | 2680                  | 940                   |                                                                                     |                |                                    |
| <b>8.5</b>                     | 2478                 | 2.95                 | 130.15   | 2720                  | 3210                  | 2720                  | 990                   |                                                                                     |                |                                    |
| <b>4.1</b>                     | 5129                 | 1.45                 | 412.64   | 2380                  | 2990                  | 2380                  | 760                   | <b>FH063-11N-71-04E</b>                                                             | 82             | 296                                |
| <b>4.5</b>                     | 4703                 | 1.55                 | 378.37   | 2450                  | 3030                  | 2450                  | 790                   |                                                                                     |                |                                    |
| <b>5.0</b>                     | 4194                 | 1.75                 | 337.44   | 2520                  | 3080                  | 2520                  | 830                   |                                                                                     |                |                                    |
| <b>5.5</b>                     | 3846                 | 1.90                 | 309.42   | 2560                  | 3100                  | 2560                  | 850                   |                                                                                     |                |                                    |
| <b>6.4</b>                     | 3312                 | 2.20                 | 266.44   | 2630                  | 3150                  | 2630                  | 900                   |                                                                                     |                |                                    |
| <b>7.0</b>                     | 3037                 | 2.40                 | 244.32   | 2650                  | 3170                  | 2650                  | 920                   |                                                                                     |                |                                    |
| <b>8.2</b>                     | 2568                 | 2.85                 | 206.59   | 2700                  | 3210                  | 2700                  | 970                   |                                                                                     |                |                                    |

Legend see page 187

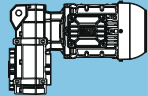
\*\* ... on request

$P_N = 0.33 \text{ hp}$

| 60 Hz    |       | $f_B$ | i      | Output shaft |          | Hollow shaft |          |  | m<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|--------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|---------|-----------------------------|
| $n_{50}$ | $T_2$ |       |        | $F_{rN}$     | $F_{sN}$ | $F_{rN}$     | $F_{sN}$ |                                                                                    |         |                             |
| rpm      | lb-in |       |        | lb           | lb       | lb           | lb       |                                                                                    |         |                             |
| 3.2      | 6607  | 0.80  | 347.07 | **           | **       | **           | **       | FH053-11N-71-06F                                                                   | 51      | 294                         |
| 3.6      | 5863  | 0.95  | 308.00 | 1010         | 1550     | **           | **       |                                                                                    |         |                             |
| 3.9      | 5357  | 1.00  | 281.41 | 1280         | 2140     | **           | **       |                                                                                    |         |                             |
| 4.6      | 4620  | 1.15  | 242.67 | 1570         | 2340     | 1570         | 830      |                                                                                    |         |                             |
| 5.0      | 4221  | 1.30  | 221.71 | 1690         | 2360     | 1690         | 850      |                                                                                    |         |                             |
| 5.9      | 3560  | 1.50  | 187.00 | 1840         | 2410     | 1840         | 900      |                                                                                    |         |                             |
| 6.5      | 3252  | 1.65  | 170.85 | 1910         | 2430     | 1910         | 920      |                                                                                    |         |                             |
| 7.6      | 2781  | 1.95  | 146.10 | 1980         | 2470     | 1980         | 970      |                                                                                    |         |                             |
| 8.3      | 2541  | 2.10  | 133.49 | 2020         | 2500     | 2020         | 990      |                                                                                    |         |                             |
| 10       | 2077  | 2.60  | 109.08 | 2090         | 2540     | 2090         | 1030     |                                                                                    |         |                             |
| 11       | 1897  | 2.80  | 99.66  | 2090         | 2540     | 2090         | 1030     |                                                                                    |         |                             |
| 3.5      | 6062  | 0.90  | 487.67 | 850          | 1210     | **           | **       | FH053-11N-71-04E                                                                   | 46      | 294                         |
| 3.8      | 5538  | 1.00  | 445.56 | 1190         | 1930     | **           | **       |                                                                                    |         |                             |
| 4.5      | 4722  | 1.15  | 379.87 | 1530         | 2320     | 1530         | 810      |                                                                                    |         |                             |
| 4.9      | 4314  | 1.25  | 347.07 | 1660         | 2340     | 1660         | 830      |                                                                                    |         |                             |
| 5.5      | 3828  | 1.40  | 308.00 | 1780         | 2380     | 1780         | 880      |                                                                                    |         |                             |
| 6.0      | 3498  | 1.55  | 281.41 | 1870         | 2410     | 1870         | 900      |                                                                                    |         |                             |
| 7.0      | 3016  | 1.80  | 242.67 | 1960         | 2450     | 1960         | 940      |                                                                                    |         |                             |
| 7.7      | 2756  | 1.95  | 221.71 | 1980         | 2470     | 1980         | 970      |                                                                                    |         |                             |
| 9.1      | 2324  | 2.30  | 187.00 | 2050         | 2520     | 2050         | 1010     |                                                                                    |         |                             |
| 10       | 2124  | 2.50  | 170.85 | 2070         | 2520     | 2070         | 1010     |                                                                                    |         |                             |
| 12       | 1816  | 2.95  | 146.10 | 2110         | 2560     | 2110         | 1060     |                                                                                    |         |                             |
| 13       | 1663  | 2.00  | 87.38  | 2110         | 2560     | 2110         | 1060     | FH052-11N-71-06F                                                                   | 51      | 294                         |
| 14       | 1520  | 2.00  | 79.84  | 2140         | 2590     | 2140         | 1080     |                                                                                    |         |                             |
| 23       | 917   | 2.00  | 48.15  | 2180         | 2590     | 2180         | 1080     |                                                                                    |         |                             |
| 4.6      | 4639  | 0.80  | 243.69 | **           | **       | **           | **       | FH043-11N-71-06F                                                                   | 37      | 292                         |
| 5.3      | 4007  | 0.90  | 210.48 | 340          | 290      | **           | **       |                                                                                    |         |                             |
| 5.8      | 3655  | 1.00  | 192.00 | 720          | 1100     | **           | **       |                                                                                    |         |                             |
| 6.8      | 3088  | 1.15  | 162.19 | 1030         | 1780     | 1030         | 580      |                                                                                    |         |                             |
| 7.5      | 2817  | 1.30  | 147.96 | 1150         | 1870     | 1150         | 610      |                                                                                    |         |                             |
| 8.8      | 2412  | 1.50  | 126.72 | 1280         | 1910     | 1280         | 650      |                                                                                    |         |                             |
| 9.6      | 2201  | 1.65  | 115.60 | 1330         | 1930     | 1330         | 670      |                                                                                    |         |                             |
| 12       | 1801  | 2.00  | 94.61  | 1420         | 1980     | 1420         | 720      |                                                                                    |         |                             |
| 13       | 1643  | 2.20  | 86.31  | 1440         | 1980     | 1440         | 720      |                                                                                    |         |                             |
| 16       | 1356  | 2.65  | 71.24  | 1480         | 2000     | 1480         | 740      |                                                                                    |         |                             |
| 17       | 1237  | 2.90  | 64.98  | 1510         | 2020     | 1510         | 760      |                                                                                    |         |                             |
| 5.2      | 4095  | 0.90  | 329.48 | **           | **       | **           | **       | FH043-11N-71-04E                                                                   | 33      | 292                         |
| 5.7      | 3736  | 0.95  | 300.55 | 630          | 920      | **           | **       |                                                                                    |         |                             |
| 6.4      | 3321  | 1.10  | 267.14 | 920          | 1530     | 920          | 560      |                                                                                    |         |                             |
| 7.0      | 3029  | 1.20  | 243.69 | 1060         | 1840     | 1060         | 610      |                                                                                    |         |                             |
| 8.1      | 2616  | 1.40  | 210.48 | 1210         | 1890     | 1210         | 630      |                                                                                    |         |                             |
| 8.9      | 2387  | 1.50  | 192.00 | 1280         | 1910     | 1280         | 650      |                                                                                    |         |                             |
| 10       | 2016  | 1.80  | 162.19 | 1370         | 1960     | 1370         | 700      |                                                                                    |         |                             |
| 11       | 1839  | 1.95  | 147.96 | 1420         | 1960     | 1420         | 700      |                                                                                    |         |                             |
| 13       | 1575  | 2.25  | 126.72 | 1460         | 1980     | 1460         | 720      |                                                                                    |         |                             |
| 15       | 1437  | 2.50  | 115.60 | 1480         | 2000     | 1480         | 740      |                                                                                    |         |                             |
| 15       | 1443  | 2.00  | 75.79  | 1480         | 2000     | 1480         | 740      |                                                                                    |         |                             |
| 16       | 1316  | 2.00  | 69.14  | 1510         | 2020     | 1510         | 760      | FH042-11N-71-06F                                                                   | 37      | 292                         |
| 27       | 784   | 2.00  | 41.20  | 1550         | 2020     | 1550         | 760      |                                                                                    |         |                             |
| 16       | 1336  | 1.50  | 70.17  | 990          | 610      | 990          | 610      |                                                                                    |         |                             |
| 17       | 1211  | 1.65  | 63.63  | 1010         | 670      | 1010         | 670      | FH032-11N-71-06F                                                                   | 35      | 290                         |
| 19       | 1086  | 1.80  | 57.07  | 1030         | 650      | 1030         | 650      |                                                                                    |         |                             |
| 21       | 985   | 2.00  | 51.75  | 1060         | 700      | 1060         | 700      |                                                                                    |         |                             |
| 24       | 863   | 2.30  | 45.35  | 1080         | 670      | 1080         | 670      |                                                                                    |         |                             |
| 27       | 783   | 2.50  | 41.12  | 1100         | 720      | 1100         | 720      |                                                                                    |         |                             |
| 32       | 667   | 2.95  | 35.03  | 1120         | 720      | 1120         | 720      |                                                                                    |         |                             |
| 40       | 527   | 2.00  | 27.67  | 1120         | 740      | 1120         | 740      |                                                                                    |         |                             |
| 24       | 872   | 2.25  | 70.17  | 1080         | 670      | 1080         | 670      |                                                                                    |         |                             |
| 27       | 791   | 2.50  | 63.63  | 1100         | 720      | 1100         | 720      | FH032-11N-71-04E                                                                   | 31      | 290                         |
| 30       | 709   | 2.75  | 57.07  | 1100         | 700      | 1100         | 700      |                                                                                    |         |                             |

F

**P<sub>N</sub> = 0.33 hp**

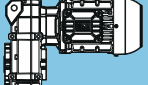
| 60 Hz           |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |                  |    |     |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|------------------|----|-----|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |                  |    |     |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                                |                  |    |     |
| 15              | 1451           | 0.80           | 76.22 | **              | **              | **              | **              | FH022-11N-71-06F                                                                    | 29      | 288                            |                  |    |     |
| 16              | 1306           | 0.90           | 68.62 | 1010            | 470             | **              | **              |                                                                                     |         |                                |                  |    |     |
| 18              | 1176           | 1.00           | 61.80 | 1060            | 430             | **              | **              |                                                                                     |         |                                |                  |    |     |
| 20              | 1059           | 1.10           | 55.64 | 1080            | 490             | 1080            | 490             |                                                                                     |         |                                |                  |    |     |
| 23              | 927            | 1.25           | 48.69 | 1100            | 470             | 1100            | 470             |                                                                                     |         |                                |                  |    |     |
| 25              | 834            | 1.40           | 43.83 | 1120            | 520             | 1120            | 520             |                                                                                     |         |                                |                  |    |     |
| 30              | 714            | 1.65           | 37.52 | 1120            | 520             | 1120            | 520             |                                                                                     |         |                                |                  |    |     |
| 33              | 643            | 1.80           | 33.78 | 1150            | 540             | 1150            | 540             |                                                                                     |         |                                |                  |    |     |
| 35              | 605            | 0.80           | 31.79 | **              | **              | **              | **              |                                                                                     |         |                                |                  |    |     |
| 38              | 558            | 2.10           | 29.32 | 1150            | 540             | 1150            | 540             |                                                                                     |         |                                |                  |    |     |
| 42              | 502            | 2.30           | 26.39 | 1170            | 560             | 1170            | 560             |                                                                                     |         |                                |                  |    |     |
| 45              | 471            | 1.60           | 24.76 | 1170            | 560             | 1170            | 560             |                                                                                     |         |                                |                  |    |     |
| 51              | 417            | 2.80           | 21.89 | 1170            | 560             | 1170            | 560             |                                                                                     |         |                                |                  |    |     |
| 55              | 382            | 1.95           | 20.08 | 1170            | 580             | 1170            | 580             |                                                                                     |         |                                |                  |    |     |
| 70              | 301            | 2.50           | 15.82 | 1170            | 580             | 1170            | 580             |                                                                                     |         |                                |                  |    |     |
| 17              | 1216           | 0.95           | 97.85 | 1030            | 430             | **              | **              |                                                                                     |         |                                | FH022-11N-71-04E | 24 | 288 |
| 19              | 1095           | 1.10           | 88.09 | 1060            | 490             | 1060            | **              |                                                                                     |         |                                |                  |    |     |
| 22              | 947            | 1.25           | 76.22 | 1100            | 470             | 1100            | 470             |                                                                                     |         |                                |                  |    |     |
| 25              | 853            | 1.35           | 68.62 | 1120            | 520             | 1120            | 520             |                                                                                     |         |                                |                  |    |     |
| 28              | 768            | 1.50           | 61.80 | 1120            | 490             | 1120            | 490             |                                                                                     |         |                                |                  |    |     |
| 31              | 692            | 1.70           | 55.64 | 1150            | 540             | 1150            | 540             |                                                                                     |         |                                |                  |    |     |
| 35              | 605            | 1.95           | 48.69 | 1150            | 520             | 1150            | 520             |                                                                                     |         |                                |                  |    |     |
| 39              | 545            | 2.15           | 43.83 | 1150            | 560             | 1150            | 560             |                                                                                     |         |                                |                  |    |     |
| 45              | 466            | 2.50           | 37.52 | 1170            | 540             | 1170            | 540             |                                                                                     |         |                                |                  |    |     |
| 50              | 420            | 2.75           | 33.78 | 1170            | 560             | 1170            | 560             |                                                                                     |         |                                |                  |    |     |
| 53              | 395            | 1.20           | 31.79 | 1170            | 560             | 1170            | 560             |                                                                                     |         |                                |                  |    |     |
| 58              | 364            | 3.20           | 29.32 | 1170            | 560             | 1170            | 560             |                                                                                     |         |                                |                  |    |     |
| 64              | 328            | 3.55           | 26.39 | 1170            | 580             | 1170            | 580             |                                                                                     |         |                                |                  |    |     |
| 69              | 308            | 2.45           | 24.76 | 1170            | 580             | 1170            | 580             |                                                                                     |         |                                |                  |    |     |
| 78              | 272            | 4.25           | 21.89 | 1170            | 580             | 1170            | 580             |                                                                                     |         |                                |                  |    |     |
| 85              | 250            | 3.00           | 20.08 | 1170            | 580             | 1170            | 580             |                                                                                     |         |                                |                  |    |     |
| 86              | 245            | 4.70           | 19.70 | 1170            | 580             | 1170            | 580             |                                                                                     |         |                                |                  |    |     |
| 103             | 205            | 5.65           | 16.48 | 1120            | 580             | 1120            | 580             |                                                                                     |         |                                |                  |    |     |
| 107             | 197            | 3.80           | 15.82 | 1100            | 610             | 1100            | 610             |                                                                                     |         |                                |                  |    |     |
| 115             | 184            | 6.25           | 14.84 | 1080            | 610             | 1080            | 610             |                                                                                     |         |                                |                  |    |     |
| 139             | 152            | 4.95           | 12.19 | 990             | 610             | 990             | 610             |                                                                                     |         |                                |                  |    |     |
| 141             | 150            | 7.70           | 12.09 | 990             | 580             | 990             | 580             |                                                                                     |         |                                |                  |    |     |
| 156             | 135            | 8.55           | 10.89 | 970             | 610             | 970             | 610             |                                                                                     |         |                                |                  |    |     |
| 179             | 118            | 6.30           | 9.52  | 920             | 610             | 920             | 610             |                                                                                     |         |                                |                  |    |     |
| 239             | 88             | 8.45           | 7.11  | 830             | 610             | 830             | 610             |                                                                                     |         |                                |                  |    |     |
| 318             | 67             | 11.20          | 5.35  | 740             | 610             | 740             | 610             |                                                                                     |         |                                |                  |    |     |
| 433             | 49             | 13.05          | 3.93  | 670             | 610             | 670             | 610             |                                                                                     |         |                                |                  |    |     |

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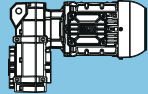
| P <sub>N</sub> = 0.50 hp |                |                |          |                 |                 |                 |                 |                                                                                    |         |                             |
|--------------------------|----------------|----------------|----------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                    |                |                | i        | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub>          | T <sub>2</sub> | f <sub>B</sub> |          | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                      | lb-in          |                |          | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 0.14                     | 193751         | 0.85           | 7824.26  | 12180           | 20230           | **              | **              | FH155-11N-80-06E                                                                   | 1519    | 320                         |
| 0.16                     | 173511         | 0.95           | 7024.85  | 15420           | 25520           | **              | **              |                                                                                    |         |                             |
| 0.19                     | 144899         | 1.10           | 5911.67  | 18640           | 26120           | 18640           | 26120           |                                                                                    |         |                             |
| 0.21                     | 131859         | 1.25           | 5407.29  | 19780           | 26420           | 19780           | 26420           |                                                                                    |         |                             |
| 0.23                     | 117076         | 1.40           | 4838.19  | 20860           | 26730           | 20860           | 26730           |                                                                                    |         |                             |
| 0.28                     | 97851          | 1.65           | 4085.50  | 22030           | 27130           | 22030           | 27130           |                                                                                    |         |                             |
| 0.29                     | 93724          | 1.70           | 3923.28  | 22260           | 27220           | 22260           | 27220           |                                                                                    |         |                             |
| 0.34                     | 78854          | 2.05           | 3343.64  | 22930           | 27540           | 22930           | 27540           |                                                                                    |         |                             |
| 0.42                     | 62471          | 2.60           | 2711.35  | 23540           | 27900           | 23540           | 27900           |                                                                                    |         |                             |
| 0.14                     | 206772         | 0.80           | 12419.47 | **              | **              | **              | **              | FH155-11N-71-04F                                                                   | 1512    | 320                         |
| 0.15                     | 183356         | 0.90           | 11069.46 | 13830           | 23720           | **              | **              |                                                                                    |         |                             |
| 0.17                     | 167942         | 0.95           | 10164.86 | 16050           | 25630           | **              | **              |                                                                                    |         |                             |
| 0.20                     | 140721         | 1.15           | 8582.99  | 18970           | 26210           | 18970           | 26210           |                                                                                    |         |                             |
| 0.22                     | 127626         | 1.25           | 7824.26  | 20050           | 26480           | 20050           | 26480           |                                                                                    |         |                             |
| 0.24                     | 113999         | 1.40           | 7024.85  | 21040           | 26770           | 21040           | 26770           |                                                                                    |         |                             |
| 0.29                     | 94709          | 1.70           | 5911.67  | 22170           | 27200           | 22170           | 27200           |                                                                                    |         |                             |
| 0.31                     | 86183          | 1.85           | 5407.29  | 22590           | 27380           | 22590           | 27380           |                                                                                    |         |                             |
| 0.35                     | 76321          | 2.10           | 4838.19  | 23020           | 27580           | 23020           | 27580           |                                                                                    |         |                             |
| 0.41                     | 63291          | 2.55           | 4085.50  | 23490           | 27880           | 23490           | 27880           |                                                                                    |         |                             |
| 0.49                     | 54723          | 2.95           | 2318.30  | 23760           | 28060           | 23760           | 28060           | FH154-11N-80-06E                                                                   | 1490    | 318                         |
| 0.49                     | 56061          | 2.10           | 2307.03  | 19110           | 20530           | 19110           | 20530           | FH124-11N-80-06E                                                                   | 935     | 314                         |
| 0.56                     | 48377          | 2.40           | 2011.51  | 19360           | 20700           | 19360           | 20700           |                                                                                    |         |                             |
| 0.63                     | 42307          | 2.75           | 1781.14  | 19540           | 20860           | 19540           | 20860           |                                                                                    |         |                             |
| 0.65                     | 41070          | 2.85           | 1732.67  | 19560           | 20880           | 19560           | 20880           |                                                                                    |         |                             |
| 0.50                     | 56827          | 1.25           | 2276.77  | 11600           | 13920           | 11600           | 13920           | FH104-11N-80-06E                                                                   | 626     | 310                         |
| 0.57                     | 49026          | 1.45           | 1976.36  | 12230           | 14140           | 12230           | 14140           |                                                                                    |         |                             |
| 0.64                     | 43335          | 1.65           | 1757.78  | 12610           | 14300           | 12610           | 14300           |                                                                                    |         |                             |
| 0.66                     | 42011          | 1.70           | 1707.58  | 12700           | 14340           | 12700           | 14340           |                                                                                    |         |                             |
| 0.74                     | 37309          | 1.90           | 1525.85  | 12970           | 14480           | 12970           | 14480           |                                                                                    |         |                             |
| 0.77                     | 35897          | 2.00           | 1474.19  | 13040           | 14500           | 13040           | 14500           |                                                                                    |         |                             |
| 0.86                     | 31837          | 2.25           | 1318.33  | 13240           | 14640           | 13240           | 14640           |                                                                                    |         |                             |
| 0.88                     | 30840          | 2.30           | 1279.68  | 13290           | 14660           | 13290           | 14660           |                                                                                    |         |                             |
| 0.98                     | 27652          | 2.60           | 1156.94  | 13400           | 14750           | 13400           | 14750           |                                                                                    |         |                             |
| 1.0                      | 26316          | 2.70           | 1105.64  | 13470           | 14790           | 13470           | 14790           |                                                                                    |         |                             |
| 1.1                      | 23657          | 3.00           | 1004.29  | 13560           | 14860           | 13560           | 14860           |                                                                                    |         |                             |
| 0.74                     | 37333          | 1.90           | 2276.77  | 12970           | 14460           | 12970           | 14460           | FH104-11N-71-04F                                                                   | 619     | 310                         |
| 0.85                     | 32074          | 2.25           | 1976.36  | 13220           | 14610           | 13220           | 14610           |                                                                                    |         |                             |
| 0.96                     | 28233          | 2.55           | 1757.78  | 13380           | 14720           | 13380           | 14720           |                                                                                    |         |                             |
| 0.99                     | 27370          | 2.60           | 1707.58  | 13420           | 14750           | 13420           | 14750           |                                                                                    |         |                             |
| 1.1                      | 24154          | 2.95           | 1525.85  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                             |
| 0.57                     | 50573          | 0.80           | 1993.28  | **              | **              | **              | **              | FH094-11N-80-06E                                                                   | 395     | 306                         |
| 0.67                     | 42493          | 0.95           | 1685.14  | 5620            | 8660            | **              | **              |                                                                                    |         |                             |
| 0.73                     | 38893          | 1.05           | 1545.54  | 6290            | 8770            | 6290            | **              |                                                                                    |         |                             |
| 0.86                     | 32679          | 1.25           | 1306.62  | 7170            | 8990            | 7170            | 8990            |                                                                                    |         |                             |
| 0.89                     | 31573          | 1.30           | 1264.97  | 7310            | 9040            | 7310            | 9040            |                                                                                    |         |                             |
| 1.1                      | 26474          | 1.55           | 1069.42  | 7850            | 9190            | 7850            | 9190            |                                                                                    |         |                             |
| 1.2                      | 23955          | 1.70           | 973.69   | 8070            | 9280            | 8070            | 9280            |                                                                                    |         |                             |
| 1.4                      | 20044          | 2.00           | 823.17   | 8340            | 9420            | 8340            | 9420            |                                                                                    |         |                             |
| 1.5                      | 17767          | 2.25           | 735.68   | 8480            | 9510            | 8480            | 9510            |                                                                                    |         |                             |
| 1.8                      | 14804          | 2.70           | 621.95   | 8630            | 9600            | 8630            | 9600            |                                                                                    |         |                             |
| 1.9                      | 14271          | 2.80           | 602.09   | 8660            | 9620            | 8660            | 9620            |                                                                                    |         |                             |

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**P<sub>N</sub> = 0.50 hp**

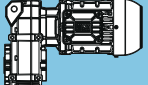
| 60 Hz           |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| <b>0.55</b>     | 52524          | 0.80           | 3086.96 | **              | **              | **              | **              | <b>FH094-11N-71-04F</b>                                                             | 388     | 306                            |
| <b>0.65</b>     | 44223          | 0.95           | 2609.75 | 5190            | 8590            | **              | **              |                                                                                     |         |                                |
| <b>0.67</b>     | 42689          | 0.95           | 2524.38 | 5530            | 8630            | **              | **              |                                                                                     |         |                                |
| <b>0.79</b>     | 35942          | 1.15           | 2134.14 | 6720            | 8880            | 6720            | 8880            |                                                                                     |         |                                |
| <b>0.85</b>     | 33433          | 1.20           | 1993.28 | 7060            | 8970            | 7060            | 8970            |                                                                                     |         |                                |
| <b>1.0</b>      | 28091          | 1.45           | 1685.14 | 7670            | 9150            | 7670            | 9150            |                                                                                     |         |                                |
| <b>1.1</b>      | 25605          | 1.60           | 1545.54 | 7910            | 9240            | 7910            | 9240            |                                                                                     |         |                                |
| <b>1.3</b>      | 21425          | 1.90           | 1306.62 | 8250            | 9370            | 8250            | 9370            |                                                                                     |         |                                |
| <b>1.6</b>      | 17284          | 2.35           | 1069.42 | 8500            | 9510            | 8500            | 9510            |                                                                                     |         |                                |
| <b>1.7</b>      | 15607          | 2.60           | 973.69  | 8590            | 9580            | 8590            | 9580            |                                                                                     |         |                                |
| <b>0.85</b>     | 33677          | 0.80           | 1327.33 | **              | **              | **              | **              | <b>FH084-11N-80-06E</b>                                                             | 273     | 302                            |
| <b>0.91</b>     | 31503          | 0.85           | 1244.18 | 2680            | 4090            | **              | **              |                                                                                     |         |                                |
| <b>0.93</b>     | 30574          | 0.90           | 1209.99 | 3060            | 4880            | **              | **              |                                                                                     |         |                                |
| <b>1.0</b>      | 27394          | 1.00           | 1086.37 | 4000            | 6900            | **              | **              |                                                                                     |         |                                |
| <b>1.2</b>      | 24051          | 1.15           | 957.69  | 4740            | 8520            | 4740            | 1840            |                                                                                     |         |                                |
| <b>1.4</b>      | 20872          | 1.30           | 836.22  | 5260            | 9280            | 5260            | 1980            |                                                                                     |         |                                |
| <b>1.5</b>      | 18560          | 1.45           | 748.21  | 5580            | 9370            | 5580            | 2070            |                                                                                     |         |                                |
| <b>1.6</b>      | 17913          | 1.50           | 723.59  | 5640            | 9400            | 5640            | 2090            |                                                                                     |         |                                |
| <b>1.8</b>      | 15544          | 1.75           | 631.81  | 5910            | 9490            | 5910            | 2180            |                                                                                     |         |                                |
| <b>1.9</b>      | 14866          | 1.80           | 606.72  | 5980            | 9510            | 5980            | 2200            |                                                                                     |         |                                |
| <b>2.2</b>      | 12539          | 2.15           | 517.08  | 6160            | 9620            | 6160            | 2320            |                                                                                     |         |                                |
| <b>2.4</b>      | 11573          | 2.30           | 480.21  | 6230            | 9640            | 6230            | 2340            |                                                                                     |         |                                |
| <b>2.7</b>      | 9980           | 2.70           | 419.30  | 6340            | 9710            | 6340            | 2410            |                                                                                     |         |                                |
| <b>2.8</b>      | 9528           | 2.80           | 401.99  | 6360            | 9730            | 6360            | 2430            |                                                                                     |         |                                |
| <b>0.86</b>     | 33358          | 0.80           | 1960.53 | **              | **              | **              | **              | <b>FH084-11N-71-04F</b>                                                             | 267     | 302                            |
| <b>0.88</b>     | 32612          | 0.85           | 1920.62 | 2050            | 2790            | **              | **              |                                                                                     |         |                                |
| <b>0.98</b>     | 29008          | 0.95           | 1711.85 | 3530            | 5890            | **              | **              |                                                                                     |         |                                |
| <b>1.1</b>      | 26529          | 1.05           | 1571.96 | 4180            | 7280            | 4180            | **              |                                                                                     |         |                                |
| <b>1.3</b>      | 22263          | 1.20           | 1327.33 | 5040            | 9170            | 5040            | 1910            |                                                                                     |         |                                |
| <b>1.4</b>      | 20826          | 1.30           | 1244.18 | 5260            | 9280            | 5260            | 1980            |                                                                                     |         |                                |
| <b>1.6</b>      | 18072          | 1.50           | 1086.37 | 5620            | 9400            | 5620            | 2090            |                                                                                     |         |                                |
| <b>1.8</b>      | 15053          | 1.80           | 914.22  | 5930            | 9510            | 5930            | 2200            |                                                                                     |         |                                |
| <b>2.0</b>      | 13684          | 1.95           | 836.22  | 6070            | 9550            | 6070            | 2250            |                                                                                     |         |                                |
| <b>2.3</b>      | 12143          | 2.20           | 748.21  | 6180            | 9620            | 6180            | 2320            |                                                                                     |         |                                |
| <b>2.7</b>      | 10106          | 2.65           | 631.81  | 6320            | 9710            | 6320            | 2410            |                                                                                     |         |                                |
| <b>2.8</b>      | 9414           | 2.85           | 592.20  | 6360            | 9730            | 6360            | 2430            |                                                                                     |         |                                |
| <b>3.2</b>      | 9922           | 2.70           | 358.52  | 6340            | 9710            | 6340            | 2410            | <b>FH083-11N-80-06E</b>                                                             | 245     | 300                            |
| <b>2.9</b>      | 10666          | 1.25           | 385.37  | 3890            | 3710            | 3890            | 1170            | <b>FH073-11N-80-06E</b>                                                             | 141     | 298                            |
| <b>3.7</b>      | 8453           | 1.60           | 305.42  | 4160            | 3820            | 4160            | 1300            |                                                                                     |         |                                |
| <b>4.8</b>      | 6563           | 2.05           | 237.15  | 4340            | 3930            | 4340            | 1390            |                                                                                     |         |                                |
| <b>5.8</b>      | 5385           | 2.50           | 194.58  | 4430            | 3980            | 4430            | 1460            |                                                                                     |         |                                |
| <b>4.4</b>      | 7153           | 1.90           | 385.37  | 4290            | 3890            | 4290            | 1370            | <b>FH073-11N-71-04F</b>                                                             | 134     | 298                            |
| <b>5.5</b>      | 5669           | 2.35           | 305.42  | 4410            | 3980            | 4410            | 1440            |                                                                                     |         |                                |
| <b>3.3</b>      | 9339           | 0.80           | 337.44  | **              | **              | **              | **              | <b>FH063-11N-80-06E</b>                                                             | 90      | 296                            |
| <b>3.7</b>      | 8564           | 0.85           | 309.42  | 1330            | 1930            | **              | **              |                                                                                     |         |                                |
| <b>4.2</b>      | 7374           | 1.00           | 266.44  | 1820            | 2810            | 1820            | **              |                                                                                     |         |                                |
| <b>4.6</b>      | 6762           | 1.10           | 244.32  | 2020            | 2860            | 2020            | 610             |                                                                                     |         |                                |
| <b>5.5</b>      | 5718           | 1.30           | 206.59  | 2270            | 2940            | 2270            | 720             |                                                                                     |         |                                |
| <b>6.0</b>      | 5243           | 1.40           | 189.44  | 2360            | 2990            | 2360            | 740             |                                                                                     |         |                                |
| <b>6.7</b>      | 4680           | 1.60           | 169.09  | 2450            | 3030            | 2450            | 790             |                                                                                     |         |                                |
| <b>7.3</b>      | 4291           | 1.70           | 155.05  | 2520            | 3060            | 2520            | 830             |                                                                                     |         |                                |
| <b>8.7</b>      | 3602           | 2.05           | 130.15  | 2610            | 3120            | 2610            | 900             |                                                                                     |         |                                |
| <b>9.5</b>      | 3303           | 2.20           | 119.35  | 2630            | 3150            | 2630            | 900             |                                                                                     |         |                                |
| <b>11</b>       | 2722           | 2.70           | 98.34   | 2700            | 3190            | 2700            | 970             |                                                                                     |         |                                |
| <b>13</b>       | 2496           | 2.95           | 90.17   | 2720            | 3210            | 2720            | 990             |                                                                                     |         |                                |

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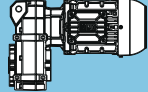
$P_N = 0.50 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$    | Output shaft |          | Hollow shaft |          |  | $m$<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|--------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|-----------|-----------------------------|
| $n_{50}$ | $T_2$ |       |        | $F_{rN}$     | $F_{sN}$ | $F_{rN}$     | $F_{sN}$ |                                                                                    |           |                             |
| rpm      | lb-in |       |        | lb           | lb       | lb           | lb       |                                                                                    |           |                             |
| 4.1      | 7659  | 0.95  | 412.64 | 1710         | 2770     | **           | **       | <b>FH063-11N-71-04F</b>                                                            | 84        | 296                         |
| 4.5      | 7023  | 1.05  | 378.37 | 1930         | 2830     | 1930         | **       |                                                                                    |           |                             |
| 5.0      | 6263  | 1.20  | 337.44 | 2140         | 2900     | 2140         | 650      |                                                                                    |           |                             |
| 5.4      | 5743  | 1.30  | 309.42 | 2250         | 2940     | 2250         | 700      |                                                                                    |           |                             |
| 6.3      | 4945  | 1.50  | 266.44 | 2410         | 3010     | 2410         | 760      |                                                                                    |           |                             |
| 6.9      | 4535  | 1.65  | 244.32 | 2470         | 3030     | 2470         | 810      |                                                                                    |           |                             |
| 8.2      | 3834  | 1.90  | 206.59 | 2590         | 3100     | 2590         | 880      |                                                                                    |           |                             |
| 8.9      | 3516  | 2.10  | 189.44 | 2610         | 3120     | 2610         | 900      |                                                                                    |           |                             |
| 10       | 3138  | 2.35  | 169.09 | 2650         | 3170     | 2650         | 920      |                                                                                    |           |                             |
| 11       | 2878  | 2.55  | 155.05 | 2680         | 3190     | 2680         | 940      |                                                                                    |           |                             |
| 4.7      | 6716  | 0.80  | 242.67 | **           | **       | **           | **       |                                                                                    |           |                             |
| 5.1      | 6136  | 0.90  | 221.71 | 850          | 1210     | **           | **       |                                                                                    |           |                             |
| 6.0      | 5175  | 1.05  | 187.00 | 1370         | 2290     | 1370         | **       |                                                                                    |           |                             |
| 6.6      | 4728  | 1.15  | 170.85 | 1550         | 2320     | 1550         | 810      |                                                                                    |           |                             |
| 7.7      | 4043  | 1.35  | 146.10 | 1730         | 2380     | 1730         | 880      |                                                                                    |           |                             |
| 8.5      | 3694  | 1.45  | 133.49 | 1820         | 2410     | 1820         | 900      |                                                                                    |           |                             |
| 10       | 3019  | 1.80  | 109.08 | 1960         | 2450     | 1960         | 940      |                                                                                    |           |                             |
| 11       | 2758  | 1.95  | 99.66  | 2000         | 2470     | 2000         | 970      |                                                                                    |           |                             |
| 12       | 2605  | 2.05  | 94.11  | 2020         | 2500     | 2020         | 990      |                                                                                    |           |                             |
| 13       | 2380  | 2.25  | 85.99  | 2050         | 2500     | 2050         | 990      |                                                                                    |           |                             |
| 14       | 2273  | 2.35  | 82.13  | 2070         | 2520     | 2070         | 1010     |                                                                                    |           |                             |
| 15       | 2077  | 2.55  | 75.04  | 2090         | 2540     | 2090         | 1030     |                                                                                    |           |                             |
| 4.4      | 7051  | 0.80  | 379.87 | **           | **       | **           | **       | <b>FH053-11N-71-04F</b>                                                            | 49        | 294                         |
| 4.9      | 6442  | 0.85  | 347.07 | 490          | 470      | **           | **       |                                                                                    |           |                             |
| 5.5      | 5717  | 0.95  | 308.00 | 1100         | 1750     | **           | **       |                                                                                    |           |                             |
| 6.0      | 5223  | 1.05  | 281.41 | 1350         | 2270     | 1350         | **       |                                                                                    |           |                             |
| 6.9      | 4504  | 1.20  | 242.67 | 1600         | 2340     | 1600         | 830      |                                                                                    |           |                             |
| 7.6      | 4115  | 1.30  | 221.71 | 1710         | 2360     | 1710         | 850      |                                                                                    |           |                             |
| 9.0      | 3471  | 1.55  | 187.00 | 1870         | 2430     | 1870         | 920      |                                                                                    |           |                             |
| 9.9      | 3171  | 1.70  | 170.85 | 1930         | 2450     | 1930         | 940      |                                                                                    |           |                             |
| 12       | 2712  | 2.00  | 146.10 | 2000         | 2470     | 2000         | 970      |                                                                                    |           |                             |
| 13       | 2478  | 2.15  | 133.49 | 2020         | 2500     | 2020         | 990      |                                                                                    |           |                             |
| 15       | 2025  | 2.65  | 109.08 | 2090         | 2540     | 2090         | 1030     |                                                                                    |           |                             |
| 17       | 1850  | 2.90  | 99.66  | 2110         | 2540     | 2110         | 1030     |                                                                                    |           |                             |
| 13       | 2418  | 1.40  | 87.38  | 2050         | 2500     | 2050         | 990      | <b>FH052-11N-80-06E</b>                                                            | 53        | 294                         |
| 14       | 2210  | 1.40  | 79.84  | 2070         | 2520     | 2070         | 1010     |                                                                                    |           |                             |
| 16       | 1978  | 2.25  | 71.46  | 2090         | 2540     | 2090         | 1030     |                                                                                    |           |                             |
| 17       | 1807  | 2.25  | 65.29  | 2110         | 2560     | 2110         | 1060     |                                                                                    |           |                             |
| 23       | 1333  | 1.40  | 48.15  | 2140         | 2540     | 2140         | 1030     |                                                                                    |           |                             |
| 29       | 1090  | 2.25  | 39.38  | 2160         | 2590     | 2160         | 1080     |                                                                                    |           |                             |
| 19       | 1622  | 2.05  | 87.38  | 2110         | 2560     | 2110         | 1060     | <b>FH052-11N-71-04F</b>                                                            | 46        | 294                         |
| 21       | 1482  | 2.05  | 79.84  | 2140         | 2590     | 2140         | 1080     |                                                                                    |           |                             |
| 35       | 894   | 2.05  | 48.15  | 2180         | 2610     | 2180         | 1100     |                                                                                    |           |                             |
| 7.0      | 4489  | 0.80  | 162.19 | **           | **       | **           | **       | <b>FH043-11N-80-06E</b>                                                            | 42        | 292                         |
| 7.6      | 4095  | 0.90  | 147.96 | 160          | -70      | **           | **       |                                                                                    |           |                             |
| 8.9      | 3507  | 1.05  | 126.72 | 830          | 1350     | 830          | **       |                                                                                    |           |                             |
| 9.8      | 3199  | 1.15  | 115.60 | 990          | 1690     | 990          | 580      |                                                                                    |           |                             |
| 12       | 2618  | 1.40  | 94.61  | 1210         | 1890     | 1210         | 630      |                                                                                    |           |                             |
| 13       | 2389  | 1.50  | 86.31  | 1280         | 1910     | 1280         | 650      |                                                                                    |           |                             |
| 14       | 2259  | 1.60  | 81.63  | 1330         | 1930     | 1330         | 670      |                                                                                    |           |                             |
| 15       | 2061  | 1.75  | 74.46  | 1370         | 1960     | 1370         | 700      |                                                                                    |           |                             |
| 16       | 1972  | 1.80  | 71.24  | 1390         | 1960     | 1390         | 700      |                                                                                    |           |                             |
| 17       | 1798  | 2.00  | 64.98  | 1420         | 1980     | 1420         | 720      |                                                                                    |           |                             |
| 22       | 1447  | 2.45  | 52.27  | 1480         | 2000     | 1480         | 740      |                                                                                    |           |                             |
| 24       | 1320  | 2.70  | 47.68  | 1510         | 2020     | 1510         | 760      |                                                                                    |           |                             |

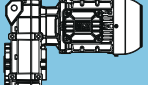
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$P_N = 0.50 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$    | Output shaft |          | Hollow shaft |          |  | $m$<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|--------|--------------|----------|--------------|----------|-------------------------------------------------------------------------------------|-----------|-----------------------------|
| $n_{60}$ | $T_2$ |       |        | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                     |           |                             |
| rpm      | lb-in |       |        | lb           | lb       | lb           | lb       |                                                                                     |           |                             |
| 6.9      | 4523  | 0.80  | 243.69 | **           | **       | **           | **       | FH043-11N-71-04F                                                                    | 35        | 292                         |
| 8.0      | 3907  | 0.95  | 210.48 | 470          | 580      | **           | **       |                                                                                     |           |                             |
| 8.8      | 3564  | 1.00  | 192.00 | 790          | 1240     | 790          | **       |                                                                                     |           |                             |
| 10       | 3010  | 1.20  | 162.19 | 1080         | 1870     | 1080         | 610      |                                                                                     |           |                             |
| 11       | 2746  | 1.30  | 147.96 | 1170         | 1890     | 1170         | 630      |                                                                                     |           |                             |
| 13       | 2352  | 1.55  | 126.72 | 1300         | 1910     | 1300         | 650      |                                                                                     |           |                             |
| 15       | 2146  | 1.70  | 115.60 | 1350         | 1930     | 1350         | 670      |                                                                                     |           |                             |
| 18       | 1756  | 2.05  | 94.61  | 1440         | 1980     | 1440         | 720      |                                                                                     |           |                             |
| 20       | 1602  | 2.25  | 86.31  | 1460         | 1980     | 1460         | 720      |                                                                                     |           |                             |
| 24       | 1322  | 2.70  | 71.24  | 1510         | 2020     | 1510         | 760      |                                                                                     |           |                             |
| 26       | 1206  | 2.95  | 64.98  | 1510         | 2020     | 1510         | 760      |                                                                                     |           |                             |
| 15       | 2098  | 1.40  | 75.79  | 1370         | 1930     | 1370         | 670      | FH042-11N-80-06E                                                                    | 40        | 292                         |
| 16       | 1914  | 1.40  | 69.14  | 1390         | 1960     | 1390         | 700      |                                                                                     |           |                             |
| 18       | 1715  | 2.10  | 61.98  | 1440         | 1980     | 1440         | 720      |                                                                                     |           |                             |
| 20       | 1565  | 2.25  | 56.54  | 1460         | 2000     | 1460         | 740      |                                                                                     |           |                             |
| 23       | 1354  | 2.65  | 48.94  | 1480         | 2000     | 1480         | 740      |                                                                                     |           |                             |
| 25       | 1235  | 2.90  | 44.64  | 1510         | 2020     | 1510         | 760      |                                                                                     |           |                             |
| 27       | 1140  | 1.40  | 41.20  | 1530         | 1980     | 1530         | 720      |                                                                                     |           |                             |
| 34       | 932   | 2.25  | 33.69  | 1550         | 2020     | 1550         | 760      |                                                                                     |           |                             |
| 22       | 1407  | 2.05  | 75.79  | 1480         | 2000     | 1480         | 740      | FH042-11N-71-04F                                                                    | 35        | 292                         |
| 24       | 1283  | 2.05  | 69.14  | 1510         | 2020     | 1510         | 760      |                                                                                     |           |                             |
| 41       | 765   | 2.05  | 41.20  | 1550         | 2050     | 1550         | 790      |                                                                                     |           |                             |
| 16       | 1942  | 1.05  | 70.17  | 740          | 520      | 740          | **       | FH032-11N-80-06E                                                                    | 37        | 290                         |
| 18       | 1761  | 1.15  | 63.63  | 830          | 610      | 830          | 610      |                                                                                     |           |                             |
| 20       | 1579  | 1.25  | 57.07  | 900          | 560      | 900          | 560      |                                                                                     |           |                             |
| 22       | 1432  | 1.40  | 51.75  | 940          | 650      | 940          | 650      |                                                                                     |           |                             |
| 25       | 1255  | 1.60  | 45.35  | 1010         | 630      | 1010         | 630      |                                                                                     |           |                             |
| 27       | 1138  | 1.75  | 41.12  | 1030         | 700      | 1030         | 700      |                                                                                     |           |                             |
| 32       | 969   | 2.05  | 35.03  | 1060         | 670      | 1060         | 670      |                                                                                     |           |                             |
| 36       | 879   | 2.25  | 31.76  | 1080         | 720      | 1080         | 720      |                                                                                     |           |                             |
| 40       | 774   | 2.55  | 27.97  | 1100         | 700      | 1100         | 700      |                                                                                     |           |                             |
| 41       | 766   | 1.40  | 27.67  | 1100         | 720      | 1100         | 720      |                                                                                     |           |                             |
| 45       | 702   | 2.80  | 25.36  | 1100         | 740      | 1100         | 740      |                                                                                     |           |                             |
| 50       | 623   | 2.10  | 22.50  | 1120         | 740      | 1120         | 740      |                                                                                     |           |                             |
| 63       | 495   | 2.70  | 17.88  | 1120         | 760      | 1120         | 760      |                                                                                     |           |                             |
| 24       | 1302  | 1.50  | 70.17  | 990          | 610      | 990          | 610      | FH032-11N-71-04F                                                                    | 31        | 290                         |
| 26       | 1181  | 1.65  | 63.63  | 1010         | 670      | 1010         | 670      |                                                                                     |           |                             |
| 30       | 1059  | 1.85  | 57.07  | 1060         | 650      | 1060         | 650      |                                                                                     |           |                             |
| 33       | 960   | 2.05  | 51.75  | 1080         | 720      | 1080         | 720      |                                                                                     |           |                             |
| 37       | 842   | 2.35  | 45.35  | 1080         | 670      | 1080         | 670      |                                                                                     |           |                             |
| 41       | 763   | 2.60  | 41.12  | 1100         | 740      | 1100         | 740      |                                                                                     |           |                             |
| 48       | 650   | 3.00  | 35.03  | 1120         | 720      | 1120         | 720      |                                                                                     |           |                             |
| 61       | 514   | 2.10  | 27.67  | 1120         | 740      | 1120         | 740      |                                                                                     |           |                             |
| 23       | 1348  | 0.90  | 48.69  | 1010         | 400      | **           | **       | FH022-11N-80-06E                                                                    | 33        | 288                         |
| 26       | 1213  | 0.95  | 43.83  | 1030         | 470      | **           | **       |                                                                                     |           |                             |
| 30       | 1038  | 1.15  | 37.52  | 1080         | 450      | 1080         | 450      |                                                                                     |           |                             |
| 33       | 935   | 1.25  | 33.78  | 1100         | 520      | 1100         | 520      |                                                                                     |           |                             |
| 39       | 811   | 1.45  | 29.32  | 1120         | 490      | 1120         | 490      |                                                                                     |           |                             |
| 43       | 730   | 1.60  | 26.39  | 1120         | 540      | 1120         | 540      |                                                                                     |           |                             |
| 46       | 685   | 1.10  | 24.76  | 1150         | 540      | 1150         | 540      |                                                                                     |           |                             |
| 52       | 606   | 1.90  | 21.89  | 1150         | 520      | 1150         | 520      |                                                                                     |           |                             |
| 56       | 556   | 1.35  | 20.08  | 1150         | 560      | 1150         | 560      |                                                                                     |           |                             |
| 57       | 545   | 2.15  | 19.70  | 1150         | 560      | 1150         | 560      |                                                                                     |           |                             |
| 60       | 523   | 2.25  | 18.88  | 1150         | 540      | 1150         | 540      |                                                                                     |           |                             |
| 66       | 470   | 2.45  | 17.00  | 1170         | 560      | 1170         | 560      |                                                                                     |           |                             |
| 69       | 456   | 2.55  | 16.48  | 1170         | 540      | 1170         | 540      |                                                                                     |           |                             |
| 71       | 438   | 1.70  | 15.82  | 1170         | 560      | 1170         | 560      |                                                                                     |           |                             |
| 76       | 411   | 2.85  | 14.84  | 1170         | 560      | 1170         | 560      |                                                                                     |           |                             |
| 93       | 337   | 2.25  | 12.19  | 1170         | 580      | 1170         | 580      |                                                                                     |           |                             |
| 119      | 263   | 2.85  | 9.52   | 1080         | 580      | 1080         | 580      |                                                                                     |           |                             |

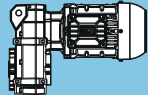
F

| P <sub>N</sub> = 0.50 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|--------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                    |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub>          | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                      | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 22                       | 1415           | 0.85           | 76.22 | 990             | 400             | **              | **              | FH022-11N-71-04F                                                                   | 26      | 288                         |
| 25                       | 1274           | 0.95           | 68.62 | 1030            | 470             | **              | **              |                                                                                    |         |                             |
| 27                       | 1147           | 1.05           | 61.80 | 1060            | 450             | 1060            | **              |                                                                                    |         |                             |
| 30                       | 1033           | 1.15           | 55.64 | 1080            | 490             | 1080            | 490             |                                                                                    |         |                             |
| 35                       | 904            | 1.30           | 48.69 | 1100            | 470             | 1100            | 470             |                                                                                    |         |                             |
| 38                       | 813            | 1.45           | 43.83 | 1120            | 520             | 1120            | 520             |                                                                                    |         |                             |
| 45                       | 696            | 1.70           | 37.52 | 1150            | 520             | 1150            | 520             |                                                                                    |         |                             |
| 50                       | 627            | 1.85           | 33.78 | 1150            | 540             | 1150            | 540             |                                                                                    |         |                             |
| 53                       | 590            | 0.80           | 31.79 | **              | **              | **              | **              |                                                                                    |         |                             |
| 57                       | 544            | 2.15           | 29.32 | 1150            | 540             | 1150            | 540             |                                                                                    |         |                             |
| 64                       | 490            | 2.35           | 26.39 | 1170            | 560             | 1170            | 560             |                                                                                    |         |                             |
| 68                       | 460            | 1.65           | 24.76 | 1170            | 560             | 1170            | 560             |                                                                                    |         |                             |
| 77                       | 406            | 2.85           | 21.89 | 1170            | 560             | 1170            | 560             |                                                                                    |         |                             |
| 84                       | 373            | 2.00           | 20.08 | 1170            | 580             | 1170            | 580             |                                                                                    |         |                             |
| 86                       | 366            | 3.15           | 19.70 | 1170            | 580             | 1170            | 580             |                                                                                    |         |                             |
| 102                      | 306            | 3.80           | 16.48 | 1150            | 560             | 1150            | 560             |                                                                                    |         |                             |
| 107                      | 294            | 2.55           | 15.82 | 1100            | 580             | 1100            | 580             |                                                                                    |         |                             |
| 114                      | 275            | 4.20           | 14.84 | 1080            | 580             | 1080            | 580             |                                                                                    |         |                             |
| 138                      | 226            | 3.30           | 12.19 | 1010            | 580             | 1010            | 580             |                                                                                    |         |                             |
| 139                      | 224            | 5.15           | 12.09 | 1010            | 580             | 1010            | 580             |                                                                                    |         |                             |
| 155                      | 202            | 5.70           | 10.89 | 970             | 580             | 970             | 580             |                                                                                    |         |                             |
| 177                      | 177            | 4.25           | 9.52  | 920             | 610             | 920             | 610             |                                                                                    |         |                             |
| 237                      | 132            | 5.65           | 7.11  | 830             | 610             | 830             | 610             |                                                                                    |         |                             |
| 315                      | 99             | 7.50           | 5.35  | 760             | 610             | 760             | 610             |                                                                                    |         |                             |
| 429                      | 73             | 8.75           | 3.93  | 670             | 610             | 670             | 610             |                                                                                    |         |                             |

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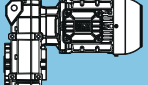
**P<sub>N</sub> = 0.75 hp**

| 60 Hz           |                | f <sub>B</sub> | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| <b>0.21</b>     | 197295         | 0.85           | 5407.29 | 11560           | 18910           | **              | **              | <b>FH155-11N-80-06F</b>                                                             | 1521    | 320                            |
| <b>0.24</b>     | 176079         | 0.95           | 4838.19 | 15110           | 25470           | **              | **              |                                                                                     |         |                                |
| <b>0.28</b>     | 147549         | 1.10           | 4085.50 | 18410           | 26080           | 18410           | 26080           |                                                                                     |         |                                |
| <b>0.29</b>     | 141328         | 1.15           | 3923.28 | 19000           | 26210           | 19000           | 26210           |                                                                                     |         |                                |
| <b>0.34</b>     | 119524         | 1.35           | 3343.64 | 20730           | 26680           | 20730           | 26680           |                                                                                     |         |                                |
| <b>0.35</b>     | 117100         | 1.40           | 3284.26 | 20880           | 26730           | 20880           | 26730           |                                                                                     |         |                                |
| <b>0.42</b>     | 95438          | 1.70           | 2711.35 | 22170           | 27200           | 22170           | 27200           |                                                                                     |         |                                |
| <b>0.43</b>     | 93692          | 1.75           | 2661.75 | 22260           | 27220           | 22260           | 27220           |                                                                                     |         |                                |
| <b>0.50</b>     | 78870          | 2.05           | 2269.72 | 22930           | 27540           | 22930           | 27540           |                                                                                     |         |                                |
| <b>0.62</b>     | 62450          | 2.60           | 1839.52 | 23540           | 27900           | 23540           | 27900           |                                                                                     |         |                                |
| <b>0.20</b>     | 207491         | 0.80           | 8582.99 | **              | **              | **              | **              | <b>FH155-11N-80-04E</b>                                                             | 1517    | 320                            |
| <b>0.22</b>     | 188666         | 0.85           | 7824.26 | 13350           | 22710           | **              | **              |                                                                                     |         |                                |
| <b>0.25</b>     | 168526         | 0.95           | 7024.85 | 16230           | 25650           | **              | **              |                                                                                     |         |                                |
| <b>0.29</b>     | 140735         | 1.15           | 5911.67 | 19130           | 26240           | 19130           | 26240           |                                                                                     |         |                                |
| <b>0.32</b>     | 128070         | 1.25           | 5407.29 | 20140           | 26500           | 20140           | 26500           |                                                                                     |         |                                |
| <b>0.36</b>     | 114004         | 1.40           | 4838.19 | 21130           | 26820           | 21130           | 26820           |                                                                                     |         |                                |
| <b>0.42</b>     | 95038          | 1.70           | 4085.50 | 22210           | 27200           | 22210           | 27200           |                                                                                     |         |                                |
| <b>0.44</b>     | 91030          | 1.80           | 3923.28 | 22410           | 27290           | 22410           | 27290           |                                                                                     |         |                                |
| <b>0.52</b>     | 76389          | 2.10           | 3343.64 | 23040           | 27610           | 23040           | 27610           |                                                                                     |         |                                |
| <b>0.53</b>     | 75032          | 2.15           | 3284.26 | 23110           | 27630           | 23110           | 27630           |                                                                                     |         |                                |
| <b>0.64</b>     | 60517          | 2.65           | 2711.35 | 23600           | 27940           | 23600           | 27940           |                                                                                     |         |                                |
| <b>0.65</b>     | 59409          | 2.70           | 2661.75 | 23650           | 27970           | 23650           | 27970           |                                                                                     |         |                                |
| <b>0.49</b>     | 83350          | 1.95           | 2318.30 | 22750           | 27450           | 22750           | 27450           | <b>FH154-11N-80-06F</b>                                                             | 1493    | 318                            |
| <b>0.57</b>     | 71051          | 2.25           | 1996.74 | 23250           | 27720           | 23250           | 27720           |                                                                                     |         |                                |
| <b>0.62</b>     | 64753          | 2.50           | 1834.90 | 23470           | 27850           | 23470           | 27850           |                                                                                     |         |                                |
| <b>0.66</b>     | 60697          | 2.65           | 1727.10 | 23580           | 27940           | 23580           | 27940           |                                                                                     |         |                                |
| <b>0.71</b>     | 55840          | 2.90           | 1602.16 | 23740           | 28030           | 23740           | 28030           |                                                                                     |         |                                |
| <b>0.72</b>     | 54967          | 2.90           | 1580.39 | 23760           | 28060           | 23760           | 28060           |                                                                                     |         |                                |
| <b>0.49</b>     | 84496          | 1.40           | 2307.03 | 17830           | 19810           | 17830           | 19810           | <b>FH124-11N-80-06F</b>                                                             | 937     | 314                            |
| <b>0.57</b>     | 73220          | 1.60           | 2011.51 | 18410           | 20100           | 18410           | 20100           |                                                                                     |         |                                |
| <b>0.64</b>     | 64302          | 1.80           | 1781.14 | 18790           | 20300           | 18790           | 20300           |                                                                                     |         |                                |
| <b>0.66</b>     | 62424          | 1.85           | 1732.67 | 18880           | 20370           | 18880           | 20370           |                                                                                     |         |                                |
| <b>0.73</b>     | 55604          | 2.10           | 1552.98 | 19130           | 20530           | 19130           | 20530           |                                                                                     |         |                                |
| <b>0.76</b>     | 53264          | 2.20           | 1493.78 | 19220           | 20590           | 19220           | 20590           |                                                                                     |         |                                |
| <b>0.85</b>     | 47305          | 2.45           | 1337.70 | 19400           | 20730           | 19400           | 20730           |                                                                                     |         |                                |
| <b>0.88</b>     | 45963          | 2.55           | 1302.43 | 19450           | 20770           | 19450           | 20770           |                                                                                     |         |                                |
| <b>0.97</b>     | 40944          | 2.85           | 1172.32 | 19580           | 20880           | 19580           | 20880           |                                                                                     |         |                                |
| <b>0.99</b>     | 40148          | 2.90           | 1151.94 | 19600           | 20910           | 19600           | 20910           |                                                                                     |         |                                |
| <b>1.0</b>      | 38939          | 3.00           | 1121.89 | 19630           | 20950           | 19630           | 20950           |                                                                                     |         |                                |
| <b>0.75</b>     | 54477          | 2.15           | 2307.03 | 19180           | 20570           | 19180           | 20570           | <b>FH124-11N-80-04E</b>                                                             | 933     | 314                            |
| <b>0.86</b>     | 46912          | 2.50           | 2011.51 | 19420           | 20750           | 19420           | 20750           |                                                                                     |         |                                |
| <b>0.97</b>     | 41111          | 2.80           | 1781.14 | 19580           | 20910           | 19580           | 20910           |                                                                                     |         |                                |
| <b>1.0</b>      | 39826          | 2.90           | 1732.67 | 19600           | 20930           | 19600           | 20930           |                                                                                     |         |                                |
| <b>0.50</b>     | 84941          | 0.85           | 2276.77 | 7850            | 13110           | **              | **              | <b>FH104-11N-80-06F</b>                                                             | 628     | 310                            |
| <b>0.58</b>     | 73432          | 1.00           | 1976.36 | 9760            | 13420           | **              | **              |                                                                                     |         |                                |
| <b>0.65</b>     | 65044          | 1.10           | 1757.78 | 10790           | 13670           | 10790           | 13670           |                                                                                     |         |                                |
| <b>0.67</b>     | 63057          | 1.15           | 1707.58 | 10990           | 13740           | 10990           | 13740           |                                                                                     |         |                                |
| <b>0.75</b>     | 56115          | 1.30           | 1525.85 | 11670           | 13940           | 11670           | 13940           |                                                                                     |         |                                |
| <b>0.77</b>     | 54104          | 1.35           | 1474.19 | 11850           | 13980           | 11850           | 13980           |                                                                                     |         |                                |
| <b>0.86</b>     | 48186          | 1.50           | 1318.33 | 12300           | 14160           | 12300           | 14160           |                                                                                     |         |                                |
| <b>0.89</b>     | 46677          | 1.55           | 1279.68 | 12410           | 14210           | 12410           | 14210           |                                                                                     |         |                                |
| <b>0.99</b>     | 41940          | 1.70           | 1156.94 | 12720           | 14340           | 12720           | 14340           |                                                                                     |         |                                |
| <b>1.0</b>      | 39998          | 1.80           | 1105.64 | 12840           | 14390           | 12840           | 14390           |                                                                                     |         |                                |
| <b>1.1</b>      | 36107          | 2.00           | 1004.29 | 13040           | 14500           | 13040           | 14500           |                                                                                     |         |                                |
| <b>1.3</b>      | 31772          | 2.25           | 892.89  | 13240           | 14640           | 13240           | 14640           |                                                                                     |         |                                |
| <b>1.5</b>      | 27239          | 2.60           | 775.08  | 13420           | 14770           | 13420           | 14770           |                                                                                     |         |                                |

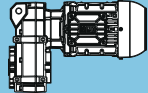
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| <b>P<sub>N</sub> = 0.75 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.76</b>                    | 55335                | 1.30                 | 2276.77  | 11760                 | 13960                 | 11760                 | 13960                 | <b>FH104-11N-80-04E</b>                                                            | 624            | 310                                |
| <b>0.87</b>                    | 47641                | 1.50                 | 1976.36  | 12360                 | 14190                 | 12360                 | 14190                 |                                                                                    |                |                                    |
| <b>0.98</b>                    | 42111                | 1.70                 | 1757.78  | 12720                 | 14340                 | 12720                 | 14340                 |                                                                                    |                |                                    |
| <b>1.0</b>                     | 40824                | 1.75                 | 1707.58  | 12790                 | 14390                 | 12790                 | 14390                 |                                                                                    |                |                                    |
| <b>1.1</b>                     | 36180                | 2.00                 | 1525.85  | 13040                 | 14500                 | 13040                 | 14500                 |                                                                                    |                |                                    |
| <b>1.2</b>                     | 34883                | 2.05                 | 1474.19  | 13110                 | 14550                 | 13110                 | 14550                 |                                                                                    |                |                                    |
| <b>1.3</b>                     | 30938                | 2.30                 | 1318.33  | 13290                 | 14660                 | 13290                 | 14660                 |                                                                                    |                |                                    |
| <b>1.5</b>                     | 26815                | 2.65                 | 1156.94  | 13440                 | 14770                 | 13440                 | 14770                 |                                                                                    |                |                                    |
| <b>1.6</b>                     | 25519                | 2.80                 | 1105.64  | 13490                 | 14810                 | 13490                 | 14810                 |                                                                                    |                |                                    |
| <b>0.87</b>                    | 48747                | 0.85                 | 1306.62  | 4050                  | 6410                  | **                    | **                    | <b>FH094-11N-80-06F</b>                                                            | 397            | 306                                |
| <b>0.90</b>                    | 47193                | 0.85                 | 1264.97  | 4520                  | 7420                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.1</b>                     | 39653                | 1.05                 | 1069.42  | 6160                  | 8750                  | 6160                  | **                    |                                                                                    |                |                                    |
| <b>1.2</b>                     | 35956                | 1.15                 | 973.69   | 6740                  | 8880                  | 6740                  | 8880                  |                                                                                    |                |                                    |
| <b>1.4</b>                     | 30211                | 1.35                 | 823.17   | 7490                  | 9080                  | 7490                  | 9080                  |                                                                                    |                |                                    |
| <b>1.5</b>                     | 26834                | 1.50                 | 735.68   | 7820                  | 9190                  | 7820                  | 9190                  |                                                                                    |                |                                    |
| <b>1.8</b>                     | 22500                | 1.80                 | 621.95   | 8180                  | 9350                  | 8180                  | 9350                  |                                                                                    |                |                                    |
| <b>1.9</b>                     | 21736                | 1.85                 | 602.09   | 8230                  | 9370                  | 8230                  | 9370                  |                                                                                    |                |                                    |
| <b>2.2</b>                     | 18150                | 2.20                 | 509.01   | 8480                  | 9490                  | 8480                  | 9490                  |                                                                                    |                |                                    |
| <b>2.3</b>                     | 17337                | 2.30                 | 488.23   | 8520                  | 9510                  | 8520                  | 9510                  |                                                                                    |                |                                    |
| <b>2.8</b>                     | 14446                | 2.80                 | 412.76   | 8660                  | 9620                  | 8660                  | 9620                  |                                                                                    |                |                                    |
| <b>0.81</b>                    | 52726                | 0.80                 | 2134.14  | **                    | **                    | **                    | **                    | <b>FH094-11N-80-04E</b>                                                            | 392            | 306                                |
| <b>0.87</b>                    | 49145                | 0.85                 | 1993.28  | 4000                  | 6320                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.0</b>                     | 41378                | 1.00                 | 1685.14  | 5890                  | 8700                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.1</b>                     | 37795                | 1.10                 | 1545.54  | 6520                  | 8830                  | 6520                  | 8830                  |                                                                                    |                |                                    |
| <b>1.3</b>                     | 31757                | 1.30                 | 1306.62  | 7330                  | 9040                  | 7330                  | 9040                  |                                                                                    |                |                                    |
| <b>1.4</b>                     | 30681                | 1.30                 | 1264.97  | 7440                  | 9060                  | 7440                  | 9060                  |                                                                                    |                |                                    |
| <b>1.6</b>                     | 25726                | 1.55                 | 1069.42  | 7940                  | 9240                  | 7940                  | 9240                  |                                                                                    |                |                                    |
| <b>1.8</b>                     | 23279                | 1.75                 | 973.69   | 8140                  | 9330                  | 8140                  | 9330                  |                                                                                    |                |                                    |
| <b>2.1</b>                     | 19478                | 2.05                 | 823.17   | 8390                  | 9440                  | 8390                  | 9440                  |                                                                                    |                |                                    |
| <b>2.3</b>                     | 17265                | 2.35                 | 735.68   | 8520                  | 9530                  | 8520                  | 9530                  |                                                                                    |                |                                    |
| <b>2.8</b>                     | 14355                | 2.80                 | 621.95   | 8660                  | 9620                  | 8660                  | 9620                  |                                                                                    |                |                                    |
| <b>2.9</b>                     | 13839                | 2.90                 | 602.09   | 8680                  | 9640                  | 8680                  | 9640                  |                                                                                    |                |                                    |
| <b>1.2</b>                     | 34177                | 0.80                 | 914.22   | **                    | **                    | **                    | **                    | <b>FH084-11N-80-06F</b>                                                            | 276            | 302                                |
| <b>1.4</b>                     | 31197                | 0.90                 | 836.22   | 2830                  | 4410                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.5</b>                     | 27800                | 1.00                 | 748.21   | 3930                  | 6770                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.6</b>                     | 26830                | 1.00                 | 723.59   | 4160                  | 7240                  | 4160                  | **                    |                                                                                    |                |                                    |
| <b>1.8</b>                     | 23331                | 1.15                 | 631.81   | 4880                  | 8810                  | 4880                  | 1870                  |                                                                                    |                |                                    |
| <b>1.9</b>                     | 22359                | 1.20                 | 606.72   | 5040                  | 9170                  | 5040                  | 1910                  |                                                                                    |                |                                    |
| <b>2.2</b>                     | 18938                | 1.45                 | 517.08   | 5530                  | 9350                  | 5530                  | 2050                  |                                                                                    |                |                                    |
| <b>2.4</b>                     | 17516                | 1.55                 | 480.21   | 5710                  | 9420                  | 5710                  | 2110                  |                                                                                    |                |                                    |
| <b>2.7</b>                     | 15169                | 1.80                 | 419.30   | 5930                  | 9510                  | 5930                  | 2200                  |                                                                                    |                |                                    |
| <b>2.8</b>                     | 14861                | 1.80                 | 411.63   | 5980                  | 9530                  | 5980                  | 2230                  |                                                                                    |                |                                    |
| <b>3.2</b>                     | 12542                | 2.15                 | 351.00   | 6160                  | 9620                  | 6160                  | 2320                  |                                                                                    |                |                                    |
| <b>3.5</b>                     | 11569                | 2.30                 | 325.80   | 6230                  | 9640                  | 6230                  | 2340                  |                                                                                    |                |                                    |
| <b>4.0</b>                     | 9977                 | 2.70                 | 284.47   | 6340                  | 9710                  | 6340                  | 2410                  |                                                                                    |                |                                    |

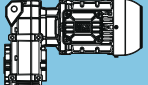
**P<sub>N</sub> = 0.75 hp**

| 60 Hz           |                | f <sub>B</sub> | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| 1.3             | 32726          | 0.85           | 1327.33 | 2200            | 3100            | **              | **              | FH084-11N-80-04E                                                                    | 271     | 302                            |
| 1.4             | 30613          | 0.90           | 1244.18 | 3120            | 5040            | **              | **              |                                                                                     |         |                                |
| 1.6             | 26621          | 1.00           | 1086.37 | 4250            | 7440            | 4250            | **              |                                                                                     |         |                                |
| 1.8             | 23372          | 1.15           | 957.69  | 4900            | 8880            | 4900            | 1890            |                                                                                     |         |                                |
| 1.9             | 22265          | 1.20           | 914.22  | 5080            | 9240            | 5080            | 1930            |                                                                                     |         |                                |
| 2.1             | 20282          | 1.35           | 836.22  | 5370            | 9310            | 5370            | 2000            |                                                                                     |         |                                |
| 2.3             | 18036          | 1.50           | 748.21  | 5670            | 9400            | 5670            | 2090            |                                                                                     |         |                                |
| 2.4             | 17442          | 1.55           | 723.59  | 5730            | 9420            | 5730            | 2110            |                                                                                     |         |                                |
| 2.7             | 15105          | 1.80           | 631.81  | 5960            | 9510            | 5960            | 2200            |                                                                                     |         |                                |
| 2.8             | 14446          | 1.85           | 606.72  | 6020            | 9530            | 6020            | 2230            |                                                                                     |         |                                |
| 2.9             | 14100          | 1.90           | 592.20  | 6050            | 9550            | 6050            | 2250            |                                                                                     |         |                                |
| 3.3             | 12185          | 2.20           | 517.08  | 6200            | 9620            | 6200            | 2320            |                                                                                     |         |                                |
| 3.4             | 11944          | 2.25           | 507.90  | 6200            | 9640            | 6200            | 2340            |                                                                                     |         |                                |
| 3.6             | 11246          | 2.40           | 480.21  | 6270            | 9670            | 6270            | 2360            |                                                                                     |         |                                |
| 4.1             | 9698           | 2.75           | 419.30  | 6360            | 9730            | 6360            | 2430            |                                                                                     |         |                                |
| 4.2             | 9501           | 2.80           | 411.63  | 6360            | 9730            | 6360            | 2430            |                                                                                     |         |                                |
| 4.3             | 9240           | 2.90           | 401.99  | 6380            | 9760            | 6380            | 2450            |                                                                                     |         |                                |
| 3.2             | 14620          | 1.85           | 358.52  | 6000            | 9530            | 6000            | 2230            | FH083-11N-80-06F                                                                    | 247     | 300                            |
| 4.0             | 11572          | 2.30           | 283.76  | 6230            | 9640            | 6230            | 2340            |                                                                                     |         |                                |
| 4.6             | 10104          | 2.65           | 247.77  | 6340            | 9710            | 6340            | 2410            |                                                                                     |         |                                |
| 5.2             | 8929           | 3.00           | 218.97  | 6380            | 9760            | 6380            | 2450            |                                                                                     |         |                                |
| 4.8             | 9662           | 2.75           | 358.52  | 6360            | 9730            | 6360            | 2430            | FH083-11N-80-04E                                                                    | 243     | 300                            |
| 3.0             | 15715          | 0.85           | 385.37  | 2860            | 3440            | **              | **              | FH073-11N-80-06F                                                                    | 143     | 298                            |
| 3.7             | 12455          | 1.10           | 305.42  | 3600            | 3620            | 3600            | 1080            |                                                                                     |         |                                |
| 4.8             | 9671           | 1.40           | 237.15  | 4020            | 3750            | 4020            | 1240            |                                                                                     |         |                                |
| 5.9             | 7935           | 1.70           | 194.58  | 4230            | 3840            | 4230            | 1330            |                                                                                     |         |                                |
| 7.6             | 6145           | 2.20           | 150.69  | 4380            | 3960            | 4380            | 1420            |                                                                                     |         |                                |
| 9.9             | 4674           | 2.85           | 114.62  | 4470            | 4020            | 4200            | 1510            |                                                                                     |         |                                |
| 4.5             | 10386          | 1.30           | 385.37  | 3930            | 3730            | 3930            | 1190            | FH073-11N-80-04E                                                                    | 139     | 298                            |
| 5.6             | 8231           | 1.65           | 305.42  | 4200            | 3840            | 4200            | 1300            |                                                                                     |         |                                |
| 7.3             | 6391           | 2.10           | 237.15  | 4360            | 3930            | 4360            | 1420            |                                                                                     |         |                                |
| 8.9             | 5244           | 2.55           | 194.58  | 4450            | 4000            | 4380            | 1460            |                                                                                     |         |                                |
| 5.5             | 8425           | 0.90           | 206.59  | 1420            | 2140            | **              | **              | FH063-11N-80-06F                                                                    | 93      | 296                            |
| 6.0             | 7725           | 0.95           | 189.44  | 1710            | 2770            | **              | **              |                                                                                     |         |                                |
| 6.7             | 6895           | 1.10           | 169.09  | 1980            | 2860            | 1980            | 610             |                                                                                     |         |                                |
| 7.4             | 6323           | 1.15           | 155.05  | 2140            | 2900            | 2140            | 650             |                                                                                     |         |                                |
| 8.8             | 5307           | 1.40           | 130.15  | 2360            | 2990            | 2360            | 740             |                                                                                     |         |                                |
| 9.6             | 4867           | 1.50           | 119.35  | 2430            | 3010            | 2430            | 790             |                                                                                     |         |                                |
| 12              | 4010           | 1.85           | 98.34   | 2560            | 3100            | 2560            | 850             |                                                                                     |         |                                |
| 13              | 3677           | 2.00           | 90.17   | 2610            | 3120            | 2610            | 880             |                                                                                     |         |                                |
| 14              | 3282           | 2.25           | 80.48   | 2630            | 3150            | 2630            | 920             |                                                                                     |         |                                |
| 15              | 3010           | 2.45           | 73.80   | 2680            | 3170            | 2680            | 940             |                                                                                     |         |                                |
| 17              | 2661           | 2.75           | 65.26   | 2700            | 3210            | 2700            | 970             |                                                                                     |         |                                |
| 19              | 2440           | 3.00           | 59.84   | 2720            | 3210            | 2720            | 990             |                                                                                     |         |                                |
| 5.1             | 9094           | 0.80           | 337.44  | **              | **              | **              | **              | FH063-11N-80-04E                                                                    | 88      | 296                            |
| 5.6             | 8339           | 0.90           | 309.42  | 1480            | 2270            | **              | **              |                                                                                     |         |                                |
| 6.5             | 7181           | 1.05           | 266.44  | 1910            | 2830            | 1910            | **              |                                                                                     |         |                                |
| 7.1             | 6584           | 1.15           | 244.32  | 2070            | 2880            | 2070            | 630             |                                                                                     |         |                                |
| 8.3             | 5568           | 1.35           | 206.59  | 2320            | 2970            | 2320            | 720             |                                                                                     |         |                                |
| 9.1             | 5105           | 1.45           | 189.44  | 2380            | 2990            | 2380            | 760             |                                                                                     |         |                                |
| 10              | 4557           | 1.60           | 169.09  | 2470            | 3060            | 2470            | 810             |                                                                                     |         |                                |
| 11              | 4179           | 1.75           | 155.05  | 2540            | 3080            | 2540            | 830             |                                                                                     |         |                                |
| 13              | 3508           | 2.10           | 130.15  | 2610            | 3120            | 2610            | 900             |                                                                                     |         |                                |
| 14              | 3216           | 2.30           | 119.35  | 2650            | 3150            | 2650            | 920             |                                                                                     |         |                                |
| 18              | 2650           | 2.75           | 98.34   | 2700            | 3210            | 2700            | 970             |                                                                                     |         |                                |
| 19              | 2430           | 3.00           | 90.17   | 2720            | 3210            | 2720            | 990             |                                                                                     |         |                                |

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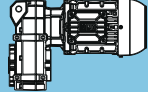
\*\* ... on request



| <b>P<sub>N</sub> = 0.75 hp</b> |                      |                               |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|-------------------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      | <b>f<sub>B</sub></b><br>lb-in | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b><br>rpm   | <b>T<sub>2</sub></b> |                               |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
|                                |                      |                               |          |                       |                       |                       |                       |                                                                                    |                |                                    |
| 6.7                            | 6967                 | 0.80                          | 170.85   | **                    | **                    | **                    | **                    | <b>FH053-11N-80-06F</b>                                                            | 57             | 294                                |
| 7.8                            | 5958                 | 0.90                          | 146.10   | 990                   | 1510                  | **                    | **                    |                                                                                    |                |                                    |
| 8.5                            | 5444                 | 1.00                          | 133.49   | 1260                  | 2090                  | **                    | **                    |                                                                                    |                |                                    |
| 10                             | 4448                 | 1.20                          | 109.08   | 1640                  | 2340                  | 1640                  | 830                   |                                                                                    |                |                                    |
| 11                             | 4064                 | 1.35                          | 99.66    | 1730                  | 2380                  | 1730                  | 880                   |                                                                                    |                |                                    |
| 12                             | 3838                 | 1.40                          | 94.11    | 1800                  | 2380                  | 1800                  | 880                   |                                                                                    |                |                                    |
| 13                             | 3507                 | 1.55                          | 85.99    | 1870                  | 2410                  | 1870                  | 900                   |                                                                                    |                |                                    |
| 14                             | 3349                 | 1.60                          | 82.13    | 1890                  | 2430                  | 1890                  | 920                   |                                                                                    |                |                                    |
| 15                             | 3060                 | 1.75                          | 75.04    | 1960                  | 2450                  | 1960                  | 940                   |                                                                                    |                |                                    |
| 19                             | 2457                 | 2.20                          | 60.26    | 2050                  | 2500                  | 2050                  | 990                   |                                                                                    |                |                                    |
| 21                             | 2245                 | 2.40                          | 55.06    | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |                |                                    |
| 7.1                            | 6540                 | 0.85                          | 242.67   | 470                   | 430                   | **                    | **                    | <b>FH053-11N-80-04E</b>                                                            | 53             | 294                                |
| 7.8                            | 5975                 | 0.90                          | 221.71   | 990                   | 1510                  | **                    | **                    |                                                                                    |                |                                    |
| 9.2                            | 5040                 | 1.10                          | 187.00   | 1440                  | 2290                  | 1440                  | 790                   |                                                                                    |                |                                    |
| 10                             | 4604                 | 1.15                          | 170.85   | 1600                  | 2340                  | 1600                  | 830                   |                                                                                    |                |                                    |
| 12                             | 3937                 | 1.35                          | 146.10   | 1780                  | 2380                  | 1780                  | 880                   |                                                                                    |                |                                    |
| 13                             | 3598                 | 1.50                          | 133.49   | 1840                  | 2410                  | 1840                  | 900                   |                                                                                    |                |                                    |
| 16                             | 2940                 | 1.85                          | 109.08   | 1980                  | 2470                  | 1980                  | 970                   |                                                                                    |                |                                    |
| 17                             | 2686                 | 2.00                          | 99.66    | 2000                  | 2470                  | 2000                  | 970                   |                                                                                    |                |                                    |
| 18                             | 2536                 | 2.10                          | 94.11    | 2020                  | 2500                  | 2020                  | 990                   |                                                                                    |                |                                    |
| 20                             | 2317                 | 2.30                          | 85.99    | 2050                  | 2520                  | 2050                  | 1010                  |                                                                                    |                |                                    |
| 21                             | 2213                 | 2.40                          | 82.13    | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |                |                                    |
| 23                             | 2022                 | 2.65                          | 75.04    | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |
| 13                             | 3563                 | 0.95                          | 87.38    | 1840                  | 2410                  | **                    | **                    | <b>FH052-11N-80-06F</b>                                                            | 55             | 294                                |
| 14                             | 3256                 | 0.95                          | 79.84    | 1910                  | 2430                  | **                    | **                    |                                                                                    |                |                                    |
| 16                             | 2914                 | 1.55                          | 71.46    | 1980                  | 2470                  | 1980                  | 970                   |                                                                                    |                |                                    |
| 17                             | 2662                 | 1.55                          | 65.29    | 2000                  | 2500                  | 2000                  | 990                   |                                                                                    |                |                                    |
| 20                             | 2301                 | 2.35                          | 56.42    | 2050                  | 2520                  | 2050                  | 1010                  |                                                                                    |                |                                    |
| 22                             | 2102                 | 2.55                          | 51.55    | 2070                  | 2540                  | 2070                  | 1030                  |                                                                                    |                |                                    |
| 24                             | 1964                 | 0.95                          | 48.15    | 2090                  | 2470                  | **                    | **                    |                                                                                    |                |                                    |
| 26                             | 1784                 | 3.00                          | 43.75    | 2110                  | 2560                  | 2110                  | 1060                  |                                                                                    |                |                                    |
| 29                             | 1606                 | 1.55                          | 39.38    | 2140                  | 2520                  | 2140                  | 1010                  |                                                                                    |                |                                    |
| 37                             | 1268                 | 2.55                          | 31.09    | 2160                  | 2560                  | 2160                  | 1060                  |                                                                                    |                |                                    |
| 20                             | 2355                 | 1.40                          | 87.38    | 2050                  | 2520                  | 2050                  | 1010                  |                                                                                    |                |                                    |
| 22                             | 2152                 | 1.40                          | 79.84    | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |                |                                    |
| 24                             | 1926                 | 2.35                          | 71.46    | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |
| 26                             | 1760                 | 2.30                          | 65.29    | 2110                  | 2560                  | 2110                  | 1060                  |                                                                                    |                |                                    |
| 36                             | 1298                 | 1.40                          | 48.15    | 2160                  | 2560                  | 2160                  | 1060                  |                                                                                    |                |                                    |
| 44                             | 1061                 | 2.35                          | 39.38    | 2160                  | 2590                  | 2160                  | 1080                  |                                                                                    |                |                                    |
| 9.9                            | 4714                 | 0.80                          | 115.60   | **                    | **                    | **                    | **                    | <b>FH043-11N-80-06F</b>                                                            | 44             | 292                                |
| 12                             | 3858                 | 0.95                          | 94.61    | 560                   | 760                   | **                    | **                    |                                                                                    |                |                                    |
| 13                             | 3520                 | 1.05                          | 86.31    | 830                   | 1350                  | 830                   | **                    |                                                                                    |                |                                    |
| 14                             | 3329                 | 1.10                          | 81.63    | 920                   | 1530                  | 920                   | 560                   |                                                                                    |                |                                    |
| 15                             | 3036                 | 1.20                          | 74.46    | 1080                  | 1870                  | 1080                  | 610                   |                                                                                    |                |                                    |
| 16                             | 2905                 | 1.25                          | 71.24    | 1120                  | 1870                  | 1120                  | 610                   |                                                                                    |                |                                    |
| 18                             | 2650                 | 1.35                          | 64.98    | 1210                  | 1890                  | 1210                  | 630                   |                                                                                    |                |                                    |
| 22                             | 2132                 | 1.70                          | 52.27    | 1350                  | 1930                  | 1350                  | 670                   |                                                                                    |                |                                    |
| 24                             | 1944                 | 1.85                          | 47.68    | 1390                  | 1960                  | 1390                  | 700                   |                                                                                    |                |                                    |
| 11                             | 4371                 | 0.85                          | 162.19   | **                    | **                    | **                    | **                    | <b>FH043-11N-80-04E</b>                                                            | 40             | 292                                |
| 12                             | 3988                 | 0.90                          | 147.96   | 430                   | 490                   | **                    | **                    |                                                                                    |                |                                    |
| 14                             | 3415                 | 1.05                          | 126.72   | 900                   | 1480                  | 900                   | 560                   |                                                                                    |                |                                    |
| 15                             | 3115                 | 1.15                          | 115.60   | 1030                  | 1780                  | 1030                  | 580                   |                                                                                    |                |                                    |
| 18                             | 2550                 | 1.40                          | 94.61    | 1240                  | 1910                  | 1240                  | 650                   |                                                                                    |                |                                    |
| 20                             | 2326                 | 1.55                          | 86.31    | 1300                  | 1930                  | 1300                  | 670                   |                                                                                    |                |                                    |
| 21                             | 2200                 | 1.65                          | 81.63    | 1350                  | 1930                  | 1350                  | 670                   |                                                                                    |                |                                    |
| 23                             | 2007                 | 1.80                          | 74.46    | 1390                  | 1960                  | 1390                  | 700                   |                                                                                    |                |                                    |
| 24                             | 1920                 | 1.85                          | 71.24    | 1390                  | 1960                  | 1390                  | 700                   |                                                                                    |                |                                    |
| 27                             | 1751                 | 2.05                          | 64.98    | 1440                  | 1980                  | 1440                  | 720                   |                                                                                    |                |                                    |
| 33                             | 1409                 | 2.55                          | 52.27    | 1480                  | 2000                  | 1480                  | 740                   |                                                                                    |                |                                    |
| 36                             | 1285                 | 2.80                          | 47.68    | 1510                  | 2020                  | 1510                  | 760                   |                                                                                    |                |                                    |



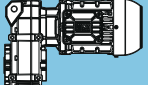
**P<sub>N</sub> = 0.75 hp**

| 60 Hz           |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| 15              | 3091           | 0.95           | 75.79 | 1060            | 1820            | **              | **              | FH042-11N-80-06F                                                                    | 44      | 292                            |
| 16              | 2819           | 0.95           | 69.14 | 1150            | 1890            | **              | **              |                                                                                     |         |                                |
| 18              | 2528           | 1.45           | 61.98 | 1260            | 1910            | 1260            | 650             |                                                                                     |         |                                |
| 20              | 2306           | 1.55           | 56.54 | 1300            | 1930            | 1300            | 670             |                                                                                     |         |                                |
| 23              | 1996           | 1.80           | 48.94 | 1390            | 1960            | 1390            | 700             |                                                                                     |         |                                |
| 26              | 1820           | 1.95           | 44.64 | 1420            | 1980            | 1420            | 720             |                                                                                     |         |                                |
| 28              | 1680           | 0.95           | 41.20 | 1440            | 1910            | **              | **              |                                                                                     |         |                                |
| 30              | 1548           | 2.30           | 37.95 | 1460            | 2000            | 1460            | 740             |                                                                                     |         |                                |
| 33              | 1412           | 2.55           | 34.62 | 1480            | 2000            | 1480            | 740             |                                                                                     |         |                                |
| 34              | 1374           | 1.55           | 33.69 | 1480            | 1960            | 1480            | 700             |                                                                                     |         |                                |
| 37              | 1267           | 2.80           | 31.06 | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                                |
| 43              | 1085           | 2.55           | 26.60 | 1530            | 2000            | 1530            | 740             |                                                                                     |         |                                |
| 23              | 2043           | 1.40           | 75.79 | 1370            | 1960            | 1370            | 700             | FH042-11N-80-04E                                                                    | 40      | 292                            |
| 25              | 1863           | 1.40           | 69.14 | 1420            | 1960            | 1420            | 700             |                                                                                     |         |                                |
| 28              | 1670           | 2.15           | 61.98 | 1440            | 1980            | 1440            | 720             |                                                                                     |         |                                |
| 31              | 1524           | 2.35           | 56.54 | 1460            | 2000            | 1460            | 740             |                                                                                     |         |                                |
| 35              | 1319           | 2.70           | 48.94 | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                                |
| 39              | 1203           | 2.95           | 44.64 | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                                |
| 42              | 1110           | 1.40           | 41.20 | 1530            | 2000            | 1530            | 740             |                                                                                     |         |                                |
| 51              | 908            | 2.35           | 33.69 | 1550            | 2020            | 1550            | 760             |                                                                                     |         |                                |
| 18              | 2595           | 0.80           | 63.63 | **              | **              | **              | **              | FH032-11N-80-06F                                                                    | 40      | 290                            |
| 20              | 2327           | 0.85           | 57.07 | 450             | 450             | **              | **              |                                                                                     |         |                                |
| 22              | 2110           | 0.95           | 51.75 | 630             | 580             | **              | **              |                                                                                     |         |                                |
| 25              | 1849           | 1.10           | 45.35 | 790             | 520             | 790             | 520             |                                                                                     |         |                                |
| 28              | 1677           | 1.20           | 41.12 | 850             | 630             | 850             | 630             |                                                                                     |         |                                |
| 33              | 1429           | 1.40           | 35.03 | 940             | 580             | 940             | 580             |                                                                                     |         |                                |
| 36              | 1295           | 1.55           | 31.76 | 990             | 670             | 990             | 670             |                                                                                     |         |                                |
| 41              | 1141           | 1.75           | 27.97 | 1030            | 630             | 1030            | 630             |                                                                                     |         |                                |
| 45              | 1034           | 1.90           | 25.36 | 1060            | 700             | 1060            | 700             |                                                                                     |         |                                |
| 51              | 918            | 1.45           | 22.50 | 1080            | 700             | 1080            | 700             |                                                                                     |         |                                |
| 54              | 862            | 2.30           | 21.14 | 1080            | 670             | 1080            | 670             |                                                                                     |         |                                |
| 59              | 782            | 2.50           | 19.17 | 1100            | 720             | 1100            | 720             |                                                                                     |         |                                |
| 64              | 729            | 1.85           | 17.88 | 1100            | 720             | 1100            | 720             |                                                                                     |         |                                |
| 71              | 655            | 3.00           | 16.06 | 1120            | 720             | 1120            | 720             |                                                                                     |         |                                |
| 83              | 563            | 2.40           | 13.81 | 1120            | 740             | 1120            | 740             |                                                                                     |         |                                |
| 103             | 450            | 3.00           | 11.03 | 1150            | 760             | 1150            | 760             |                                                                                     |         |                                |
| 25              | 1891           | 1.05           | 70.17 | 760             | 520             | 760             | **              | FH032-11N-80-04E                                                                    | 35      | 290                            |
| 27              | 1715           | 1.15           | 63.63 | 850             | 630             | 850             | 630             |                                                                                     |         |                                |
| 30              | 1538           | 1.30           | 57.07 | 920             | 580             | 920             | 580             |                                                                                     |         |                                |
| 33              | 1395           | 1.40           | 51.75 | 970             | 650             | 970             | 650             |                                                                                     |         |                                |
| 38              | 1222           | 1.60           | 45.35 | 1010            | 630             | 1010            | 630             |                                                                                     |         |                                |
| 42              | 1108           | 1.80           | 41.12 | 1030            | 700             | 1030            | 700             |                                                                                     |         |                                |
| 49              | 944            | 2.10           | 35.03 | 1080            | 670             | 1080            | 670             |                                                                                     |         |                                |
| 54              | 856            | 2.30           | 31.76 | 1080            | 720             | 1080            | 720             |                                                                                     |         |                                |
| 62              | 754            | 2.60           | 27.97 | 1100            | 700             | 1100            | 700             |                                                                                     |         |                                |
| 68              | 683            | 2.85           | 25.36 | 1120            | 740             | 1120            | 740             |                                                                                     |         |                                |
| 77              | 606            | 2.15           | 22.50 | 1120            | 740             | 1120            | 740             |                                                                                     |         |                                |
| 96              | 482            | 2.80           | 17.88 | 1150            | 760             | 1150            | 760             |                                                                                     |         |                                |

**F**

Legend see page 187

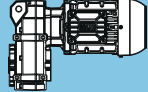
\*\* ... on request

| <b>P<sub>N</sub> = 0.75 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |          |                                 |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------|---------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b> | <b>Dimension sheet see page</b> |
| <b>n<sub>50</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |          |                                 |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |          |                                 |
| <b>30</b>                      | 1530                 | 0.80                 | 37.52    | **                    | **                    | **                    | **                    | <b>FH022-11N-80-06F</b>                                                            | 35       | 288                             |
| <b>34</b>                      | 1378                 | 0.85                 | 33.78    | 990                   | 450                   | **                    | **                    |                                                                                    |          |                                 |
| <b>39</b>                      | 1196                 | 1.00                 | 29.32    | 1060                  | 430                   | **                    | **                    |                                                                                    |          |                                 |
| <b>43</b>                      | 1076                 | 1.10                 | 26.39    | 1080                  | 490                   | 1080                  | 490                   |                                                                                    |          |                                 |
| <b>52</b>                      | 893                  | 1.30                 | 21.89    | 1100                  | 470                   | 1100                  | 470                   |                                                                                    |          |                                 |
| <b>57</b>                      | 819                  | 0.95                 | 20.08    | 1120                  | 520                   | **                    | **                    |                                                                                    |          |                                 |
| <b>58</b>                      | 803                  | 1.45                 | 19.70    | 1120                  | 520                   | 1120                  | 520                   |                                                                                    |          |                                 |
| <b>60</b>                      | 770                  | 1.50                 | 18.88    | 1120                  | 490                   | 1120                  | 490                   |                                                                                    |          |                                 |
| <b>67</b>                      | 693                  | 1.70                 | 17.00    | 1150                  | 540                   | 1150                  | 540                   |                                                                                    |          |                                 |
| <b>69</b>                      | 672                  | 1.75                 | 16.48    | 1150                  | 520                   | 1150                  | 520                   |                                                                                    |          |                                 |
| <b>72</b>                      | 645                  | 1.20                 | 15.82    | 1150                  | 540                   | 1150                  | 540                   |                                                                                    |          |                                 |
| <b>77</b>                      | 605                  | 1.95                 | 14.84    | 1150                  | 540                   | 1150                  | 540                   |                                                                                    |          |                                 |
| <b>94</b>                      | 493                  | 2.35                 | 12.09    | 1170                  | 540                   | 1170                  | 540                   |                                                                                    |          |                                 |
| <b>105</b>                     | 444                  | 2.60                 | 10.89    | 1150                  | 560                   | 1150                  | 560                   |                                                                                    |          |                                 |
| <b>120</b>                     | 388                  | 1.95                 | 9.52     | 1080                  | 580                   | 1080                  | 580                   |                                                                                    |          |                                 |
| <b>160</b>                     | 290                  | 2.60                 | 7.11     | 970                   | 580                   | 970                   | 580                   |                                                                                    |          |                                 |
| <b>186</b>                     | 250                  | 3.00                 | 6.13     | 920                   | 580                   | 920                   | 580                   |                                                                                    |          |                                 |
| <b>31</b>                      | 1499                 | 0.80                 | 55.64    | **                    | **                    | **                    | **                    |                                                                                    |          |                                 |
| <b>35</b>                      | 1312                 | 0.90                 | 48.69    | 1010                  | 430                   | **                    | **                    |                                                                                    |          |                                 |
| <b>39</b>                      | 1181                 | 1.00                 | 43.83    | 1060                  | 490                   | **                    | **                    |                                                                                    |          |                                 |
| <b>46</b>                      | 1011                 | 1.15                 | 37.52    | 1080                  | 470                   | 1080                  | 470                   |                                                                                    |          |                                 |
| <b>51</b>                      | 910                  | 1.30                 | 33.78    | 1100                  | 520                   | 1100                  | 520                   |                                                                                    |          |                                 |
| <b>59</b>                      | 790                  | 1.50                 | 29.32    | 1120                  | 490                   | 1120                  | 490                   |                                                                                    |          |                                 |
| <b>65</b>                      | 711                  | 1.65                 | 26.39    | 1150                  | 540                   | 1150                  | 540                   |                                                                                    |          |                                 |
| <b>70</b>                      | 667                  | 1.15                 | 24.76    | 1150                  | 540                   | 1150                  | 540                   |                                                                                    |          |                                 |
| <b>79</b>                      | 590                  | 2.00                 | 21.89    | 1150                  | 520                   | 1150                  | 520                   |                                                                                    |          |                                 |
| <b>86</b>                      | 541                  | 1.40                 | 20.08    | 1150                  | 560                   | 1150                  | 560                   |                                                                                    |          |                                 |
| <b>88</b>                      | 531                  | 2.20                 | 19.70    | 1150                  | 560                   | 1150                  | 560                   |                                                                                    |          |                                 |
| <b>91</b>                      | 509                  | 2.30                 | 18.88    | 1170                  | 540                   | 1170                  | 540                   |                                                                                    |          |                                 |
| <b>101</b>                     | 458                  | 2.55                 | 17.00    | 1170                  | 560                   | 1170                  | 560                   |                                                                                    |          |                                 |
| <b>105</b>                     | 444                  | 2.60                 | 16.48    | 1150                  | 540                   | 1150                  | 540                   |                                                                                    |          |                                 |
| <b>109</b>                     | 426                  | 1.75                 | 15.82    | 1120                  | 560                   | 1120                  | 560                   |                                                                                    |          |                                 |
| <b>116</b>                     | 400                  | 2.90                 | 14.84    | 1100                  | 560                   | 1100                  | 560                   |                                                                                    |          |                                 |
| <b>142</b>                     | 329                  | 2.30                 | 12.19    | 1010                  | 580                   | 1010                  | 580                   |                                                                                    |          |                                 |
| <b>143</b>                     | 326                  | 3.55                 | 12.09    | 1030                  | 560                   | 1030                  | 560                   |                                                                                    |          |                                 |
| <b>158</b>                     | 293                  | 3.95                 | 10.89    | 990                   | 580                   | 990                   | 580                   |                                                                                    |          |                                 |
| <b>181</b>                     | 257                  | 2.90                 | 9.52     | 940                   | 580                   | 940                   | 580                   |                                                                                    |          |                                 |
| <b>243</b>                     | 192                  | 3.90                 | 7.11     | 830                   | 610                   | 830                   | 610                   |                                                                                    |          |                                 |
| <b>281</b>                     | 165                  | 4.55                 | 6.13     | 790                   | 610                   | 790                   | 610                   |                                                                                    |          |                                 |
| <b>322</b>                     | 144                  | 5.20                 | 5.35     | 760                   | 610                   | 760                   | 610                   |                                                                                    |          |                                 |
| <b>439</b>                     | 106                  | 6.05                 | 3.93     | 670                   | 610                   | 670                   | 610                   |                                                                                    |          |                                 |

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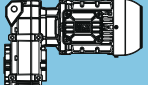
**P<sub>N</sub> = 1.0 hp**

| 60 Hz           |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| <b>0.30</b>     | 190518         | 0.85           | 5911.67 | 13060           | 22100           | **              | **              | <b>FH155-11P-L80-04F</b>                                                            | 1534    | 320                            |
| <b>0.33</b>     | 173374         | 0.95           | 5407.29 | 15650           | 25560           | **              | **              |                                                                                     |         |                                |
| <b>0.36</b>     | 154731         | 1.05           | 4838.19 | 17800           | 25940           | 17800           | **              |                                                                                     |         |                                |
| <b>0.43</b>     | 129326         | 1.25           | 4085.50 | 20050           | 26480           | 20050           | 26480           |                                                                                     |         |                                |
| <b>0.45</b>     | 123873         | 1.30           | 3923.28 | 20460           | 26590           | 20460           | 26590           |                                                                                     |         |                                |
| <b>0.53</b>     | 104761         | 1.55           | 3343.64 | 21690           | 27000           | 21690           | 27000           |                                                                                     |         |                                |
| <b>0.54</b>     | 102636         | 1.60           | 3284.26 | 21810           | 27040           | 21810           | 27040           |                                                                                     |         |                                |
| <b>0.65</b>     | 83433          | 1.95           | 2711.35 | 22770           | 27450           | 22770           | 27450           |                                                                                     |         |                                |
| <b>0.66</b>     | 81906          | 1.95           | 2661.75 | 22840           | 27490           | 22840           | 27490           |                                                                                     |         |                                |
| <b>0.78</b>     | 68591          | 2.35           | 2269.72 | 23340           | 27760           | 23340           | 27760           |                                                                                     |         |                                |
| <b>0.96</b>     | 54166          | 2.95           | 1839.52 | 23780           | 28080           | 23780           | 28080           |                                                                                     |         |                                |
| <b>0.28</b>     | 202903         | 0.80           | 4085.50 | **              | **              | **              | **              | <b>FH155-11P-90S/L-06E</b>                                                          | 1537    | 320                            |
| <b>0.29</b>     | 194349         | 0.85           | 3923.28 | 12360           | 20610           | **              | **              |                                                                                     |         |                                |
| <b>0.34</b>     | 164790         | 1.00           | 3343.64 | 16700           | 25740           | **              | **              |                                                                                     |         |                                |
| <b>0.35</b>     | 161450         | 1.00           | 3284.26 | 17090           | 25810           | 17090           | **              |                                                                                     |         |                                |
| <b>0.42</b>     | 132266         | 1.25           | 2711.35 | 19830           | 26440           | 19830           | 26440           |                                                                                     |         |                                |
| <b>0.43</b>     | 129514         | 1.25           | 2661.75 | 20050           | 26480           | 20050           | 26480           |                                                                                     |         |                                |
| <b>0.50</b>     | 109591         | 1.50           | 2269.72 | 21400           | 26910           | 21400           | 26910           |                                                                                     |         |                                |
| <b>0.62</b>     | 87459          | 1.85           | 1839.52 | 22590           | 27380           | 22590           | 27380           |                                                                                     |         |                                |
| <b>0.76</b>     | 73014          | 2.20           | 2318.30 | 23180           | 27670           | 23180           | 27670           | <b>FH154-11P-L80-04F</b>                                                            | 1506    | 318                            |
| <b>0.88</b>     | 61981          | 2.60           | 1996.74 | 23560           | 27920           | 23560           | 27920           |                                                                                     |         |                                |
| <b>0.96</b>     | 56486          | 2.85           | 1834.90 | 23720           | 28030           | 23720           | 28030           |                                                                                     |         |                                |
| <b>0.49</b>     | 115280         | 1.40           | 2318.30 | 21040           | 26800           | 21040           | 26800           | <b>FH154-11P-90S/L-06E</b>                                                          | 1508    | 318                            |
| <b>0.57</b>     | 98476          | 1.65           | 1996.74 | 22030           | 27130           | 22030           | 27130           |                                                                                     |         |                                |
| <b>0.62</b>     | 89937          | 1.80           | 1834.90 | 22460           | 27310           | 22460           | 27310           |                                                                                     |         |                                |
| <b>0.66</b>     | 84479          | 1.90           | 1727.10 | 22730           | 27430           | 22730           | 27430           |                                                                                     |         |                                |
| <b>0.71</b>     | 77884          | 2.05           | 1602.16 | 23000           | 27580           | 23000           | 27580           |                                                                                     |         |                                |
| <b>0.72</b>     | 76667          | 2.10           | 1580.39 | 23040           | 27610           | 23040           | 27610           |                                                                                     |         |                                |
| <b>0.81</b>     | 68124          | 2.35           | 1415.96 | 23360           | 27790           | 23360           | 27790           |                                                                                     |         |                                |
| <b>0.83</b>     | 66253          | 2.45           | 1379.93 | 23430           | 27830           | 23430           | 27830           |                                                                                     |         |                                |
| <b>0.84</b>     | 65631          | 2.45           | 1366.97 | 23450           | 27830           | 23450           | 27830           |                                                                                     |         |                                |
| <b>0.94</b>     | 57829          | 2.80           | 1219.56 | 23690           | 28010           | 23690           | 28010           |                                                                                     |         |                                |
| <b>0.96</b>     | 56659          | 2.85           | 1197.38 | 23720           | 28030           | 23720           | 28030           |                                                                                     |         |                                |
| <b>0.76</b>     | 74174          | 1.60           | 2307.03 | 18390           | 20080           | 18390           | 20080           | <b>FH124-11P-L80-04F</b>                                                            | 950     | 314                            |
| <b>0.87</b>     | 64142          | 1.80           | 2011.51 | 18820           | 20320           | 18820           | 20320           |                                                                                     |         |                                |
| <b>0.99</b>     | 56329          | 2.05           | 1781.14 | 19130           | 20530           | 19130           | 20530           |                                                                                     |         |                                |
| <b>1.0</b>      | 54683          | 2.15           | 1732.67 | 19180           | 20570           | 19180           | 20570           |                                                                                     |         |                                |
| <b>1.1</b>      | 48608          | 2.40           | 1552.98 | 19380           | 20700           | 19380           | 20700           |                                                                                     |         |                                |
| <b>1.2</b>      | 46562          | 2.50           | 1493.78 | 19420           | 20770           | 19420           | 20770           |                                                                                     |         |                                |
| <b>1.3</b>      | 41266          | 2.80           | 1337.70 | 19580           | 20880           | 19580           | 20880           |                                                                                     |         |                                |
| <b>1.4</b>      | 40011          | 2.90           | 1302.43 | 19600           | 20930           | 19600           | 20930           |                                                                                     |         |                                |
| <b>0.50</b>     | 116140         | 1.00           | 2307.03 | 15600           | 19040           | 15600           | **              | <b>FH124-11P-90S/L-06E</b>                                                          | 952     | 314                            |
| <b>0.57</b>     | 100849         | 1.15           | 2011.51 | 16820           | 19420           | 16820           | 19420           |                                                                                     |         |                                |
| <b>0.64</b>     | 88751          | 1.30           | 1781.14 | 17600           | 19720           | 17600           | 19720           |                                                                                     |         |                                |
| <b>0.66</b>     | 86336          | 1.35           | 1732.67 | 17740           | 19780           | 17740           | 19780           |                                                                                     |         |                                |
| <b>0.74</b>     | 76907          | 1.50           | 1552.98 | 18250           | 20010           | 18250           | 20010           |                                                                                     |         |                                |
| <b>0.77</b>     | 73823          | 1.60           | 1493.78 | 18410           | 20080           | 18410           | 20080           |                                                                                     |         |                                |
| <b>0.86</b>     | 65702          | 1.80           | 1337.70 | 18770           | 20280           | 18770           | 20280           |                                                                                     |         |                                |
| <b>0.88</b>     | 63838          | 1.85           | 1302.43 | 18840           | 20320           | 18840           | 20320           |                                                                                     |         |                                |
| <b>0.98</b>     | 56988          | 2.05           | 1172.32 | 19090           | 20500           | 19090           | 20500           |                                                                                     |         |                                |
| <b>0.99</b>     | 55998          | 2.10           | 1151.94 | 19130           | 20530           | 19130           | 20530           |                                                                                     |         |                                |
| <b>1.0</b>      | 54424          | 2.15           | 1121.89 | 19180           | 20570           | 19180           | 20570           |                                                                                     |         |                                |
| <b>1.1</b>      | 49177          | 2.35           | 1022.15 | 19360           | 20700           | 19360           | 20700           |                                                                                     |         |                                |
| <b>1.2</b>      | 46288          | 2.50           | 966.09  | 19450           | 20770           | 19450           | 20770           |                                                                                     |         |                                |
| <b>1.3</b>      | 43080          | 2.70           | 904.76  | 19510           | 20840           | 19510           | 20840           |                                                                                     |         |                                |

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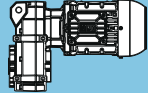
\*\* ... on request



| <b>P<sub>N</sub> = 1.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.77</b>                   | 74719                | 0.95                 | 2276.77  | 9640                  | 13400                 | **                    | **                    | <b>FH104-11P-L80-04F</b>                                                           | 642            | 310                                |
| <b>0.89</b>                   | 64595                | 1.10                 | 1976.36  | 10880                 | 13690                 | 10880                 | 13690                 |                                                                                    |                |                                    |
| <b>1.0</b>                    | 57098                | 1.25                 | 1757.78  | 11620                 | 13920                 | 11620                 | 13920                 |                                                                                    |                |                                    |
| <b>1.2</b>                    | 49260                | 1.45                 | 1525.85  | 12250                 | 14140                 | 12250                 | 14140                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 42212                | 1.70                 | 1318.33  | 12720                 | 14340                 | 12720                 | 14340                 |                                                                                    |                |                                    |
| <b>1.4</b>                    | 40890                | 1.75                 | 1279.68  | 12790                 | 14370                 | 12790                 | 14370                 |                                                                                    |                |                                    |
| <b>1.5</b>                    | 36740                | 1.95                 | 1156.94  | 13020                 | 14500                 | 13020                 | 14500                 |                                                                                    |                |                                    |
| <b>1.6</b>                    | 34966                | 2.05                 | 1105.64  | 13110                 | 14550                 | 13110                 | 14550                 |                                                                                    |                |                                    |
| <b>1.8</b>                    | 31564                | 2.25                 | 1004.29  | 13260                 | 14640                 | 13260                 | 14640                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 27774                | 2.55                 | 892.89   | 13420                 | 14750                 | 13420                 | 14750                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 23761                | 3.00                 | 775.08   | 13560                 | 14860                 | 13560                 | 14860                 |                                                                                    |                |                                    |
| <b>0.65</b>                   | 89035                | 0.80                 | 1757.78  | **                    | **                    | **                    | **                    | <b>FH104-11P-90S/L-06E</b>                                                         | 644            | 310                                |
| <b>0.67</b>                   | 86492                | 0.85                 | 1707.58  | 7640                  | 12810                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.75</b>                   | 76971                | 0.95                 | 1525.85  | 9310                  | 13330                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.78</b>                   | 74365                | 1.00                 | 1474.19  | 9690                  | 13420                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.87</b>                   | 66231                | 1.10                 | 1318.33  | 10700                 | 13650                 | 10700                 | 13650                 |                                                                                    |                |                                    |
| <b>0.89</b>                   | 64158                | 1.15                 | 1279.68  | 10930                 | 13710                 | 10930                 | 13710                 |                                                                                    |                |                                    |
| <b>0.99</b>                   | 57767                | 1.25                 | 1156.94  | 11560                 | 13890                 | 11560                 | 13890                 |                                                                                    |                |                                    |
| <b>1.0</b>                    | 55092                | 1.30                 | 1105.64  | 11780                 | 13960                 | 11780                 | 13960                 |                                                                                    |                |                                    |
| <b>1.1</b>                    | 49837                | 1.45                 | 1004.29  | 12210                 | 14120                 | 12210                 | 14120                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 44036                | 1.65                 | 892.89   | 12610                 | 14280                 | 12610                 | 14280                 |                                                                                    |                |                                    |
| <b>1.5</b>                    | 37912                | 1.90                 | 775.08   | 12950                 | 14460                 | 12950                 | 14460                 |                                                                                    |                |                                    |
| <b>1.6</b>                    | 35976                | 2.00                 | 738.55   | 13060                 | 14520                 | 13060                 | 14520                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 32419                | 2.20                 | 669.67   | 13220                 | 14610                 | 13220                 | 14610                 |                                                                                    |                |                                    |
| <b>1.8</b>                    | 30908                | 2.30                 | 641.10   | 13290                 | 14660                 | 13290                 | 14660                 |                                                                                    |                |                                    |
| <b>2.1</b>                    | 26320                | 2.70                 | 553.91   | 13470                 | 14790                 | 13470                 | 14790                 |                                                                                    |                |                                    |
| <b>1.1</b>                    | 51034                | 0.80                 | 1545.54  | **                    | **                    | **                    | **                    | <b>FH094-11P-L80-04F</b>                                                           | 410            | 306                                |
| <b>1.3</b>                    | 42880                | 0.95                 | 1306.62  | 5620                  | 8660                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.4</b>                    | 41514                | 1.00                 | 1264.97  | 5890                  | 8700                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.6</b>                    | 34881                | 1.15                 | 1069.42  | 6920                  | 8920                  | 6920                  | 8920                  |                                                                                    |                |                                    |
| <b>1.8</b>                    | 31629                | 1.30                 | 973.69   | 7330                  | 9040                  | 7330                  | 9040                  |                                                                                    |                |                                    |
| <b>2.1</b>                    | 26520                | 1.55                 | 823.17   | 7870                  | 9220                  | 7870                  | 9220                  |                                                                                    |                |                                    |
| <b>2.4</b>                    | 23556                | 1.70                 | 735.68   | 8120                  | 9310                  | 8120                  | 9310                  |                                                                                    |                |                                    |
| <b>2.8</b>                    | 19669                | 2.05                 | 621.95   | 8390                  | 9440                  | 8390                  | 9440                  |                                                                                    |                |                                    |
| <b>2.9</b>                    | 19002                | 2.10                 | 602.09   | 8430                  | 9460                  | 8430                  | 9460                  |                                                                                    |                |                                    |
| <b>3.5</b>                    | 15833                | 2.55                 | 509.01   | 8590                  | 9580                  | 8590                  | 9580                  |                                                                                    |                |                                    |
| <b>3.6</b>                    | 15124                | 2.65                 | 488.23   | 8630                  | 9600                  | 8630                  | 9600                  |                                                                                    |                |                                    |
| <b>1.2</b>                    | 49319                | 0.85                 | 973.69   | 3960                  | 6230                  | **                    | **                    | <b>FH094-11P-90S/L-06E</b>                                                         | 412            | 306                                |
| <b>1.4</b>                    | 41525                | 1.00                 | 823.17   | 5870                  | 8700                  | **                    | **                    |                                                                                    |                |                                    |
| <b>1.6</b>                    | 36960                | 1.10                 | 735.68   | 6630                  | 8860                  | 6630                  | 8860                  |                                                                                    |                |                                    |
| <b>1.8</b>                    | 30991                | 1.30                 | 621.95   | 7420                  | 9060                  | 7420                  | 9060                  |                                                                                    |                |                                    |
| <b>1.9</b>                    | 30001                | 1.35                 | 602.09   | 7510                  | 9080                  | 7510                  | 9080                  |                                                                                    |                |                                    |
| <b>2.2</b>                    | 25155                | 1.60                 | 509.01   | 7980                  | 9260                  | 7980                  | 9260                  |                                                                                    |                |                                    |
| <b>2.3</b>                    | 24029                | 1.70                 | 488.23   | 8070                  | 9280                  | 8070                  | 9280                  |                                                                                    |                |                                    |
| <b>2.8</b>                    | 20106                | 2.00                 | 412.76   | 8360                  | 9420                  | 8360                  | 9420                  |                                                                                    |                |                                    |
| <b>3.3</b>                    | 16590                | 2.45                 | 345.53   | 8570                  | 9550                  | 8570                  | 9550                  |                                                                                    |                |                                    |
| <b>3.5</b>                    | 15838                | 2.55                 | 331.24   | 8590                  | 9580                  | 8590                  | 9580                  |                                                                                    |                |                                    |
| <b>4.0</b>                    | 15973                | 2.50                 | 288.50   | 8590                  | 9580                  | 8590                  | 9580                  | <b>FH093-11P-90S/L-06E</b>                                                         | 384            | 304                                |
| <b>4.7</b>                    | 13504                | 2.95                 | 243.90   | 8700                  | 9640                  | 8700                  | 9640                  |                                                                                    |                |                                    |

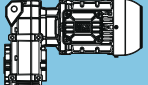
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| <b>P<sub>N</sub> = 1.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                     |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                     |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                     |                |                                    |
| <b>1.8</b>                    | 31558                | 0.85                 | 957.69   | 2770                  | 4270                  | **                    | **                    | <b>FH084-11P-L80-04F</b>                                                            | 291            | 302                                |
| <b>1.9</b>                    | 30064                | 0.90                 | 914.22   | 3300                  | 5420                  | **                    | **                    |                                                                                     |                |                                    |
| <b>2.1</b>                    | 27443                | 1.00                 | 836.22   | 4070                  | 7040                  | **                    | **                    |                                                                                     |                |                                    |
| <b>2.4</b>                    | 24454                | 1.10                 | 748.21   | 4700                  | 8430                  | 4700                  | 1840                  |                                                                                     |                |                                    |
| <b>2.8</b>                    | 20481                | 1.30                 | 631.81   | 5350                  | 9310                  | 5350                  | 2000                  |                                                                                     |                |                                    |
| <b>2.9</b>                    | 19627                | 1.40                 | 606.72   | 5460                  | 9330                  | 5460                  | 2020                  |                                                                                     |                |                                    |
| <b>3.0</b>                    | 19158                | 1.40                 | 592.20   | 5530                  | 9350                  | 5530                  | 2050                  |                                                                                     |                |                                    |
| <b>3.4</b>                    | 16591                | 1.65                 | 517.08   | 5820                  | 9460                  | 5820                  | 2160                  |                                                                                     |                |                                    |
| <b>3.5</b>                    | 16296                | 1.65                 | 507.90   | 5850                  | 9460                  | 5850                  | 2160                  |                                                                                     |                |                                    |
| <b>3.7</b>                    | 15344                | 1.75                 | 480.21   | 5930                  | 9510                  | 5930                  | 2200                  |                                                                                     |                |                                    |
| <b>4.2</b>                    | 13288                | 2.00                 | 419.30   | 6110                  | 9600                  | 6110                  | 2290                  |                                                                                     |                |                                    |
| <b>4.3</b>                    | 13018                | 2.05                 | 411.63   | 6140                  | 9600                  | 6140                  | 2290                  |                                                                                     |                |                                    |
| <b>4.4</b>                    | 12687                | 2.10                 | 401.99   | 6160                  | 9620                  | 6160                  | 2320                  |                                                                                     |                |                                    |
| <b>5.0</b>                    | 10963                | 2.45                 | 351.00   | 6270                  | 9690                  | 6270                  | 2380                  |                                                                                     |                |                                    |
| <b>5.4</b>                    | 10092                | 2.65                 | 325.80   | 6340                  | 9710                  | 6340                  | 2410                  |                                                                                     |                |                                    |
| <b>1.8</b>                    | 32002                | 0.85                 | 631.81   | 2560                  | 3840                  | **                    | **                    | <b>FH084-11P-90S/L-06E</b>                                                          | 291            | 302                                |
| <b>1.9</b>                    | 30669                | 0.90                 | 606.72   | 3100                  | 4990                  | **                    | **                    |                                                                                     |                |                                    |
| <b>2.2</b>                    | 26031                | 1.05                 | 517.08   | 4380                  | 7730                  | 4380                  | **                    |                                                                                     |                |                                    |
| <b>2.3</b>                    | 25516                | 1.05                 | 507.90   | 4500                  | 7980                  | 4500                  | 1800                  |                                                                                     |                |                                    |
| <b>2.4</b>                    | 24076                | 1.15                 | 480.21   | 4770                  | 8570                  | 4770                  | 1840                  |                                                                                     |                |                                    |
| <b>2.7</b>                    | 20936                | 1.30                 | 419.30   | 5280                  | 9280                  | 5280                  | 1980                  |                                                                                     |                |                                    |
| <b>2.8</b>                    | 20511                | 1.30                 | 411.63   | 5350                  | 9310                  | 5350                  | 2000                  |                                                                                     |                |                                    |
| <b>3.3</b>                    | 17346                | 1.55                 | 351.00   | 5730                  | 9420                  | 5730                  | 2110                  |                                                                                     |                |                                    |
| <b>3.5</b>                    | 16035                | 1.70                 | 325.80   | 5870                  | 9490                  | 5870                  | 2180                  |                                                                                     |                |                                    |
| <b>4.0</b>                    | 13886                | 1.95                 | 284.47   | 6070                  | 9550                  | 6070                  | 2250                  |                                                                                     |                |                                    |
| <b>4.9</b>                    | 12914                | 2.10                 | 358.52   | 6140                  | 9600                  | 6140                  | 2290                  | <b>FH083-11P-L80-04F</b>                                                            | 262            | 300                                |
| <b>6.2</b>                    | 10221                | 2.60                 | 283.76   | 6320                  | 9710                  | 6320                  | 2410                  |                                                                                     |                |                                    |
| <b>7.1</b>                    | 8924                 | 3.00                 | 247.77   | 6410                  | 9760                  | 6410                  | 2450                  |                                                                                     |                |                                    |
| <b>3.2</b>                    | 19850                | 1.35                 | 358.52   | 5440                  | 9330                  | 5440                  | 2020                  | <b>FH083-11P-90S/L-06E</b>                                                          | 262            | 300                                |
| <b>4.0</b>                    | 15711                | 1.70                 | 283.76   | 5910                  | 9490                  | 5910                  | 2180                  |                                                                                     |                |                                    |
| <b>4.6</b>                    | 13718                | 1.95                 | 247.77   | 6070                  | 9580                  | 6070                  | 2270                  |                                                                                     |                |                                    |
| <b>5.2</b>                    | 12123                | 2.20                 | 218.97   | 6200                  | 9640                  | 6200                  | 2340                  |                                                                                     |                |                                    |
| <b>6.2</b>                    | 10252                | 2.60                 | 185.17   | 6320                  | 9710                  | 6320                  | 2410                  |                                                                                     |                |                                    |
| <b>6.4</b>                    | 9981                 | 2.70                 | 180.28   | 6340                  | 9710                  | 6340                  | 2410                  |                                                                                     |                |                                    |
| <b>4.6</b>                    | 13881                | 1.00                 | 385.37   | 3330                  | 3550                  | **                    | **                    | <b>FH073-11P-L80-04F</b>                                                            | 157            | 298                                |
| <b>5.8</b>                    | 11001                | 1.25                 | 305.42   | 3840                  | 3690                  | 3840                  | 1170                  |                                                                                     |                |                                    |
| <b>7.4</b>                    | 8542                 | 1.60                 | 237.15   | 4160                  | 3820                  | 4160                  | 1300                  |                                                                                     |                |                                    |
| <b>9.0</b>                    | 7009                 | 1.90                 | 194.58   | 4320                  | 3910                  | 4320                  | 1370                  |                                                                                     |                |                                    |
| <b>12</b>                     | 5428                 | 2.45                 | 150.69   | 4430                  | 3980                  | 4020                  | 1460                  |                                                                                     |                |                                    |
| <b>3.7</b>                    | 16910                | 0.80                 | 305.42   | **                    | **                    | **                    | **                    | <b>FH073-11P-90S/L-06E</b>                                                          | 159            | 298                                |
| <b>4.8</b>                    | 13130                | 1.05                 | 237.15   | 3480                  | 3570                  | 3480                  | **                    |                                                                                     |                |                                    |
| <b>5.9</b>                    | 10773                | 1.25                 | 194.58   | 3890                  | 3710                  | 3890                  | 1170                  |                                                                                     |                |                                    |
| <b>7.6</b>                    | 8343                 | 1.60                 | 150.69   | 4180                  | 3840                  | 4180                  | 1300                  |                                                                                     |                |                                    |
| <b>10</b>                     | 6346                 | 2.10                 | 114.62   | 4360                  | 3930                  | 4320                  | 1420                  |                                                                                     |                |                                    |
| <b>12</b>                     | 5233                 | 2.55                 | 94.52    | 4450                  | 4000                  | 4000                  | 1460                  |                                                                                     |                |                                    |
| <b>6.6</b>                    | 9597                 | 0.80                 | 266.44   | **                    | **                    | **                    | **                    | <b>FH063-11P-L80-04F</b>                                                            | 106            | 296                                |
| <b>7.2</b>                    | 8800                 | 0.85                 | 244.32   | 1240                  | 1730                  | **                    | **                    |                                                                                     |                |                                    |
| <b>8.5</b>                    | 7441                 | 1.00                 | 206.59   | 1820                  | 2810                  | 1820                  | **                    |                                                                                     |                |                                    |
| <b>9.3</b>                    | 6823                 | 1.10                 | 189.44   | 2020                  | 2860                  | 2020                  | 610                   |                                                                                     |                |                                    |
| <b>10</b>                     | 6090                 | 1.20                 | 169.09   | 2200                  | 2920                  | 2200                  | 670                   |                                                                                     |                |                                    |
| <b>11</b>                     | 5585                 | 1.30                 | 155.05   | 2320                  | 2970                  | 2320                  | 720                   |                                                                                     |                |                                    |
| <b>14</b>                     | 4688                 | 1.55                 | 130.15   | 2470                  | 3030                  | 2470                  | 810                   |                                                                                     |                |                                    |
| <b>15</b>                     | 4299                 | 1.70                 | 119.35   | 2520                  | 3060                  | 2520                  | 830                   |                                                                                     |                |                                    |
| <b>18</b>                     | 3542                 | 2.05                 | 98.34    | 2610                  | 3120                  | 2610                  | 900                   |                                                                                     |                |                                    |
| <b>20</b>                     | 3248                 | 2.25                 | 90.17    | 2650                  | 3150                  | 2650                  | 920                   |                                                                                     |                |                                    |
| <b>22</b>                     | 2899                 | 2.55                 | 80.48    | 2680                  | 3190                  | 2680                  | 940                   |                                                                                     |                |                                    |
| <b>24</b>                     | 2658                 | 2.75                 | 73.80    | 2700                  | 3210                  | 2630                  | 970                   |                                                                                     |                |                                    |

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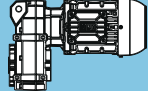
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| <b>P<sub>N</sub> = 1.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>6.8</b>                    | 9362                 | 0.80                 | 169.09   | **                    | **                    | **                    | **                    | <b>FH063-11P-90S/L-06E</b>                                                         | 108            | 296                                |
| <b>7.4</b>                    | 8584                 | 0.85                 | 155.05   | 1350                  | 1980                  | **                    | **                    |                                                                                    |                |                                    |
| <b>8.8</b>                    | 7206                 | 1.05                 | 130.15   | 1910                  | 2830                  | 1910                  | **                    |                                                                                    |                |                                    |
| <b>9.6</b>                    | 6608                 | 1.10                 | 119.35   | 2070                  | 2880                  | 2070                  | 630                   |                                                                                    |                |                                    |
| <b>12</b>                     | 5445                 | 1.35                 | 98.34    | 2340                  | 2970                  | 2340                  | 740                   |                                                                                    |                |                                    |
| <b>13</b>                     | 4992                 | 1.50                 | 90.17    | 2410                  | 3010                  | 2410                  | 760                   |                                                                                    |                |                                    |
| <b>14</b>                     | 4456                 | 1.65                 | 80.48    | 2500                  | 3060                  | 2500                  | 810                   |                                                                                    |                |                                    |
| <b>16</b>                     | 4086                 | 1.80                 | 73.80    | 2540                  | 3080                  | 2540                  | 850                   |                                                                                    |                |                                    |
| <b>18</b>                     | 3613                 | 2.05                 | 65.26    | 2610                  | 3120                  | 2610                  | 900                   |                                                                                    |                |                                    |
| <b>19</b>                     | 3313                 | 2.20                 | 59.84    | 2630                  | 3150                  | 2630                  | 920                   |                                                                                    |                |                                    |
| <b>21</b>                     | 3025                 | 2.40                 | 54.63    | 2680                  | 3170                  | 2680                  | 940                   |                                                                                    |                |                                    |
| <b>23</b>                     | 2774                 | 2.65                 | 50.10    | 2700                  | 3190                  | 2680                  | 970                   |                                                                                    |                |                                    |
| <b>23</b>                     | 2750                 | 2.65                 | 49.67    | 2700                  | 3190                  | 2680                  | 970                   | <b>FH062-11P-90S/L-06E</b>                                                         | 106            | 296                                |
| <b>25</b>                     | 2522                 | 2.90                 | 45.55    | 2720                  | 3210                  | 2590                  | 990                   |                                                                                    |                |                                    |
| <b>9.4</b>                    | 6736                 | 0.80                 | 187.00   | **                    | **                    | **                    | **                    | <b>FH053-11P-L80-04F</b>                                                           | 71             | 294                                |
| <b>10</b>                     | 6154                 | 0.90                 | 170.85   | 880                   | 1260                  | **                    | **                    |                                                                                    |                |                                    |
| <b>12</b>                     | 5262                 | 1.05                 | 146.10   | 1350                  | 2290                  | 1350                  | **                    |                                                                                    |                |                                    |
| <b>13</b>                     | 4808                 | 1.10                 | 133.49   | 1530                  | 2320                  | 1530                  | 810                   |                                                                                    |                |                                    |
| <b>16</b>                     | 3929                 | 1.40                 | 109.08   | 1780                  | 2380                  | 1780                  | 880                   |                                                                                    |                |                                    |
| <b>18</b>                     | 3590                 | 1.50                 | 99.66    | 1840                  | 2410                  | 1840                  | 900                   |                                                                                    |                |                                    |
| <b>19</b>                     | 3390                 | 1.60                 | 94.11    | 1890                  | 2430                  | 1890                  | 920                   |                                                                                    |                |                                    |
| <b>20</b>                     | 3097                 | 1.75                 | 85.99    | 1930                  | 2450                  | 1930                  | 940                   |                                                                                    |                |                                    |
| <b>21</b>                     | 2958                 | 1.80                 | 82.13    | 1960                  | 2470                  | 1960                  | 970                   |                                                                                    |                |                                    |
| <b>23</b>                     | 2703                 | 2.00                 | 75.04    | 2000                  | 2470                  | 2000                  | 970                   |                                                                                    |                |                                    |
| <b>29</b>                     | 2171                 | 2.45                 | 60.26    | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |                |                                    |
| <b>32</b>                     | 1983                 | 2.70                 | 55.06    | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |
| <b>10</b>                     | 6039                 | 0.90                 | 109.08   | 940                   | 1420                  | **                    | **                    | <b>FH053-11P-90S/L-06E</b>                                                         | 73             | 294                                |
| <b>11</b>                     | 5518                 | 1.00                 | 99.66    | 1240                  | 2020                  | **                    | **                    |                                                                                    |                |                                    |
| <b>12</b>                     | 5210                 | 1.05                 | 94.11    | 1370                  | 2290                  | 1370                  | **                    |                                                                                    |                |                                    |
| <b>13</b>                     | 4761                 | 1.15                 | 85.99    | 1550                  | 2320                  | 1550                  | 810                   |                                                                                    |                |                                    |
| <b>14</b>                     | 4547                 | 1.20                 | 82.13    | 1620                  | 2340                  | 1620                  | 830                   |                                                                                    |                |                                    |
| <b>15</b>                     | 4155                 | 1.30                 | 75.04    | 1710                  | 2360                  | 1710                  | 850                   |                                                                                    |                |                                    |
| <b>19</b>                     | 3336                 | 1.60                 | 60.26    | 1910                  | 2430                  | 1910                  | 920                   |                                                                                    |                |                                    |
| <b>21</b>                     | 3048                 | 1.75                 | 55.06    | 1960                  | 2450                  | 1960                  | 940                   |                                                                                    |                |                                    |
| <b>20</b>                     | 3147                 | 1.05                 | 87.38    | 1930                  | 2450                  | 1930                  | 940                   | <b>FH052-11P-L80-04F</b>                                                           | 71             | 294                                |
| <b>22</b>                     | 2876                 | 1.05                 | 79.84    | 1980                  | 2470                  | 1980                  | 970                   |                                                                                    |                |                                    |
| <b>25</b>                     | 2574                 | 1.75                 | 71.46    | 2020                  | 2500                  | 2020                  | 990                   |                                                                                    |                |                                    |
| <b>27</b>                     | 2352                 | 1.75                 | 65.29    | 2050                  | 2520                  | 2050                  | 1010                  |                                                                                    |                |                                    |
| <b>31</b>                     | 2032                 | 2.65                 | 56.42    | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |
| <b>34</b>                     | 1857                 | 2.85                 | 51.55    | 2110                  | 2540                  | 2110                  | 1030                  |                                                                                    |                |                                    |
| <b>37</b>                     | 1734                 | 1.05                 | 48.15    | 2110                  | 2500                  | 2110                  | 990                   |                                                                                    |                |                                    |
| <b>45</b>                     | 1418                 | 1.75                 | 39.38    | 2140                  | 2540                  | 2140                  | 1030                  |                                                                                    |                |                                    |
| <b>57</b>                     | 1120                 | 2.85                 | 31.09    | 2160                  | 2560                  | 2160                  | 1060                  |                                                                                    |                |                                    |
| <b>16</b>                     | 3956                 | 1.15                 | 71.46    | 1780                  | 2380                  | 1780                  | 880                   | <b>FH052-11P-90S/L-06E</b>                                                         | 71             | 294                                |
| <b>18</b>                     | 3615                 | 1.15                 | 65.29    | 1840                  | 2410                  | 1840                  | 900                   |                                                                                    |                |                                    |
| <b>20</b>                     | 3124                 | 1.75                 | 56.42    | 1930                  | 2450                  | 1930                  | 940                   |                                                                                    |                |                                    |
| <b>22</b>                     | 2854                 | 1.90                 | 51.55    | 1980                  | 2470                  | 1980                  | 970                   |                                                                                    |                |                                    |
| <b>26</b>                     | 2422                 | 2.20                 | 43.75    | 2050                  | 2520                  | 2050                  | 1010                  |                                                                                    |                |                                    |
| <b>29</b>                     | 2213                 | 2.40                 | 39.97    | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |                |                                    |
| <b>32</b>                     | 1983                 | 2.70                 | 35.81    | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |
| <b>35</b>                     | 1812                 | 2.95                 | 32.72    | 2110                  | 2560                  | 2110                  | 1060                  |                                                                                    |                |                                    |
| <b>37</b>                     | 1721                 | 1.90                 | 31.09    | 2110                  | 2500                  | 2110                  | 990                   |                                                                                    |                |                                    |
| <b>47</b>                     | 1335                 | 2.40                 | 24.11    | 2140                  | 2540                  | 2140                  | 1030                  |                                                                                    |                |                                    |
| <b>58</b>                     | 1092                 | 2.95                 | 19.73    | 2160                  | 2590                  | 2160                  | 1080                  |                                                                                    |                |                                    |

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**P<sub>N</sub> = 1.0 hp**

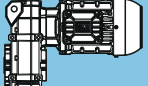
| 60 Hz           |                | f <sub>B</sub> | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                     |         |                             |
| 14              | 4564           | 0.80           | 126.72 | **              | **              | **              | **              | <b>FH043-11P-L80-04F</b>                                                            | 57      | 292                         |
| 15              | 4164           | 0.90           | 115.60 | **              | **              | **              | **              |                                                                                     |         |                             |
| 19              | 3408           | 1.05           | 94.61  | 900             | 1480            | 900             | 560             |                                                                                     |         |                             |
| 20              | 3109           | 1.15           | 86.31  | 1060            | 1820            | 1060            | 580             |                                                                                     |         |                             |
| 22              | 2940           | 1.25           | 81.63  | 1120            | 1870            | 1120            | 610             |                                                                                     |         |                             |
| 24              | 2682           | 1.35           | 74.46  | 1210            | 1890            | 1210            | 630             |                                                                                     |         |                             |
| 25              | 2566           | 1.40           | 71.24  | 1240            | 1890            | 1240            | 630             |                                                                                     |         |                             |
| 27              | 2341           | 1.55           | 64.98  | 1300            | 1930            | 1300            | 670             |                                                                                     |         |                             |
| 34              | 1883           | 1.90           | 52.27  | 1420            | 1960            | 1420            | 700             |                                                                                     |         |                             |
| 37              | 1717           | 2.10           | 47.68  | 1440            | 1980            | 1440            | 720             |                                                                                     |         |                             |
| 14              | 4519           | 0.80           | 81.63  | **              | **              | **              | **              | <b>FH043-11P-90S/L-06E</b>                                                          | 60      | 292                         |
| 15              | 4123           | 0.90           | 74.46  | 180             | -20             | **              | **              |                                                                                     |         |                             |
| 16              | 3944           | 0.90           | 71.24  | 490             | 630             | **              | **              |                                                                                     |         |                             |
| 18              | 3598           | 1.00           | 64.98  | 790             | 1240            | 790             | **              |                                                                                     |         |                             |
| 22              | 2894           | 1.25           | 52.27  | 1120            | 1870            | 1120            | 610             |                                                                                     |         |                             |
| 24              | 2640           | 1.35           | 47.68  | 1210            | 1890            | 1210            | 630             |                                                                                     |         |                             |
| 23              | 2730           | 1.05           | 75.79  | 1190            | 1890            | 1190            | 630             | <b>FH042-11P-L80-04F</b>                                                            | 57      | 292                         |
| 25              | 2490           | 1.05           | 69.14  | 1260            | 1910            | 1260            | 650             |                                                                                     |         |                             |
| 28              | 2232           | 1.60           | 61.98  | 1330            | 1930            | 1330            | 670             |                                                                                     |         |                             |
| 31              | 2037           | 1.75           | 56.54  | 1370            | 1960            | 1370            | 700             |                                                                                     |         |                             |
| 36              | 1763           | 2.05           | 48.94  | 1440            | 1980            | 1440            | 720             |                                                                                     |         |                             |
| 39              | 1608           | 2.25           | 44.64  | 1460            | 1980            | 1460            | 720             |                                                                                     |         |                             |
| 43              | 1484           | 1.05           | 41.20  | 1480            | 1930            | 1480            | 670             |                                                                                     |         |                             |
| 46              | 1367           | 2.60           | 37.95  | 1480            | 2000            | 1480            | 740             |                                                                                     |         |                             |
| 51              | 1247           | 2.85           | 34.62  | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                             |
| 52              | 1213           | 1.75           | 33.69  | 1510            | 1980            | 1510            | 720             |                                                                                     |         |                             |
| 66              | 958            | 2.85           | 26.60  | 1530            | 2000            | 1530            | 740             |                                                                                     |         |                             |
| 18              | 3432           | 1.05           | 61.98  | 900             | 1480            | 900             | **              | <b>FH042-11P-90S/L-06E</b>                                                          | 60      | 292                         |
| 20              | 3130           | 1.15           | 56.54  | 1030            | 1780            | 1030            | 580             |                                                                                     |         |                             |
| 23              | 2710           | 1.35           | 48.94  | 1190            | 1890            | 1190            | 630             |                                                                                     |         |                             |
| 26              | 2472           | 1.45           | 44.64  | 1260            | 1910            | 1260            | 650             |                                                                                     |         |                             |
| 30              | 2101           | 1.70           | 37.95  | 1370            | 1930            | 1370            | 670             |                                                                                     |         |                             |
| 33              | 1917           | 1.85           | 34.62  | 1390            | 1960            | 1390            | 700             |                                                                                     |         |                             |
| 34              | 1865           | 1.15           | 33.69  | 1420            | 1890            | 1420            | 630             |                                                                                     |         |                             |
| 37              | 1720           | 2.10           | 31.06  | 1440            | 1980            | 1440            | 720             |                                                                                     |         |                             |
| 40              | 1569           | 2.30           | 28.33  | 1460            | 2000            | 1460            | 740             |                                                                                     |         |                             |
| 43              | 1473           | 1.90           | 26.60  | 1480            | 1930            | 1480            | 670             |                                                                                     |         |                             |
| 48              | 1324           | 2.70           | 23.91  | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                             |
| 52              | 1208           | 2.95           | 21.81  | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                             |
| 56              | 1142           | 2.40           | 20.63  | 1530            | 1980            | 1530            | 720             |                                                                                     |         |                             |
| 68              | 935            | 2.95           | 16.88  | 1550            | 2020            | 1550            | 760             |                                                                                     |         |                             |
| 25              | 2527           | 0.80           | 70.17  | **              | **              | **              | **              |                                                                                     |         |                             |
| 28              | 2292           | 0.85           | 63.63  | 490             | 560             | **              | **              |                                                                                     |         |                             |
| 31              | 2056           | 0.95           | 57.07  | 670             | 490             | **              | **              |                                                                                     |         |                             |
| 34              | 1864           | 1.05           | 51.75  | 790             | 610             | 790             | 610             |                                                                                     |         |                             |
| 39              | 1633           | 1.20           | 45.35  | 880             | 560             | 880             | 560             |                                                                                     |         |                             |
| 43              | 1481           | 1.35           | 41.12  | 940             | 650             | 940             | 650             |                                                                                     |         |                             |
| 50              | 1262           | 1.55           | 35.03  | 1010            | 630             | 1010            | 630             |                                                                                     |         |                             |
| 55              | 1144           | 1.75           | 31.76  | 1030            | 700             | 1030            | 700             |                                                                                     |         |                             |
| 63              | 1007           | 1.95           | 27.97  | 1060            | 650             | 1060            | 650             |                                                                                     |         |                             |
| 64              | 997            | 1.10           | 27.67  | 1060            | 700             | 1060            | 700             |                                                                                     |         |                             |
| 69              | 913            | 2.15           | 25.36  | 1080            | 720             | 1080            | 720             |                                                                                     |         |                             |
| 78              | 810            | 1.65           | 22.50  | 1100            | 720             | 1100            | 720             |                                                                                     |         |                             |
| 83              | 761            | 2.60           | 21.14  | 1100            | 700             | 1100            | 700             |                                                                                     |         |                             |
| 92              | 690            | 2.85           | 19.17  | 1120            | 740             | 1120            | 740             |                                                                                     |         |                             |
| 98              | 644            | 2.10           | 17.88  | 1120            | 740             | 1120            | 740             |                                                                                     |         |                             |
| 127             | 497            | 2.70           | 13.81  | 1120            | 760             | 1120            | 760             |                                                                                     |         |                             |

**F**

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$P_N = 1.0 \text{ hp}$

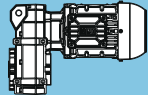
| 60 Hz    |       | $f_B$ | i     | Output shaft |          | Hollow shaft |          |  | m<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|-------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|---------|-----------------------------|
| $n_{50}$ | $T_2$ |       |       | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                    |         |                             |
| rpm      | lb-in |       |       | lb           | lb       | lb           | lb       |                                                                                    |         |                             |
| 25       | 2511  | 0.80  | 45.35 | **           | **       | **           | **       | FH032-11P-90S/L-06E                                                                | 55      | 290                         |
| 28       | 2277  | 0.90  | 41.12 | 490          | 560      | **           | **       |                                                                                    |         |                             |
| 33       | 1939  | 1.05  | 35.03 | 740          | 520      | 740          | **       |                                                                                    |         |                             |
| 36       | 1758  | 1.15  | 31.76 | 830          | 630      | 830          | 630      |                                                                                    |         |                             |
| 41       | 1549  | 1.30  | 27.97 | 920          | 580      | 920          | 580      |                                                                                    |         |                             |
| 45       | 1404  | 1.40  | 25.36 | 970          | 650      | 970          | 650      |                                                                                    |         |                             |
| 51       | 1246  | 1.05  | 22.50 | 1010         | 650      | 1010         | 650      |                                                                                    |         |                             |
| 54       | 1170  | 1.70  | 21.14 | 1030         | 630      | 1030         | 630      |                                                                                    |         |                             |
| 60       | 1061  | 1.85  | 19.17 | 1060         | 700      | 1060         | 700      |                                                                                    |         |                             |
| 64       | 990   | 1.35  | 17.88 | 1060         | 700      | 1060         | 700      |                                                                                    |         |                             |
| 71       | 889   | 2.20  | 16.06 | 1080         | 670      | 1080         | 670      |                                                                                    |         |                             |
| 79       | 807   | 2.45  | 14.57 | 1100         | 720      | 1100         | 720      |                                                                                    |         |                             |
| 83       | 765   | 1.75  | 13.81 | 1100         | 720      | 1100         | 720      |                                                                                    |         |                             |
| 92       | 692   | 2.85  | 12.50 | 1120         | 720      | 1120         | 720      |                                                                                    |         |                             |
| 104      | 611   | 2.20  | 11.03 | 1120         | 740      | 1120         | 740      |                                                                                    |         |                             |
| 137      | 461   | 2.90  | 8.33  | 1150         | 760      | 1150         | 760      |                                                                                    |         |                             |
| 47       | 1351  | 0.90  | 37.52 | 1010         | 400      | **           | **       |                                                                                    |         |                             |
| 52       | 1217  | 0.95  | 33.78 | 1030         | 470      | **           | **       |                                                                                    |         |                             |
| 60       | 1056  | 1.10  | 29.32 | 1080         | 450      | 1080         | 450      |                                                                                    |         |                             |
| 67       | 951   | 1.25  | 26.39 | 1100         | 520      | 1100         | 520      |                                                                                    |         |                             |
| 71       | 892   | 0.85  | 24.76 | 1100         | 520      | **           | **       |                                                                                    |         |                             |
| 80       | 788   | 1.50  | 21.89 | 1120         | 490      | 1120         | 490      |                                                                                    |         |                             |
| 88       | 723   | 1.05  | 20.08 | 1120         | 540      | 1120         | **       |                                                                                    |         |                             |
| 89       | 710   | 1.65  | 19.70 | 1150         | 540      | 1150         | 540      |                                                                                    |         |                             |
| 93       | 680   | 1.70  | 18.88 | 1150         | 520      | 1150         | 520      |                                                                                    |         |                             |
| 104      | 612   | 1.90  | 17.00 | 1150         | 540      | 1150         | 540      |                                                                                    |         |                             |
| 107      | 594   | 1.95  | 16.48 | 1150         | 520      | 1150         | 520      |                                                                                    |         |                             |
| 111      | 570   | 1.35  | 15.82 | 1150         | 560      | 1150         | 560      |                                                                                    |         |                             |
| 119      | 535   | 2.20  | 14.84 | 1120         | 560      | 1120         | 560      |                                                                                    |         |                             |
| 144      | 439   | 1.70  | 12.19 | 1030         | 560      | 1030         | 560      |                                                                                    |         |                             |
| 146      | 435   | 2.65  | 12.09 | 1030         | 560      | 1030         | 560      |                                                                                    |         |                             |
| 162      | 392   | 2.95  | 10.89 | 990          | 580      | 990          | 580      |                                                                                    |         |                             |
| 185      | 343   | 2.20  | 9.52  | 940          | 580      | 940          | 580      |                                                                                    |         |                             |
| 248      | 256   | 2.95  | 7.11  | 850          | 580      | 850          | 580      |                                                                                    |         |                             |
| 287      | 221   | 3.40  | 6.13  | 810          | 580      | 810          | 580      |                                                                                    |         |                             |
| 329      | 193   | 3.90  | 5.35  | 760          | 610      | 760          | 610      |                                                                                    |         |                             |
| 448      | 142   | 4.55  | 3.93  | 670          | 610      | 670          | 610      |                                                                                    |         |                             |
| 43       | 1461  | 0.80  | 26.39 | **           | **       | **           | **       | FH022-11P-90S/L-06E                                                                | 51      | 288                         |
| 52       | 1212  | 0.95  | 21.89 | 1030         | 430      | **           | **       |                                                                                    |         |                             |
| 58       | 1091  | 1.10  | 19.70 | 1080         | 490      | 1080         | 490      |                                                                                    |         |                             |
| 61       | 1045  | 1.15  | 18.88 | 1080         | 450      | 1080         | 450      |                                                                                    |         |                             |
| 67       | 941   | 1.25  | 17.00 | 1100         | 520      | 1100         | 520      |                                                                                    |         |                             |
| 69       | 912   | 1.30  | 16.48 | 1100         | 470      | 1100         | 470      |                                                                                    |         |                             |
| 72       | 876   | 0.85  | 15.82 | 1100         | 520      | **           | **       |                                                                                    |         |                             |
| 77       | 822   | 1.45  | 14.84 | 1120         | 520      | 1120         | 520      |                                                                                    |         |                             |
| 94       | 675   | 1.15  | 12.19 | 1150         | 540      | 1150         | 540      |                                                                                    |         |                             |
| 95       | 669   | 1.75  | 12.09 | 1150         | 520      | 1150         | 520      |                                                                                    |         |                             |
| 105      | 603   | 1.95  | 10.89 | 1150         | 540      | 1150         | 540      |                                                                                    |         |                             |
| 120      | 527   | 1.45  | 9.52  | 1100         | 560      | 1100         | 560      |                                                                                    |         |                             |
| 161      | 394   | 1.90  | 7.11  | 990          | 580      | 990          | 580      |                                                                                    |         |                             |
| 187      | 339   | 2.20  | 6.13  | 940          | 580      | 940          | 580      |                                                                                    |         |                             |
| 214      | 296   | 2.55  | 5.35  | 900          | 580      | 900          | 580      |                                                                                    |         |                             |
| 291      | 218   | 2.95  | 3.93  | 790          | 580      | 790          | 580      |                                                                                    |         |                             |

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**P<sub>N</sub> = 1.5 hp**

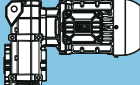
| 60 Hz           |                | f <sub>B</sub> | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| 0.43            | 193109         | 0.85           | 4085.50 | 12840           | 21630           | **              | **              | FH155-11P-90S/L-04E                                                                 | 1532    | 320                            |
| 0.45            | 184968         | 0.90           | 3923.28 | 14160           | 24440           | **              | **              |                                                                                     |         |                                |
| 0.53            | 156835         | 1.05           | 3343.64 | 17690           | 25920           | 17690           | **              |                                                                                     |         |                                |
| 0.54            | 153656         | 1.05           | 3284.26 | 18030           | 25990           | 18030           | 25990           |                                                                                     |         |                                |
| 0.65            | 125880         | 1.30           | 2711.35 | 20390           | 26570           | 20390           | 26570           |                                                                                     |         |                                |
| 0.66            | 123261         | 1.30           | 2661.75 | 20570           | 26640           | 20570           | 26640           |                                                                                     |         |                                |
| 0.78            | 104032         | 1.55           | 2269.72 | 21780           | 27040           | 21780           | 27040           |                                                                                     |         |                                |
| 0.96            | 83021          | 1.95           | 1839.52 | 22820           | 27470           | 22820           | 27470           |                                                                                     |         |                                |
| 0.76            | 109770         | 1.50           | 2318.30 | 21450           | 26910           | 21450           | 26910           | FH154-11P-90S/L-04E                                                                 | 1504    | 318                            |
| 0.88            | 93577          | 1.75           | 1996.74 | 22320           | 27270           | 22320           | 27270           |                                                                                     |         |                                |
| 0.96            | 85638          | 1.90           | 1834.90 | 22680           | 27430           | 22680           | 27430           |                                                                                     |         |                                |
| 1.0             | 80275          | 2.00           | 1727.10 | 22930           | 27540           | 22930           | 27540           |                                                                                     |         |                                |
| 1.1             | 74007          | 2.20           | 1602.16 | 23180           | 27670           | 23180           | 27670           |                                                                                     |         |                                |
| 1.2             | 64733          | 2.50           | 1415.96 | 23490           | 27850           | 23490           | 27850           |                                                                                     |         |                                |
| 1.3             | 62955          | 2.55           | 1379.93 | 23540           | 27900           | 23540           | 27900           |                                                                                     |         |                                |
| 1.4             | 54949          | 2.90           | 1219.56 | 23780           | 28080           | 23780           | 28080           |                                                                                     |         |                                |
| 1.5             | 53837          | 3.00           | 1197.38 | 23810           | 28100           | 23810           | 28100           |                                                                                     |         |                                |
| 0.76            | 110590         | 1.05           | 2307.03 | 16140           | 19200           | 16140           | 19200           | FH124-11P-90S/L-04E                                                                 | 948     | 314                            |
| 0.87            | 96029          | 1.20           | 2011.51 | 17200           | 19560           | 17200           | 19560           |                                                                                     |         |                                |
| 0.99            | 84509          | 1.40           | 1781.14 | 17870           | 19830           | 17870           | 19830           |                                                                                     |         |                                |
| 1.0             | 82041          | 1.45           | 1732.67 | 18010           | 19900           | 18010           | 19900           |                                                                                     |         |                                |
| 1.1             | 73231          | 1.60           | 1552.98 | 18460           | 20120           | 18460           | 20120           |                                                                                     |         |                                |
| 1.2             | 70150          | 1.65           | 1493.78 | 18590           | 20190           | 18590           | 20190           |                                                                                     |         |                                |
| 1.3             | 62433          | 1.85           | 1337.70 | 18910           | 20370           | 18910           | 20370           |                                                                                     |         |                                |
| 1.4             | 60661          | 1.90           | 1302.43 | 18970           | 20410           | 18970           | 20410           |                                                                                     |         |                                |
| 1.5             | 54152          | 2.15           | 1172.32 | 19200           | 20590           | 19200           | 20590           |                                                                                     |         |                                |
| 1.6             | 51716          | 2.25           | 1121.89 | 19290           | 20640           | 19290           | 20640           |                                                                                     |         |                                |
| 1.7             | 46729          | 2.50           | 1022.15 | 19420           | 20770           | 19420           | 20770           |                                                                                     |         |                                |
| 1.8             | 43892          | 2.65           | 966.09  | 19510           | 20840           | 19510           | 20840           |                                                                                     |         |                                |
| 1.9             | 40850          | 2.85           | 904.76  | 19580           | 20910           | 19580           | 20910           |                                                                                     |         |                                |
| 2.0             | 39670          | 2.95           | 880.46  | 19630           | 20930           | 19630           | 20930           |                                                                                     |         |                                |
| 1.0             | 84954          | 0.85           | 1757.78 | 8070            | 13130           | **              | **              | FH104-11P-90S/L-04E                                                                 | 639     | 310                            |
| 1.2             | 73443          | 1.00           | 1525.85 | 9890            | 13470           | **              | **              |                                                                                     |         |                                |
| 1.3             | 63066          | 1.15           | 1318.33 | 11080           | 13760           | 11080           | 13760           |                                                                                     |         |                                |
| 1.4             | 61092          | 1.20           | 1279.68 | 11290           | 13800           | 11290           | 13800           |                                                                                     |         |                                |
| 1.5             | 55006          | 1.30           | 1156.94 | 11820           | 13980           | 11820           | 13980           |                                                                                     |         |                                |
| 1.6             | 52459          | 1.35           | 1105.64 | 12030           | 14050           | 12030           | 14050           |                                                                                     |         |                                |
| 1.8             | 47455          | 1.50           | 1004.29 | 12390           | 14210           | 12390           | 14210           |                                                                                     |         |                                |
| 2.0             | 41931          | 1.70           | 892.89  | 12750           | 14370           | 12750           | 14370           |                                                                                     |         |                                |
| 2.3             | 36025          | 2.00           | 775.08  | 13060           | 14520           | 13060           | 14520           |                                                                                     |         |                                |
| 2.4             | 34186          | 2.10           | 738.55  | 13150           | 14570           | 13150           | 14570           |                                                                                     |         |                                |
| 2.6             | 30742          | 2.35           | 669.67  | 13310           | 14680           | 13310           | 14680           |                                                                                     |         |                                |
| 2.7             | 29370          | 2.45           | 641.10  | 13350           | 14700           | 13350           | 14700           |                                                                                     |         |                                |
| 2.8             | 28720          | 2.50           | 628.21  | 13380           | 14720           | 13380           | 14720           |                                                                                     |         |                                |
| 3.2             | 25009          | 2.85           | 553.91  | 13510           | 14840           | 13510           | 14840           |                                                                                     |         |                                |
| 1.6             | 51791          | 0.80           | 1069.42 | **              | **              | **              | **              | FH094-11P-90S/L-04E                                                                 | 408     | 306                            |
| 1.8             | 47059          | 0.85           | 973.69  | 4720            | 7850            | **              | **              |                                                                                     |         |                                |
| 2.1             | 39540          | 1.05           | 823.17  | 6270            | 8770            | 6270            | **              |                                                                                     |         |                                |
| 2.4             | 35193          | 1.15           | 735.68  | 6920            | 8920            | 6920            | 8920            |                                                                                     |         |                                |
| 2.8             | 29510          | 1.35           | 621.95  | 7600            | 9100            | 7600            | 9100            |                                                                                     |         |                                |
| 2.9             | 28509          | 1.40           | 602.09  | 7690            | 9150            | 7690            | 9150            |                                                                                     |         |                                |
| 3.5             | 23904          | 1.70           | 509.01  | 8090            | 9310            | 8090            | 9310            |                                                                                     |         |                                |
| 3.6             | 22881          | 1.75           | 488.23  | 8160            | 9330            | 8160            | 9330            |                                                                                     |         |                                |
| 4.3             | 19106          | 2.10           | 412.76  | 8430            | 9460            | 8430            | 9460            |                                                                                     |         |                                |
| 5.1             | 15764          | 2.55           | 345.53  | 8610            | 9580            | 8610            | 9580            |                                                                                     |         |                                |
| 5.3             | 15049          | 2.65           | 331.24  | 8630            | 9600            | 8630            | 9600            |                                                                                     |         |                                |
| 6.1             | 15241          | 2.65           | 288.50  | 8630            | 9600            | 8630            | 9600            | FH093-11P-90S/L-04E                                                                 | 379     | 304                            |

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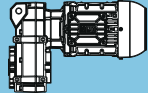
**P<sub>N</sub> = 1.5 hp**

| 60 Hz           |                | f <sub>B</sub> | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>50</sub> | T <sub>2</sub> |                |        | F <sub>rn</sub> | F <sub>sn</sub> | F <sub>rn</sub> | F <sub>sn</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 2.4             | 35043          | 0.80           | 723.59 | **              | **              | **              | **              | FH084-11P-90S/L-04E                                                                | 287     | 302                         |
| 2.8             | 30473          | 0.90           | 631.81 | 3260            | 5310            | **              | **              |                                                                                    |         |                             |
| 2.9             | 29203          | 0.95           | 606.72 | 3640            | 6140            | **              | **              |                                                                                    |         |                             |
| 3.0             | 28504          | 0.95           | 592.20 | 3840            | 6560            | **              | **              |                                                                                    |         |                             |
| 3.4             | 24787          | 1.10           | 517.08 | 4680            | 8360            | 4680            | 1820            |                                                                                    |         |                             |
| 3.5             | 24297          | 1.10           | 507.90 | 4770            | 8570            | 4770            | 1840            |                                                                                    |         |                             |
| 3.7             | 22925          | 1.20           | 480.21 | 4990            | 9080            | 4990            | 1910            |                                                                                    |         |                             |
| 4.2             | 19894          | 1.35           | 419.30 | 5440            | 9330            | 5440            | 2020            |                                                                                    |         |                             |
| 4.3             | 19531          | 1.40           | 411.63 | 5490            | 9350            | 5490            | 2050            |                                                                                    |         |                             |
| 4.4             | 19034          | 1.40           | 401.99 | 5550            | 9370            | 5550            | 2070            |                                                                                    |         |                             |
| 5.0             | 16517          | 1.65           | 351.00 | 5850            | 9460            | 5850            | 2160            |                                                                                    |         |                             |
| 5.4             | 15269          | 1.75           | 325.80 | 5960            | 9510            | 5960            | 2200            |                                                                                    |         |                             |
| 6.2             | 13195          | 2.05           | 284.47 | 6140            | 9600            | 6140            | 2290            |                                                                                    |         |                             |
| 4.9             | 18940          | 1.45           | 358.52 | 5580            | 9370            | 5580            | 2070            | FH083-11P-90S/L-04E                                                                | 258     | 300                         |
| 6.2             | 14990          | 1.80           | 283.76 | 5980            | 9530            | 5980            | 2230            |                                                                                    |         |                             |
| 7.1             | 13089          | 2.05           | 247.77 | 6140            | 9600            | 6140            | 2290            |                                                                                    |         |                             |
| 8.0             | 11568          | 2.30           | 218.97 | 6250            | 9670            | 6250            | 2360            |                                                                                    |         |                             |
| 9.5             | 9782           | 2.75           | 185.17 | 6360            | 9730            | 6320            | 2430            |                                                                                    |         |                             |
| 9.8             | 9524           | 2.80           | 180.28 | 6360            | 9730            | 6250            | 2430            |                                                                                    |         |                             |
| 5.8             | 16135          | 0.85           | 305.42 | 2790            | 3440            | **              | **              | FH073-11P-90S/L-04E                                                                | 154     | 298                         |
| 7.4             | 12528          | 1.10           | 237.15 | 3620            | 3620            | 3620            | 1080            |                                                                                    |         |                             |
| 9.0             | 10279          | 1.30           | 194.58 | 3960            | 3730            | 3960            | 1210            |                                                                                    |         |                             |
| 12              | 7961           | 1.70           | 150.69 | 4230            | 3870            | 4230            | 1330            |                                                                                    |         |                             |
| 15              | 6055           | 2.20           | 114.62 | 4380            | 3960            | 3820            | 1420            |                                                                                    |         |                             |
| 19              | 4993           | 2.70           | 94.52  | 4450            | 4000            | 3480            | 1480            |                                                                                    |         |                             |
| 10              | 8933           | 0.85           | 169.09 | 1190            | 1640            | **              | **              | FH063-11P-90S/L-04E                                                                | 104     | 296                         |
| 11              | 8191           | 0.90           | 155.05 | 1570            | 2450            | **              | **              |                                                                                    |         |                             |
| 14              | 6876           | 1.10           | 130.15 | 2020            | 2860            | 2020            | 630             |                                                                                    |         |                             |
| 15              | 6305           | 1.20           | 119.35 | 2160            | 2900            | 2160            | 650             |                                                                                    |         |                             |
| 18              | 5195           | 1.40           | 98.34  | 2380            | 2990            | 2380            | 760             |                                                                                    |         |                             |
| 20              | 4763           | 1.55           | 90.17  | 2450            | 3030            | 2450            | 790             |                                                                                    |         |                             |
| 22              | 4252           | 1.75           | 80.48  | 2540            | 3080            | 2540            | 830             |                                                                                    |         |                             |
| 24              | 3899           | 1.90           | 73.80  | 2590            | 3100            | 2590            | 850             |                                                                                    |         |                             |
| 27              | 3448           | 2.15           | 65.26  | 2630            | 3150            | 2630            | 900             |                                                                                    |         |                             |
| 29              | 3161           | 2.30           | 59.84  | 2650            | 3170            | 2540            | 920             |                                                                                    |         |                             |
| 32              | 2886           | 2.55           | 54.63  | 2680            | 3190            | 2450            | 940             |                                                                                    |         |                             |
| 35              | 2647           | 2.75           | 50.10  | 2700            | 3210            | 2360            | 970             |                                                                                    |         |                             |
| 35              | 2624           | 2.80           | 49.67  | 2700            | 3210            | 2360            | 970             | FH062-11P-90S/L-04E                                                                | 101     | 296                         |
| 16              | 5762           | 0.95           | 109.08 | 1150            | 1840            | **              | **              | FH053-11P-90S/L-04E                                                                | 68      | 294                         |
| 18              | 5265           | 1.05           | 99.66  | 1370            | 2270            | 1370            | **              |                                                                                    |         |                             |
| 19              | 4972           | 1.10           | 94.11  | 1480            | 2320            | 1480            | 810             |                                                                                    |         |                             |
| 20              | 4543           | 1.20           | 85.99  | 1620            | 2340            | 1620            | 830             |                                                                                    |         |                             |
| 21              | 4339           | 1.25           | 82.13  | 1690            | 2360            | 1690            | 850             |                                                                                    |         |                             |
| 23              | 3964           | 1.35           | 75.04  | 1780            | 2380            | 1780            | 880             |                                                                                    |         |                             |
| 29              | 3183           | 1.70           | 60.26  | 1930            | 2450            | 1930            | 940             |                                                                                    |         |                             |
| 32              | 2909           | 1.85           | 55.06  | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |
| 25              | 3775           | 1.20           | 71.46  | 1820            | 2410            | 1820            | 900             | FH052-11P-90S/L-04E                                                                | 66      | 294                         |
| 27              | 3449           | 1.20           | 65.29  | 1890            | 2430            | 1890            | 920             |                                                                                    |         |                             |
| 31              | 2981           | 1.80           | 56.42  | 1960            | 2470            | 1960            | 970             |                                                                                    |         |                             |
| 34              | 2723           | 1.95           | 51.55  | 2000            | 2470            | 2000            | 970             |                                                                                    |         |                             |
| 40              | 2311           | 2.30           | 43.75  | 2070            | 2520            | 2070            | 1010            |                                                                                    |         |                             |
| 44              | 2112           | 2.55           | 39.97  | 2090            | 2540            | 2090            | 1030            |                                                                                    |         |                             |
| 45              | 2080           | 1.20           | 39.38  | 2090            | 2470            | 2090            | 970             |                                                                                    |         |                             |
| 49              | 1892           | 2.85           | 35.81  | 2110            | 2540            | 2110            | 1030            |                                                                                    |         |                             |
| 57              | 1642           | 1.95           | 31.09  | 2140            | 2520            | 2140            | 1010            |                                                                                    |         |                             |
| 73              | 1274           | 2.55           | 24.11  | 2160            | 2560            | 2160            | 1060            |                                                                                    |         |                             |

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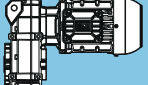
**P<sub>N</sub> = 1.5 hp**

| 60 Hz           |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                             |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                             |
| 20              | 4560           | 0.80           | 86.31 | **              | **              | **              | **              | FH043-11P-90S/L-04E                                                                 | 55      | 292                         |
| 22              | 4312           | 0.85           | 81.63 | **              | **              | **              | **              |                                                                                     |         |                             |
| 24              | 3934           | 0.95           | 74.46 | 540             | 720             | **              | **              |                                                                                     |         |                             |
| 25              | 3763           | 0.95           | 71.24 | 700             | 1060            | **              | **              |                                                                                     |         |                             |
| 27              | 3433           | 1.05           | 64.98 | 900             | 1480            | 900             | 560             |                                                                                     |         |                             |
| 34              | 2761           | 1.30           | 52.27 | 1190            | 1890            | 1190            | 630             |                                                                                     |         |                             |
| 37              | 2519           | 1.45           | 47.68 | 1260            | 1910            | 1260            | 650             |                                                                                     |         |                             |
| 28              | 3274           | 1.10           | 61.98 | 990             | 1690            | 990             | 580             | FH042-11P-90S/L-04E                                                                 | 55      | 292                         |
| 31              | 2987           | 1.20           | 56.54 | 1100            | 1870            | 1100            | 610             |                                                                                     |         |                             |
| 36              | 2585           | 1.40           | 48.94 | 1240            | 1890            | 1240            | 630             |                                                                                     |         |                             |
| 39              | 2358           | 1.55           | 44.64 | 1300            | 1930            | 1300            | 670             |                                                                                     |         |                             |
| 46              | 2005           | 1.80           | 37.95 | 1390            | 1960            | 1390            | 700             |                                                                                     |         |                             |
| 51              | 1829           | 1.95           | 34.62 | 1420            | 1980            | 1420            | 720             |                                                                                     |         |                             |
| 52              | 1780           | 1.20           | 33.69 | 1440            | 1910            | 1440            | 650             |                                                                                     |         |                             |
| 57              | 1641           | 2.20           | 31.06 | 1460            | 1980            | 1460            | 720             |                                                                                     |         |                             |
| 62              | 1497           | 2.40           | 28.33 | 1480            | 2000            | 1480            | 740             |                                                                                     |         |                             |
| 66              | 1405           | 1.95           | 26.60 | 1480            | 1960            | 1480            | 700             |                                                                                     |         |                             |
| 74              | 1263           | 2.85           | 23.91 | 1510            | 2020            | 1510            | 760             |                                                                                     |         |                             |
| 85              | 1090           | 2.55           | 20.63 | 1530            | 2000            | 1530            | 740             |                                                                                     |         |                             |
| 39              | 2396           | 0.85           | 45.35 | 400             | 430             | **              | **              | FH032-11P-90S/L-04E                                                                 | 51      | 290                         |
| 43              | 2172           | 0.90           | 41.12 | 610             | 560             | **              | **              |                                                                                     |         |                             |
| 50              | 1851           | 1.10           | 35.03 | 790             | 520             | 790             | 520             |                                                                                     |         |                             |
| 55              | 1678           | 1.20           | 31.76 | 880             | 630             | 880             | 630             |                                                                                     |         |                             |
| 63              | 1478           | 1.35           | 27.97 | 940             | 580             | 940             | 580             |                                                                                     |         |                             |
| 69              | 1340           | 1.50           | 25.36 | 990             | 670             | 990             | 670             |                                                                                     |         |                             |
| 78              | 1189           | 1.10           | 22.50 | 1030            | 670             | 1030            | 670             |                                                                                     |         |                             |
| 83              | 1117           | 1.75           | 21.14 | 1030            | 650             | 1030            | 650             |                                                                                     |         |                             |
| 92              | 1013           | 1.95           | 19.17 | 1060            | 700             | 1060            | 700             |                                                                                     |         |                             |
| 98              | 945            | 1.45           | 17.88 | 1080            | 700             | 1080            | 700             |                                                                                     |         |                             |
| 110             | 848            | 2.30           | 16.06 | 1100            | 700             | 1100            | 700             |                                                                                     |         |                             |
| 121             | 770            | 2.55           | 14.57 | 1100            | 740             | 1100            | 740             |                                                                                     |         |                             |
| 127             | 730            | 1.85           | 13.81 | 1100            | 720             | 1100            | 720             |                                                                                     |         |                             |
| 141             | 660            | 2.95           | 12.50 | 1120            | 720             | 1120            | 720             |                                                                                     |         |                             |
| 160             | 583            | 2.30           | 11.03 | 1120            | 740             | 1120            | 740             |                                                                                     |         |                             |
| 67              | 1394           | 0.85           | 26.39 | 990             | 470             | **              | **              | FH022-11P-90S/L-04E                                                                 | 46      | 288                         |
| 80              | 1156           | 1.00           | 21.89 | 1060            | 450             | 1060            | **              |                                                                                     |         |                             |
| 89              | 1041           | 1.15           | 19.70 | 1080            | 490             | 1080            | 490             |                                                                                     |         |                             |
| 93              | 997            | 1.20           | 18.88 | 1100            | 470             | 1100            | 470             |                                                                                     |         |                             |
| 104             | 898            | 1.30           | 17.00 | 1100            | 520             | 1100            | 520             |                                                                                     |         |                             |
| 107             | 871            | 1.35           | 16.48 | 1120            | 490             | 1120            | 490             |                                                                                     |         |                             |
| 111             | 836            | 0.90           | 15.82 | 1120            | 520             | **              | **              |                                                                                     |         |                             |
| 119             | 784            | 1.50           | 14.84 | 1120            | 540             | 1120            | 540             |                                                                                     |         |                             |
| 144             | 644            | 1.20           | 12.19 | 1060            | 540             | 1060            | 540             |                                                                                     |         |                             |
| 146             | 639            | 1.85           | 12.09 | 1080            | 520             | 1080            | 520             |                                                                                     |         |                             |
| 162             | 575            | 2.05           | 10.89 | 1010            | 560             | 1010            | 560             |                                                                                     |         |                             |
| 185             | 503            | 1.50           | 9.52  | 970             | 560             | 970             | 560             |                                                                                     |         |                             |
| 248             | 376            | 2.00           | 7.11  | 850             | 580             | 850             | 580             |                                                                                     |         |                             |
| 287             | 324            | 2.30           | 6.13  | 810             | 580             | 810             | 580             |                                                                                     |         |                             |
| 329             | 283            | 2.65           | 5.35  | 790             | 580             | 790             | 580             |                                                                                     |         |                             |
| 448             | 208            | 3.10           | 3.93  | 700             | 580             | 700             | 580             |                                                                                     |         |                             |

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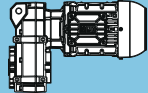


| <b>P<sub>N</sub> = 2.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.65</b>                   | 174364               | 0.95                 | 2711.35  | 15650                 | 25560                 | **                    | **                    | <b>FH155-11P-90S/L-04F</b>                                                         | 1534           | 320                                |
| <b>0.66</b>                   | 171174               | 0.95                 | 2661.75  | 16050                 | 25630                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.77</b>                   | 144846               | 1.10                 | 2269.72  | 18840                 | 26190                 | 18840                 | 26190                 |                                                                                    |                |                                    |
| <b>0.95</b>                   | 116193               | 1.40                 | 1839.52  | 21040                 | 26770                 | 21040                 | 26770                 |                                                                                    |                |                                    |
| <b>0.76</b>                   | 151973               | 1.05                 | 2318.30  | 18190                 | 26030                 | 18190                 | 26030                 | <b>FH154-11P-90S/L-04F</b>                                                         | 1506           | 318                                |
| <b>0.88</b>                   | 130091               | 1.25                 | 1996.74  | 20080                 | 26480                 | 20080                 | 26480                 |                                                                                    |                |                                    |
| <b>0.96</b>                   | 119057               | 1.35                 | 1834.90  | 20860                 | 26730                 | 20860                 | 26730                 |                                                                                    |                |                                    |
| <b>1.0</b>                    | 111832               | 1.45                 | 1727.10  | 21310                 | 26860                 | 21310                 | 26860                 |                                                                                    |                |                                    |
| <b>1.1</b>                    | 101912               | 1.60                 | 1580.39  | 21900                 | 27090                 | 21900                 | 27090                 |                                                                                    |                |                                    |
| <b>1.2</b>                    | 90560                | 1.80                 | 1415.96  | 22460                 | 27310                 | 22460                 | 27310                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 88255                | 1.85                 | 1379.93  | 22570                 | 27360                 | 22570                 | 27360                 |                                                                                    |                |                                    |
| <b>1.4</b>                    | 77198                | 2.10                 | 1219.56  | 23040                 | 27610                 | 23040                 | 27610                 |                                                                                    |                |                                    |
| <b>1.5</b>                    | 75794                | 2.15                 | 1197.38  | 23090                 | 27630                 | 23090                 | 27630                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 66085                | 2.45                 | 1054.87  | 23450                 | 27830                 | 23450                 | 27830                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 55362                | 2.90                 | 898.51   | 23760                 | 28060                 | 23760                 | 28060                 |                                                                                    |                |                                    |
| <b>0.76</b>                   | 152790               | 0.80                 | 2307.03  | **                    | **                    | **                    | **                    | <b>FH124-11P-90S/L-04F</b>                                                         | 950            | 314                                |
| <b>0.87</b>                   | 132674               | 0.90                 | 2011.51  | 14050                 | 18640                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.99</b>                   | 117000               | 1.00                 | 1781.14  | 15580                 | 19040                 | 15580                 | **                    |                                                                                    |                |                                    |
| <b>1.0</b>                    | 113816               | 1.05                 | 1732.67  | 15870                 | 19110                 | 15870                 | **                    |                                                                                    |                |                                    |
| <b>1.1</b>                    | 101595               | 1.15                 | 1552.98  | 16820                 | 19400                 | 16820                 | 19400                 |                                                                                    |                |                                    |
| <b>1.2</b>                    | 97522                | 1.20                 | 1493.78  | 17090                 | 19510                 | 17090                 | 19510                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 86975                | 1.35                 | 1337.70  | 17740                 | 19760                 | 17740                 | 19760                 |                                                                                    |                |                                    |
| <b>1.5</b>                    | 75598                | 1.55                 | 1172.32  | 18340                 | 20050                 | 18340                 | 20050                 |                                                                                    |                |                                    |
| <b>1.6</b>                    | 72197                | 1.60                 | 1121.89  | 18500                 | 20140                 | 18500                 | 20140                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 65373                | 1.80                 | 1022.15  | 18790                 | 20300                 | 18790                 | 20300                 |                                                                                    |                |                                    |
| <b>1.8</b>                    | 61660                | 1.90                 | 966.09   | 18930                 | 20390                 | 18930                 | 20390                 |                                                                                    |                |                                    |
| <b>1.9</b>                    | 57389                | 2.05                 | 904.76   | 19090                 | 20500                 | 19090                 | 20500                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 55733                | 2.10                 | 880.46   | 19150                 | 20550                 | 19150                 | 20550                 |                                                                                    |                |                                    |
| <b>2.2</b>                    | 49523                | 2.35                 | 788.86   | 19360                 | 20700                 | 19360                 | 20700                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 47401                | 2.45                 | 758.19   | 19420                 | 20750                 | 19420                 | 20750                 |                                                                                    |                |                                    |
| <b>2.6</b>                    | 42043                | 2.75                 | 679.51   | 19560                 | 20880                 | 19560                 | 20880                 |                                                                                    |                |                                    |
| <b>2.7</b>                    | 40204                | 2.90                 | 652.50   | 19600                 | 20930                 | 19600                 | 20930                 |                                                                                    |                |                                    |
| <b>2.8</b>                    | 39140                | 2.95                 | 636.55   | 19630                 | 20950                 | 19630                 | 20950                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 87132                | 0.85                 | 1318.33  | 7640                  | 12810                 | **                    | **                    | <b>FH104-11P-90S/L-04F</b>                                                         | 642            | 310                                |
| <b>1.4</b>                    | 84577                | 0.85                 | 1279.68  | 8140                  | 13130                 | **                    | **                    |                                                                                    |                |                                    |
| <b>1.5</b>                    | 76153                | 0.95                 | 1156.94  | 9510                  | 13380                 | **                    | **                    |                                                                                    |                |                                    |
| <b>1.6</b>                    | 72627                | 1.00                 | 1105.64  | 9980                  | 13490                 | 9980                  | **                    |                                                                                    |                |                                    |
| <b>1.7</b>                    | 65835                | 1.10                 | 1004.29  | 10790                 | 13670                 | 10790                 | 13670                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 58173                | 1.25                 | 892.89   | 11560                 | 13890                 | 11560                 | 13890                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 50187                | 1.45                 | 775.08   | 12210                 | 14120                 | 12210                 | 14120                 |                                                                                    |                |                                    |
| <b>2.4</b>                    | 47724                | 1.50                 | 738.55   | 12390                 | 14190                 | 12390                 | 14190                 |                                                                                    |                |                                    |
| <b>2.6</b>                    | 43007                | 1.65                 | 669.67   | 12680                 | 14320                 | 12680                 | 14320                 |                                                                                    |                |                                    |
| <b>2.7</b>                    | 41087                | 1.75                 | 641.10   | 12790                 | 14390                 | 12790                 | 14390                 |                                                                                    |                |                                    |
| <b>2.8</b>                    | 40178                | 1.80                 | 628.21   | 12840                 | 14410                 | 12840                 | 14410                 |                                                                                    |                |                                    |
| <b>3.2</b>                    | 35135                | 2.05                 | 553.91   | 13110                 | 14550                 | 13110                 | 14550                 |                                                                                    |                |                                    |
| <b>3.7</b>                    | 29608                | 2.40                 | 472.61   | 13350                 | 14700                 | 13350                 | 14700                 |                                                                                    |                |                                    |
| <b>3.8</b>                    | 28743                | 2.50                 | 459.75   | 13380                 | 14720                 | 13380                 | 14720                 |                                                                                    |                |                                    |
| <b>4.3</b>                    | 25212                | 2.85                 | 408.33   | 13510                 | 14840                 | 13510                 | 14840                 |                                                                                    |                |                                    |
| <b>4.4</b>                    | 24590                | 2.90                 | 399.09   | 13530                 | 14840                 | 13530                 | 14840                 |                                                                                    |                |                                    |
| <b>2.4</b>                    | 48623                | 0.85                 | 735.68   | 4270                  | 6900                  | **                    | **                    | <b>FH094-11P-90S/L-04F</b>                                                         | 410            | 306                                |
| <b>2.8</b>                    | 40855                | 1.00                 | 621.95   | 6050                  | 8720                  | 6050                  | **                    |                                                                                    |                |                                    |
| <b>2.9</b>                    | 39550                | 1.05                 | 602.09   | 6270                  | 8770                  | 6270                  | **                    |                                                                                    |                |                                    |
| <b>3.4</b>                    | 33231                | 1.20                 | 509.01   | 7170                  | 8990                  | 7170                  | 8990                  |                                                                                    |                |                                    |
| <b>3.6</b>                    | 31809                | 1.30                 | 488.23   | 7350                  | 9040                  | 7350                  | 9040                  |                                                                                    |                |                                    |
| <b>4.3</b>                    | 26672                | 1.50                 | 412.76   | 7870                  | 9220                  | 7870                  | 9220                  |                                                                                    |                |                                    |
| <b>5.1</b>                    | 22099                | 1.85                 | 345.53   | 8230                  | 9370                  | 8230                  | 9370                  |                                                                                    |                |                                    |
| <b>5.3</b>                    | 21098                | 1.90                 | 331.24   | 8300                  | 9400                  | 8300                  | 9400                  |                                                                                    |                |                                    |
| <b>6.3</b>                    | 17617                | 2.30                 | 280.04   | 8500                  | 9510                  | 8500                  | 9510                  |                                                                                    |                |                                    |

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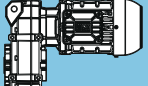
$P_N = 2.0 \text{ hp}$

| 60 Hz    |       |       | i      | Output shaft |          | Hollow shaft |          |  | m<br>lb | Dimension<br>sheet<br>see page |
|----------|-------|-------|--------|--------------|----------|--------------|----------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| $n_{60}$ | $T_2$ | $f_B$ |        | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                     |         |                                |
| rpm      | lb-in |       |        | lb           | lb       | lb           | lb       |                                                                                     |         |                                |
| 6.1      | 20842 | 1.95  | 288.50 | 8320         | 9420     | 8320         | 9420     | FH093-11P-90S/L-04F                                                                 | 381     | 304                            |
| 7.2      | 17620 | 2.30  | 243.90 | 8500         | 9510     | 8500         | 9510     |                                                                                     |         |                                |
| 8.3      | 15253 | 2.65  | 211.14 | 8630         | 9600     | 8630         | 9600     |                                                                                     |         |                                |
| 9.4      | 13509 | 2.95  | 186.99 | 8700         | 9670     | 8700         | 9670     |                                                                                     |         |                                |
| 3.4      | 34245 | 0.80  | 517.08 | **           | **       | **           | **       | FH084-11P-90S/L-04F                                                                 | 291     | 302                            |
| 3.5      | 33568 | 0.80  | 507.90 | **           | **       | **           | **       |                                                                                     |         |                                |
| 3.7      | 31738 | 0.85  | 480.21 | 2770         | 4270     | **           | **       |                                                                                     |         |                                |
| 4.2      | 27599 | 1.00  | 419.30 | 4070         | 7060     | **           | **       |                                                                                     |         |                                |
| 4.3      | 27039 | 1.00  | 411.63 | 4200         | 7330     | 4200         | **       |                                                                                     |         |                                |
| 4.4      | 26406 | 1.05  | 401.99 | 4340         | 7640     | 4340         | **       |                                                                                     |         |                                |
| 5.0      | 22915 | 1.20  | 351.00 | 4990         | 9080     | 4990         | 1910     |                                                                                     |         |                                |
| 5.4      | 21226 | 1.30  | 325.80 | 5260         | 9280     | 5260         | 1980     |                                                                                     |         |                                |
| 6.2      | 18420 | 1.45  | 284.47 | 5620         | 9400     | 5620         | 2090     |                                                                                     |         |                                |
| 4.9      | 25901 | 1.05  | 358.52 | 4450         | 7870     | 4450         | **       |                                                                                     |         |                                |
| 6.2      | 20500 | 1.30  | 283.76 | 5350         | 9310     | 5350         | 2000     |                                                                                     |         |                                |
| 7.1      | 17900 | 1.50  | 247.77 | 5690         | 9420     | 5690         | 2110     |                                                                                     |         |                                |
| 8.0      | 15819 | 1.70  | 218.97 | 5910         | 9490     | 5910         | 2180     |                                                                                     |         |                                |
| 9.5      | 13377 | 2.00  | 185.17 | 6110         | 9580     | 6110         | 2270     |                                                                                     |         |                                |
| 9.7      | 13024 | 2.05  | 180.28 | 6140         | 9600     | 6140         | 2290     |                                                                                     |         |                                |
| 11       | 11499 | 2.35  | 159.17 | 6250         | 9670     | 6180         | 2360     |                                                                                     |         |                                |
| 12       | 10308 | 2.60  | 142.69 | 6320         | 9710     | 5960         | 2410     |                                                                                     |         |                                |
| 13       | 10038 | 2.65  | 138.95 | 6340         | 9710     | 5800         | 2410     |                                                                                     |         |                                |
| 14       | 9001  | 2.95  | 124.59 | 6380         | 9760     | 5600         | 2450     |                                                                                     |         |                                |
| 7.4      | 17132 | 0.80  | 237.15 | **           | **       | **           | **       | FH073-11P-90S/L-04F                                                                 | 157     | 298                            |
| 9.0      | 14057 | 0.95  | 194.58 | 3300         | 3530     | **           | **       |                                                                                     |         |                                |
| 12       | 10886 | 1.25  | 150.69 | 3890         | 3710     | 3890         | 1170     |                                                                                     |         |                                |
| 15       | 8281  | 1.65  | 114.62 | 4200         | 3840     | 4000         | 1300     |                                                                                     |         |                                |
| 19       | 6828  | 1.95  | 94.52  | 4340         | 3910     | 3640         | 1390     |                                                                                     |         |                                |
| 23       | 5601  | 2.40  | 77.53  | 4430         | 3980     | 3350         | 1440     |                                                                                     |         |                                |
| 27       | 4759  | 2.80  | 65.88  | 4470         | 4020     | 3120         | 1480     |                                                                                     |         |                                |
| 13       | 9402  | 0.80  | 130.15 | **           | **       | **           | **       | FH063-11P-90S/L-04F                                                                 | 106     | 296                            |
| 15       | 8622  | 0.85  | 119.35 | 1370         | 2020     | **           | **       |                                                                                     |         |                                |
| 18       | 7104  | 1.05  | 98.34  | 1960         | 2830     | 1960         | **       |                                                                                     |         |                                |
| 19       | 6514  | 1.15  | 90.17  | 2110         | 2880     | 2110         | 650      |                                                                                     |         |                                |
| 22       | 5814  | 1.25  | 80.48  | 2270         | 2940     | 2270         | 720      |                                                                                     |         |                                |
| 24       | 5332  | 1.40  | 73.80  | 2360         | 2990     | 2360         | 740      |                                                                                     |         |                                |
| 27       | 4715  | 1.55  | 65.26  | 2470         | 3030     | 2470         | 810      |                                                                                     |         |                                |
| 29       | 4323  | 1.70  | 59.84  | 2520         | 3060     | 2520         | 830      |                                                                                     |         |                                |
| 32       | 3947  | 1.85  | 54.63  | 2560         | 3100     | 2560         | 850      |                                                                                     |         |                                |
| 35       | 3619  | 2.05  | 50.10  | 2610         | 3120     | 2470         | 880      |                                                                                     |         |                                |
| 35       | 3588  | 2.05  | 49.67  | 2610         | 3120     | 2470         | 900      | FH062-11P-90S/L-04F                                                                 | 104     | 296                            |
| 39       | 3291  | 2.25  | 45.55  | 2650         | 3150     | 2360         | 920      |                                                                                     |         |                                |
| 42       | 3010  | 2.45  | 41.66  | 2680         | 3170     | 2270         | 940      |                                                                                     |         |                                |
| 46       | 2760  | 2.65  | 38.20  | 2700         | 3190     | 2200         | 970      |                                                                                     |         |                                |
| 86       | 1480  | 2.55  | 20.49  | 2770         | 3260     | 1730         | 1030     |                                                                                     |         |                                |
| 19       | 6799  | 0.80  | 94.11  | **           | **       | **           | **       | FH053-11P-90S/L-04F                                                                 | 71      | 294                            |
| 20       | 6212  | 0.90  | 85.99  | 850          | 1210     | **           | **       |                                                                                     |         |                                |
| 21       | 5933  | 0.90  | 82.13  | 1030         | 1600     | **           | **       |                                                                                     |         |                                |
| 23       | 5421  | 1.00  | 75.04  | 1300         | 2180     | 1300         | **       |                                                                                     |         |                                |
| 29       | 4353  | 1.25  | 60.26  | 1660         | 2360     | 1660         | 850      |                                                                                     |         |                                |
| 32       | 3978  | 1.35  | 55.06  | 1780         | 2380     | 1780         | 880      |                                                                                     |         |                                |

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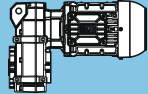
$P_N = 2.0 \text{ hp}$

| 60 Hz    |       | $f_B$ | i     | Output shaft |          | Hollow shaft |          |  | m<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|-------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|---------|-----------------------------|
| $n_{50}$ | $T_2$ |       |       | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                    |         |                             |
| rpm      | lb-in |       |       | lb           | lb       | lb           | lb       |                                                                                    |         |                             |
| 25       | 5163  | 0.90  | 71.46 | 1420         | 2290     | **           | **       | <b>FH052-11P-90S/L-04F</b>                                                         | 71      | 294                         |
| 27       | 4717  | 0.90  | 65.29 | 1570         | 2320     | **           | **       |                                                                                    |         |                             |
| 31       | 4076  | 1.35  | 56.42 | 1750         | 2380     | 1750         | 880      |                                                                                    |         |                             |
| 34       | 3724  | 1.45  | 51.55 | 1820         | 2410     | 1820         | 900      |                                                                                    |         |                             |
| 40       | 3161  | 1.70  | 43.75 | 1930         | 2450     | 1930         | 940      |                                                                                    |         |                             |
| 44       | 2888  | 1.85  | 39.97 | 1980         | 2470     | 1980         | 970      |                                                                                    |         |                             |
| 45       | 2845  | 0.90  | 39.38 | 1980         | 2380     | **           | **       |                                                                                    |         |                             |
| 49       | 2587  | 2.10  | 35.81 | 2020         | 2500     | 2020         | 990      |                                                                                    |         |                             |
| 54       | 2364  | 2.25  | 32.72 | 2050         | 2520     | 2050         | 1010     |                                                                                    |         |                             |
| 56       | 2246  | 1.45  | 31.09 | 2070         | 2450     | 2070         | 940      |                                                                                    |         |                             |
| 64       | 1991  | 2.70  | 27.56 | 2090         | 2540     | 2090         | 1030     |                                                                                    |         |                             |
| 70       | 1819  | 2.95  | 25.18 | 2110         | 2560     | 2110         | 1060     |                                                                                    |         |                             |
| 73       | 1742  | 1.85  | 24.11 | 2110         | 2500     | 2110         | 990      |                                                                                    |         |                             |
| 89       | 1425  | 2.25  | 19.73 | 2140         | 2540     | 2070         | 1030     |                                                                                    |         |                             |
| 116      | 1097  | 2.95  | 15.19 | 2160         | 2590     | 1870         | 1080     |                                                                                    |         |                             |
| 27       | 4694  | 0.80  | 64.98 | **           | **       | **           | **       |                                                                                    |         |                             |
| 34       | 3776  | 0.95  | 52.27 | 670          | 1010     | **           | **       |                                                                                    |         |                             |
| 37       | 3445  | 1.05  | 47.68 | 900          | 1480     | 900          | **       |                                                                                    |         |                             |
| 28       | 4478  | 0.80  | 61.98 | **           | **       | **           | **       | <b>FH042-11P-90S/L-04F</b>                                                         | 57      | 292                         |
| 31       | 4085  | 0.90  | 56.54 | 340          | 310      | **           | **       |                                                                                    |         |                             |
| 36       | 3536  | 1.05  | 48.94 | 830          | 1350     | 830          | **       |                                                                                    |         |                             |
| 39       | 3225  | 1.10  | 44.64 | 1010         | 1730     | 1010         | 580      |                                                                                    |         |                             |
| 46       | 2742  | 1.30  | 37.95 | 1190         | 1890     | 1190         | 630      |                                                                                    |         |                             |
| 51       | 2501  | 1.45  | 34.62 | 1260         | 1910     | 1260         | 650      |                                                                                    |         |                             |
| 52       | 2434  | 0.90  | 33.69 | 1280         | 1820     | **           | **       |                                                                                    |         |                             |
| 57       | 2244  | 1.60  | 31.06 | 1330         | 1930     | 1330         | 670      |                                                                                    |         |                             |
| 62       | 2047  | 1.75  | 28.33 | 1370         | 1960     | 1370         | 700      |                                                                                    |         |                             |
| 66       | 1922  | 1.45  | 26.60 | 1390         | 1890     | 1390         | 630      |                                                                                    |         |                             |
| 73       | 1727  | 2.05  | 23.91 | 1440         | 1980     | 1440         | 720      |                                                                                    |         |                             |
| 80       | 1576  | 2.25  | 21.81 | 1460         | 2000     | 1460         | 740      |                                                                                    |         |                             |
| 85       | 1490  | 1.85  | 20.63 | 1480         | 1930     | 1480         | 670      |                                                                                    |         |                             |
| 97       | 1305  | 2.75  | 18.06 | 1510         | 2020     | 1510         | 760      |                                                                                    |         |                             |
| 104      | 1219  | 2.25  | 16.88 | 1510         | 1980     | 1510         | 720      |                                                                                    |         |                             |
| 106      | 1191  | 3.00  | 16.48 | 1510         | 2020     | 1510         | 760      |                                                                                    |         |                             |
| 135      | 938   | 2.95  | 12.99 | 1550         | 2020     | 1440         | 760      |                                                                                    |         |                             |
| 50       | 2531  | 0.80  | 35.03 | **           | **       | **           | **       | <b>FH032-11P-90S/L-04F</b>                                                         | 55      | 290                         |
| 55       | 2294  | 0.85  | 31.76 | 490          | 560      | **           | **       |                                                                                    |         |                             |
| 63       | 2021  | 1.00  | 27.97 | 700          | 490      | **           | **       |                                                                                    |         |                             |
| 69       | 1832  | 1.10  | 25.36 | 810          | 610      | 810          | 610      |                                                                                    |         |                             |
| 78       | 1625  | 0.85  | 22.50 | 900          | 610      | **           | **       |                                                                                    |         |                             |
| 83       | 1527  | 1.30  | 21.14 | 920          | 580      | 920          | 580      |                                                                                    |         |                             |
| 92       | 1385  | 1.45  | 19.17 | 970          | 650      | 970          | 650      |                                                                                    |         |                             |
| 98       | 1292  | 1.05  | 17.88 | 990          | 650      | 990          | **       |                                                                                    |         |                             |
| 109      | 1160  | 1.70  | 16.06 | 1030         | 630      | 1030         | 630      |                                                                                    |         |                             |
| 120      | 1053  | 1.85  | 14.57 | 1060         | 700      | 1060         | 700      |                                                                                    |         |                             |
| 127      | 998   | 1.35  | 13.81 | 1060         | 700      | 1060         | 700      |                                                                                    |         |                             |
| 140      | 903   | 2.20  | 12.50 | 1080         | 670      | 1080         | 670      |                                                                                    |         |                             |
| 155      | 819   | 2.40  | 11.33 | 1100         | 720      | 1100         | 720      |                                                                                    |         |                             |
| 159      | 797   | 1.70  | 11.03 | 1100         | 720      | 1100         | 720      |                                                                                    |         |                             |
| 180      | 705   | 2.70  | 9.76  | 1100         | 720      | 1100         | 720      |                                                                                    |         |                             |
| 198      | 639   | 2.80  | 8.85  | 1120         | 740      | 1120         | 740      |                                                                                    |         |                             |
| 211      | 602   | 2.25  | 8.33  | 1120         | 740      | 1120         | 740      |                                                                                    |         |                             |
| 277      | 457   | 2.85  | 6.33  | 1080         | 760      | 1080         | 760      |                                                                                    |         |                             |

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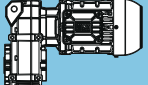
$P_N = 2.0 \text{ hp}$

| 60 Hz    |       |       | i     | Output shaft |          | Hollow shaft |          | <br><b>FH022-11P-90S/L-04F</b> | m<br>lb | Dimension<br>sheet<br>see page |
|----------|-------|-------|-------|--------------|----------|--------------|----------|-------------------------------------------------------------------------------------------------------------------|---------|--------------------------------|
| $n_{60}$ | $T_2$ | $f_B$ |       | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                                                   |         |                                |
| rpm      | lb-in |       |       | lb           | lb       | lb           | lb       |                                                                                                                   |         |                                |
| 89       | 1423  | 0.85  | 19.70 | 990          | 450      | **           | **       | 49                                                                                                                | 288     |                                |
| 93       | 1364  | 0.85  | 18.88 | 1010         | 400      | **           | **       |                                                                                                                   |         |                                |
| 103      | 1228  | 0.95  | 17.00 | 1030         | 470      | **           | **       |                                                                                                                   |         |                                |
| 106      | 1191  | 1.00  | 16.48 | 1060         | 430      | **           | **       |                                                                                                                   |         |                                |
| 118      | 1072  | 1.10  | 14.84 | 1080         | 490      | 1080         | 490      |                                                                                                                   |         |                                |
| 144      | 881   | 0.85  | 12.19 | 1100         | 520      | **           | **       |                                                                                                                   |         |                                |
| 145      | 873   | 1.35  | 12.09 | 1120         | 490      | 1120         | 490      |                                                                                                                   |         |                                |
| 161      | 787   | 1.50  | 10.89 | 1060         | 540      | 1060         | 540      |                                                                                                                   |         |                                |
| 184      | 688   | 1.10  | 9.52  | 990          | 540      | 990          | 540      |                                                                                                                   |         |                                |
| 247      | 514   | 1.45  | 7.11  | 880          | 560      | 880          | 560      |                                                                                                                   |         |                                |
| 286      | 443   | 1.70  | 6.13  | 830          | 560      | 830          | 560      |                                                                                                                   |         |                                |
| 328      | 387   | 1.95  | 5.35  | 790          | 580      | 790          | 580      |                                                                                                                   |         |                                |
| 447      | 284   | 2.25  | 3.93  | 700          | 580      | 700          | 580      |                                                                                                                   |         |                                |

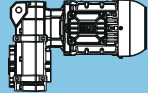
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| <b>P<sub>N</sub> = 3.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.95</b>                   | 174944               | 0.95                 | 1839.52  | 15470                 | 25540                 | **                    | **                    | <b>FH155-11P-100L-04E</b>                                                          | 1556           | 320                                |
| <b>0.98</b>                   | 168265               | 0.95                 | 1773.82  | 16320                 | 25670                 | **                    | **                    |                                                                                    |                |                                    |
| <b>0.87</b>                   | 194665               | 0.85                 | 1996.74  | 12360                 | 20610                 | **                    | **                    | <b>FH154-11P-100L-04E</b>                                                          | 1528           | 318                                |
| <b>0.95</b>                   | 178521               | 0.90                 | 1834.90  | 14970                 | 25450                 | **                    | **                    |                                                                                    |                |                                    |
| <b>1.0</b>                    | 167690               | 1.00                 | 1727.10  | 16390                 | 25670                 | **                    | **                    |                                                                                    |                |                                    |
| <b>1.1</b>                    | 155241               | 1.05                 | 1602.16  | 17780                 | 25940                 | 17780                 | **                    |                                                                                    |                |                                    |
| <b>1.2</b>                    | 136358               | 1.20                 | 1415.96  | 19510                 | 26350                 | 19510                 | 26350                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 132888               | 1.20                 | 1379.93  | 19810                 | 26420                 | 19810                 | 26420                 |                                                                                    |                |                                    |
| <b>1.4</b>                    | 116723               | 1.40                 | 1219.56  | 20970                 | 26750                 | 20970                 | 26750                 |                                                                                    |                |                                    |
| <b>1.5</b>                    | 114237               | 1.40                 | 1193.58  | 21130                 | 26820                 | 21130                 | 26820                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 100134               | 1.60                 | 1054.87  | 21960                 | 27110                 | 21960                 | 27110                 |                                                                                    |                |                                    |
| <b>1.9</b>                    | 84591                | 1.90                 | 898.51   | 22730                 | 27450                 | 22730                 | 27450                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 83808                | 1.95                 | 892.03   | 22750                 | 27450                 | 22750                 | 27450                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 71960                | 2.25                 | 773.88   | 23220                 | 27700                 | 23220                 | 27700                 |                                                                                    |                |                                    |
| <b>2.4</b>                    | 68739                | 2.35                 | 742.31   | 23340                 | 27760                 | 23340                 | 27760                 |                                                                                    |                |                                    |
| <b>2.6</b>                    | 61473                | 2.60                 | 669.37   | 23580                 | 27920                 | 23580                 | 27920                 |                                                                                    |                |                                    |
| <b>2.7</b>                    | 60044                | 2.70                 | 655.17   | 23630                 | 27970                 | 23630                 | 27970                 |                                                                                    |                |                                    |
| <b>1.1</b>                    | 151712               | 0.80                 | 1552.98  | **                    | **                    | **                    | **                    | <b>FH124-11P-100L-04E</b>                                                          | 972            | 314                                |
| <b>1.2</b>                    | 145929               | 0.80                 | 1493.78  | **                    | **                    | **                    | **                    |                                                                                    |                |                                    |
| <b>1.3</b>                    | 130148               | 0.90                 | 1337.70  | 14250                 | 18680                 | **                    | **                    |                                                                                    |                |                                    |
| <b>1.5</b>                    | 113591               | 1.05                 | 1172.32  | 15830                 | 19110                 | 15830                 | **                    |                                                                                    |                |                                    |
| <b>1.6</b>                    | 108483               | 1.10                 | 1121.89  | 16250                 | 19220                 | 16250                 | 19220                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 98434                | 1.20                 | 1022.15  | 17000                 | 19470                 | 17000                 | 19470                 |                                                                                    |                |                                    |
| <b>1.8</b>                    | 92844                | 1.25                 | 966.09   | 17360                 | 19630                 | 17360                 | 19630                 |                                                                                    |                |                                    |
| <b>1.9</b>                    | 86772                | 1.35                 | 904.76   | 17740                 | 19760                 | 17740                 | 19760                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 84268                | 1.40                 | 880.46   | 17870                 | 19830                 | 17870                 | 19830                 |                                                                                    |                |                                    |
| <b>2.2</b>                    | 75037                | 1.55                 | 788.86   | 18340                 | 20050                 | 18340                 | 20050                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 71971                | 1.60                 | 758.19   | 18500                 | 20140                 | 18500                 | 20140                 |                                                                                    |                |                                    |
| <b>2.6</b>                    | 64105                | 1.80                 | 679.51   | 18840                 | 20320                 | 18840                 | 20320                 |                                                                                    |                |                                    |
| <b>2.7</b>                    | 61430                | 1.90                 | 652.50   | 18930                 | 20390                 | 18930                 | 20390                 |                                                                                    |                |                                    |
| <b>3.0</b>                    | 54635                | 2.15                 | 585.14   | 19180                 | 20570                 | 19180                 | 20570                 |                                                                                    |                |                                    |
| <b>3.1</b>                    | 52263                | 2.25                 | 562.05   | 19270                 | 20610                 | 19270                 | 20610                 |                                                                                    |                |                                    |
| <b>3.2</b>                    | 51299                | 2.25                 | 551.68   | 19290                 | 20640                 | 19290                 | 20640                 |                                                                                    |                |                                    |
| <b>3.6</b>                    | 44449                | 2.60                 | 484.00   | 19490                 | 20820                 | 19490                 | 20820                 |                                                                                    |                |                                    |
| <b>3.7</b>                    | 43814                | 2.65                 | 478.08   | 19510                 | 20840                 | 19510                 | 20840                 |                                                                                    |                |                                    |
| <b>3.9</b>                    | 40914                | 2.85                 | 449.23   | 19580                 | 20910                 | 19580                 | 20910                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 87049                | 0.85                 | 892.89   | 7580                  | 12660                 | **                    | **                    | <b>FH104-11P-100L-04E</b>                                                          | 664            | 310                                |
| <b>2.3</b>                    | 75255                | 0.95                 | 775.08   | 9580                  | 13400                 | **                    | **                    |                                                                                    |                |                                    |
| <b>2.4</b>                    | 71561                | 1.00                 | 738.55   | 10070                 | 13510                 | 10070                 | **                    |                                                                                    |                |                                    |
| <b>2.6</b>                    | 64755                | 1.10                 | 669.67   | 10880                 | 13690                 | 10880                 | 13690                 |                                                                                    |                |                                    |
| <b>2.7</b>                    | 61865                | 1.15                 | 641.10   | 11170                 | 13780                 | 11170                 | 13780                 |                                                                                    |                |                                    |
| <b>2.8</b>                    | 60497                | 1.20                 | 628.21   | 11310                 | 13830                 | 11310                 | 13830                 |                                                                                    |                |                                    |
| <b>3.2</b>                    | 53123                | 1.35                 | 553.91   | 11960                 | 14030                 | 11960                 | 14030                 |                                                                                    |                |                                    |
| <b>3.2</b>                    | 52192                | 1.40                 | 545.32   | 12030                 | 14050                 | 12030                 | 14050                 |                                                                                    |                |                                    |
| <b>3.7</b>                    | 44955                | 1.60                 | 472.61   | 12540                 | 14250                 | 12540                 | 14250                 |                                                                                    |                |                                    |
| <b>3.8</b>                    | 43642                | 1.65                 | 459.75   | 12630                 | 14300                 | 12630                 | 14300                 |                                                                                    |                |                                    |
| <b>3.9</b>                    | 41997                | 1.70                 | 443.33   | 12720                 | 14340                 | 12720                 | 14340                 |                                                                                    |                |                                    |
| <b>4.3</b>                    | 38443                | 1.85                 | 408.33   | 12930                 | 14460                 | 12930                 | 14460                 |                                                                                    |                |                                    |
| <b>4.4</b>                    | 37573                | 1.90                 | 399.09   | 12970                 | 14480                 | 12970                 | 14480                 |                                                                                    |                |                                    |
| <b>4.5</b>                    | 36082                | 2.00                 | 384.84   | 13060                 | 14520                 | 13060                 | 14520                 |                                                                                    |                |                                    |
| <b>4.6</b>                    | 35510                | 2.00                 | 378.74   | 13080                 | 14520                 | 13080                 | 14520                 |                                                                                    |                |                                    |
| <b>5.1</b>                    | 32063                | 2.25                 | 344.81   | 13240                 | 14640                 | 13240                 | 14640                 |                                                                                    |                |                                    |
| <b>5.2</b>                    | 30854                | 2.30                 | 332.50   | 13290                 | 14660                 | 13290                 | 14660                 |                                                                                    |                |                                    |
| <b>5.3</b>                    | 30445                | 2.35                 | 328.77   | 13310                 | 14680                 | 13310                 | 14680                 |                                                                                    |                |                                    |
| <b>6.1</b>                    | 25979                | 2.75                 | 284.06   | 13490                 | 14810                 | 13490                 | 14810                 |                                                                                    |                |                                    |

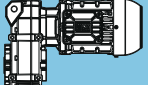


| <b>P<sub>N</sub> = 3.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                     |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                     |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                     |                |                                    |
| 3.4                           | 49624                | 0.85                 | 509.01   | 3890                  | 6090                  | **                    | **                    | <b>FH094-11P-100L-04E</b>                                                           | 432            | 306                                |
| 3.6                           | 47598                | 0.85                 | 488.23   | 4520                  | 7420                  | **                    | **                    |                                                                                     |                |                                    |
| 4.2                           | 39994                | 1.00                 | 412.76   | 6160                  | 8750                  | 6160                  | **                    |                                                                                     |                |                                    |
| 4.3                           | 39602                | 1.05                 | 408.71   | 6230                  | 8770                  | 6230                  | **                    |                                                                                     |                |                                    |
| 5.1                           | 33275                | 1.20                 | 345.53   | 7150                  | 8990                  | 7150                  | 8990                  |                                                                                     |                |                                    |
| 5.3                           | 31833                | 1.30                 | 331.24   | 7330                  | 9040                  | 7330                  | 9040                  |                                                                                     |                |                                    |
| 5.5                           | 30633                | 1.35                 | 319.41   | 7460                  | 9080                  | 7460                  | 9080                  |                                                                                     |                |                                    |
| 6.2                           | 26692                | 1.50                 | 280.04   | 7850                  | 9220                  | 7850                  | 9220                  |                                                                                     |                |                                    |
| 6.5                           | 25685                | 1.60                 | 270.03   | 7940                  | 9240                  | 7940                  | 9240                  |                                                                                     |                |                                    |
| 6.0                           | 30744                | 1.30                 | 288.50   | 7440                  | 9060                  | 7440                  | 9060                  | <b>FH093-11P-100L-04E</b>                                                           | 403            | 304                                |
| 7.2                           | 25991                | 1.55                 | 243.90   | 7910                  | 9240                  | 7910                  | 9240                  |                                                                                     |                |                                    |
| 8.3                           | 22500                | 1.80                 | 211.14   | 8180                  | 9350                  | 8180                  | 9350                  |                                                                                     |                |                                    |
| 9.3                           | 19926                | 2.00                 | 186.99   | 8360                  | 9440                  | 8360                  | 9440                  |                                                                                     |                |                                    |
| 11                            | 17238                | 2.35                 | 161.76   | 8520                  | 9530                  | 8520                  | 9530                  |                                                                                     |                |                                    |
| 12                            | 15223                | 2.65                 | 142.85   | 8630                  | 9600                  | 8630                  | 9600                  |                                                                                     |                |                                    |
| 13                            | 14666                | 2.75                 | 137.63   | 8660                  | 9620                  | 8660                  | 9620                  |                                                                                     |                |                                    |
| 5.0                           | 34289                | 0.80                 | 351.00   | **                    | **                    | **                    | **                    | <b>FH084-11P-100L-04E</b>                                                           | 313            | 302                                |
| 5.4                           | 31763                | 0.85                 | 325.80   | 2700                  | 4140                  | **                    | **                    |                                                                                     |                |                                    |
| 5.6                           | 30565                | 0.90                 | 314.16   | 3170                  | 5130                  | **                    | **                    |                                                                                     |                |                                    |
| 6.1                           | 27620                | 1.00                 | 284.47   | 4020                  | 6950                  | **                    | **                    |                                                                                     |                |                                    |
| 6.4                           | 26579                | 1.00                 | 274.31   | 4270                  | 7490                  | 4270                  | **                    |                                                                                     |                |                                    |
| 6.1                           | 30239                | 0.90                 | 283.76   | 3280                  | 5370                  | **                    | **                    | <b>FH083-11P-100L-04E</b>                                                           | 284            | 300                                |
| 7.0                           | 26403                | 1.05                 | 247.77   | 4320                  | 7580                  | 4320                  | **                    |                                                                                     |                |                                    |
| 8.0                           | 23334                | 1.15                 | 218.97   | 4900                  | 8880                  | 4900                  | 1890                  |                                                                                     |                |                                    |
| 9.4                           | 19732                | 1.35                 | 185.17   | 5440                  | 9330                  | 5440                  | 2020                  |                                                                                     |                |                                    |
| 9.7                           | 19211                | 1.40                 | 180.28   | 5510                  | 9350                  | 5510                  | 2050                  |                                                                                     |                |                                    |
| 11                            | 16962                | 1.60                 | 159.17   | 5780                  | 9440                  | 5780                  | 2140                  |                                                                                     |                |                                    |
| 12                            | 15206                | 1.75                 | 142.69   | 5960                  | 9510                  | 5960                  | 2200                  |                                                                                     |                |                                    |
| 13                            | 14807                | 1.80                 | 138.95   | 5980                  | 9530                  | 5980                  | 2230                  |                                                                                     |                |                                    |
| 14                            | 13277                | 2.00                 | 124.59   | 6110                  | 9600                  | 5930                  | 2290                  |                                                                                     |                |                                    |
| 15                            | 12686                | 2.10                 | 119.05   | 6160                  | 9620                  | 5780                  | 2320                  |                                                                                     |                |                                    |
| 16                            | 11734                | 2.30                 | 110.11   | 6230                  | 9640                  | 5600                  | 2340                  |                                                                                     |                |                                    |
| 17                            | 10797                | 2.50                 | 101.32   | 6290                  | 9690                  | 5420                  | 2380                  |                                                                                     |                |                                    |
| 19                            | 9922                 | 2.70                 | 93.11    | 6340                  | 9710                  | 5190                  | 2410                  |                                                                                     |                |                                    |
| 21                            | 9057                 | 2.95                 | 84.99    | 6380                  | 9760                  | 4970                  | 2450                  |                                                                                     |                |                                    |
| 12                            | 16058                | 0.85                 | 150.69   | 2790                  | 3440                  | **                    | **                    | <b>FH073-11P-100L-04E</b>                                                           | 179            | 298                                |
| 15                            | 12214                | 1.10                 | 114.62   | 3660                  | 3620                  | 3660                  | 1100                  |                                                                                     |                |                                    |
| 18                            | 10072                | 1.35                 | 94.52    | 3980                  | 3730                  | 3980                  | 1210                  |                                                                                     |                |                                    |
| 23                            | 8262                 | 1.65                 | 77.53    | 4200                  | 3840                  | 3570                  | 1300                  |                                                                                     |                |                                    |
| 26                            | 7020                 | 1.90                 | 65.88    | 4320                  | 3910                  | 3350                  | 1370                  |                                                                                     |                |                                    |
| 32                            | 5772                 | 2.35                 | 54.16    | 4410                  | 3980                  | 3060                  | 1440                  |                                                                                     |                |                                    |
| 33                            | 5566                 | 2.40                 | 52.23    | 4430                  | 3980                  | 3010                  | 1460                  |                                                                                     |                |                                    |
| 39                            | 4798                 | 2.80                 | 45.02    | 4470                  | 4020                  | 2810                  | 1480                  | <b>FH072-11P-100L-04E</b>                                                           | 176            | 298                                |
| 19                            | 9609                 | 0.80                 | 90.17    | **                    | **                    | **                    | **                    | <b>FH063-11P-100L-04E</b>                                                           | 128            | 296                                |
| 22                            | 8576                 | 0.85                 | 80.48    | 1370                  | 2020                  | **                    | **                    |                                                                                     |                |                                    |
| 27                            | 6954                 | 1.05                 | 65.26    | 1980                  | 2860                  | 1980                  | 610                   |                                                                                     |                |                                    |
| 29                            | 6377                 | 1.15                 | 59.84    | 2140                  | 2900                  | 2140                  | 650                   |                                                                                     |                |                                    |
| 32                            | 5822                 | 1.25                 | 54.63    | 2270                  | 2940                  | 2270                  | 700                   |                                                                                     |                |                                    |
| 35                            | 5339                 | 1.40                 | 50.10    | 2360                  | 2970                  | 2360                  | 740                   |                                                                                     |                |                                    |
| 35                            | 5293                 | 1.40                 | 49.67    | 2360                  | 2990                  | 2360                  | 740                   | <b>FH062-11P-100L-04E</b>                                                           | 126            | 296                                |
| 38                            | 4854                 | 1.50                 | 45.55    | 2430                  | 3010                  | 2430                  | 790                   |                                                                                     |                |                                    |
| 42                            | 4439                 | 1.65                 | 41.66    | 2500                  | 3060                  | 2430                  | 830                   |                                                                                     |                |                                    |
| 46                            | 4071                 | 1.80                 | 38.20    | 2560                  | 3080                  | 2340                  | 850                   |                                                                                     |                |                                    |
| 53                            | 3484                 | 2.10                 | 32.69    | 2630                  | 3150                  | 2180                  | 900                   |                                                                                     |                |                                    |
| 58                            | 3195                 | 2.30                 | 29.98    | 2650                  | 3170                  | 2110                  | 920                   |                                                                                     |                |                                    |
| 69                            | 2689                 | 2.70                 | 25.23    | 2700                  | 3210                  | 1960                  | 970                   |                                                                                     |                |                                    |
| 75                            | 2466                 | 2.95                 | 23.14    | 2720                  | 3210                  | 1890                  | 990                   |                                                                                     |                |                                    |
| 85                            | 2183                 | 1.75                 | 20.49    | 2740                  | 3170                  | 1820                  | 940                   |                                                                                     |                |                                    |
| 102                           | 1831                 | 2.80                 | 17.18    | 2770                  | 3210                  | 1690                  | 990                   |                                                                                     |                |                                    |

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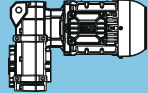
\*\* ... on request

$P_N = 3.0$  hp

| 60 Hz    |       | $f_B$ | $i$   | Output shaft |          | Hollow shaft |          |  | $m$<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|-------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|-----------|-----------------------------|
| $n_{50}$ | $T_2$ |       |       | $F_{rN}$     | $F_{sN}$ | $F_{rN}$     | $F_{sN}$ |                                                                                    |           |                             |
| rpm      | lb-in |       |       | lb           | lb       | lb           | lb       |                                                                                    |           |                             |
| 40       | 4662  | 1.15  | 43.75 | 1570         | 2340     | 1570         | 830      | FH052-11P-100L-04E                                                                 | 93        | 294                         |
| 44       | 4259  | 1.25  | 39.97 | 1690         | 2360     | 1690         | 850      |                                                                                    |           |                             |
| 49       | 3816  | 1.40  | 35.81 | 1800         | 2410     | 1800         | 900      |                                                                                    |           |                             |
| 53       | 3487  | 1.55  | 32.72 | 1870         | 2430     | 1870         | 920      |                                                                                    |           |                             |
| 63       | 2937  | 1.85  | 27.56 | 1980         | 2470     | 1980         | 970      |                                                                                    |           |                             |
| 69       | 2683  | 2.00  | 25.18 | 2000         | 2500     | 2000         | 990      |                                                                                    |           |                             |
| 72       | 2569  | 1.25  | 24.11 | 2020         | 2410     | 2020         | 900      |                                                                                    |           |                             |
| 84       | 2220  | 2.40  | 20.83 | 2070         | 2520     | 2070         | 1010     |                                                                                    |           |                             |
| 88       | 2103  | 1.55  | 19.73 | 2090         | 2470     | 2090         | 970      |                                                                                    |           |                             |
| 92       | 2028  | 2.65  | 19.03 | 2090         | 2540     | 2090         | 1030     |                                                                                    |           |                             |
| 102      | 1816  | 2.95  | 17.04 | 2110         | 2560     | 2020         | 1060     |                                                                                    |           |                             |
| 115      | 1619  | 2.00  | 15.19 | 2140         | 2520     | 1930         | 1010     |                                                                                    |           |                             |
| 152      | 1223  | 2.65  | 11.48 | 2160         | 2560     | 1730         | 1060     |                                                                                    |           |                             |
| 46       | 4044  | 0.90  | 37.95 | 360          | 340      | **           | **       | FH042-11P-100L-04E                                                                 | 79        | 292                         |
| 50       | 3689  | 1.00  | 34.62 | 720          | 1100     | **           | **       |                                                                                    |           |                             |
| 56       | 3310  | 1.10  | 31.06 | 970          | 1620     | 970          | 560      |                                                                                    |           |                             |
| 62       | 3019  | 1.20  | 28.33 | 1080         | 1870     | 1080         | 610      |                                                                                    |           |                             |
| 73       | 2548  | 1.40  | 23.91 | 1260         | 1910     | 1260         | 650      |                                                                                    |           |                             |
| 80       | 2324  | 1.55  | 21.81 | 1300         | 1930     | 1300         | 670      |                                                                                    |           |                             |
| 85       | 2198  | 1.25  | 20.63 | 1350         | 1840     | 1350         | 580      |                                                                                    |           |                             |
| 97       | 1925  | 1.85  | 18.06 | 1390         | 1960     | 1390         | 700      |                                                                                    |           |                             |
| 103      | 1799  | 1.55  | 16.88 | 1420         | 1910     | 1420         | 650      |                                                                                    |           |                             |
| 106      | 1756  | 2.05  | 16.48 | 1440         | 1980     | 1440         | 720      |                                                                                    |           |                             |
| 118      | 1575  | 2.25  | 14.78 | 1460         | 2000     | 1460         | 740      |                                                                                    |           |                             |
| 129      | 1436  | 2.50  | 13.48 | 1480         | 2000     | 1480         | 740      |                                                                                    |           |                             |
| 134      | 1384  | 2.00  | 12.99 | 1480         | 1960     | 1480         | 700      |                                                                                    |           |                             |
| 146      | 1278  | 2.70  | 11.99 | 1510         | 2020     | 1460         | 760      |                                                                                    |           |                             |
| 160      | 1165  | 2.75  | 10.93 | 1530         | 2020     | 1390         | 760      |                                                                                    |           |                             |
| 174      | 1069  | 2.90  | 10.03 | 1530         | 2050     | 1350         | 790      |                                                                                    |           |                             |
| 178      | 1046  | 2.65  | 9.82  | 1530         | 2000     | 1350         | 740      |                                                                                    |           |                             |
| 191      | 975   | 3.00  | 9.15  | 1530         | 2050     | 1300         | 790      |                                                                                    |           |                             |
| 217      | 856   | 2.90  | 8.03  | 1550         | 2020     | 1240         | 760      |                                                                                    |           |                             |
| 83       | 2253  | 0.90  | 21.14 | 540          | 470      | **           | **       | FH032-11P-100L-04E                                                                 | 77        | 290                         |
| 91       | 2043  | 1.00  | 19.17 | 670          | 580      | **           | **       |                                                                                    |           |                             |
| 109      | 1711  | 1.15  | 16.06 | 850          | 540      | 850          | 540      |                                                                                    |           |                             |
| 120      | 1553  | 1.30  | 14.57 | 920          | 650      | 920          | 650      |                                                                                    |           |                             |
| 126      | 1472  | 0.95  | 13.81 | 940          | 630      | **           | **       |                                                                                    |           |                             |
| 140      | 1332  | 1.50  | 12.50 | 990          | 610      | 990          | 610      |                                                                                    |           |                             |
| 154      | 1207  | 1.65  | 11.33 | 1010         | 670      | 1010         | 670      |                                                                                    |           |                             |
| 158      | 1175  | 1.15  | 11.03 | 1030         | 670      | 1030         | 670      |                                                                                    |           |                             |
| 179      | 1040  | 1.85  | 9.76  | 1060         | 650      | 1060         | 650      |                                                                                    |           |                             |
| 197      | 943   | 1.90  | 8.85  | 1080         | 720      | 1080         | 720      |                                                                                    |           |                             |
| 209      | 888   | 1.50  | 8.33  | 1080         | 700      | 1080         | 700      |                                                                                    |           |                             |
| 276      | 675   | 1.95  | 6.33  | 1100         | 740      | 1100         | 740      |                                                                                    |           |                             |
| 354      | 525   | 2.15  | 4.93  | 1010         | 740      | 1010         | 740      |                                                                                    |           |                             |
| 453      | 410   | 2.40  | 3.85  | 920          | 760      | 920          | 760      |                                                                                    |           |                             |

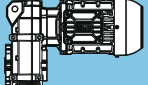
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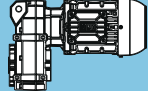
| P <sub>N</sub> = 4.0 hp |                |                |         |                 |                 |                 |                 |                                                                                     |         |                             |
|-------------------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                             |
| rpm                     | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                     |         |                             |
| 1.1                     | 211136         | 0.80           | 1580.39 | **              | **              | **              | **              | <b>FH154-11P-L100L-04F</b>                                                          | 1543    | 318                         |
| 1.2                     | 188782         | 0.85           | 1415.96 | 13600           | 23250           | **              | **              |                                                                                     |         |                             |
| 1.3                     | 183603         | 0.90           | 1379.93 | 14410           | 24980           | **              | **              |                                                                                     |         |                             |
| 1.4                     | 161602         | 1.00           | 1219.56 | 17200           | 25830           | 17200           | **              |                                                                                     |         |                             |
| 1.5                     | 158663         | 1.05           | 1197.38 | 17540           | 25900           | 17540           | **              |                                                                                     |         |                             |
| 1.6                     | 139208         | 1.15           | 1054.87 | 19360           | 26300           | 19360           | 26300           |                                                                                     |         |                             |
| 1.7                     | 135818         | 1.20           | 1031.30 | 19630           | 26370           | 19630           | 26370           |                                                                                     |         |                             |
| 1.9                     | 117604         | 1.40           | 898.51  | 20950           | 26750           | 20950           | 26750           |                                                                                     |         |                             |
| 2.0                     | 116756         | 1.40           | 892.03  | 21020           | 26770           | 21020           | 26770           |                                                                                     |         |                             |
| 2.2                     | 100462         | 1.60           | 773.88  | 21990           | 27110           | 21990           | 27110           |                                                                                     |         |                             |
| 2.3                     | 99933          | 1.60           | 769.81  | 22010           | 27130           | 22010           | 27130           |                                                                                     |         |                             |
| 2.6                     | 86181          | 1.85           | 669.37  | 22680           | 27430           | 22680           | 27430           |                                                                                     |         |                             |
| 2.7                     | 84179          | 1.90           | 655.17  | 22750           | 27450           | 22750           | 27450           |                                                                                     |         |                             |
| 3.0                     | 72927          | 2.20           | 573.49  | 23200           | 27700           | 23200           | 27700           |                                                                                     |         |                             |
| 3.1                     | 70177          | 2.30           | 553.01  | 23310           | 27740           | 23310           | 27740           |                                                                                     |         |                             |
| 3.2                     | 69745          | 2.30           | 549.60  | 23340           | 27760           | 23340           | 27760           |                                                                                     |         |                             |
| 3.6                     | 61173          | 2.65           | 488.09  | 23600           | 27940           | 23600           | 27940           |                                                                                     |         |                             |
| 3.7                     | 59205          | 2.70           | 473.37  | 23670           | 27990           | 23670           | 27990           |                                                                                     |         |                             |
| 3.8                     | 57805          | 2.80           | 463.14  | 23690           | 28010           | 23690           | 28010           |                                                                                     |         |                             |
| 1.6                     | 149882         | 0.80           | 1121.89 | **              | **              | **              | **              | <b>FH124-11P-L100L-04F</b>                                                          | 988     | 314                         |
| 1.7                     | 136278         | 0.85           | 1022.15 | 13670           | 18570           | **              | **              |                                                                                     |         |                             |
| 1.8                     | 128540         | 0.90           | 966.09  | 14500           | 18750           | **              | **              |                                                                                     |         |                             |
| 1.9                     | 120134         | 1.00           | 904.76  | 15330           | 18950           | **              | **              |                                                                                     |         |                             |
| 2.0                     | 116669         | 1.00           | 880.46  | 15620           | 19040           | 15620           | **              |                                                                                     |         |                             |
| 2.2                     | 104103         | 1.15           | 788.86  | 16640           | 19360           | 16640           | 19360           |                                                                                     |         |                             |
| 2.3                     | 99851          | 1.20           | 758.19  | 16930           | 19470           | 16930           | 19470           |                                                                                     |         |                             |
| 2.6                     | 89122          | 1.30           | 679.51  | 17630           | 19720           | 17630           | 19720           |                                                                                     |         |                             |
| 2.7                     | 85404          | 1.35           | 652.50  | 17830           | 19810           | 17830           | 19810           |                                                                                     |         |                             |
| 3.0                     | 76273          | 1.55           | 585.14  | 18320           | 20030           | 18320           | 20030           |                                                                                     |         |                             |
| 3.1                     | 72963          | 1.60           | 562.05  | 18480           | 20120           | 18480           | 20120           |                                                                                     |         |                             |
| 3.2                     | 71617          | 1.65           | 551.68  | 18520           | 20140           | 18520           | 20140           |                                                                                     |         |                             |
| 3.6                     | 62315          | 1.85           | 484.00  | 18930           | 20390           | 18930           | 20390           |                                                                                     |         |                             |
| 3.7                     | 59856          | 1.95           | 465.86  | 19020           | 20440           | 19020           | 20440           |                                                                                     |         |                             |
| 3.9                     | 57481          | 2.05           | 449.23  | 19090           | 20500           | 19090           | 20500           |                                                                                     |         |                             |
| 4.2                     | 52688          | 2.20           | 414.33  | 19270           | 20610           | 19270           | 20610           |                                                                                     |         |                             |
| 4.3                     | 51653          | 2.25           | 406.19  | 19290           | 20640           | 19290           | 20640           |                                                                                     |         |                             |
| 4.4                     | 49602          | 2.35           | 391.68  | 19360           | 20700           | 19360           | 20700           |                                                                                     |         |                             |
| 4.5                     | 48501          | 2.40           | 383.78  | 19380           | 20730           | 19380           | 20730           |                                                                                     |         |                             |
| 4.9                     | 44810          | 2.60           | 356.79  | 19490           | 20820           | 19490           | 20820           |                                                                                     |         |                             |
| 5.0                     | 43851          | 2.65           | 349.88  | 19510           | 20840           | 19510           | 20840           |                                                                                     |         |                             |
| 5.2                     | 42110          | 2.75           | 337.39  | 19560           | 20880           | 19560           | 20880           |                                                                                     |         |                             |
| 2.6                     | 89284          | 0.80           | 669.67  | **              | **              | **              | **              | <b>FH104-11P-L100L-04F</b>                                                          | 679     | 310                         |
| 2.7                     | 85474          | 0.85           | 641.10  | 7980            | 13110           | **              | **              |                                                                                     |         |                             |
| 2.8                     | 83756          | 0.85           | 628.21  | 8320            | 13170           | **              | **              |                                                                                     |         |                             |
| 3.1                     | 73548          | 1.00           | 553.91  | 9870            | 13470           | **              | **              |                                                                                     |         |                             |
| 3.2                     | 72260          | 1.00           | 545.32  | 10050           | 13490           | 10050           | **              |                                                                                     |         |                             |
| 3.7                     | 62369          | 1.15           | 472.61  | 11170           | 13780           | 11170           | 13780           |                                                                                     |         |                             |
| 3.8                     | 60547          | 1.20           | 459.75  | 11330           | 13830           | 11330           | 13830           |                                                                                     |         |                             |
| 3.9                     | 58265          | 1.25           | 443.33  | 11560           | 13890           | 11560           | 13890           |                                                                                     |         |                             |
| 4.3                     | 53555          | 1.35           | 408.33  | 11960           | 14030           | 11960           | 14030           |                                                                                     |         |                             |
| 4.4                     | 52236          | 1.40           | 399.09  | 12050           | 14070           | 12050           | 14070           |                                                                                     |         |                             |
| 4.5                     | 50267          | 1.45           | 384.84  | 12210           | 14120           | 12210           | 14120           |                                                                                     |         |                             |
| 4.6                     | 49471          | 1.45           | 378.74  | 12250           | 14140           | 12250           | 14140           |                                                                                     |         |                             |
| 5.0                     | 44762          | 1.60           | 344.81  | 12590           | 14280           | 12590           | 14280           |                                                                                     |         |                             |
| 5.2                     | 43075          | 1.65           | 332.50  | 12680           | 14320           | 12680           | 14320           |                                                                                     |         |                             |
| 5.3                     | 42592          | 1.70           | 328.77  | 12700           | 14340           | 12700           | 14340           |                                                                                     |         |                             |
| 6.1                     | 36422          | 1.95           | 284.06  | 13040           | 14520           | 13040           | 14520           |                                                                                     |         |                             |

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| P <sub>N</sub> = 4.0 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 5.0                     | 45974          | 0.90           | 345.53 | 5010            | 8480            | **              | **              | <b>FH094-11P-L100L-04F</b>                                                         | 448     | 306                         |
| 5.3                     | 44072          | 0.95           | 331.24 | 5440            | 8630            | **              | **              |                                                                                    |         |                             |
| 5.4                     | 42411          | 0.95           | 319.41 | 5780            | 8680            | **              | **              |                                                                                    |         |                             |
| 6.2                     | 37032          | 1.10           | 280.04 | 6680            | 8860            | 6680            | 8860            |                                                                                    |         |                             |
| 6.4                     | 35635          | 1.15           | 270.03 | 6880            | 8900            | 6880            | 8900            |                                                                                    |         |                             |
| 6.0                     | 42044          | 0.95           | 288.50 | 5850            | 8700            | **              | **              | <b>FH093-11P-L100L-04F</b>                                                         | 419     | 304                         |
| 7.1                     | 35544          | 1.15           | 243.90 | 6880            | 8900            | 6880            | 8900            |                                                                                    |         |                             |
| 8.2                     | 30770          | 1.30           | 211.14 | 7460            | 9080            | 7460            | 9080            |                                                                                    |         |                             |
| 9.3                     | 27250          | 1.50           | 186.99 | 7820            | 9190            | 7820            | 9190            |                                                                                    |         |                             |
| 11                      | 23574          | 1.70           | 161.76 | 8120            | 9310            | 8120            | 9310            |                                                                                    |         |                             |
| 11                      | 22733          | 1.80           | 155.99 | 8180            | 9350            | 8180            | 9350            |                                                                                    |         |                             |
| 12                      | 20818          | 1.95           | 142.85 | 8320            | 9420            | 8320            | 9420            |                                                                                    |         |                             |
| 13                      | 20057          | 2.00           | 137.63 | 8360            | 9440            | 8360            | 9440            |                                                                                    |         |                             |
| 14                      | 17600          | 2.30           | 120.77 | 8520            | 9510            | 8520            | 9510            |                                                                                    |         |                             |
| 15                      | 17070          | 2.35           | 117.13 | 8540            | 9530            | 8540            | 9530            |                                                                                    |         |                             |
| 17                      | 15235          | 2.65           | 104.54 | 8630            | 9600            | 8630            | 9600            |                                                                                    |         |                             |
| 19                      | 13493          | 3.00           | 92.59  | 8700            | 9670            | 8700            | 9670            |                                                                                    |         |                             |
| 7.9                     | 31911          | 0.85           | 218.97 | 2720            | 4180            | **              | **              |                                                                                    |         |                             |
| 9.4                     | 26985          | 1.00           | 185.17 | 4230            | 7400            | 4230            | **              |                                                                                    |         |                             |
| 9.7                     | 26273          | 1.05           | 180.28 | 4380            | 7730            | 4380            | **              |                                                                                    |         |                             |
| 11                      | 23196          | 1.15           | 159.17 | 4970            | 9010            | 4970            | 1890            |                                                                                    |         |                             |
| 12                      | 20795          | 1.30           | 142.69 | 5330            | 9310            | 5330            | 2000            |                                                                                    |         |                             |
| 13                      | 20249          | 1.35           | 138.95 | 5400            | 9310            | 5400            | 2000            |                                                                                    |         |                             |
| 14                      | 18157          | 1.50           | 124.59 | 5670            | 9400            | 5670            | 2090            |                                                                                    |         |                             |
| 15                      | 17349          | 1.55           | 119.05 | 5760            | 9440            | 5760            | 2140            |                                                                                    |         |                             |
| 16                      | 16047          | 1.70           | 110.11 | 5890            | 9490            | 5890            | 2180            |                                                                                    |         |                             |
| 17                      | 14766          | 1.80           | 101.32 | 6000            | 9530            | 5730            | 2230            |                                                                                    |         |                             |
| 19                      | 13569          | 2.00           | 93.11  | 6090            | 9580            | 5460            | 2270            |                                                                                    |         |                             |
| 20                      | 12386          | 2.15           | 84.99  | 6180            | 9620            | 5310            | 2320            |                                                                                    |         |                             |
| 22                      | 11664          | 2.30           | 80.04  | 6250            | 9670            | 5100            | 2360            |                                                                                    |         |                             |
| 24                      | 10437          | 2.50           | 71.62  | 6320            | 9710            | 4900            | 2410            |                                                                                    |         |                             |
| 25                      | 10182          | 2.55           | 69.87  | 6340            | 9710            | 4810            | 2410            |                                                                                    |         |                             |
| 29                      | 8724           | 2.85           | 59.86  | 6410            | 9780            | 4520            | 2470            |                                                                                    |         |                             |
| 30                      | 8413           | 2.90           | 57.73  | 6430            | 9780            | 4450            | 2470            |                                                                                    |         |                             |
| 15                      | 16704          | 0.80           | 114.62 | **              | **              | **              | **              | <b>FH073-11P-L100L-04F</b>                                                         | 194     | 298                         |
| 18                      | 13775          | 1.00           | 94.52  | 3370            | 3550            | **              | **              |                                                                                    |         |                             |
| 22                      | 11299          | 1.20           | 77.53  | 3820            | 3690            | 3820            | 1150            |                                                                                    |         |                             |
| 26                      | 9601           | 1.40           | 65.88  | 4050            | 3780            | 3570            | 1240            |                                                                                    |         |                             |
| 32                      | 7893           | 1.70           | 54.16  | 4250            | 3870            | 3240            | 1330            |                                                                                    |         |                             |
| 33                      | 7612           | 1.75           | 52.23  | 4270            | 3870            | 3190            | 1350            |                                                                                    |         |                             |
| 39                      | 6561           | 2.05           | 45.02  | 4360            | 3930            | 2970            | 1390            | <b>FH072-11P-L100L-04F</b>                                                         | 192     | 298                         |
| 44                      | 5729           | 2.35           | 39.31  | 4410            | 3980            | 2790            | 1440            |                                                                                    |         |                             |
| 50                      | 5063           | 2.65           | 34.74  | 4450            | 4000            | 2650            | 1480            |                                                                                    |         |                             |
| 84                      | 3020           | 2.80           | 20.72  | 4540            | 4050            | 2160            | 1510            |                                                                                    |         |                             |
| 27                      | 9510           | 0.80           | 65.26  | **              | **              | **              | **              | <b>FH063-11P-L100L-04F</b>                                                         | 143     | 296                         |
| 29                      | 8721           | 0.85           | 59.84  | 1330            | 1930            | **              | **              |                                                                                    |         |                             |
| 32                      | 7961           | 0.95           | 54.63  | 1660            | 2680            | **              | **              |                                                                                    |         |                             |
| 35                      | 7301           | 1.00           | 50.10  | 1890            | 2810            | 1890            | **              |                                                                                    |         |                             |

**P<sub>N</sub> = 4.0 hp**

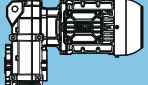
| 60 Hz           |                | f <sub>B</sub> | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                             |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                             |
| <b>35</b>       | 7239           | 1.05           | 49.67 | 1910            | 2830            | 1910            | **              | <b>FH062-11P-L100L-04F</b>                                                          | 141     | 296                         |
| <b>38</b>       | 6638           | 1.10           | 45.55 | 2070            | 2880            | 2070            | 630             |                                                                                     |         |                             |
| <b>42</b>       | 6071           | 1.20           | 41.66 | 2200            | 2920            | 2200            | 700             |                                                                                     |         |                             |
| <b>46</b>       | 5567           | 1.35           | 38.20 | 2320            | 2970            | 2320            | 720             |                                                                                     |         |                             |
| <b>53</b>       | 4764           | 1.55           | 32.69 | 2450            | 3030            | 2340            | 790             |                                                                                     |         |                             |
| <b>58</b>       | 4369           | 1.70           | 29.98 | 2520            | 3060            | 2230            | 830             |                                                                                     |         |                             |
| <b>69</b>       | 3677           | 2.00           | 25.23 | 2610            | 3120            | 2050            | 880             |                                                                                     |         |                             |
| <b>75</b>       | 3372           | 2.20           | 23.14 | 2630            | 3150            | 1980            | 900             |                                                                                     |         |                             |
| <b>83</b>       | 3041           | 2.40           | 20.87 | 2680            | 3170            | 1890            | 940             |                                                                                     |         |                             |
| <b>85</b>       | 2986           | 1.30           | 20.49 | 2680            | 3080            | 1930            | 850             |                                                                                     |         |                             |
| <b>91</b>       | 2789           | 2.65           | 19.14 | 2700            | 3190            | 1820            | 970             |                                                                                     |         |                             |
| <b>98</b>       | 2587           | 2.85           | 17.75 | 2700            | 3210            | 1750            | 970             |                                                                                     |         |                             |
| <b>101</b>      | 2504           | 2.05           | 17.18 | 2720            | 3150            | 1780            | 900             |                                                                                     |         |                             |
| <b>129</b>      | 1966           | 2.60           | 13.49 | 2740            | 3210            | 1600            | 970             |                                                                                     |         |                             |
| <b>40</b>       | 6376           | 0.85           | 43.75 | 720             | 940             | **              | **              | <b>FH052-11P-L100L-04F</b>                                                          | 106     | 294                         |
| <b>44</b>       | 5825           | 0.95           | 39.97 | 1100            | 1750            | **              | **              |                                                                                     |         |                             |
| <b>49</b>       | 5219           | 1.05           | 35.81 | 1390            | 2290            | 1390            | **              |                                                                                     |         |                             |
| <b>53</b>       | 4768           | 1.15           | 32.72 | 1550            | 2320            | 1550            | 810             |                                                                                     |         |                             |
| <b>63</b>       | 4016           | 1.35           | 27.56 | 1750            | 2380            | 1750            | 880             |                                                                                     |         |                             |
| <b>69</b>       | 3670           | 1.45           | 25.18 | 1840            | 2410            | 1840            | 900             |                                                                                     |         |                             |
| <b>72</b>       | 3514           | 0.95           | 24.11 | 1870            | 2320            | **              | **              |                                                                                     |         |                             |
| <b>84</b>       | 3036           | 1.75           | 20.83 | 1960            | 2450            | 1960            | 940             |                                                                                     |         |                             |
| <b>88</b>       | 2875           | 1.15           | 19.73 | 1980            | 2380            | 1980            | 880             |                                                                                     |         |                             |
| <b>91</b>       | 2773           | 1.95           | 19.03 | 2000            | 2470            | 2000            | 970             |                                                                                     |         |                             |
| <b>102</b>      | 2483           | 2.15           | 17.04 | 2050            | 2500            | 2050            | 990             |                                                                                     |         |                             |
| <b>112</b>      | 2269           | 2.35           | 15.57 | 2070            | 2520            | 2020            | 1010            |                                                                                     |         |                             |
| <b>115</b>      | 2214           | 1.45           | 15.19 | 2070            | 2450            | 2020            | 940             |                                                                                     |         |                             |
| <b>126</b>      | 2014           | 2.65           | 13.82 | 2090            | 2540            | 1930            | 1030            |                                                                                     |         |                             |
| <b>138</b>      | 1841           | 2.90           | 12.63 | 2110            | 2560            | 1840            | 1060            |                                                                                     |         |                             |
| <b>152</b>      | 1673           | 1.95           | 11.48 | 2110            | 2520            | 1800            | 1010            |                                                                                     |         |                             |
| <b>185</b>      | 1368           | 2.35           | 9.39  | 2140            | 2540            | 1640            | 1030            |                                                                                     |         |                             |
| <b>228</b>      | 1110           | 2.90           | 7.62  | 2090            | 2590            | 1510            | 1080            |                                                                                     |         |                             |
| <b>56</b>       | 4526           | 0.80           | 31.06 | **              | **              | **              | **              | <b>FH042-11P-L100L-04F</b>                                                          | 93      | 292                         |
| <b>61</b>       | 4129           | 0.90           | 28.33 | 250             | 110             | **              | **              |                                                                                     |         |                             |
| <b>73</b>       | 3484           | 1.05           | 23.91 | 880             | 1440            | 880             | **              |                                                                                     |         |                             |
| <b>80</b>       | 3178           | 1.15           | 21.81 | 1030            | 1780            | 1030            | 580             |                                                                                     |         |                             |
| <b>84</b>       | 3006           | 0.95           | 20.63 | 1100            | 1750            | **              | **              |                                                                                     |         |                             |
| <b>96</b>       | 2632           | 1.35           | 18.06 | 1240            | 1890            | 1240            | 630             |                                                                                     |         |                             |
| <b>103</b>      | 2460           | 1.15           | 16.88 | 1280            | 1820            | 1280            | 560             |                                                                                     |         |                             |
| <b>106</b>      | 2402           | 1.50           | 16.48 | 1300            | 1910            | 1300            | 650             |                                                                                     |         |                             |
| <b>118</b>      | 2154           | 1.65           | 14.78 | 1350            | 1930            | 1350            | 670             |                                                                                     |         |                             |
| <b>129</b>      | 1964           | 1.85           | 13.48 | 1390            | 1960            | 1390            | 700             |                                                                                     |         |                             |
| <b>134</b>      | 1893           | 1.45           | 12.99 | 1420            | 1890            | 1420            | 630             |                                                                                     |         |                             |
| <b>145</b>      | 1747           | 1.95           | 11.99 | 1440            | 1980            | 1440            | 720             |                                                                                     |         |                             |
| <b>159</b>      | 1593           | 2.05           | 10.93 | 1460            | 2000            | 1460            | 740             |                                                                                     |         |                             |
| <b>173</b>      | 1462           | 2.15           | 10.03 | 1480            | 2000            | 1420            | 740             |                                                                                     |         |                             |
| <b>177</b>      | 1431           | 1.95           | 9.82  | 1480            | 1960            | 1420            | 700             |                                                                                     |         |                             |
| <b>190</b>      | 1333           | 2.20           | 9.15  | 1510            | 2020            | 1350            | 760             |                                                                                     |         |                             |
| <b>214</b>      | 1185           | 2.35           | 8.13  | 1510            | 2020            | 1280            | 760             |                                                                                     |         |                             |
| <b>217</b>      | 1170           | 2.15           | 8.03  | 1530            | 1980            | 1300            | 720             |                                                                                     |         |                             |
| <b>222</b>      | 1143           | 2.40           | 7.84  | 1530            | 2020            | 1280            | 760             |                                                                                     |         |                             |
| <b>235</b>      | 1081           | 2.40           | 7.42  | 1530            | 2050            | 1240            | 790             |                                                                                     |         |                             |
| <b>243</b>      | 1042           | 2.45           | 7.15  | 1530            | 2050            | 1210            | 790             |                                                                                     |         |                             |
| <b>267</b>      | 950            | 2.35           | 6.52  | 1530            | 2020            | 1190            | 760             |                                                                                     |         |                             |
| <b>319</b>      | 794            | 2.50           | 5.45  | 1510            | 2020            | 1100            | 760             |                                                                                     |         |                             |
| <b>394</b>      | 644            | 2.70           | 4.42  | 1390            | 2050            | 1010            | 790             |                                                                                     |         |                             |
| <b>408</b>      | 621            | 2.75           | 4.26  | 1370            | 2050            | 990             | 790             |                                                                                     |         |                             |

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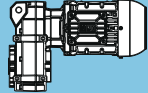
**P<sub>N</sub> = 4.0 hp**

| 60 Hz           |                | f <sub>B</sub> | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| <b>108</b>      | 2340           | 0.85           | 16.06 | 450             | 450             | **              | **              | <b>FH032-11P-L100L-04F</b>                                                         | 90      | 290                         |
| <b>119</b>      | 2123           | 0.95           | 14.57 | 650             | 580             | **              | **              |                                                                                    |         |                             |
| <b>139</b>      | 1822           | 1.10           | 12.50 | 810             | 540             | 810             | 540             |                                                                                    |         |                             |
| <b>154</b>      | 1651           | 1.20           | 11.33 | 880             | 630             | 880             | 630             |                                                                                    |         |                             |
| <b>158</b>      | 1607           | 0.85           | 11.03 | 900             | 610             | **              | **              |                                                                                    |         |                             |
| <b>178</b>      | 1422           | 1.35           | 9.76  | 970             | 610             | 970             | 610             |                                                                                    |         |                             |
| <b>197</b>      | 1290           | 1.40           | 8.85  | 990             | 670             | 990             | 670             |                                                                                    |         |                             |
| <b>209</b>      | 1214           | 1.10           | 8.33  | 1010            | 650             | 1010            | 650             |                                                                                    |         |                             |
| <b>275</b>      | 922            | 1.40           | 6.33  | 1080            | 700             | 1080            | 700             |                                                                                    |         |                             |
| <b>353</b>      | 718            | 1.60           | 4.93  | 1030            | 720             | 1030            | 720             |                                                                                    |         |                             |
| <b>452</b>      | 561            | 1.80           | 3.85  | 940             | 740             | 940             | 740             |                                                                                    |         |                             |

**F**

Legend see page 187

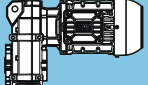
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| <b>P<sub>N</sub> = 5.4 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                     |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                     |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                     |                |                                    |
| 1.5                           | 211466               | 0.80                 | 1197.38  | **                    | **                    | **                    | **                    | <b>FH154-11P-112M-04E</b>                                                           | 1545           | 318                                |
| 1.7                           | 185538               | 0.90                 | 1054.87  | 14070                 | 24230                 | **                    | **                    |                                                                                     |                |                                    |
| 2.0                           | 157390               | 1.05                 | 898.51   | 17630                 | 25920                 | 17630                 | **                    |                                                                                     |                |                                    |
| 2.0                           | 156255               | 1.05                 | 892.03   | 17740                 | 25940                 | 17740                 | **                    |                                                                                     |                |                                    |
| 2.3                           | 134728               | 1.20                 | 773.88   | 19720                 | 26390                 | 19720                 | 26390                 |                                                                                     |                |                                    |
| 2.4                           | 128967               | 1.25                 | 742.31   | 20140                 | 26500                 | 20140                 | 26500                 |                                                                                     |                |                                    |
| 2.6                           | 115818               | 1.40                 | 669.37   | 21060                 | 26800                 | 21060                 | 26800                 |                                                                                     |                |                                    |
| 2.7                           | 113128               | 1.45                 | 655.17   | 21240                 | 26840                 | 21240                 | 26840                 |                                                                                     |                |                                    |
| 3.1                           | 98415                | 1.65                 | 573.49   | 22080                 | 27160                 | 22080                 | 27160                 |                                                                                     |                |                                    |
| 3.2                           | 94706                | 1.70                 | 553.01   | 22260                 | 27220                 | 22260                 | 27220                 |                                                                                     |                |                                    |
| 3.6                           | 82901                | 1.95                 | 488.09   | 22820                 | 27470                 | 22820                 | 27470                 |                                                                                     |                |                                    |
| 3.7                           | 80235                | 2.00                 | 473.37   | 22930                 | 27540                 | 22930                 | 27540                 |                                                                                     |                |                                    |
| 3.8                           | 78339                | 2.05                 | 463.14   | 23000                 | 27580                 | 23000                 | 27580                 |                                                                                     |                |                                    |
| 4.3                           | 68543                | 2.35                 | 409.44   | 23360                 | 27790                 | 23360                 | 27790                 |                                                                                     |                |                                    |
| 4.4                           | 66641                | 2.40                 | 398.90   | 23430                 | 27830                 | 23430                 | 27830                 |                                                                                     |                |                                    |
| 5.1                           | 56809                | 2.85                 | 345.03   | 23720                 | 28030                 | 23720                 | 28030                 |                                                                                     |                |                                    |
| 2.2                           | 139034               | 0.85                 | 788.86   | 13310                 | 18480                 | **                    | **                    | <b>FH124-11P-112M-04E</b>                                                           | 990            | 314                                |
| 2.3                           | 133356               | 0.90                 | 758.19   | 13960                 | 18640                 | **                    | **                    |                                                                                     |                |                                    |
| 2.6                           | 119272               | 1.00                 | 679.51   | 15380                 | 18970                 | **                    | **                    |                                                                                     |                |                                    |
| 2.7                           | 114297               | 1.05                 | 652.50   | 15830                 | 19090                 | 15830                 | **                    |                                                                                     |                |                                    |
| 2.8                           | 111275               | 1.05                 | 636.55   | 16070                 | 19180                 | 16070                 | 19180                 |                                                                                     |                |                                    |
| 3.0                           | 102079               | 1.15                 | 585.14   | 16770                 | 19400                 | 16770                 | 19400                 |                                                                                     |                |                                    |
| 3.1                           | 97850                | 1.20                 | 562.05   | 17060                 | 19510                 | 17060                 | 19510                 |                                                                                     |                |                                    |
| 3.2                           | 96624                | 1.20                 | 555.01   | 17150                 | 19540                 | 17150                 | 19540                 |                                                                                     |                |                                    |
| 3.6                           | 83744                | 1.40                 | 484.00   | 17920                 | 19850                 | 17920                 | 19850                 |                                                                                     |                |                                    |
| 3.7                           | 82720                | 1.40                 | 478.08   | 17980                 | 19870                 | 17980                 | 19870                 |                                                                                     |                |                                    |
| 3.8                           | 80440                | 1.45                 | 465.86   | 18100                 | 19940                 | 18100                 | 19940                 |                                                                                     |                |                                    |
| 3.9                           | 77409                | 1.50                 | 449.23   | 18250                 | 20010                 | 18250                 | 20010                 |                                                                                     |                |                                    |
| 4.2                           | 71102                | 1.65                 | 414.33   | 18550                 | 20170                 | 18550                 | 20170                 |                                                                                     |                |                                    |
| 4.3                           | 70649                | 1.65                 | 411.69   | 18570                 | 20170                 | 18570                 | 20170                 |                                                                                     |                |                                    |
| 4.5                           | 66939                | 1.75                 | 391.68   | 18730                 | 20260                 | 18730                 | 20260                 |                                                                                     |                |                                    |
| 4.6                           | 65589                | 1.80                 | 383.78   | 18790                 | 20300                 | 18790                 | 20300                 |                                                                                     |                |                                    |
| 4.9                           | 60600                | 1.90                 | 356.79   | 18970                 | 20410                 | 18970                 | 20410                 |                                                                                     |                |                                    |
| 5.0                           | 59427                | 1.95                 | 349.88   | 19020                 | 20460                 | 19020                 | 20460                 |                                                                                     |                |                                    |
| 5.2                           | 57069                | 2.05                 | 337.39   | 19110                 | 20500                 | 19110                 | 20500                 |                                                                                     |                |                                    |
| 5.8                           | 50543                | 2.30                 | 301.29   | 19310                 | 20660                 | 19310                 | 20660                 |                                                                                     |                |                                    |
| 6.0                           | 48536                | 2.40                 | 290.53   | 19380                 | 20730                 | 19380                 | 20730                 |                                                                                     |                |                                    |
| 6.1                           | 48152                | 2.40                 | 288.23   | 19400                 | 20730                 | 19400                 | 20730                 |                                                                                     |                |                                    |
| 7.1                           | 40868                | 2.85                 | 248.21   | 19580                 | 20910                 | 19580                 | 20910                 |                                                                                     |                |                                    |
| 8.0                           | 42512                | 2.75                 | 220.67   | 19540                 | 20860                 | 19540                 | 20860                 | <b>FH123-11P-112M-04E</b>                                                           | 937            | 312                                |
| 3.7                           | 83126                | 0.90                 | 472.61   | 8390                  | 13170                 | **                    | **                    | <b>FH104-11P-112M-04E</b>                                                           | 681            | 310                                |
| 3.8                           | 80864                | 0.90                 | 459.75   | 8790                  | 13240                 | **                    | **                    |                                                                                     |                |                                    |
| 4.0                           | 77816                | 0.95                 | 443.33   | 9260                  | 13330                 | **                    | **                    |                                                                                     |                |                                    |
| 4.3                           | 71526                | 1.00                 | 408.33   | 10120                 | 13510                 | 10120                 | **                    |                                                                                     |                |                                    |
| 4.4                           | 69908                | 1.05                 | 399.09   | 10320                 | 13560                 | 10320                 | **                    |                                                                                     |                |                                    |
| 4.6                           | 67274                | 1.10                 | 384.84   | 10630                 | 13620                 | 10630                 | 13620                 |                                                                                     |                |                                    |
| 5.1                           | 60029                | 1.20                 | 344.81   | 11380                 | 13850                 | 11380                 | 13850                 |                                                                                     |                |                                    |
| 5.3                           | 57768                | 1.25                 | 332.50   | 11580                 | 13890                 | 11580                 | 13890                 |                                                                                     |                |                                    |
| 6.2                           | 49049                | 1.45                 | 284.06   | 12270                 | 14140                 | 12270                 | 14140                 | <b>FH103-11P-112M-04E</b>                                                           | 628            | 308                                |
| 7.1                           | 47501                | 1.50                 | 246.57   | 12390                 | 14190                 | 12390                 | 14190                 |                                                                                     |                |                                    |
| 8.1                           | 41955                | 1.70                 | 217.78   | 12750                 | 14340                 | 12750                 | 14340                 |                                                                                     |                |                                    |
| 9.3                           | 36418                | 1.95                 | 189.04   | 13040                 | 14500                 | 13040                 | 14500                 |                                                                                     |                |                                    |
| 9.6                           | 35118                | 2.05                 | 182.29   | 13110                 | 14550                 | 13110                 | 14550                 |                                                                                     |                |                                    |
| 11                            | 31465                | 2.30                 | 163.33   | 13260                 | 14660                 | 13260                 | 14660                 |                                                                                     |                |                                    |
| 13                            | 26928                | 2.65                 | 139.78   | 13440                 | 14790                 | 13440                 | 14790                 |                                                                                     |                |                                    |
| 14                            | 23615                | 3.00                 | 122.58   | 13560                 | 14880                 | 13560                 | 14880                 | <b>FH094-11P-112M-04E</b>                                                           | 450            | 306                                |
| 6.3                           | 49356                | 0.85                 | 280.04   | 4050                  | 6410                  | **                    | **                    |                                                                                     |                |                                    |
| 6.5                           | 47592                | 0.85                 | 270.03   | 4560                  | 7510                  | **                    | **                    |                                                                                     |                |                                    |

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**P<sub>N</sub> = 5.4 hp**

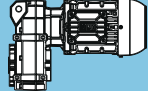
| 60 Hz           |                | f <sub>B</sub> | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>50</sub> | T <sub>2</sub> |                |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 7.2             | 46987          | 0.85           | 243.90 | 4740            | 7890            | **              | **              | <b>FH093-11P-112M-04E</b>                                                          | 421     | 304                         |
| 8.3             | 40676          | 1.00           | 211.14 | 6070            | 8750            | 6070            | **              |                                                                                    |         |                             |
| 9.4             | 36023          | 1.15           | 186.99 | 6810            | 8900            | 6810            | 8900            |                                                                                    |         |                             |
| 11              | 31163          | 1.30           | 161.76 | 7420            | 9060            | 7420            | 9060            |                                                                                    |         |                             |
| 12              | 27520          | 1.45           | 142.85 | 7780            | 9170            | 7780            | 9170            |                                                                                    |         |                             |
| 13              | 26514          | 1.55           | 137.63 | 7870            | 9220            | 7870            | 9220            |                                                                                    |         |                             |
| 15              | 23266          | 1.75           | 120.77 | 8140            | 9330            | 8140            | 9330            |                                                                                    |         |                             |
| 17              | 20139          | 2.00           | 104.54 | 8360            | 9440            | 8360            | 9440            |                                                                                    |         |                             |
| 19              | 17837          | 2.25           | 92.59  | 8500            | 9510            | 8500            | 9510            |                                                                                    |         |                             |
| 22              | 15429          | 2.60           | 80.09  | 8610            | 9600            | 8610            | 9600            |                                                                                    |         |                             |
| 23              | 14878          | 2.70           | 77.23  | 8630            | 9620            | 8630            | 9620            |                                                                                    |         |                             |
| 9.7             | 34731          | 0.80           | 180.28 | **              | **              | **              | **              | <b>FH083-11P-112M-04E</b>                                                          | 300     | 300                         |
| 11              | 30664          | 0.90           | 159.17 | 3170            | 5130            | **              | **              |                                                                                    |         |                             |
| 12              | 27489          | 1.00           | 142.69 | 4090            | 7100            | **              | **              |                                                                                    |         |                             |
| 13              | 26769          | 1.00           | 138.95 | 4250            | 7440            | 4250            | **              |                                                                                    |         |                             |
| 14              | 24002          | 1.15           | 124.59 | 4810            | 8680            | 4810            | 1870            |                                                                                    |         |                             |
| 15              | 22935          | 1.20           | 119.05 | 4990            | 9080            | 4990            | 1910            |                                                                                    |         |                             |
| 16              | 21213          | 1.30           | 110.11 | 5260            | 9280            | 5260            | 1980            |                                                                                    |         |                             |
| 17              | 19519          | 1.40           | 101.32 | 5490            | 9350            | 5490            | 2050            |                                                                                    |         |                             |
| 19              | 17938          | 1.50           | 93.11  | 5690            | 9400            | 5690            | 2090            |                                                                                    |         |                             |
| 21              | 16373          | 1.65           | 84.99  | 5850            | 9460            | 5550            | 2160            |                                                                                    |         |                             |
| 22              | 15420          | 1.75           | 80.04  | 5930            | 9510            | 5420            | 2200            |                                                                                    |         |                             |
| 25              | 13798          | 1.90           | 71.62  | 6090            | 9580            | 5100            | 2270            |                                                                                    |         |                             |
| 29              | 11532          | 2.15           | 59.86  | 6250            | 9670            | 4740            | 2360            |                                                                                    |         |                             |
| 30              | 11122          | 2.20           | 57.73  | 6270            | 9670            | 4650            | 2360            |                                                                                    |         |                             |
| 34              | 9815           | 2.40           | 50.95  | 6360            | 9730            | 4410            | 2430            |                                                                                    |         |                             |
| 41              | 8234           | 2.70           | 42.74  | 6430            | 9800            | 4070            | 2500            |                                                                                    |         |                             |
| 23              | 14936          | 0.90           | 77.53  | 3100            | 3480            | **              | **              | <b>FH073-11P-112M-04E</b>                                                          | 196     | 298                         |
| 27              | 12692          | 1.05           | 65.88  | 3600            | 3620            | 3600            | 1080            |                                                                                    |         |                             |
| 32              | 10434          | 1.30           | 54.16  | 3930            | 3730            | 3460            | 1190            |                                                                                    |         |                             |
| 34              | 10062          | 1.35           | 52.23  | 4000            | 3750            | 3370            | 1210            |                                                                                    |         |                             |
| 39              | 8673           | 1.55           | 45.02  | 4160            | 3820            | 3150            | 1280            | <b>FH072-11P-112M-04E</b>                                                          | 194     | 298                         |
| 45              | 7573           | 1.80           | 39.31  | 4270            | 3870            | 2940            | 1350            |                                                                                    |         |                             |
| 51              | 6693           | 2.00           | 34.74  | 4340            | 3910            | 2770            | 1390            |                                                                                    |         |                             |
| 60              | 5660           | 2.35           | 29.38  | 4430            | 3980            | 2560            | 1440            |                                                                                    |         |                             |
| 70              | 4864           | 2.75           | 25.25  | 4470            | 4020            | 2380            | 1480            |                                                                                    |         |                             |
| 85              | 3992           | 2.10           | 20.72  | 4520            | 3980            | 2250            | 1440            |                                                                                    |         |                             |
| 97              | 3485           | 2.85           | 18.09  | 4540            | 4000            | 2110            | 1480            |                                                                                    |         |                             |
| 35              | 9652           | 0.80           | 50.10  | **              | **              | **              | **              | <b>FH063-11P-112M-04E</b>                                                          | 146     | 296                         |
| 35              | 9569           | 0.80           | 49.67  | **              | **              | **              | **              | <b>FH062-11P-112M-04E</b>                                                          | 143     | 296                         |
| 39              | 8775           | 0.85           | 45.55  | 1280            | 1820            | **              | **              |                                                                                    |         |                             |
| 42              | 8026           | 0.95           | 41.66  | 1640            | 2610            | **              | **              |                                                                                    |         |                             |
| 46              | 7359           | 1.00           | 38.20  | 1870            | 2810            | 1870            | **              |                                                                                    |         |                             |
| 54              | 6298           | 1.20           | 32.69  | 2160            | 2900            | 2160            | 670             |                                                                                    |         |                             |
| 59              | 5776           | 1.30           | 29.98  | 2270            | 2940            | 2270            | 700             |                                                                                    |         |                             |
| 70              | 4861           | 1.50           | 25.23  | 2450            | 3030            | 2180            | 790             |                                                                                    |         |                             |
| 76              | 4458           | 1.65           | 23.14  | 2500            | 3060            | 2090            | 810             |                                                                                    |         |                             |
| 84              | 4021           | 1.85           | 20.87  | 2560            | 3100            | 2000            | 850             |                                                                                    |         |                             |
| 86              | 3947           | 0.95           | 20.49  | 2560            | 2990            | **              | **              |                                                                                    |         |                             |
| 92              | 3687           | 2.00           | 19.14  | 2610            | 3120            | 1910            | 880             |                                                                                    |         |                             |
| 99              | 3420           | 2.15           | 17.75  | 2630            | 3150            | 1840            | 900             |                                                                                    |         |                             |
| 102             | 3310           | 1.55           | 17.18  | 2650            | 3060            | 1890            | 810             |                                                                                    |         |                             |
| 108             | 3136           | 2.35           | 16.28  | 2650            | 3170            | 1780            | 920             |                                                                                    |         |                             |
| 114             | 2963           | 2.45           | 15.38  | 2680            | 3190            | 1730            | 940             |                                                                                    |         |                             |
| 124             | 2718           | 2.70           | 14.11  | 2700            | 3190            | 1660            | 970             |                                                                                    |         |                             |
| 130             | 2599           | 1.95           | 13.49  | 2700            | 3120            | 1690            | 900             |                                                                                    |         |                             |
| 135             | 2503           | 2.95           | 12.99  | 2720            | 3210            | 1600            | 990             |                                                                                    |         |                             |
| 169             | 2005           | 2.55           | 10.41  | 2740            | 3190            | 1480            | 970             |                                                                                    |         |                             |

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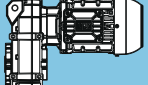
$P_N = 5.4 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$   | Output shaft |          | Hollow shaft |          |  | $m$<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|-------|--------------|----------|--------------|----------|-------------------------------------------------------------------------------------|-----------|-----------------------------|
| $n_{60}$ | $T_2$ |       |       | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                     |           |                             |
| rpm      | lb-in |       |       | lb           | lb       | lb           | lb       |                                                                                     |           |                             |
| 49       | 6899  | 0.80  | 35.81 | **           | **       | **           | **       | FH052-11P-112M-04E                                                                  | 108       | 294                         |
| 54       | 6303  | 0.85  | 32.72 | 790          | 1080     | **           | **       |                                                                                     |           |                             |
| 64       | 5309  | 1.05  | 27.56 | 1350         | 2270     | 1350         | **       |                                                                                     |           |                             |
| 70       | 4851  | 1.10  | 25.18 | 1530         | 2320     | 1530         | 810      |                                                                                     |           |                             |
| 84       | 4013  | 1.35  | 20.83 | 1750         | 2380     | 1750         | 880      |                                                                                     |           |                             |
| 89       | 3801  | 0.85  | 19.73 | 1820         | 2270     | **           | **       |                                                                                     |           |                             |
| 92       | 3666  | 1.45  | 19.03 | 1840         | 2410     | 1840         | 900      |                                                                                     |           |                             |
| 103      | 3283  | 1.65  | 17.04 | 1910         | 2450     | 1910         | 940      |                                                                                     |           |                             |
| 113      | 3000  | 1.80  | 15.57 | 1960         | 2450     | 1960         | 940      |                                                                                     |           |                             |
| 116      | 2926  | 1.10  | 15.19 | 1980         | 2380     | 1980         | 880      |                                                                                     |           |                             |
| 127      | 2662  | 2.00  | 13.82 | 2020         | 2500     | 2000         | 990      |                                                                                     |           |                             |
| 139      | 2433  | 2.20  | 12.63 | 2050         | 2500     | 1930         | 990      |                                                                                     |           |                             |
| 152      | 2229  | 2.40  | 11.57 | 2070         | 2520     | 1840         | 1010     |                                                                                     |           |                             |
| 153      | 2212  | 1.45  | 11.48 | 2070         | 2450     | 1870         | 940      |                                                                                     |           |                             |
| 166      | 2036  | 2.55  | 10.57 | 2090         | 2540     | 1780         | 1030     |                                                                                     |           |                             |
| 187      | 1809  | 1.80  | 9.39  | 2110         | 2500     | 1710         | 990      |                                                                                     |           |                             |
| 187      | 1807  | 2.80  | 9.38  | 2110         | 2560     | 1690         | 1060     |                                                                                     |           |                             |
| 194      | 1742  | 2.85  | 9.04  | 2110         | 2560     | 1660         | 1060     |                                                                                     |           |                             |
| 205      | 1651  | 2.95  | 8.57  | 2110         | 2560     | 1620         | 1060     |                                                                                     |           |                             |
| 212      | 1591  | 3.05  | 8.26  | 2140         | 2560     | 1600         | 1060     |                                                                                     |           |                             |
| 230      | 1468  | 2.20  | 7.62  | 2140         | 2540     | 1570         | 1030     |                                                                                     |           |                             |
| 275      | 1229  | 2.60  | 6.38  | 2000         | 2560     | 1460         | 1060     |                                                                                     |           |                             |
| 339      | 996   | 3.20  | 5.17  | 1840         | 2590     | 1330         | 1080     |                                                                                     |           |                             |
| 352      | 959   | 3.35  | 4.98  | 1820         | 2590     | 1300         | 1080     |                                                                                     |           |                             |

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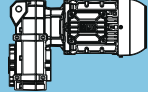
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| P <sub>N</sub> = 7.5 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub>         | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 2.3                     | 186098         | 0.90           | 773.88 | 14120           | 24350           | **              | **              | FH154-11P-132S-04E                                                                 | 1585    | 318                         |
| 2.4                     | 178506         | 0.90           | 742.31 | 15200           | 25490           | **              | **              |                                                                                    |         |                             |
| 2.6                     | 160308         | 1.00           | 669.37 | 17400           | 25880           | 17400           | **              |                                                                                    |         |                             |
| 2.7                     | 158790         | 1.05           | 663.03 | 17560           | 25900           | 17560           | **              |                                                                                    |         |                             |
| 2.8                     | 152806         | 1.05           | 639.35 | 18160           | 26030           | 18160           | 26030           |                                                                                    |         |                             |
| 3.1                     | 136504         | 1.20           | 573.49 | 19600           | 26370           | 19600           | 26370           |                                                                                    |         |                             |
| 3.2                     | 131360         | 1.25           | 553.01 | 20010           | 26480           | 20010           | 26480           |                                                                                    |         |                             |
| 3.6                     | 115464         | 1.40           | 488.09 | 21130           | 26820           | 21130           | 26820           |                                                                                    |         |                             |
| 3.7                     | 111751         | 1.45           | 473.37 | 21360           | 26890           | 21360           | 26890           |                                                                                    |         |                             |
| 3.8                     | 109112         | 1.50           | 463.14 | 21510           | 26930           | 21510           | 26930           |                                                                                    |         |                             |
| 4.3                     | 95867          | 1.70           | 409.44 | 22230           | 27220           | 22230           | 27220           |                                                                                    |         |                             |
| 4.4                     | 93207          | 1.75           | 398.90 | 22370           | 27270           | 22370           | 27270           |                                                                                    |         |                             |
| 5.1                     | 79792          | 2.00           | 345.03 | 22950           | 27560           | 22950           | 27560           |                                                                                    |         |                             |
| 3.0                     | 140999         | 0.85           | 585.14 | 13130           | 18460           | **              | **              | FH124-11P-132S-04E                                                                 | 1030    | 314                         |
| 3.1                     | 135158         | 0.90           | 562.05 | 13830           | 18590           | **              | **              |                                                                                    |         |                             |
| 3.2                     | 133466         | 0.90           | 555.01 | 14030           | 18640           | **              | **              |                                                                                    |         |                             |
| 3.6                     | 115914         | 1.00           | 484.00 | 15740           | 19060           | 15740           | **              |                                                                                    |         |                             |
| 3.7                     | 115198         | 1.00           | 481.01 | 15780           | 19090           | 15780           | **              |                                                                                    |         |                             |
| 3.8                     | 111341         | 1.05           | 465.86 | 16100           | 19180           | 16100           | 19180           |                                                                                    |         |                             |
| 3.9                     | 107367         | 1.10           | 449.23 | 16410           | 19290           | 16410           | 19290           |                                                                                    |         |                             |
| 4.3                     | 98620          | 1.20           | 414.33 | 17040           | 19490           | 17040           | 19490           |                                                                                    |         |                             |
| 4.5                     | 93038          | 1.25           | 391.68 | 17400           | 19630           | 17400           | 19630           |                                                                                    |         |                             |
| 4.6                     | 91161          | 1.30           | 383.78 | 17510           | 19670           | 17510           | 19670           |                                                                                    |         |                             |
| 4.9                     | 84403          | 1.40           | 356.79 | 17890           | 19850           | 17890           | 19850           |                                                                                    |         |                             |
| 5.0                     | 82598          | 1.40           | 349.88 | 18010           | 19900           | 18010           | 19900           |                                                                                    |         |                             |
| 5.2                     | 79650          | 1.45           | 337.39 | 18160           | 19960           | 18160           | 19960           |                                                                                    |         |                             |
| 5.3                     | 78834          | 1.50           | 334.62 | 18190           | 19990           | 18190           | 19990           |                                                                                    |         |                             |
| 5.9                     | 70544          | 1.65           | 301.29 | 18590           | 20190           | 18590           | 20190           |                                                                                    |         |                             |
| 6.1                     | 67885          | 1.70           | 290.53 | 18700           | 20260           | 18700           | 20260           |                                                                                    |         |                             |
| 7.1                     | 57401          | 2.05           | 248.21 | 19110           | 20500           | 19110           | 20500           |                                                                                    |         |                             |
| 8.0                     | 58123          | 2.00           | 220.67 | 19090           | 20480           | 19090           | 20480           | FH123-11P-132S-04E                                                                 | 977     | 312                         |
| 9.2                     | 50676          | 2.30           | 192.40 | 19330           | 20680           | 19330           | 20680           |                                                                                    |         |                             |
| 9.5                     | 48867          | 2.40           | 185.53 | 19380           | 20730           | 19380           | 20730           |                                                                                    |         |                             |
| 11                      | 43652          | 2.65           | 165.73 | 19510           | 20840           | 19510           | 20840           |                                                                                    |         |                             |
| 4.6                     | 92923          | 0.80           | 384.84 | **              | **              | **              | **              | FH104-11P-132S-04E                                                                 | 721     | 310                         |
| 4.7                     | 91450          | 0.80           | 378.74 | **              | **              | **              | **              |                                                                                    |         |                             |
| 5.1                     | 82918          | 0.90           | 344.81 | 8500            | 13200           | **              | **              |                                                                                    |         |                             |
| 5.3                     | 79958          | 0.90           | 332.50 | 8990            | 13290           | **              | **              |                                                                                    |         |                             |
| 5.4                     | 79061          | 0.90           | 328.77 | 9130            | 13310           | **              | **              |                                                                                    |         |                             |
| 6.2                     | 67891          | 1.05           | 284.06 | 10590           | 13620           | 10590           | 13620           |                                                                                    |         |                             |
| 7.2                     | 64944          | 1.10           | 246.57 | 10930           | 13710           | 10930           | 13710           | FH103-11P-132S-04E                                                                 | 668     | 308                         |
| 8.1                     | 57361          | 1.25           | 217.78 | 11650           | 13920           | 11650           | 13920           |                                                                                    |         |                             |
| 9.3                     | 49791          | 1.45           | 189.04 | 12250           | 14140           | 12250           | 14140           |                                                                                    |         |                             |
| 9.7                     | 48014          | 1.50           | 182.29 | 12360           | 14190           | 12360           | 14190           |                                                                                    |         |                             |
| 11                      | 43020          | 1.65           | 163.33 | 12700           | 14320           | 12700           | 14320           |                                                                                    |         |                             |
| 13                      | 36817          | 1.95           | 139.78 | 13040           | 14500           | 13040           | 14500           |                                                                                    |         |                             |
| 14                      | 32286          | 2.20           | 122.58 | 13240           | 14640           | 13240           | 14640           |                                                                                    |         |                             |
| 15                      | 31797          | 2.25           | 120.72 | 13260           | 14660           | 13260           | 14660           |                                                                                    |         |                             |
| 16                      | 28517          | 2.50           | 108.27 | 13400           | 14750           | 13400           | 14750           |                                                                                    |         |                             |
| 19                      | 24754          | 2.90           | 93.98  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                             |

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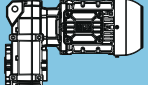
\*\* ... on request

**P<sub>N</sub> = 7.5 hp**

| 60 Hz           |                | f <sub>B</sub> | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| 9.4             | 49252          | 0.85           | 186.99 | 4160            | 6650            | **              | **              | <b>FH093-11P-132S-04E</b>                                                           | 461     | 304                            |
| 11              | 42606          | 0.95           | 161.76 | 5760            | 8680            | **              | **              |                                                                                     |         |                                |
| 12              | 37625          | 1.10           | 142.85 | 6610            | 8830            | 6610            | 8830            |                                                                                     |         |                                |
| 13              | 36251          | 1.10           | 137.63 | 6810            | 8900            | 6810            | 8900            |                                                                                     |         |                                |
| 15              | 31810          | 1.30           | 120.77 | 7350            | 9040            | 7350            | 9040            |                                                                                     |         |                                |
| 17              | 27535          | 1.45           | 104.54 | 7800            | 9190            | 7800            | 9190            |                                                                                     |         |                                |
| 19              | 24387          | 1.65           | 92.59  | 8070            | 9280            | 8070            | 9280            |                                                                                     |         |                                |
| 22              | 21095          | 1.90           | 80.09  | 8300            | 9400            | 8300            | 9400            |                                                                                     |         |                                |
| 23              | 20342          | 2.00           | 77.23  | 8340            | 9420            | 8340            | 9420            |                                                                                     |         |                                |
| 26              | 17950          | 2.25           | 68.15  | 8500            | 9510            | 8500            | 9510            |                                                                                     |         |                                |
| 30              | 15274          | 2.65           | 57.99  | 8630            | 9600            | 8630            | 9600            |                                                                                     |         |                                |
| 14              | 32816          | 0.85           | 124.59 | 2360            | 3440            | **              | **              | <b>FH083-11P-132S-04E</b>                                                           | 342     | 300                            |
| 15              | 31357          | 0.85           | 119.05 | 2990            | 4740            | **              | **              |                                                                                     |         |                                |
| 16              | 29002          | 0.95           | 110.11 | 3730            | 6320            | **              | **              |                                                                                     |         |                                |
| 17              | 26687          | 1.00           | 101.32 | 4290            | 7530            | 4290            | **              |                                                                                     |         |                                |
| 19              | 24524          | 1.10           | 93.11  | 4740            | 8520            | 4740            | 1840            |                                                                                     |         |                                |
| 21              | 22386          | 1.20           | 84.99  | 5100            | 9240            | 5100            | 1930            |                                                                                     |         |                                |
| 22              | 21082          | 1.30           | 80.04  | 5280            | 9280            | 5280            | 1980            |                                                                                     |         |                                |
| 25              | 18864          | 1.40           | 71.62  | 5580            | 9370            | 5490            | 2070            |                                                                                     |         |                                |
| 29              | 15767          | 1.60           | 59.86  | 5910            | 9490            | 5060            | 2180            |                                                                                     |         |                                |
| 31              | 15206          | 1.60           | 57.73  | 5960            | 9510            | 4920            | 2200            |                                                                                     |         |                                |
| 35              | 13420          | 1.75           | 50.95  | 6110            | 9600            | 4650            | 2290            |                                                                                     |         |                                |
| 41              | 11257          | 2.00           | 42.74  | 6270            | 9670            | 4290            | 2360            |                                                                                     |         |                                |
| 49              | 9487           | 2.25           | 36.02  | 6360            | 9730            | 3960            | 2430            |                                                                                     |         |                                |
| 52              | 8921           | 2.80           | 33.87  | 6410            | 9760            | 3840            | 2450            | <b>FH082-11P-132S-04E</b>                                                           | 322     | 300                            |
| 27              | 17352          | 0.80           | 65.88  | **              | **              | **              | **              | <b>FH073-11P-132S-04E</b>                                                           | 236     | 298                            |
| 33              | 14265          | 0.95           | 54.16  | 3280            | 3530            | **              | **              |                                                                                     |         |                                |
| 34              | 13757          | 1.00           | 52.23  | 3390            | 3550            | 3390            | **              |                                                                                     |         |                                |
| 39              | 11858          | 1.15           | 45.02  | 3730            | 3660            | 3420            | 1120            | <b>FH072-11P-132S-04E</b>                                                           | 234     | 298                            |
| 45              | 10354          | 1.30           | 39.31  | 3960            | 3730            | 3170            | 1210            |                                                                                     |         |                                |
| 51              | 9150           | 1.50           | 34.74  | 4110            | 3800            | 2990            | 1260            |                                                                                     |         |                                |
| 60              | 7738           | 1.75           | 29.38  | 4250            | 3870            | 2740            | 1350            |                                                                                     |         |                                |
| 70              | 6651           | 2.00           | 25.25  | 4340            | 3930            | 2540            | 1390            |                                                                                     |         |                                |
| 80              | 5808           | 2.30           | 22.05  | 4410            | 3980            | 2380            | 1440            |                                                                                     |         |                                |
| 85              | 5457           | 1.55           | 20.72  | 4430            | 3870            | 2380            | 1330            |                                                                                     |         |                                |
| 93              | 4975           | 2.70           | 18.89  | 4450            | 4020            | 2230            | 1480            |                                                                                     |         |                                |
| 97              | 4796           | 2.80           | 18.21  | 4470            | 4020            | 2180            | 1480            |                                                                                     |         |                                |
| 98              | 4765           | 2.05           | 18.09  | 4470            | 3910            | 2230            | 1390            |                                                                                     |         |                                |
| 110             | 4212           | 2.30           | 15.99  | 4500            | 3960            | 2110            | 1420            |                                                                                     |         |                                |
| 131             | 3561           | 2.75           | 13.52  | 4540            | 4000            | 1960            | 1480            |                                                                                     |         |                                |
| 54              | 8610           | 0.85           | 32.69  | 1390            | 2070            | **              | **              | <b>FH062-11P-132S-04E</b>                                                           | 183     | 296                            |
| 59              | 7896           | 0.95           | 29.98  | 1710            | 2770            | **              | **              |                                                                                     |         |                                |
| 70              | 6645           | 1.10           | 25.23  | 2090            | 2880            | 2090            | 650             |                                                                                     |         |                                |
| 76              | 6095           | 1.20           | 23.14  | 2200            | 2920            | 2200            | 670             |                                                                                     |         |                                |
| 85              | 5497           | 1.35           | 20.87  | 2340            | 2970            | 2160            | 740             |                                                                                     |         |                                |
| 92              | 5041           | 1.45           | 19.14  | 2410            | 3010            | 2070            | 760             |                                                                                     |         |                                |
| 99              | 4675           | 1.60           | 17.75  | 2470            | 3030            | 1980            | 810             |                                                                                     |         |                                |
| 103             | 4525           | 1.15           | 17.18  | 2500            | 2920            | 2050            | 670             |                                                                                     |         |                                |
| 108             | 4288           | 1.70           | 16.28  | 2520            | 3080            | 1910            | 830             |                                                                                     |         |                                |
| 115             | 4051           | 1.80           | 15.38  | 2560            | 3100            | 1840            | 850             |                                                                                     |         |                                |
| 125             | 3716           | 2.00           | 14.11  | 2610            | 3120            | 1780            | 880             |                                                                                     |         |                                |
| 131             | 3553           | 1.45           | 13.49  | 2610            | 3030            | 1800            | 790             |                                                                                     |         |                                |
| 136             | 3421           | 2.15           | 12.99  | 2630            | 3150            | 1690            | 900             |                                                                                     |         |                                |
| 141             | 3300           | 2.20           | 12.53  | 2650            | 3150            | 1660            | 920             |                                                                                     |         |                                |
| 148             | 3137           | 2.35           | 11.91  | 2650            | 3170            | 1620            | 920             |                                                                                     |         |                                |
| 154             | 3026           | 2.40           | 11.49  | 2680            | 3170            | 1600            | 940             |                                                                                     |         |                                |
| 165             | 2818           | 2.60           | 10.70  | 2700            | 3190            | 1550            | 970             |                                                                                     |         |                                |
| 170             | 2742           | 1.85           | 10.41  | 2700            | 3120            | 1570            | 880             |                                                                                     |         |                                |
| 180             | 2584           | 2.85           | 9.81   | 2700            | 3210            | 1480            | 970             |                                                                                     |         |                                |
| 205             | 2268           | 2.25           | 8.61   | 2720            | 3170            | 1440            | 940             |                                                                                     |         |                                |
| 241             | 1928           | 2.65           | 7.32   | 2740            | 3210            | 1350            | 970             |                                                                                     |         |                                |

**F**

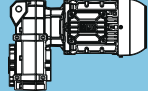
**P<sub>N</sub> = 7.5 hp**

| 60 Hz           |                | f <sub>B</sub> | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 70              | 6632           | 0.80           | 25.18 | **              | **              | **              | **              | <b>FH052-11P-132S-04E</b><br><br>150<br><br>294                                    |         |                             |
| 85              | 5486           | 1.00           | 20.83 | 1280            | 2140            | 1280            | **              |                                                                                    |         |                             |
| 93              | 5012           | 1.10           | 19.03 | 1480            | 2290            | 1480            | 790             |                                                                                    |         |                             |
| 104             | 4488           | 1.20           | 17.04 | 1640            | 2340            | 1640            | 830             |                                                                                    |         |                             |
| 113             | 4101           | 1.30           | 15.57 | 1750            | 2380            | 1750            | 880             |                                                                                    |         |                             |
| 116             | 4001           | 0.80           | 15.19 | **              | **              | **              | **              |                                                                                    |         |                             |
| 128             | 3640           | 1.50           | 13.82 | 1840            | 2410            | 1840            | 900             |                                                                                    |         |                             |
| 140             | 3327           | 1.60           | 12.63 | 1910            | 2430            | 1910            | 920             |                                                                                    |         |                             |
| 153             | 3047           | 1.75           | 11.57 | 1960            | 2450            | 1960            | 940             |                                                                                    |         |                             |
| 154             | 3024           | 1.10           | 11.48 | 1960            | 2360            | 1960            | 850             |                                                                                    |         |                             |
| 167             | 2784           | 1.90           | 10.57 | 2000            | 2470            | 1890            | 970             |                                                                                    |         |                             |
| 188             | 2471           | 2.05           | 9.38  | 2050            | 2500            | 1780            | 990             |                                                                                    |         |                             |
| 195             | 2381           | 2.10           | 9.04  | 2050            | 2520            | 1750            | 1010            |                                                                                    |         |                             |
| 206             | 2257           | 2.20           | 8.57  | 2070            | 2520            | 1710            | 1010            |                                                                                    |         |                             |
| 214             | 2176           | 2.25           | 8.26  | 2070            | 2520            | 1690            | 1010            |                                                                                    |         |                             |
| 232             | 2007           | 1.60           | 7.62  | 2090            | 2470            | 1640            | 970             |                                                                                    |         |                             |
| 277             | 1680           | 1.90           | 6.38  | 2070            | 2520            | 1510            | 1010            |                                                                                    |         |                             |
| 341             | 1362           | 2.35           | 5.17  | 1890            | 2540            | 1370            | 1030            |                                                                                    |         |                             |
| 354             | 1312           | 2.45           | 4.98  | 1870            | 2560            | 1350            | 1060            |                                                                                    |         |                             |

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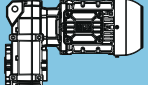
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**P<sub>N</sub> = 10 hp**

| 60 Hz           |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| 2.8             | 209920         | 0.80           | 639.35 | **              | **              | **              | **              | <b>FH154-11P-L132M-04F</b>                                                          | 1616    | 318                            |
| 3.1             | 187527         | 0.85           | 573.49 | 13800           | 23670           | **              | **              |                                                                                     |         |                                |
| 3.2             | 180830         | 0.90           | 553.01 | 14810           | 25430           | **              | **              |                                                                                     |         |                                |
| 3.6             | 158950         | 1.05           | 488.09 | 17490           | 25900           | 17490           | **              |                                                                                     |         |                                |
| 3.7             | 153841         | 1.05           | 473.37 | 18030           | 25990           | 18030           | 25990           |                                                                                     |         |                                |
| 3.8             | 150516         | 1.10           | 463.14 | 18340           | 26060           | 18340           | 26060           |                                                                                     |         |                                |
| 4.3             | 132520         | 1.25           | 409.44 | 19900           | 26440           | 19900           | 26440           |                                                                                     |         |                                |
| 4.4             | 128844         | 1.25           | 398.90 | 20190           | 26530           | 20190           | 26530           |                                                                                     |         |                                |
| 5.1             | 110759         | 1.45           | 345.03 | 21400           | 26910           | 21400           | 26910           |                                                                                     |         |                                |
| 3.8             | 152957         | 0.80           | 465.86 | **              | **              | **              | **              | <b>FH124-11P-L132M-04F</b>                                                          | 1060    | 314                            |
| 3.9             | 147497         | 0.80           | 449.23 | **              | **              | **              | **              |                                                                                     |         |                                |
| 4.3             | 135483         | 0.85           | 414.33 | 13760           | 18570           | **              | **              |                                                                                     |         |                                |
| 4.4             | 132821         | 0.90           | 406.19 | 14050           | 18640           | **              | **              |                                                                                     |         |                                |
| 4.5             | 128077         | 0.90           | 391.68 | 14570           | 18770           | **              | **              |                                                                                     |         |                                |
| 4.6             | 125237         | 0.95           | 383.78 | 14840           | 18840           | **              | **              |                                                                                     |         |                                |
| 5.0             | 116191         | 1.00           | 356.79 | 15670           | 19060           | 15670           | **              |                                                                                     |         |                                |
| 5.1             | 113941         | 1.05           | 349.88 | 15870           | 19110           | 15870           | **              |                                                                                     |         |                                |
| 5.2             | 109649         | 1.05           | 337.39 | 16210           | 19220           | 16210           | 19220           |                                                                                     |         |                                |
| 5.3             | 108748         | 1.10           | 334.62 | 16300           | 19240           | 16300           | 19240           |                                                                                     |         |                                |
| 5.9             | 97516          | 1.20           | 301.29 | 17110           | 19510           | 17110           | 19510           |                                                                                     |         |                                |
| 6.1             | 93840          | 1.25           | 290.53 | 17330           | 19600           | 17330           | 19600           |                                                                                     |         |                                |
| 7.1             | 79679          | 1.45           | 248.21 | 18140           | 19960           | 18140           | 19960           |                                                                                     |         |                                |
| 8.0             | 79034          | 1.50           | 220.67 | 18160           | 19960           | 18160           | 19960           | <b>FH123-11P-L132M-04F</b>                                                          | 1008    | 312                            |
| 9.2             | 68909          | 1.70           | 192.40 | 18660           | 20210           | 18660           | 20210           |                                                                                     |         |                                |
| 9.5             | 66449          | 1.75           | 185.53 | 18750           | 20280           | 18750           | 20280           |                                                                                     |         |                                |
| 11              | 59357          | 1.95           | 165.73 | 19020           | 20460           | 19020           | 20460           |                                                                                     |         |                                |
| 12              | 51116          | 2.30           | 142.72 | 19310           | 20660           | 19310           | 20660           |                                                                                     |         |                                |
| 14              | 44651          | 2.60           | 124.67 | 19490           | 20820           | 19490           | 20820           |                                                                                     |         |                                |
| 15              | 43272          | 2.70           | 120.82 | 19540           | 20860           | 19540           | 20860           |                                                                                     |         |                                |
| 17              | 36381          | 3.00           | 101.58 | 19690           | 21020           | 19690           | 21020           |                                                                                     |         |                                |
| 6.2             | 93266          | 0.80           | 284.06 | **              | **              | **              | **              | <b>FH104-11P-L132M-04F</b>                                                          | 752     | 310                            |
| 7.2             | 88310          | 0.85           | 246.57 | 7420            | 12320           | **              | **              | <b>FH103-11P-L132M-04F</b>                                                          | 699     | 308                            |
| 8.1             | 77999          | 0.95           | 217.78 | 9260            | 13330           | **              | **              |                                                                                     |         |                                |
| 9.4             | 67706          | 1.05           | 189.04 | 10590           | 13620           | 10590           | 13620           |                                                                                     |         |                                |
| 9.7             | 65288          | 1.10           | 182.29 | 10860           | 13690           | 10860           | 13690           |                                                                                     |         |                                |
| 11              | 58497          | 1.25           | 163.33 | 11530           | 13890           | 11530           | 13890           |                                                                                     |         |                                |
| 13              | 50063          | 1.45           | 139.78 | 12210           | 14120           | 12210           | 14120           |                                                                                     |         |                                |
| 14              | 43903          | 1.65           | 122.58 | 12630           | 14300           | 12630           | 14300           |                                                                                     |         |                                |
| 15              | 43236          | 1.65           | 120.72 | 12680           | 14320           | 12680           | 14320           |                                                                                     |         |                                |
| 16              | 38777          | 1.85           | 108.27 | 12930           | 14460           | 12930           | 14460           |                                                                                     |         |                                |
| 19              | 33659          | 2.15           | 93.98  | 13170           | 14590           | 13170           | 14590           |                                                                                     |         |                                |
| 20              | 32460          | 2.20           | 90.63  | 13240           | 14640           | 13240           | 14640           |                                                                                     |         |                                |
| 22              | 29082          | 2.45           | 81.20  | 13380           | 14720           | 13380           | 14720           |                                                                                     |         |                                |
| 25              | 24888          | 2.85           | 69.49  | 13530           | 14840           | 13530           | 14840           |                                                                                     |         |                                |
| 49              | 12869          | 3.00           | 35.93  | 13490           | 15170           | 13490           | 15170           | <b>FH102-11P-L132M-04F</b>                                                          | 642     | 308                            |
| 95              | 6669           | 3.00           | 18.62  | 10880           | 15330           | 10880           | 15330           |                                                                                     |         |                                |
| 12              | 51162          | 0.80           | 142.85 | **              | **              | **              | **              | <b>FH093-11P-L132M-04F</b>                                                          | 492     | 304                            |
| 13              | 49293          | 0.85           | 137.63 | 4090            | 6520            | **              | **              |                                                                                     |         |                                |
| 15              | 43254          | 0.95           | 120.77 | 5600            | 8660            | **              | **              |                                                                                     |         |                                |
| 17              | 37442          | 1.10           | 104.54 | 6610            | 8860            | 6610            | 8860            |                                                                                     |         |                                |
| 18              | 36188          | 1.15           | 101.04 | 6790            | 8880            | 6790            | 8880            |                                                                                     |         |                                |
| 19              | 33162          | 1.25           | 92.59  | 7190            | 8990            | 7190            | 8990            |                                                                                     |         |                                |
| 22              | 28685          | 1.40           | 80.09  | 7690            | 9150            | 7690            | 9150            |                                                                                     |         |                                |
| 23              | 27660          | 1.45           | 77.23  | 7780            | 9170            | 7780            | 9170            |                                                                                     |         |                                |
| 26              | 24408          | 1.65           | 68.15  | 8050            | 9280            | 8050            | 9280            |                                                                                     |         |                                |
| 31              | 20769          | 1.95           | 57.99  | 8320            | 9420            | 8320            | 9420            |                                                                                     |         |                                |
| 35              | 17919          | 2.25           | 50.03  | 8500            | 9510            | 8500            | 9510            |                                                                                     |         |                                |

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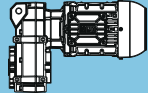
\*\* ... on request

| P <sub>N</sub> = 10 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub>        | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 46                     | 13843          | 2.80           | 38.65 | 8700            | 9640            | 8700            | 9640            | <b>FH092-11P-L132M-04F</b>                                                         | 461     | 304                         |
| 62                     | 10232          | 3.00           | 28.57 | 8810            | 9780            | 8810            | 9780            |                                                                                    |         |                             |
| 93                     | 6809           | 2.80           | 19.01 | 8790            | 9850            | 8790            | 9850            |                                                                                    |         |                             |
| 126                    | 5032           | 3.00           | 14.05 | 7940            | 9910            | 7940            | 9910            |                                                                                    |         |                             |
| 19                     | 33348          | 0.80           | 93.11 | **              | **              | **              | **              | <b>FH083-11P-L132M-04F</b>                                                         | 373     | 300                         |
| 21                     | 30440          | 0.90           | 84.99 | 3280            | 5370            | **              | **              |                                                                                    |         |                             |
| 22                     | 28667          | 0.95           | 80.04 | 3800            | 6470            | **              | **              |                                                                                    |         |                             |
| 25                     | 25651          | 1.05           | 71.62 | 4500            | 7980            | 4500            | **              |                                                                                    |         |                             |
| 30                     | 21439          | 1.15           | 59.86 | 5240            | 9260            | 5240            | 1960            |                                                                                    |         |                             |
| 31                     | 20676          | 1.20           | 57.73 | 5350            | 9310            | 5350            | 2000            |                                                                                    |         |                             |
| 35                     | 18248          | 1.30           | 50.95 | 5640            | 9400            | 5010            | 2090            |                                                                                    |         |                             |
| 41                     | 15308          | 1.45           | 42.74 | 5960            | 9510            | 4610            | 2200            |                                                                                    |         |                             |
| 49                     | 12901          | 1.65           | 36.02 | 6160            | 9600            | 4230            | 2290            |                                                                                    |         |                             |
| 52                     | 12131          | 2.05           | 33.87 | 6200            | 9640            | 4090            | 2340            | <b>FH082-11P-L132M-04F</b>                                                         | 353     | 300                         |
| 59                     | 10745          | 2.50           | 30.00 | 6290            | 9690            | 3870            | 2380            |                                                                                    |         |                             |
| 68                     | 9294           | 2.90           | 25.95 | 6380            | 9760            | 3620            | 2450            |                                                                                    |         |                             |
| 39                     | 16124          | 0.85           | 45.02 | 2790            | 3440            | **              | **              | <b>FH072-11P-L132M-04F</b>                                                         | 265     | 298                         |
| 45                     | 14079          | 0.95           | 39.31 | 3300            | 3530            | **              | **              |                                                                                    |         |                             |
| 51                     | 12442          | 1.10           | 34.74 | 3640            | 3620            | 3260            | 1100            |                                                                                    |         |                             |
| 60                     | 10523          | 1.30           | 29.38 | 3930            | 3730            | 2990            | 1190            |                                                                                    |         |                             |
| 70                     | 9043           | 1.50           | 25.25 | 4110            | 3800            | 2740            | 1280            |                                                                                    |         |                             |
| 80                     | 7897           | 1.70           | 22.05 | 4250            | 3870            | 2560            | 1330            |                                                                                    |         |                             |
| 85                     | 7421           | 1.15           | 20.72 | 4290            | 3710            | 2590            | 1190            |                                                                                    |         |                             |
| 94                     | 6766           | 2.00           | 18.89 | 4340            | 3910            | 2380            | 1390            |                                                                                    |         |                             |
| 97                     | 6522           | 2.05           | 18.21 | 4360            | 3930            | 2340            | 1390            |                                                                                    |         |                             |
| 98                     | 6479           | 1.55           | 18.09 | 4360            | 3780            | 2410            | 1260            |                                                                                    |         |                             |
| 110                    | 5759           | 2.35           | 16.08 | 4410            | 3980            | 2200            | 1440            |                                                                                    |         |                             |
| 111                    | 5727           | 1.70           | 15.99 | 4410            | 3840            | 2250            | 1300            |                                                                                    |         |                             |
| 131                    | 4842           | 2.05           | 13.52 | 4470            | 3910            | 2090            | 1370            |                                                                                    |         |                             |
| 152                    | 4162           | 2.35           | 11.62 | 4500            | 3960            | 1930            | 1440            |                                                                                    |         |                             |
| 175                    | 3632           | 2.75           | 10.14 | 4520            | 4000            | 1820            | 1460            |                                                                                    |         |                             |
| 211                    | 3001           | 3.00           | 8.38  | 4540            | 4050            | 1660            | 1510            |                                                                                    |         |                             |
| 70                     | 9036           | 0.85           | 25.23 | 1150            | 1550            | **              | **              | <b>FH062-11P-L132M-04F</b>                                                         | 214     | 296                         |
| 76                     | 8288           | 0.90           | 23.14 | 1530            | 2360            | **              | **              |                                                                                    |         |                             |
| 85                     | 7475           | 1.00           | 20.87 | 1840            | 2810            | 1840            | **              |                                                                                    |         |                             |
| 92                     | 6855           | 1.10           | 19.14 | 2020            | 2860            | 2020            | 610             |                                                                                    |         |                             |
| 100                    | 6357           | 1.15           | 17.75 | 2160            | 2900            | 2160            | 670             |                                                                                    |         |                             |
| 103                    | 6153           | 0.85           | 17.18 | 2200            | 2720            | **              | **              |                                                                                    |         |                             |
| 109                    | 5831           | 1.25           | 16.28 | 2270            | 2940            | 2070            | 700             |                                                                                    |         |                             |
| 115                    | 5508           | 1.35           | 15.38 | 2340            | 2970            | 2000            | 740             |                                                                                    |         |                             |
| 125                    | 5054           | 1.45           | 14.11 | 2410            | 3010            | 1930            | 760             |                                                                                    |         |                             |
| 131                    | 4832           | 1.05           | 13.49 | 2450            | 2880            | 1980            | 650             |                                                                                    |         |                             |
| 136                    | 4652           | 1.60           | 12.99 | 2470            | 3030            | 1840            | 810             |                                                                                    |         |                             |
| 141                    | 4488           | 1.65           | 12.53 | 2500            | 3060            | 1800            | 810             |                                                                                    |         |                             |
| 149                    | 4266           | 1.75           | 11.91 | 2540            | 3080            | 1750            | 830             |                                                                                    |         |                             |
| 154                    | 4115           | 1.80           | 11.49 | 2540            | 3080            | 1730            | 850             |                                                                                    |         |                             |
| 165                    | 3832           | 1.90           | 10.70 | 2590            | 3100            | 1660            | 880             |                                                                                    |         |                             |
| 170                    | 3728           | 1.40           | 10.41 | 2610            | 3010            | 1710            | 760             |                                                                                    |         |                             |
| 180                    | 3514           | 2.10           | 9.81  | 2630            | 3120            | 1600            | 900             |                                                                                    |         |                             |
| 206                    | 3084           | 1.65           | 8.61  | 2680            | 3080            | 1550            | 830             |                                                                                    |         |                             |
| 242                    | 2622           | 1.95           | 7.32  | 2700            | 3120            | 1440            | 900             |                                                                                    |         |                             |
| 279                    | 2274           | 2.25           | 6.35  | 2720            | 3170            | 1330            | 940             |                                                                                    |         |                             |
| 330                    | 1920           | 2.65           | 5.36  | 2740            | 3210            | 1240            | 970             |                                                                                    |         |                             |
| 342                    | 1852           | 2.75           | 5.17  | 2770            | 3210            | 1210            | 990             |                                                                                    |         |                             |

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**P<sub>N</sub> = 10 hp**

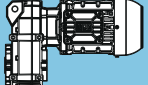
| 60 Hz           |                |                | i     | Output shaft    |                 | Hollow shaft    |                 | <br><b>FH052-11P-L132M-04F</b> | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                                                   |         |                                |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                                                   |         |                                |
| 93              | 6816           | 0.80           | 19.03 | **              | **              | **              | **              | 181                                                                                                               | 294     |                                |
| 104             | 6103           | 0.90           | 17.04 | 940             | 1420            | **              | **              |                                                                                                                   |         |                                |
| 114             | 5576           | 0.95           | 15.57 | 1240            | 2020            | **              | **              |                                                                                                                   |         |                                |
| 128             | 4950           | 1.10           | 13.82 | 1480            | 2320            | 1480            | 810             |                                                                                                                   |         |                                |
| 140             | 4524           | 1.20           | 12.63 | 1620            | 2340            | 1620            | 830             |                                                                                                                   |         |                                |
| 153             | 4144           | 1.30           | 11.57 | 1730            | 2380            | 1730            | 880             |                                                                                                                   |         |                                |
| 154             | 4112           | 0.80           | 11.48 | **              | **              | **              | **              |                                                                                                                   |         |                                |
| 167             | 3786           | 1.40           | 10.57 | 1820            | 2410            | 1820            | 900             |                                                                                                                   |         |                                |
| 188             | 3363           | 0.95           | 9.39  | 1910            | 2320            | **              | **              |                                                                                                                   |         |                                |
| 189             | 3359           | 1.50           | 9.38  | 1910            | 2430            | 1890            | 920             |                                                                                                                   |         |                                |
| 196             | 3238           | 1.55           | 9.04  | 1930            | 2450            | 1870            | 940             |                                                                                                                   |         |                                |
| 207             | 3069           | 1.60           | 8.57  | 1960            | 2450            | 1820            | 940             |                                                                                                                   |         |                                |
| 214             | 2958           | 1.65           | 8.26  | 1980            | 2470            | 1780            | 970             |                                                                                                                   |         |                                |
| 232             | 2729           | 1.20           | 7.62  | 2000            | 2410            | 1730            | 900             |                                                                                                                   |         |                                |
| 277             | 2285           | 1.40           | 6.38  | 2070            | 2450            | 1600            | 940             |                                                                                                                   |         |                                |
| 342             | 1852           | 1.75           | 5.17  | 1960            | 2500            | 1440            | 990             |                                                                                                                   |         |                                |
| 355             | 1784           | 1.80           | 4.98  | 1930            | 2500            | 1420            | 990             |                                                                                                                   |         |                                |

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**P<sub>N</sub> = 12.5 hp**

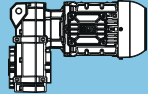
| 60 Hz           |                | f <sub>B</sub> | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |        | F <sub>rn</sub> | F <sub>aN</sub> | F <sub>rn</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 3.6             | 196735         | 0.85           | 488.09 | 12210           | 20280           | **              | **              | <b>FH154-11P-L132M-04G</b>                                                         | 1627    | 318                         |
| 3.7             | 190802         | 0.85           | 473.37 | 13260           | 22530           | **              | **              |                                                                                    |         |                             |
| 3.8             | 186297         | 0.90           | 463.14 | 13980           | 24050           | **              | **              |                                                                                    |         |                             |
| 4.3             | 164023         | 1.00           | 409.44 | 16930           | 25790           | 16930           | **              |                                                                                    |         |                             |
| 4.4             | 159801         | 1.00           | 398.90 | 17400           | 25880           | 17400           | **              |                                                                                    |         |                             |
| 5.1             | 137373         | 1.20           | 345.03 | 19510           | 26350           | 19510           | 26350           |                                                                                    |         |                             |
| 4.9             | 143812         | 0.85           | 356.79 | 12720           | 18370           | **              | **              | <b>FH124-11P-L132M-04G</b>                                                         | 1071    | 314                         |
| 5.0             | 141027         | 0.85           | 349.88 | 13080           | 18430           | **              | **              |                                                                                    |         |                             |
| 5.2             | 135992         | 0.85           | 337.39 | 13690           | 18570           | **              | **              |                                                                                    |         |                             |
| 5.3             | 134600         | 0.90           | 334.62 | 13850           | 18590           | **              | **              |                                                                                    |         |                             |
| 5.9             | 120945         | 1.00           | 301.29 | 15240           | 18930           | **              | **              |                                                                                    |         |                             |
| 6.1             | 116388         | 1.00           | 290.53 | 15650           | 19040           | 15650           | **              |                                                                                    |         |                             |
| 7.1             | 98824          | 1.20           | 248.21 | 17000           | 19490           | 17000           | 19490           |                                                                                    |         |                             |
| 8.0             | 97223          | 1.20           | 220.67 | 17110           | 19510           | 17110           | 19510           | <b>FH123-11P-L132M-04G</b>                                                         | 1019    | 312                         |
| 9.2             | 84768          | 1.40           | 192.40 | 17870           | 19830           | 17870           | 19830           |                                                                                    |         |                             |
| 9.5             | 81741          | 1.45           | 185.53 | 18030           | 19900           | 18030           | 19900           |                                                                                    |         |                             |
| 11              | 73018          | 1.60           | 165.73 | 18460           | 20120           | 18460           | 20120           |                                                                                    |         |                             |
| 12              | 62880          | 1.85           | 142.72 | 18910           | 20370           | 18910           | 20370           |                                                                                    |         |                             |
| 14              | 54927          | 2.10           | 124.67 | 19180           | 20570           | 19180           | 20570           |                                                                                    |         |                             |
| 15              | 53231          | 2.20           | 120.82 | 19240           | 20610           | 19240           | 20610           |                                                                                    |         |                             |
| 17              | 46411          | 2.50           | 105.34 | 19450           | 20770           | 19450           | 20770           |                                                                                    |         |                             |
| 19              | 39978          | 2.90           | 90.74  | 19600           | 20930           | 19600           | 20930           |                                                                                    |         |                             |
| 9.3             | 83288          | 0.90           | 189.04 | 8390            | 13170           | **              | **              | <b>FH103-11P-L132M-04G</b>                                                         | 710     | 308                         |
| 9.7             | 80314          | 0.90           | 182.29 | 8880            | 13260           | **              | **              |                                                                                    |         |                             |
| 11              | 71960          | 1.00           | 163.33 | 10070           | 13510           | 10070           | **              |                                                                                    |         |                             |
| 13              | 61584          | 1.15           | 139.78 | 11240           | 13800           | 11240           | 13800           |                                                                                    |         |                             |
| 14              | 54006          | 1.35           | 122.58 | 11910           | 14010           | 11910           | 14010           |                                                                                    |         |                             |
| 15              | 53187          | 1.35           | 120.72 | 11980           | 14030           | 11980           | 14030           |                                                                                    |         |                             |
| 16              | 47702          | 1.50           | 108.27 | 12390           | 14190           | 12390           | 14190           |                                                                                    |         |                             |
| 19              | 41406          | 1.75           | 93.98  | 12770           | 14370           | 12770           | 14370           |                                                                                    |         |                             |
| 22              | 35775          | 2.00           | 81.20  | 13080           | 14520           | 13080           | 14520           |                                                                                    |         |                             |
| 25              | 30616          | 2.35           | 69.49  | 13310           | 14680           | 13310           | 14680           |                                                                                    |         |                             |
| 29              | 26444          | 2.70           | 60.02  | 13470           | 14790           | 13470           | 14790           |                                                                                    |         |                             |
| 49              | 15830          | 2.45           | 35.93  | 13650           | 15110           | 13650           | 15110           | <b>FH102-11P-L132M-04G</b>                                                         | 653     | 308                         |
| 95              | 8204           | 2.45           | 18.62  | 10970           | 15290           | 10970           | 15290           |                                                                                    |         |                             |
| 15              | 51605          | 0.80           | 117.13 | **              | **              | **              | **              | <b>FH093-11P-L132M-04G</b>                                                         | 503     | 304                         |
| 17              | 46058          | 0.90           | 104.54 | 4990            | 8430            | **              | **              |                                                                                    |         |                             |
| 19              | 40793          | 1.00           | 92.59  | 6070            | 8720            | 6070            | **              |                                                                                    |         |                             |
| 22              | 35286          | 1.15           | 80.09  | 6920            | 8920            | 6920            | 8920            |                                                                                    |         |                             |
| 23              | 34026          | 1.20           | 77.23  | 7080            | 8970            | 7080            | 8970            |                                                                                    |         |                             |
| 26              | 30026          | 1.35           | 68.15  | 7530            | 9100            | 7530            | 9100            |                                                                                    |         |                             |
| 30              | 25549          | 1.60           | 57.99  | 7960            | 9240            | 7960            | 9240            |                                                                                    |         |                             |
| 35              | 22042          | 1.85           | 50.03  | 8230            | 9370            | 8230            | 9370            |                                                                                    |         |                             |
| 46              | 17028          | 2.25           | 38.65  | 8540            | 9530            | 8540            | 9530            | <b>FH092-11P-L132M-04G</b>                                                         | 472     | 304                         |
| 52              | 15037          | 2.65           | 34.13  | 8630            | 9600            | 8630            | 9600            |                                                                                    |         |                             |
| 62              | 12587          | 2.45           | 28.57  | 8750            | 9690            | 8750            | 9690            |                                                                                    |         |                             |
| 93              | 8375           | 2.25           | 19.01  | 8880            | 9800            | 8880            | 9800            |                                                                                    |         |                             |
| 126             | 6190           | 2.45           | 14.05  | 8030            | 9870            | 8030            | 9870            |                                                                                    |         |                             |
| 22              | 35264          | 0.80           | 80.04  | **              | **              | **              | **              | <b>FH083-11P-L132M-04G</b>                                                         | 384     | 300                         |
| 25              | 31554          | 0.85           | 71.62  | 2860            | 4470            | **              | **              |                                                                                    |         |                             |
| 29              | 26373          | 0.95           | 59.86  | 4360            | 7690            | **              | **              |                                                                                    |         |                             |
| 31              | 25435          | 1.00           | 57.73  | 4540            | 8070            | **              | **              |                                                                                    |         |                             |
| 35              | 22448          | 1.05           | 50.95  | 5080            | 9240            | 5080            | 1930            |                                                                                    |         |                             |
| 41              | 18830          | 1.20           | 42.74  | 5580            | 9370            | 4880            | 2070            |                                                                                    |         |                             |
| 49              | 15870          | 1.35           | 36.02  | 5890            | 9490            | 4450            | 2180            |                                                                                    |         |                             |

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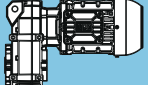
**P<sub>N</sub> = 12.5 hp**

| 60 Hz           |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                             |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                             |
| 52              | 14922          | 1.70           | 33.87 | 5980            | 9530            | 4320            | 2230            | <b>FH082-11P-L132M-04G</b>                                                          | 364     | 300                         |
| 59              | 13217          | 2.05           | 30.00 | 6140            | 9600            | 4050            | 2290            |                                                                                     |         |                             |
| 68              | 11433          | 2.35           | 25.95 | 6250            | 9670            | 3780            | 2360            |                                                                                     |         |                             |
| 80              | 9728           | 2.75           | 22.08 | 6360            | 9730            | 3480            | 2430            |                                                                                     |         |                             |
| 124             | 6247           | 2.50           | 14.18 | 6520            | 9850            | 2920            | 2540            |                                                                                     |         |                             |
| 144             | 5406           | 2.90           | 12.27 | 6540            | 9870            | 2720            | 2560            |                                                                                     |         |                             |
| 45              | 17319          | 0.80           | 39.31 | **              | **              | **              | **              | <b>FH072-11P-L132M-04G</b>                                                          | 276     | 298                         |
| 51              | 15306          | 0.90           | 34.74 | 3010            | 3460            | **              | **              |                                                                                     |         |                             |
| 60              | 12944          | 1.05           | 29.38 | 3550            | 3600            | 2990            | **              |                                                                                     |         |                             |
| 70              | 11125          | 1.20           | 25.25 | 3840            | 3690            | 2940            | 1170            |                                                                                     |         |                             |
| 80              | 9715           | 1.40           | 22.05 | 4050            | 3750            | 2720            | 1240            |                                                                                     |         |                             |
| 85              | 9129           | 0.95           | 20.72 | 4110            | 3570            | **              | **              |                                                                                     |         |                             |
| 93              | 8323           | 1.60           | 18.89 | 4200            | 3840            | 2520            | 1300            |                                                                                     |         |                             |
| 97              | 8023           | 1.70           | 18.21 | 4230            | 3840            | 2470            | 1330            |                                                                                     |         |                             |
| 98              | 7970           | 1.25           | 18.09 | 4230            | 3660            | 2560            | 1150            |                                                                                     |         |                             |
| 110             | 7045           | 1.40           | 15.99 | 4320            | 3730            | 2410            | 1210            |                                                                                     |         |                             |
| 131             | 5957           | 1.65           | 13.52 | 4410            | 3820            | 2180            | 1300            |                                                                                     |         |                             |
| 152             | 5120           | 1.90           | 11.62 | 4450            | 3890            | 2020            | 1350            |                                                                                     |         |                             |
| 155             | 5005           | 2.70           | 11.36 | 4450            | 4000            | 1960            | 1480            |                                                                                     |         |                             |
| 174             | 4467           | 2.25           | 10.14 | 4500            | 3930            | 1890            | 1420            |                                                                                     |         |                             |
| 203             | 3829           | 2.60           | 8.69  | 4520            | 3980            | 1750            | 1460            |                                                                                     |         |                             |
| 211             | 3692           | 2.45           | 8.38  | 4520            | 4000            | 1730            | 1460            |                                                                                     |         |                             |
| 85              | 9195           | 0.80           | 20.87 | **              | **              | **              | **              | <b>FH062-11P-L132M-04G</b>                                                          | 225     | 296                         |
| 92              | 8433           | 0.90           | 19.14 | 1460            | 2230            | **              | **              |                                                                                     |         |                             |
| 99              | 7820           | 0.95           | 17.75 | 1710            | 2770            | **              | **              |                                                                                     |         |                             |
| 108             | 7173           | 1.05           | 16.28 | 1930            | 2830            | 1930            | **              |                                                                                     |         |                             |
| 115             | 6776           | 1.10           | 15.38 | 2050            | 2880            | 2050            | 630             |                                                                                     |         |                             |
| 125             | 6217           | 1.20           | 14.11 | 2180            | 2900            | 2020            | 670             |                                                                                     |         |                             |
| 131             | 5943           | 0.90           | 13.49 | 2250            | 2770            | **              | **              |                                                                                     |         |                             |
| 136             | 5723           | 1.30           | 12.99 | 2290            | 2940            | 1960            | 720             |                                                                                     |         |                             |
| 141             | 5520           | 1.35           | 12.53 | 2320            | 2970            | 1910            | 740             |                                                                                     |         |                             |
| 148             | 5247           | 1.40           | 11.91 | 2380            | 2990            | 1870            | 740             |                                                                                     |         |                             |
| 154             | 5062           | 1.45           | 11.49 | 2410            | 3010            | 1840            | 760             |                                                                                     |         |                             |
| 165             | 4714           | 1.55           | 10.70 | 2470            | 3030            | 1750            | 810             |                                                                                     |         |                             |
| 170             | 4586           | 1.15           | 10.41 | 2500            | 2900            | 1840            | 670             |                                                                                     |         |                             |
| 180             | 4322           | 1.70           | 9.81  | 2520            | 3060            | 1690            | 830             |                                                                                     |         |                             |
| 205             | 3793           | 1.35           | 8.61  | 2590            | 2990            | 1660            | 760             |                                                                                     |         |                             |
| 241             | 3225           | 1.60           | 7.32  | 2650            | 3060            | 1530            | 830             |                                                                                     |         |                             |
| 278             | 2798           | 1.85           | 6.35  | 2700            | 3100            | 1420            | 880             |                                                                                     |         |                             |
| 329             | 2362           | 2.15           | 5.36  | 2720            | 3170            | 1300            | 920             |                                                                                     |         |                             |
| 341             | 2278           | 2.25           | 5.17  | 2720            | 3170            | 1280            | 940             |                                                                                     |         |                             |
| 400             | 1943           | 2.65           | 4.41  | 2740            | 3210            | 1170            | 970             |                                                                                     |         |                             |
| 113             | 6860           | 0.80           | 15.57 | **              | **              | **              | **              | <b>FH052-11P-L132M-04G</b>                                                          | 192     | 294                         |
| 128             | 6089           | 0.90           | 13.82 | 940             | 1420            | **              | **              |                                                                                     |         |                             |
| 140             | 5565           | 0.95           | 12.63 | 1240            | 2020            | **              | **              |                                                                                     |         |                             |
| 153             | 5098           | 1.05           | 11.57 | 1440            | 2290            | 1440            | 790             |                                                                                     |         |                             |
| 167             | 4657           | 1.15           | 10.57 | 1600            | 2340            | 1600            | 830             |                                                                                     |         |                             |
| 188             | 4133           | 1.25           | 9.38  | 1730            | 2380            | 1730            | 880             |                                                                                     |         |                             |
| 195             | 3983           | 1.25           | 9.04  | 1780            | 2380            | 1780            | 880             |                                                                                     |         |                             |
| 206             | 3776           | 1.30           | 8.57  | 1820            | 2410            | 1820            | 900             |                                                                                     |         |                             |
| 214             | 3639           | 1.35           | 8.26  | 1840            | 2410            | 1840            | 900             |                                                                                     |         |                             |
| 232             | 3357           | 0.95           | 7.62  | 1910            | 2320            | **              | **              |                                                                                     |         |                             |
| 277             | 2811           | 1.15           | 6.38  | 2000            | 2380            | 1660            | 880             |                                                                                     |         |                             |
| 341             | 2278           | 1.40           | 5.17  | 2020            | 2450            | 1510            | 940             |                                                                                     |         |                             |
| 354             | 2194           | 1.50           | 4.98  | 1980            | 2450            | 1480            | 940             |                                                                                     |         |                             |

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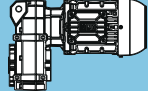
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| P <sub>N</sub> = 15 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>aN</sub> | F <sub>rn</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 4.3                    | 196211         | 0.85           | 409.44 | 12340           | 20570           | **              | **              | FH154-22P-160M-04E                                                                 | 1764    | 318                         |
| 4.4                    | 191160         | 0.85           | 398.90 | 13240           | 22480           | **              | **              |                                                                                    |         |                             |
| 4.7                    | 181597         | 0.90           | 379.72 | 14720           | 25430           | **              | **              |                                                                                    |         |                             |
| 5.1                    | 164332         | 1.00           | 345.03 | 16910           | 25790           | 16910           | **              |                                                                                    |         |                             |
| 5.4                    | 155769         | 1.05           | 327.05 | 17830           | 25970           | 17830           | **              |                                                                                    |         |                             |
| 6.3                    | 133910         | 1.20           | 282.89 | 19810           | 26420           | 19810           | 26420           |                                                                                    |         |                             |
| 6.8                    | 136092         | 1.20           | 259.81 | 19630           | 26370           | 19630           | 26370           | FH153-22P-160M-04E                                                                 | 1662    | 316                         |
| 7.9                    | 117214         | 1.40           | 223.77 | 21000           | 26770           | 21000           | 26770           |                                                                                    |         |                             |
| 9.2                    | 101384         | 1.60           | 193.55 | 21940           | 27090           | 21940           | 27090           |                                                                                    |         |                             |
| 10                     | 89431          | 1.80           | 170.73 | 22530           | 27360           | 22530           | 27360           |                                                                                    |         |                             |
| 12                     | 76807          | 2.10           | 146.63 | 23070           | 27610           | 23070           | 27610           |                                                                                    |         |                             |
| 14                     | 65199          | 2.45           | 124.47 | 23470           | 27850           | 23470           | 27850           |                                                                                    |         |                             |
| 15                     | 63905          | 2.50           | 122.00 | 23520           | 27880           | 23520           | 27880           |                                                                                    |         |                             |
| 16                     | 56394          | 2.85           | 107.66 | 23740           | 28030           | 23740           | 28030           |                                                                                    |         |                             |
| 5.9                    | 144384         | 0.80           | 301.29 | **              | **              | **              | **              | FH124-22P-160M-04E                                                                 | 1208    | 314                         |
| 6.2                    | 138125         | 0.85           | 288.23 | 13440           | 18520           | **              | **              |                                                                                    |         |                             |
| 7.2                    | 118219         | 1.00           | 248.21 | 15510           | 19000           | 15510           | **              |                                                                                    |         |                             |
| 8.0                    | 115590         | 1.00           | 220.67 | 15740           | 19060           | 15740           | **              | FH123-22P-160M-04E                                                                 | 1155    | 312                         |
| 9.2                    | 100782         | 1.15           | 192.40 | 16880           | 19450           | 16880           | 19450           |                                                                                    |         |                             |
| 11                     | 86812          | 1.35           | 165.73 | 17760           | 19780           | 17760           | 19780           |                                                                                    |         |                             |
| 12                     | 74759          | 1.55           | 142.72 | 18390           | 20080           | 18390           | 20080           |                                                                                    |         |                             |
| 14                     | 65304          | 1.80           | 124.67 | 18790           | 20300           | 18790           | 20300           |                                                                                    |         |                             |
| 15                     | 63287          | 1.85           | 120.82 | 18880           | 20370           | 18880           | 20370           |                                                                                    |         |                             |
| 16                     | 56410          | 2.05           | 107.69 | 19130           | 20530           | 19130           | 20530           |                                                                                    |         |                             |
| 17                     | 55179          | 2.10           | 105.34 | 19180           | 20570           | 19180           | 20570           |                                                                                    |         |                             |
| 20                     | 47531          | 2.45           | 90.74  | 19420           | 20750           | 19420           | 20750           |                                                                                    |         |                             |
| 23                     | 40931          | 2.85           | 78.14  | 19580           | 20910           | 19580           | 20910           |                                                                                    |         |                             |
| 24                     | 38385          | 3.00           | 73.28  | 19650           | 20970           | 19650           | 20970           |                                                                                    |         |                             |
| 11                     | 85555          | 0.85           | 163.33 | 7980            | 13110           | **              | **              | FH103-22P-160M-04E                                                                 | 847     | 308                         |
| 13                     | 73219          | 1.00           | 139.78 | 9940            | 13470           | 9940            | **              |                                                                                    |         |                             |
| 15                     | 63235          | 1.15           | 120.72 | 11080           | 13760           | 11080           | 13760           |                                                                                    |         |                             |
| 16                     | 56713          | 1.25           | 108.27 | 11690           | 13940           | 11690           | 13940           |                                                                                    |         |                             |
| 17                     | 53471          | 1.35           | 102.08 | 11960           | 14030           | 11960           | 14030           |                                                                                    |         |                             |
| 19                     | 49228          | 1.45           | 93.98  | 12270           | 14140           | 12270           | 14140           |                                                                                    |         |                             |
| 21                     | 43634          | 1.65           | 83.30  | 12660           | 14300           | 12660           | 14300           |                                                                                    |         |                             |
| 22                     | 42534          | 1.70           | 81.20  | 12720           | 14340           | 12720           | 14340           |                                                                                    |         |                             |
| 26                     | 36400          | 1.95           | 69.49  | 13060           | 14520           | 13060           | 14520           |                                                                                    |         |                             |
| 30                     | 31439          | 2.30           | 60.02  | 13290           | 14660           | 13290           | 14660           |                                                                                    |         |                             |
| 35                     | 26584          | 2.70           | 50.75  | 13470           | 14790           | 13470           | 14790           |                                                                                    |         |                             |
| 42                     | 22388          | 2.55           | 42.74  | 13600           | 14900           | 13600           | 14900           |                                                                                    |         |                             |
| 80                     | 11597          | 2.55           | 22.14  | 11740           | 15170           | 11740           | 15170           |                                                                                    |         |                             |
| 18                     | 52926          | 0.80           | 101.04 | **              | **              | **              | **              | FH093-22P-160M-04E                                                                 | 639     | 304                         |
| 19                     | 48500          | 0.85           | 92.59  | 4340            | 7040            | **              | **              |                                                                                    |         |                             |
| 21                     | 44399          | 0.90           | 84.76  | 5370            | 8610            | **              | **              |                                                                                    |         |                             |
| 22                     | 41952          | 0.95           | 80.09  | 5870            | 8700            | **              | **              |                                                                                    |         |                             |
| 26                     | 36101          | 1.15           | 68.92  | 6810            | 8900            | 6810            | 8900            |                                                                                    |         |                             |
| 31                     | 30376          | 1.35           | 57.99  | 7510            | 9080            | 7510            | 9080            |                                                                                    |         |                             |
| 33                     | 28228          | 1.45           | 53.89  | 7730            | 9150            | 7730            | 9150            |                                                                                    |         |                             |
| 35                     | 26206          | 1.55           | 50.03  | 7910            | 9240            | 7910            | 9240            |                                                                                    |         |                             |
| 42                     | 21984          | 1.80           | 41.97  | 8230            | 9370            | 8230            | 9370            |                                                                                    |         |                             |
| 52                     | 17873          | 2.10           | 34.12  | 8500            | 9510            | 8500            | 9510            |                                                                                    |         |                             |
| 67                     | 13975          | 2.50           | 26.68  | 8680            | 9640            | 8680            | 9640            |                                                                                    |         |                             |
| 52                     | 17878          | 2.25           | 34.13  | 8500            | 9510            | 8500            | 9510            |                                                                                    |         |                             |
| 60                     | 15521          | 2.60           | 29.63  | 8610            | 9600            | 8610            | 9600            |                                                                                    |         |                             |
| 69                     | 13410          | 3.00           | 25.60  | 8700            | 9670            | 8700            | 9670            |                                                                                    |         |                             |
| 106                    | 8795           | 2.70           | 16.79  | 8660            | 9780            | 8660            | 9780            |                                                                                    |         |                             |

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**P<sub>N</sub> = 15 hp**

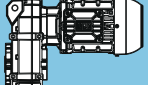
| 60 Hz           |                | f <sub>B</sub> | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| <b>30</b>       | 31356          | 0.80           | 59.86 | **              | **              | **              | **              | <b>FH083-22P-160M-04E</b>                                                           | 520     | 300                            |
| <b>35</b>       | 26688          | 0.90           | 50.95 | 4290            | 7530            | **              | **              |                                                                                     |         |                                |
| <b>42</b>       | 22388          | 1.00           | 42.74 | 5080            | 9240            | 5080            | **              |                                                                                     |         |                                |
| <b>49</b>       | 18868          | 1.15           | 36.02 | 5580            | 9370            | 4700            | 2070            |                                                                                     |         |                                |
| <b>60</b>       | 15468          | 1.30           | 29.53 | 5930            | 9510            | 4200            | 2200            |                                                                                     |         |                                |
| <b>59</b>       | 15714          | 1.70           | 30.00 | 5910            | 9490            | 4250            | 2180            | <b>FH082-22P-160M-04E</b>                                                           | 500     | 300                            |
| <b>68</b>       | 13593          | 2.00           | 25.95 | 6090            | 9580            | 3930            | 2270            |                                                                                     |         |                                |
| <b>80</b>       | 11566          | 2.30           | 22.08 | 6250            | 9670            | 3640            | 2360            |                                                                                     |         |                                |
| <b>94</b>       | 9842           | 2.70           | 18.79 | 6360            | 9730            | 3350            | 2430            |                                                                                     |         |                                |
| <b>125</b>      | 7428           | 2.10           | 14.18 | 6470            | 9780            | 3010            | 2470            |                                                                                     |         |                                |
| <b>145</b>      | 6427           | 2.45           | 12.27 | 6500            | 9820            | 2810            | 2520            |                                                                                     |         |                                |
| <b>170</b>      | 5469           | 2.90           | 10.44 | 6540            | 9870            | 2610            | 2560            |                                                                                     |         |                                |
| <b>80</b>       | 11550          | 1.15           | 22.05 | 3780            | 3660            | 2740            | 1150            | <b>FH072-22P-160M-04E</b>                                                           | 412     | 298                            |
| <b>94</b>       | 9895           | 1.35           | 18.89 | 4020            | 3750            | 2650            | 1240            |                                                                                     |         |                                |
| <b>110</b>      | 8423           | 1.60           | 16.08 | 4180            | 3820            | 2430            | 1300            |                                                                                     |         |                                |
| <b>132</b>      | 7066           | 1.90           | 13.49 | 4320            | 3910            | 2200            | 1370            |                                                                                     |         |                                |
| <b>156</b>      | 5951           | 2.25           | 11.36 | 4410            | 3960            | 2020            | 1440            |                                                                                     |         |                                |
| <b>175</b>      | 5311           | 1.90           | 10.14 | 4450            | 3870            | 1980            | 1350            |                                                                                     |         |                                |
| <b>190</b>      | 4882           | 2.75           | 9.32  | 4470            | 4020            | 1840            | 1480            |                                                                                     |         |                                |
| <b>204</b>      | 4552           | 2.20           | 8.69  | 4470            | 3930            | 1820            | 1390            |                                                                                     |         |                                |
| <b>240</b>      | 3876           | 2.55           | 7.40  | 4520            | 3980            | 1690            | 1460            |                                                                                     |         |                                |
| <b>115</b>      | 8056           | 0.95           | 15.38 | 1620            | 2560            | **              | **              | <b>FH062-22P-160M-04E</b>                                                           | 362     | 296                            |
| <b>126</b>      | 7391           | 1.00           | 14.11 | 1870            | 2810            | 1870            | **              |                                                                                     |         |                                |
| <b>137</b>      | 6804           | 1.10           | 12.99 | 2050            | 2860            | 1870            | 630             |                                                                                     |         |                                |
| <b>149</b>      | 6239           | 1.20           | 11.91 | 2180            | 2900            | 1870            | 670             |                                                                                     |         |                                |
| <b>166</b>      | 5605           | 1.30           | 10.70 | 2320            | 2970            | 1870            | 720             |                                                                                     |         |                                |
| <b>181</b>      | 5139           | 1.45           | 9.81  | 2410            | 2990            | 1780            | 760             |                                                                                     |         |                                |
| <b>280</b>      | 3326           | 1.55           | 6.35  | 2630            | 3060            | 1480            | 810             |                                                                                     |         |                                |
| <b>331</b>      | 2808           | 1.85           | 5.36  | 2700            | 3100            | 1350            | 880             |                                                                                     |         |                                |
| <b>402</b>      | 2310           | 2.20           | 4.41  | 2720            | 3170            | 1210            | 920             |                                                                                     |         |                                |

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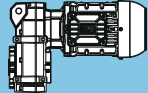
F

| P <sub>N</sub> = 20 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 6.3                    | 184485         | 0.90           | 282.89 | 14210           | 24530           | **              | **              | FH154-22P-160L-04F                                                                 | 1814    | 318                         |
| 6.8                    | 185580         | 0.90           | 259.81 | 14030           | 24140           | **              | **              |                                                                                    |         |                             |
| 7.9                    | 159837         | 1.00           | 223.77 | 17360           | 25850           | 17360           | **              |                                                                                    |         |                             |
| 9.2                    | 138251         | 1.20           | 193.55 | 19400           | 26330           | 19400           | 26330           |                                                                                    |         |                             |
| 10                     | 121951         | 1.35           | 170.73 | 20640           | 26660           | 20640           | 26660           |                                                                                    |         |                             |
| 12                     | 104737         | 1.55           | 146.63 | 21740           | 27020           | 21740           | 27020           |                                                                                    |         |                             |
| 14                     | 88908          | 1.80           | 124.47 | 22550           | 27360           | 22550           | 27360           |                                                                                    |         |                             |
| 15                     | 87144          | 1.85           | 122.00 | 22620           | 27380           | 22620           | 27380           |                                                                                    |         |                             |
| 16                     | 76901          | 2.10           | 107.66 | 23040           | 27610           | 23040           | 27610           |                                                                                    |         |                             |
| 18                     | 72308          | 2.25           | 101.23 | 23220           | 27700           | 23220           | 27700           |                                                                                    |         |                             |
| 19                     | 67836          | 2.35           | 94.97  | 23380           | 27790           | 23380           | 27790           |                                                                                    |         |                             |
| 22                     | 58258          | 2.75           | 81.56  | 23690           | 27990           | 23690           | 27990           |                                                                                    |         |                             |
| 9.2                    | 137430         | 0.85           | 192.40 | 13490           | 18520           | **              | **              | FH123-22P-160L-04F                                                                 | 1206    | 312                         |
| 11                     | 118380         | 1.00           | 165.73 | 15440           | 19000           | 15440           | **              |                                                                                    |         |                             |
| 12                     | 101944         | 1.15           | 142.72 | 16770           | 19400           | 16770           | 19400           |                                                                                    |         |                             |
| 14                     | 89051          | 1.30           | 124.67 | 17600           | 19720           | 17600           | 19720           |                                                                                    |         |                             |
| 15                     | 86301          | 1.35           | 120.82 | 17780           | 19780           | 17780           | 19780           |                                                                                    |         |                             |
| 16                     | 76922          | 1.50           | 107.69 | 18280           | 20010           | 18280           | 20010           |                                                                                    |         |                             |
| 17                     | 75244          | 1.55           | 105.34 | 18340           | 20050           | 18340           | 20050           |                                                                                    |         |                             |
| 20                     | 64815          | 1.80           | 90.74  | 18820           | 20320           | 18820           | 20320           |                                                                                    |         |                             |
| 23                     | 55815          | 2.10           | 78.14  | 19150           | 20550           | 19150           | 20550           |                                                                                    |         |                             |
| 24                     | 52343          | 2.20           | 73.28  | 19270           | 20610           | 19270           | 20610           |                                                                                    |         |                             |
| 26                     | 48758          | 2.40           | 68.26  | 19380           | 20700           | 19380           | 20700           |                                                                                    |         |                             |
| 30                     | 42115          | 2.75           | 58.96  | 19560           | 20880           | 19560           | 20880           |                                                                                    |         |                             |
| 44                     | 28557          | 2.40           | 39.98  | 19850           | 21220           | 19850           | 21220           | FH122-22P-160L-04F                                                                 | 1116    | 312                         |
| 93                     | 13700          | 2.40           | 19.18  | 16660           | 21540           | 16660           | 21540           |                                                                                    |         |                             |
| 15                     | 86229          | 0.85           | 120.72 | 7800            | 13080           | **              | **              | FH103-22P-160L-04F                                                                 | 897     | 308                         |
| 16                     | 77336          | 0.95           | 108.27 | 9330            | 13350           | **              | **              |                                                                                    |         |                             |
| 17                     | 72915          | 1.00           | 102.08 | 9940            | 13470           | 9940            | **              |                                                                                    |         |                             |
| 19                     | 67129          | 1.10           | 93.98  | 10630           | 13620           | 10630           | 13620           |                                                                                    |         |                             |
| 21                     | 59501          | 1.20           | 83.30  | 11420           | 13850           | 11420           | 13850           |                                                                                    |         |                             |
| 22                     | 58001          | 1.25           | 81.20  | 11560           | 13890           | 11560           | 13890           |                                                                                    |         |                             |
| 26                     | 49636          | 1.45           | 69.49  | 12230           | 14140           | 12230           | 14140           |                                                                                    |         |                             |
| 30                     | 42872          | 1.70           | 60.02  | 12680           | 14320           | 12680           | 14320           |                                                                                    |         |                             |
| 35                     | 36250          | 2.00           | 50.75  | 13060           | 14520           | 13060           | 14520           |                                                                                    |         |                             |
| 43                     | 29579          | 2.40           | 41.41  | 13350           | 14700           | 13350           | 14700           |                                                                                    |         |                             |
| 53                     | 24000          | 2.95           | 33.60  | 13560           | 14860           | 13560           | 14860           |                                                                                    |         |                             |
| 42                     | 30529          | 1.90           | 42.74  | 13310           | 14680           | 13310           | 14680           | FH102-22P-160L-04F                                                                 | 840     | 308                         |
| 48                     | 26615          | 2.40           | 37.26  | 13470           | 14790           | 13470           | 14790           |                                                                                    |         |                             |
| 80                     | 15814          | 1.90           | 22.14  | 12000           | 15040           | 12000           | 15040           |                                                                                    |         |                             |
| 92                     | 13786          | 2.40           | 19.30  | 11420           | 15110           | 11420           | 15110           |                                                                                    |         |                             |
| 26                     | 49229          | 0.85           | 68.92  | 4070            | 6470            | **              | **              | FH093-22P-160L-04F                                                                 | 690     | 304                         |
| 31                     | 41422          | 1.00           | 57.99  | 5930            | 8700            | **              | **              |                                                                                    |         |                             |
| 33                     | 38493          | 1.05           | 53.89  | 6430            | 8810            | 6430            | 8810            |                                                                                    |         |                             |
| 35                     | 35736          | 1.15           | 50.03  | 6830            | 8900            | 6830            | 8900            |                                                                                    |         |                             |
| 42                     | 29979          | 1.35           | 41.97  | 7530            | 9100            | 7530            | 9100            |                                                                                    |         |                             |
| 52                     | 24372          | 1.55           | 34.12  | 8050            | 9280            | 8050            | 9280            |                                                                                    |         |                             |
| 67                     | 19057          | 1.85           | 26.68  | 8430            | 9460            | 8430            | 9460            |                                                                                    |         |                             |
| 52                     | 24379          | 1.65           | 34.13  | 8050            | 9280            | 8050            | 9280            |                                                                                    |         |                             |
| 60                     | 21164          | 1.90           | 29.63  | 8300            | 9400            | 8300            | 9400            | FH092-22P-160L-04F                                                                 | 659     | 304                         |
| 69                     | 18286          | 2.20           | 25.60  | 8480            | 9490            | 8480            | 9490            |                                                                                    |         |                             |
| 81                     | 15650          | 2.55           | 21.91  | 8610            | 9580            | 8610            | 9580            |                                                                                    |         |                             |
| 94                     | 13514          | 2.95           | 18.92  | 8700            | 9670            | 8700            | 9670            |                                                                                    |         |                             |
| 106                    | 11993          | 2.00           | 16.79  | 8770            | 9670            | 8770            | 9670            |                                                                                    |         |                             |
| 122                    | 10407          | 2.30           | 14.57  | 8480            | 9710            | 8480            | 9710            |                                                                                    |         |                             |
| 141                    | 8993           | 2.65           | 12.59  | 8030            | 9780            | 8030            | 9780            |                                                                                    |         |                             |
| 49                     | 25729          | 0.85           | 36.02  | 4470            | 7940            | **              | **              | FH083-22P-160L-04F                                                                 | 571     | 300                         |
| 60                     | 21093          | 0.95           | 29.53  | 5280            | 9280            | **              | **              |                                                                                    |         |                             |

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**P<sub>N</sub> = 20 hp**

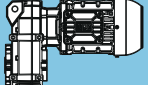
| 60 Hz           |                | f <sub>B</sub> | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |                           |     |     |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|---------------------------|-----|-----|
| n <sub>60</sub> | T <sub>2</sub> |                |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |                           |     |     |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                                |                           |     |     |
| <b>59</b>       | 21429          | 1.25           | 30.00 | 5220            | 9260            | 4700            | 1960            | <b>FH082-22P-160L-04F</b>                                                           | 551     | 300                            |                           |     |     |
| <b>68</b>       | 18536          | 1.45           | 25.95 | 5620            | 9370            | 4340            | 2070            |                                                                                     |         |                                |                           |     |     |
| <b>80</b>       | 15772          | 1.70           | 22.08 | 5910            | 9490            | 3960            | 2180            |                                                                                     |         |                                |                           |     |     |
| <b>94</b>       | 13422          | 2.00           | 18.79 | 6110            | 9580            | 3640            | 2270            |                                                                                     |         |                                |                           |     |     |
| <b>110</b>      | 11579          | 2.30           | 16.21 | 6250            | 9670            | 3370            | 2360            |                                                                                     |         |                                |                           |     |     |
| <b>125</b>      | 10129          | 1.55           | 14.18 | 6340            | 9670            | 3260            | 2360            |                                                                                     |         |                                |                           |     |     |
| <b>131</b>      | 9714           | 2.75           | 13.60 | 6360            | 9730            | 3080            | 2430            |                                                                                     |         |                                |                           |     |     |
| <b>145</b>      | 8764           | 1.80           | 12.27 | 6410            | 9710            | 3010            | 2410            |                                                                                     |         |                                |                           |     |     |
| <b>170</b>      | 7457           | 2.10           | 10.44 | 6470            | 9780            | 2790            | 2470            |                                                                                     |         |                                |                           |     |     |
| <b>200</b>      | 6343           | 2.50           | 8.88  | 6520            | 9820            | 2590            | 2520            |                                                                                     |         |                                |                           |     |     |
| <b>232</b>      | 5471           | 2.90           | 7.66  | 6540            | 9870            | 2410            | 2560            |                                                                                     |         |                                |                           |     |     |
| <b>80</b>       | 15750          | 0.85           | 22.05 | 2900            | 3440            | **              | **              |                                                                                     |         |                                | <b>FH072-22P-160L-04F</b> | 463 | 298 |
| <b>94</b>       | 13493          | 1.00           | 18.89 | 3440            | 3570            | 2320            | **              |                                                                                     |         |                                |                           |     |     |
| <b>110</b>      | 11486          | 1.20           | 16.08 | 3800            | 3660            | 2340            | 1150            |                                                                                     |         |                                |                           |     |     |
| <b>132</b>      | 9636           | 1.40           | 13.49 | 4050            | 3780            | 2320            | 1240            |                                                                                     |         |                                |                           |     |     |
| <b>156</b>      | 8114           | 1.65           | 11.36 | 4230            | 3840            | 2200            | 1330            |                                                                                     |         |                                |                           |     |     |
| <b>175</b>      | 7243           | 1.40           | 10.14 | 4290            | 3730            | 2160            | 1190            |                                                                                     |         |                                |                           |     |     |
| <b>190</b>      | 6657           | 2.00           | 9.32  | 4340            | 3930            | 2000            | 1390            |                                                                                     |         |                                |                           |     |     |
| <b>204</b>      | 6207           | 1.60           | 8.69  | 4380            | 3800            | 2000            | 1280            |                                                                                     |         |                                |                           |     |     |
| <b>240</b>      | 5286           | 1.90           | 7.40  | 4450            | 3870            | 1840            | 1350            |                                                                                     |         |                                |                           |     |     |
| <b>286</b>      | 4436           | 2.25           | 6.21  | 4410            | 3930            | 1660            | 1420            |                                                                                     |         |                                |                           |     |     |
| <b>339</b>      | 3736           | 2.65           | 5.23  | 4160            | 3980            | 1530            | 1460            |                                                                                     |         |                                |                           |     |     |
| <b>137</b>      | 9279           | 0.80           | 12.99 | **              | **              | **              | **              | <b>FH062-22P-160L-04F</b>                                                           | 412     | 296                            |                           |     |     |
| <b>149</b>      | 8507           | 0.90           | 11.91 | 1420            | 2110            | **              | **              |                                                                                     |         |                                |                           |     |     |
| <b>166</b>      | 7643           | 0.95           | 10.70 | 1780            | 2790            | **              | **              |                                                                                     |         |                                |                           |     |     |
| <b>181</b>      | 7007           | 1.05           | 9.81  | 1980            | 2830            | 1600            | 610             |                                                                                     |         |                                |                           |     |     |
| <b>280</b>      | 4536           | 1.15           | 6.35  | 2500            | 2920            | 1460            | 670             |                                                                                     |         |                                |                           |     |     |
| <b>331</b>      | 3829           | 1.35           | 5.36  | 2590            | 2990            | 1460            | 760             |                                                                                     |         |                                |                           |     |     |
| <b>402</b>      | 3150           | 1.65           | 4.41  | 2650            | 3080            | 1350            | 830             |                                                                                     |         |                                |                           |     |     |

**F**

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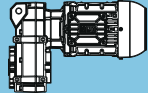
**P<sub>N</sub> = 25 hp**

| 60 Hz           |                | f <sub>B</sub> | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |        | F <sub>FN</sub> | F <sub>FN</sub> | F <sub>FN</sub> | F <sub>FN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 7.9             | 197133         | 0.85           | 223.77 | 12160           | 20190           | **              | **              | FH153-22P-180M-04E                                                                 | 1744    | 316                         |
| 9.2             | 170510         | 0.95           | 193.55 | 16190           | 25650           | **              | **              |                                                                                    |         |                             |
| 10              | 150406         | 1.10           | 170.73 | 18370           | 26080           | 18370           | 26080           |                                                                                    |         |                             |
| 12              | 129175         | 1.25           | 146.63 | 20170           | 26500           | 20170           | 26500           |                                                                                    |         |                             |
| 14              | 109653         | 1.50           | 124.47 | 21470           | 26930           | 21470           | 26930           |                                                                                    |         |                             |
| 15              | 107477         | 1.50           | 122.00 | 21580           | 26980           | 21580           | 26980           |                                                                                    |         |                             |
| 16              | 94844          | 1.70           | 107.66 | 22280           | 27250           | 22280           | 27250           |                                                                                    |         |                             |
| 18              | 89180          | 1.80           | 101.23 | 22550           | 27360           | 22550           | 27360           |                                                                                    |         |                             |
| 19              | 83665          | 1.95           | 94.97  | 22800           | 27470           | 22800           | 27470           |                                                                                    |         |                             |
| 21              | 74371          | 2.15           | 84.42  | 23160           | 27670           | 23160           | 27670           |                                                                                    |         |                             |
| 22              | 71851          | 2.25           | 81.56  | 23250           | 27720           | 23250           | 27720           |                                                                                    |         |                             |
| 24              | 63923          | 2.50           | 72.56  | 23520           | 27880           | 23520           | 27880           |                                                                                    |         |                             |
| 26              | 59782          | 2.70           | 67.86  | 23650           | 27970           | 23650           | 27970           |                                                                                    |         |                             |
| 11              | 146002         | 0.80           | 165.73 | **              | **              | **              | **              | FH123-22P-180M-04E                                                                 | 1237    | 312                         |
| 12              | 125731         | 0.95           | 142.72 | 14790           | 18820           | **              | **              |                                                                                    |         |                             |
| 14              | 109829         | 1.05           | 124.67 | 16210           | 19220           | 16210           | 19220           |                                                                                    |         |                             |
| 16              | 94871          | 1.25           | 107.69 | 17270           | 19580           | 17270           | 19580           |                                                                                    |         |                             |
| 17              | 92800          | 1.25           | 105.34 | 17400           | 19630           | 17400           | 19630           |                                                                                    |         |                             |
| 20              | 79938          | 1.45           | 90.74  | 18140           | 19940           | 18140           | 19940           |                                                                                    |         |                             |
| 23              | 68838          | 1.70           | 78.14  | 18660           | 20230           | 18660           | 20230           |                                                                                    |         |                             |
| 24              | 64557          | 1.80           | 73.28  | 18840           | 20320           | 18840           | 20320           |                                                                                    |         |                             |
| 26              | 60134          | 1.95           | 68.26  | 19000           | 20440           | 19000           | 20440           |                                                                                    |         |                             |
| 29              | 53069          | 2.20           | 60.24  | 19240           | 20610           | 19240           | 20610           |                                                                                    |         |                             |
| 30              | 51941          | 2.25           | 58.96  | 19290           | 20640           | 19290           | 20640           |                                                                                    |         |                             |
| 35              | 45052          | 2.50           | 51.14  | 19490           | 20820           | 19490           | 20820           |                                                                                    |         |                             |
| 36              | 42956          | 2.55           | 48.76  | 19540           | 20860           | 19540           | 20860           |                                                                                    |         |                             |
| 44              | 35344          | 2.90           | 40.12  | 19720           | 21040           | 19720           | 21040           |                                                                                    |         |                             |
| 44              | 35221          | 1.95           | 39.98  | 19720           | 21040           | 19720           | 21040           | FH122-22P-180M-04E                                                                 | 1146    | 312                         |
| 52              | 30331          | 2.95           | 34.43  | 19810           | 21180           | 19810           | 21180           |                                                                                    |         |                             |
| 93              | 16897          | 1.95           | 19.18  | 16840           | 21450           | 16840           | 21450           |                                                                                    |         |                             |
| 107             | 14553          | 2.95           | 16.52  | 16050           | 21510           | 16050           | 21510           |                                                                                    |         |                             |
| 17              | 89928          | 0.80           | 102.08 | **              | **              | **              | **              | FH103-22P-180M-04E                                                                 | 928     | 308                         |
| 19              | 82793          | 0.90           | 93.98  | 8500            | 13200           | **              | **              |                                                                                    |         |                             |
| 21              | 73384          | 1.00           | 83.30  | 9910            | 13470           | **              | **              |                                                                                    |         |                             |
| 22              | 71534          | 1.00           | 81.20  | 10140           | 13510           | 10140           | **              |                                                                                    |         |                             |
| 26              | 61218          | 1.20           | 69.49  | 11290           | 13800           | 11290           | 13800           |                                                                                    |         |                             |
| 30              | 52875          | 1.35           | 60.02  | 12000           | 14050           | 12000           | 14050           |                                                                                    |         |                             |
| 33              | 47537          | 1.50           | 53.96  | 12390           | 14210           | 12390           | 14210           |                                                                                    |         |                             |
| 35              | 44709          | 1.60           | 50.75  | 12590           | 14280           | 12590           | 14280           |                                                                                    |         |                             |
| 43              | 36481          | 1.95           | 41.41  | 13040           | 14520           | 13040           | 14520           |                                                                                    |         |                             |
| 53              | 29600          | 2.40           | 33.60  | 13350           | 14700           | 13350           | 14700           |                                                                                    |         |                             |
| 66              | 23636          | 2.80           | 26.83  | 12990           | 14880           | 12990           | 14880           |                                                                                    |         |                             |
| 48              | 32825          | 1.95           | 37.26  | 13220           | 14610           | 13220           | 14610           | FH102-22P-180M-04E                                                                 | 871     | 308                         |
| 55              | 28279          | 2.55           | 32.10  | 13400           | 14750           | 13400           | 14750           |                                                                                    |         |                             |
| 64              | 24350          | 2.95           | 27.64  | 13150           | 14860           | 13150           | 14860           |                                                                                    |         |                             |
| 92              | 17003          | 1.95           | 19.30  | 11620           | 15020           | 11620           | 15020           |                                                                                    |         |                             |
| 107             | 14650          | 2.95           | 16.63  | 11020           | 15080           | 11020           | 15080           |                                                                                    |         |                             |
| 60              | 26103          | 1.55           | 29.63  | 7910            | 9240            | 7910            | 9240            | FH092-22P-180M-04E                                                                 | 690     | 304                         |
| 69              | 22553          | 1.80           | 25.60  | 8210            | 9350            | 8210            | 9350            |                                                                                    |         |                             |
| 81              | 19302          | 2.10           | 21.91  | 8410            | 9460            | 8410            | 9460            |                                                                                    |         |                             |
| 94              | 16668          | 2.40           | 18.92  | 8570            | 9550            | 8570            | 9550            |                                                                                    |         |                             |
| 111             | 14095          | 2.85           | 16.00  | 8680            | 9640            | 8680            | 9640            |                                                                                    |         |                             |
| 122             | 12836          | 1.85           | 14.57  | 8680            | 9620            | 8680            | 9620            |                                                                                    |         |                             |
| 141             | 11091          | 2.15           | 12.59  | 8210            | 9690            | 8210            | 9690            |                                                                                    |         |                             |
| 165             | 9497           | 2.50           | 10.78  | 7730            | 9760            | 7730            | 9760            |                                                                                    |         |                             |
| 191             | 8202           | 2.90           | 9.31   | 7330            | 9800            | 7330            | 9800            |                                                                                    |         |                             |

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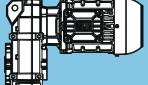
\*\* ... on request

$P_N = 25 \text{ hp}$

| 60 Hz           |                |       | i     | Output shaft   |                | Hollow shaft   |                | <br><b>FH082-22P-180M-04E</b> | m<br>lb | Dimension sheet<br>see page<br>300 |
|-----------------|----------------|-------|-------|----------------|----------------|----------------|----------------|------------------------------------------------------------------------------------------------------------------|---------|------------------------------------|
| $n_{60}$<br>rpm | $T_2$<br>lb-in | $f_B$ |       | $F_{rN}$<br>lb | $F_{aN}$<br>lb | $F_{rN}$<br>lb | $F_{aN}$<br>lb |                                                                                                                  |         |                                    |
| 68              | 22861          | 1.20  |       | 25.95          | 5010           | 9130           | 4340           |                                                                                                                  |         |                                    |
| 80              | 19452          | 1.40  | 22.08 | 5510           | 9350           | 4250           | 2050           |                                                                                                                  |         |                                    |
| 94              | 16553          | 1.65  | 18.79 | 5820           | 9460           | 3890           | 2160           |                                                                                                                  |         |                                    |
| 110             | 14280          | 1.90  | 16.21 | 6050           | 9550           | 3570           | 2250           |                                                                                                                  |         |                                    |
| 131             | 11981          | 2.25  | 13.60 | 6230           | 9640           | 3260           | 2340           |                                                                                                                  |         |                                    |
| 145             | 10809          | 1.45  | 12.27 | 6290           | 9620           | 3190           | 2320           |                                                                                                                  |         |                                    |
| 160             | 9743           | 2.75  | 11.06 | 6360           | 9730           | 2920           | 2430           |                                                                                                                  |         |                                    |
| 170             | 9197           | 1.70  | 10.44 | 6380           | 9710           | 2940           | 2410           |                                                                                                                  |         |                                    |
| 200             | 7823           | 2.00  | 8.88  | 6450           | 9760           | 2700           | 2450           |                                                                                                                  |         |                                    |
| 232             | 6748           | 2.35  | 7.66  | 6500           | 9820           | 2520           | 2520           |                                                                                                                  |         |                                    |
| 276             | 5665           | 2.80  | 6.43  | 6290           | 9870           | 2320           | 2560           |                                                                                                                  |         |                                    |

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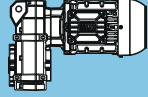
| P <sub>N</sub> = 30 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>aN</sub> | F <sub>rn</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 9.2                    | 202769         | 0.80           | 193.55 | **              | **              | **              | **              | FH153-22P-180L-04F                                                                 | 1790    | 316                         |
| 10                     | 178862         | 0.90           | 170.73 | 15110           | 25470           | **              | **              |                                                                                    |         |                             |
| 12                     | 153614         | 1.05           | 146.63 | 18050           | 26010           | 18050           | 26010           |                                                                                    |         |                             |
| 14                     | 130398         | 1.25           | 124.47 | 20080           | 26480           | 20080           | 26480           |                                                                                    |         |                             |
| 15                     | 127811         | 1.25           | 122.00 | 20260           | 26550           | 20260           | 26550           |                                                                                    |         |                             |
| 16                     | 112788         | 1.45           | 107.66 | 21270           | 26860           | 21270           | 26860           |                                                                                    |         |                             |
| 18                     | 106051         | 1.55           | 101.23 | 21670           | 27000           | 21670           | 27000           |                                                                                    |         |                             |
| 19                     | 99493          | 1.65           | 94.97  | 22030           | 27130           | 22030           | 27130           |                                                                                    |         |                             |
| 21                     | 88441          | 1.85           | 84.42  | 22570           | 27360           | 22570           | 27360           |                                                                                    |         |                             |
| 22                     | 85445          | 1.90           | 81.56  | 22710           | 27430           | 22710           | 27430           |                                                                                    |         |                             |
| 24                     | 76016          | 2.10           | 72.56  | 23090           | 27630           | 23090           | 27630           |                                                                                    |         |                             |
| 26                     | 71092          | 2.25           | 67.86  | 23270           | 27740           | 23270           | 27740           |                                                                                    |         |                             |
| 32                     | 58992          | 2.75           | 56.31  | 23670           | 27990           | 23670           | 27990           |                                                                                    |         |                             |
| 12                     | 149518         | 0.80           | 142.72 | **              | **              | **              | **              | FH123-22P-180L-04F                                                                 | 1283    | 312                         |
| 14                     | 130608         | 0.90           | 124.67 | 14300           | 18700           | **              | **              |                                                                                    |         |                             |
| 16                     | 112819         | 1.05           | 107.69 | 15960           | 19130           | 15960           | **              |                                                                                    |         |                             |
| 17                     | 110357         | 1.05           | 105.34 | 16160           | 19200           | 16160           | 19200           |                                                                                    |         |                             |
| 20                     | 95062          | 1.25           | 90.74  | 17270           | 19580           | 17270           | 19580           |                                                                                    |         |                             |
| 23                     | 81862          | 1.45           | 78.14  | 18030           | 19900           | 18030           | 19900           |                                                                                    |         |                             |
| 24                     | 76770          | 1.50           | 73.28  | 18300           | 20030           | 18300           | 20030           |                                                                                    |         |                             |
| 26                     | 71511          | 1.65           | 68.26  | 18550           | 20170           | 18550           | 20170           |                                                                                    |         |                             |
| 29                     | 63109          | 1.85           | 60.24  | 18880           | 20370           | 18880           | 20370           |                                                                                    |         |                             |
| 30                     | 61768          | 1.90           | 58.96  | 18950           | 20390           | 18950           | 20390           |                                                                                    |         |                             |
| 35                     | 53576          | 2.10           | 51.14  | 19220           | 20590           | 19220           | 20590           |                                                                                    |         |                             |
| 36                     | 51082          | 2.15           | 48.76  | 19310           | 20660           | 19310           | 20660           |                                                                                    |         |                             |
| 44                     | 42031          | 2.45           | 40.12  | 19560           | 20880           | 19560           | 20880           |                                                                                    |         |                             |
| 54                     | 34551          | 2.80           | 32.98  | 19740           | 21060           | 19740           | 21060           |                                                                                    |         |                             |
| 44                     | 41884          | 1.65           | 39.98  | 19560           | 20880           | 19560           | 20880           | FH122-22P-180L-04F                                                                 | 1193    | 312                         |
| 52                     | 36070          | 2.50           | 34.43  | 19690           | 21020           | 19690           | 21020           |                                                                                    |         |                             |
| 93                     | 20094          | 1.65           | 19.18  | 17020           | 21360           | 17020           | 21360           |                                                                                    |         |                             |
| 107                    | 17307          | 2.50           | 16.52  | 16210           | 21420           | 16210           | 21420           |                                                                                    |         |                             |
| 21                     | 87268          | 0.85           | 83.30  | 7640            | 12810           | **              | **              | FH103-22P-180L-04F                                                                 | 974     | 308                         |
| 22                     | 85067          | 0.85           | 81.20  | 8070            | 13130           | **              | **              |                                                                                    |         |                             |
| 26                     | 70809          | 1.00           | 67.59  | 10230           | 13530           | 10230           | **              |                                                                                    |         |                             |
| 30                     | 62879          | 1.15           | 60.02  | 11130           | 13760           | 11130           | 13760           |                                                                                    |         |                             |
| 33                     | 56530          | 1.30           | 53.96  | 11710           | 13940           | 11710           | 13940           |                                                                                    |         |                             |
| 35                     | 53167          | 1.35           | 50.75  | 11980           | 14030           | 11980           | 14030           |                                                                                    |         |                             |
| 43                     | 43382          | 1.65           | 41.41  | 12660           | 14320           | 12660           | 14320           |                                                                                    |         |                             |
| 53                     | 35200          | 2.00           | 33.60  | 13110           | 14550           | 13110           | 14550           |                                                                                    |         |                             |
| 66                     | 28108          | 2.35           | 26.83  | 13240           | 14750           | 13240           | 14750           |                                                                                    |         |                             |
| 48                     | 39035          | 1.65           | 37.26  | 12900           | 14430           | 12900           | 14430           | FH102-22P-180L-04F                                                                 | 917     | 308                         |
| 55                     | 33629          | 2.15           | 32.10  | 13170           | 14590           | 13170           | 14590           |                                                                                    |         |                             |
| 64                     | 28956          | 2.45           | 27.64  | 13380           | 14720           | 13380           | 14720           |                                                                                    |         |                             |
| 74                     | 25290          | 2.80           | 24.14  | 12700           | 14840           | 12700           | 14840           |                                                                                    |         |                             |
| 92                     | 20219          | 1.65           | 19.30  | 11820           | 14900           | 11820           | 14900           |                                                                                    |         |                             |
| 107                    | 17422          | 2.45           | 16.63  | 11170           | 14990           | 11170           | 14990           |                                                                                    |         |                             |
| 60                     | 31041          | 1.30           | 29.63  | 7440            | 9060            | 7440            | 9060            | FH092-22P-180L-04F                                                                 | 736     | 304                         |
| 69                     | 26819          | 1.50           | 25.60  | 7850            | 9220            | 7850            | 9220            |                                                                                    |         |                             |
| 81                     | 22954          | 1.75           | 21.91  | 8160            | 9330            | 8160            | 9330            |                                                                                    |         |                             |
| 94                     | 19821          | 2.05           | 18.92  | 8390            | 9440            | 8390            | 9440            |                                                                                    |         |                             |
| 111                    | 16762          | 2.40           | 16.00  | 8570            | 9550            | 8570            | 9550            |                                                                                    |         |                             |
| 122                    | 15264          | 1.60           | 14.57  | 8630            | 9530            | 8630            | 9530            |                                                                                    |         |                             |
| 136                    | 13682          | 2.95           | 13.06  | 8360            | 9640            | 8360            | 9640            |                                                                                    |         |                             |
| 141                    | 13190          | 1.80           | 12.59  | 8390            | 9620            | 8390            | 9620            |                                                                                    |         |                             |
| 165                    | 11293          | 2.10           | 10.78  | 7890            | 9690            | 7890            | 9690            |                                                                                    |         |                             |
| 191                    | 9753           | 2.45           | 9.31   | 7460            | 9730            | 7460            | 9730            |                                                                                    |         |                             |
| 226                    | 8245           | 2.90           | 7.87   | 6990            | 9800            | 6990            | 9800            |                                                                                    |         |                             |

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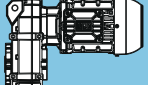
$P_N = 30 \text{ hp}$

| 60 Hz           |                |       | i     | Output shaft   |                | Hollow shaft   |                | <br><b>FH082-22P-180L-04F</b> | m<br>lb | Dimension sheet<br>see page<br>300 |
|-----------------|----------------|-------|-------|----------------|----------------|----------------|----------------|------------------------------------------------------------------------------------------------------------------|---------|------------------------------------|
| $n_{60}$<br>rpm | $T_2$<br>lb-in | $f_B$ |       | $F_{rN}$<br>lb | $F_{aN}$<br>lb | $F_{rN}$<br>lb | $F_{aN}$<br>lb |                                                                                                                  |         |                                    |
| 68              | 27186          | 1.00  |       | 25.95          | 4180           | 7280           | 3960           |                                                                                                                  |         |                                    |
| 80              | 23132          | 1.15  | 22.08 | 4970           | 9010           | 3980           | 1890           |                                                                                                                  |         |                                    |
| 94              | 19685          | 1.35  | 18.79 | 5490           | 9330           | 3960           | 2020           |                                                                                                                  |         |                                    |
| 110             | 16982          | 1.60  | 16.21 | 5800           | 9440           | 3780           | 2140           |                                                                                                                  |         |                                    |
| 131             | 14248          | 1.90  | 13.60 | 6050           | 9550           | 3440           | 2250           |                                                                                                                  |         |                                    |
| 145             | 12854          | 1.25  | 12.27 | 6160           | 9530           | 3370           | 2230           |                                                                                                                  |         |                                    |
| 160             | 11587          | 2.30  | 11.06 | 6250           | 9670           | 3080           | 2360           |                                                                                                                  |         |                                    |
| 170             | 10937          | 1.45  | 10.44 | 6290           | 9620           | 3100           | 2320           |                                                                                                                  |         |                                    |
| 200             | 9303           | 1.70  | 8.88  | 6380           | 9690           | 2830           | 2380           |                                                                                                                  |         |                                    |
| 205             | 9062           | 2.95  | 8.65  | 6380           | 9760           | 2700           | 2450           |                                                                                                                  |         |                                    |
| 232             | 8025           | 1.95  | 7.66  | 6450           | 9760           | 2630           | 2450           |                                                                                                                  |         |                                    |
| 276             | 6736           | 2.35  | 6.43  | 6380           | 9820           | 2410           | 2520           |                                                                                                                  |         |                                    |
| 339             | 5479           | 2.85  | 5.23  | 5910           | 9870           | 2180           | 2560           |                                                                                                                  |         |                                    |

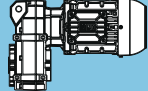
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| P <sub>N</sub> = 40 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>aN</sub> | F <sub>rn</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 12                     | 208885         | 0.80           | 146.63 | **              | **              | **              | **              | FH153-22P-200L-04E                                                                 | 1918    | 316                         |
| 15                     | 173798         | 0.95           | 122.00 | 15870           | 25580           | **              | **              |                                                                                    |         |                             |
| 17                     | 153369         | 1.05           | 107.66 | 18140           | 26010           | 18140           | 26010           |                                                                                    |         |                             |
| 18                     | 144209         | 1.15           | 101.23 | 18970           | 26210           | 18970           | 26210           |                                                                                    |         |                             |
| 19                     | 135292         | 1.20           | 94.97  | 19740           | 26390           | 19740           | 26390           |                                                                                    |         |                             |
| 21                     | 120262         | 1.35           | 84.42  | 20820           | 26710           | 20820           | 26710           |                                                                                    |         |                             |
| 22                     | 116188         | 1.40           | 81.56  | 21090           | 26800           | 21090           | 26800           |                                                                                    |         |                             |
| 25                     | 103367         | 1.55           | 72.56  | 21850           | 27070           | 21850           | 27070           |                                                                                    |         |                             |
| 26                     | 96671          | 1.65           | 67.86  | 22190           | 27200           | 22190           | 27200           |                                                                                    |         |                             |
| 28                     | 89449          | 1.80           | 62.79  | 22550           | 27360           | 22550           | 27360           |                                                                                    |         |                             |
| 32                     | 80218          | 2.00           | 56.31  | 22950           | 27540           | 22950           | 27540           |                                                                                    |         |                             |
| 38                     | 66898          | 2.40           | 46.96  | 23430           | 27830           | 23430           | 27830           |                                                                                    |         |                             |
| 44                     | 57496          | 2.80           | 40.36  | 23720           | 28030           | 23720           | 28030           |                                                                                    |         |                             |
| 49                     | 52054          | 2.65           | 36.54  | 23850           | 28150           | 23850           | 28150           | FH152-22P-200L-04E                                                                 | 1834    | 316                         |
| 103                    | 24716          | 2.65           | 17.35  | 24370           | 28640           | 24370           | 28640           |                                                                                    |         |                             |
| 17                     | 153412         | 0.80           | 107.69 | **              | **              | **              | **              | FH123-22P-200L-04E                                                                 | 1411    | 312                         |
| 20                     | 126872         | 0.95           | 89.06  | 14750           | 18820           | **              | **              |                                                                                    |         |                             |
| 23                     | 111316         | 1.05           | 78.14  | 16120           | 19200           | 16120           | 19200           |                                                                                    |         |                             |
| 24                     | 104393         | 1.15           | 73.28  | 16660           | 19360           | 16660           | 19360           |                                                                                    |         |                             |
| 26                     | 97241          | 1.20           | 68.26  | 17150           | 19540           | 17150           | 19540           |                                                                                    |         |                             |
| 30                     | 85816          | 1.35           | 60.24  | 17830           | 19810           | 17830           | 19810           |                                                                                    |         |                             |
| 35                     | 72853          | 1.55           | 51.14  | 18480           | 20140           | 18480           | 20140           |                                                                                    |         |                             |
| 37                     | 69462          | 1.60           | 48.76  | 18640           | 20210           | 18640           | 20210           |                                                                                    |         |                             |
| 41                     | 62183          | 1.75           | 43.65  | 18930           | 20390           | 18930           | 20390           |                                                                                    |         |                             |
| 44                     | 57154          | 1.80           | 40.12  | 19110           | 20530           | 19110           | 20530           |                                                                                    |         |                             |
| 54                     | 46982          | 2.05           | 32.98  | 19420           | 20770           | 19420           | 20770           |                                                                                    |         |                             |
| 64                     | 39888          | 2.30           | 28.00  | 19630           | 20930           | 19630           | 20930           |                                                                                    |         |                             |
| 74                     | 34047          | 2.60           | 23.90  | 18680           | 21090           | 18680           | 21090           |                                                                                    |         |                             |
| 60                     | 42424          | 2.65           | 29.78  | 19560           | 20880           | 19560           | 20880           | FH122-22P-200L-04E                                                                 | 1321    | 312                         |
| 125                    | 20357          | 2.65           | 14.29  | 15690           | 21330           | 15690           | 21330           |                                                                                    |         |                             |
| 30                     | 85503          | 0.85           | 60.02  | 8050            | 13130           | **              | **              | FH103-22P-200L-04E                                                                 | 1102    | 308                         |
| 33                     | 76870          | 0.95           | 53.96  | 9460            | 13380           | **              | **              |                                                                                    |         |                             |
| 35                     | 72297          | 1.00           | 50.75  | 10090           | 13510           | 10090           | **              |                                                                                    |         |                             |
| 43                     | 58992          | 1.25           | 41.41  | 11510           | 13870           | 11510           | 13870           |                                                                                    |         |                             |
| 53                     | 47866          | 1.50           | 33.60  | 12390           | 14190           | 12390           | 14190           |                                                                                    |         |                             |
| 66                     | 38221          | 1.75           | 26.83  | 12970           | 14480           | 12970           | 14480           |                                                                                    |         |                             |
| 64                     | 39375          | 1.80           | 27.64  | 12900           | 14430           | 12900           | 14430           | FH102-22P-200L-04E                                                                 | 1045    | 308                         |
| 74                     | 34389          | 2.10           | 24.14  | 13150           | 14570           | 13150           | 14570           |                                                                                    |         |                             |
| 85                     | 29717          | 2.40           | 20.86  | 12480           | 14700           | 12480           | 14700           |                                                                                    |         |                             |
| 103                    | 24574          | 2.90           | 17.25  | 11580           | 14860           | 11580           | 14860           |                                                                                    |         |                             |
| 124                    | 20400          | 2.35           | 14.32  | 10930           | 14900           | 10930           | 14900           |                                                                                    |         |                             |
| 142                    | 17821          | 2.70           | 12.51  | 10390           | 14990           | 10390           | 14990           |                                                                                    |         |                             |
| 81                     | 31212          | 1.30           | 21.91  | 7440            | 9060            | 7440            | 9060            | FH092-22P-200L-04E                                                                 | 864     | 304                         |
| 94                     | 26953          | 1.50           | 18.92  | 7850            | 9220            | 7850            | 9220            |                                                                                    |         |                             |
| 111                    | 22793          | 1.75           | 16.00  | 8180            | 9350            | 8180            | 9350            |                                                                                    |         |                             |
| 136                    | 18605          | 2.15           | 13.06  | 8450            | 9490            | 8450            | 9490            |                                                                                    |         |                             |
| 165                    | 15357          | 1.55           | 10.78  | 8230            | 9530            | 8230            | 9530            |                                                                                    |         |                             |
| 168                    | 15086          | 2.65           | 10.59  | 8030            | 9600            | 8030            | 9600            |                                                                                    |         |                             |
| 191                    | 13263          | 1.80           | 9.31   | 7760            | 9620            | 7760            | 9620            |                                                                                    |         |                             |
| 210                    | 12052          | 2.95           | 8.46   | 7350            | 9710            | 7350            | 9710            |                                                                                    |         |                             |
| 226                    | 11211          | 2.15           | 7.87   | 7260            | 9690            | 7260            | 9690            |                                                                                    |         |                             |
| 277                    | 9146           | 2.60           | 6.42   | 6700            | 9780            | 6700            | 9780            |                                                                                    |         |                             |

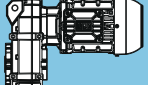
**P<sub>N</sub> = 50 hp**

| 60 Hz           |                | f <sub>B</sub> | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> |                |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                                |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                     |         |                                |
| 17              | 188943         | 0.85           | 107.66 | 13690           | 23430           | **              | **              | FH153-22P-200L-04F                                                                  | 1978    | 316                            |
| 18              | 177659         | 0.90           | 101.23 | 15330           | 25520           | **              | **              |                                                                                     |         |                                |
| 19              | 166672         | 1.00           | 94.97  | 16700           | 25740           | **              | **              |                                                                                     |         |                                |
| 21              | 148157         | 1.10           | 84.42  | 18610           | 26120           | 18610           | 26120           |                                                                                     |         |                                |
| 22              | 143138         | 1.15           | 81.56  | 19060           | 26240           | 19060           | 26240           |                                                                                     |         |                                |
| 25              | 127343         | 1.30           | 72.56  | 20320           | 26570           | 20320           | 26570           |                                                                                     |         |                                |
| 26              | 119094         | 1.35           | 67.86  | 20880           | 26730           | 20880           | 26730           |                                                                                     |         |                                |
| 28              | 110196         | 1.45           | 62.79  | 21450           | 26910           | 21450           | 26910           |                                                                                     |         |                                |
| 32              | 98824          | 1.65           | 56.31  | 22080           | 27160           | 22080           | 27160           |                                                                                     |         |                                |
| 38              | 82415          | 1.95           | 46.96  | 22840           | 27490           | 22840           | 27490           |                                                                                     |         |                                |
| 44              | 70832          | 2.25           | 40.36  | 23290           | 27740           | 23290           | 27740           |                                                                                     |         |                                |
| 51              | 61302          | 2.60           | 34.93  | 23600           | 27940           | 23600           | 27940           |                                                                                     |         |                                |
| 49              | 64128          | 2.15           | 36.54  | 23520           | 27880           | 23520           | 27880           | FH152-22P-200L-04F                                                                  | 1894    | 316                            |
| 103             | 30449          | 2.15           | 17.35  | 24280           | 28510           | 24280           | 28510           |                                                                                     |         |                                |
| 23              | 137136         | 0.85           | 78.14  | 13620           | 18550           | **              | **              | FH123-22P-200L-04F                                                                  | 1470    | 312                            |
| 24              | 128606         | 0.90           | 73.28  | 14550           | 18770           | **              | **              |                                                                                     |         |                                |
| 26              | 119796         | 1.00           | 68.26  | 15400           | 18970           | **              | **              |                                                                                     |         |                                |
| 30              | 105721         | 1.10           | 60.24  | 16550           | 19330           | 16550           | 19330           |                                                                                     |         |                                |
| 35              | 89751          | 1.25           | 51.14  | 17600           | 19720           | 17600           | 19720           |                                                                                     |         |                                |
| 37              | 85574          | 1.30           | 48.76  | 17850           | 19830           | 17850           | 19830           |                                                                                     |         |                                |
| 41              | 76606          | 1.40           | 43.65  | 18300           | 20030           | 18300           | 20030           |                                                                                     |         |                                |
| 44              | 70411          | 1.45           | 40.12  | 18590           | 20190           | 18590           | 20190           |                                                                                     |         |                                |
| 54              | 57880          | 1.70           | 32.98  | 19090           | 20500           | 19090           | 20500           |                                                                                     |         |                                |
| 64              | 49140          | 1.90           | 28.00  | 19380           | 20700           | 19380           | 20700           |                                                                                     |         |                                |
| 75              | 41945          | 2.10           | 23.90  | 19020           | 20880           | 19020           | 20880           |                                                                                     |         |                                |
| 60              | 52264          | 2.15           | 29.78  | 19270           | 20640           | 19270           | 20640           | FH122-22P-200L-04F                                                                  | 1380    | 312                            |
| 68              | 46104          | 2.50           | 26.27  | 19470           | 20790           | 19470           | 20790           |                                                                                     |         |                                |
| 79              | 39593          | 2.90           | 22.56  | 18640           | 20950           | 18640           | 20950           |                                                                                     |         |                                |
| 125             | 25079          | 2.15           | 14.29  | 15960           | 21200           | 15960           | 21200           |                                                                                     |         |                                |
| 141             | 22131          | 2.95           | 12.61  | 15290           | 21290           | 15290           | 21290           |                                                                                     |         |                                |
| 64              | 48508          | 1.50           | 27.64  | 12340           | 14160           | 12340           | 14160           | FH102-22P-200L-04F                                                                  | 1105    | 308                            |
| 74              | 42366          | 1.70           | 24.14  | 12720           | 14340           | 12720           | 14340           |                                                                                     |         |                                |
| 85              | 36609          | 1.95           | 20.86  | 12860           | 14500           | 12860           | 14500           |                                                                                     |         |                                |
| 103             | 30274          | 2.35           | 17.25  | 11910           | 14680           | 11910           | 14680           |                                                                                     |         |                                |
| 124             | 25132          | 1.90           | 14.32  | 11220           | 14750           | 11220           | 14750           |                                                                                     |         |                                |
| 126             | 24903          | 2.85           | 14.19  | 10990           | 14840           | 10990           | 14840           |                                                                                     |         |                                |
| 142             | 21955          | 2.20           | 12.51  | 10630           | 14860           | 10630           | 14860           |                                                                                     |         |                                |
| 153             | 20481          | 3.45           | 11.67  | 10210           | 14970           | 10210           | 14970           |                                                                                     |         |                                |
| 165             | 18954          | 2.55           | 10.80  | 10050           | 14950           | 10050           | 14950           |                                                                                     |         |                                |
| 180             | 17392          | 3.90           | 9.91   | 9600            | 15060           | 9600            | 15060           |                                                                                     |         |                                |
| 199             | 15690          | 3.10           | 8.94   | 9350            | 15060           | 9350            | 15060           |                                                                                     |         |                                |
| 211             | 14830          | 4.40           | 8.45   | 9060            | 15130           | 9060            | 15130           |                                                                                     |         |                                |
| 242             | 12899          | 3.75           | 7.35   | 8700            | 15150           | 8700            | 15150           |                                                                                     |         |                                |
| 295             | 10600          | 4.55           | 6.04   | 8120            | 15220           | 8120            | 15220           |                                                                                     |         |                                |
| 347             | 9003           | 5.35           | 5.13   | 7640            | 14990           | 7640            | 14990           |                                                                                     |         |                                |
| 407             | 7687           | 6.25           | 4.38   | 7240            | 14230           | 7240            | 14230           |                                                                                     |         |                                |

**F**

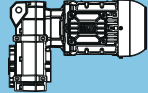
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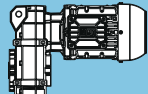
\*\* ... on request

| P <sub>N</sub> = 60 hp |                         |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|-------------------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                         |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub><br>rpm | T <sub>2</sub><br>lb-in | f <sub>B</sub> |       | F <sub>rn</sub> | F <sub>aN</sub> | F <sub>rn</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
|                        |                         |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 19                     | 202710                  | 0.80           | 94.97 | **              | **              | **              | **              | <b>FH153-22P-225S/M-04F</b>                                                        | 2280    | 316                         |
| 21                     | 180191                  | 0.90           | 84.42 | 14990           | 25450           | **              | **              |                                                                                    |         |                             |
| 22                     | 174087                  | 0.95           | 81.56 | 15800           | 25580           | **              | **              |                                                                                    |         |                             |
| 25                     | 154876                  | 1.05           | 72.56 | 17960           | 25990           | 17960           | 25990           |                                                                                    |         |                             |
| 26                     | 144844                  | 1.10           | 67.86 | 18910           | 26190           | 18910           | 26190           |                                                                                    |         |                             |
| 28                     | 134023                  | 1.20           | 62.79 | 19810           | 26420           | 19810           | 26420           |                                                                                    |         |                             |
| 32                     | 120191                  | 1.35           | 56.31 | 20820           | 26710           | 20820           | 26710           |                                                                                    |         |                             |
| 38                     | 100234                  | 1.60           | 46.96 | 22010           | 27130           | 22010           | 27130           |                                                                                    |         |                             |
| 44                     | 86147                   | 1.85           | 40.36 | 22680           | 27430           | 22680           | 27430           |                                                                                    |         |                             |
| 51                     | 74557                   | 2.15           | 34.93 | 23160           | 27670           | 23160           | 27670           |                                                                                    |         |                             |
| 49                     | 77993                   | 1.75           | 36.54 | 23020           | 27580           | 23020           | 27580           | <b>FH152-22P-225S/M-04F</b>                                                        | 2196    | 316                         |
| 64                     | 59445                   | 2.70           | 27.85 | 23650           | 27990           | 23650           | 27990           |                                                                                    |         |                             |
| 103                    | 37033                   | 1.75           | 17.35 | 24190           | 28350           | 24190           | 28350           |                                                                                    |         |                             |
| 26                     | 145698                  | 0.80           | 68.26 | **              | **              | **              | **              | <b>FH123-22P-225S/M-04F</b>                                                        | 1773    | 312                         |
| 30                     | 128580                  | 0.90           | 60.24 | 14550           | 18770           | **              | **              |                                                                                    |         |                             |
| 35                     | 109156                  | 1.05           | 51.14 | 16280           | 19240           | 16280           | **              |                                                                                    |         |                             |
| 37                     | 104076                  | 1.05           | 48.76 | 16660           | 19360           | 16660           | 19360           |                                                                                    |         |                             |
| 41                     | 93169                   | 1.15           | 43.65 | 17400           | 19630           | 17400           | 19630           |                                                                                    |         |                             |
| 44                     | 85635                   | 1.20           | 40.12 | 17850           | 19810           | 17850           | 19810           |                                                                                    |         |                             |
| 54                     | 70394                   | 1.40           | 32.98 | 18590           | 20190           | 18590           | 20190           |                                                                                    |         |                             |
| 64                     | 59765                   | 1.55           | 28.00 | 19020           | 20460           | 19020           | 20460           |                                                                                    |         |                             |
| 75                     | 51014                   | 1.75           | 23.90 | 19310           | 20660           | 19310           | 20660           |                                                                                    |         |                             |
| 60                     | 63564                   | 1.75           | 29.78 | 18880           | 20370           | 18880           | 20370           |                                                                                    |         |                             |
| 68                     | 56072                   | 2.10           | 26.27 | 19150           | 20550           | 19150           | 20550           |                                                                                    |         |                             |
| 79                     | 48153                   | 2.40           | 22.56 | 19060           | 20730           | 19060           | 20730           |                                                                                    |         |                             |
| 95                     | 40064                   | 2.75           | 18.77 | 17760           | 20930           | 17760           | 20930           |                                                                                    |         |                             |
| 125                    | 30501                   | 1.75           | 14.29 | 16280           | 21040           | 16280           | 21040           |                                                                                    |         |                             |
| 141                    | 26916                   | 2.45           | 12.61 | 15560           | 21150           | 15560           | 21150           |                                                                                    |         |                             |
| 165                    | 23116                   | 2.80           | 10.83 | 14700           | 21270           | 14700           | 21270           |                                                                                    |         |                             |
| 64                     | 58996                   | 1.25           | 27.64 | 11510           | 13870           | 11510           | 13870           | <b>FH102-22P-225S/M-04F</b>                                                        | 1407    | 308                         |
| 74                     | 51526                   | 1.40           | 24.14 | 12120           | 14100           | 12120           | 14100           |                                                                                    |         |                             |
| 85                     | 44525                   | 1.60           | 20.86 | 12610           | 14300           | 12610           | 14300           |                                                                                    |         |                             |
| 103                    | 36819                   | 1.95           | 17.25 | 12270           | 14500           | 12270           | 14500           |                                                                                    |         |                             |
| 124                    | 30565                   | 1.55           | 14.32 | 11560           | 14590           | 11560           | 14590           |                                                                                    |         |                             |
| 126                    | 30288                   | 2.35           | 14.19 | 11310           | 14680           | 11310           | 14680           |                                                                                    |         |                             |
| 142                    | 26702                   | 1.80           | 12.51 | 10950           | 14700           | 10950           | 14700           |                                                                                    |         |                             |
| 153                    | 24909                   | 2.80           | 11.67 | 10450           | 14840           | 10450           | 14840           |                                                                                    |         |                             |
| 165                    | 23052                   | 2.10           | 10.80 | 10300           | 14810           | 10300           | 14810           |                                                                                    |         |                             |
| 180                    | 21153                   | 3.20           | 9.91  | 9820            | 14950           | 9820            | 14950           |                                                                                    |         |                             |
| 199                    | 19082                   | 2.55           | 8.94  | 9580            | 14950           | 9580            | 14950           |                                                                                    |         |                             |
| 211                    | 18036                   | 3.65           | 8.45  | 9240            | 15040           | 9240            | 15040           |                                                                                    |         |                             |
| 242                    | 15688                   | 3.10           | 7.35  | 8880            | 15060           | 8880            | 15060           |                                                                                    |         |                             |
| 295                    | 12892                   | 3.75           | 6.04  | 8250            | 15150           | 8250            | 15150           |                                                                                    |         |                             |
| 347                    | 10950                   | 4.40           | 5.13  | 7780            | 15200           | 7780            | 15200           |                                                                                    |         |                             |
| 407                    | 9349                    | 5.15           | 4.38  | 7350            | 14410           | 7350            | 14410           |                                                                                    |         |                             |

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| <b>P<sub>N</sub> = 75 hp</b> |                |                |       |                 |                 |                 |                 |                                                                                     |         |                             |
|------------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|-------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                        |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>              | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                     |         |                             |
| rpm                          | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                     |         |                             |
| 22                           | 212415         | 0.80           | 81.56 | **              | **              | **              | **              | <b>FH153-22P-225S/M-04G</b>                                                         | 2385    | 316                         |
| 25                           | 188975         | 0.85           | 72.56 | 13620           | 23290           | **              | **              |                                                                                     |         |                             |
| 26                           | 176735         | 0.95           | 67.86 | 15420           | 25520           | **              | **              |                                                                                     |         |                             |
| 28                           | 163530         | 1.00           | 62.79 | 17020           | 25810           | 17020           | **              |                                                                                     |         |                             |
| 32                           | 146654         | 1.10           | 56.31 | 18730           | 26150           | 18730           | 26150           |                                                                                     |         |                             |
| 38                           | 122303         | 1.35           | 46.96 | 20660           | 26660           | 20660           | 26660           |                                                                                     |         |                             |
| 44                           | 105114         | 1.55           | 40.36 | 21740           | 27020           | 21740           | 27020           |                                                                                     |         |                             |
| 51                           | 90972          | 1.80           | 34.93 | 22460           | 27310           | 22460           | 27310           |                                                                                     |         |                             |
| 64                           | 72533          | 2.20           | 27.85 | 23220           | 27700           | 23220           | 27700           | <b>FH152-22P-225S/M-04G</b>                                                         | 2302    | 316                         |
| 76                           | 60891          | 2.65           | 23.38 | 23600           | 27940           | 23600           | 27940           |                                                                                     |         |                             |
| 135                          | 34430          | 2.55           | 13.22 | 23810           | 28420           | 23810           | 28420           |                                                                                     |         |                             |
| 35                           | 133189         | 0.85           | 51.14 | 14030           | 18640           | **              | **              | <b>FH123-22P-225S/M-04G</b>                                                         | 1878    | 312                         |
| 37                           | 126991         | 0.90           | 48.76 | 14680           | 18790           | **              | **              |                                                                                     |         |                             |
| 41                           | 113682         | 0.95           | 43.65 | 15920           | 19130           | **              | **              |                                                                                     |         |                             |
| 44                           | 104489         | 1.00           | 40.12 | 16610           | 19360           | 16610           | **              |                                                                                     |         |                             |
| 54                           | 85893          | 1.15           | 32.98 | 17830           | 19810           | 17830           | 19810           |                                                                                     |         |                             |
| 64                           | 72923          | 1.30           | 28.00 | 18480           | 20120           | 18480           | 20120           |                                                                                     |         |                             |
| 75                           | 62245          | 1.45           | 23.90 | 18930           | 20390           | 18930           | 20390           |                                                                                     |         |                             |
| 68                           | 68418          | 1.70           | 26.27 | 18680           | 20230           | 18680           | 20230           | <b>FH122-22P-225S/M-04G</b>                                                         | 1788    | 312                         |
| 79                           | 58755          | 1.95           | 22.56 | 19060           | 20480           | 19060           | 20480           |                                                                                     |         |                             |
| 95                           | 48885          | 2.25           | 18.77 | 18210           | 20730           | 18210           | 20730           |                                                                                     |         |                             |
| 115                          | 40577          | 2.60           | 15.58 | 16930           | 20930           | 16930           | 20930           |                                                                                     |         |                             |
| 137                          | 33831          | 3.00           | 12.99 | 15830           | 21090           | 15830           | 21090           |                                                                                     |         |                             |
| 142                          | 32841          | 2.00           | 12.61 | 15870           | 20970           | 15870           | 20970           |                                                                                     |         |                             |
| 160                          | 29091          | 3.35           | 11.17 | 14930           | 21200           | 14930           | 21200           |                                                                                     |         |                             |
| 165                          | 28206          | 2.30           | 10.83 | 14990           | 21110           | 14990           | 21110           |                                                                                     |         |                             |
| 185                          | 25159          | 3.75           | 9.66  | 14160           | 21290           | 14160           | 21290           |                                                                                     |         |                             |
| 198                          | 23466          | 3.10           | 9.01  | 14010           | 21240           | 14010           | 21240           |                                                                                     |         |                             |
| 239                          | 19455          | 3.70           | 7.47  | 13080           | 21360           | 13080           | 21360           |                                                                                     |         |                             |
| 287                          | 16225          | 4.50           | 6.23  | 12250           | 21450           | 12250           | 21450           |                                                                                     |         |                             |
| 333                          | 13960          | 5.20           | 5.36  | 11620           | 21510           | 11620           | 21510           |                                                                                     |         |                             |
| 385                          | 12084          | 5.65           | 4.64  | 11060           | 21580           | 11060           | 21580           |                                                                                     |         |                             |

| <b>P<sub>N</sub> = 100 hp</b> |                |                |       |                 |                 |                 |                 |                                                                                       |         |                             |
|-------------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|---------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                         |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>               | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                       |         |                             |
| rpm                           | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                       |         |                             |
| 32                            | 200544         | 0.80           | 56.31 | **              | **              | **              | **              | <b>FH153-22P-250S/M-04F</b>                                                           | 2615    | 316                         |
| 38                            | 167245         | 1.00           | 46.96 | 16660           | 25740           | **              | **              |                                                                                       |         |                             |
| 44                            | 143739         | 1.15           | 40.36 | 19020           | 26210           | 19020           | 26210           |                                                                                       |         |                             |
| 51                            | 124401         | 1.30           | 34.93 | 20550           | 26620           | 20550           | 26620           |                                                                                       |         |                             |
| 64                            | 99186          | 1.65           | 27.85 | 22080           | 27160           | 22080           | 27160           | <b>FH152-22P-250S/M-04F</b>                                                           | 2531    | 316                         |
| 76                            | 83266          | 1.95           | 23.38 | 22820           | 27490           | 22820           | 27490           |                                                                                       |         |                             |
| 93                            | 68522          | 2.35           | 19.24 | 23380           | 27790           | 23380           | 27790           |                                                                                       |         |                             |
| 109                           | 58301          | 2.75           | 16.37 | 23690           | 28010           | 23690           | 28010           |                                                                                       |         |                             |
| 135                           | 47082          | 1.85           | 13.22 | 23990           | 28100           | 23990           | 28100           |                                                                                       |         |                             |
| 160                           | 39532          | 2.50           | 11.10 | 22950           | 28280           | 22950           | 28280           |                                                                                       |         |                             |
| 195                           | 32551          | 3.00           | 9.14  | 21400           | 28460           | 21400           | 28460           |                                                                                       |         |                             |

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# Selection tables - Gear units

## Structure of the selection tables

| 1<br>Type                    | 2<br>i | 3<br>T <sub>2max</sub><br>[lb-in] | 4<br>n <sub>2</sub><br>[rpm] | 5<br>i <sub>exact</sub> | 6<br>n <sub>1max</sub><br>[rpm] | 7<br>IEC motor frame size |          |      |      |          |          |          |          |      |      |      |      |      |  |
|------------------------------|--------|-----------------------------------|------------------------------|-------------------------|---------------------------------|---------------------------|----------|------|------|----------|----------|----------|----------|------|------|------|------|------|--|
|                              |        |                                   |                              |                         |                                 | 63                        | 71       | 80   | 90   | 100      | 112      | 132      | 160      | 180  | 200  | 225  | 250  | -    |  |
|                              |        |                                   |                              |                         |                                 | 8<br>IEC adapter          |          |      |      |          |          |          |          |      |      |      |      |      |  |
|                              |        |                                   |                              |                         |                                 | I63                       | I71      | I80  | I90  | I100     | I112     | I132     | I160     | I180 | I200 | I225 | I250 | I280 |  |
| 9<br>NEMA adapter            |        |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
|                              |        |                                   |                              |                         |                                 | N56                       | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | N364 | -    | -    |      |      |  |
| F022                         |        |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| 2 stages                     | 10     |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| n <sub>1</sub> =1750 rpm     | 11     |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| Maximum torque<br>1151 lb-in | 12     |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |

| 1<br>Type | 2<br>i | 13<br>SERVO adapter        |                    |      |      |      |      |      |      |      |                            | 15<br>Input unit       |      |       |       |       |       |        |        |        |  |
|-----------|--------|----------------------------|--------------------|------|------|------|------|------|------|------|----------------------------|------------------------|------|-------|-------|-------|-------|--------|--------|--------|--|
|           |        | n <sub>1max</sub><br>[rpm] | 14<br>Adapter size |      |      |      |      |      |      |      | n <sub>1max</sub><br>[rpm] | 16<br>Input shaft [mm] |      |       |       |       |       |        |        |        |  |
|           |        |                            | S92                | S105 | S114 | S115 | S130 | S141 | S142 | S180 |                            | S189                   | S190 | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
|           |        |                            |                    |      |      |      |      |      |      |      |                            |                        |      |       |       |       |       |        |        |        |  |

- 1 Type of gear unit
- 2 Total ratio
- 3 Permissible output torque at S1 operation ( $f_b = 1.0$ )
- 4 Output speed (gear unit) at  $n_1 = 1750$  rpm
- 5 Exact mathematical ratio
- 6 Maximum permissible input speed gear unit, valid for direct mounting and IEC / NEMA adapter  
Max. perm. input speed IEC / NEMA adapter: I63 - I132 / N56 - N213 = 3000 rpm, I160 - I280 / N254 - N364 = 2500 rpm  
Max. perm. motor speed (Direct mounting): motor frame size 63 - 180 = 3000 rpm, 200 - 250 = 2500 rpm, higher motor speed on request
- 7 Possible motor frame sizes (Direct mounting)
- 8 Possible IEC adapter sizes
- 9 Possible NEMA adapter sizes
- 10 Number of gear stages
- 11 Motor speed
- 12 Maximum torque
- 13 Maximum input speed - SERVO adapter
- 14 Possible SERVO adapter sizes
- 15 Maximum input speed - input unit (higher input speeds on request)
- 16 Possible input shafts of the input unit

| Type         | i     | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |    |     |   |   |   |   |   |   |   |
|--------------|-------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|----|-----|---|---|---|---|---|---|---|
|              |       |                   |                |                    |                   | 63                   | 71       | 80   | 90 | 100 | - | - | - | - | - | - | - |
|              |       | IEC adapter       |                |                    |                   |                      |          |      |    |     |   |   |   |   |   |   |   |
|              |       | 163               | 171            |                    |                   | 180                  | 190      | 1100 | -  | -   | - | - | - | - | - |   |   |
| NEMA adapter |       |                   |                |                    |                   |                      |          |      |    |     |   |   |   |   |   |   |   |
|              |       | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | -  | -   | - | - | - | - | - | - |   |
| F022         | 97.85 | 1151              | 18             | 1957/20            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 88.09 | 1151              | 20             | 969/11             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 76.22 | 1151              | 23             | 3811/50            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 68.62 | 1151              | 26             | 3774/55            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 61.80 | 1151              | 28             | 309/5              | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 55.64 | 1151              | 31             | 612/11             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 48.69 | 1151              | 36             | 2678/55            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 43.83 | 1151              | 40             | 5304/121           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 37.52 | 1151              | 47             | 5253/140           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 33.78 | 1151              | 52             | 2601/77            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 31.79 | 469               | 55             | 1653/52            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 29.32 | 1151              | 60             | 3811/130           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 26.39 | 1151              | 66             | 3774/143           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 24.76 | 743               | 71             | 3219/130           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 21.89 | 1151              | 80             | 1751/80            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 20.08 | 743               | 87             | 261/13             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 19.70 | 1151              | 89             | 867/44             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 18.88 | 1151              | 93             | 1133/60            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 17.00 | 1151              | 103            | 17/1               | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 16.48 | 1151              | 106            | 412/25             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 15.82 | 743               | 111            | 174/11             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 14.84 | 1151              | 118            | 816/55             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 12.19 | 743               | 144            | 4437/364           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 12.09 | 1151              | 145            | 2781/230           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 10.89 | 1151              | 161            | 2754/253           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 9.52  | 743               | 184            | 3219/338           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 7.11  | 743               | 246            | 1479/208           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 6.13  | 743               | 285            | 319/52             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 5.35  | 743               | 327            | 348/65             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 3.93  | 637               | 446            | 2349/598           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
| F032         | 70.17 | 1947              | 25             | 7719/110           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 63.63 | 1947              | 28             | 1909/30            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 57.07 | 1947              | 31             | 2511/44            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 51.75 | 1947              | 34             | 207/4              | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 45.35 | 1947              | 39             | 5487/121           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 41.12 | 1947              | 43             | 1357/33            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 35.03 | 1947              | 50             | 2697/77            | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 31.76 | 1947              | 55             | 667/21             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 27.97 | 1947              | 63             | 3999/143           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 27.67 | 1053              | 63             | 83/3               | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 25.36 | 1947              | 69             | 989/39             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 22.50 | 1301              | 78             | 45/2               | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 21.14 | 1947              | 83             | 465/22             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 19.17 | 1947              | 91             | 115/6              | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 17.88 | 1328              | 98             | 590/33             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 16.06 | 1947              | 109            | 1767/110           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 14.57 | 1947              | 120            | 437/30             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 13.81 | 1328              | 127            | 290/21             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 12.50 | 1947              | 140            | 3162/253           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 11.33 | 1947              | 154            | 34/3               | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 11.03 | 1328              | 159            | 430/39             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 9.76  | 1876              | 179            | 1395/143           | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 8.85  | 1788              | 198            | 115/13             | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
|              | 8.33  | 1328              | 210            | 25/3               | 6000              |                      |          |      |    |     |   |   |   |   |   |   |   |
| 6.33         | 1283  | 276               | 19/3           | 6000               |                   |                      |          |      |    |     |   |   |   |   |   |   |   |
| 4.93         | 1124  | 355               | 340/69         | 6000               |                   |                      |          |      |    |     |   |   |   |   |   |   |   |
| 3.85         | 982   | 455               | 50/13          | 6000               |                   |                      |          |      |    |     |   |   |   |   |   |   |   |





| Type                                                                 | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------------------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|-----|--|----------|--|------|--|--|--|--|--|--|--|--|--|--|--|--|
|                                                                      |        |                   |                |                    |                   | IEC adapter          |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      |        | NEMA adapter      |                |                    |                   |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      |        | [lb-in]           | [rpm]          |                    |                   | [rpm]                | N56 |  | N143/145 |  | N182 |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>F042</b>                                                          | 75.79  | 2850              | 23             | 1819/24            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 stages<br>n <sub>1</sub> =1750 rpm<br>Maximum torque<br>3540 lb-in | 69.14  | 2593              | 25             | 4494/65            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 61.98  | 3540              | 28             | 2975/48            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 56.54  | 3505              | 31             | 735/13             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 48.94  | 3540              | 36             | 1615/33            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 44.64  | 3540              | 39             | 6384/143           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 41.20  | 1549              | 42             | 8239/200           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 37.95  | 3540              | 46             | 2125/56            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 34.62  | 3540              | 51             | 450/13             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 33.69  | 2089              | 52             | 539/16             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 31.06  | 3540              | 56             | 1615/52            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 28.33  | 3540              | 62             | 4788/169           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 26.60  | 2726              | 66             | 133/5              | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 23.91  | 3540              | 73             | 765/32             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 21.81  | 3540              | 80             | 567/26             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 20.63  | 2726              | 85             | 165/8              | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 18.06  | 3540              | 97             | 289/16             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 16.88  | 2726              | 104            | 4389/260           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 16.48  | 3540              | 106            | 1071/65            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 14.78  | 3540              | 118            | 340/23             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 13.48  | 3540              | 130            | 4032/299           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 12.99  | 2726              | 135            | 2079/160           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 11.99  | 3399              | 146            | 935/78             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 10.93  | 3195              | 160            | 1848/169           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 10.03  | 3080              | 174            | 1445/144           | 5600              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 9.82   | 2726              | 178            | 3927/400           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 9.15   | 2894              | 191            | 119/13             | 5600              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 8.13   | 2744              | 215            | 2635/324           | 5000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 8.03   | 2478              | 218            | 924/115            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 7.84   | 2691              | 223            | 2635/336           | 4800              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 7.42   | 2576              | 236            | 868/117            | 5000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.15                                                                 | 2522   | 245               | 93/13          | 4800               |                   |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| 6.52                                                                 | 2186   | 269               | 847/130        | 6000               |                   |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| 5.45                                                                 | 1965   | 321               | 1309/240       | 5600               |                   |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| 4.42                                                                 | 1735   | 396               | 2387/540       | 5000               |                   |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| 4.26                                                                 | 1699   | 411               | 341/80         | 4800               |                   |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| <b>F043</b>                                                          | 422.98 | 3540              | 4.1            | 17765/42           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 stages<br>n <sub>1</sub> =1750 rpm<br>Maximum torque<br>3540 lb-in | 385.85 | 3540              | 4.5            | 5016/13            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 329.48 | 3540              | 5.3            | 6919/21            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 300.55 | 3540              | 5.8            | 19536/65           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 267.14 | 3540              | 6.6            | 1870/7             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 243.69 | 3540              | 7.2            | 3168/13            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 210.48 | 3540              | 8.3            | 4420/21            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 192.00 | 3540              | 9.1            | 192/1              | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 162.19 | 3540              | 11             | 15895/98           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 147.96 | 3540              | 12             | 13464/91           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 126.72 | 3540              | 14             | 34595/273          | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 115.60 | 3540              | 15             | 19536/169          | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 94.61  | 3540              | 18             | 15895/168          | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 86.31  | 3540              | 20             | 1122/13            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 81.63  | 3540              | 21             | 10285/126          | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 74.46  | 3540              | 24             | 968/13             | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 71.24  | 3540              | 25             | 1496/21            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 64.98  | 3540              | 27             | 4224/65            | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 52.27  | 3540              | 33             | 8415/161           | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |
|                                                                      | 47.68  | 3540              | 37             | 14256/299          | 6000              |                      |     |  |          |  |      |  |  |  |  |  |  |  |  |  |  |  |  |

Legend see page 253



| Type | i                            | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |   |   |   |   |
|------|------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|---|---|---|---|
|      |                              |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | - | - | - | - |
|      |                              | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|      |                              | 163               | 171            | 180                | 190               | 1100                 | 1112     | 1132 | -    | -        | -   | -   | - |   |   |   |
|      |                              | NEMA adapter      |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|      |                              | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | - | - | - | - |
| F052 | 87.38                        | 3284              | 20             | 5243/60            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 79.84                        | 3000              | 22             | 10379/130          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 71.46                        | 4434              | 24             | 1715/24            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 65.29                        | 4045              | 27             | 3395/52            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 56.42                        | 5310              | 31             | 1862/33            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 51.55                        | 5284              | 34             | 7372/143           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 48.15                        | 1806              | 36             | 963/20             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 43.75                        | 5310              | 40             | 175/4              | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 39.97                        | 5284              | 44             | 7275/182           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 39.38                        | 2443              | 44             | 315/8              | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 35.81                        | 5310              | 49             | 931/26             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 32.72                        | 5284              | 53             | 5529/169           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 31.09                        | 3186              | 56             | 342/11             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 27.56                        | 5310              | 63             | 441/16             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 25.18                        | 5284              | 69             | 2619/104           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 24.11                        | 3186              | 73             | 675/28             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 20.83                        | 5310              | 84             | 833/40             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 19.73                        | 3186              | 89             | 513/26             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 19.03                        | 5284              | 92             | 4947/260           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 17.04                        | 5310              | 103            | 392/23             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | Maximum torque<br>5310 lb-in | 15.57             | 5284           | 112                | 4656/299          | 6000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 15.19             | 3186           | 115                | 243/16            | 6000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 13.82             | 5310           | 127                | 539/39            | 6000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 12.63             | 5284           | 139                | 2134/169          | 6000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 11.57             | 5310           | 151                | 833/72            | 5600                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 11.48             | 3186           | 153                | 459/40            | 6000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 10.57             | 5169           | 166                | 1649/156          | 5600                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 9.39              | 3186           | 186                | 216/23            | 6000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 9.38              | 4992           | 187                | 1519/162          | 5000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 9.04              | 4939           | 194                | 217/24            | 4800                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 8.57              | 4859           | 204                | 3007/351          | 5000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 8.26              | 4806           | 212                | 3007/364          | 4800                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 7.62              | 3186           | 230                | 99/13             | 6000                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 6.38              | 3186           | 275                | 51/8              | 5600                 |          |      |      |          |     |     |   |   |   |   |
|      |                              | 5.17              | 3186           | 339                | 31/6              | 5000                 |          |      |      |          |     |     |   |   |   |   |
| 4.98 | 3186                         | 351               | 279/56         | 4800               |                   |                      |          |      |      |          |     |     |   |   |   |   |
| F053 | 487.67                       | 5310              | 3.6            | 1463/3             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 445.56                       | 5284              | 3.9            | 40546/91           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 379.87                       | 5310              | 4.6            | 5698/15            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 347.07                       | 5284              | 5.0            | 157916/455         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 308.00                       | 5310              | 5.7            | 308/1              | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 281.41                       | 5284              | 6.2            | 25608/91           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 242.67                       | 5310              | 7.2            | 728/3              | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 221.71                       | 5284              | 7.9            | 1552/7             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 187.00                       | 5310              | 9.4            | 187/1              | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 170.85                       | 5284              | 10             | 108834/637         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 146.10                       | 5310              | 12             | 5698/39            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 133.49                       | 5284              | 13             | 157916/1183        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 109.08                       | 5310              | 16             | 1309/12            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 99.66                        | 5284              | 18             | 18139/182          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 94.11                        | 5310              | 19             | 847/9              | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 85.99                        | 5284              | 20             | 23474/273          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 82.13                        | 5310              | 21             | 1232/15            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 75.04                        | 5284              | 23             | 34144/455          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 60.26                        | 5310              | 29             | 1386/23            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|      | 55.06                        | 5284              | 32             | 115236/2093        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |

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| Type | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |
|------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|
|      |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |
|      |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |
| F052 | 87.38  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 79.84  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 71.46  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 65.29  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 56.42  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 51.55  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 48.15  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 43.75  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 39.97  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 39.38  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 35.81  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 32.72  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 31.09  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 27.56  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 25.18  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 24.11  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 20.83  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 19.73  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 19.03  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 17.04  | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 15.57  | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 15.19  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 13.82  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 12.63  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 11.57  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 11.48  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 10.57  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 9.39   | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 9.38   | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 9.04   | 3200              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 8.57   | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 8.26   | 3200              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 7.62   | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
| 6.38 | 3700   |                   |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |        |
| 5.17 | 3300   |                   |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |        |
| 4.98 | 3200   |                   |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |        |
| F053 | 487.67 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | -                |       |       |       |       |       |        |        |        |
|      | 445.56 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | -                |       |       |       |       |       |        |        |        |
|      | 379.87 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 347.07 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 308.00 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 281.41 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 242.67 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 221.71 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 187.00 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 170.85 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 146.10 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 133.49 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 109.08 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 99.66  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 94.11  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 85.99  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 82.13  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 75.04  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 60.26  | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|      | 55.06  | 4600              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |

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| Type                                                                                        | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |     |   |   |   |
|---------------------------------------------------------------------------------------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|-----|---|---|---|
|                                                                                             |        |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | 160 | - | - | - |
|                                                                                             |        | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             |        | 63                | I71            | I80                | I90               | I100                 | I112     | I132 | -    | -        | -   | -   | -   |   |   |   |
| NEMA adapter                                                                                |        |                   |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             |        | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | -   | - | - |   |
| <b>F062</b><br><br>2 stages<br>n <sub>1</sub> =1750 rpm<br><br>Maximum torque<br>7258 lb-in | 49.67  | 7258              | 35             | 4520/91            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 45.55  | 7258              | 38             | 8927/196           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 41.66  | 7258              | 42             | 7040/169           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 38.20  | 7258              | 46             | 3476/91            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 32.69  | 7258              | 54             | 425/13             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 29.98  | 7258              | 58             | 6715/224           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 25.23  | 7258              | 69             | 328/13             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 23.14  | 7258              | 76             | 3239/140           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 20.87  | 7258              | 84             | 480/23             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 20.49  | 3735              | 85             | 3729/182           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 19.14  | 7258              | 91             | 3081/161           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 17.75  | 7258              | 99             | 3000/169           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 17.18  | 5054              | 102            | 2904/169           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 16.28  | 7258              | 108            | 5925/364           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 15.38  | 7258              | 114            | 200/13             | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 14.11  | 7258              | 124            | 395/28             | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 13.49  | 5054              | 130            | 2805/208           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 12.99  | 7258              | 135            | 1520/117           | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 12.53  | 7258              | 140            | 1140/91            | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 11.91  | 7258              | 147            | 1501/126           | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 11.49  | 7258              | 152            | 4503/392           | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 10.70  | 7258              | 164            | 3200/299           | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 10.41  | 5054              | 168            | 1353/130           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 9.81   | 7258              | 178            | 1580/161           | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 8.61   | 5054              | 203            | 198/23             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 7.32   | 5054              | 239            | 2475/338           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 6.35   | 5054              | 276            | 165/26             | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 5.36   | 5054              | 327            | 209/39             | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 5.17   | 5054              | 339            | 1881/364           | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 4.41   | 5054              | 396            | 1320/299           | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
| <b>F063</b><br><br>3 stages<br>n <sub>1</sub> =1750 rpm<br><br>Maximum torque<br>7258 lb-in | 412.64 | 7258              | 4.2            | 80464/195          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 378.37 | 7258              | 4.6            | 397291/1050        | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 337.44 | 7258              | 5.2            | 13160/39           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 309.42 | 7258              | 5.7            | 3713/12            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 266.44 | 7258              | 6.6            | 114304/429         | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 244.32 | 7258              | 7.2            | 282188/1155        | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 206.59 | 7258              | 8.5            | 18800/91           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 189.44 | 7258              | 9.2            | 18565/98           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 169.09 | 7258              | 10             | 28576/169          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 155.05 | 7258              | 11             | 70547/455          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 130.15 | 7258              | 13             | 1692/13            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 119.35 | 7258              | 15             | 33417/280          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 98.34  | 7258              | 18             | 6392/65            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 90.17  | 7258              | 19             | 63121/700          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 80.48  | 7258              | 22             | 24064/299          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 73.80  | 7258              | 24             | 59408/805          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 65.26  | 7258              | 27             | 33088/507          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 59.84  | 7258              | 29             | 81686/1365         | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 54.63  | 7258              | 32             | 6392/117           | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|                                                                                             | 50.10  | 7258              | 35             | 63121/1260         | 5600              |                      |          |      |      |          |     |     |     |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |  |  |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |  |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |
| <b>F062</b> | 49.67  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 45.55  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 41.66  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 38.20  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 32.69  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 29.98  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 25.23  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 23.14  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 20.87  | 4900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 20.49  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 19.14  | 4900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 17.75  | 4300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 17.18  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 16.28  | 4300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 15.38  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 14.11  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 13.49  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 12.99  | 3500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 12.53  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 11.91  | 3500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 11.49  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 10.70  | 3000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 10.41  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 9.81   | 3000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 8.61   | 4900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 7.32   | 4300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 6.35   | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 5.36   | 3500              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 5.17   | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 4.41   | 3000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
| <b>F063</b> | 412.64 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |  |
|             | 378.37 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |  |
|             | 337.44 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |  |
|             | 309.42 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |  |
|             | 266.44 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |  |
|             | 244.32 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |  |
|             | 206.59 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 189.44 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 169.09 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 155.05 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 130.15 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 119.35 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 98.34  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 90.17  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 80.48  | 4900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 73.80  | 4900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 65.26  | 4300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 59.84  | 4300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 54.63  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |
|             | 50.10  | 3900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |  |

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| Type         | i                             | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |     |   |   |   |
|--------------|-------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|-----|---|---|---|
|              |                               |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | 160 | - | - | - |
|              |                               | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |
|              |                               | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | -   | -   | -   | - | - |   |
| NEMA adapter |                               |                   |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |
|              |                               | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | -   | - | - |   |
| <b>F072</b>  | 45.02                         | 13276             | 39             | 5763/128           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 39.31                         | 13276             | 45             | 629/16             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 34.74                         | 13276             | 50             | 5559/160           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 29.38                         | 13276             | 60             | 2703/92            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 25.25                         | 13276             | 69             | 5253/208           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 22.05                         | 13276             | 79             | 1411/64            | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 20.72                         | 8311              | 84             | 1243/60            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 18.89                         | 13276             | 93             | 170/9              | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 18.21                         | 13276             | 96             | 255/14             | 4800              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 18.09                         | 9762              | 97             | 814/45             | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 16.08                         | 13276             | 109            | 1479/92            | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 15.99                         | 9683              | 109            | 1199/75            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 13.52                         | 9762              | 129            | 4664/345           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 13.49                         | 13276             | 130            | 2805/208           | 3900              |                      |          |      |      |          |     |     |     |   |   |   |
|              | Maximum torque<br>13276 lb-in | 11.62             | 9603           | 151                | 2266/195          | 6000                 |          |      |      |          |     |     |     |   |   |   |
|              |                               | 11.36             | 13276          | 154                | 2091/184          | 3500                 |          |      |      |          |     |     |     |   |   |   |
|              |                               | 10.14             | 9869           | 173                | 913/90            | 5600                 |          |      |      |          |     |     |     |   |   |   |
|              |                               | 9.32              | 13276          | 188                | 969/104           | 3100                 |          |      |      |          |     |     |     |   |   |   |
|              |                               | 8.69              | 9869           | 201                | 704/81            | 5000                 |          |      |      |          |     |     |     |   |   |   |
|              |                               | 8.38              | 8904           | 209                | 176/21            | 4800                 |          |      |      |          |     |     |     |   |   |   |
|              | 7.40                          | 9869              | 237            | 2552/345           | 4400              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 6.21                          | 9869              | 282            | 242/39             | 3900              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 5.23                          | 9869              | 335            | 1804/345           | 3500              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 4.29                          | 9568              | 408            | 836/195            | 3100              |                      |          |      |      |          |     |     |     |   |   |   |
| <b>F073</b>  | 385.37                        | 13276             | 4.5            | 61659/160          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 305.42                        | 13276             | 5.7            | 26877/88           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 237.15                        | 13276             | 7.4            | 4743/20            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 194.58                        | 13276             | 9.0            | 12648/65           | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 150.69                        | 13276             | 12             | 96441/640          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 114.62                        | 13276             | 15             | 45849/400          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 94.52                         | 13276             | 19             | 17391/184          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 77.53                         | 13276             | 23             | 80631/1040         | 6000              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 65.88                         | 13276             | 27             | 527/8              | 5600              |                      |          |      |      |          |     |     |     |   |   |   |
|              | 54.16                         | 13276             | 32             | 19499/360          | 5000              |                      |          |      |      |          |     |     |     |   |   |   |
| 52.23        | 13276                         | 34                | 58497/1120     | 4800               |                   |                      |          |      |      |          |     |     |     |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |
| <b>F072</b> | 45.02  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 39.31  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 34.74  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 29.38  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 25.25  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 22.05  | 4300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 20.72  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 18.89  | 3800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 18.21  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 18.09  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 16.08  | 3400              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 15.99  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 13.52  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 13.49  | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 11.62  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 11.36  | 2700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 10.14  | 4300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 9.32   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2400             |       |       |       |       |       |        |        |        |
|             | 8.69   | 3800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 8.38   | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 7.40   | 3400              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 6.21   | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 5.23   | 2700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 4.29   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2400             |       |       |       |       |       |        |        |        |
| <b>F073</b> | 385.37 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|             | 305.42 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 3000             |       |       |       |       |       |        |        |        |
|             | 237.15 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 194.58 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 150.69 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 114.62 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 94.52  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 77.53  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 65.88  | 4300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 54.16  | 3800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 52.23  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |

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| Type                                 | i                             | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |          |     |     |   |   |   |
|--------------------------------------|-------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|----------|-----|-----|---|---|---|
|                                      |                               |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132      | 160 | 180 | - | - | - |
|                                      |                               | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      |                               | 63                | I71            | I80                | I90               | I100                 | I112     | I132 | I160 | I180     | -        | -        | -   | -   |   |   |   |
| NEMA adapter                         |                               |                   |                |                    |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      |                               | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | -   | -   | - | - |   |
| <b>F082</b>                          | 33.87                         | 24649             | 52             | 6165/182           | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 2 stages<br>n <sub>1</sub> =1750 rpm | 30.00                         | 26552             | 58             | 30/1               | 5600              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 25.95                         | 26552             | 67             | 545/21             | 5000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 22.08                         | 26552             | 79             | 3555/161           | 4400              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 18.79                         | 26552             | 93             | 1710/91            | 3900              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 16.21                         | 26552             | 108            | 2610/161           | 3500              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 16.01                         | 14577             | 109            | 10823/676          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 14.18                         | 15595             | 123            | 553/39             | 5600              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 13.60                         | 26552             | 129            | 2475/182           | 3100              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 12.27                         | 15595             | 143            | 8611/702           | 5000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 11.06                         | 26552             | 158            | 387/35             | 2700              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | Maximum torque<br>26552 lb-in | 10.44             | 15595          | 168                | 6241/598          | 4400                 |          |      |      |          |          |          |     |     |   |   |   |
|                                      |                               | 8.88              | 15595          | 197                | 1501/169          | 3900                 |          |      |      |          |          |          |     |     |   |   |   |
|                                      |                               | 8.65              | 26552          | 202                | 1755/203          | 2300                 |          |      |      |          |          |          |     |     |   |   |   |
|                                      |                               | 7.66              | 15595          | 228                | 2291/299          | 3500                 |          |      |      |          |          |          |     |     |   |   |   |
|                                      |                               | 6.43              | 15595          | 272                | 4345/676          | 3100                 |          |      |      |          |          |          |     |     |   |   |   |
| 5.23                                 |                               | 15595             | 335            | 3397/650           | 2700              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 4.09                                 |                               | 13843             | 428            | 237/58             | 2300              |                      |          |      |      |          |          |          |     |     |   |   |   |
| <b>F083</b>                          | 358.52                        | 26552             | 4.9            | 32625/91           | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 3 stages<br>n <sub>1</sub> =1750 rpm | 283.76                        | 26552             | 6.2            | 127125/448         | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 247.77                        | 26552             | 7.1            | 13875/56           | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 218.97                        | 26552             | 8.0            | 24525/112          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 185.17                        | 26552             | 9.5            | 59625/322          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 180.28                        | 26552             | 9.7            | 114840/637         | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 159.17                        | 26552             | 11             | 115875/728         | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 142.69                        | 26552             | 12             | 55935/392          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 138.95                        | 26552             | 13             | 31125/224          | 5600              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 124.59                        | 26552             | 14             | 6105/49            | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 119.05                        | 26552             | 15             | 2500/21            | 5000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 114.80                        | 26552             | 15             | 5625/49            | 4800              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 110.11                        | 26552             | 16             | 10791/98           | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | 101.32                        | 26552             | 17             | 32625/322          | 4400              |                      |          |      |      |          |          |          |     |     |   |   |   |
|                                      | Maximum torque<br>26552 lb-in | 93.11             | 26552          | 19                 | 104940/1127       | 6000                 |          |      |      |          |          |          |     |     |   |   |   |
|                                      |                               | 84.99             | 26552          | 21                 | 61875/728         | 3900                 |          |      |      |          |          |          |     |     |   |   |   |
| 80.04                                |                               | 26552             | 22             | 50985/637          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 71.62                                |                               | 26083             | 24             | 46125/644          | 3500              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 69.87                                |                               | 25694             | 25             | 13695/196          | 5600              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 59.86                                |                               | 24525             | 29             | 8800/147           | 5000              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 58.72                                |                               | 24579             | 30             | 21375/364          | 3100              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 57.73                                |                               | 24260             | 30             | 19800/343          | 4800              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 50.95                                |                               | 23366             | 34             | 57420/1127         | 4400              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 42.74                                |                               | 22171             | 41             | 27225/637          | 3900              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 36.02                                | 21056                         | 49                | 40590/1127     | 3500               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
| 29.53                                | 19843                         | 59                | 18810/637      | 3100               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| <b>F082</b> | 33.87  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 30.00  | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 25.95  | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 22.08  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 18.79  | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 16.21  | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 16.01  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 14.18  | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 13.60  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 12.27  | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 11.06  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2200             |       |       |       |       |       |        |        |
|             | 10.44  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 8.88   | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 8.65   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1900             |       |       |       |       |       |        |        |
|             | 7.66   | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 6.43   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 5.23   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2200             |       |       |       |       |       |        |        |
|             | 4.09   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1900             |       |       |       |       |       |        |        |
| <b>F083</b> | 358.52 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 283.76 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 247.77 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 218.97 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 185.17 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 180.28 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 159.17 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 142.69 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 138.95 | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 124.59 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 119.05 | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 114.80 | 3900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 110.11 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 101.32 | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 93.11  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 84.99  | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 80.04  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 71.62  | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 69.87  | 4500              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 59.86  | 4000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 58.72  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 57.73  | 3900              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 50.95  | 3600              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 42.74  | 3100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 36.02  | 2800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|             | 29.53  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 |
| <b>F092</b> | 38.65  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 34.13  | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 29.63  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 28.57  | 4100              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 25.60  | 3700              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 21.91  | 3300              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 19.01  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 18.92  | 3000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 16.79  | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 16.00  | -                 |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 14.57  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 14.05  | 4100              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 13.06  | -                 |              |     |      |      |      |      |      |      |      |            | 2300              |                  |       |       |       |       |       |        |
|             | 12.59  | 3700              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 10.78  | 3300              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 10.59  | -                 |              |     |      |      |      |      |      |      |      |            | 2000              |                  |       |       |       |       |       |        |
|             | 9.31   | 3000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 8.46   | -                 |              |     |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |       |        |
|             | 7.87   | -                 |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 6.42   | -                 |              |     |      |      |      |      |      |      |      |            | 2300              |                  |       |       |       |       |       |        |
| 5.21        | -      |                   |              |     |      |      |      |      |      |      |      | 2000       |                   |                  |       |       |       |       |       |        |
| 4.16        | -      |                   |              |     |      |      |      |      |      |      |      | 1800       |                   |                  |       |       |       |       |       |        |
| <b>F093</b> | 288.50 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 243.90 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 211.14 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 186.99 | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 161.76 | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 155.99 | 4100              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 142.85 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 137.63 | 3700              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 120.77 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 117.13 | 3300              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 104.54 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 101.04 | 3000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 92.59  | 4800              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 84.76  | -                 |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 80.09  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 77.23  | 4100              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 68.92  | -                 |              |     |      |      |      |      |      |      |      |            | 2300              |                  |       |       |       |       |       |        |
|             | 68.15  | 3700              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 57.99  | 3300              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 53.89  | -                 |              |     |      |      |      |      |      |      |      |            | 2000              |                  |       |       |       |       |       |        |
|             | 50.03  | 3000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 41.97  | -                 |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |
|             | 34.12  | -                 |              |     |      |      |      |      |      |      |      |            | 2300              |                  |       |       |       |       |       |        |
|             | 26.68  | -                 |              |     |      |      |      |      |      |      |      |            | 2000              |                  |       |       |       |       |       |        |

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| Type                                 | i                             | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|--------------------------------------|-------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|---|---|---|---|--|--|--|--|--|--|--|--|--|
|                                      |                               |                   |                |                    |                   | IEC adapter          |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | NEMA adapter      |                |                    |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | - | - | - | - |  |  |  |  |  |  |  |  |  |
| <b>F094</b>                          | 3086.96                       | 39828             | 0.6            | 8875008/2875       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 4 stages<br>n <sub>1</sub> =1750 rpm | 2609.75                       | 39828             | 0.7            | 6902784/2645       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 2524.38                       | 39828             | 0.7            | 290304/115         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 2134.14                       | 39828             | 0.8            | 1128960/529        | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1993.28                       | 39828             | 0.9            | 12607488/6325      | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1685.14                       | 39828             | 1.0            | 9805824/5819       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1545.54                       | 39828             | 1.1            | 248832/161         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1306.62                       | 39828             | 1.3            | 691200/529         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1264.97                       | 39828             | 1.4            | 9455616/7475       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1069.42                       | 39828             | 1.6            | 7354368/6877       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 973.69                        | 39828             | 1.8            | 559872/575         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 823.17                        | 39828             | 2.1            | 435456/529         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 735.68                        | 39828             | 2.4            | 2115072/2875       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 621.95                        | 39828             | 2.8            | 1645056/2645       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | Maximum torque<br>39828 lb-in | 602.09            | 39828          | 2.9                | 7962624/13225     | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 509.01            | 39828          | 3.4                | 6193152/12167     | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 488.23            | 39828          | 3.6                | 3649536/7475      | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 412.76                               |                               | 39828             | 4.2            | 2838528/6877       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 408.71                               |                               | 39828             | 4.3            | 235008/575         | 5600              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 345.53                               |                               | 39828             | 5.1            | 182784/529         | 5600              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 331.24                               |                               | 39828             | 5.3            | 190464/575         | 5000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 319.41                               |                               | 39828             | 5.5            | 1285632/4025       | 4800              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 280.04                               | 39828                         | 6.2               | 444416/1587    | 5000               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 270.03                               | 39828                         | 6.5               | 142848/529     | 4800               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      |                   | Input unit       |      |       |       |       |       |       |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|-------------------|------------------|------|-------|-------|-------|-------|-------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      | n <sub>1max</sub> | Input shaft [mm] |      |       |       |       |       |       |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 |                   | S189             | S190 | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| <b>F102</b> | 42.74  | 5000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 37.26  | 4500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 35.93  | 4400              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 32.10  | 4000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 27.64  | 3500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 24.14  | 3200              |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 22.14  | 5000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 20.86  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 19.30  | 4500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 18.62  | 4400              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 17.25  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 16.63  | 4000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 14.32  | 3500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 14.19  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 12.51  | 3200              |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 11.67  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 10.80  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 9.91   | -                 |              |     |      |      |      |      |      |      |      |                   | 1700             |      |       |       |       |       |       |        |        |
|             | 8.94   | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 8.45   | -                 |              |     |      |      |      |      |      |      |      |                   | 1500             |      |       |       |       |       |       |        |        |
|             | 7.35   | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 6.04   | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 5.13   | -                 |              |     |      |      |      |      |      |      |      |                   | 1700             |      |       |       |       |       |       |        |        |
|             | 4.38   | -                 |              |     |      |      |      |      |      |      |      |                   | 1500             |      |       |       |       |       |       |        |        |
| <b>F103</b> | 246.57 | 5000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 217.78 | 5000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 189.04 | 4500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 182.29 | 4400              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 163.33 | 4000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 139.78 | 3500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 122.58 | 5000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 120.72 | 3200              |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 108.27 | 5000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 102.08 | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 93.98  | 4500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 90.63  | 4400              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 83.30  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 81.20  | 4000              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 69.49  | 3500              |              |     |      |      |      |      |      |      |      |                   | 2500             |      |       |       |       |       |       |        |        |
|             | 67.59  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 60.02  | 3200              |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 53.96  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 50.75  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 41.41  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 33.60  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |
|             | 26.83  | -                 |              |     |      |      |      |      |      |      |      |                   | 1800             |      |       |       |       |       |       |        |        |

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| Type         | i              | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |     |     |   |   |   |
|--------------|----------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|-----|-----|---|---|---|
|              |                |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132 | 160 | - | - | - |
|              |                | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |                | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | 1160     | -   | -   | - | - | - |
| NEMA adapter |                |                   |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |                | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | -   | -   | - | - | - |
| F104         | 2276.77        | 70806             | 0.8            | 225400/99          | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1976.36        | 70806             | 0.9            | 3521875/1782       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1757.78        | 70806             | 1.0            | 15820/9            | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1707.58        | 70806             | 1.0            | 56350/33           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1525.85        | 70806             | 1.1            | 494375/324         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1474.19        | 70806             | 1.2            | 172480/117         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1318.33        | 70806             | 1.3            | 3955/3             | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1279.68        | 70806             | 1.4            | 1347500/1053       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1156.94        | 70806             | 1.5            | 20825/18           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1105.64        | 70806             | 1.6            | 43120/39           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1004.29        | 70806             | 1.7            | 2603125/2592       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 892.89         | 70806             | 2.0            | 8036/9             | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 867.71         | 70806             | 2.0            | 20825/24           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 775.08         | 70806             | 2.3            | 251125/324         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 738.55         | 70806             | 2.4            | 50960/69           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 669.67         | 70806             | 2.6            | 2009/3             | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 641.10         | 70806             | 2.7            | 398125/621         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 628.21         | 70806             | 2.8            | 24500/39           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | Maximum torque | 553.91            | 70806          | 3.2                | 12740/23          | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              | 70806 lb-in    | 545.32            | 70806          | 3.2                | 765625/1404       | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 544.44            | 70806          | 3.2                | 4900/9            | 5600                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 472.61            | 70806          | 3.7                | 153125/324        | 5600                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 471.15            | 70806          | 3.7                | 6125/13           | 6000                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 459.75            | 70806          | 3.8                | 37240/81          | 5000                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 443.33            | 70806          | 3.9                | 1330/3            | 4800                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 408.33            | 70806          | 4.3                | 1225/3            | 5600                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 399.09            | 70806          | 4.4                | 581875/1458       | 5000                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 384.84            | 70806          | 4.5                | 83125/216         | 4800                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 378.74            | 70806          | 4.6                | 78400/207         | 4400                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 344.81            | 70806          | 5.1                | 9310/27           | 5000                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 332.50            | 70806          | 5.3                | 665/2             | 4800                 |          |      |      |          |          |     |     |   |   |   |
|              |                | 328.77            | 70806          | 5.3                | 612500/1863       | 4400                 |          |      |      |          |          |     |     |   |   |   |
|              | 284.06         | 70806             | 6.2            | 19600/69           | 4400              |                      |          |      |      |          |          |     |     |   |   |   |

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| Type        | i       | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                  |       |       |       |        |        |        |  |  |  |  |  |  |
|-------------|---------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|--|--|
|             |         | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft [mm] |       |       |       |        |        |        |  |  |  |  |  |  |
|             |         |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40            | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |  |  |
| <b>F104</b> | 2276.77 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1976.36 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1757.78 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1707.58 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1525.85 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1474.19 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1318.33 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1279.68 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1156.94 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1105.64 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 1004.29 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 892.89  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 867.71  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 775.08  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 738.55  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 669.67  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 641.10  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 628.21  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 553.91  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 545.32  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 544.44  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 472.61  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 471.15  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 459.75  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 443.33  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 408.33  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 399.09  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 384.84  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 378.74  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 344.81  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 332.50  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 328.77  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |
|             | 284.06  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      |      | Input unit        |                  |       |       |       |       |       |        |        |        |  |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |      | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |
| <b>F122</b> | 39.98  | 4800              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 34.43  | 4200              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 29.78  | 3700              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 26.27  | 3400              |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 22.56  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 19.18  | 4800              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 18.77  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 16.52  | 4200              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 15.58  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 14.29  | 3700              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 12.99  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 12.61  | 3400              |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 11.17  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 10.83  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 9.66   | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1600             |       |       |       |       |       |        |        |        |  |  |
|             | 9.01   | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 7.47   | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 6.23   | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 5.36   | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 4.64   | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1600             |       |       |       |       |       |        |        |        |  |  |
| <b>F123</b> | 220.67 | 5000              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 192.40 | 4800              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 185.53 | 4600              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 165.73 | 4200              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 142.72 | 3700              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 124.67 | 3400              |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 120.82 | 5000              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 107.69 | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 105.34 | 4800              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 101.58 | 4600              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 90.74  | 4200              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 89.06  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 78.14  | 3700              |              |     |      |      |      |      |      |      |      |      |                   | 2500             |       |       |       |       |       |        |        |        |  |  |
|             | 73.28  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 68.26  | 3400              |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 60.24  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 58.96  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 51.14  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 48.76  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 43.65  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1600             |       |       |       |       |       |        |        |        |  |  |
|             | 40.12  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 32.98  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 28.00  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1800             |       |       |       |       |       |        |        |        |  |  |
|             | 23.90  | -                 |              |     |      |      |      |      |      |      |      |      |                   | 1600             |       |       |       |       |       |        |        |        |  |  |

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| Type         | i       | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |     |     |   |   |   |
|--------------|---------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|-----|-----|---|---|---|
|              |         |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132 | 160 | - | - | - |
|              |         | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |         | 163               | 171            |                    | 180               | 190                  | 1100     | 1112 | 1132 | 1160     | -        | -   | -   | - | - |   |
| NEMA adapter |         |                   |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |         | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | -   | -   | - | - | - |
| F124         | 2307.03 | 115060            | 0.8            | 83053/36           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 2011.51 | 115060            | 0.9            | 162932/81          | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1781.14 | 115060            | 1.0            | 4488473/2520       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1732.67 | 115060            | 1.0            | 5198/3             | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1552.98 | 115060            | 1.1            | 628958/405         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1493.78 | 115060            | 1.2            | 873862/585         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1492.05 | 115060            | 1.2            | 58190/39           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1337.70 | 115060            | 1.3            | 140459/105         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1302.43 | 115060            | 1.3            | 6857312/5265       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1172.32 | 115060            | 1.5            | 675257/576         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1151.94 | 115060            | 1.5            | 314479/273         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1121.89 | 115060            | 1.6            | 218768/195         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1022.15 | 115060            | 1.7            | 331177/324         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 966.09  | 115060            | 1.8            | 489808/507         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 904.76  | 115060            | 1.9            | 1628561/1800       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 880.46  | 115060            | 2.0            | 21131/24           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 788.86  | 115060            | 2.2            | 1597442/2025       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 758.19  | 115060            | 2.3            | 236555/312         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 748.37  | 115060            | 2.3            | 22451/30           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 679.51  | 115060            | 2.6            | 50963/75           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 652.50  | 115060            | 2.7            | 88088/135          | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 636.55  | 115060            | 2.7            | 198605/312         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 585.14  | 115060            | 3.0            | 114103/195         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 562.05  | 115060            | 3.1            | 64636/115          | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 555.01  | 115060            | 3.2            | 194810/351         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 551.68  | 115060            | 3.2            | 39721/72           | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 484.00  | 115060            | 3.6            | 484/1              | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 481.01  | 115060            | 3.6            | 38962/81           | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 478.08  | 115060            | 3.7            | 6215/13            | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 465.86  | 115060            | 3.8            | 754699/1620        | 5000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 449.23  | 115060            | 3.9            | 754699/1680        | 4800              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 414.33  | 115060            | 4.2            | 1243/3             | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 411.69  | 115060            | 4.3            | 69575/169          | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 406.19  | 115060            | 4.3            | 1480556/3645       | 5000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 391.68  | 115060            | 4.5            | 52877/135          | 4800              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 383.78  | 115060            | 4.6            | 3454/9             | 4400              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 356.79  | 115060            | 4.9            | 13915/39           | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 349.88  | 115060            | 5.0            | 47234/135          | 5000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 337.39  | 115060            | 5.2            | 23617/70           | 4800              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 334.62  | 115060            | 5.2            | 27104/81           | 4400              |                      |          |      |      |          |          |     |     |   |   |   |
| 301.29       | 115060  | 5.8               | 105754/351     | 5000               |                   |                      |          |      |      |          |          |     |     |   |   |   |
| 290.53       | 115060  | 6.0               | 52877/182      | 4800               |                   |                      |          |      |      |          |          |     |     |   |   |   |
| 288.23       | 115060  | 6.1               | 19888/69       | 4400               |                   |                      |          |      |      |          |          |     |     |   |   |   |
| 248.21       | 115060  | 7.1               | 9680/39        | 4400               |                   |                      |          |      |      |          |          |     |     |   |   |   |

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| Type        | i       | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                     |       |       |       |        |        |        |  |  |  |  |
|-------------|---------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|---------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|
|             |         | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft<br>[mm] |       |       |       |        |        |        |  |  |  |  |
|             |         |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40               | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |
| <b>F124</b> | 2307.03 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |
|             | 2011.51 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |
|             | 1781.14 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1732.67 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |
|             | 1552.98 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1493.78 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1492.05 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 3000  |       |       |        |        |        |  |  |  |  |
|             | 1337.70 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1302.43 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1172.32 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1151.94 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1121.89 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 1022.15 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 966.09  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 904.76  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 880.46  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 788.86  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 758.19  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 748.37  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 679.51  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 652.50  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 636.55  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 585.14  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 562.05  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 555.01  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 551.68  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 484.00  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 481.01  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 478.08  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 465.86  | 4800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 449.23  | 4600                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 414.33  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 411.69  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 406.19  | 4800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 391.68  | 4600                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 383.78  | 4200                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 356.79  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 349.88  | 4800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 337.39  | 4600                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 334.62  | 4200                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 301.29  | 4800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 290.53  | 4600                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 288.23  | 4200                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |
|             | 248.21  | 4200                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |

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| Type  | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |
|-------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|
|       |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |
|       |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| F152  | 36.54  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 27.85  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 23.38  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 19.24  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 17.35  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 16.37  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 14.14  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 13.22  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 12.31  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1700             |       |       |       |       |       |        |        |
|       | 11.10  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 9.14   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 7.77   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 6.71   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
| 5.84  | -      |                   |              |     |      |      |      |      |      |      |      |            | 1700              |                  |       |       |       |       |       |        |        |
| F153  | 259.81 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 223.77 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 193.55 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 170.73 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 146.63 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 144.52 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 124.47 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 122.00 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 107.66 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |
|       | 101.23 | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 94.97  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 84.42  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 81.56  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 72.56  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 67.86  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
|       | 62.79  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1700             |       |       |       |       |       |        |        |
|       | 56.31  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 1800             |       |       |       |       |       |        |        |
| 46.96 | -      |                   |              |     |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |       |        |        |
| 40.36 | -      |                   |              |     |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |       |        |        |
| 34.93 | -      |                   |              |     |      |      |      |      |      |      |      |            | 1700              |                  |       |       |       |       |       |        |        |

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| Type        | i       | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit                 |                  |       |       |       |       |        |        |        |
|-------------|---------|----------------------------|--------------|------|------|------|------|------|------|------|------|----------------------------|------------------|-------|-------|-------|-------|--------|--------|--------|
|             |         | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      | n <sub>1max</sub><br>[rpm] | Input shaft [mm] |       |       |       |       |        |        |        |
|             |         |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 |                            | S190             | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |
| <b>F154</b> | 2318.30 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1996.74 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1834.90 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1727.10 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1602.16 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1580.39 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1415.96 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1379.93 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1366.97 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1219.56 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1197.38 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1193.58 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1054.87 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1031.30 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 1029.25 | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 898.51  | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 892.03  | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 886.48  | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 773.88  | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 769.81  | 4900                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 766.77  | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 742.31  | 4700                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 669.37  | 5000                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 663.03  | 4900                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 655.17  | 4300                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 639.35  | 4700                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 573.49  | 4900                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 564.30  | 4300                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 553.01  | 4700                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 549.60  | 3800                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 488.09  | 4300                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 473.37  | 3800                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 463.14  | 3500                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 409.44  | 3800                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 398.90  | 3500                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 379.72  | -                          |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 345.03  | 3500                       |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 327.05  | -                          |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |
|             | 282.89  | -                          |              |      |      |      |      |      |      |      |      |                            | 2500             |       |       |       |       |        |        |        |

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| Type                                 | i                              | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|--------------------------------------|--------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|---|---|---|---|---|---|--|--|--|--|--|--|
|                                      |                                |                   |                |                    |                   | IEC adapter          |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      |                                | NEMA adapter      |                |                    |                   |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      |                                | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | - | - | - | - | - | - |  |  |  |  |  |  |
| <b>F155</b>                          | 24805.81                       | 159313            | 0.1            | 33859936/1365      | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 20285.13                       | 159313            | 0.1            | 791120/39          | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 5 stages<br>n <sub>1</sub> =1750 rpm | 17143.10                       | 159313            | 0.1            | 5400076/315        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 16017.35                       | 159313            | 0.1            | 4372736/273        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 14018.89                       | 159313            | 0.1            | 126170/9           | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 12419.47                       | 159313            | 0.1            | 7911200/637        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 11069.46                       | 159313            | 0.2            | 697376/63          | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 10164.86                       | 159313            | 0.2            | 12025024/1183      | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 8582.99                        | 159313            | 0.2            | 1261700/147        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 7824.26                        | 159313            | 0.2            | 712008/91          | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 7024.85                        | 159313            | 0.2            | 1917784/273        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 5911.67                        | 159313            | 0.3            | 2689808/455        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 5407.29                        | 159313            | 0.3            | 37851/7            | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | 4838.19                        | 159313            | 0.4            | 10126336/2093      | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      | Maximum torque<br>159313 lb-in | 4085.50           | 159313         | 0.4                | 428978/105        | 6000                 |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
|                                      |                                | 3923.28           | 159313         | 0.4                | 13923712/3549     | 6000                 |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 3343.64                              |                                | 159313            | 0.5            | 1614976/483        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 3284.26                              |                                | 159313            | 0.5            | 2689808/819        | 5600              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 2711.35                              |                                | 159313            | 0.6            | 2220592/819        | 6000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 2661.75                              |                                | 159313            | 0.7            | 19619776/7371      | 5000              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 2566.69                              |                                | 159313            | 0.7            | 4904944/1911       | 4800              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 2269.72                              |                                | 159313            | 0.8            | 428978/189         | 5600              |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 1839.52                              | 159313                         | 1.0               | 3129016/1701   | 5000               |                   |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |
| 1773.82                              | 159313                         | 1.0               | 782254/441     | 4800               |                   |                      |          |      |      |          |   |   |   |   |   |   |  |  |  |  |  |  |

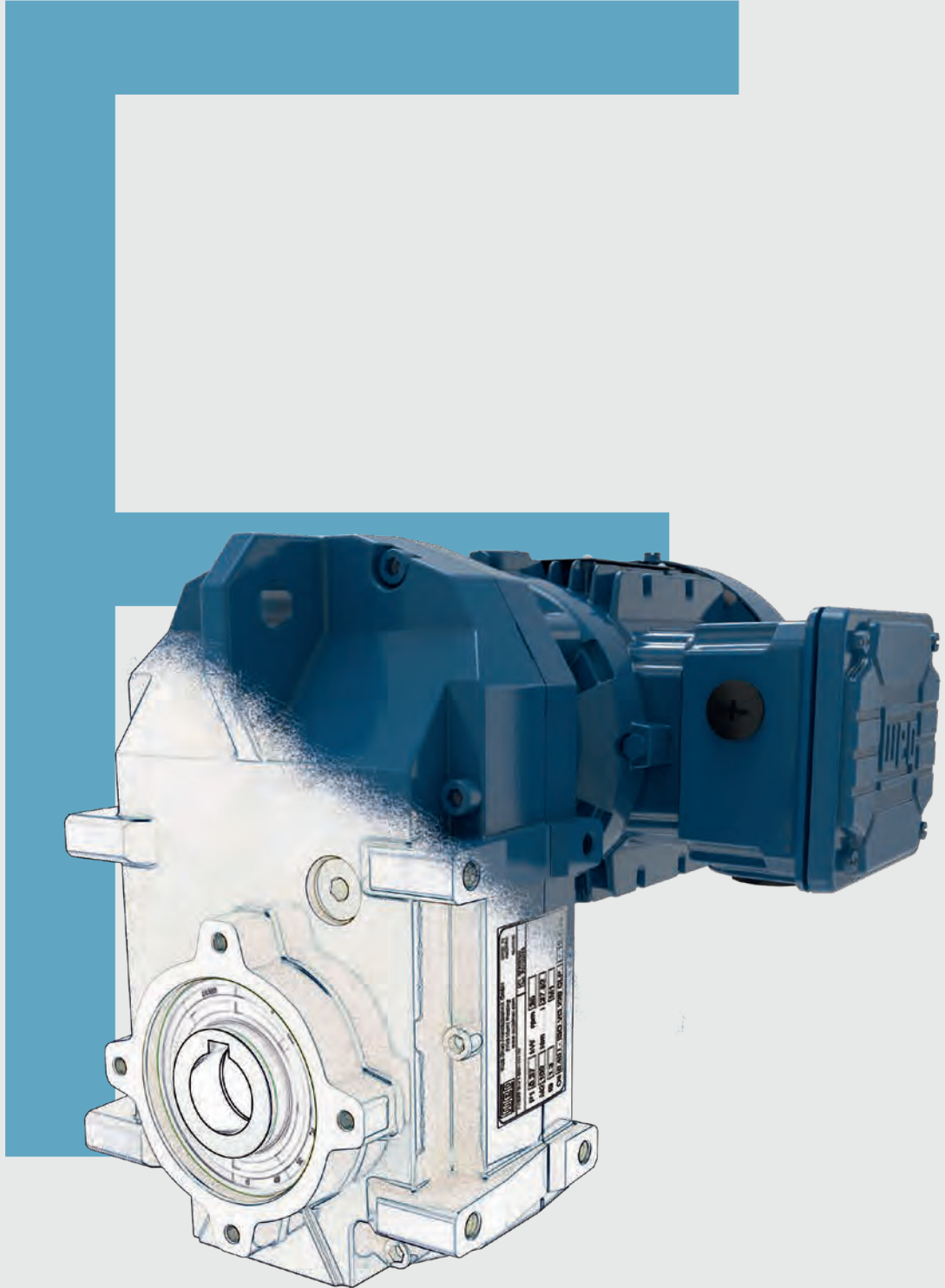
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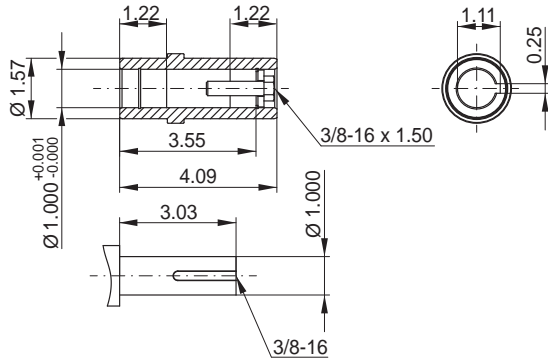
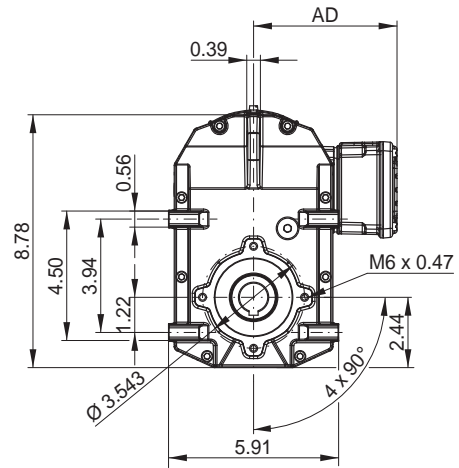
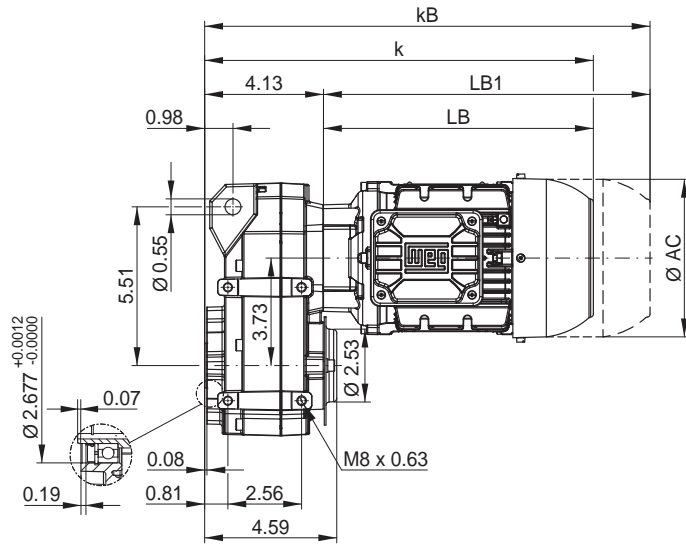




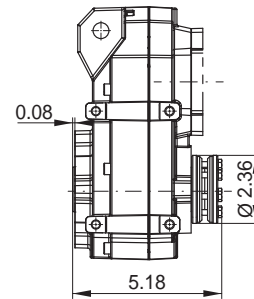
# Dimension sheets - Geared motors



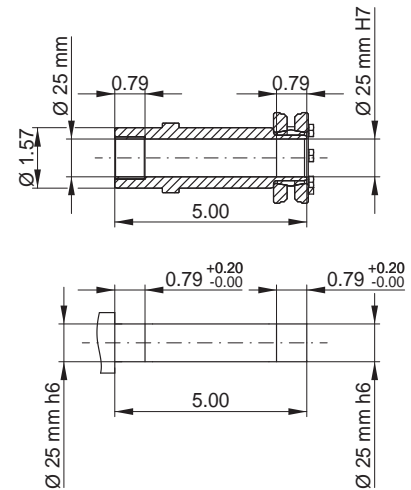
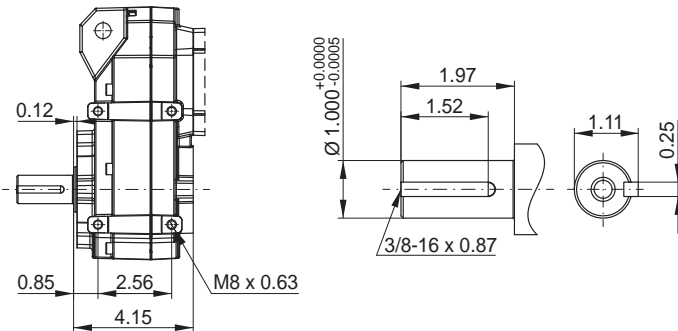
## FH02 - Hollow shaft



## FD02 - Shrink disc \*



## FS02 - Output shaft

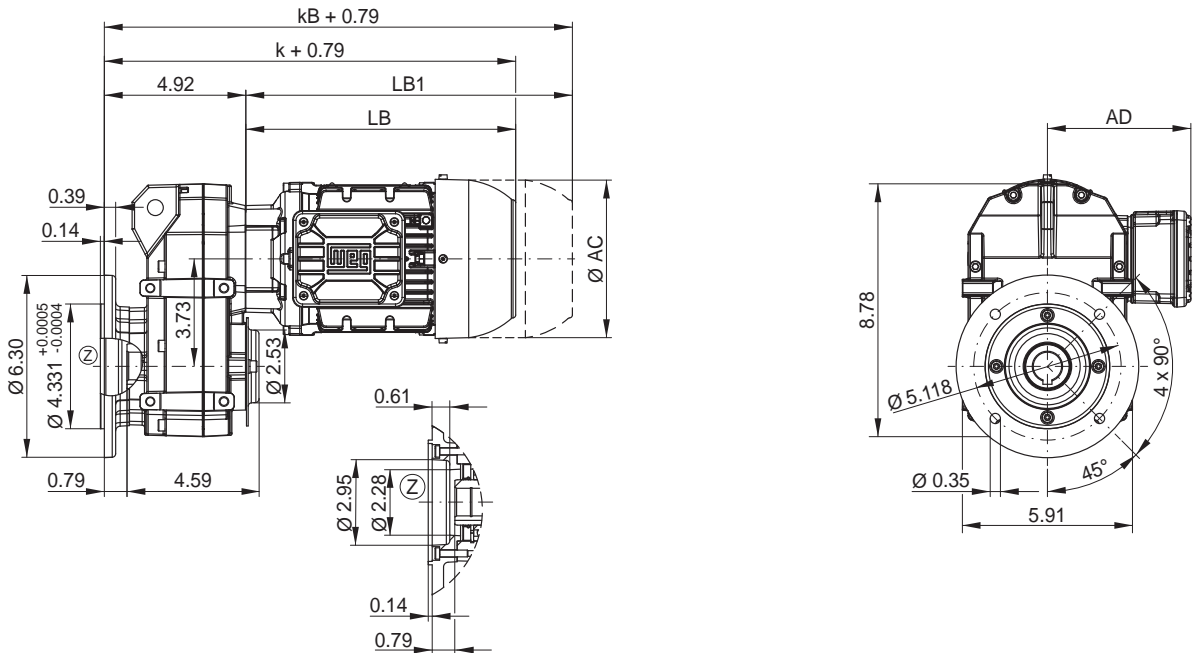


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L |
|-----------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  |
| k         | 12.17 | 13.50 | 13.82 | 14.76 | 15.47 |
| kB        | 13.90 | 15.43 | 16.10 | 17.05 | 18.35 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 |

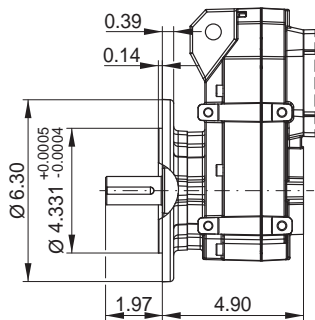
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

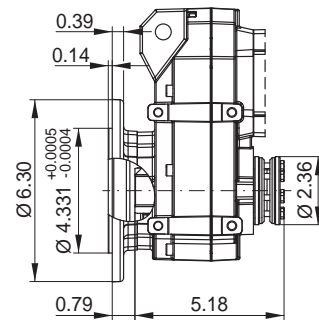
**FO02 - Flange execution Ø 6.30 in (Ø 160 mm) with hollow shaft**



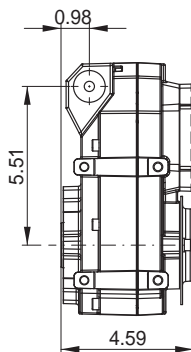
**FF02 - Flange execution Ø 6.30 in (Ø 160 mm) with output shaft**



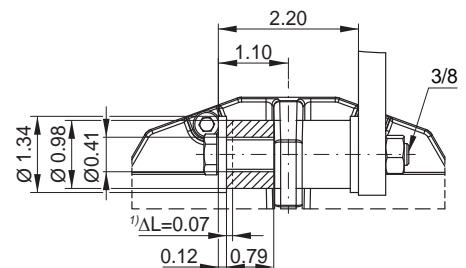
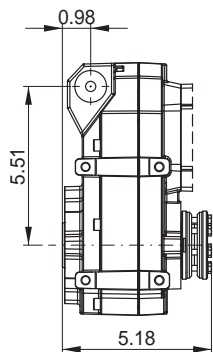
**FP02 - Flange execution Ø 6.30 in (Ø 160 mm) with hollow shaft and shrink disc \***



**FT02 - Hollow shaft with rubber buffer**



**FU02 - Hollow shaft with shrink disc \* and rubber buffer**

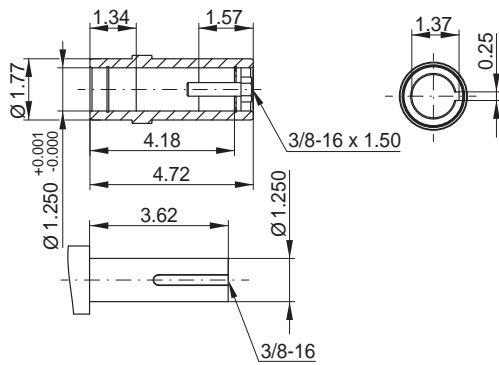
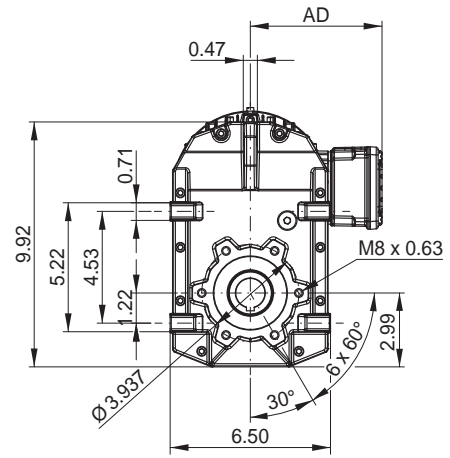
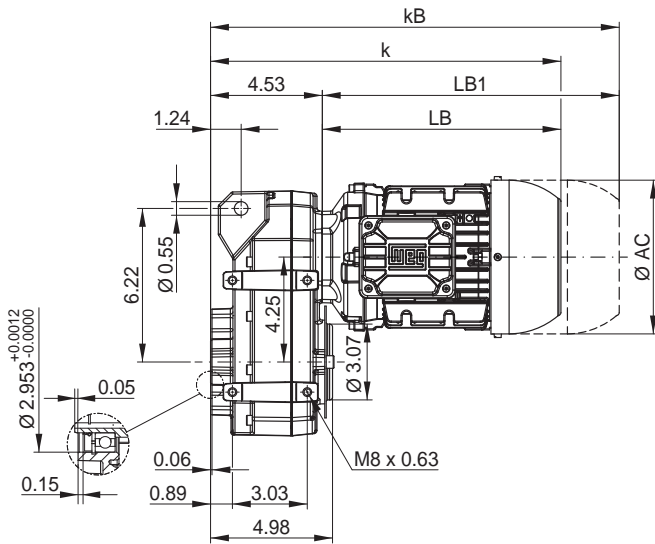


Dimensions in inch.

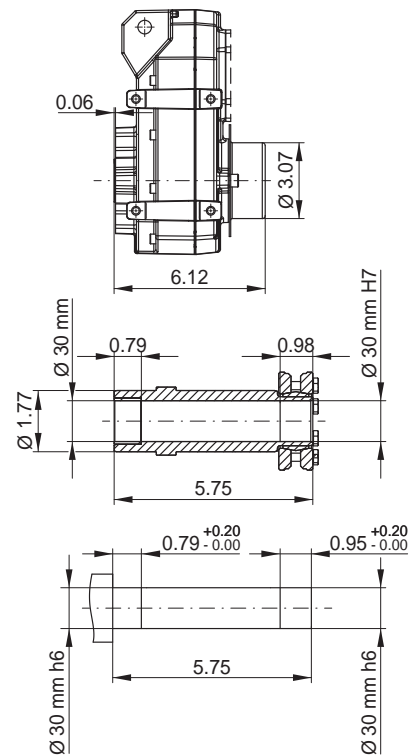
\* Shrink disc only in combination with motor frame sizes 63 and 71  
Protection cap for shrink disc never possible

1) Preloaded state

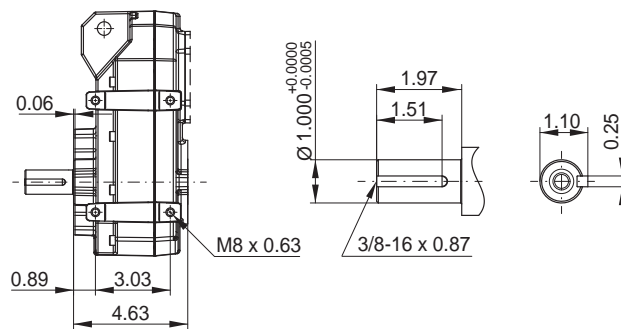
### FH03 - Hollow shaft



### FD03 - Shrink disc \*



### FS03 - Output shaft

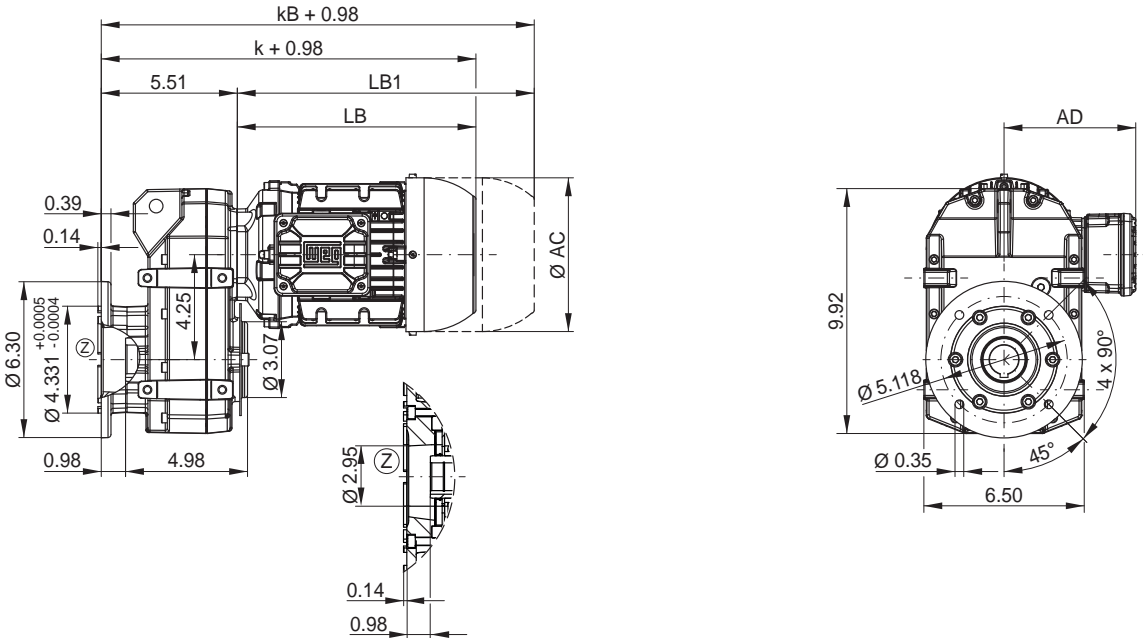


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  |
| k         | 12.56 | 13.90 | 14.21 | 15.16 | 15.87 | 17.83 | 19.33 |
| kB        | 14.29 | 15.83 | 16.50 | 17.44 | 18.74 | 21.14 | 22.64 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 |

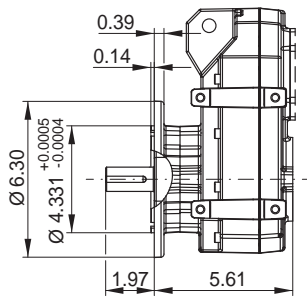
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

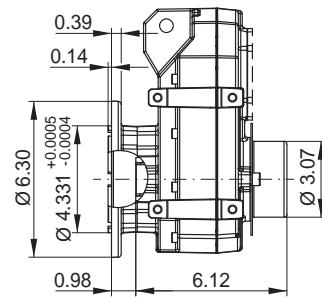
**FO03 - Flange execution  $\varnothing$  6.30 in ( $\varnothing$  160 mm) with hollow shaft**



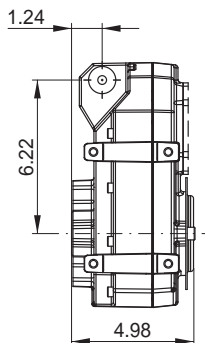
**FF03 - Flange execution  $\varnothing$  6.30 in ( $\varnothing$  160 mm) with output shaft**



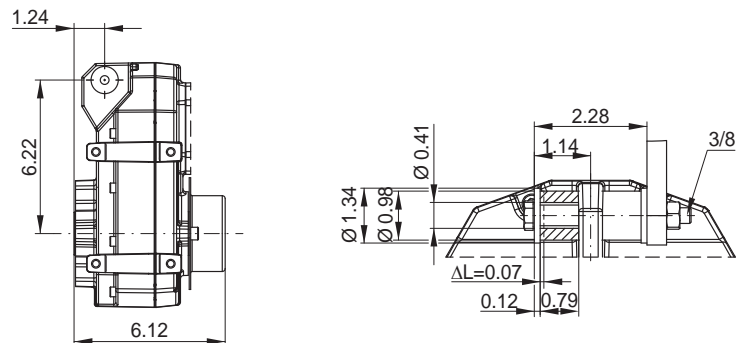
**FP03 - Flange execution  $\varnothing$  6.30 in ( $\varnothing$  160 mm) with hollow shaft and shrink disc \***



**FT03 - Hollow shaft with rubber buffer**



**FU03 - Hollow shaft with shrink disc \* and rubber buffer**

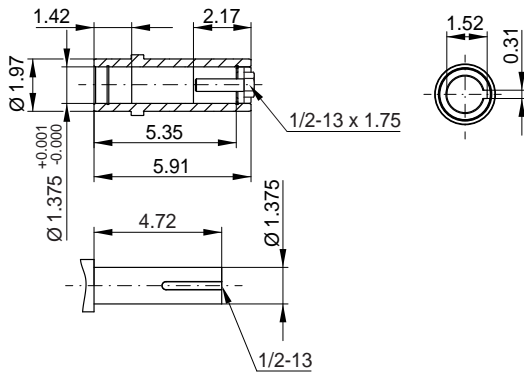
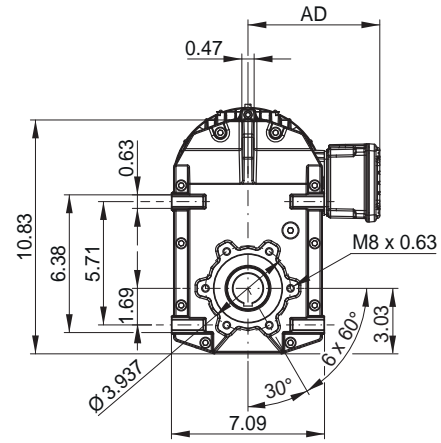
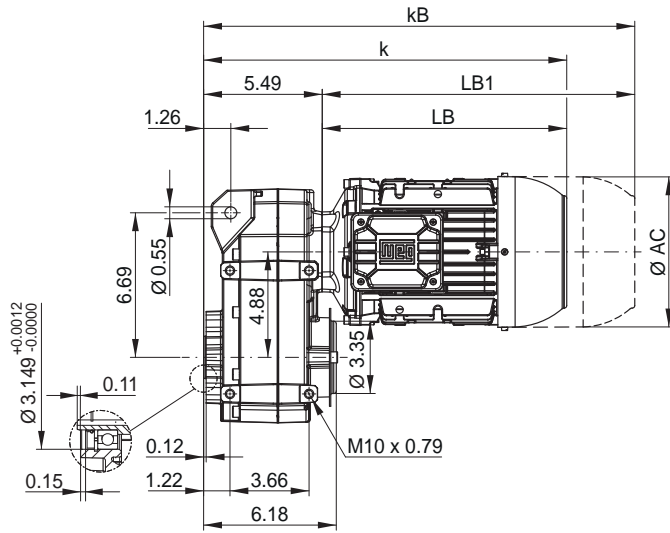


Dimensions in inch.

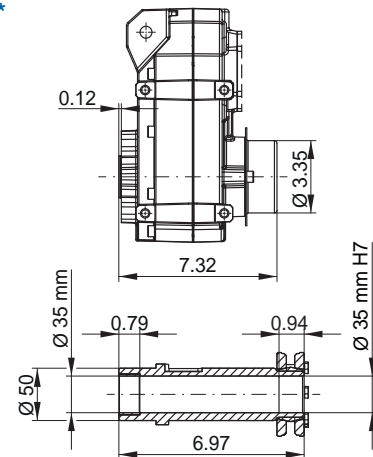
\* Shrink disc only in combination with motor frame sizes 63 and 71

1) Preloaded state

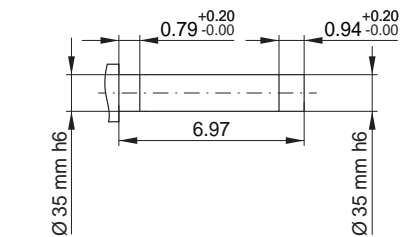
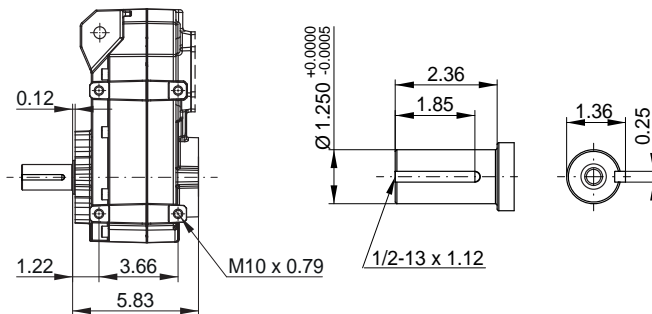
### FH04 - Hollow shaft



### FD04 - Shrink disc \*



### FS04 - Output shaft

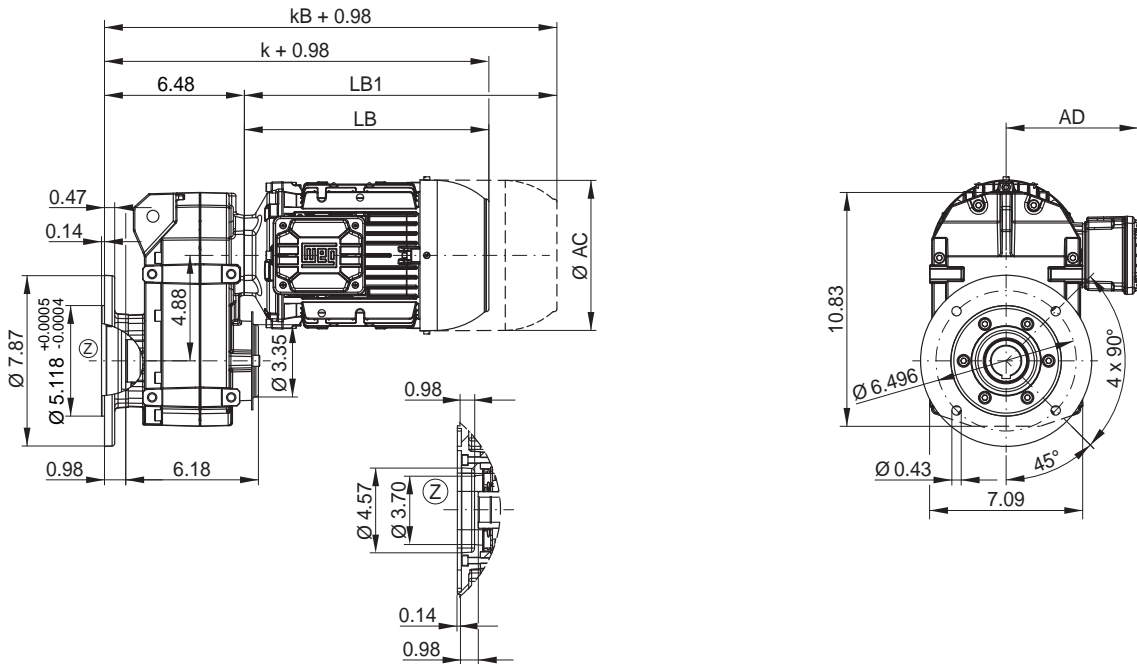


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  |
| k         | 13.54 | 14.88 | 15.20 | 16.12 | 16.85 | 18.82 | 20.31 |
| kB        | 15.28 | 16.81 | 17.48 | 18.41 | 19.72 | 22.13 | 23.62 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 |

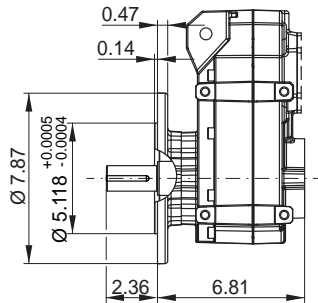
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

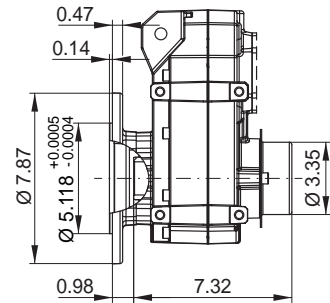
**FO04 - Flange execution  $\varnothing$  7.87 in ( $\varnothing$  200 mm) with hollow shaft**



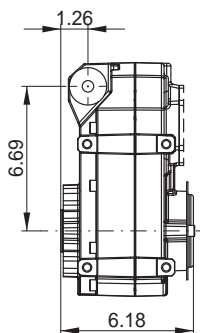
**FF04 - Flange execution  $\varnothing$  7.87 in ( $\varnothing$  200 mm) with output shaft**



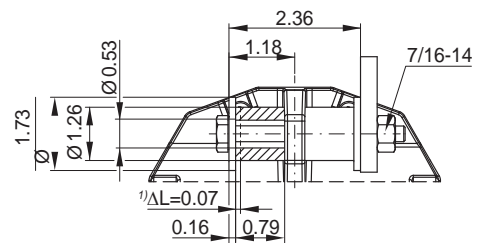
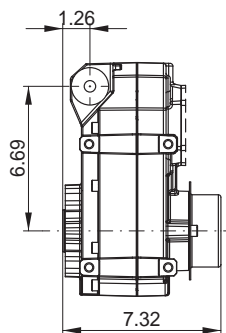
**FP04 - Flange execution  $\varnothing$  7.87 in ( $\varnothing$  200 mm) with hollow shaft and shrink disc \***



**FT04 - Hollow shaft with rubber buffer**



**FU04 - Hollow shaft with shrink disc \* and rubber buffer**

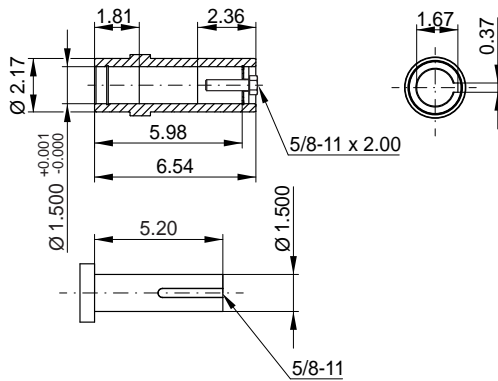
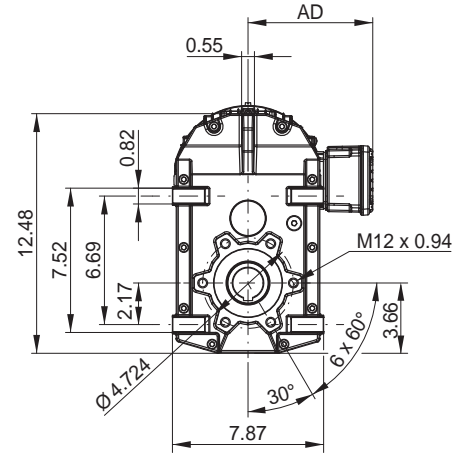
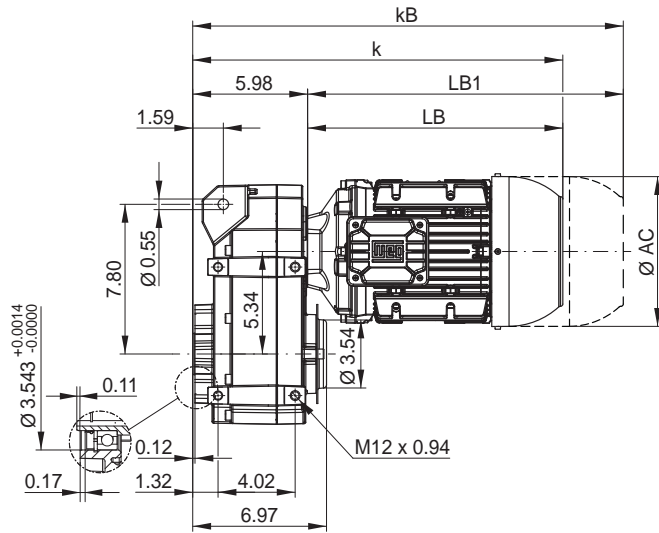


Dimensions in inch.

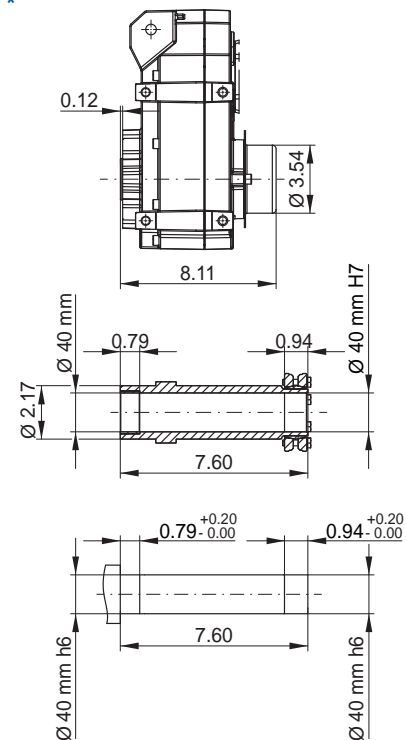
\* Shrink disc only in combination with motor frame sizes 63, 71 and 80

1) Preloaded state

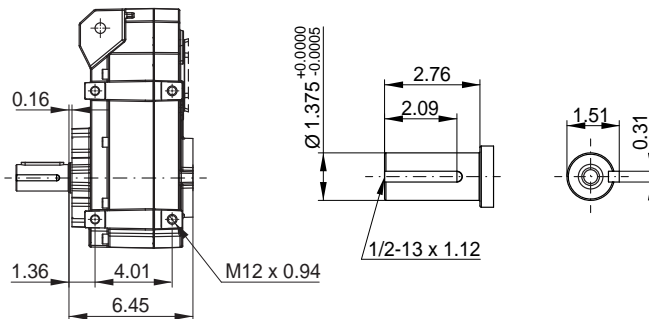
### FH05 - Hollow shaft



### FD05 - Shrink disc \*



### FS05 - Output shaft



| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 14.02 | 15.35 | 15.67 | 16.61 | 17.32 | 19.29 | 20.79 | 19.69 | 22.24 | 23.74 |
| kB        | 15.75 | 17.28 | 17.95 | 18.90 | 20.20 | 22.60 | 24.09 | 23.11 | 26.89 | 28.39 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

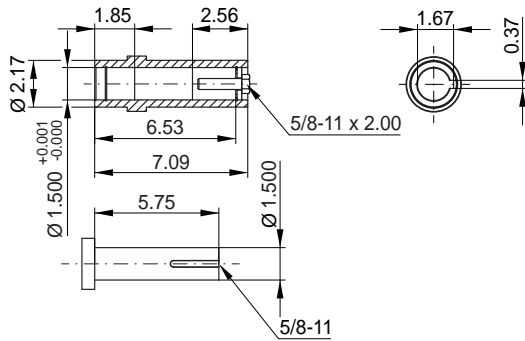
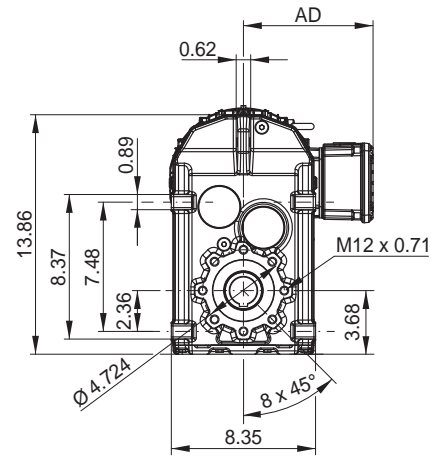
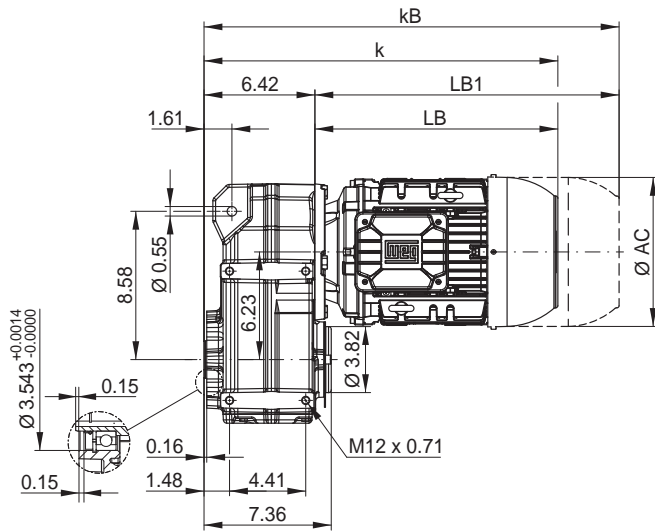
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

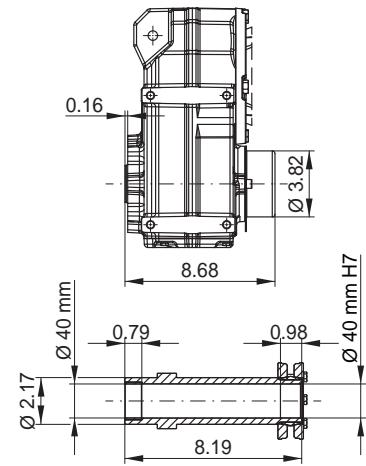




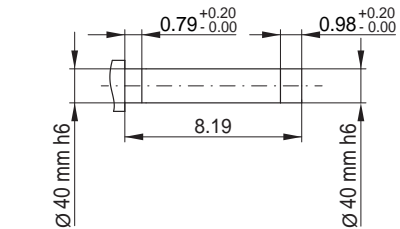
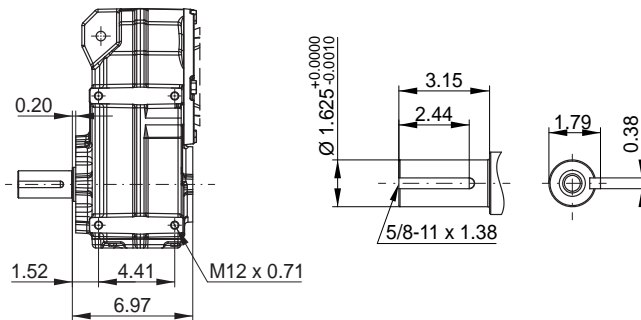
### FH06 - Hollow shaft



### FD06 - Shrink disc \*



### FS06 - Output shaft

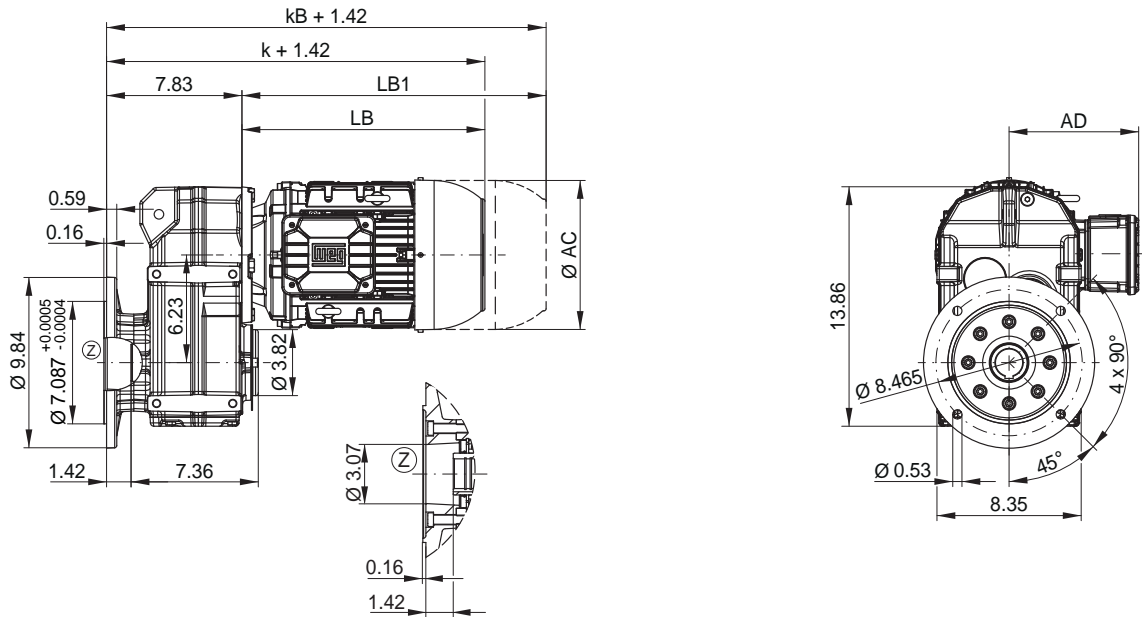


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 |
| k         | 14.45 | 15.79 | 16.10 | 17.05 | 17.76 | 19.72 | 21.22 | 20.12 | 22.68 | 24.17 | 27.87 | 29.61 |
| kB        | 16.18 | 17.72 | 18.39 | 19.33 | 20.63 | 23.03 | 24.53 | 23.54 | 27.32 | 28.82 | 32.76 | 34.49 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.46 | 23.19 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 26.34 | 28.07 |

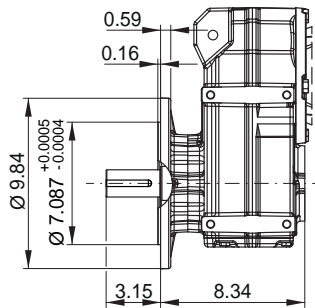
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

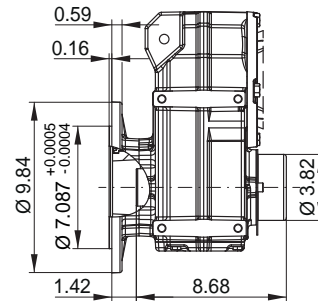
**FO06 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with hollow shaft**



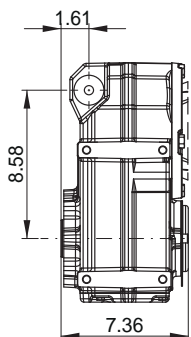
**FF06 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with output shaft**



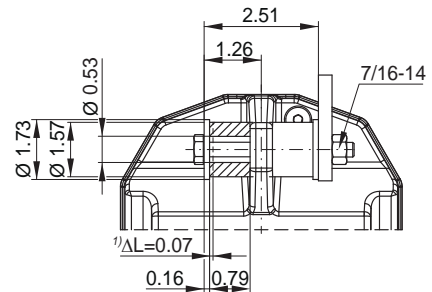
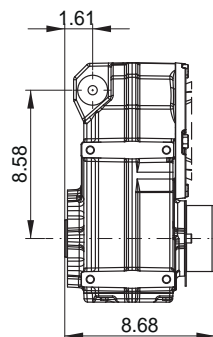
**FP06 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with hollow shaft and shrink disc \***



**FT06 - Hollow shaft with rubber buffer**



**FU06 - Hollow shaft with shrink disc \* and rubber buffer**

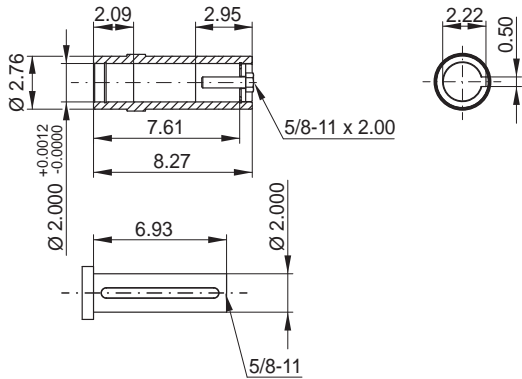
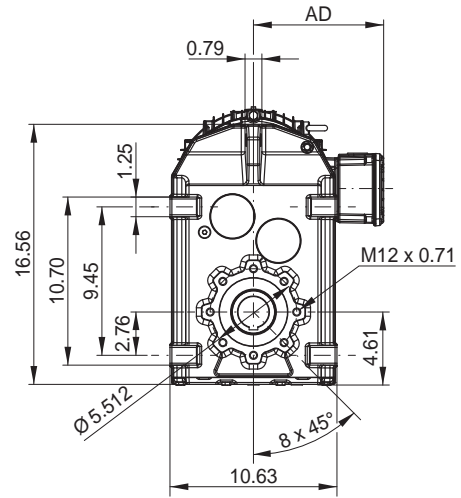
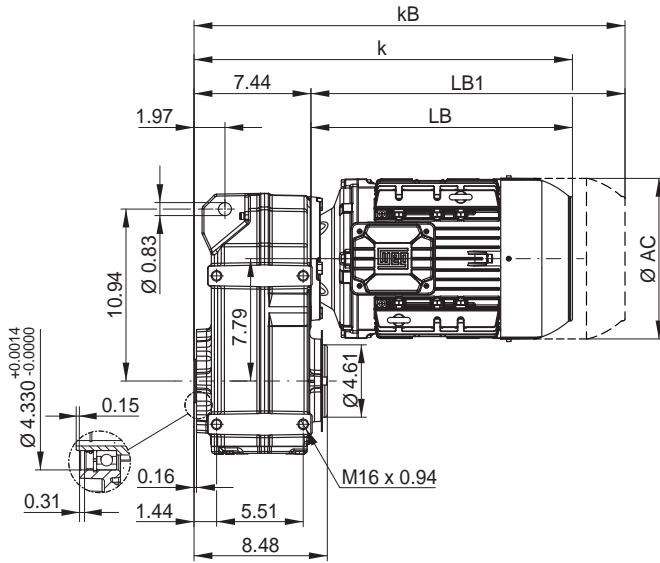


Dimensions in inch.

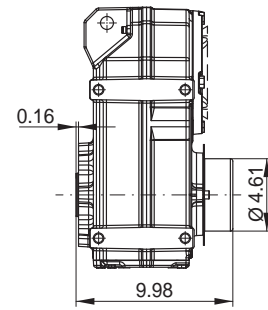
\* Shrink disc only in combination with motor frame sizes 63, 71, 80, 90, 100 and 112

1) Preloaded state

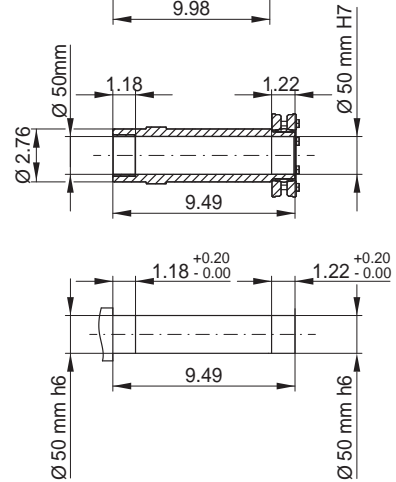
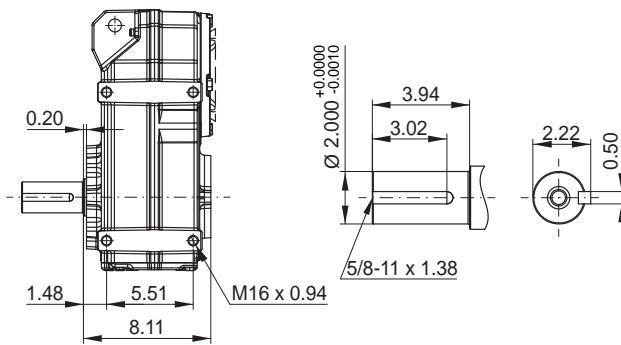
### FH07 - Hollow shaft



### FD07 - Shrink disc \*



### FS07 - Output shaft

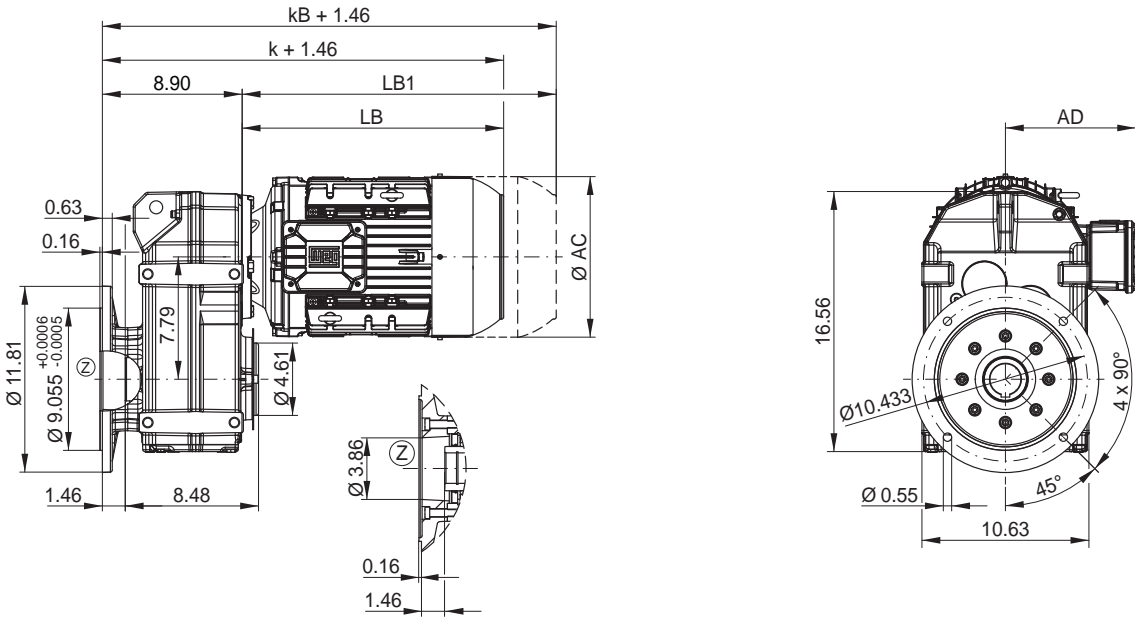


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 |
| k         | 15.47 | 16.81 | 17.13 | 18.07 | 18.78 | 20.75 | 22.24 | 21.14 | 23.70 | 25.20 | 28.90 | 30.63 |
| kB        | 17.20 | 18.74 | 19.41 | 20.35 | 21.65 | 24.06 | 25.55 | 24.57 | 28.35 | 29.84 | 33.78 | 35.51 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.46 | 23.19 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 26.34 | 28.07 |

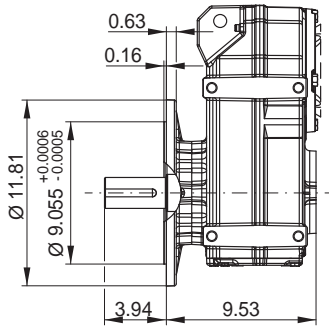
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

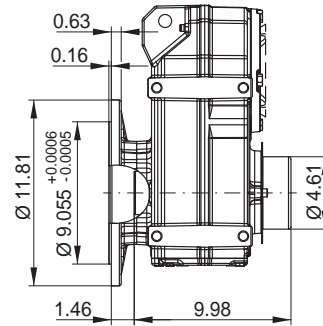
**FO07 - Flange execution  $\varnothing$  11.81 in ( $\varnothing$  300 mm) with hollow shaft**



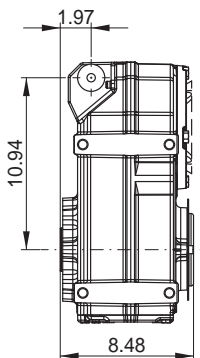
**FF07 - Flange execution  $\varnothing$  11.81 in ( $\varnothing$  300 mm) with output shaft**



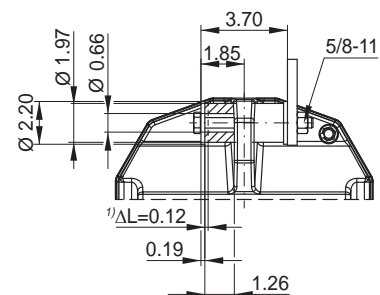
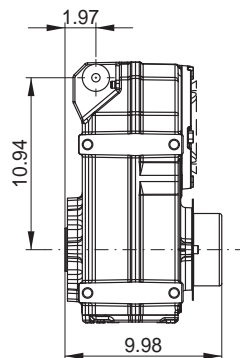
**FP07 - Flange execution  $\varnothing$  11.81 in ( $\varnothing$  300 mm) with hollow shaft and shrink disc \***



**FT07 - Hollow shaft with rubber buffer**



**FU07 - Hollow shaft with shrink disc \* and rubber buffer**

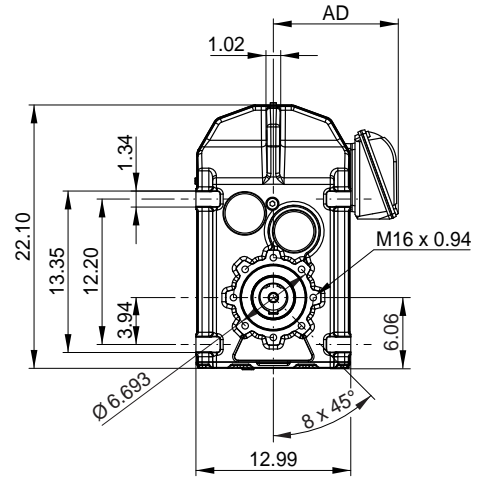
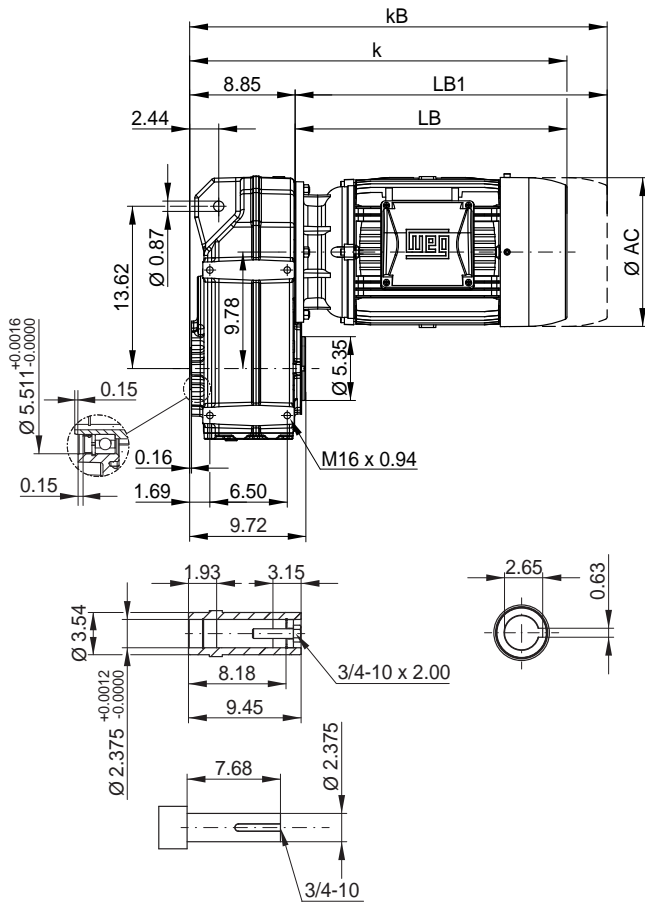


Dimensions in inch.

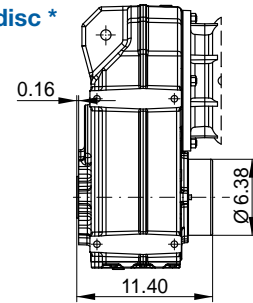
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

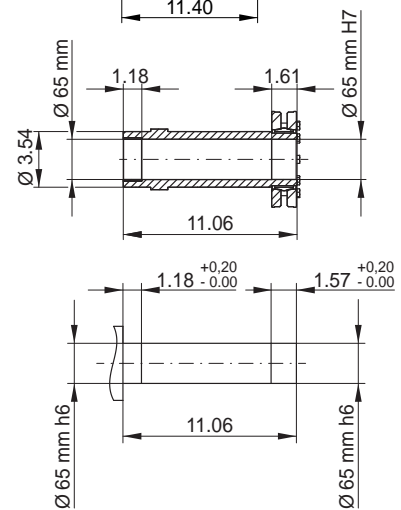
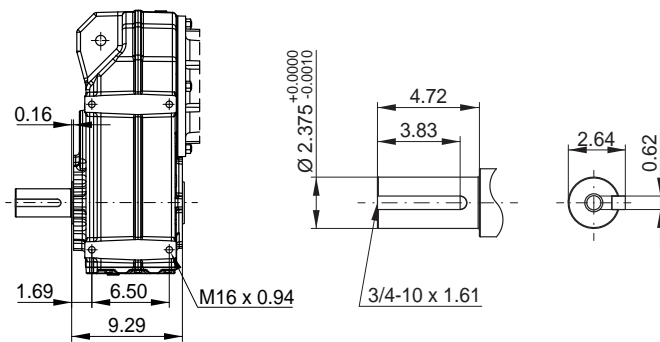
### FH082 / FH083 - Hollow shaft



### FD082 / FD083 - Shrink disc \*



### FS082 / FS083 - Output shaft

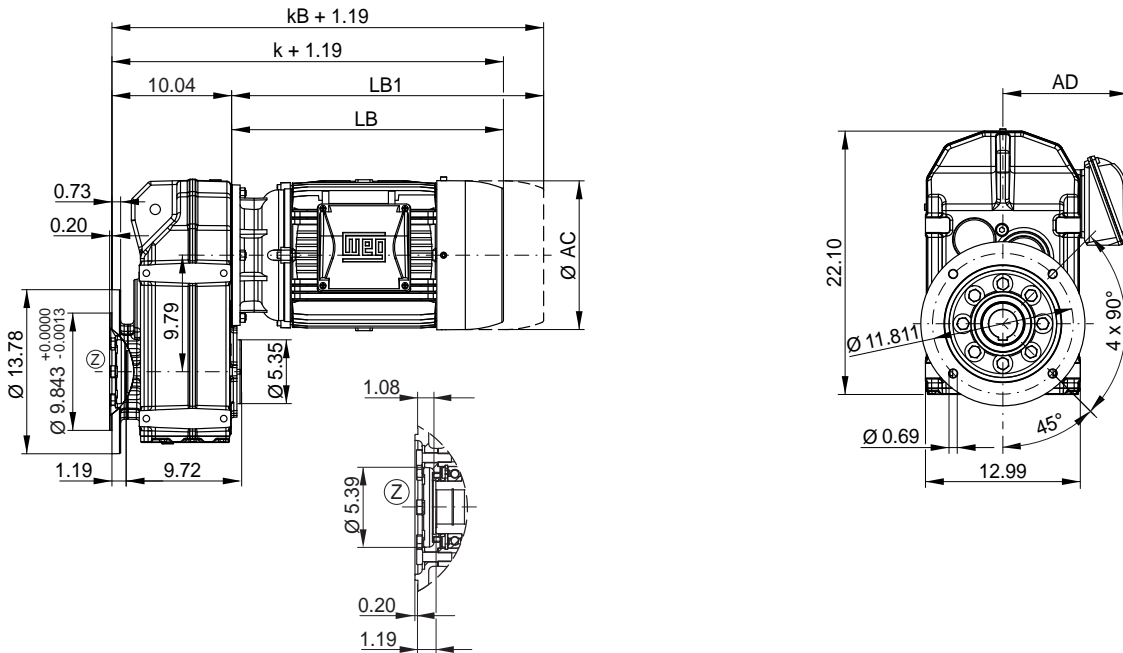


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 |
| k         | 16.89 | 18.23 | 18.54 | 19.47 | 20.20 | 22.17 | 23.66 | 22.56 | 25.12 | 26.61 | 29.92 | 31.65 | 32.60 | 34.09 |
| kB        | 18.62 | 20.16 | 20.83 | 21.75 | 23.07 | 25.47 | 26.97 | 25.98 | 29.76 | 31.26 | 34.80 | 36.54 | 37.24 | 38.74 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 25.94 | 27.68 | 28.39 | 29.88 |

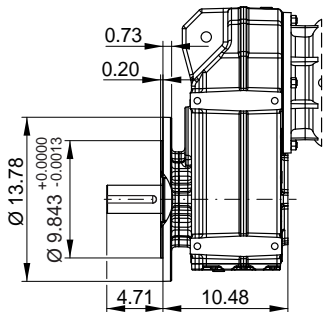
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

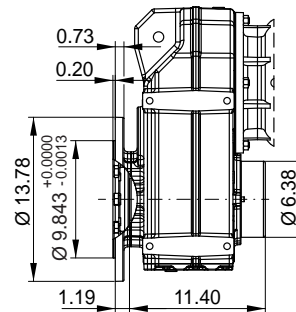
**FO082 / FO083 - Flange execution Ø 13.78 in (Ø 350 mm) with hollow shaft**



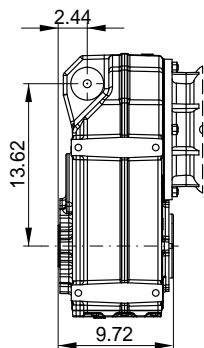
**FF082 / FF083 - Flange execution Ø 13.78 in (Ø 350 mm) with output shaft**



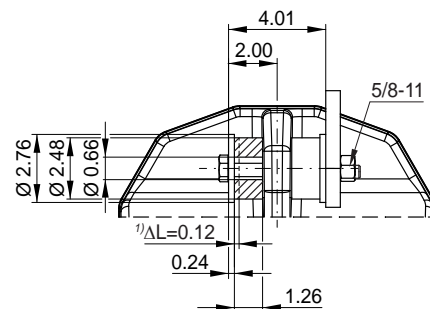
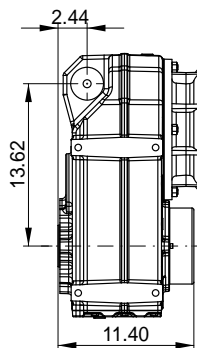
**FP082 / FP083 - Flange execution Ø 13.78 in (Ø 350 mm) with hollow shaft and shrink disc \***



**FT082 / FT083 - Hollow shaft with rubber buffer**



**FU082 / FU083 - Hollow shaft with shrink disc \* and rubber buffer**

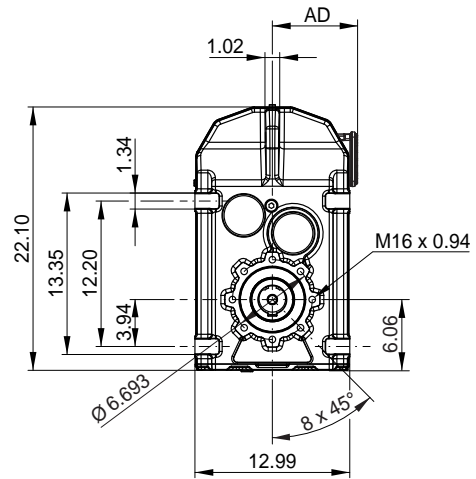
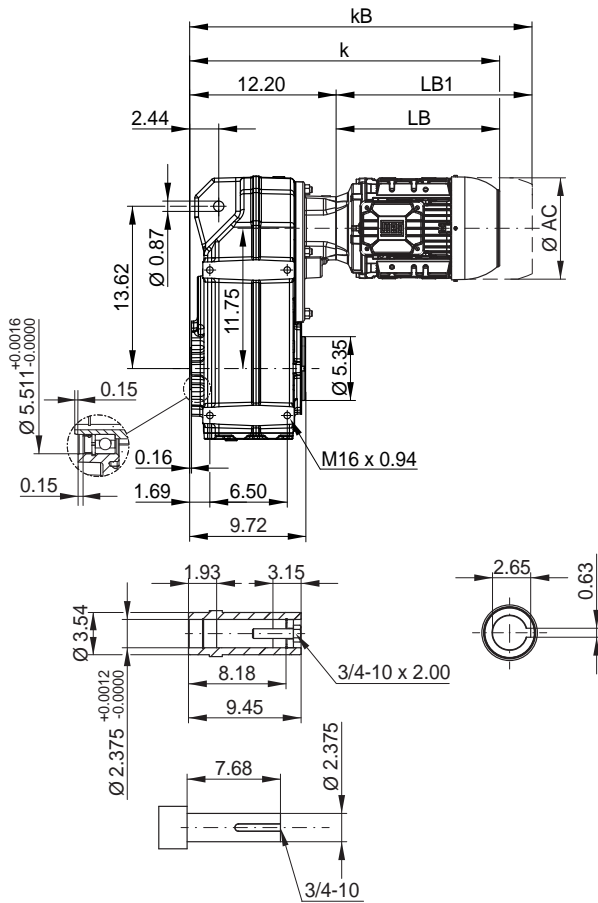


Dimensions in inch.

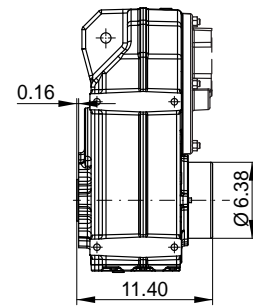
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

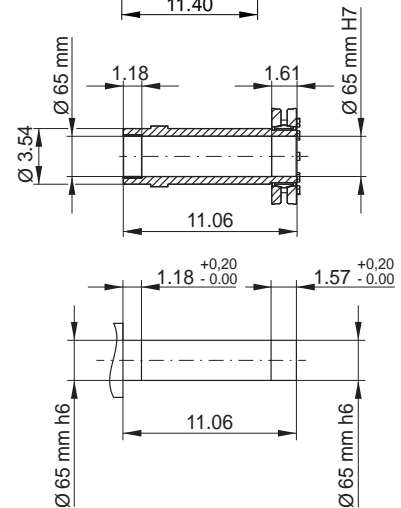
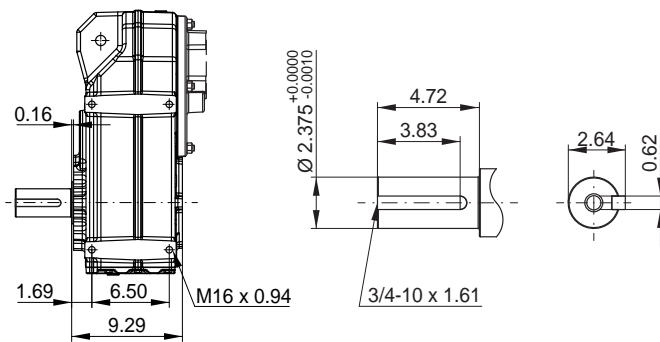
### FH084 - Hollow shaft



### FD084 - Shrink disc \*



### FS084 - Output shaft



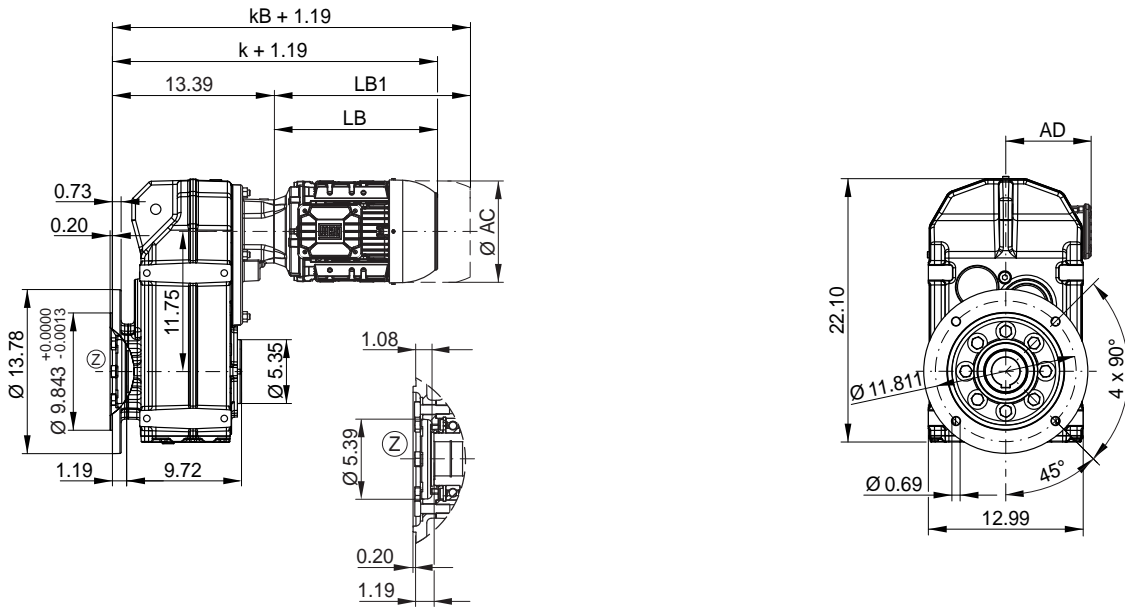
| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 20.24 | 21.57 | 21.89 | 22.83 | 23.54 | 25.51 | 27.01 | 25.91 | 28.46 | 29.96 |
| kB        | 21.97 | 23.50 | 24.17 | 25.12 | 26.42 | 28.82 | 30.31 | 29.33 | 33.11 | 34.61 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

Motor dimension sheets see page 488

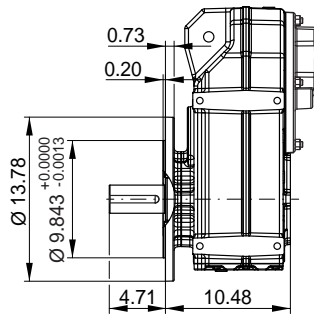
Description of motor lengths LB and LB1 see page 492



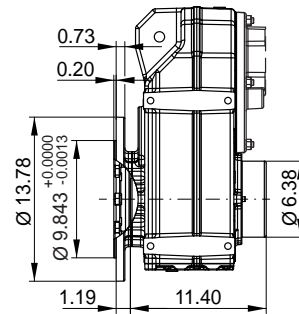
**FO084 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with hollow shaft**



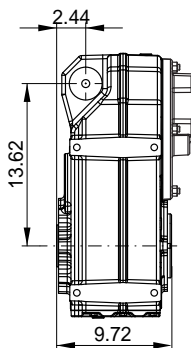
**FF084 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with output shaft**



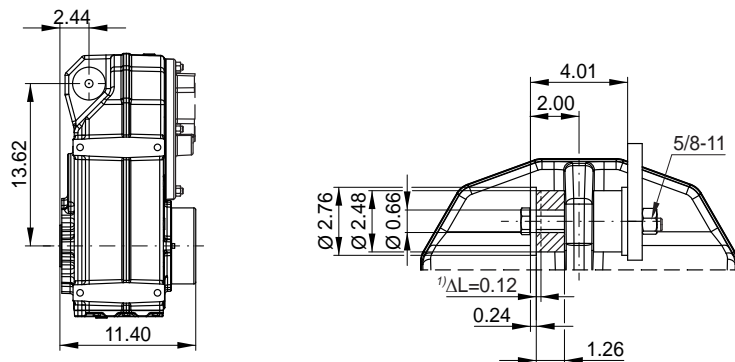
**FP084 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with hollow shaft and shrink disc \***



**FT084 - Hollow shaft with rubber buffer**



**FU084 - Hollow shaft with shrink disc \* and rubber buffer**



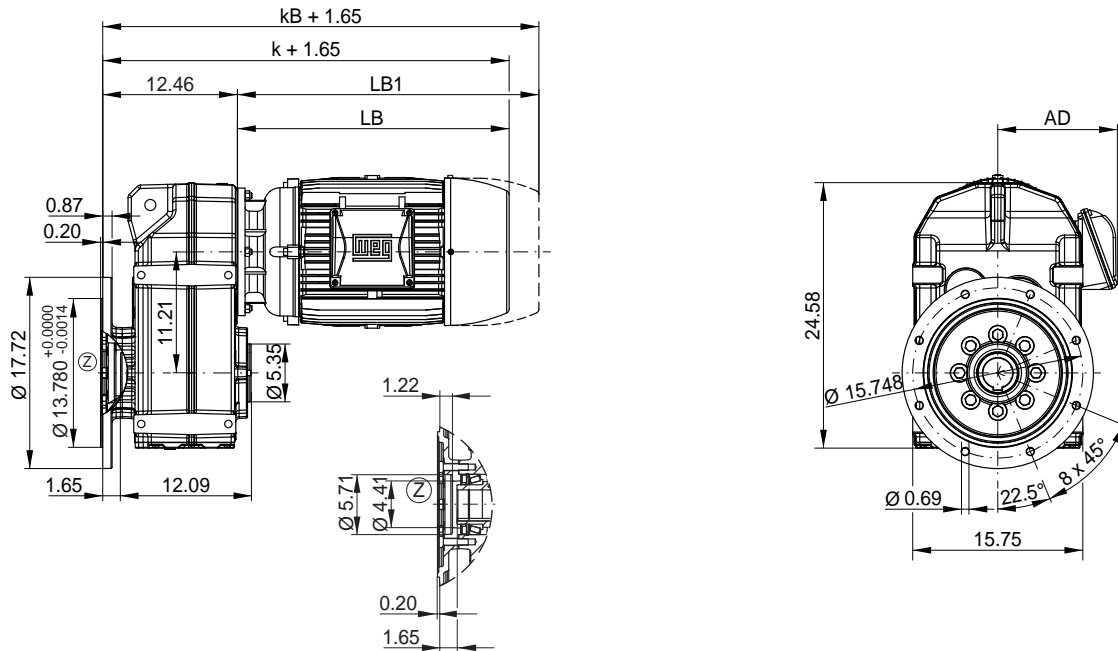
Dimensions in inch.

\* Shrink disc and protection cap possible with all mountable motors.

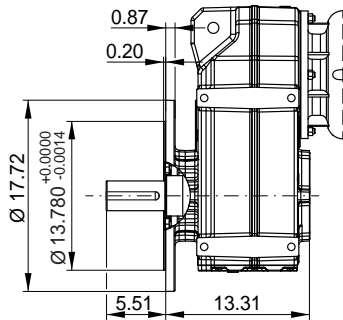
1) Preloaded state



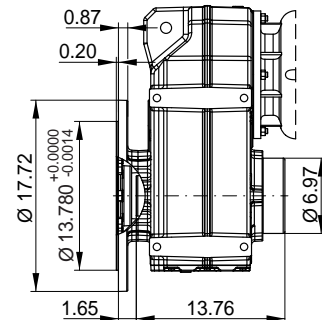
**FO092 / FO93 - Flange execution  $\varnothing$  17.72 in ( $\varnothing$  450 mm) with hollow shaft**



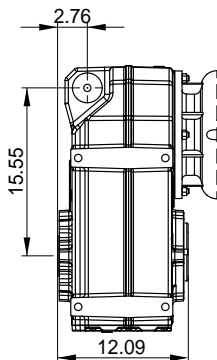
**FF092 / FF093 - Flange execution  $\varnothing$  17.72 in ( $\varnothing$  450 mm) with output shaft**



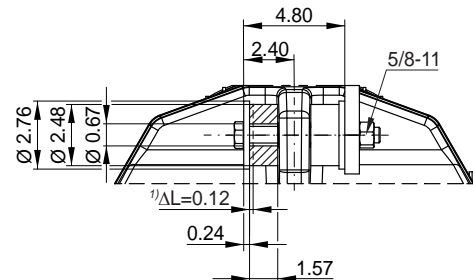
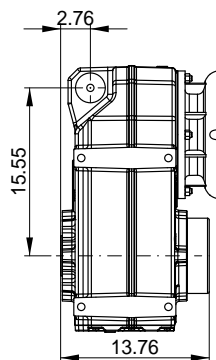
**FP092 / FP093 - Flange execution  $\varnothing$  17.72 in ( $\varnothing$  450 mm) with hollow shaft and shrink disc \***



**FT092 / FT093 - Hollow shaft with rubber buffer**



**FU092 / FU093 - Hollow shaft with shrink disc \* and rubber buffer**

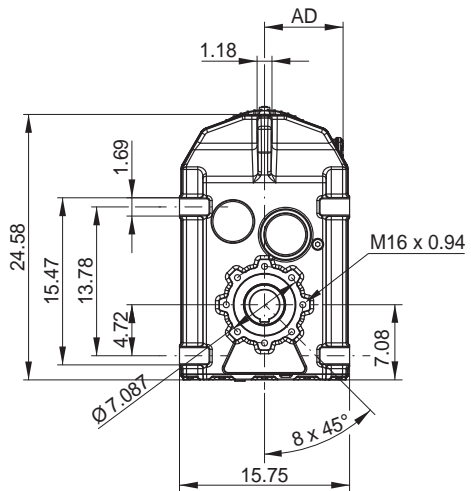
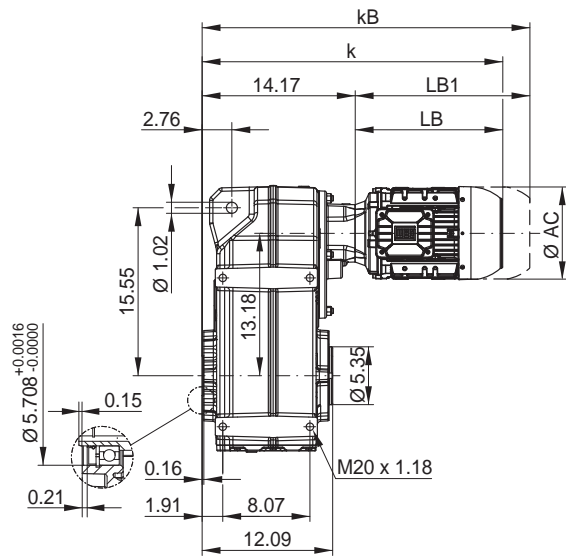


Dimensions in inch.

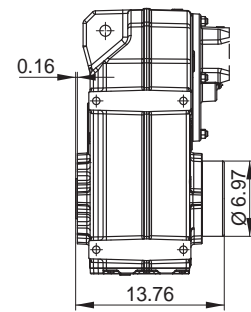
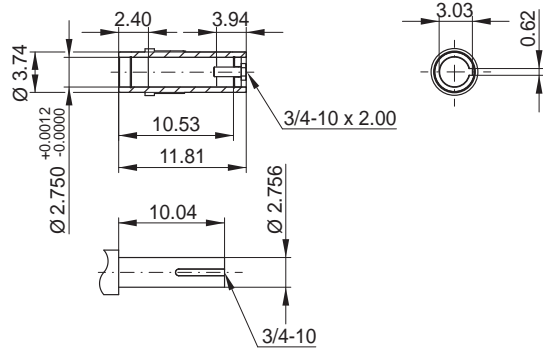
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

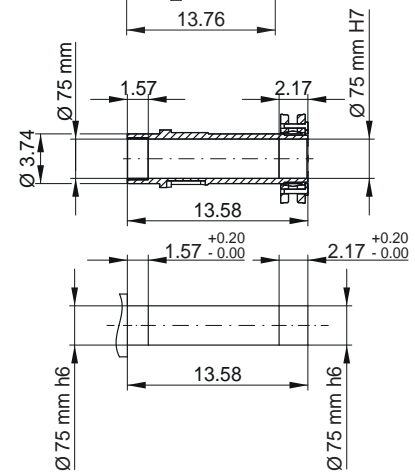
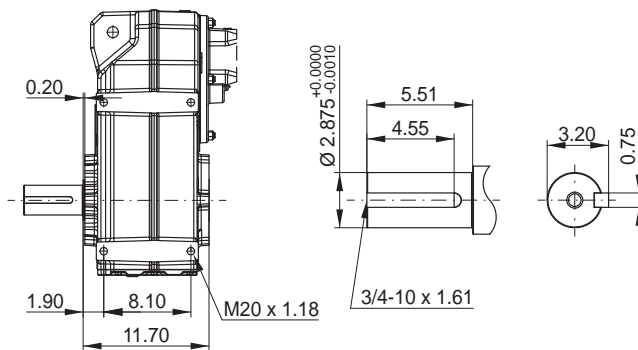
### FH094 - Hollow shaft



### FD094 - Shrink disc \*



### FS094 - Output shaft

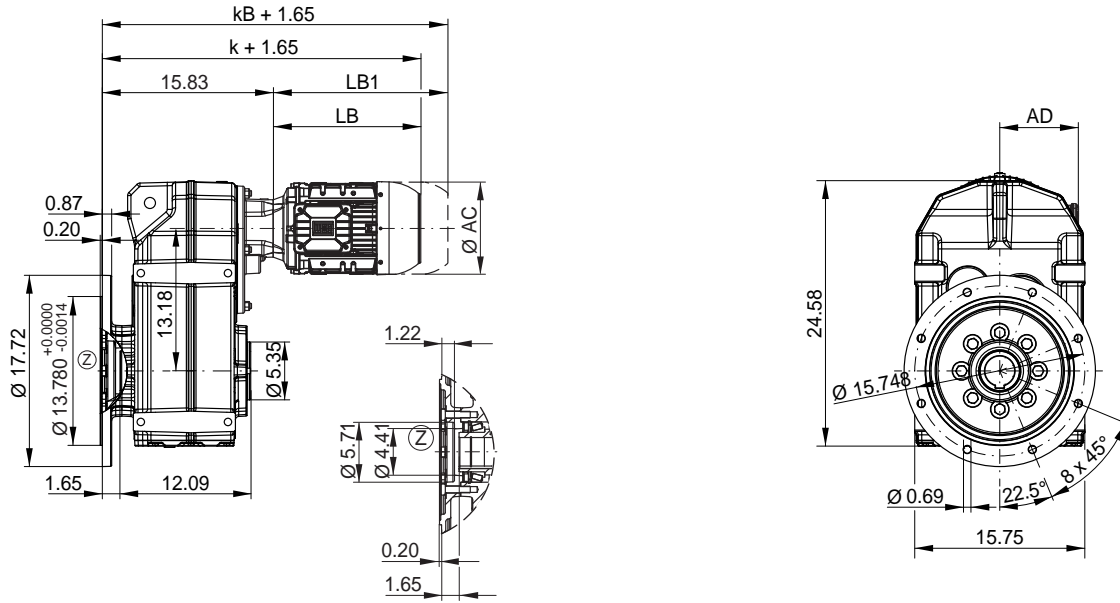


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 22.20 | 23.54 | 23.86 | 24.80 | 25.51 | 27.48 | 28.98 | 27.87 | 30.43 | 31.93 |
| kB        | 23.94 | 25.47 | 26.14 | 27.09 | 28.39 | 30.79 | 32.28 | 31.30 | 35.08 | 36.57 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

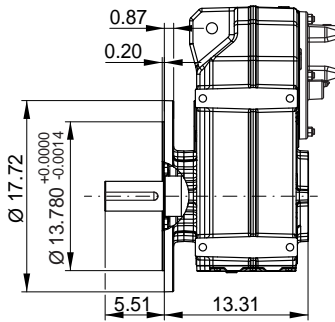
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

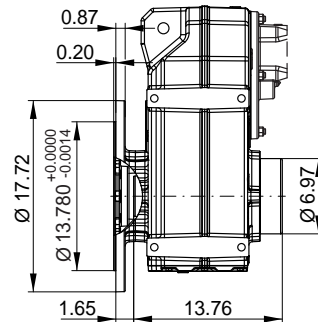
**FO094 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft**



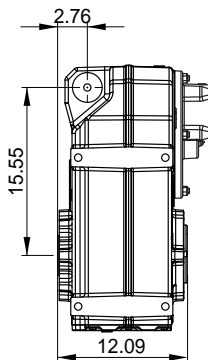
**FF094 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with output shaft**



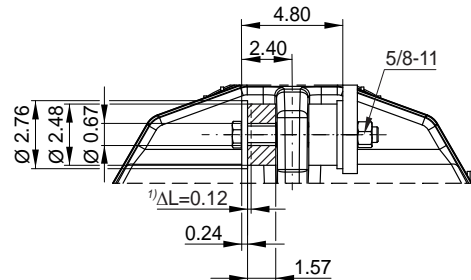
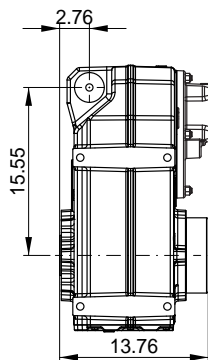
**FP094 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft and shrink disc \***



**FT094 - Hollow shaft with rubber buffer**



**FU094 - Hollow shaft with shrink disc \* and rubber buffer**

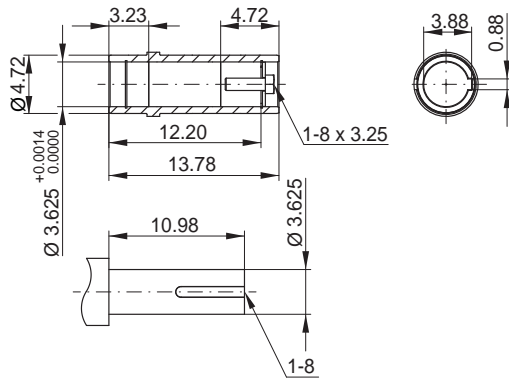
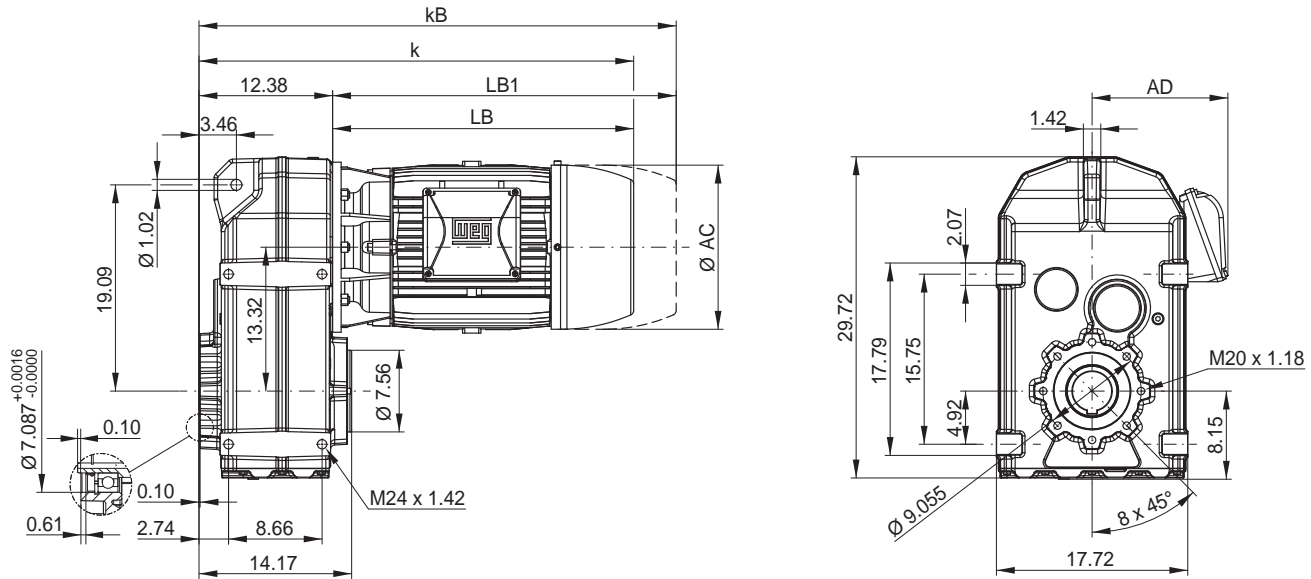


Dimensions in inch.

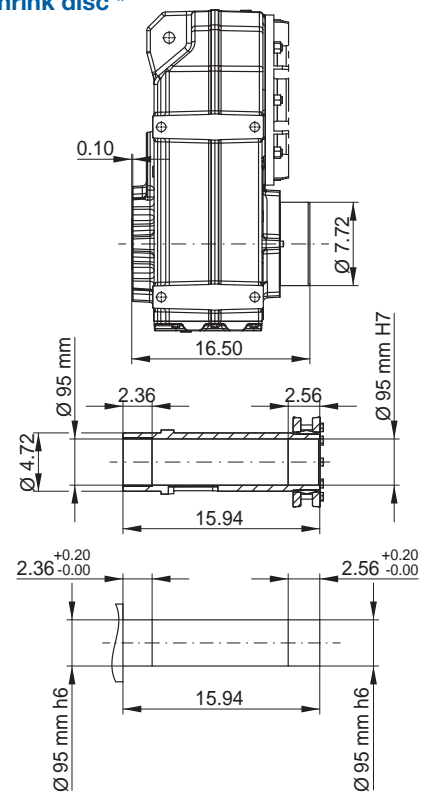
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

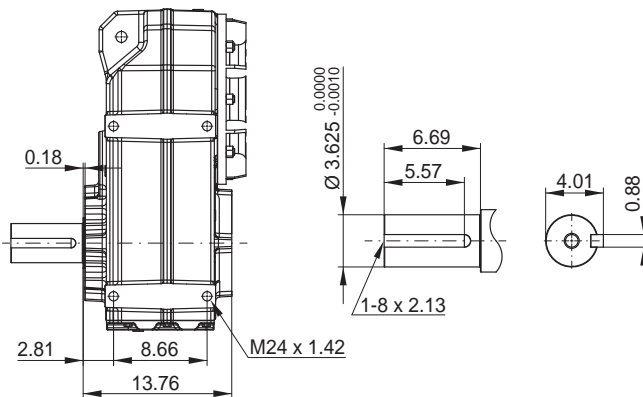
### FH102 / FH103 - Hollow shaft



### FD102 / FD103 - Shrink disc \*



### FS102 / FS103 - Output shaft

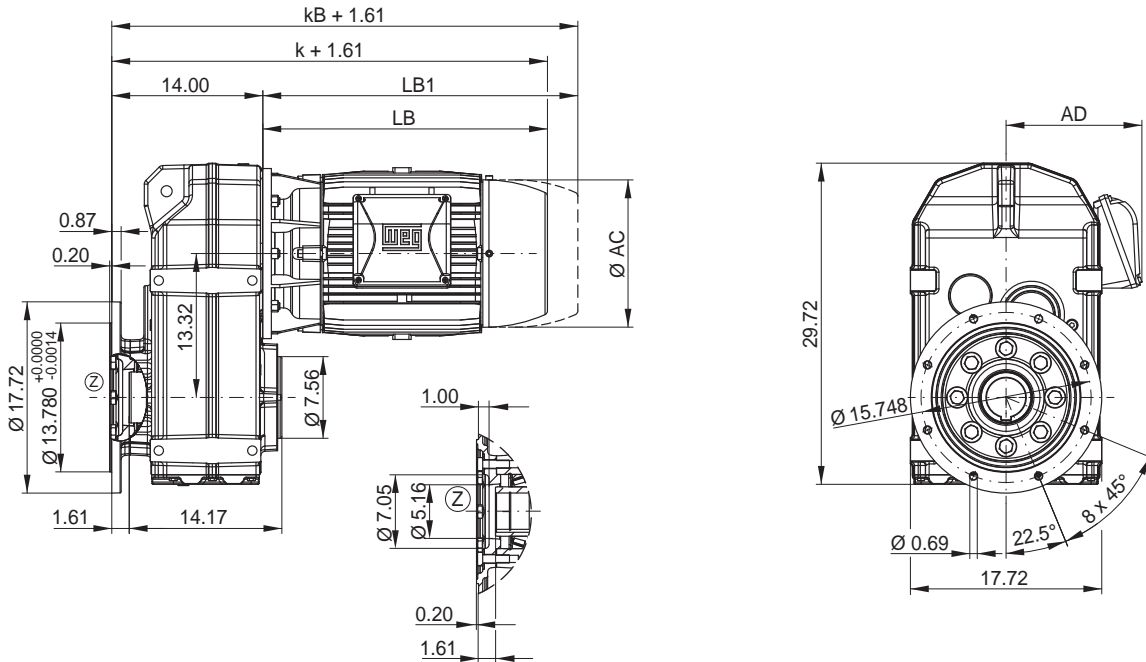


| Motor fr. | 63 | 71 | 80 | L80 | 90S/L | 100L | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M |
|-----------|----|----|----|-----|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| AC        | -  | -  | -  | -   | -     | -    | -     | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  |
| AD        | -  | -  | -  | -   | -     | -    | -     | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  |
| k         | -  | -  | -  | -   | -     | -    | -     | 26.10 | 28.66 | 30.16 | 32.95 | 34.69 | 35.63 | 37.13 | 40.75 | 45.00  |
| kB        | -  | -  | -  | -   | -     | -    | -     | 29.53 | 33.31 | 34.80 | 37.83 | 39.57 | 40.28 | 41.77 | 45.71 | 49.65  |
| LB        | -  | -  | -  | -   | -     | -    | -     | 13.70 | 16.26 | 17.76 | 20.55 | 22.28 | 23.23 | 24.72 | 28.35 | 32.60  |
| LB1       | -  | -  | -  | -   | -     | -    | -     | 17.13 | 20.91 | 22.40 | 25.43 | 27.17 | 27.87 | 29.37 | 33.31 | 37.24  |

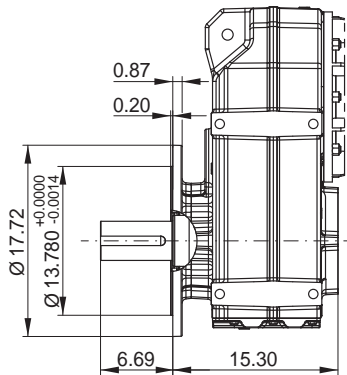
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

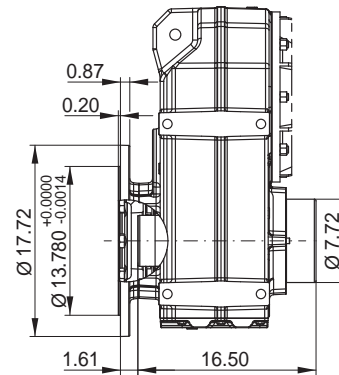
**FO102 / FO103 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft**



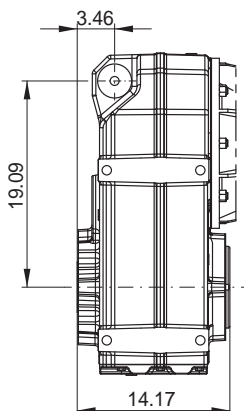
**FF102 / FF103 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with output shaft**



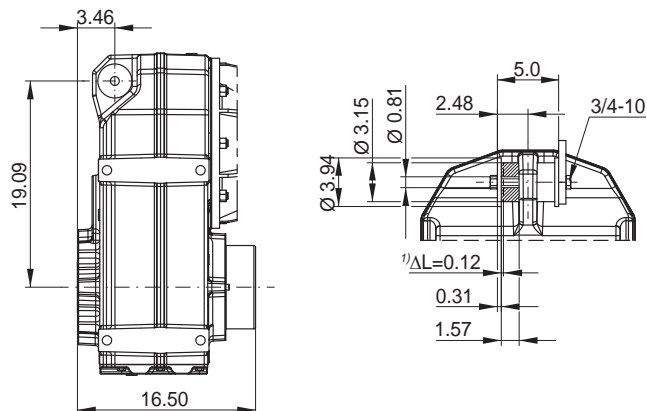
**FP102 / FP103 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft and shrink disc \***



**FT102 / FT103 - Hollow shaft with rubber buffer**



**FU102 / FU103 - Hollow shaft with shrink disc \* and rubber buffer**



Dimensions in inch.

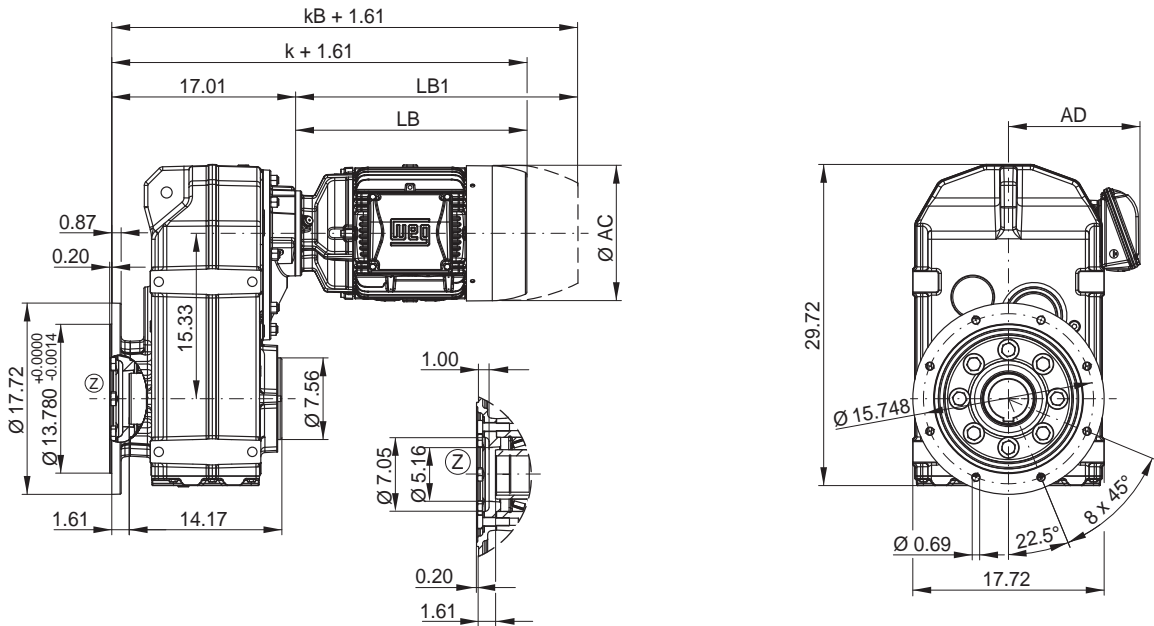
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

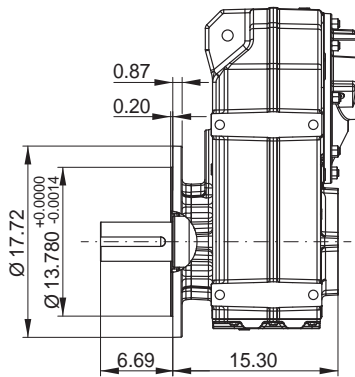




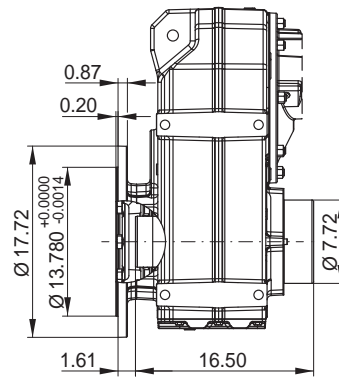
**FO104 - Flange execution Ø 17.72 in (Ø 450 mm) with hollow shaft**



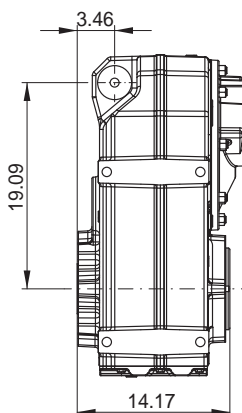
**FF104 - Flange execution Ø 17.72 in (Ø 450 mm) with output shaft**



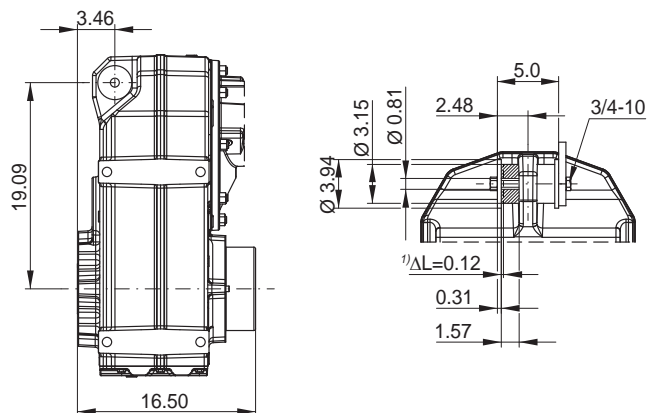
**FP104 - Flange execution Ø 17.72 in (Ø 450 mm) with hollow shaft and shrink disc \***



**FT104 - Hollow shaft with rubber buffer**



**FU104 - Hollow shaft with shrink disc \* and rubber buffer**

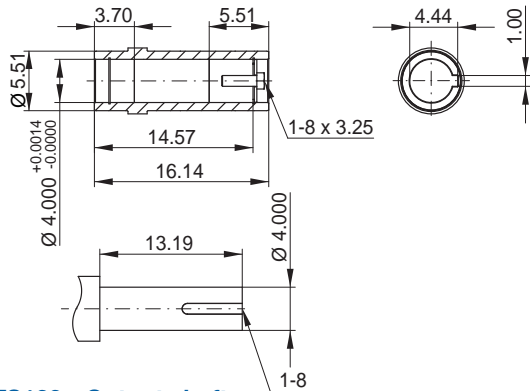
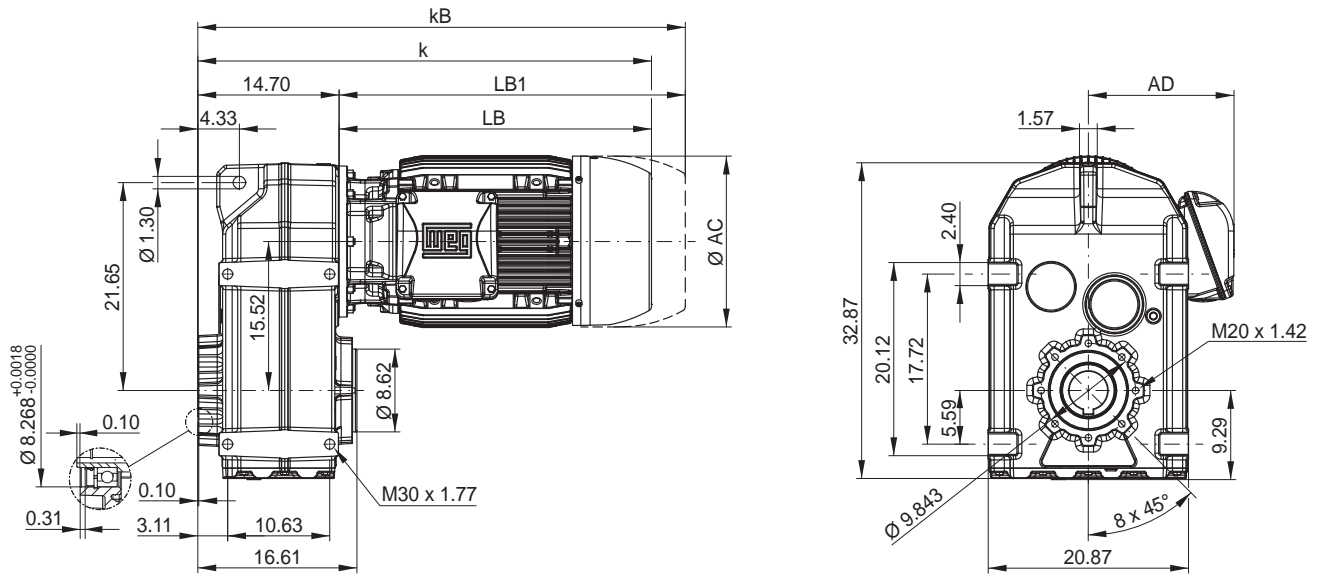


Dimensions in inch.

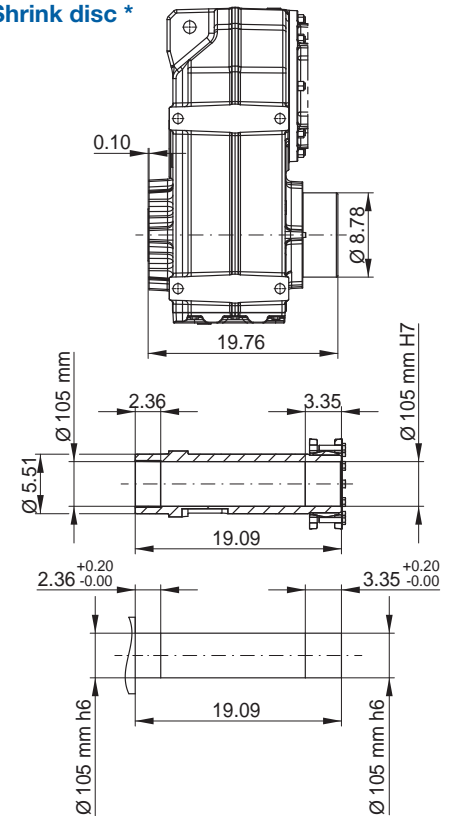
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

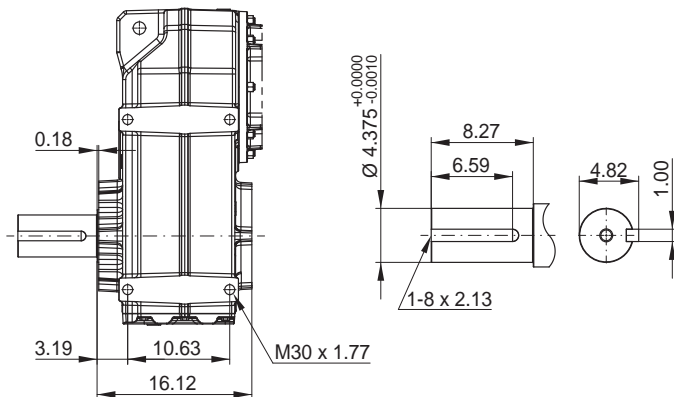
### FH122 / FH123 - Hollow shaft



### FD122 / FD123 - Shrink disc \*



### FS122 / FS123 - Output shaft

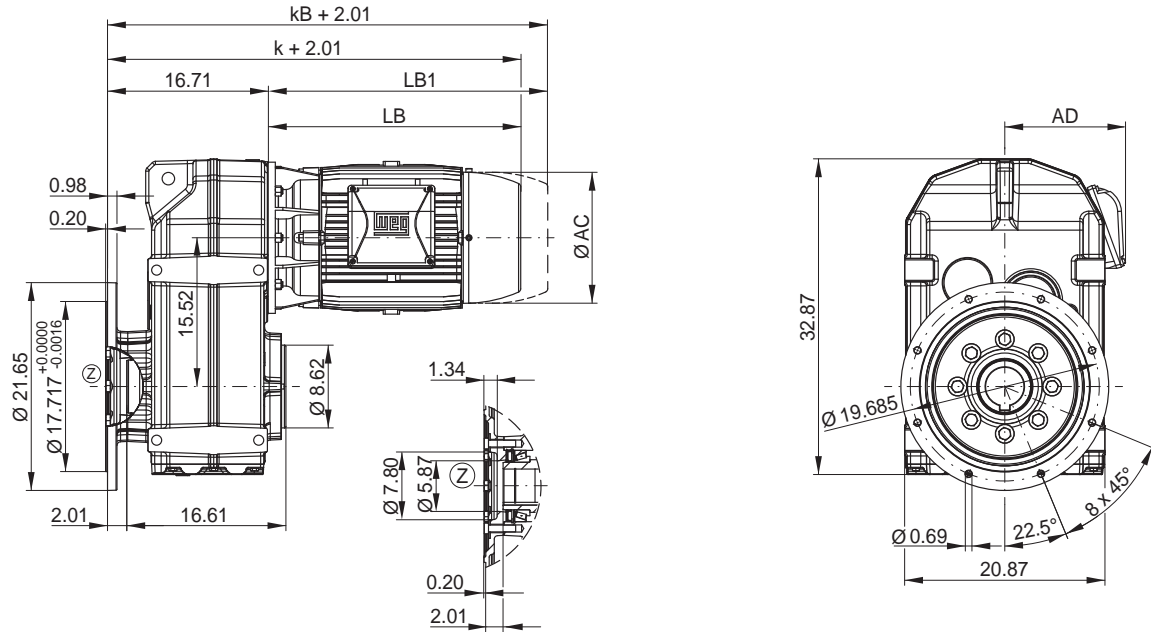


| Motor fr. | 63 | 71 | 80 | L80 | 90S/L | 100L | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M |
|-----------|----|----|----|-----|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| AC        | -  | -  | -  | -   | -     | -    | -     | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  |
| AD        | -  | -  | -  | -   | -     | -    | -     | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  |
| k         | -  | -  | -  | -   | -     | -    | -     | 28.43 | 30.98 | 32.48 | 35.28 | 37.01 | 37.95 | 39.45 | 43.07 | 47.32  |
| kB        | -  | -  | -  | -   | -     | -    | -     | 31.85 | 35.63 | 37.13 | 40.16 | 41.89 | 42.60 | 44.09 | 48.03 | 51.97  |
| LB        | -  | -  | -  | -   | -     | -    | -     | 13.70 | 16.26 | 17.76 | 20.55 | 22.28 | 23.23 | 24.72 | 28.35 | 32.60  |
| LB1       | -  | -  | -  | -   | -     | -    | -     | 17.13 | 20.91 | 22.40 | 25.43 | 27.17 | 27.87 | 29.37 | 33.31 | 37.24  |

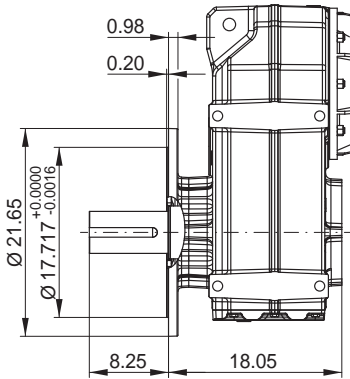
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

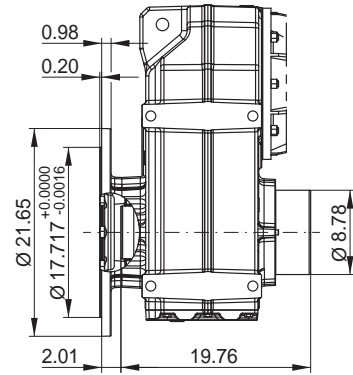
**FO122 / FO123 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  550 mm) with hollow shaft**



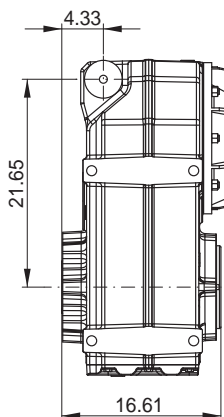
**FF122 / FF123 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  550 mm) with output shaft**



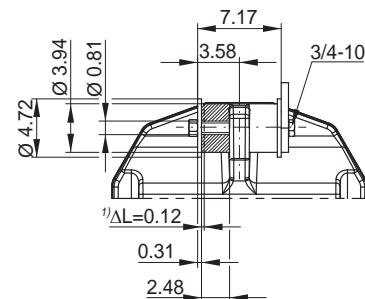
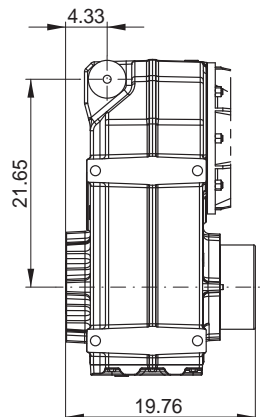
**FP122 / FP123 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  550 mm) with hollow shaft and shrink disc \***



**FT122 / FT123 - Hollow shaft with rubber buffer**



**FU122 / FU123 - Hollow shaft with shrink disc \* and rubber buffer**

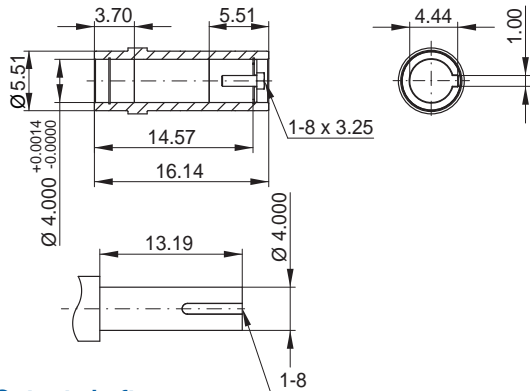
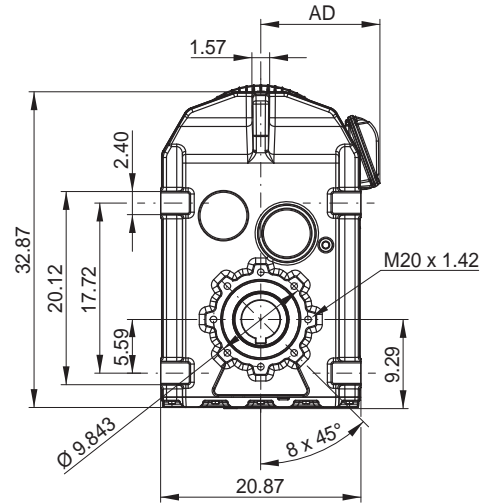
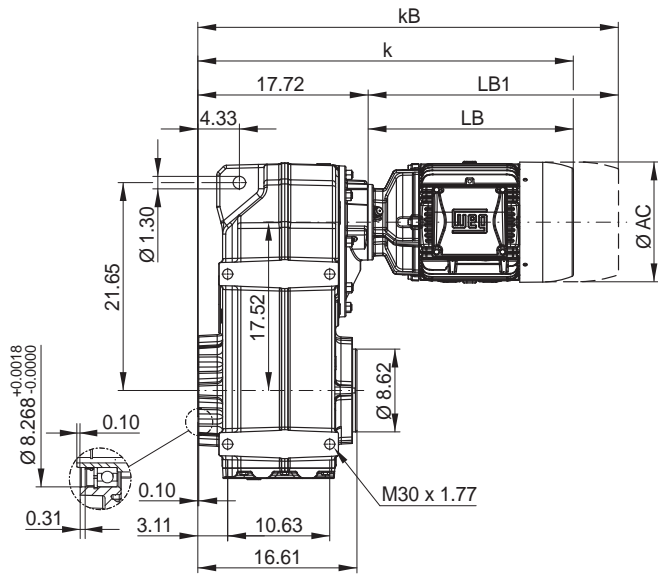


Dimensions in inch.

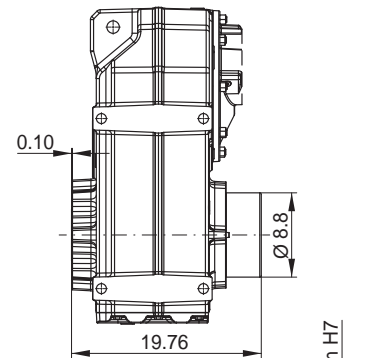
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

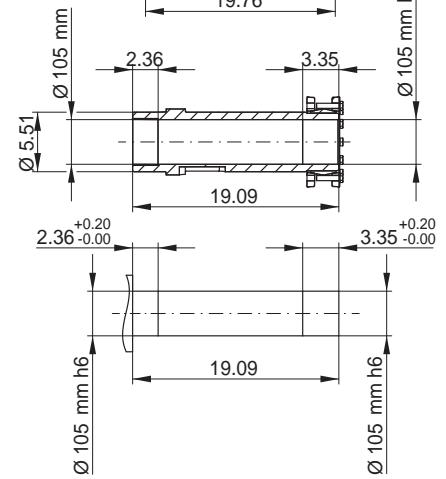
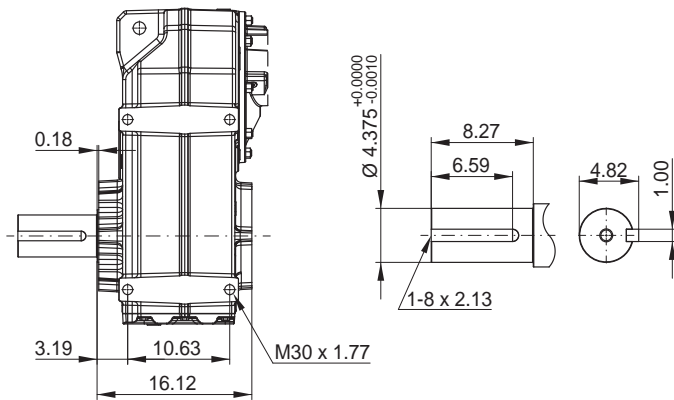
### FH124 - Hollow shaft



### FD124 - Shrink disc \*



### FS124 - Output shaft

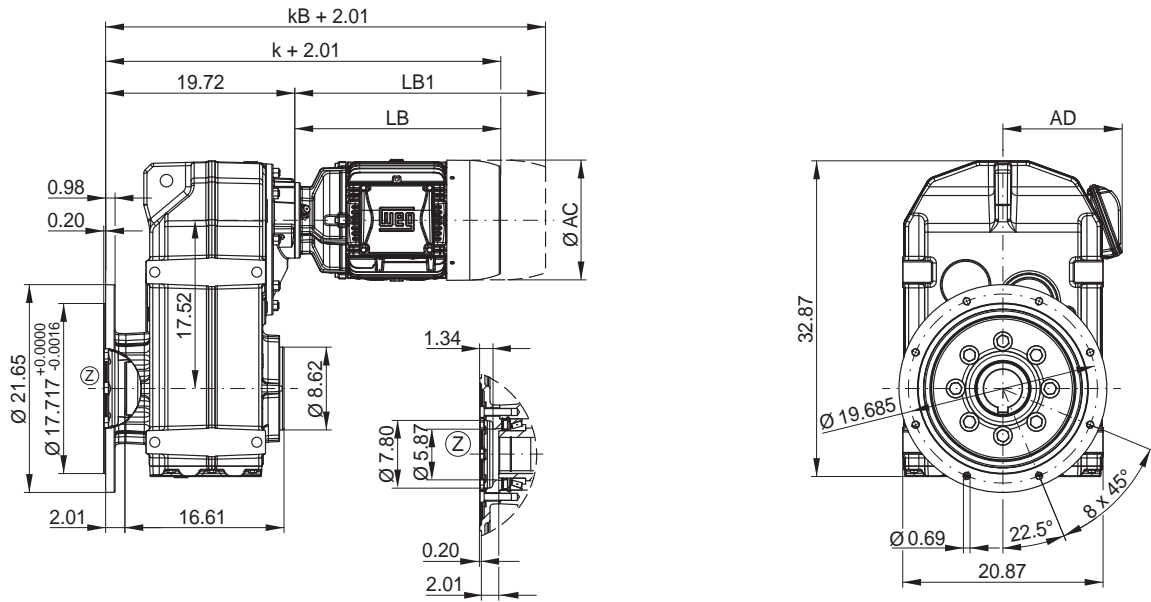


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 |
| k         | 25.75 | 27.09 | 27.40 | 28.35 | 29.06 | 31.02 | 32.52 | 31.42 | 33.98 | 35.47 | 39.17 | 40.91 |
| kB        | 27.48 | 29.02 | 29.69 | 30.63 | 31.93 | 34.33 | 35.83 | 34.84 | 38.62 | 40.12 | 44.06 | 45.79 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.46 | 23.19 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 26.34 | 28.07 |

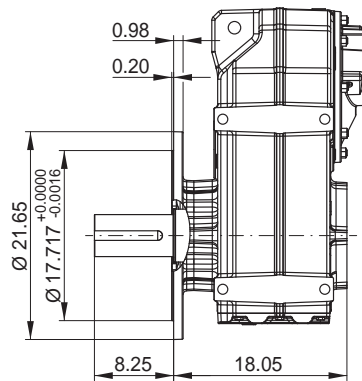
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

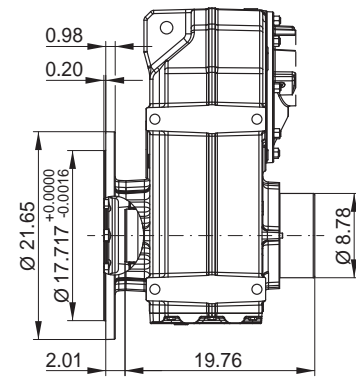
**FO124 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  550 mm) with hollow shaft**



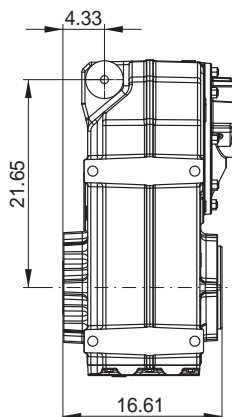
**FF124 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  550 mm) with output shaft**



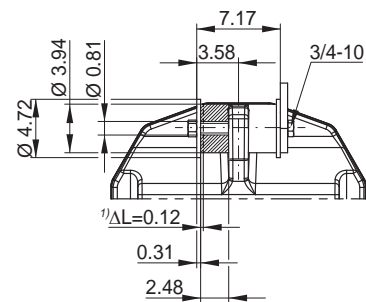
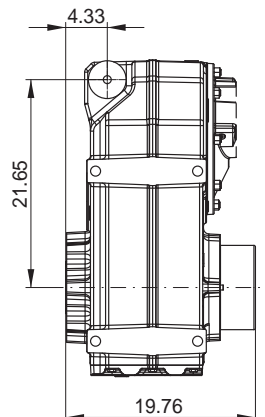
**FP124 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  550 mm) with hollow shaft and shrink disc \***



**FT124 - Hollow shaft with rubber buffer**



**FU124 - Hollow shaft with shrink disc \* and rubber buffer**



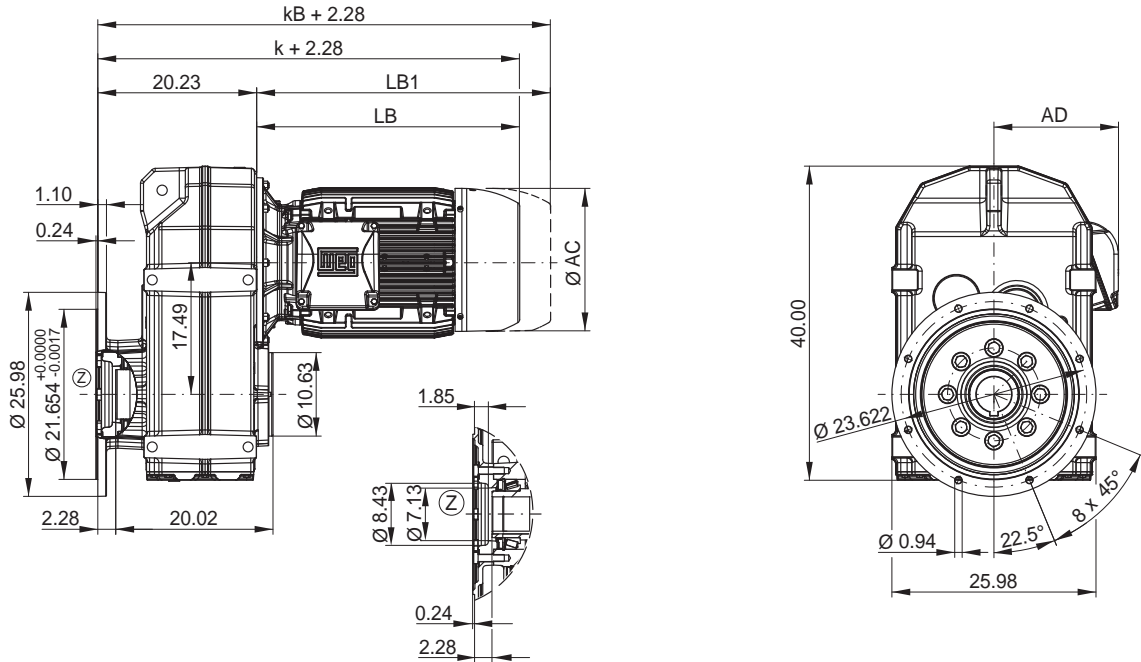
Dimensions in inch.

\* Shrink disc and protection cap possible with all mountable motors.

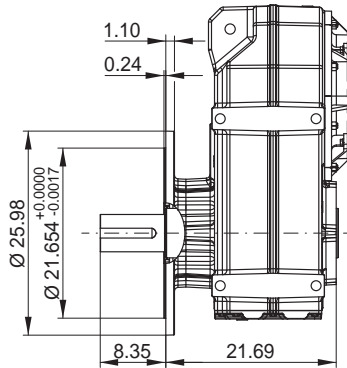
1) Preloaded state



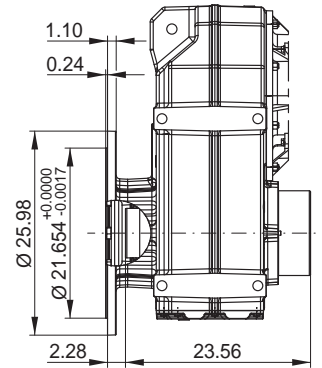
**FO152 / FO153 - Flange execution  $\varnothing$  25.98 in ( $\varnothing$  660 mm) with hollow shaft**



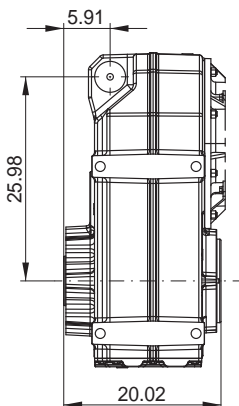
**FF152 / FF153 - Flange execution  $\varnothing$  25.98 in ( $\varnothing$  660 mm) with output shaft**



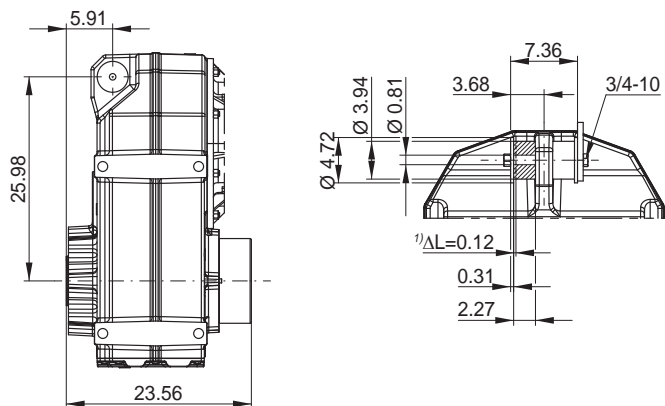
**FP152 / FP153 - Flange execution  $\varnothing$  25.98 in ( $\varnothing$  660 mm) with hollow shaft and shrink disc \***



**FT152 / FT153 - Hollow shaft with rubber buffer**



**FU152 / FU153 - Hollow shaft with shrink disc \* and rubber buffer**

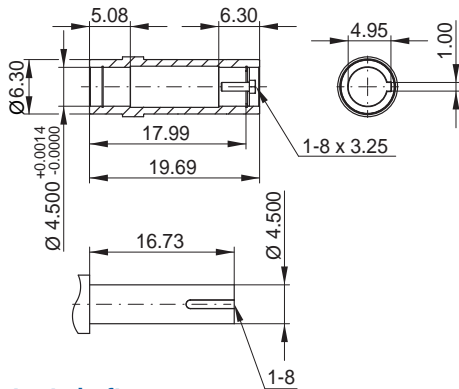
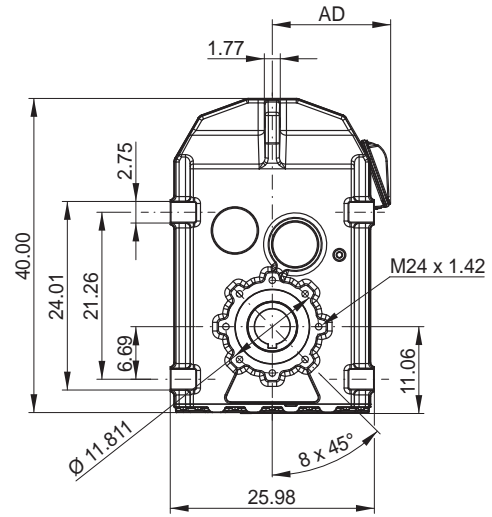
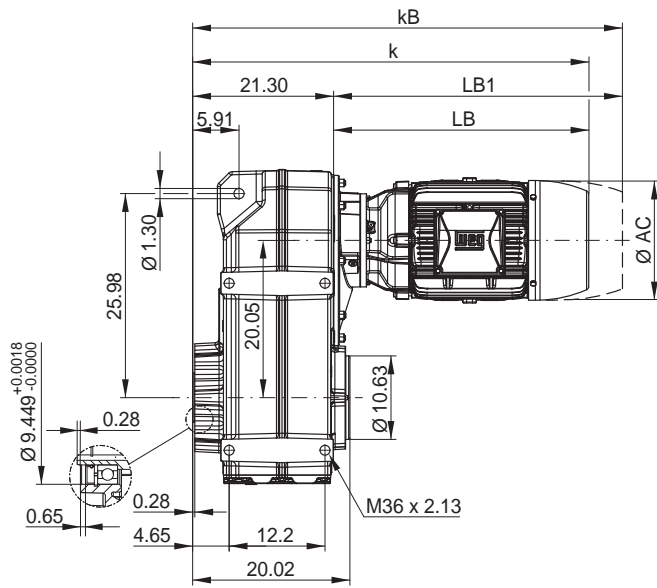


Dimensions in inch.

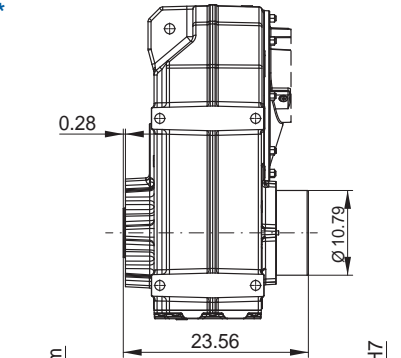
\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

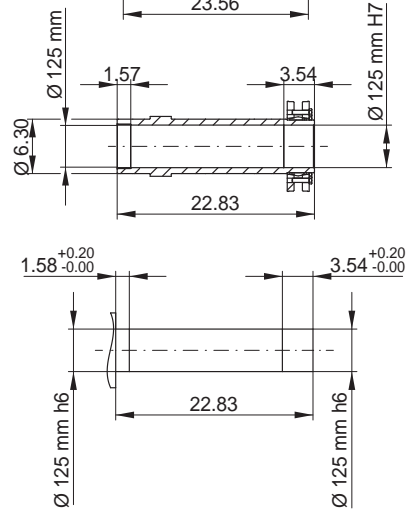
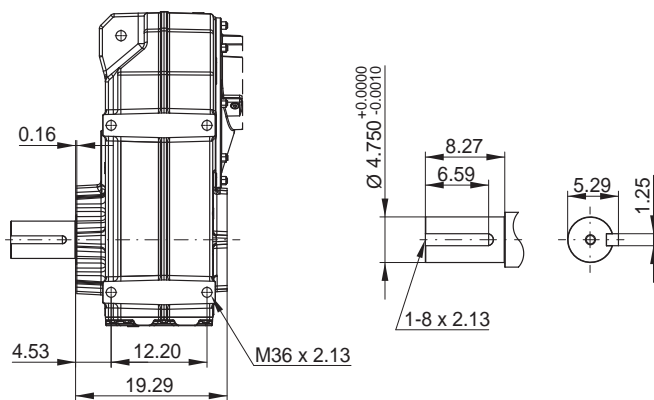
### FH154 - Hollow shaft



### FD154 - Shrink disc \*



### FS154 - Output shaft



| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M | 160M  | 160L  | 180M  | 180L  | 200L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 |
| k         | 29.33 | 30.67 | 30.98 | 31.93 | 32.64 | 34.61 | 36.10 | 35.00 | 37.56 | 39.06 | 42.36 | 44.09 | 45.04 | 46.54 | 50.16 |
| kB        | 31.06 | 32.60 | 33.27 | 34.21 | 35.51 | 37.91 | 39.41 | 38.43 | 42.20 | 43.70 | 47.24 | 48.98 | 49.69 | 51.18 | 55.12 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 | 28.86 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 | 25.94 | 27.68 | 28.39 | 29.88 | 33.82 |

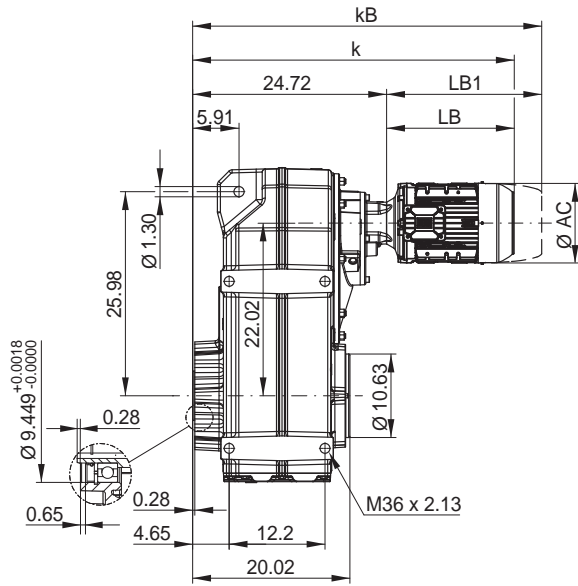
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

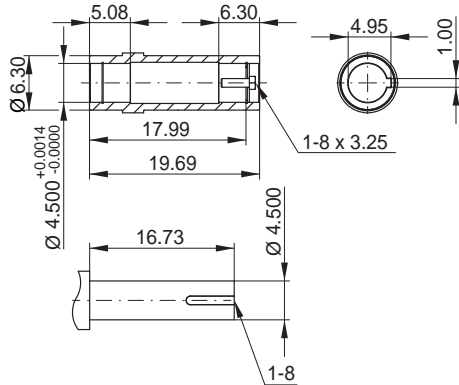




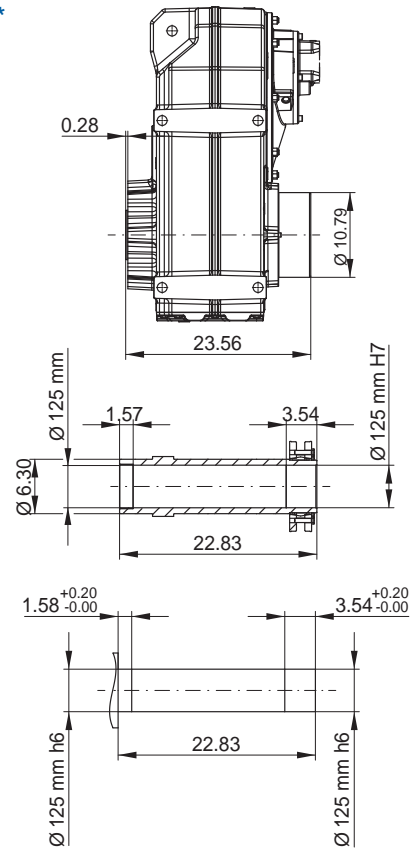
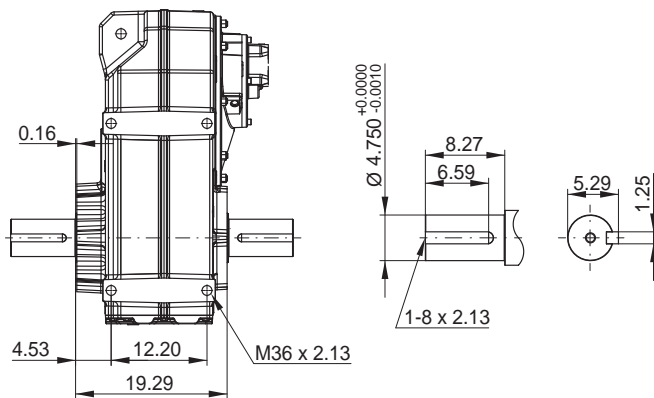
### FH155 - Hollow shaft



### FD155 - Shrink disc \*



### FS155 - Output shaft

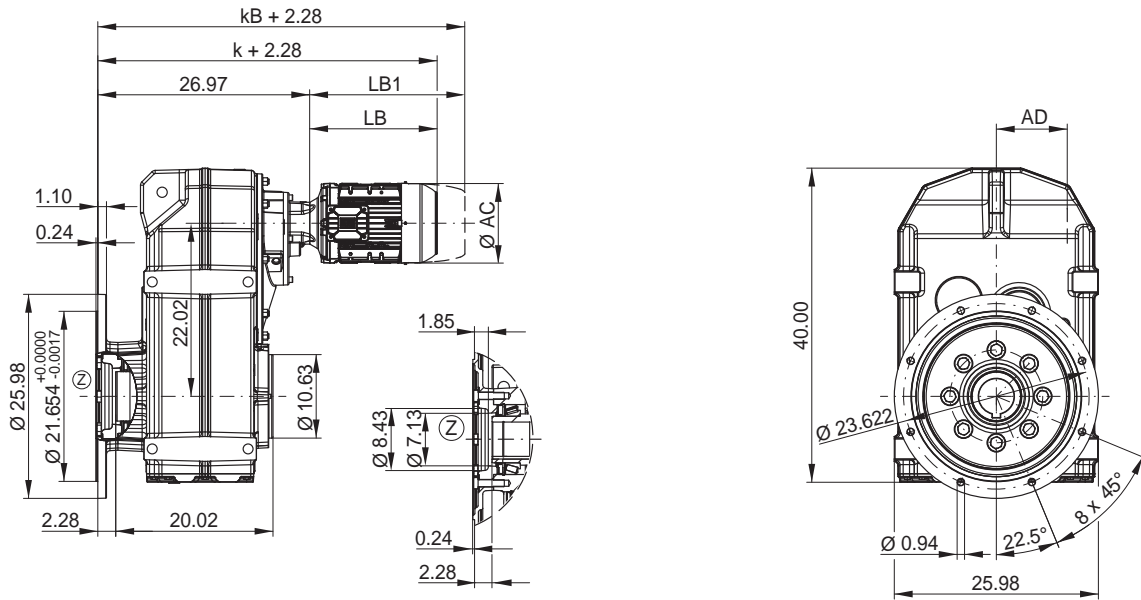


| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S  | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28 | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07  | 8.07  |
| k         | 32.76 | 34.09 | 34.41 | 35.35 | 36.06 | 38.03 | 39.53 | 38.43 | 40.98 | 42.48 |
| kB        | 34.49 | 36.02 | 36.69 | 37.64 | 38.94 | 41.34 | 42.83 | 41.85 | 45.63 | 47.13 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26 | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91 | 22.40 |

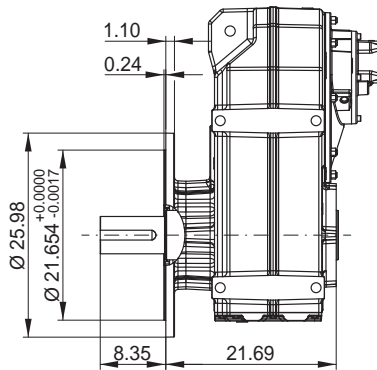
Motor dimension sheets see page 488

Description of motor lengths LB and LB1 see page 492

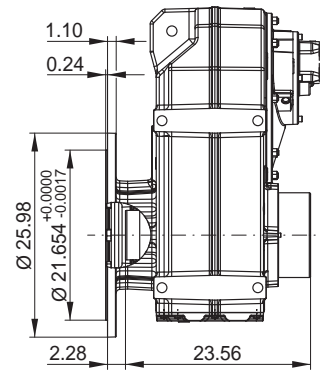
**FO155 - Flange execution  $\varnothing 25.98$  in ( $\varnothing 660$  mm) with hollow shaft**



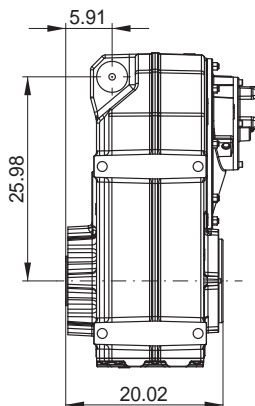
**FF155 - Flange execution  $\varnothing 25.98$  in ( $\varnothing 660$  mm) with output shaft**



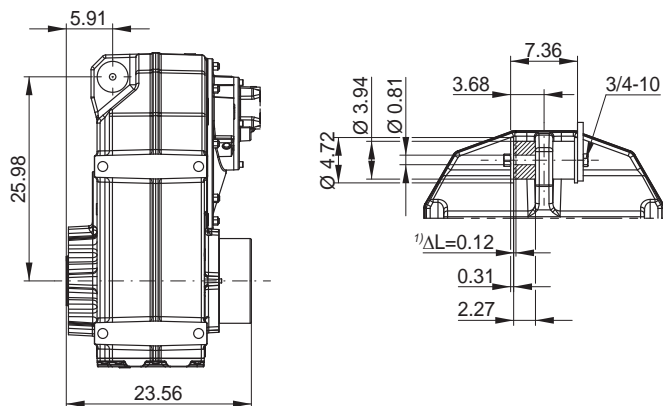
**FP155 - Flange execution  $\varnothing 25.98$  in ( $\varnothing 660$  mm) with hollow shaft and shrink disc \***



**FT155 - Hollow shaft with rubber buffer**



**FU155 - Hollow shaft with shrink disc \* and rubber buffer**



Dimensions in inch.

\* Shrink disc and protection cap possible with all mountable motors.

1) Preloaded state

# EasyLock

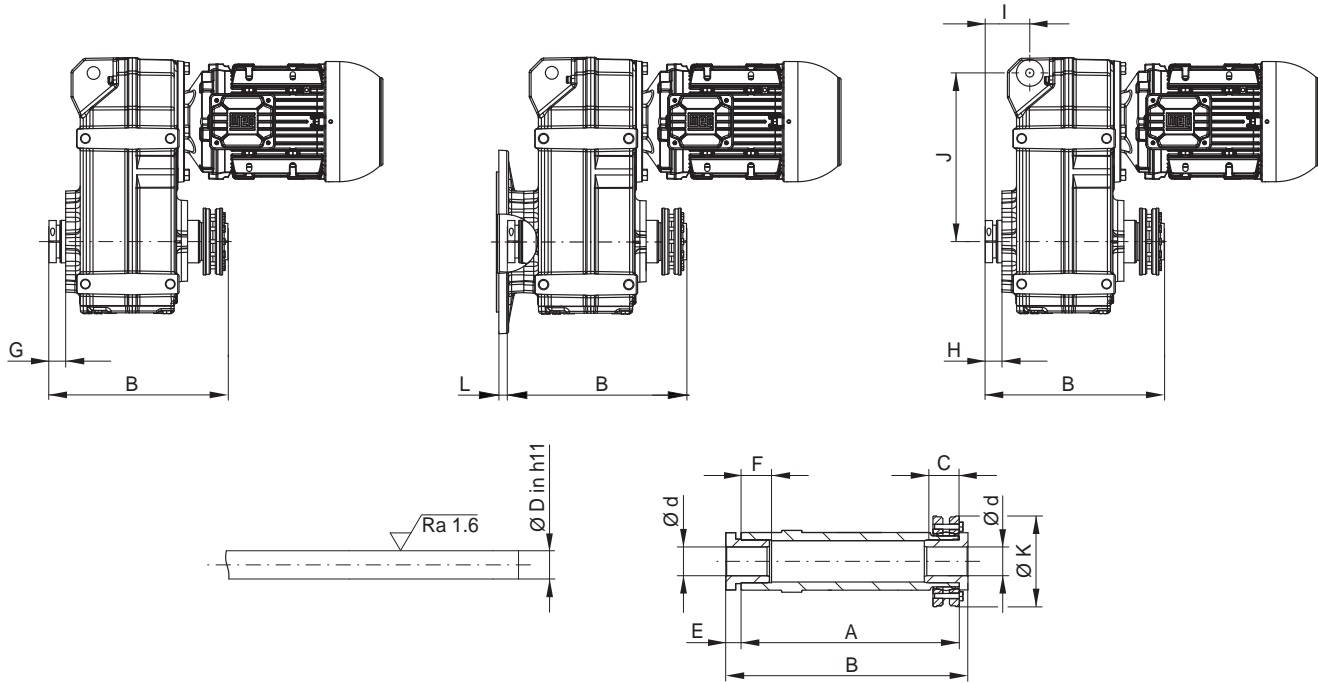
F



**FE... - Hollow shaft with EasyLock**

**FQ... - Flange execution with EasyLock**

**FV... - Hollow shaft with rubber buffer and EasyLock**



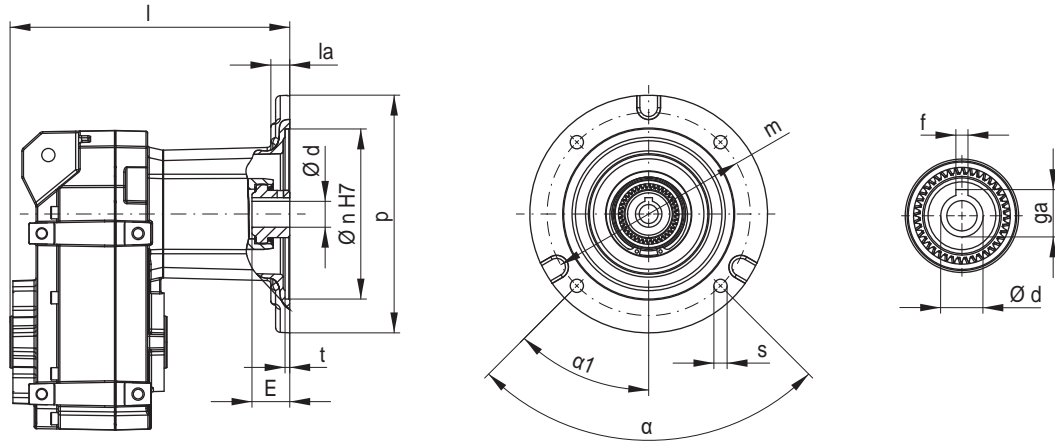
| Dimension \ Gear unit size | F03.   |    | F04.   |    | F05.   |    | F06.   |    | F07.   |    | F08.   |    | F09.   |    |
|----------------------------|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|
|                            | inch   | mm | inch   | mm | inch   | mm | inch   | mm | inch   | mm | inch   | mm | inch   | mm |
| A                          | 5.73   |    | 7.05   |    | 7.99   |    | 8.50   |    | 10.43  |    | 12.09  |    | 14.49  |    |
| B                          | 6.73   |    | 8.19   |    | 9.13   |    | 9.65   |    | 11.57  |    | 13.23  |    | 15.63  |    |
| C                          | 1.40   |    | 1.42   |    | 1.42   |    | 1.42   |    | 1.46   |    | 1.57   |    | 1.89   |    |
| d, D                       | 1.0000 | 25 | 1.1875 | 30 | 1.1875 | 35 | 1.1875 | 35 | 1.6250 | 40 | 1.9375 | 45 | 2.3750 | 55 |
|                            | 1.1250 | 30 | 1.2500 | 32 | 1.2500 | 38 | 1.2500 | 38 | 1.7500 | 45 | 2.0000 | 50 | 2.4375 | 60 |
|                            | 1.1875 | 35 | 1.3750 | 35 | 1.3750 | 40 | 1.3750 | 40 | 1.9375 | 48 | 2.3750 | 55 | 2.7500 | 65 |
|                            | 1.2500 | 32 | 1.4375 | 38 | 1.4375 | 42 | 1.4375 | 42 | 1.9375 | 50 | 2.3750 | 60 | 2.7500 | 70 |
|                            |        |    | 1.4375 | 40 | 1.5000 | 45 | 1.5000 | 45 | 2.0000 | 55 | 2.4375 | 65 | 2.9375 | 75 |
| E                          | 0.71   |    | 0.71   |    | 0.71   |    | 0.71   |    | 0.73   |    | 0.71   |    | 0.71   |    |
| F                          | 1.30   |    | 1.42   |    | 1.42   |    | 1.42   |    | 1.46   |    | 1.57   |    | 1.89   |    |
| G                          | 0.73   |    | 0.87   |    | 0.91   |    | 0.94   |    | 0.94   |    | 1.18   |    | 1.18   |    |
| H                          | 0.73   |    | 0.87   |    | 0.91   |    | 0.94   |    | 0.94   |    | 1.18   |    | 1.18   |    |
| I                          | 1.95   |    | 1.97   |    | 2.30   |    | 2.32   |    | 2.91   |    | 3.15   |    | 3.46   |    |
| J                          | 6.22   |    | 6.69   |    | 7.80   |    | 8.58   |    | 10.94  |    | 13.62  |    | 15.55  |    |
| K                          | 3.15   |    | 3.54   |    | 3.54   |    | 3.54   |    | 4.33   |    | 6.10   |    | 6.10   |    |
| L                          | 0.39   |    | 0.47   |    | 0.59   |    | 0.59   |    | 0.63   |    | 0.73   |    | 0.87   |    |

Gear unit dimension sheets see from page 287

# Dimension sheets - Input types



## IEC Adapter I63 to I280



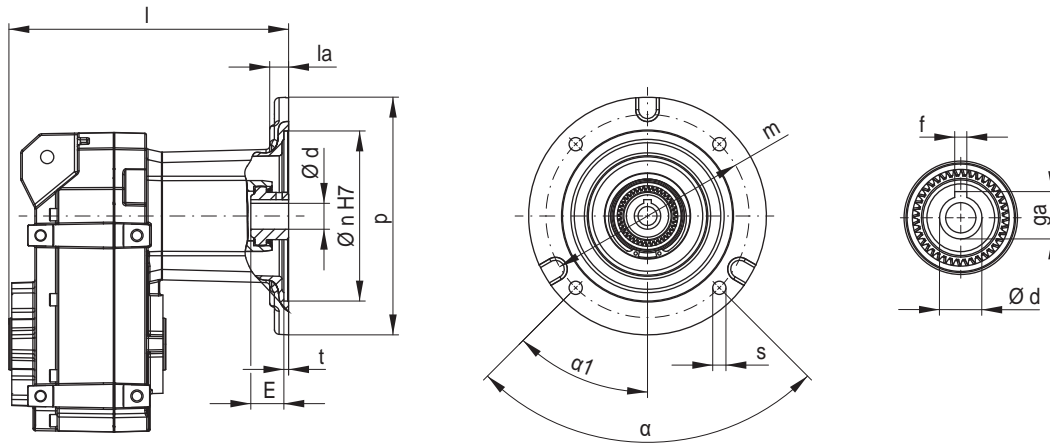
| Type            | I63       | I71       | I80  | I90  | I100 | I112 | I132  | I160  | I180  | I200  | I225  | I250  | I280  |
|-----------------|-----------|-----------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| p               | 6.30      | 6.30      | 7.87 | 7.87 | 9.84 | 9.84 | 11.81 | 13.78 | 13.78 | 15.75 | 17.72 | 21.65 | 21.65 |
| n               | 3.74      | 4.33      | 5.12 | 5.12 | 7.09 | 7.09 | 9.06  | 9.84  | 9.84  | 11.81 | 13.78 | 17.72 | 17.72 |
| la              | 0.89      | 0.39      | 0.51 | 0.51 | 0.59 | 0.79 | 0.59  | 1.38  | 1.38  | 0.79  | 0.79  | 0.79  | 0.79  |
| m               | 4.53      | 5.12      | 6.50 | 6.50 | 8.46 | 8.46 | 10.43 | 11.81 | 11.81 | 13.78 | 15.75 | 19.69 | 19.69 |
| t               | 0.18      | 0.18      | 0.18 | 0.18 | 0.20 | 0.20 | 0.20  | 0.20  | 0.20  | 0.22  | 0.20  | 0.20  | 0.20  |
| s               | M8 x 0.63 | M8 x 0.39 | 0.47 | 0.47 | 0.55 | 0.55 | 0.55  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  |
| α               | 3.54      | 3.54      | 3.54 | 3.54 | 3.54 | 3.54 | 3.54  | 3.54  | 3.54  | 3.54  | 1.77  | 1.77  | 1.77  |
| α <sub>1</sub>  | 1.38      | 1.77      | 1.77 | 1.77 | 1.77 | 1.77 | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  |
| d               | 0.43      | 0.55      | 0.75 | 0.94 | 1.10 | 1.10 | 1.50  | 1.65  | 1.89  | 2.17  | 2.36  | 2.56  | 2.95  |
| f               | 0.16      | 0.20      | 0.24 | 0.31 | 0.31 | 0.31 | 0.39  | 0.47  | 0.55  | 0.63  | 0.71  | 0.71  | 0.79  |
| ga              | 0.50      | 0.64      | 0.86 | 1.07 | 1.23 | 1.23 | 1.63  | 1.78  | 2.04  | 2.33  | 2.54  | 2.73  | 3.15  |
| E <sup>1)</sup> | 0.98      | 1.26      | 1.69 | 1.87 | 2.48 | 3.94 | 3.37  | 4.39  | 4.39  | 4.51  | 5.51  | 5.75  | 5.75  |

<sup>1)</sup> Maximum motor shaft length for motors with key

| Gear unit size | I63   | I71   | I80   | I90   | I100  | I112  | I132  | I160  | I180  | I200  | I225  | I250  | I280  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | l     |       |       |       |       |       |       |       |       |       |       |       |       |
| F02            | 5.39  | 5.39  | 6.50  | 6.50  | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| F03            | 5.79  | 5.79  | 6.89  | 6.89  | 8.11  | -     | -     | -     | -     | -     | -     | -     | -     |
| F04            | 6.75  | 6.75  | 7.85  | 7.85  | 9.07  | -     | -     | -     | -     | -     | -     | -     | -     |
| F05            | 7.24  | 7.24  | 8.35  | 8.35  | 9.57  | 11.65 | 12.09 | -     | -     | -     | -     | -     | -     |
| F06            | 7.70  | 7.70  | 8.80  | 8.80  | 10.02 | 12.11 | 12.54 | 15.93 | -     | -     | -     | -     | -     |
| F07            | 8.72  | 8.72  | 9.82  | 9.82  | 11.04 | 13.13 | 13.56 | 16.95 | -     | -     | -     | -     | -     |
| F08            | 9.78  | 9.78  | 10.89 | 10.89 | 12.11 | 14.19 | 14.63 | 17.95 | 17.95 | -     | -     | -     | -     |
| F09            | 11.75 | 11.75 | 12.85 | 12.85 | 14.07 | 16.16 | 16.59 | 19.92 | 19.92 | 21.04 | -     | -     | -     |
| F10            | -     | -     | -     | -     | -     | 17.32 | 17.76 | 20.98 | 20.98 | 22.11 | 23.29 | -     | -     |
| F12            | -     | -     | -     | -     | -     | 19.67 | 20.10 | 23.33 | 23.33 | 24.45 | 25.63 | 29.13 | 29.13 |
| F15            | -     | -     | -     | -     | -     | -     | -     | 25.94 | 25.94 | 27.07 | 28.25 | 31.75 | 31.75 |

Dimensions in inch.

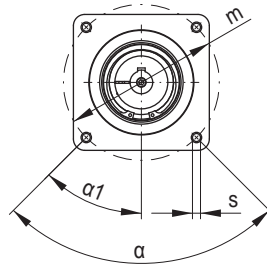
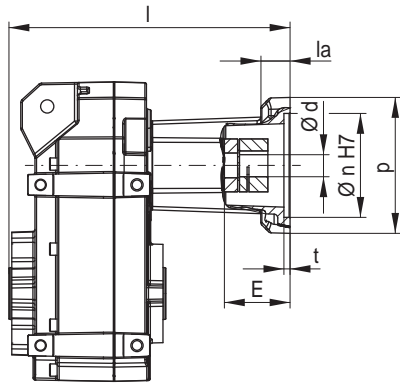
## NEMA Adapter N56 to N364



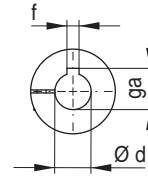
| Type           | N56  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | N364  |
|----------------|------|----------|------|------|----------|----------|----------|----------|-------|
| p              | 6.69 | 6.69     | 9.84 | 9.84 | 11.81    | 8.86     | 11.02    | 13.78    | 15.75 |
| n              | 4.50 | 4.50     | 8.50 | 8.50 | 8.50     | 8.50     | 10.50    | 12.50    | 12.50 |
| la             | 0.51 | 0.51     | 0.39 | 0.66 | 0.39     | 1.18     | 1.38     | 0.59     | 0.59  |
| m              | 5.88 | 5.88     | 7.25 | 7.25 | 7.25     | 7.25     | 9.00     | 11.00    | 11.00 |
| t              | 0.18 | 0.18     | 0.20 | 0.13 | 0.20     | 0.20     | 0.12     | 0.20     | 0.20  |
| s              | 0.43 | 0.43     | 0.55 | 0.55 | 0.55     | 0.55     | 0.55     | 0.75     | 0.75  |
| α              | 90°  | 90°      | 90°  | 90°  | 90°      | 90°      | 90°      | 90°      | 90°   |
| α <sub>1</sub> | 45°  | 45°      | 45°  | 45°  | 45°      | 45°      | 45°      | 45°      | 45°   |
| d              | 0.63 | 0.88     | 1.13 | 1.13 | 1.38     | 1.63     | 1.88     | 2.13     | 2.38  |
| f              | 0.19 | 0.19     | 0.25 | 0.25 | 0.31     | 0.38     | 0.50     | 0.50     | 0.63  |
| ga             | 0.71 | 0.96     | 1.24 | 1.24 | 1.52     | 1.80     | 2.10     | 2.35     | 2.65  |
| E              | 2.17 | 2.17     | 2.66 | 3.81 | 3.17     | 4.15     | 4.39     | 4.31     | 4.31  |

| Gear unit size | N56   | N143/145 | N182  | N184  | N213/215 | N254/256 | N284/286 | N324/326 | N364  |
|----------------|-------|----------|-------|-------|----------|----------|----------|----------|-------|
|                | l     |          |       |       |          |          |          |          |       |
| F02            | 6.50  | 6.50     | -     | -     | -        | -        | -        | -        | -     |
| F03            | 6.89  | 6.89     | 8.11  | -     | -        | -        | -        | -        | -     |
| F04            | 7.85  | 7.85     | 9.07  | -     | -        | -        | -        | -        | -     |
| F05            | 8.35  | 8.35     | 9.57  | 11.65 | 12.09    | -        | -        | -        | -     |
| F06            | 8.80  | 8.80     | 10.02 | 12.11 | 12.54    | 15.93    | -        | -        | -     |
| F07            | 9.82  | 9.82     | 11.04 | 13.13 | 13.56    | 16.95    | -        | -        | -     |
| F08            | 10.89 | 10.89    | 12.11 | 14.19 | 14.63    | 17.95    | 18.07    | -        | -     |
| F09            | 12.85 | 12.85    | 14.07 | 16.16 | 16.59    | 19.92    | 20.04    | 21.91    | -     |
| F10            | -     | -        | -     | 17.32 | 17.76    | 20.98    | 21.10    | 22.97    | 23.58 |
| F12            | -     | -        | -     | 19.67 | 20.10    | 23.33    | 23.44    | 25.31    | 25.93 |
| F15            | -     | -        | -     | -     | -        | 25.94    | 26.06    | 28.54    | 28.54 |

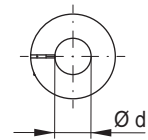
## SERVO Adapter S92 to S190



Shaft with key



Smooth shaft



| Type            | S92                | S105    | S114        | S115    | S130                      | S141    | S142        | S180 | S189        | S190 |
|-----------------|--------------------|---------|-------------|---------|---------------------------|---------|-------------|------|-------------|------|
| p               | 3.98               | 5.67    | 5.67        | 5.67    | 5.67                      | 5.67    | 5.67        | 7.76 | 7.76        | 7.76 |
| n               | 3.15               | 3.74    | 3.74        | 4.33    | 4.33                      | 4.33    | 5.12        | 4.50 | 5.12        | 7.09 |
| la              | 0.69               | 1.22    | 1.22        | 1.22    | 1.22                      | 1.22    | 1.22        | 1.38 | 1.26        | 1.50 |
| m               | 3.94               | 4.53    | 5.12        | 5.12    | 5.71                      | 6.50    | 6.50        | 7.87 | 8.46        | 8.46 |
| t               | 0.26               | 0.26    | 0.26        | 0.26    | 0.26                      | 0.26    | 0.26        | 0.26 | 0.26        | 0.26 |
| s               | M6x0.47            | M8x0.63 | M8x0.63     | M8x0.63 | M8x0.63                   | M8x0.63 | M8x16       | 0.53 | 0.59        | 0.59 |
| α               | 90°                | 90°     | 90°         | 90°     | 90°                       | 90°     | 90°         | 90°  | 90°         | 90°  |
| α <sub>1</sub>  | 45°                | 45°     | 45°         | 45°     | 45°                       | 45°     | 45°         | 45°  | 45°         | 45°  |
| d <sup>1)</sup> | 0.55   0.63   0.75 | 0.75    | 0.75   0.94 | 0.94    | 0.75   0.87   0.94   1.10 | 0.94    | 0.94   1.26 | 1.38 | 1.26   1.50 | 1.50 |
| f               | 0.20   0.20   0.24 | 0.24    | 0.24   0.31 | 0.31    | 0.24   0.24   0.31   0.31 | 0.31    | 0.31   0.39 | 0.39 | 0.39   0.39 | 0.39 |
| ga              | 0.64   0.72   0.86 | 0.86    | 0.86   1.07 | 1.07    | 0.86   0.98   1.07   1.23 | 1.07    | 1.07   1.39 | 1.51 | 1.39   1.39 | 1.63 |
| E <sup>2)</sup> | 1.87               | 2.74    | 2.74   2.11 | 2.11    | 2.97   2.97   2.46   2.46 | 2.62    | 2.46   2.46 | 2.58 | 2.89   2.34 | 3.41 |
| E <sup>3)</sup> | 1.87               | 2.74    | 2.74   2.62 | 2.62    | 2.97   2.97   2.97   2.46 | 2.11    | 2.97   2.46 | 3.41 | 2.89   2.34 | 3.41 |

<sup>1)</sup> Other shaft diameters on request

<sup>2)</sup> Maximum motor shaft length for motors with key

<sup>3)</sup> Maximum motor shaft length for motors with smooth shaft

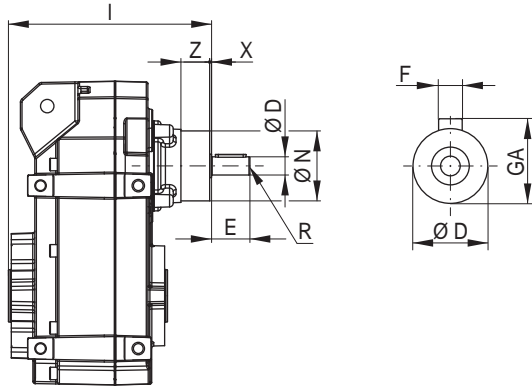
| Gear unit size | S92   | S105  | S114  | S115  | S130  | S141  | S142  | S180  | S189  | S190  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | l     |       |       |       |       |       |       |       |       |       |
| F02            | 7.97  | 9.86  | 9.86  | 9.86  | 9.86  | 9.86  | 9.86  | -     | -     | -     |
| F03            | 8.37  | 10.26 | 10.26 | 10.26 | 10.26 | 10.26 | 10.26 | -     | -     | -     |
| F04            | 9.33  | 11.22 | 11.22 | 11.22 | 11.22 | 11.22 | 11.22 | -     | -     | -     |
| F05            | 9.82  | 11.71 | 11.71 | 11.71 | 11.71 | 11.71 | 11.71 | 14.49 | 14.25 | 15.31 |
| F06            | 10.28 | 12.17 | 12.17 | 12.17 | 12.17 | 12.17 | 12.17 | 14.94 | 14.70 | 15.77 |
| F07            | 11.30 | 13.19 | 13.19 | 13.19 | 13.19 | 13.19 | 13.19 | 15.96 | 15.73 | 16.79 |
| F08            | 12.36 | 14.25 | 14.25 | 14.25 | 14.25 | 14.25 | 14.25 | 17.03 | 16.79 | 17.85 |
| F09            | 14.33 | 16.22 | 16.22 | 16.22 | 16.22 | 16.22 | 16.22 | 19.00 | 18.76 | 19.82 |
| F10            | -     | -     | -     | -     | -     | -     | -     | 20.16 | 19.92 | 20.98 |
| F12            | -     | -     | -     | -     | -     | -     | -     | 22.50 | 22.26 | 23.33 |
| F15            | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |

Dimensions in inch.

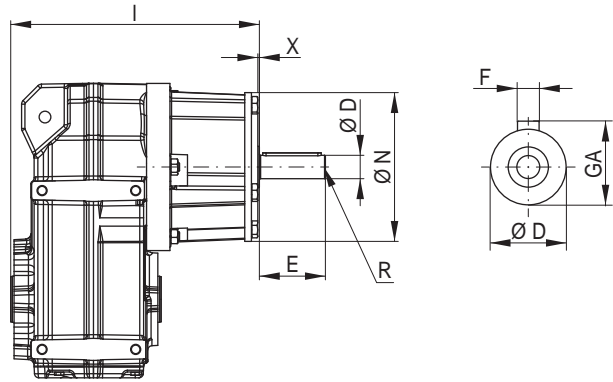
Dimensions in mm.



### Input Unit U2, U3



### Input Unit U5, U6, U7



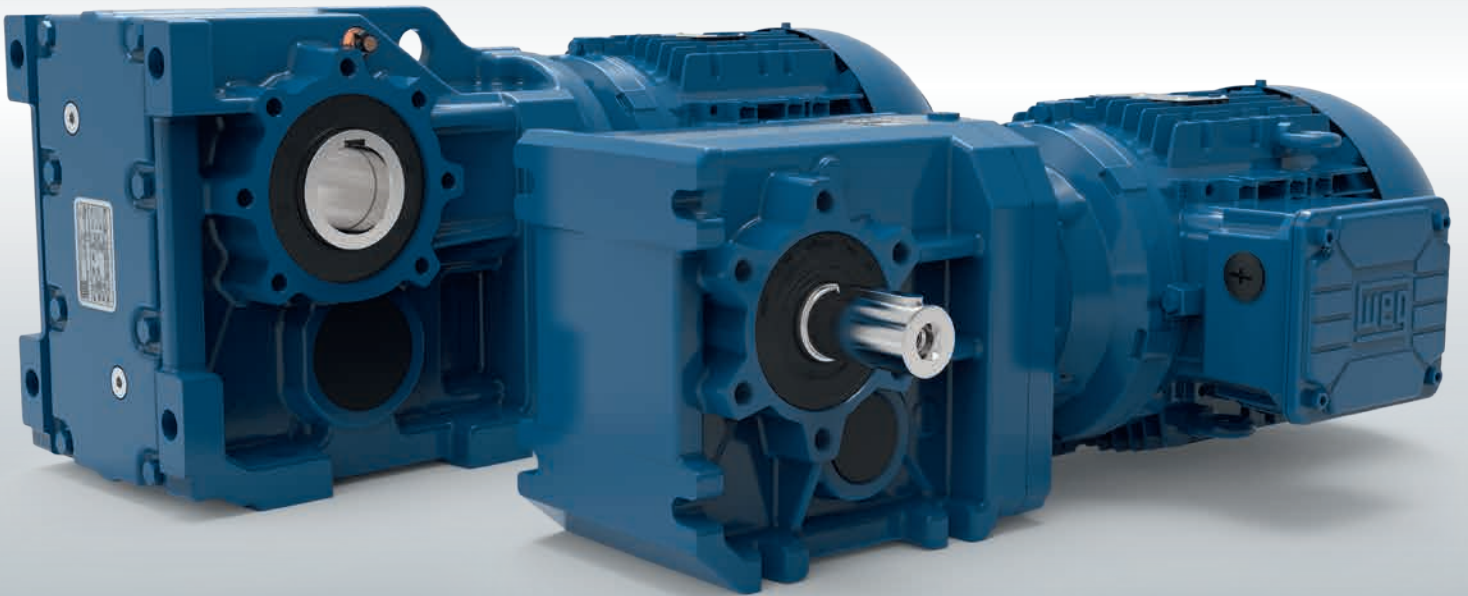
| Type | Input shaft |        |        |        |         |         |         |
|------|-------------|--------|--------|--------|---------|---------|---------|
|      | 19x40*      | 24x50* | 28x60* | 38x80* | 42x110* | 48x110* | 55x110* |
|      | U2          | U3     | U5     |        |         | U6      | U7      |
| D    | 0.75        | 0.94   | 1.10   | 1.50   | 1.65    | 1.89    | 2.17    |
| F    | 0.24        | 0.31   | 0.31   | 0.39   | 0.47    | 0.55    | 0.63    |
| GA   | 0.85        | 1.06   | 1.22   | 1.61   | 1.77    | 2.03    | 2.32    |
| E    | 1.57        | 1.97   | 2.36   | 3.15   | 4.33    | 4.33    | 4.33    |
| N    | 2.87        | 3.98   | 7.01   |        |         | 9.25    | 11.42   |
| X    | 0.08        | 0.10   | 0.07   |        |         | 0.26    | 0.16    |
| Z    | 0.12        | 1.38   | -      |        |         | -       | -       |
| R    | M6          | M10    | M10    | M12    | M16     | M16     | M20     |

| Tolerances     |                                |    |
|----------------|--------------------------------|----|
| Dimension name | ISO tolerance DIN EN ISO 286-2 |    |
| D              | < Ø 55 mm (2.17 in)            | k6 |
|                | ≥ Ø 55 mm (2.17 in)            | m6 |

| Gear unit size | Input shaft |        |                             |         |         |
|----------------|-------------|--------|-----------------------------|---------|---------|
|                | 19x40*      | 24x50* | 28x60*<br>38x80*<br>42x110* | 48x110* | 55x110* |
|                | U2          | U3     | U5                          | U6      | U7      |
|                | I           |        |                             |         |         |
| F02            | 6.50        | -      | -                           | -       | -       |
| F03            | 6.89        | -      | -                           | -       | -       |
| F04            | 7.85        | -      | -                           | -       | -       |
| F05            | 8.35        | 9.61   | -                           | -       | -       |
| F06            | 8.80        | 10.06  | 11.73                       | -       | -       |
| F07            | 9.82        | 11.08  | 12.76                       | -       | -       |
| F08            | 10.89       | 12.15  | 13.76                       | 14.63   | -       |
| F09            | 12.85       | 14.11  | 15.73                       | 16.59   | -       |
| F10            | -           | 15.28  | 16.79                       | 17.66   | 20.37   |
| F12            | -           | 17.62  | 19.13                       | 20.00   | 22.72   |
| F15            | -           | -      | 21.75                       | 22.62   | 25.33   |

\* Shaft sizes in mm.





## Helical bevel geared motors K

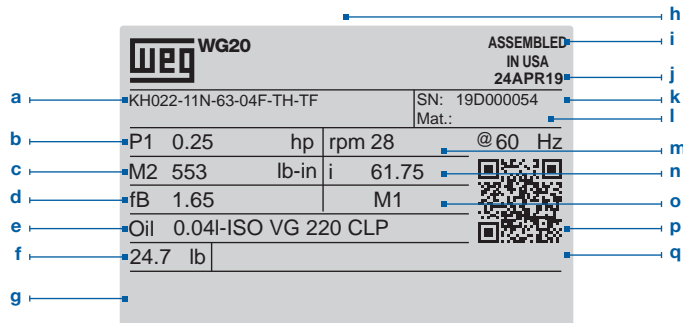


# Technical data

| Size             |           | K02                                                                                                                                                                                                                                                    | K03            | K04            | K05           | K06         | K07            | K08             | K09             | K10             | K12             | K15              |
|------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|---------------|-------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|
| Power            | [hp]      | 0.16 - 2.0                                                                                                                                                                                                                                             | 0.16 - 4.0     | 0.16 - 5.5     | 0.16 - 12.5   | 0.16 - 12.5 | 0.16 - 20      | 0.16 - 30       | 0.16 - 50       | 0.16 - 75       | 0.16 - 75       | 0.16 - 100       |
| Torque           | [lb-in]   | 970                                                                                                                                                                                                                                                    | 1770           | 3540           | 5310          | 7260        | 13700          | 26600           | 39800           | 70800           | 115000          | 159000           |
| Ratio            |           | 3.82<br>68.88                                                                                                                                                                                                                                          | 4.17<br>217.88 | 4.87<br>277.79 | 4.27<br>245.7 | 4.94<br>198 | 7.91<br>256.14 | 7.45<br>2205.52 | 6.94<br>1810.95 | 6.64<br>1301.54 | 6.60<br>1579.81 | 8.61<br>14005.40 |
| Number of stages |           | 2                                                                                                                                                                                                                                                      | 3              | 3              | 3             | 3           | 3              | 3 / 4           | 3 / 4           | 3 / 4           | 3 / 4           | 3 / 4 / 5        |
| Housing material |           | aluminium                                                                                                                                                                                                                                              |                |                |               |             | cast iron      |                 |                 |                 |                 |                  |
| Solid shaft      | Type      | with key acc. to DIN 6885.1 and threaded hole acc. to DIN 332 sheet 2                                                                                                                                                                                  |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Tolerance | < Ø 55 mm (2.165 in): k6 / ≥ Ø 55 mm (2.165 in): m6                                                                                                                                                                                                    |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Material  | standard: C45E (1.1191) / stainless steel on request                                                                                                                                                                                                   |                |                |               |             |                |                 |                 |                 |                 |                  |
| Hollow shaft     | Type      | with key acc. to DIN 6885.1                                                                                                                                                                                                                            |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Tolerance | H7                                                                                                                                                                                                                                                     |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Material  | standard: C45E (1.1191) / stainless steel on request                                                                                                                                                                                                   |                |                |               |             |                |                 |                 |                 |                 |                  |
| Flanges          | Tolerance | centering ≤ 250 mm (9.842 in): j6 / > 250 mm (9.842 in): h6 acc. to DIN EN 50347                                                                                                                                                                       |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Material  | cast iron                                                                                                                                                                                                                                              |                |                |               |             |                |                 |                 |                 |                 |                  |
| Gear wheels      | Type      | honed                                                                                                                                                                                                                                                  |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Material  | 16MnCr5 (1.7131) case hardened – minimum 58HRC                                                                                                                                                                                                         |                |                |               |             |                |                 |                 |                 |                 |                  |
| Shaft seals      | Type      | type AS acc. to DIN 3760                                                                                                                                                                                                                               |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Material  | standard NBR / special FKM                                                                                                                                                                                                                             |                |                |               |             |                |                 |                 |                 |                 |                  |
| Bearing          |           | standard / reinforced                                                                                                                                                                                                                                  |                |                |               |             |                |                 |                 |                 |                 |                  |
| Lubricants       | Type      | standard CLP 220 / special CLP HC 220                                                                                                                                                                                                                  |                |                |               |             |                |                 |                 |                 |                 |                  |
|                  | Quantity  | depending on mounting position                                                                                                                                                                                                                         |                |                |               |             |                |                 |                 |                 |                 |                  |
| Shaft height     |           | acc. to DIN 747:<br>≤ 50 mm (1.968 in): -0.4 mm (-0.016 in)<br>> 50 mm (1.968 in) to ≤ 250 mm (9.842 in): -0.5 mm (0.020 in)<br>> 250 mm (9.842 in): -1 mm (0.040 in)<br>for foot-mounted gear motors, the motor may extend below the mounting surface |                |                |               |             |                |                 |                 |                 |                 |                  |

# General information

## 1. Nameplate



|   |                                     |   |                                                 |
|---|-------------------------------------|---|-------------------------------------------------|
| a | Type code                           | j | Production date                                 |
| b | Motor power                         | k | Serial number                                   |
| c | Output torque                       | l | Material number                                 |
| d | Service factor                      | m | Output speed and Frequency                      |
| e | Type and quantity of lubricant      | n | Total gear ratio                                |
| f | Weight                              | o | Mounting position                               |
| g | Space for ATEX code (if applicable) | p | QR-Code linked online to additional information |
| h | Production company                  | q | Space for additional information                |
| i | Production country                  |   |                                                 |

## 2. Type code

**KH073-EX-11P-90S/L-04F ...**

1 2 3 4 5 6 7 8 9 10

**KH073-EX-I112-HT**

1 2 3 4 5 11 12

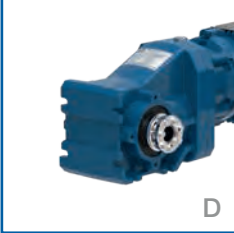
|           |                                 |                                                                                                                                                                                                                                                |                 |                 |                   |                  |                                                                                                                                                                                                    |                   |                |      |                   |    |
|-----------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|-------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|------|-------------------|----|
| <b>1</b>  | Type:                           | K = Helical bevel gear unit                                                                                                                                                                                                                    |                 |                 |                   |                  |                                                                                                                                                                                                    |                   |                |      |                   |    |
| <b>2</b>  | Design:                         | D = Hollow shaft with shrink disc<br>E = Hollow shaft with EasyLock<br>F = B5 flange execution with output shaft<br>H = Hollow shaft<br>O = B5 flange execution with hollow shaft<br>P = B5 flange execution with hollow shaft and shrink disc |                 |                 |                   |                  | Q = B5 flange execution with EasyLock<br>S = Output shaft<br>T = Hollow shaft with torque arm<br>U = Hollow shaft with shrink disc and torque arm<br>V = Hollow shaft and torque arm with EasyLock |                   |                |      |                   |    |
| <b>3</b>  | Size:                           | 02                                                                                                                                                                                                                                             | 03              | 04              | 05                | 06               | 07                                                                                                                                                                                                 | 08                | 09             | 10   | 12                | 15 |
| <b>4</b>  | Number of stages:               | 2 = 2 gear stages                                                                                                                                                                                                                              |                 |                 | 3 = 3 gear stages |                  |                                                                                                                                                                                                    | 4 = 4 gear stages |                |      | 5 = 5 gear stages |    |
| <b>5</b>  | ATEX execution:                 | when operated in explosive atmospheres, see page 482                                                                                                                                                                                           |                 |                 |                   |                  |                                                                                                                                                                                                    |                   |                |      |                   |    |
| <b>6</b>  | Motor type:                     | 11N = Integral motor aluminium IE1<br>11P = Integral motor aluminium IE3                                                                                                                                                                       |                 |                 |                   |                  | 22P = Integral motor cast iron IE3                                                                                                                                                                 |                   |                |      |                   |    |
| <b>7</b>  | Motor frame size:               | 63<br>L132M                                                                                                                                                                                                                                    | 71<br>160M      | 80<br>160L      | L80<br>180M       | 90S/L<br>180L    | 100L<br>200L                                                                                                                                                                                       | L100L<br>225S/M   | 112M<br>250S/M | 132S |                   |    |
| <b>8</b>  | Number of poles:                | 04 = 4 poles                                                                                                                                                                                                                                   |                 |                 |                   | 06 = 6 poles     |                                                                                                                                                                                                    |                   |                |      |                   |    |
| <b>9</b>  | Power indicator:                | E                                                                                                                                                                                                                                              | F               | G               |                   |                  |                                                                                                                                                                                                    |                   |                |      |                   |    |
| <b>10</b> | Motor modules:                  | see from page 493                                                                                                                                                                                                                              |                 |                 |                   |                  |                                                                                                                                                                                                    |                   |                |      |                   |    |
| <b>11</b> | Adapters, Input unit:           | IEC Adapter                                                                                                                                                                                                                                    |                 | I63<br>I160     | I71<br>I180       | I80<br>I200      | I90<br>I225                                                                                                                                                                                        | I100<br>I250      | I112<br>I280   | I132 |                   |    |
|           |                                 | NEMA Adapter                                                                                                                                                                                                                                   |                 | N56<br>N254     | N143<br>N284      | N182<br>N324     | N184<br>N364                                                                                                                                                                                       | N213              |                |      |                   |    |
|           |                                 | SERVO Adapter                                                                                                                                                                                                                                  |                 | S92<br>S141     | S105<br>S142      | S114<br>S180     | S115<br>S189                                                                                                                                                                                       | S130<br>S190      |                |      |                   |    |
|           |                                 | Input unit                                                                                                                                                                                                                                     |                 | U2              | U3                | U5               | U6                                                                                                                                                                                                 | U7                |                |      |                   |    |
|           | Direct Mounting (IEC):          | IEC63<br>IEC132                                                                                                                                                                                                                                | IEC71<br>IEC160 | IEC80<br>IEC180 | IEC90<br>IEC200   | IEC100<br>IEC225 | IEC112<br>IEC250                                                                                                                                                                                   |                   |                |      |                   |    |
| <b>12</b> | High/Low temperature execution: | HT    LT                                                                                                                                                                                                                                       |                 |                 |                   |                  |                                                                                                                                                                                                    |                   |                |      |                   |    |

Type code Motor see page 475

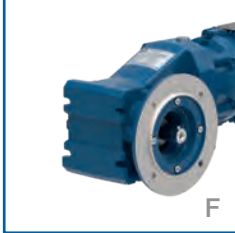
### 3. Range

|                  |           |     |     |     |     |           |     |     |     |     |     |
|------------------|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----|
| Size             | K02       | K03 | K04 | K05 | K06 | K07       | K08 | K09 | K10 | K12 | K15 |
| Housing material | Aluminium |     |     |     |     | Cast iron |     |     |     |     |     |


### 4. Design



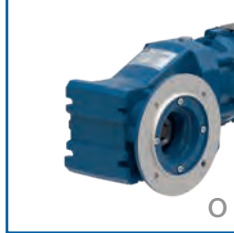
D




F




H




O




P




S




T




U



E



Q



V

|                                  |                                                |
|----------------------------------|------------------------------------------------|
| D                                | Hollow shaft with shrink disc                  |
| F                                | B5 flange execution with output shaft          |
| H                                | Hollow shaft                                   |
| O                                | B5 flange execution with hollow shaft          |
| P                                | B5 flange exec. with hollow s. and shrink disc |
| S                                | Output shaft                                   |
| T                                | Hollow shaft with torque arm                   |
| U                                | Hollow shaft with shrink disc and torque arm   |
| <b>Executions using EasyLock</b> |                                                |
| E                                | Hollow shaft with EasyLock                     |
| Q                                | B5 flange execution with EasyLock              |
| V                                | Hollow shaft and torque arm with EasyLock      |

### 5. Venting the gear unit





The helical bevel gear unit sizes K02 to K05 are neither equipped with a vent plug nor an oil drain plug. They are supplied with lifetime-lubrication.

By default, the helical bevel gear units from K06 are equipped with vent plugs with a safety strap for transportation (see illustration). The rubber strap (a) of the vent plug must be removed entirely before the initial startup. The vent plug is placed accordingly to the mounting position (see chapter Mounting positions, page 335)



### 6. Overhung and axial loads

The overhung loads ( $F_{rN}$ ) indicated in the respective selection tables apply to gear units with the force acting on the shaft center ( $x=l/2$ ). The permissible overhung loads listed are based on the least favorable loading direction and calculated for standard shafts and standard bearings. Other load directions and action can be calculated with equations Q1 and Q2. If transmission elements are placed on the output shaft, an appropriate factor ( $f_z$ ) has to be taken into consideration when determining the overhung load.

| Gear wheels                                                                         | Sprockets                                                                           |                        | V-belts                                                                              | Flat belts                                                                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |                        |  |  |
| $f_z=1.1$ ( $z \leq 17$ )                                                           | $f_z=1.2$ ( $z \leq 13$ )                                                           | $f_z=1.1$ ( $z > 13$ ) | $f_z=1.8$                                                                            | $f_z=2.5$                                                                             |

Use the following equations Q1 and Q2 to calculate the permissible radial loads on the output shaft. Q3 is to calculate the real existing shaft loads for your application. The results are to be compared by using the equation Q4.

|           |                                                         |
|-----------|---------------------------------------------------------|
| <b>Q1</b> | $F_{zL} = F_{rN} \cdot a_1$                             |
| <b>Q2</b> | $F_{zW} = F_W \cdot a_2$                                |
| <b>Q3</b> | $F_{Qvorh} = \frac{0.6691062 \cdot T_2}{d_0} \cdot f_z$ |
| <b>Q4</b> | $F_{Qvorh} \leq F_{zL}$                                 |
|           | $F_{Qvorh} \leq F_{zW}$                                 |

| Variable | Unit    | Description                                                                               |
|----------|---------|-------------------------------------------------------------------------------------------|
| a1       |         | Load action factor - output shaft bearing from table 1                                    |
| a2       |         | Load action factor - output shaft from table 1                                            |
| d0       | [lb]    | Effective diameter of the transmission element                                            |
| T2       | [lb-in] | G geared motor output torque (from selection tables) or required calculated output torque |
| FzL      | [lb]    | Permissible overhung load for output shaft bearings                                       |
| FzW      | [lb]    | Permissible overhung load for output shaft                                                |
| FrN      | [lb]    | Permissible overhung load from selection tables                                           |
| Fw       | [lb]    | Permissible overhung load - Output shaft x=l/2 from table 2                               |
| FQvorh   | [lb]    | Existing overhung load at gear shaft                                                      |
| fz       |         | Factor for transmission element                                                           |
| Tmax     | [lb-in] | Highest possible output torque for coupling operation (table 2)                           |

**K**

Always use both equations Q1 and Q2 for your calculations.

| x / l            |      |      |      |      |      |      |
|------------------|------|------|------|------|------|------|
| 0                | 0.25 | 0.5  | 0.75 | 1    | 1.5  | 2    |
| a1 → Equation Q1 |      |      |      |      |      |      |
| 1.39             | 1.18 | 1.00 | 0.85 | 0.73 | 0.52 | 0.38 |
| a2 → Equation Q2 |      |      |      |      |      |      |
| 2.00             | 2.00 | 1.00 | 0.55 | 0.38 | 0.23 | 0.17 |

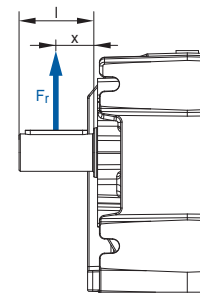


Table 1: Load action factors a1, a2

Intermediate values can be interpolated linearly. Combined load ( $F_r \neq 0$ ;  $F_a = 0$ ) on request.

|              | Tmax at Fr = 0 | Output torque T2 [lb-in]           |      |      |      |      |      |      |       |       |       |       |        |        |
|--------------|----------------|------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|--------|--------|
|              |                | 440                                | 890  | 1770 | 2660 | 3540 | 5310 | 7260 | 13700 | 26600 | 39800 | 70800 | 115000 | 159000 |
|              |                | Fw [lb] at x/l = 0.5 → Equation Q2 |      |      |      |      |      |      |       |       |       |       |        |        |
| Ø 0.750x1.57 | 1220           | 650                                | 490  |      |      |      |      |      |       |       |       |       |        |        |
| Ø 1.000x1.97 | 2820           | 1380                               | 1350 | 1150 |      |      |      |      |       |       |       |       |        |        |
| Ø 1.250x2.36 | 5300           |                                    | 2020 | 1960 | 1800 | 1570 |      |      |       |       |       |       |        |        |
| Ø 1.375x2.76 | 7040           |                                    |      | 2470 | 2470 | 2250 | 1840 |      |       |       |       |       |        |        |
| Ø 1.625x3.15 | 11400          |                                    |      |      | 3370 | 3370 | 3150 | 2810 |       |       |       |       |        |        |
| Ø 2.000x3.94 | 20900          |                                    |      |      |      | 5620 | 5620 | 5620 | 4950  |       |       |       |        |        |
| Ø 2.125x3.94 | 24100          |                                    |      |      |      |      | 6070 | 6070 | 5400  |       |       |       |        |        |
| Ø 2.375x4.72 | 33600          |                                    |      |      |      |      |      | 7190 | 6740  | 5400  |       |       |        |        |
| Ø 2.875x5.51 | 58800          |                                    |      |      |      |      |      |      | 11470 | 10790 | 8090  |       |        |        |
| Ø 3.625x6.69 | 111000         |                                    |      |      |      |      |      |      |       | 17310 | 16860 | 15060 |        |        |
| Ø 4.375x8.27 | 189000         |                                    |      |      |      |      |      |      |       |       | 17760 | 16640 | 13490  |        |
| Ø 4.750x8.27 | 240000         |                                    |      |      |      |      |      |      |       |       |       | 29450 | 27880  | 25180  |

Table 2: Permissible overhung load - output shaft x = l/2

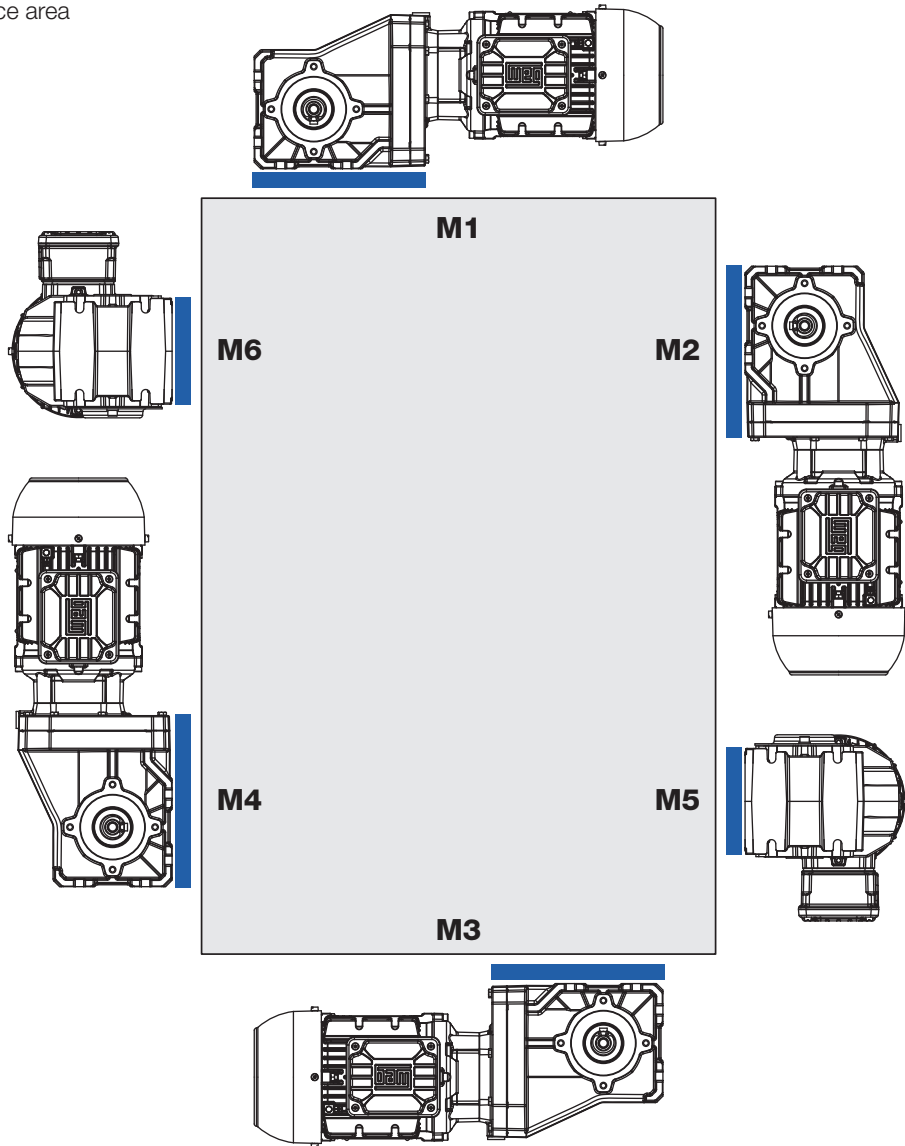
The axial loads ( $F_{aN}$ ) for the respective execution (output shaft or hollow shaft), given in the following selection tables, are valid at radial force  $F_{rN} = 0$ . If there are axial loads or radial and axial components acting on the drive which are extraordinarily high, we recommend to contact the manufacturer.

## 7. Mounting positions, Position of the terminal box and Cable entry

### Mounting positions - Sizes K02 to K05

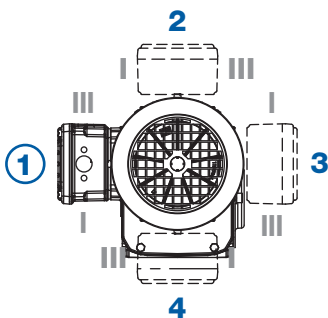
Gear units K02 to K05 are not vented and supplied with lifetime lubrication.

Reference area



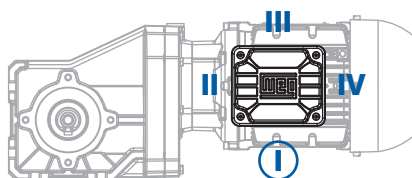
### Position of the terminal box

Standard: Position 1

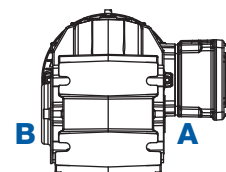


### Cable entry

Standard: Position I








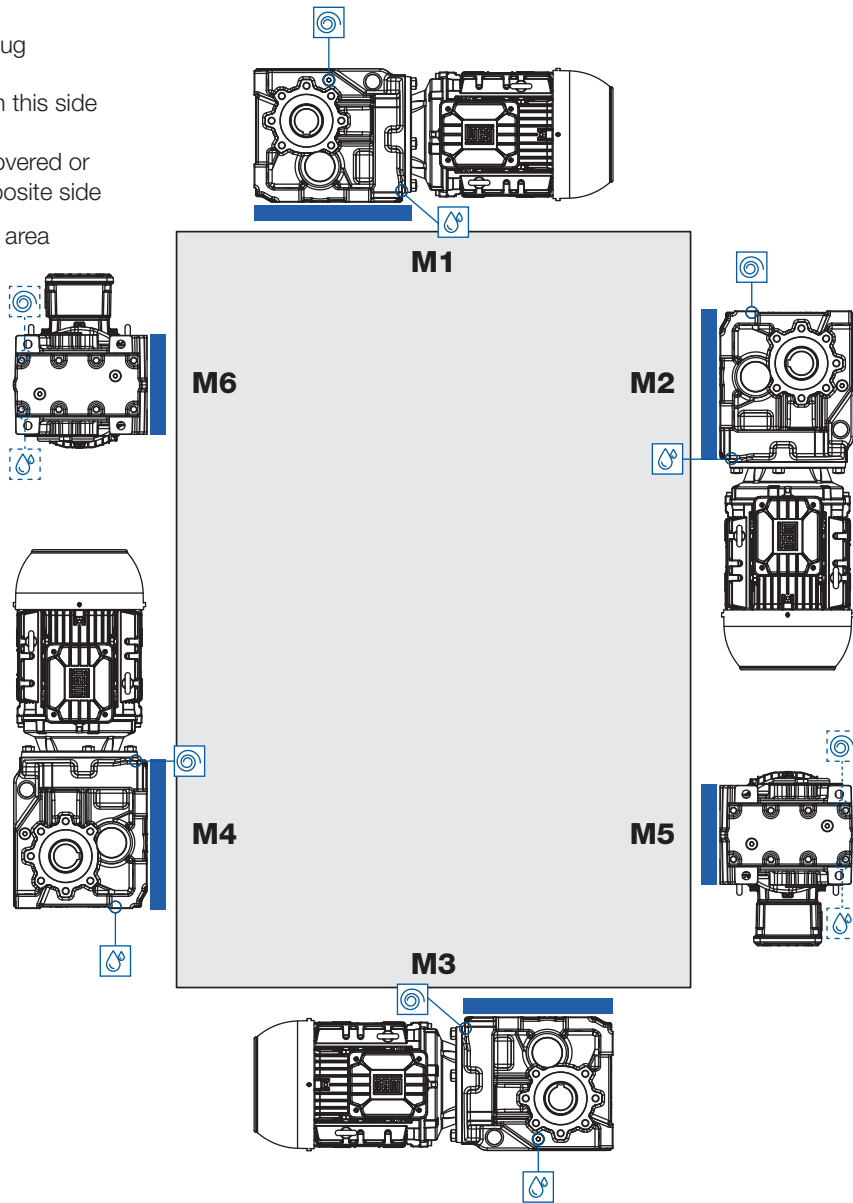
### Side indication





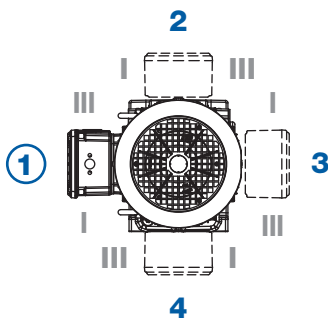
### Mounting positions - Sizes K06 to K15

-  Vent plug
-  Oil drain plug
-  Position on this side
-  Position covered or on the opposite side
-  Reference area



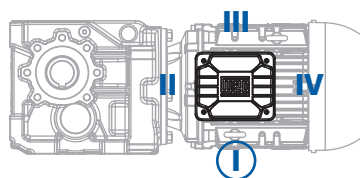
#### Position of the terminal box

Standard: Position 1

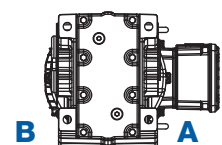


#### Cable entry

Standard: Position I



#### Side indication





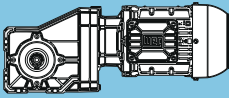
## Selection tables - Geared motors

The technical data of the geared motors shown in the selection tables apply to an ambient temperature of +68 °F.

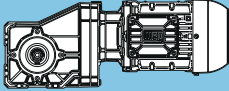
The selection tables are calculated with following motor data:

| Power (IEC frame size)    | Motor series (IE class) |
|---------------------------|-------------------------|
| up to 0.75 hp (63 - 80)   | 11N (IE1) - aluminium   |
| 1.0 - 12.5 hp (80 - 132)  | 11P (IE3) - aluminium   |
| 15.0 - 100 hp (160 - 250) | 22P (IE3) - cast iron   |

### Structure of the selection tables

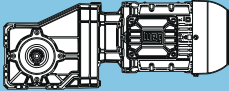
| 1                        |                         |                |   |                       |                       |                       |                       |         |                                                                                    |    |                          |
|--------------------------|-------------------------|----------------|---|-----------------------|-----------------------|-----------------------|-----------------------|---------|------------------------------------------------------------------------------------|----|--------------------------|
| P <sub>N</sub> = 0.16 hp |                         |                |   |                       |                       |                       |                       |         |                                                                                    |    |                          |
| 60 Hz                    |                         |                |   |                       | Output shaft          |                       | Hollow shaft          |         |  |    | Dimension sheet see page |
| n <sub>60</sub><br>rpm   | T <sub>2</sub><br>lb-in | f <sub>B</sub> | i | F <sub>rN</sub><br>lb | F <sub>aN</sub><br>lb | F <sub>rN</sub><br>lb | F <sub>aN</sub><br>lb | m<br>lb |                                                                                    |    |                          |
| 2                        | 3                       | 4              | 5 | 6                     | 7                     | 8                     | 9                     | 10      | 11                                                                                 | 12 |                          |

- 1 Rated power of the motor
- 2 Output speed at 60 Hz
- 3 Output torque
- 4 Service factor
- 5 Total ratio
- 6 Permissible radial load - Execution with output shaft at midpoint of the shaft (standard bearing) at axial load=0
- 7 Permissible axial load - Execution with output shaft (standard bearing) at axial load=0
- 8 Permissible radial load - Execution with hollow shaft at midpoint of x=l/2 (standard bearing) at axial load=0
- 9 Permissible axial load - Execution with hollow shaft (standard bearing) at axial load=0
- 10 Geared motor type
- 11 Weight
- 12 Dimension sheet see page

| <b>P<sub>N</sub> = 0.16 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.08</b>                    | 112403               | 1.45                 | 14005.40 | 21110                 | 26980                 | 21110                 | 26980                 | <b>KH155-11N-63-06F</b>                                                            | 1490           | 462                                |
| <b>0.10</b>                    | 90511                | 1.80                 | 11453.02 | 22370                 | 27400                 | 22370                 | 27400                 |                                                                                    |                |                                    |
| <b>0.11</b>                    | 75511                | 2.15                 | 9679.02  | 23040                 | 27720                 | 23040                 | 27720                 |                                                                                    |                |                                    |
| <b>0.12</b>                    | 70007                | 2.30                 | 9043.42  | 23250                 | 27830                 | 23250                 | 27830                 |                                                                                    |                |                                    |
| <b>0.14</b>                    | 60328                | 2.65                 | 7915.09  | 23580                 | 28010                 | 23580                 | 28010                 |                                                                                    |                |                                    |
| <b>0.12</b>                    | 70680                | 2.30                 | 14005.40 | 23250                 | 27810                 | 23250                 | 27810                 | <b>KH155-11N-63-04E</b>                                                            | 1490           | 462                                |
| <b>0.15</b>                    | 56466                | 2.85                 | 11453.02 | 23720                 | 28100                 | 23720                 | 28100                 |                                                                                    |                |                                    |
| <b>0.61</b>                    | 14266                | 2.80                 | 1810.95  | 8660                  | 9640                  | 8660                  | 9640                  | <b>KH094-11N-63-06F</b>                                                            | 346            | 448                                |
| <b>0.50</b>                    | 18145                | 1.50                 | 2205.52  | 5600                  | 9420                  | 5600                  | 2110                  | <b>KH084-11N-63-06F</b>                                                            | 236            | 444                                |
| <b>0.61</b>                    | 14656                | 1.85                 | 1803.58  | 5980                  | 9550                  | 5980                  | 2250                  |                                                                                    |                |                                    |
| <b>0.63</b>                    | 14156                | 1.90                 | 1745.64  | 6020                  | 9580                  | 6020                  | 2270                  |                                                                                    |                |                                    |
| <b>0.72</b>                    | 12259                | 2.20                 | 1524.22  | 6180                  | 9640                  | 6180                  | 2340                  |                                                                                    |                |                                    |
| <b>0.77</b>                    | 11410                | 2.35                 | 1427.51  | 6230                  | 9670                  | 6230                  | 2360                  |                                                                                    |                |                                    |
| <b>0.78</b>                    | 11383                | 2.35                 | 1424.12  | 6230                  | 9670                  | 6230                  | 2360                  |                                                                                    |                |                                    |
| <b>0.89</b>                    | 9840                 | 2.70                 | 1246.44  | 6340                  | 9730                  | 6340                  | 2430                  |                                                                                    |                |                                    |
| <b>0.77</b>                    | 11492                | 2.35                 | 2205.52  | 6230                  | 9670                  | 6230                  | 2360                  |                                                                                    |                |                                    |
| <b>0.94</b>                    | 9224                 | 2.90                 | 1803.58  | 6380                  | 9760                  | 6380                  | 2450                  | <b>KH084-11N-63-04E</b>                                                            | 236            | 444                                |
| <b>0.97</b>                    | 8891                 | 3.00                 | 1745.64  | 6380                  | 9780                  | 6380                  | 2470                  |                                                                                    |                |                                    |
| <b>4.5</b>                     | 2255                 | 2.40                 | 245.70   | 2070                  | 2520                  | 2070                  | 1010                  | <b>KH053-11N-63-06F</b>                                                            | 44             | 436                                |
| <b>5.7</b>                     | 1787                 | 3.00                 | 194.73   | 2110                  | 2560                  | 2110                  | 1060                  |                                                                                    |                |                                    |
| <b>4.0</b>                     | 2550                 | 1.40                 | 277.79   | 1240                  | 1870                  | 1240                  | 610                   | <b>KH043-11N-63-06F</b>                                                            | 37             | 434                                |
| <b>4.9</b>                     | 2085                 | 1.70                 | 227.16   | 1350                  | 1910                  | 1350                  | 650                   |                                                                                    |                |                                    |
| <b>6.2</b>                     | 1646                 | 2.20                 | 179.37   | 1440                  | 1960                  | 1440                  | 700                   |                                                                                    |                |                                    |
| <b>7.9</b>                     | 1277                 | 2.80                 | 139.08   | 1510                  | 2000                  | 1510                  | 740                   |                                                                                    |                |                                    |
| <b>6.1</b>                     | 1662                 | 2.15                 | 277.79   | 1440                  | 1960                  | 1440                  | 700                   | <b>KH043-11N-63-04E</b>                                                            | 35             | 434                                |
| <b>7.5</b>                     | 1359                 | 2.65                 | 227.16   | 1480                  | 2000                  | 1480                  | 740                   |                                                                                    |                |                                    |
| <b>5.1</b>                     | 2000                 | 0.90                 | 217.88   | 700                   | 520                   | 700                   | 520                   | <b>KH033-11N-63-06F</b>                                                            | 29             | 432                                |
| <b>6.2</b>                     | 1626                 | 1.10                 | 177.19   | 880                   | 580                   | 880                   | 580                   |                                                                                    |                |                                    |
| <b>7.8</b>                     | 1292                 | 1.40                 | 140.80   | 990                   | 630                   | 990                   | 630                   |                                                                                    |                |                                    |
| <b>10</b>                      | 998                  | 1.80                 | 108.75   | 1060                  | 670                   | 1060                  | 670                   |                                                                                    |                |                                    |
| <b>13</b>                      | 797                  | 2.25                 | 86.83    | 1100                  | 700                   | 1100                  | 700                   |                                                                                    |                |                                    |
| <b>15</b>                      | 660                  | 2.70                 | 71.93    | 1120                  | 720                   | 1120                  | 720                   |                                                                                    |                |                                    |
| <b>17</b>                      | 602                  | 2.95                 | 65.63    | 1120                  | 740                   | 1120                  | 740                   |                                                                                    |                |                                    |
| <b>7.8</b>                     | 1304                 | 1.40                 | 217.88   | 990                   | 630                   | 990                   | 630                   | <b>KH033-11N-63-04E</b>                                                            | 29             | 432                                |
| <b>9.6</b>                     | 1060                 | 1.70                 | 177.19   | 1060                  | 670                   | 1060                  | 670                   |                                                                                    |                |                                    |
| <b>12</b>                      | 843                  | 2.15                 | 140.80   | 1080                  | 700                   | 1080                  | 700                   |                                                                                    |                |                                    |
| <b>16</b>                      | 651                  | 2.75                 | 108.75   | 1120                  | 720                   | 1120                  | 720                   |                                                                                    |                |                                    |
| <b>16</b>                      | 632                  | 1.55                 | 68.88    | 1150                  | 630                   | 1150                  | 630                   | <b>KH022-11N-63-06F</b>                                                            | 24             | 462                                |
| <b>18</b>                      | 567                  | 1.60                 | 61.75    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| <b>21</b>                      | 492                  | 2.00                 | 53.65    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| <b>23</b>                      | 442                  | 2.25                 | 48.10    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| <b>25</b>                      | 399                  | 2.45                 | 43.50    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| <b>28</b>                      | 358                  | 2.75                 | 39.00    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| <b>36</b>                      | 283                  | 1.60                 | 30.88    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |

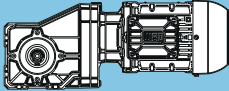
Legend see page 337

**P<sub>N</sub> = 0.16 hp**

| 60 Hz           |                |                | i     | Output shaft    |                 | Hollow shaft    |                 | <br><b>KH022-11N-63-04E</b> | m<br>lb | Dimension<br>sheet<br>see page<br>462 |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|---------------------------------------------------------------------------------------------------------------|---------|---------------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                                               |         |                                       |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                                               |         |                                       |
| 25              | 412            | 2.40           | 68.88 | 1170            | 630             | 1170            | 630             |                                                                                                               |         |                                       |
| 27              | 370            | 2.45           | 61.75 | 1170            | 630             | 1170            | 630             |                                                                                                               |         |                                       |
| 32              | 321            | 3.05           | 53.65 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 35              | 288            | 3.40           | 48.10 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 39              | 260            | 3.75           | 43.50 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 43              | 233            | 4.20           | 39.00 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 49              | 205            | 4.75           | 34.27 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 55              | 184            | 5.30           | 30.73 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 64              | 158            | 6.20           | 26.41 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 70              | 144            | 5.00           | 24.05 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 72              | 142            | 6.90           | 23.68 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 82              | 123            | 7.40           | 20.63 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 87              | 117            | 6.15           | 19.50 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 92              | 111            | 8.20           | 18.50 | 1190            | 630             | 1190            | 630             |                                                                                                               |         |                                       |
| 110             | 92             | 8.95           | 15.41 | 1170            | 630             | 1170            | 630             |                                                                                                               |         |                                       |
| 123             | 83             | 10.00          | 13.81 | 1120            | 630             | 1120            | 630             |                                                                                                               |         |                                       |
| 143             | 71             | 10.15          | 11.84 | 1080            | 630             | 1080            | 630             |                                                                                                               |         |                                       |
| 146             | 69             | 10.85          | 11.60 | 1060            | 630             | 1060            | 630             |                                                                                                               |         |                                       |
| 163             | 62             | 12.10          | 10.40 | 1010            | 630             | 1010            | 630             |                                                                                                               |         |                                       |
| 183             | 55             | 13.00          | 9.25  | 990             | 630             | 990             | 630             |                                                                                                               |         |                                       |
| 199             | 51             | 13.40          | 8.51  | 940             | 630             | 940             | 630             |                                                                                                               |         |                                       |
| 222             | 46             | 14.95          | 7.63  | 920             | 630             | 920             | 630             |                                                                                                               |         |                                       |
| 245             | 41             | 15.85          | 6.91  | 900             | 630             | 900             | 630             |                                                                                                               |         |                                       |
| 326             | 31             | 18.50          | 5.20  | 810             | 630             | 810             | 630             |                                                                                                               |         |                                       |
| 444             | 23             | 22.10          | 3.82  | 720             | 630             | 720             | 630             |                                                                                                               |         |                                       |

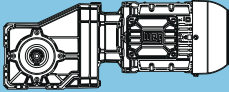
**K**

Legend see page 337

| <b>P<sub>N</sub> = 0.25 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.08</b>                    | 172097               | 0.95                 | 14005.40 | 15490                 | 25790                 | 15490                 | 25790                 | <b>KH155-11N-71-06E</b>                                                            | 1495           | 462                                |
| <b>0.10</b>                    | 139300               | 1.15                 | 11453.02 | 19090                 | 26440                 | 19090                 | 26440                 |                                                                                    |                |                                    |
| <b>0.11</b>                    | 116521               | 1.40                 | 9679.02  | 20860                 | 26910                 | 20860                 | 26910                 |                                                                                    |                |                                    |
| <b>0.12</b>                    | 108590               | 1.50                 | 9043.42  | 21380                 | 27070                 | 21380                 | 27070                 |                                                                                    |                |                                    |
| <b>0.14</b>                    | 94069                | 1.70                 | 7915.09  | 22210                 | 27360                 | 22210                 | 27360                 |                                                                                    |                |                                    |
| <b>0.16</b>                    | 82482                | 1.95                 | 7012.05  | 22750                 | 27580                 | 22750                 | 27580                 |                                                                                    |                |                                    |
| <b>0.18</b>                    | 72760                | 2.20                 | 6249.84  | 23160                 | 27760                 | 23160                 | 27760                 |                                                                                    |                |                                    |
| <b>0.19</b>                    | 66298                | 2.45                 | 5739.09  | 23400                 | 27900                 | 23400                 | 27900                 |                                                                                    |                |                                    |
| <b>0.23</b>                    | 54688                | 2.95                 | 4845.97  | 23760                 | 28120                 | 23760                 | 28120                 |                                                                                    |                |                                    |
| <b>0.12</b>                    | 109312               | 1.50                 | 14005.40 | 21310                 | 27040                 | 21310                 | 27040                 | <b>KH155-11N-63-04F</b>                                                            | 1490           | 462                                |
| <b>0.15</b>                    | 88021                | 1.85                 | 11453.02 | 22480                 | 27470                 | 22480                 | 27470                 |                                                                                    |                |                                    |
| <b>0.18</b>                    | 73433                | 2.20                 | 9679.02  | 23110                 | 27760                 | 23110                 | 27760                 |                                                                                    |                |                                    |
| <b>0.19</b>                    | 68081                | 2.35                 | 9043.42  | 23310                 | 27850                 | 23310                 | 27850                 |                                                                                    |                |                                    |
| <b>0.21</b>                    | 58667                | 2.75                 | 7915.09  | 23630                 | 28060                 | 23630                 | 28060                 |                                                                                    |                |                                    |
| <b>0.61</b>                    | 22074                | 1.85                 | 1810.95  | 8210                  | 9370                  | 8210                  | 9370                  | <b>KH094-11N-71-06E</b>                                                            | 351            | 448                                |
| <b>0.72</b>                    | 18470                | 2.20                 | 1531.00  | 8430                  | 9510                  | 8430                  | 9510                  |                                                                                    |                |                                    |
| <b>0.75</b>                    | 17792                | 2.25                 | 1480.92  | 8480                  | 9530                  | 8480                  | 9530                  |                                                                                    |                |                                    |
| <b>0.88</b>                    | 14825                | 2.70                 | 1251.99  | 8630                  | 9620                  | 8630                  | 9620                  |                                                                                    |                |                                    |
| <b>0.94</b>                    | 13761                | 2.90                 | 1169.35  | 8680                  | 9670                  | 8680                  | 9670                  |                                                                                    |                |                                    |
| <b>0.94</b>                    | 13852                | 2.90                 | 1810.95  | 8680                  | 9640                  | 8680                  | 9640                  | <b>KH094-11N-63-04F</b>                                                            | 346            | 448                                |
| <b>0.50</b>                    | 27668                | 1.00                 | 2205.52  | 3910                  | 6740                  | 3910                  | 1730                  | <b>KH084-11N-71-06E</b>                                                            | 240            | 444                                |
| <b>0.61</b>                    | 22441                | 1.20                 | 1803.58  | 5010                  | 9150                  | 5010                  | 1930                  |                                                                                    |                |                                    |
| <b>0.63</b>                    | 21720                | 1.25                 | 1745.64  | 5130                  | 9280                  | 5130                  | 1980                  |                                                                                    |                |                                    |
| <b>0.72</b>                    | 18849                | 1.45                 | 1524.22  | 5530                  | 9400                  | 5530                  | 2090                  |                                                                                    |                |                                    |
| <b>0.77</b>                    | 17580                | 1.55                 | 1427.51  | 5690                  | 9440                  | 5690                  | 2140                  |                                                                                    |                |                                    |
| <b>0.78</b>                    | 17539                | 1.55                 | 1424.12  | 5690                  | 9440                  | 5690                  | 2140                  |                                                                                    |                |                                    |
| <b>0.89</b>                    | 15225                | 1.75                 | 1246.44  | 5930                  | 9530                  | 5930                  | 2230                  |                                                                                    |                |                                    |
| <b>0.98</b>                    | 13683                | 1.95                 | 1127.18  | 6070                  | 9600                  | 6070                  | 2290                  |                                                                                    |                |                                    |
| <b>1.0</b>                     | 13377                | 2.00                 | 1104.23  | 6090                  | 9600                  | 6090                  | 2290                  |                                                                                    |                |                                    |
| <b>1.1</b>                     | 11825                | 2.25                 | 984.20   | 6200                  | 9670                  | 6200                  | 2360                  |                                                                                    |                |                                    |
| <b>1.2</b>                     | 10791                | 2.50                 | 903.77   | 6270                  | 9690                  | 6270                  | 2380                  |                                                                                    |                |                                    |
| <b>1.3</b>                     | 10392                | 2.60                 | 873.98   | 6320                  | 9710                  | 6320                  | 2410                  |                                                                                    |                |                                    |
| <b>1.4</b>                     | 8962                 | 3.00                 | 763.13   | 6380                  | 9780                  | 6380                  | 2470                  |                                                                                    |                |                                    |
| <b>0.77</b>                    | 17655                | 1.55                 | 2205.52  | 5670                  | 9440                  | 5670                  | 2140                  |                                                                                    |                |                                    |
| <b>0.94</b>                    | 14290                | 1.90                 | 1803.58  | 6000                  | 9550                  | 6000                  | 2250                  |                                                                                    |                |                                    |
| <b>0.97</b>                    | 13774                | 1.95                 | 1745.64  | 6050                  | 9580                  | 6050                  | 2270                  |                                                                                    |                |                                    |
| <b>1.1</b>                     | 11928                | 2.25                 | 1524.22  | 6200                  | 9640                  | 6200                  | 2340                  |                                                                                    |                |                                    |
| <b>1.2</b>                     | 11102                | 2.40                 | 1427.51  | 6250                  | 9690                  | 6250                  | 2380                  |                                                                                    |                |                                    |
| <b>1.4</b>                     | 9574                 | 2.80                 | 1246.44  | 6360                  | 9730                  | 6360                  | 2430                  |                                                                                    |                |                                    |
| <b>5.6</b>                     | 2726                 | 2.70                 | 198.00   | 2700                  | 3210                  | 2700                  | 970                   | <b>KH063-11N-71-06E</b>                                                            | 77             | 438                                |
| <b>4.5</b>                     | 3383                 | 1.60                 | 245.70   | 1890                  | 2430                  | 1890                  | 920                   | <b>KH053-11N-71-06E</b>                                                            | 49             | 436                                |
| <b>5.7</b>                     | 2681                 | 2.00                 | 194.73   | 2000                  | 2500                  | 2000                  | 990                   |                                                                                    |                |                                    |
| <b>7.3</b>                     | 2082                 | 2.60                 | 151.20   | 2070                  | 2540                  | 2070                  | 1030                  |                                                                                    |                |                                    |
| <b>6.9</b>                     | 2199                 | 2.45                 | 245.70   | 2070                  | 2520                  | 2070                  | 1010                  | <b>KH053-11N-63-04F</b>                                                            | 44             | 436                                |
| <b>4.0</b>                     | 3825                 | 0.95                 | 277.79   | 560                   | 720                   | 560                   | 470                   | <b>KH043-11N-71-06E</b>                                                            | 42             | 434                                |
| <b>4.9</b>                     | 3128                 | 1.15                 | 227.16   | 1010                  | 1690                  | 1010                  | 540                   |                                                                                    |                |                                    |
| <b>6.2</b>                     | 2470                 | 1.45                 | 179.37   | 1260                  | 1890                  | 1260                  | 630                   |                                                                                    |                |                                    |
| <b>7.9</b>                     | 1915                 | 1.85                 | 139.08   | 1390                  | 1930                  | 1390                  | 670                   |                                                                                    |                |                                    |
| <b>9.7</b>                     | 1567                 | 2.30                 | 113.83   | 1460                  | 1980                  | 1460                  | 720                   |                                                                                    |                |                                    |
| <b>12</b>                      | 1228                 | 2.75                 | 89.17    | 1510                  | 2000                  | 1510                  | 740                   |                                                                                    |                |                                    |
| <b>13</b>                      | 1206                 | 2.95                 | 87.62    | 1510                  | 2000                  | 1510                  | 740                   |                                                                                    |                |                                    |
| <b>23</b>                      | 648                  | 2.75                 | 47.07    | 1550                  | 2050                  | 1550                  | 790                   |                                                                                    |                |                                    |
| <b>6.1</b>                     | 2486                 | 1.45                 | 277.79   | 1260                  | 1870                  | 1260                  | 610                   |                                                                                    |                |                                    |
| <b>7.5</b>                     | 2033                 | 1.75                 | 227.16   | 1370                  | 1930                  | 1370                  | 670                   |                                                                                    |                |                                    |
| <b>9.5</b>                     | 1605                 | 2.25                 | 179.37   | 1460                  | 1980                  | 1460                  | 720                   |                                                                                    |                |                                    |
| <b>12</b>                      | 1245                 | 2.85                 | 139.08   | 1510                  | 2000                  | 1510                  | 740                   |                                                                                    |                |                                    |

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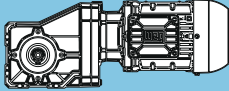
$P_N = 0.25 \text{ hp}$

| 60 Hz    |       | $f_B$ | $i$    | Output shaft |          | Hollow shaft |          |  | m<br>lb | Dimension sheet<br>see page |
|----------|-------|-------|--------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|---------|-----------------------------|
| $n_{60}$ | $T_2$ |       |        | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                    |         |                             |
| rpm      | lb-in |       |        | lb           | lb       | lb           | lb       |                                                                                    |         |                             |
| 7.8      | 1939  | 0.95  | 140.80 | 720          | 540      | 720          | 540      | KH033-11N-71-06E                                                                   | 33      | 432                         |
| 10       | 1497  | 1.20  | 108.75 | 920          | 610      | 920          | 610      |                                                                                    |         |                             |
| 13       | 1196  | 1.50  | 86.83  | 1010         | 650      | 1060         | 670      |                                                                                    |         |                             |
| 15       | 990   | 1.80  | 71.93  | 1060         | 670      | 1060         | 670      |                                                                                    |         |                             |
| 17       | 904   | 2.00  | 65.63  | 1080         | 700      | 1080         | 700      |                                                                                    |         |                             |
| 19       | 805   | 2.20  | 58.50  | 1100         | 700      | 1100         | 700      |                                                                                    |         |                             |
| 22       | 687   | 2.60  | 49.88  | 1100         | 720      | 1100         | 720      |                                                                                    |         |                             |
| 24       | 640   | 2.80  | 46.48  | 1120         | 720      | 1120         | 720      |                                                                                    |         |                             |
| 37       | 413   | 2.80  | 29.97  | 1150         | 740      | 1150         | 740      |                                                                                    |         |                             |
| 7.8      | 1950  | 0.95  | 217.88 | 720          | 540      | 720          | 540      | KH033-11N-63-04F                                                                   | 29      | 432                         |
| 9.6      | 1586  | 1.15  | 177.19 | 900          | 580      | 900          | 580      |                                                                                    |         |                             |
| 12       | 1260  | 1.45  | 140.80 | 990          | 630      | 990          | 630      |                                                                                    |         |                             |
| 16       | 973   | 1.85  | 108.75 | 1060         | 670      | 1060         | 670      |                                                                                    |         |                             |
| 20       | 777   | 2.30  | 86.83  | 1100         | 700      | 1100         | 700      |                                                                                    |         |                             |
| 24       | 644   | 2.75  | 71.93  | 1120         | 720      | 1120         | 720      |                                                                                    |         |                             |
| 16       | 948   | 1.05  | 68.88  | 1100         | 630      | 1100         | 630      | KH022-11N-71-06E                                                                   | 29      | 462                         |
| 18       | 850   | 1.10  | 61.75  | 1120         | 630      | 1120         | 630      |                                                                                    |         |                             |
| 21       | 739   | 1.35  | 53.65  | 1150         | 630      | 1150         | 630      |                                                                                    |         |                             |
| 23       | 662   | 1.50  | 48.10  | 1150         | 630      | 1150         | 630      |                                                                                    |         |                             |
| 25       | 599   | 1.65  | 43.50  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 28       | 537   | 1.85  | 39.00  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 32       | 472   | 2.10  | 34.27  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 36       | 423   | 2.35  | 30.73  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 42       | 364   | 2.70  | 26.41  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 46       | 331   | 2.20  | 24.05  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 47       | 326   | 3.00  | 23.68  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 57       | 268   | 2.70  | 19.50  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 25       | 616   | 1.60  | 68.88  | 1150         | 630      | 1150         | 630      |                                                                                    |         |                             |
| 28       | 553   | 1.65  | 61.75  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 32       | 480   | 2.05  | 53.65  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 35       | 430   | 2.30  | 48.10  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 39       | 389   | 2.55  | 43.50  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 44       | 349   | 2.80  | 39.00  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 50       | 307   | 3.20  | 34.27  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 55       | 275   | 3.55  | 30.73  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 64       | 236   | 4.15  | 26.41  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 71       | 215   | 3.35  | 24.05  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 72       | 212   | 4.60  | 23.68  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 82       | 185   | 4.95  | 20.63  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 87       | 175   | 4.15  | 19.50  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 92       | 166   | 5.50  | 18.50  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                             |
| 110      | 138   | 6.00  | 15.41  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 111      | 137   | 5.25  | 15.36  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                             |
| 123      | 124   | 6.70  | 13.81  | 1120         | 630      | 1120         | 630      |                                                                                    |         |                             |
| 144      | 106   | 6.80  | 11.84  | 1080         | 630      | 1080         | 630      |                                                                                    |         |                             |
| 147      | 104   | 7.25  | 11.60  | 1060         | 630      | 1060         | 630      |                                                                                    |         |                             |
| 163      | 93    | 8.10  | 10.40  | 1030         | 630      | 1030         | 630      |                                                                                    |         |                             |
| 184      | 83    | 8.70  | 9.25   | 990          | 630      | 990          | 630      |                                                                                    |         |                             |
| 200      | 76    | 8.95  | 8.51   | 970          | 630      | 970          | 630      |                                                                                    |         |                             |
| 223      | 68    | 10.00 | 7.63   | 920          | 630      | 920          | 630      |                                                                                    |         |                             |
| 246      | 62    | 10.60 | 6.91   | 900          | 630      | 900          | 630      |                                                                                    |         |                             |
| 327      | 47    | 12.40 | 5.20   | 810          | 630      | 810          | 630      |                                                                                    |         |                             |
| 445      | 34    | 14.80 | 3.82   | 720          | 630      | 720          | 630      |                                                                                    |         |                             |

**K**

Legend see page 337

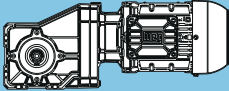
K

| P <sub>N</sub> = 0.33 hp |                |                |          |                 |                 |                 |                 |                                                                                    |         |                             |
|--------------------------|----------------|----------------|----------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                    |                |                | i        | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>          | T <sub>2</sub> | f <sub>B</sub> |          | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                      | lb-in          |                |          | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 0.10                     | 195081         | 0.85           | 11453.02 | 11760           | 19630           | 11760           | 19630           | KH155-11N-71-06F                                                                   | 1497    | 462                         |
| 0.11                     | 164023         | 1.00           | 9679.02  | 16550           | 25970           | 16550           | 25970           |                                                                                    |         |                             |
| 0.12                     | 152860         | 1.05           | 9043.42  | 17800           | 26190           | 17800           | 26190           |                                                                                    |         |                             |
| 0.14                     | 132764         | 1.20           | 7915.09  | 19670           | 26570           | 19670           | 26570           |                                                                                    |         |                             |
| 0.16                     | 116715         | 1.40           | 7012.05  | 20860           | 26910           | 20860           | 26910           |                                                                                    |         |                             |
| 0.18                     | 103494         | 1.55           | 6249.84  | 21690           | 27160           | 21690           | 27160           |                                                                                    |         |                             |
| 0.19                     | 94306          | 1.70           | 5739.09  | 22190           | 27340           | 22190           | 27340           |                                                                                    |         |                             |
| 0.23                     | 78610          | 2.05           | 4845.97  | 22930           | 27650           | 22930           | 27650           |                                                                                    |         |                             |
| 0.25                     | 70924          | 2.25           | 4417.59  | 23220           | 27810           | 23220           | 27810           |                                                                                    |         |                             |
| 0.28                     | 63022          | 2.55           | 3966.24  | 23520           | 27970           | 23520           | 27970           |                                                                                    |         |                             |
| 0.12                     | 154572         | 1.05           | 14005.40 | 17510           | 26120           | 17510           | 26120           | KH155-11N-71-04E                                                                   | 1493    | 462                         |
| 0.15                     | 125113         | 1.30           | 11453.02 | 20210           | 26710           | 20210           | 26710           |                                                                                    |         |                             |
| 0.18                     | 104654         | 1.55           | 9679.02  | 21580           | 27130           | 21580           | 27130           |                                                                                    |         |                             |
| 0.19                     | 97279          | 1.65           | 9043.42  | 22010           | 27270           | 22010           | 27270           |                                                                                    |         |                             |
| 0.21                     | 84269          | 1.90           | 7915.09  | 22660           | 27540           | 22660           | 27540           |                                                                                    |         |                             |
| 0.24                     | 73888          | 2.20           | 7012.05  | 23110           | 27740           | 23110           | 27740           |                                                                                    |         |                             |
| 0.27                     | 65010          | 2.50           | 6249.84  | 23430           | 27920           | 23430           | 27920           |                                                                                    |         |                             |
| 0.30                     | 59081          | 2.70           | 5739.09  | 23630           | 28030           | 23630           | 28030           |                                                                                    |         |                             |
| 0.61                     | 31091          | 1.30           | 1810.95  | 7350            | 9080            | 7350            | 9080            | KH094-11N-71-06F                                                                   | 353     | 448                         |
| 0.73                     | 26070          | 1.55           | 1531.00  | 7870            | 9260            | 7870            | 9260            |                                                                                    |         |                             |
| 0.75                     | 25165          | 1.60           | 1480.92  | 7960            | 9280            | 7960            | 9280            |                                                                                    |         |                             |
| 0.89                     | 21057          | 1.90           | 1251.99  | 8270            | 9420            | 8270            | 9420            |                                                                                    |         |                             |
| 0.95                     | 19586          | 2.05           | 1169.35  | 8360            | 9460            | 8360            | 9460            |                                                                                    |         |                             |
| 1.1                      | 16320          | 2.45           | 988.58   | 8570            | 9580            | 8570            | 9580            |                                                                                    |         |                             |
| 1.2                      | 14844          | 2.70           | 906.69   | 8630            | 9620            | 8630            | 9620            |                                                                                    |         |                             |
| 0.94                     | 19805          | 2.05           | 1810.95  | 8340            | 9460            | 8340            | 9460            | KH094-11N-71-04E                                                                   | 348     | 448                         |
| 1.1                      | 16537          | 2.45           | 1531.00  | 8540            | 9550            | 8540            | 9550            |                                                                                    |         |                             |
| 0.62                     | 31412          | 0.85           | 1803.58  | 2650            | 4090            | 2650            | 1600            | KH084-11N-71-06F                                                                   | 243     | 444                         |
| 0.64                     | 30340          | 0.90           | 1745.64  | 3080            | 4990            | 3080            | 1640            |                                                                                    |         |                             |
| 0.73                     | 26384          | 1.05           | 1524.22  | 4230            | 7440            | 4230            | 1800            |                                                                                    |         |                             |
| 0.78                     | 24659          | 1.10           | 1427.51  | 4610            | 8270            | 4610            | 1870            |                                                                                    |         |                             |
| 0.89                     | 21399          | 1.25           | 1246.44  | 5170            | 9280            | 5170            | 1980            |                                                                                    |         |                             |
| 0.98                     | 19272          | 1.40           | 1127.18  | 5490            | 9370            | 5490            | 2070            |                                                                                    |         |                             |
| 1.0                      | 18880          | 1.45           | 1104.23  | 5530            | 9400            | 5530            | 2090            |                                                                                    |         |                             |
| 1.1                      | 16724          | 1.60           | 984.20   | 5780            | 9460            | 5780            | 2160            |                                                                                    |         |                             |
| 1.2                      | 15263          | 1.75           | 903.77   | 5930            | 9530            | 5930            | 2230            |                                                                                    |         |                             |
| 1.3                      | 14730          | 1.85           | 873.98   | 5980            | 9550            | 5980            | 2250            |                                                                                    |         |                             |
| 1.5                      | 12756          | 2.10           | 763.13   | 6140            | 9620            | 6140            | 2320            |                                                                                    |         |                             |
| 1.6                      | 11883          | 2.25           | 715.32   | 6200            | 9670            | 6200            | 2360            |                                                                                    |         |                             |
| 1.8                      | 10268          | 2.60           | 624.59   | 6320            | 9710            | 6320            | 2410            |                                                                                    |         |                             |
| 2.0                      | 8921           | 3.00           | 550.61   | 6380            | 9780            | 6380            | 2470            |                                                                                    |         |                             |
| 0.77                     | 24876          | 1.10           | 2205.52  | 4520            | 8070            | 4520            | 1840            | KH084-11N-71-04E                                                                   | 238     | 444                         |
| 0.94                     | 20176          | 1.35           | 1803.58  | 5330            | 9330            | 5330            | 2020            |                                                                                    |         |                             |
| 0.97                     | 19528          | 1.40           | 1745.64  | 5420            | 9350            | 5420            | 2050            |                                                                                    |         |                             |
| 1.1                      | 16912          | 1.60           | 1524.22  | 5760            | 9460            | 5760            | 2160            |                                                                                    |         |                             |
| 1.2                      | 15774          | 1.70           | 1427.51  | 5870            | 9510            | 5870            | 2200            |                                                                                    |         |                             |
| 1.4                      | 13660          | 1.95           | 1246.44  | 6070            | 9580            | 6070            | 2270            |                                                                                    |         |                             |
| 1.5                      | 12276          | 2.20           | 1127.18  | 6180            | 9640            | 6180            | 2340            |                                                                                    |         |                             |
| 1.7                      | 10587          | 2.55           | 984.20   | 6290            | 9710            | 6290            | 2410            |                                                                                    |         |                             |
| 1.9                      | 9641           | 2.80           | 903.77   | 6340            | 9730            | 6340            | 2430            |                                                                                    |         |                             |
| 4.3                      | 4876           | 2.85           | 256.14   | 4450            | 4000            | 4450            | 1480            |                                                                                    |         |                             |
| 5.6                      | 3769           | 1.95           | 198.00   | 2590            | 3120            | 2590            | 880             | KH073-11N-71-06F                                                                   | 123     | 440                         |
| 7.1                      | 2987           | 2.45           | 156.92   | 2680            | 3190            | 2680            | 940             | KH063-11N-71-06F                                                                   | 79      | 438                         |
| 8.6                      | 2461           | 2.95           | 198.00   | 2720            | 3210            | 2720            | 990             | KH063-11N-71-04E                                                                   | 75      | 438                         |
| 4.5                      | 4677           | 1.15           | 245.70   | 1550            | 2340            | 1550            | 830             | KH053-11N-71-06F                                                                   | 51      | 436                         |
| 5.7                      | 3707           | 1.45           | 194.73   | 1820            | 2410            | 1820            | 900             |                                                                                    |         |                             |
| 7.3                      | 2878           | 1.85           | 151.20   | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |
| 8.9                      | 2362           | 2.25           | 124.06   | 2050            | 2520            | 2050            | 1010            |                                                                                    |         |                             |
| 12                       | 1829           | 2.95           | 96.08    | 2110            | 2560            | 2110            | 1060            |                                                                                    |         |                             |

Legend see page 337



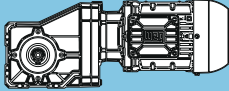
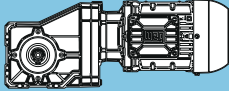
$P_N = 0.33 \text{ hp}$

| 60 Hz    |       |       | i      | Output shaft |          | Hollow shaft |          |  | m<br>lb | Dimension<br>sheet<br>see page |
|----------|-------|-------|--------|--------------|----------|--------------|----------|------------------------------------------------------------------------------------|---------|--------------------------------|
| $n_{60}$ | $T_2$ | $f_B$ |        | $F_{rN}$     | $F_{aN}$ | $F_{rN}$     | $F_{aN}$ |                                                                                    |         |                                |
| rpm      | lb-in |       |        | lb           | lb       | lb           | lb       |                                                                                    |         |                                |
| 6.9      | 3054  | 1.75  | 245.70 | 1930         | 2450     | 1930         | 940      | KH053-11N-71-04E                                                                   | 46      | 436                            |
| 8.7      | 2421  | 2.20  | 194.73 | 2050         | 2500     | 2050         | 990      |                                                                                    |         |                                |
| 11       | 1879  | 2.85  | 151.20 | 2090         | 2540     | 2090         | 1030     |                                                                                    |         |                                |
| 4.9      | 4324  | 0.85  | 227.16 | **           | **       | **           | **       | KH043-11N-71-06F                                                                   | 42      | 434                            |
| 6.2      | 3415  | 1.05  | 179.37 | 880          | 1390     | 880          | 520      |                                                                                    |         |                                |
| 8.0      | 2648  | 1.35  | 139.08 | 1210         | 1870     | 1210         | 610      |                                                                                    |         |                                |
| 9.8      | 2167  | 1.65  | 113.83 | 1350         | 1910     | 1350         | 650      |                                                                                    |         |                                |
| 12       | 1698  | 2.00  | 89.17  | 1440         | 1960     | 1440         | 700      |                                                                                    |         |                                |
| 13       | 1668  | 2.15  | 87.62  | 1440         | 1960     | 1440         | 700      |                                                                                    |         |                                |
| 15       | 1388  | 2.60  | 72.92  | 1480         | 2000     | 1480         | 740      |                                                                                    |         |                                |
| 17       | 1260  | 2.85  | 66.20  | 1510         | 2000     | 1510         | 740      |                                                                                    |         |                                |
| 24       | 896   | 2.00  | 47.07  | 1550         | 2020     | 1550         | 760      |                                                                                    |         |                                |
| 6.1      | 3453  | 1.05  | 277.79 | 830          | 1300     | 830          | 520      |                                                                                    |         |                                |
| 7.5      | 2824  | 1.30  | 227.16 | 1150         | 1840     | 1150         | 580      |                                                                                    |         |                                |
| 9.5      | 2230  | 1.60  | 179.37 | 1330         | 1910     | 1330         | 650      |                                                                                    |         |                                |
| 12       | 1729  | 2.05  | 139.08 | 1440         | 1960     | 1440         | 700      |                                                                                    |         |                                |
| 15       | 1415  | 2.55  | 113.83 | 1480         | 1980     | 1480         | 720      |                                                                                    |         |                                |
| 10       | 2070  | 0.90  | 108.75 | 650          | 520      | 650          | 520      | KH033-11N-71-06F                                                                   | 35      | 432                            |
| 13       | 1653  | 1.10  | 86.83  | 880          | 580      | 880          | 580      |                                                                                    |         |                                |
| 15       | 1369  | 1.30  | 71.93  | 970          | 630      | 970          | 630      |                                                                                    |         |                                |
| 17       | 1249  | 1.45  | 65.63  | 1010         | 630      | 1010         | 630      |                                                                                    |         |                                |
| 19       | 1114  | 1.60  | 58.50  | 1030         | 650      | 1030         | 650      |                                                                                    |         |                                |
| 22       | 950   | 1.90  | 49.88  | 1080         | 670      | 1080         | 670      |                                                                                    |         |                                |
| 24       | 885   | 2.05  | 46.48  | 1080         | 700      | 1080         | 700      |                                                                                    |         |                                |
| 29       | 739   | 2.40  | 38.80  | 1100         | 720      | 1100         | 720      |                                                                                    |         |                                |
| 31       | 683   | 2.60  | 35.90  | 1120         | 720      | 1120         | 720      |                                                                                    |         |                                |
| 37       | 571   | 2.05  | 29.97  | 1120         | 720      | 1120         | 720      |                                                                                    |         |                                |
| 9.6      | 2202  | 0.85  | 177.19 | 540          | 490      | 540          | 490      | KH033-11N-71-04E                                                                   | 31      | 432                            |
| 12       | 1750  | 1.05  | 140.80 | 830          | 560      | 830          | 560      |                                                                                    |         |                                |
| 16       | 1352  | 1.35  | 108.75 | 970          | 630      | 970          | 630      |                                                                                    |         |                                |
| 20       | 1079  | 1.65  | 86.83  | 1030         | 650      | 1030         | 650      |                                                                                    |         |                                |
| 24       | 894   | 2.00  | 71.93  | 1080         | 700      | 1080         | 700      |                                                                                    |         |                                |
| 26       | 816   | 2.20  | 65.63  | 1100         | 700      | 1100         | 700      |                                                                                    |         |                                |
| 29       | 727   | 2.45  | 58.50  | 1100         | 720      | 1100         | 720      |                                                                                    |         |                                |
| 34       | 620   | 2.90  | 49.88  | 1120         | 720      | 1120         | 720      |                                                                                    |         |                                |
| 18       | 1176  | 0.80  | 61.75  | **           | **       | **           | **       | KH022-11N-71-06F                                                                   | 31      | 462                            |
| 21       | 1021  | 1.00  | 53.65  | 1100         | 630      | 1100         | 630      |                                                                                    |         |                                |
| 23       | 916   | 1.10  | 48.10  | 1120         | 630      | 1120         | 630      |                                                                                    |         |                                |
| 26       | 828   | 1.20  | 43.50  | 1120         | 630      | 1120         | 630      |                                                                                    |         |                                |
| 28       | 742   | 1.35  | 39.00  | 1150         | 630      | 1150         | 630      |                                                                                    |         |                                |
| 32       | 652   | 1.50  | 34.27  | 1150         | 630      | 1150         | 630      |                                                                                    |         |                                |
| 36       | 585   | 1.70  | 30.73  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                                |
| 42       | 503   | 1.95  | 26.41  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                                |
| 46       | 458   | 1.60  | 24.05  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                                |
| 47       | 451   | 2.20  | 23.68  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                                |
| 54       | 393   | 2.35  | 20.63  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                                |
| 57       | 371   | 1.95  | 19.50  | 1170         | 630      | 1170         | 630      |                                                                                    |         |                                |
| 60       | 352   | 2.60  | 18.50  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                                |
| 72       | 293   | 2.85  | 15.41  | 1190         | 630      | 1190         | 630      |                                                                                    |         |                                |

Legend see page 337

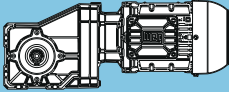
\*\* ... on request



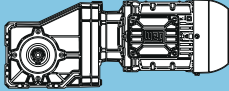
| <b>P<sub>N</sub> = 0.33 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                                                   |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |                                 | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                                                   |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                                                   |                |                                    |
| 25                             | 856                  | 1.15                 | 68.88    | 1120                  | 630                   | 1120                  | 630                   | <br><br><b>KH022-11N-71-04E</b> | 26             | 462                                |
| 28                             | 768                  | 1.20                 | 61.75    | 1150                  | 630                   | 1150                  | 630                   |                                                                                                                   |                |                                    |
| 32                             | 667                  | 1.50                 | 53.65    | 1150                  | 630                   | 1150                  | 630                   |                                                                                                                   |                |                                    |
| 35                             | 598                  | 1.65                 | 48.10    | 1170                  | 630                   | 1170                  | 630                   |                                                                                                                   |                |                                    |
| 39                             | 541                  | 1.85                 | 43.50    | 1170                  | 630                   | 1170                  | 630                   |                                                                                                                   |                |                                    |
| 44                             | 485                  | 2.05                 | 39.00    | 1170                  | 630                   | 1170                  | 630                   |                                                                                                                   |                |                                    |
| 50                             | 426                  | 2.30                 | 34.27    | 1170                  | 630                   | 1170                  | 630                   |                                                                                                                   |                |                                    |
| 55                             | 382                  | 2.55                 | 30.73    | 1170                  | 630                   | 1170                  | 630                   |                                                                                                                   |                |                                    |
| 64                             | 328                  | 3.00                 | 26.41    | 1190                  | 630                   | 1190                  | 630                   |                                                                                                                   |                |                                    |
| 71                             | 299                  | 2.40                 | 24.05    | 1190                  | 630                   | 1190                  | 630                   |                                                                                                                   |                |                                    |
| 72                             | 294                  | 3.35                 | 23.68    | 1190                  | 630                   | 1190                  | 630                   |                                                                                                                   |                |                                    |
| 82                             | 256                  | 3.60                 | 20.63    | 1190                  | 630                   | 1190                  | 630                   |                                                                                                                   |                |                                    |
| 87                             | 242                  | 3.00                 | 19.50    | 1190                  | 630                   | 1190                  | 630                   |                                                                                                                   |                |                                    |
| 92                             | 230                  | 3.95                 | 18.50    | 1190                  | 630                   | 1190                  | 630                   |                                                                                                                   |                |                                    |
| 110                            | 192                  | 4.30                 | 15.41    | 1170                  | 630                   | 1170                  | 630                   |                                                                                                                   |                |                                    |
| 111                            | 191                  | 3.80                 | 15.36    | 1170                  | 630                   | 1170                  | 630                   |                                                                                                                   |                |                                    |
| 123                            | 172                  | 4.80                 | 13.81    | 1120                  | 630                   | 1120                  | 630                   |                                                                                                                   |                |                                    |
| 144                            | 147                  | 4.90                 | 11.84    | 1080                  | 630                   | 1080                  | 630                   |                                                                                                                   |                |                                    |
| 147                            | 144                  | 5.25                 | 11.60    | 1060                  | 630                   | 1060                  | 630                   |                                                                                                                   |                |                                    |
| 163                            | 129                  | 5.85                 | 10.40    | 1030                  | 630                   | 1030                  | 630                   |                                                                                                                   |                |                                    |
| 184                            | 115                  | 6.25                 | 9.25     | 990                   | 630                   | 990                   | 630                   |                                                                                                                   |                |                                    |
| 200                            | 106                  | 6.45                 | 8.51     | 970                   | 630                   | 970                   | 630                   |                                                                                                                   |                |                                    |
| 223                            | 95                   | 7.20                 | 7.63     | 920                   | 630                   | 920                   | 630                   |                                                                                                                   |                |                                    |
| 246                            | 86                   | 7.65                 | 6.91     | 900                   | 630                   | 900                   | 630                   |                                                                                                                   |                |                                    |
| 327                            | 65                   | 8.95                 | 5.20     | 810                   | 630                   | 810                   | 630                   |                                                                                                                   |                |                                    |
| 445                            | 47                   | 10.65                | 3.82     | 740                   | 630                   | 740                   | 630                   |                                                                                                                   |                |                                    |

Legend see page 337

**P<sub>N</sub> = 0.50 hp**

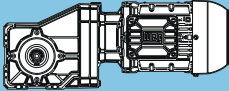
| 60 Hz           |                |                | i        | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|----------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |          | F <sub>rn</sub> | F <sub>an</sub> | F <sub>rn</sub> | F <sub>an</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |          | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| <b>0.14</b>     | 196000         | 0.85           | 7915.09  | 11740           | 19580           | 11740           | 19580           | <b>KH155-11N-80-06E</b>                                                            | 1501    | 462                         |
| <b>0.16</b>     | 173195         | 0.95           | 7012.05  | 15470           | 25790           | 15470           | 25790           |                                                                                    |         |                             |
| <b>0.18</b>     | 153581         | 1.05           | 6249.84  | 17780           | 26170           | 17780           | 26170           |                                                                                    |         |                             |
| <b>0.20</b>     | 140309         | 1.15           | 5739.09  | 19060           | 26440           | 19060           | 26440           |                                                                                    |         |                             |
| <b>0.23</b>     | 117265         | 1.40           | 4845.97  | 20860           | 26910           | 20860           | 26910           |                                                                                    |         |                             |
| <b>0.26</b>     | 106351         | 1.50           | 4417.59  | 21560           | 27110           | 21560           | 27110           |                                                                                    |         |                             |
| <b>0.28</b>     | 94751          | 1.70           | 3966.24  | 22190           | 27340           | 22190           | 27340           |                                                                                    |         |                             |
| <b>0.34</b>     | 78715          | 2.05           | 3337.74  | 22930           | 27670           | 22930           | 27670           |                                                                                    |         |                             |
| <b>0.37</b>     | 71259          | 2.25           | 3052.96  | 23220           | 27810           | 23220           | 27810           |                                                                                    |         |                             |
| <b>0.41</b>     | 62939          | 2.55           | 2731.65  | 23520           | 27970           | 23520           | 27970           |                                                                                    |         |                             |
| <b>0.15</b>     | 190195         | 0.85           | 11453.02 | 12660           | 21510           | 12660           | 21510           | <b>KH155-11N-71-04F</b>                                                            | 1495    | 462                         |
| <b>0.17</b>     | 159506         | 1.00           | 9679.02  | 17060           | 26060           | 17060           | 26060           |                                                                                    |         |                             |
| <b>0.19</b>     | 148651         | 1.10           | 9043.42  | 18210           | 26260           | 18210           | 26260           |                                                                                    |         |                             |
| <b>0.21</b>     | 129439         | 1.25           | 7915.09  | 19920           | 26640           | 19920           | 26640           |                                                                                    |         |                             |
| <b>0.24</b>     | 113792         | 1.45           | 7012.05  | 21040           | 26950           | 21040           | 26950           |                                                                                    |         |                             |
| <b>0.27</b>     | 100643         | 1.60           | 6249.84  | 21850           | 27220           | 21850           | 27220           |                                                                                    |         |                             |
| <b>0.29</b>     | 91708          | 1.75           | 5739.09  | 22320           | 27400           | 22320           | 27400           |                                                                                    |         |                             |
| <b>0.35</b>     | 76444          | 2.10           | 4845.97  | 23020           | 27700           | 23020           | 27700           |                                                                                    |         |                             |
| <b>0.38</b>     | 68969          | 2.35           | 4417.59  | 23290           | 27850           | 23290           | 27850           |                                                                                    |         |                             |
| <b>0.42</b>     | 61126          | 2.65           | 3966.24  | 23560           | 28010           | 23560           | 28010           |                                                                                    |         |                             |
| <b>0.87</b>     | 31432          | 2.30           | 1301.54  | 13260           | 14610           | 13260           | 14610           | <b>KH104-11N-80-06E</b>                                                            | 642     | 452                         |
| <b>1.0</b>      | 26948          | 2.65           | 1129.81  | 13440           | 14750           | 13440           | 14750           |                                                                                    |         |                             |
| <b>1.1</b>      | 23670          | 3.00           | 1004.85  | 13560           | 14840           | 13560           | 14840           |                                                                                    |         |                             |
| <b>0.62</b>     | 45759          | 0.90           | 1810.95  | 4880            | 8250            | 4880            | 8250            | <b>KH094-11N-80-06E</b>                                                            | 357     | 448                         |
| <b>0.74</b>     | 38527          | 1.05           | 1531.00  | 6340            | 8830            | 6340            | 8830            |                                                                                    |         |                             |
| <b>0.76</b>     | 37191          | 1.10           | 1480.92  | 6560            | 8880            | 6560            | 8880            |                                                                                    |         |                             |
| <b>0.90</b>     | 31249          | 1.30           | 1251.99  | 7350            | 9080            | 7350            | 9080            |                                                                                    |         |                             |
| <b>0.97</b>     | 29067          | 1.40           | 1169.35  | 7600            | 9150            | 7600            | 9150            |                                                                                    |         |                             |
| <b>1.1</b>      | 24372          | 1.65           | 988.58   | 8030            | 9310            | 8030            | 9310            |                                                                                    |         |                             |
| <b>1.2</b>      | 22215          | 1.80           | 906.69   | 8210            | 9370            | 8210            | 9370            |                                                                                    |         |                             |
| <b>1.5</b>      | 18588          | 2.15           | 766.52   | 8430            | 9510            | 8430            | 9510            |                                                                                    |         |                             |
| <b>1.8</b>      | 14933          | 2.70           | 627.37   | 8630            | 9620            | 8630            | 9620            |                                                                                    |         |                             |
| <b>2.0</b>      | 13455          | 3.00           | 571.21   | 8700            | 9670            | 8700            | 9670            |                                                                                    |         |                             |
| <b>0.93</b>     | 30250          | 1.35           | 1810.95  | 7440            | 9100            | 7440            | 9100            | <b>KH094-11N-71-04F</b>                                                            | 351     | 448                         |
| <b>1.1</b>      | 25364          | 1.60           | 1531.00  | 7940            | 9280            | 7940            | 9280            |                                                                                    |         |                             |
| <b>1.3</b>      | 20487          | 1.95           | 1251.99  | 8320            | 9440            | 8320            | 9440            |                                                                                    |         |                             |
| <b>1.4</b>      | 19056          | 2.10           | 1169.35  | 8410            | 9490            | 8410            | 9490            |                                                                                    |         |                             |
| <b>1.7</b>      | 15878          | 2.55           | 988.58   | 8590            | 9600            | 8590            | 9600            |                                                                                    |         |                             |
| <b>1.9</b>      | 14443          | 2.80           | 906.69   | 8660            | 9640            | 8660            | 9640            |                                                                                    |         |                             |
| <b>0.91</b>     | 31560          | 0.85           | 1246.44  | 2650            | 4090            | 2650            | 1600            | <b>KH084-11N-80-06E</b>                                                            | 247     | 444                         |
| <b>1.0</b>      | 28424          | 0.95           | 1127.18  | 3730            | 6360            | 3730            | 1710            |                                                                                    |         |                             |
| <b>1.1</b>      | 24717          | 1.10           | 984.20   | 4610            | 8270            | 4610            | 1870            |                                                                                    |         |                             |
| <b>1.3</b>      | 22604          | 1.20           | 903.77   | 4990            | 9100            | 4990            | 1930            |                                                                                    |         |                             |
| <b>1.5</b>      | 18969          | 1.40           | 763.13   | 5530            | 9400            | 5530            | 2090            |                                                                                    |         |                             |
| <b>1.6</b>      | 17708          | 1.50           | 715.32   | 5690            | 9440            | 5690            | 2140            |                                                                                    |         |                             |
| <b>1.8</b>      | 15335          | 1.75           | 624.59   | 5930            | 9530            | 5930            | 2230            |                                                                                    |         |                             |
| <b>2.1</b>      | 13408          | 2.00           | 550.61   | 6090            | 9600            | 6090            | 2290            |                                                                                    |         |                             |
| <b>2.4</b>      | 11587          | 2.30           | 480.77   | 6230            | 9670            | 6230            | 2360            |                                                                                    |         |                             |
| <b>2.6</b>      | 10260          | 2.60           | 430.17   | 6320            | 9710            | 6320            | 2410            |                                                                                    |         |                             |
| <b>2.7</b>      | 9902           | 2.70           | 416.02   | 6340            | 9730            | 6340            | 2430            |                                                                                    |         |                             |
| <b>0.93</b>     | 30562          | 0.90           | 1803.58  | 2990            | 4810            | 2990            | 1640            | <b>KH084-11N-71-04F</b>                                                            | 240     | 444                         |
| <b>0.97</b>     | 29581          | 0.90           | 1745.64  | 3350            | 5550            | 3350            | 1660            |                                                                                    |         |                             |
| <b>1.1</b>      | 25723          | 1.05           | 1524.22  | 4380            | 7780            | 4380            | 1820            |                                                                                    |         |                             |
| <b>1.2</b>      | 24042          | 1.15           | 1427.51  | 4720            | 8520            | 4720            | 1890            |                                                                                    |         |                             |
| <b>1.4</b>      | 20863          | 1.30           | 1246.44  | 5260            | 9310            | 5260            | 2000            |                                                                                    |         |                             |
| <b>1.5</b>      | 18790          | 1.45           | 1127.18  | 5530            | 9400            | 5530            | 2090            |                                                                                    |         |                             |
| <b>1.7</b>      | 16272          | 1.65           | 984.20   | 5820            | 9490            | 5820            | 2180            |                                                                                    |         |                             |
| <b>1.9</b>      | 14881          | 1.80           | 903.77   | 5960            | 9530            | 5960            | 2230            |                                                                                    |         |                             |
| <b>2.2</b>      | 12410          | 2.15           | 763.13   | 6160            | 9640            | 6160            | 2340            |                                                                                    |         |                             |
| <b>2.4</b>      | 11561          | 2.30           | 715.32   | 6230            | 9670            | 6230            | 2360            |                                                                                    |         |                             |
| <b>2.7</b>      | 9970           | 2.70           | 624.59   | 6340            | 9730            | 6340            | 2430            |                                                                                    |         |                             |



| P <sub>N</sub> = 0.50 hp |                         |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|--------------------------|-------------------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                    |                         |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm   | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
|                          |                         |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 4.4                      | 7089                    | 1.95           | 256.14 | 4290            | 3890            | 4290            | 1370            | <b>KH073-11N-80-06E</b>                                                            | 128     | 440                         |
| 5.7                      | 5473                    | 2.55           | 197.75 | 4430            | 3980            | 4430            | 1440            |                                                                                    |         |                             |
| 6.8                      | 4590                    | 3.00           | 165.85 | 4470            | 4020            | 4470            | 1510            |                                                                                    |         |                             |
| 6.6                      | 4754                    | 2.90           | 256.14 | 4470            | 4020            | 4470            | 1480            |                                                                                    |         |                             |
| 5.7                      | 5480                    | 1.35           | 198.00 | 2320            | 2990            | 2320            | 740             | <b>KH063-11N-80-06E</b>                                                            | 84      | 438                         |
| 7.2                      | 4343                    | 1.70           | 156.92 | 2520            | 3080            | 2520            | 830             |                                                                                    |         |                             |
| 9.3                      | 3372                    | 2.20           | 121.85 | 2630            | 3150            | 2630            | 920             |                                                                                    |         |                             |
| 11                       | 2767                    | 2.65           | 99.98  | 2700            | 3190            | 2700            | 970             |                                                                                    |         |                             |
| 14                       | 2256                    | 2.25           | 81.53  | 2720            | 3240            | 2720            | 1010            |                                                                                    |         |                             |
| 25                       | 1227                    | 2.25           | 44.35  | 2790            | 3280            | 2500            | 1060            |                                                                                    |         |                             |
| 8.5                      | 3675                    | 2.00           | 198.00 | 2590            | 3120            | 2590            | 900             |                                                                                    |         |                             |
| 11                       | 2912                    | 2.50           | 156.92 | 2680            | 3190            | 2680            | 940             |                                                                                    |         |                             |
| 4.6                      | 6800                    | 0.80           | 245.70 | **              | **              | **              | **              | <b>KH053-11N-80-06E</b>                                                            | 53      | 436                         |
| 5.8                      | 5389                    | 1.00           | 194.73 | 1280            | 2140            | 1280            | 760             |                                                                                    |         |                             |
| 7.5                      | 4185                    | 1.30           | 151.20 | 1710            | 2360            | 1710            | 850             |                                                                                    |         |                             |
| 9.1                      | 3434                    | 1.55           | 124.06 | 1870            | 2430            | 1870            | 920             |                                                                                    |         |                             |
| 12                       | 2659                    | 2.00           | 96.08  | 2000            | 2500            | 2000            | 990             |                                                                                    |         |                             |
| 14                       | 2227                    | 2.25           | 80.46  | 2070            | 2520            | 2070            | 1010            |                                                                                    |         |                             |
| 15                       | 2023                    | 2.65           | 73.08  | 2090            | 2540            | 2090            | 1030            |                                                                                    |         |                             |
| 29                       | 1061                    | 2.25           | 38.32  | 2160            | 2590            | 2160            | 1080            |                                                                                    |         |                             |
| 6.9                      | 4560                    | 1.20           | 245.70 | 1600            | 2340            | 1600            | 830             |                                                                                    |         |                             |
| 8.7                      | 3614                    | 1.50           | 194.73 | 1840            | 2410            | 1840            | 900             |                                                                                    |         |                             |
| 11                       | 2806                    | 1.90           | 151.20 | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |
| 14                       | 2303                    | 2.35           | 124.06 | 2050            | 2520            | 2050            | 1010            |                                                                                    |         |                             |
| 18                       | 1783                    | 3.00           | 96.08  | 2110            | 2560            | 2110            | 1060            |                                                                                    |         |                             |
| 8.1                      | 3849                    | 0.95           | 139.08 | 560             | 720             | 560             | 470             | <b>KH043-11N-80-06E</b>                                                            | 46      | 434                         |
| 9.9                      | 3150                    | 1.15           | 113.83 | 1010            | 1690            | 1010            | 540             |                                                                                    |         |                             |
| 13                       | 2468                    | 1.40           | 89.17  | 1260            | 1890            | 1260            | 630             |                                                                                    |         |                             |
| 15                       | 2018                    | 1.80           | 72.92  | 1370            | 1930            | 1370            | 670             |                                                                                    |         |                             |
| 17                       | 1832                    | 1.95           | 66.20  | 1420            | 1960            | 1420            | 700             |                                                                                    |         |                             |
| 20                       | 1594                    | 2.25           | 57.58  | 1460            | 1980            | 1460            | 720             |                                                                                    |         |                             |
| 21                       | 1499                    | 2.40           | 54.18  | 1460            | 1980            | 1460            | 720             |                                                                                    |         |                             |
| 24                       | 1303                    | 1.40           | 47.07  | 1510            | 1960            | 1510            | 700             |                                                                                    |         |                             |
| 25                       | 1235                    | 2.90           | 44.64  | 1510            | 2000            | 1510            | 740             |                                                                                    |         |                             |
| 26                       | 1216                    | 2.95           | 43.93  | 1510            | 2000            | 1510            | 740             |                                                                                    |         |                             |
| 29                       | 1065                    | 2.25           | 38.49  | 1530            | 2000            | 1530            | 740             |                                                                                    |         |                             |
| 7.4                      | 4216                    | 0.85           | 227.16 | **              | **              | **              | **              | <b>KH043-11N-71-04F</b>                                                            | 40      | 434                         |
| 9.4                      | 3329                    | 1.10           | 179.37 | 920             | 1510            | 920             | 540             |                                                                                    |         |                             |
| 12                       | 2581                    | 1.40           | 139.08 | 1240            | 1870            | 1240            | 610             |                                                                                    |         |                             |
| 15                       | 2113                    | 1.70           | 113.83 | 1350            | 1910            | 1350            | 650             |                                                                                    |         |                             |
| 19                       | 1655                    | 2.05           | 89.17  | 1440            | 1960            | 1440            | 700             |                                                                                    |         |                             |
| 23                       | 1353                    | 2.65           | 72.92  | 1480            | 2000            | 1480            | 740             |                                                                                    |         |                             |
| 25                       | 1229                    | 2.90           | 66.20  | 1510            | 2000            | 1510            | 740             |                                                                                    |         |                             |
| 36                       | 874                     | 2.05           | 47.07  | 1550            | 2020            | 1550            | 760             |                                                                                    |         |                             |
| 16                       | 1991                    | 0.90           | 71.93  | 700             | 520             | 700             | 520             | <b>KH033-11N-80-06E</b>                                                            | 37      | 432                         |
| 17                       | 1816                    | 1.00           | 65.63  | 810             | 560             | 810             | 560             |                                                                                    |         |                             |
| 19                       | 1619                    | 1.10           | 58.50  | 880             | 580             | 880             | 580             |                                                                                    |         |                             |
| 23                       | 1380                    | 1.30           | 49.88  | 970             | 610             | 970             | 610             |                                                                                    |         |                             |
| 24                       | 1286                    | 1.40           | 46.48  | 990             | 630             | 990             | 630             |                                                                                    |         |                             |
| 29                       | 1074                    | 1.65           | 38.80  | 1060            | 650             | 1060            | 650             |                                                                                    |         |                             |
| 31                       | 994                     | 1.80           | 35.90  | 1060            | 670             | 1060            | 670             |                                                                                    |         |                             |
| 37                       | 838                     | 2.15           | 30.29  | 1100            | 700             | 1100            | 700             |                                                                                    |         |                             |
| 38                       | 829                     | 1.40           | 29.97  | 1100            | 670             | 1100            | 670             |                                                                                    |         |                             |
| 39                       | 793                     | 2.25           | 28.67  | 1100            | 700             | 1100            | 700             |                                                                                    |         |                             |
| 46                       | 675                     | 2.10           | 24.38  | 1120            | 700             | 1120            | 700             |                                                                                    |         |                             |
| 52                       | 600                     | 3.00           | 21.67  | 1120            | 740             | 1120            | 740             |                                                                                    |         |                             |
| 58                       | 536                     | 2.70           | 19.37  | 1120            | 720             | 1120            | 720             |                                                                                    |         |                             |

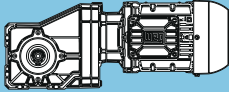
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| <b>P<sub>N</sub> = 0.50 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| 15                             | 2018                 | 0.90                 | 108.75   | 670                   | 520                   | 670                   | 520                   | <b>KH033-11N-71-04F</b>                                                            | 33             | 432                                |
| 19                             | 1612                 | 1.10                 | 86.83    | 880                   | 580                   | 880                   | 580                   |                                                                                    |                |                                    |
| 23                             | 1335                 | 1.35                 | 71.93    | 990                   | 630                   | 990                   | 630                   |                                                                                    |                |                                    |
| 26                             | 1218                 | 1.50                 | 65.63    | 1010                  | 650                   | 1010                  | 650                   |                                                                                    |                |                                    |
| 29                             | 1086                 | 1.65                 | 58.50    | 1030                  | 650                   | 1030                  | 650                   |                                                                                    |                |                                    |
| 34                             | 926                  | 1.95                 | 49.88    | 1080                  | 670                   | 1080                  | 670                   |                                                                                    |                |                                    |
| 36                             | 863                  | 2.10                 | 46.48    | 1080                  | 700                   | 1080                  | 700                   |                                                                                    |                |                                    |
| 43                             | 720                  | 2.50                 | 38.80    | 1100                  | 720                   | 1100                  | 720                   |                                                                                    |                |                                    |
| 47                             | 666                  | 2.70                 | 35.90    | 1120                  | 720                   | 1120                  | 720                   |                                                                                    |                |                                    |
| 56                             | 556                  | 2.10                 | 29.97    | 1120                  | 720                   | 1120                  | 720                   |                                                                                    |                |                                    |
| 26                             | 1204                 | 0.85                 | 43.50    | 1060                  | 630                   | 1060                  | 630                   | <b>KH022-11N-80-06E</b>                                                            | 33             | 462                                |
| 29                             | 1079                 | 0.95                 | 39.00    | 1080                  | 630                   | 1080                  | 630                   |                                                                                    |                |                                    |
| 33                             | 948                  | 1.05                 | 34.27    | 1100                  | 630                   | 1100                  | 630                   |                                                                                    |                |                                    |
| 37                             | 850                  | 1.15                 | 30.73    | 1120                  | 630                   | 1120                  | 630                   |                                                                                    |                |                                    |
| 43                             | 731                  | 1.35                 | 26.41    | 1150                  | 630                   | 1150                  | 630                   |                                                                                    |                |                                    |
| 47                             | 666                  | 1.10                 | 24.05    | 1150                  | 630                   | 1150                  | 630                   |                                                                                    |                |                                    |
| 48                             | 655                  | 1.50                 | 23.68    | 1150                  | 630                   | 1150                  | 630                   |                                                                                    |                |                                    |
| 55                             | 571                  | 1.60                 | 20.63    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 58                             | 540                  | 1.35                 | 19.50    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 61                             | 512                  | 1.80                 | 18.50    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 73                             | 426                  | 1.95                 | 15.41    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 74                             | 425                  | 1.70                 | 15.36    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 82                             | 382                  | 2.20                 | 13.81    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 85                             | 368                  | 2.15                 | 13.29    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 95                             | 328                  | 2.20                 | 11.84    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 97                             | 321                  | 2.35                 | 11.60    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 109                            | 288                  | 2.65                 | 10.40    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 122                            | 256                  | 2.85                 | 9.25     | 1150                  | 630                   | 1150                  | 630                   |                                                                                    |                |                                    |
| 133                            | 236                  | 2.90                 | 8.51     | 1100                  | 630                   | 1100                  | 630                   |                                                                                    |                |                                    |
| 24                             | 1278                 | 0.80                 | 68.88    | **                    | **                    | **                    | **                    | <b>KH022-11N-71-04F</b>                                                            | 29             | 462                                |
| 27                             | 1146                 | 0.80                 | 61.75    | **                    | **                    | **                    | **                    |                                                                                    |                |                                    |
| 31                             | 996                  | 1.00                 | 53.65    | 1100                  | 630                   | 1100                  | 630                   |                                                                                    |                |                                    |
| 35                             | 893                  | 1.10                 | 48.10    | 1120                  | 630                   | 1120                  | 630                   |                                                                                    |                |                                    |
| 39                             | 807                  | 1.25                 | 43.50    | 1120                  | 630                   | 1120                  | 630                   |                                                                                    |                |                                    |
| 43                             | 724                  | 1.35                 | 39.00    | 1150                  | 630                   | 1150                  | 630                   |                                                                                    |                |                                    |
| 49                             | 636                  | 1.55                 | 34.27    | 1150                  | 630                   | 1150                  | 630                   |                                                                                    |                |                                    |
| 55                             | 570                  | 1.75                 | 30.73    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 64                             | 490                  | 2.00                 | 26.41    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 70                             | 446                  | 1.65                 | 24.05    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 71                             | 440                  | 2.25                 | 23.68    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 82                             | 383                  | 2.40                 | 20.63    | 1170                  | 630                   | 1170                  | 630                   |                                                                                    |                |                                    |
| 86                             | 362                  | 2.00                 | 19.50    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 91                             | 343                  | 2.65                 | 18.50    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 109                            | 286                  | 2.90                 | 15.41    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 110                            | 285                  | 2.55                 | 15.36    | 1190                  | 630                   | 1190                  | 630                   |                                                                                    |                |                                    |
| 122                            | 256                  | 3.25                 | 13.81    | 1150                  | 630                   | 1150                  | 630                   |                                                                                    |                |                                    |
| 142                            | 220                  | 3.30                 | 11.84    | 1080                  | 630                   | 1080                  | 630                   |                                                                                    |                |                                    |
| 145                            | 215                  | 3.50                 | 11.60    | 1080                  | 630                   | 1080                  | 630                   |                                                                                    |                |                                    |
| 162                            | 193                  | 3.90                 | 10.40    | 1030                  | 630                   | 1030                  | 630                   |                                                                                    |                |                                    |
| 182                            | 172                  | 4.20                 | 9.25     | 990                   | 630                   | 990                   | 630                   |                                                                                    |                |                                    |
| 198                            | 158                  | 4.35                 | 8.51     | 970                   | 630                   | 970                   | 630                   |                                                                                    |                |                                    |
| 221                            | 142                  | 4.85                 | 7.63     | 920                   | 630                   | 920                   | 630                   |                                                                                    |                |                                    |
| 244                            | 128                  | 5.15                 | 6.91     | 900                   | 630                   | 900                   | 630                   |                                                                                    |                |                                    |
| 324                            | 97                   | 6.00                 | 5.20     | 810                   | 630                   | 810                   | 630                   |                                                                                    |                |                                    |
| 441                            | 71                   | 7.15                 | 3.82     | 740                   | 630                   | 740                   | 630                   |                                                                                    |                |                                    |

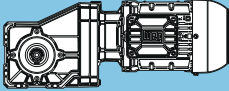
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| <b>P<sub>N</sub> = 0.75 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.20</b>                    | 209937               | 0.80                 | 5739.09  | **                    | **                    | **                    | **                    | <b>KH155-11N-80-06F</b>                                                            | 1504           | 462                                |
| <b>0.24</b>                    | 176362               | 0.95                 | 4845.97  | 15080                 | 25740                 | 15080                 | 25740                 |                                                                                    |                |                                    |
| <b>0.26</b>                    | 159951               | 1.00                 | 4417.59  | 17130                 | 26060                 | 17130                 | 26060                 |                                                                                    |                |                                    |
| <b>0.29</b>                    | 142875               | 1.15                 | 3966.24  | 18860                 | 26390                 | 18860                 | 26390                 |                                                                                    |                |                                    |
| <b>0.34</b>                    | 119313               | 1.35                 | 3337.74  | 20730                 | 26860                 | 20730                 | 26860                 |                                                                                    |                |                                    |
| <b>0.37</b>                    | 108574               | 1.50                 | 3052.96  | 21420                 | 27070                 | 21420                 | 27070                 |                                                                                    |                |                                    |
| <b>0.42</b>                    | 96401                | 1.70                 | 2731.65  | 22120                 | 27310                 | 22120                 | 27310                 |                                                                                    |                |                                    |
| <b>0.49</b>                    | 80154                | 2.00                 | 2306.68  | 22890                 | 27630                 | 22890                 | 27630                 |                                                                                    |                |                                    |
| <b>0.51</b>                    | 76773                | 2.10                 | 2215.09  | 23020                 | 27700                 | 23020                 | 27700                 |                                                                                    |                |                                    |
| <b>0.60</b>                    | 64256                | 2.50                 | 1887.82  | 23470                 | 27940                 | 23470                 | 27940                 |                                                                                    |                |                                    |
| <b>0.61</b>                    | 62952                | 2.55                 | 1854.30  | 23520                 | 27990                 | 23520                 | 27990                 |                                                                                    |                |                                    |
| <b>0.22</b>                    | 190857               | 0.85                 | 7915.09  | 12970                 | 22190                 | 12970                 | 22190                 | <b>KH155-11N-80-04E</b>                                                            | 1499           | 462                                |
| <b>0.25</b>                    | 168219               | 0.95                 | 7012.05  | 16280                 | 25920                 | 16280                 | 25920                 |                                                                                    |                |                                    |
| <b>0.28</b>                    | 149168               | 1.10                 | 6249.84  | 18340                 | 26280                 | 18340                 | 26280                 |                                                                                    |                |                                    |
| <b>0.30</b>                    | 136277               | 1.20                 | 5739.09  | 19490                 | 26550                 | 19490                 | 26550                 |                                                                                    |                |                                    |
| <b>0.36</b>                    | 114187               | 1.40                 | 4845.97  | 21110                 | 26980                 | 21110                 | 26980                 |                                                                                    |                |                                    |
| <b>0.39</b>                    | 103294               | 1.55                 | 4417.59  | 21780                 | 27200                 | 21780                 | 27200                 |                                                                                    |                |                                    |
| <b>0.43</b>                    | 92027                | 1.75                 | 3966.24  | 22370                 | 27400                 | 22370                 | 27400                 |                                                                                    |                |                                    |
| <b>0.52</b>                    | 76254                | 2.10                 | 3337.74  | 23070                 | 27720                 | 23070                 | 27720                 |                                                                                    |                |                                    |
| <b>0.57</b>                    | 69209                | 2.35                 | 3052.96  | 23310                 | 27850                 | 23310                 | 27850                 |                                                                                    |                |                                    |
| <b>0.63</b>                    | 61128                | 2.65                 | 2731.65  | 23580                 | 28010                 | 23580                 | 28010                 |                                                                                    |                |                                    |
| <b>0.72</b>                    | 56565                | 2.05                 | 1579.81  | 19110                 | 20460                 | 19110                 | 20460                 |                                                                                    |                |                                    |
| <b>0.83</b>                    | 48812                | 2.40                 | 1377.44  | 19360                 | 20660                 | 19360                 | 20660                 |                                                                                    |                |                                    |
| <b>0.93</b>                    | 42776                | 2.70                 | 1219.69  | 19540                 | 20820                 | 19540                 | 20820                 |                                                                                    |                |                                    |
| <b>0.96</b>                    | 41439                | 2.80                 | 1186.50  | 19560                 | 20840                 | 19560                 | 20840                 |                                                                                    |                |                                    |
| <b>0.88</b>                    | 47474                | 1.50                 | 1301.54  | 12340                 | 14140                 | 12340                 | 14140                 | <b>KH104-11N-80-06F</b>                                                            | 644            | 452                                |
| <b>1.0</b>                     | 40872                | 1.75                 | 1129.81  | 12770                 | 14340                 | 12770                 | 14340                 |                                                                                    |                |                                    |
| <b>1.1</b>                     | 36127                | 2.00                 | 1004.85  | 13040                 | 14480                 | 13040                 | 14480                 |                                                                                    |                |                                    |
| <b>1.2</b>                     | 35024                | 2.05                 | 976.16   | 13080                 | 14500                 | 13080                 | 14500                 |                                                                                    |                |                                    |
| <b>1.3</b>                     | 30974                | 2.30                 | 872.27   | 13290                 | 14640                 | 13290                 | 14640                 |                                                                                    |                |                                    |
| <b>1.4</b>                     | 29864                | 2.40                 | 842.74   | 13330                 | 14660                 | 13330                 | 14660                 |                                                                                    |                |                                    |
| <b>1.5</b>                     | 26431                | 2.70                 | 753.64   | 13470                 | 14770                 | 13470                 | 14770                 |                                                                                    |                |                                    |
| <b>1.6</b>                     | 25549                | 2.80                 | 731.54   | 13490                 | 14790                 | 13490                 | 14790                 |                                                                                    |                |                                    |
| <b>1.3</b>                     | 30481                | 2.35                 | 1301.54  | 13310                 | 14660                 | 13310                 | 14660                 |                                                                                    |                |                                    |
| <b>1.5</b>                     | 26132                | 2.75                 | 1129.81  | 13470                 | 14770                 | 13470                 | 14770                 |                                                                                    |                |                                    |
| <b>0.91</b>                    | 46709                | 0.90                 | 1251.99  | 4650                  | 7760                  | 4650                  | 7760                  | <b>KH094-11N-80-06F</b>                                                            | 359            | 448                                |
| <b>0.97</b>                    | 43536                | 0.95                 | 1169.35  | 5420                  | 8680                  | 5420                  | 8680                  |                                                                                    |                |                                    |
| <b>1.2</b>                     | 36581                | 1.10                 | 988.58   | 6650                  | 8900                  | 6650                  | 8900                  |                                                                                    |                |                                    |
| <b>1.3</b>                     | 33413                | 1.20                 | 906.69   | 7100                  | 9010                  | 7100                  | 9010                  |                                                                                    |                |                                    |
| <b>1.5</b>                     | 28017                | 1.45                 | 766.52   | 7710                  | 9190                  | 7710                  | 9190                  |                                                                                    |                |                                    |
| <b>1.8</b>                     | 22696                | 1.80                 | 627.37   | 8160                  | 9370                  | 8160                  | 9370                  |                                                                                    |                |                                    |
| <b>2.0</b>                     | 20537                | 1.95                 | 571.21   | 8320                  | 9440                  | 8320                  | 9440                  |                                                                                    |                |                                    |
| <b>2.4</b>                     | 17148                | 2.35                 | 482.91   | 8520                  | 9550                  | 8520                  | 9550                  |                                                                                    |                |                                    |
| <b>2.6</b>                     | 15167                | 2.65                 | 431.58   | 8610                  | 9620                  | 8610                  | 9620                  |                                                                                    |                |                                    |
| <b>0.95</b>                    | 44558                | 0.90                 | 1810.95  | 5240                  | 8660                  | 5240                  | 8660                  | <b>KH094-11N-80-04E</b>                                                            | 355            | 448                                |
| <b>1.1</b>                     | 37440                | 1.10                 | 1531.00  | 6560                  | 8880                  | 6560                  | 8880                  |                                                                                    |                |                                    |
| <b>1.2</b>                     | 36141                | 1.15                 | 1480.92  | 6770                  | 8920                  | 6770                  | 8920                  |                                                                                    |                |                                    |
| <b>1.4</b>                     | 30366                | 1.35                 | 1251.99  | 7490                  | 9130                  | 7490                  | 9130                  |                                                                                    |                |                                    |
| <b>1.5</b>                     | 28246                | 1.45                 | 1169.35  | 7690                  | 9190                  | 7690                  | 9190                  |                                                                                    |                |                                    |
| <b>1.7</b>                     | 23683                | 1.70                 | 988.58   | 8090                  | 9330                  | 8090                  | 9330                  |                                                                                    |                |                                    |
| <b>1.9</b>                     | 21588                | 1.85                 | 906.69   | 8250                  | 9400                  | 8250                  | 9400                  |                                                                                    |                |                                    |
| <b>2.3</b>                     | 18026                | 2.25                 | 766.52   | 8480                  | 9530                  | 8480                  | 9530                  |                                                                                    |                |                                    |
| <b>2.7</b>                     | 14480                | 2.80                 | 627.37   | 8660                  | 9640                  | 8660                  | 9640                  |                                                                                    |                |                                    |

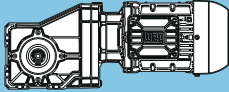
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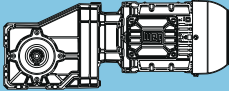
| <b>P<sub>N</sub> = 0.75 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>1.3</b>                     | 33786                | 0.80                 | 903.77   | **                    | **                    | **                    | **                    | <b>KH084-11N-80-06F</b>                                                            | 249            | 444                                |
| <b>1.5</b>                     | 28354                | 0.95                 | 763.13   | 3780                  | 6470                  | 3780                  | 1730                  |                                                                                    |                |                                    |
| <b>1.6</b>                     | 26523                | 1.05                 | 715.32   | 4230                  | 7440                  | 4230                  | 1800                  |                                                                                    |                |                                    |
| <b>1.8</b>                     | 23065                | 1.20                 | 624.59   | 4920                  | 8970                  | 4920                  | 1930                  |                                                                                    |                |                                    |
| <b>2.1</b>                     | 20208                | 1.35                 | 550.61   | 5370                  | 9350                  | 5370                  | 2050                  |                                                                                    |                |                                    |
| <b>2.2</b>                     | 19251                | 1.40                 | 525.61   | 5490                  | 9370                  | 5490                  | 2070                  |                                                                                    |                |                                    |
| <b>2.4</b>                     | 17536                | 1.55                 | 480.77   | 5710                  | 9440                  | 5710                  | 2140                  |                                                                                    |                |                                    |
| <b>2.7</b>                     | 15594                | 1.75                 | 430.17   | 5910                  | 9510                  | 5910                  | 2200                  |                                                                                    |                |                                    |
| <b>3.1</b>                     | 13006                | 2.05                 | 363.25   | 6140                  | 9620                  | 6140                  | 2320                  |                                                                                    |                |                                    |
| <b>3.3</b>                     | 12464                | 2.15                 | 348.82   | 6180                  | 9640                  | 6180                  | 2340                  |                                                                                    |                |                                    |
| <b>3.8</b>                     | 10470                | 2.55                 | 297.29   | 6320                  | 9710                  | 6320                  | 2410                  |                                                                                    |                |                                    |
| <b>3.9</b>                     | 10262                | 2.60                 | 292.01   | 6320                  | 9730                  | 6320                  | 2430                  |                                                                                    |                |                                    |
| <b>4.1</b>                     | 9663                 | 2.75                 | 276.09   | 6360                  | 9760                  | 6360                  | 2450                  |                                                                                    |                |                                    |
| <b>1.2</b>                     | 35268                | 0.80                 | 1427.51  | **                    | **                    | **                    | **                    | <b>KH084-11N-80-04E</b>                                                            | 245            | 444                                |
| <b>1.4</b>                     | 30669                | 0.90                 | 1246.44  | 3100                  | 5040                  | 3100                  | 1640                  |                                                                                    |                |                                    |
| <b>1.5</b>                     | 27678                | 1.00                 | 1127.18  | 4000                  | 6950                  | 4000                  | 1750                  |                                                                                    |                |                                    |
| <b>1.6</b>                     | 27059                | 1.00                 | 1104.23  | 4140                  | 7240                  | 4140                  | 1780                  |                                                                                    |                |                                    |
| <b>1.8</b>                     | 24019                | 1.15                 | 984.20   | 4790                  | 8660                  | 4790                  | 1890                  |                                                                                    |                |                                    |
| <b>1.9</b>                     | 22011                | 1.25                 | 903.77   | 5130                  | 9280                  | 5130                  | 1980                  |                                                                                    |                |                                    |
| <b>2.0</b>                     | 21242                | 1.30                 | 873.98   | 5240                  | 9310                  | 5240                  | 2000                  |                                                                                    |                |                                    |
| <b>2.3</b>                     | 18433                | 1.45                 | 763.13   | 5600                  | 9420                  | 5600                  | 2110                  |                                                                                    |                |                                    |
| <b>2.4</b>                     | 17208                | 1.55                 | 715.32   | 5760                  | 9460                  | 5760                  | 2160                  |                                                                                    |                |                                    |
| <b>2.5</b>                     | 16701                | 1.60                 | 695.67   | 5800                  | 9490                  | 5800                  | 2180                  |                                                                                    |                |                                    |
| <b>2.8</b>                     | 14902                | 1.80                 | 624.59   | 5980                  | 9550                  | 5980                  | 2250                  |                                                                                    |                |                                    |
| <b>3.1</b>                     | 13029                | 2.05                 | 550.61   | 6140                  | 9620                  | 6140                  | 2320                  |                                                                                    |                |                                    |
| <b>3.3</b>                     | 12386                | 2.15                 | 525.61   | 6180                  | 9640                  | 6180                  | 2340                  |                                                                                    |                |                                    |
| <b>3.6</b>                     | 11259                | 2.40                 | 480.77   | 6250                  | 9690                  | 6250                  | 2380                  |                                                                                    |                |                                    |
| <b>4.0</b>                     | 9970                 | 2.70                 | 430.17   | 6340                  | 9730                  | 6340                  | 2430                  |                                                                                    |                |                                    |
| <b>4.1</b>                     | 9602                 | 2.80                 | 416.02   | 6360                  | 9760                  | 6360                  | 2450                  |                                                                                    |                |                                    |
| <b>4.5</b>                     | 10445                | 1.35                 | 256.14   | 3930                  | 3710                  | 3930                  | 1190                  | <b>KH073-11N-80-06F</b>                                                            | 130            | 440                                |
| <b>5.8</b>                     | 8064                 | 1.75                 | 197.75   | 4200                  | 3840                  | 4200                  | 1300                  |                                                                                    |                |                                    |
| <b>6.9</b>                     | 6763                 | 2.05                 | 165.85   | 4340                  | 3910                  | 4340                  | 1370                  |                                                                                    |                |                                    |
| <b>8.8</b>                     | 5308                 | 2.60                 | 130.16   | 4430                  | 3980                  | 4430                  | 1460                  |                                                                                    |                |                                    |
| <b>11</b>                      | 4073                 | 2.80                 | 99.87    | 4500                  | 4050                  | 4090                  | 1530                  |                                                                                    |                |                                    |
| <b>24</b>                      | 1939                 | 2.80                 | 47.56    | 4590                  | 4110                  | 3060                  | 1600                  |                                                                                    |                |                                    |
| <b>6.7</b>                     | 6903                 | 2.00                 | 256.14   | 4320                  | 3910                  | 4320                  | 1370                  | <b>KH073-11N-80-04E</b>                                                            | 126            | 440                                |
| <b>8.7</b>                     | 5329                 | 2.60                 | 197.75   | 4430                  | 3980                  | 4430                  | 1460                  |                                                                                    |                |                                    |
| <b>5.8</b>                     | 8074                 | 0.90                 | 198.00   | 1570                  | 2500                  | 1570                  | 540                   | <b>KH063-11N-80-06F</b>                                                            | 86             | 438                                |
| <b>7.3</b>                     | 6399                 | 1.15                 | 156.92   | 2110                  | 2900                  | 2110                  | 670                   |                                                                                    |                |                                    |
| <b>9.4</b>                     | 4969                 | 1.50                 | 121.85   | 2410                  | 3010                  | 2410                  | 790                   |                                                                                    |                |                                    |
| <b>11</b>                      | 4077                 | 1.80                 | 99.98    | 2540                  | 3100                  | 2540                  | 850                   |                                                                                    |                |                                    |
| <b>14</b>                      | 3325                 | 1.55                 | 81.53    | 2630                  | 3150                  | 2630                  | 920                   |                                                                                    |                |                                    |
| <b>15</b>                      | 3157                 | 2.30                 | 77.42    | 2650                  | 3170                  | 2650                  | 940                   |                                                                                    |                |                                    |
| <b>18</b>                      | 2635                 | 2.80                 | 64.62    | 2700                  | 3210                  | 2700                  | 970                   |                                                                                    |                |                                    |
| <b>26</b>                      | 1809                 | 1.55                 | 44.35    | 2770                  | 3210                  | 2560                  | 990                   |                                                                                    |                |                                    |
| <b>32</b>                      | 1433                 | 2.85                 | 35.15    | 2770                  | 3260                  | 2340                  | 1030                  |                                                                                    |                |                                    |
| <b>8.7</b>                     | 5336                 | 1.40                 | 198.00   | 2360                  | 2990                  | 2360                  | 760                   | <b>KH063-11N-80-04E</b>                                                            | 82             | 438                                |
| <b>11</b>                      | 4229                 | 1.75                 | 156.92   | 2540                  | 3080                  | 2540                  | 850                   |                                                                                    |                |                                    |
| <b>14</b>                      | 3284                 | 2.25                 | 121.85   | 2650                  | 3170                  | 2650                  | 920                   |                                                                                    |                |                                    |
| <b>17</b>                      | 2694                 | 2.70                 | 99.98    | 2700                  | 3210                  | 2700                  | 970                   |                                                                                    |                |                                    |
| <b>21</b>                      | 2197                 | 2.35                 | 81.53    | 2740                  | 3260                  | 2740                  | 1010                  |                                                                                    |                |                                    |
| <b>39</b>                      | 1195                 | 2.35                 | 44.35    | 2790                  | 3280                  | 2180                  | 1060                  |                                                                                    |                |                                    |

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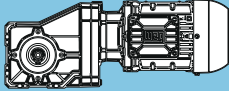
| <b>P<sub>N</sub> = 0.75 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|--------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                   |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>          | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                            | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| 7.5                            | 6166                 | 0.90                 | 151.20   | 830                   | 1170                  | 830                   | 700                   | <b>KH053-11N-80-06F</b>                                                            | 57             | 436                                |
| 9.2                            | 5059                 | 1.05                 | 124.06   | 1420                  | 2290                  | 1420                  | 790                   |                                                                                    |                |                                    |
| 12                             | 3918                 | 1.40                 | 96.08    | 1780                  | 2380                  | 1780                  | 880                   |                                                                                    |                |                                    |
| 14                             | 3281                 | 1.55                 | 80.46    | 1910                  | 2450                  | 1910                  | 940                   |                                                                                    |                |                                    |
| 16                             | 2980                 | 1.80                 | 73.08    | 1960                  | 2470                  | 1960                  | 970                   |                                                                                    |                |                                    |
| 18                             | 2601                 | 2.05                 | 63.77    | 2020                  | 2500                  | 2020                  | 990                   |                                                                                    |                |                                    |
| 19                             | 2457                 | 2.20                 | 60.26    | 2050                  | 2500                  | 2050                  | 990                   |                                                                                    |                |                                    |
| 23                             | 2019                 | 2.65                 | 49.52    | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |
| 30                             | 1563                 | 1.55                 | 38.32    | 2140                  | 2520                  | 2140                  | 1010                  |                                                                                    |                |                                    |
| 38                             | 1238                 | 2.85                 | 30.37    | 2160                  | 2560                  | 2160                  | 1060                  |                                                                                    |                |                                    |
| 7.0                            | 6622                 | 0.85                 | 245.70   | 340                   | 160                   | 340                   | 160                   | <b>KH053-11N-80-04E</b>                                                            | 53             | 436                                |
| 8.9                            | 5248                 | 1.05                 | 194.73   | 1370                  | 2290                  | 1370                  | 790                   |                                                                                    |                |                                    |
| 11                             | 4075                 | 1.35                 | 151.20   | 1730                  | 2380                  | 1730                  | 880                   |                                                                                    |                |                                    |
| 14                             | 3343                 | 1.60                 | 124.06   | 1890                  | 2430                  | 1890                  | 920                   |                                                                                    |                |                                    |
| 18                             | 2589                 | 2.10                 | 96.08    | 2020                  | 2500                  | 2020                  | 990                   |                                                                                    |                |                                    |
| 21                             | 2168                 | 2.35                 | 80.46    | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |                |                                    |
| 24                             | 1969                 | 2.70                 | 73.08    | 2090                  | 2540                  | 2090                  | 1030                  |                                                                                    |                |                                    |
| 45                             | 1033                 | 2.30                 | 38.32    | 2160                  | 2590                  | 2160                  | 1080                  |                                                                                    |                |                                    |
| 10                             | 4642                 | 0.80                 | 113.83   | **                    | **                    | **                    | **                    | <b>KH043-11N-80-06F</b>                                                            | 49             | 434                                |
| 13                             | 3636                 | 0.95                 | 89.17    | 740                   | 1100                  | 740                   | 490                   |                                                                                    |                |                                    |
| 16                             | 2974                 | 1.20                 | 72.92    | 1100                  | 1820                  | 1100                  | 560                   |                                                                                    |                |                                    |
| 17                             | 2700                 | 1.35                 | 66.20    | 1190                  | 1870                  | 1190                  | 610                   |                                                                                    |                |                                    |
| 20                             | 2348                 | 1.55                 | 57.58    | 1300                  | 1890                  | 1300                  | 630                   |                                                                                    |                |                                    |
| 21                             | 2209                 | 1.65                 | 54.18    | 1330                  | 1910                  | 1330                  | 650                   |                                                                                    |                |                                    |
| 24                             | 1919                 | 0.95                 | 47.07    | 1390                  | 1890                  | 1390                  | 630                   |                                                                                    |                |                                    |
| 26                             | 1820                 | 1.95                 | 44.64    | 1420                  | 1960                  | 1420                  | 700                   |                                                                                    |                |                                    |
| 30                             | 1570                 | 1.55                 | 38.49    | 1460                  | 1930                  | 1460                  | 670                   |                                                                                    |                |                                    |
| 31                             | 1500                 | 2.30                 | 36.78    | 1480                  | 1980                  | 1480                  | 720                   |                                                                                    |                |                                    |
| 38                             | 1239                 | 2.35                 | 30.39    | 1510                  | 1980                  | 1510                  | 720                   |                                                                                    |                |                                    |
| 48                             | 961                  | 2.85                 | 23.57    | 1530                  | 2000                  | 1530                  | 740                   |                                                                                    |                |                                    |
| 12                             | 3748                 | 0.95                 | 139.08   | 670                   | 970                   | 670                   | 490                   | <b>KH043-11N-80-04E</b>                                                            | 44             | 434                                |
| 15                             | 3068                 | 1.20                 | 113.83   | 1060                  | 1800                  | 1060                  | 560                   |                                                                                    |                |                                    |
| 19                             | 2403                 | 1.40                 | 89.17    | 1280                  | 1890                  | 1280                  | 630                   |                                                                                    |                |                                    |
| 20                             | 2361                 | 1.50                 | 87.62    | 1300                  | 1890                  | 1300                  | 630                   |                                                                                    |                |                                    |
| 24                             | 1965                 | 1.85                 | 72.92    | 1390                  | 1930                  | 1390                  | 670                   |                                                                                    |                |                                    |
| 26                             | 1784                 | 2.00                 | 66.20    | 1420                  | 1960                  | 1420                  | 700                   |                                                                                    |                |                                    |
| 30                             | 1552                 | 2.30                 | 57.58    | 1460                  | 1980                  | 1460                  | 720                   |                                                                                    |                |                                    |
| 32                             | 1460                 | 2.45                 | 54.18    | 1480                  | 1980                  | 1480                  | 720                   |                                                                                    |                |                                    |
| 37                             | 1269                 | 1.40                 | 47.07    | 1510                  | 1980                  | 1510                  | 720                   |                                                                                    |                |                                    |
| 39                             | 1203                 | 2.95                 | 44.64    | 1510                  | 2000                  | 1510                  | 740                   |                                                                                    |                |                                    |
| 45                             | 1037                 | 2.35                 | 38.49    | 1530                  | 2000                  | 1530                  | 740                   |                                                                                    |                |                                    |
| 23                             | 2034                 | 0.90                 | 49.88    | 670                   | 520                   | 670                   | 520                   | <b>KH033-11N-80-06F</b>                                                            | 42             | 432                                |
| 25                             | 1895                 | 0.95                 | 46.48    | 760                   | 540                   | 760                   | 540                   |                                                                                    |                |                                    |
| 29                             | 1582                 | 1.15                 | 38.80    | 900                   | 580                   | 900                   | 580                   |                                                                                    |                |                                    |
| 32                             | 1464                 | 1.25                 | 35.90    | 940                   | 610                   | 940                   | 610                   |                                                                                    |                |                                    |
| 38                             | 1235                 | 1.45                 | 30.29    | 1010                  | 630                   | 1010                  | 630                   |                                                                                    |                |                                    |
| 40                             | 1169                 | 1.55                 | 28.67    | 1030                  | 650                   | 1030                  | 650                   |                                                                                    |                |                                    |
| 47                             | 994                  | 1.45                 | 24.38    | 1060                  | 630                   | 1060                  | 630                   |                                                                                    |                |                                    |
| 53                             | 884                  | 2.05                 | 21.67    | 1080                  | 700                   | 1080                  | 700                   |                                                                                    |                |                                    |
| 59                             | 790                  | 1.85                 | 19.37    | 1100                  | 670                   | 1100                  | 670                   |                                                                                    |                |                                    |
| 69                             | 672                  | 2.65                 | 16.47    | 1120                  | 720                   | 1120                  | 720                   |                                                                                    |                |                                    |
| 76                             | 610                  | 2.40                 | 14.96    | 1120                  | 700                   | 1120                  | 700                   |                                                                                    |                |                                    |
| 95                             | 487                  | 3.00                 | 11.94    | 1150                  | 720                   | 1150                  | 720                   |                                                                                    |                |                                    |



| P <sub>N</sub> = 0.75 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|--------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                    |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>          | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                      | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 20                       | 2340           | 0.80           | 86.83 | **              | **              | **              | **              | KH033-11N-80-04E                                                                   | 37      | 432                         |
| 24                       | 1939           | 0.95           | 71.93 | 740             | 540             | 740             | 540             |                                                                                    |         |                             |
| 26                       | 1769           | 1.05           | 65.63 | 830             | 560             | 830             | 560             |                                                                                    |         |                             |
| 29                       | 1577           | 1.15           | 58.50 | 900             | 580             | 900             | 580             |                                                                                    |         |                             |
| 35                       | 1344           | 1.35           | 49.88 | 990             | 630             | 990             | 630             |                                                                                    |         |                             |
| 37                       | 1253           | 1.45           | 46.48 | 1010            | 630             | 1010            | 630             |                                                                                    |         |                             |
| 44                       | 1046           | 1.70           | 38.80 | 1060            | 670             | 1060            | 670             |                                                                                    |         |                             |
| 48                       | 968            | 1.85           | 35.90 | 1080            | 670             | 1080            | 670             |                                                                                    |         |                             |
| 57                       | 816            | 2.20           | 30.29 | 1100            | 700             | 1100            | 700             |                                                                                    |         |                             |
| 58                       | 808            | 1.45           | 29.97 | 1100            | 670             | 1100            | 670             |                                                                                    |         |                             |
| 60                       | 773            | 2.30           | 28.67 | 1100            | 700             | 1100            | 700             |                                                                                    |         |                             |
| 71                       | 657            | 2.20           | 24.38 | 1120            | 700             | 1120            | 700             |                                                                                    |         |                             |
| 89                       | 522            | 2.80           | 19.37 | 1120            | 720             | 1120            | 720             |                                                                                    |         |                             |
| 37                       | 1253           | 0.80           | 30.73 | **              | **              | **              | **              | KH022-11N-80-06F                                                                   | 37      | 462                         |
| 43                       | 1077           | 0.95           | 26.41 | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 48                       | 966            | 1.05           | 23.68 | 1100            | 630             | 1100            | 630             |                                                                                    |         |                             |
| 55                       | 841            | 1.10           | 20.63 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 58                       | 795            | 0.95           | 19.50 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 62                       | 754            | 1.20           | 18.50 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 74                       | 628            | 1.35           | 15.41 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 83                       | 563            | 1.50           | 13.81 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 86                       | 542            | 1.50           | 13.29 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 96                       | 486            | 1.65           | 11.92 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 98                       | 473            | 1.60           | 11.60 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 110                      | 424            | 1.80           | 10.40 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 123                      | 377            | 1.95           | 9.25  | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 134                      | 347            | 2.00           | 8.51  | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 149                      | 311            | 2.20           | 7.63  | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 165                      | 282            | 2.35           | 6.91  | 1030            | 630             | 1030            | 630             |                                                                                    |         |                             |
| 191                      | 243            | 2.55           | 5.96  | 990             | 630             | 990             | 630             |                                                                                    |         |                             |
| 219                      | 212            | 2.75           | 5.20  | 940             | 630             | 940             | 630             |                                                                                    |         |                             |
| 36                       | 1296           | 0.80           | 48.10 | **              | **              | **              | **              | KH022-11N-80-04E                                                                   | 33      | 462                         |
| 40                       | 1172           | 0.85           | 43.50 | 1060            | 630             | 1060            | 630             |                                                                                    |         |                             |
| 44                       | 1051           | 0.95           | 39.00 | 1100            | 630             | 1100            | 630             |                                                                                    |         |                             |
| 50                       | 924            | 1.10           | 34.27 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 56                       | 828            | 1.20           | 30.73 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 65                       | 712            | 1.40           | 26.41 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 72                       | 648            | 1.15           | 24.05 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 73                       | 638            | 1.55           | 23.68 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 84                       | 556            | 1.65           | 20.63 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 88                       | 526            | 1.40           | 19.50 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 93                       | 499            | 1.85           | 18.50 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 112                      | 415            | 2.00           | 15.41 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 125                      | 372            | 2.25           | 13.81 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 130                      | 358            | 2.20           | 13.29 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 145                      | 321            | 2.50           | 11.92 | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 146                      | 319            | 2.25           | 11.84 | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 149                      | 313            | 2.45           | 11.60 | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 166                      | 280            | 2.70           | 10.40 | 1030            | 630             | 1030            | 630             |                                                                                    |         |                             |
| 186                      | 249            | 2.90           | 9.25  | 990             | 630             | 990             | 630             |                                                                                    |         |                             |
| 203                      | 229            | 3.00           | 8.51  | 970             | 630             | 970             | 630             |                                                                                    |         |                             |
| 226                      | 206            | 3.35           | 7.63  | 920             | 630             | 920             | 630             |                                                                                    |         |                             |
| 250                      | 186            | 3.55           | 6.91  | 900             | 630             | 900             | 630             |                                                                                    |         |                             |
| 289                      | 161            | 3.85           | 5.96  | 850             | 630             | 850             | 630             |                                                                                    |         |                             |
| 332                      | 140            | 4.15           | 5.20  | 810             | 630             | 810             | 630             |                                                                                    |         |                             |
| 452                      | 103            | 4.95           | 3.82  | 740             | 630             | 740             | 630             |                                                                                    |         |                             |

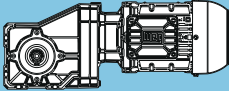
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| P <sub>N</sub> = 1.0 hp |                |                |         |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 0.28                    | 201932         | 0.80           | 6249.84 | **              | **              | **              | **              | KH155-11P-L80-04F                                                                  | 1517    | 462                         |
| 0.31                    | 184484         | 0.90           | 5739.09 | 14050           | 24480           | 14050           | 24480           |                                                                                    |         |                             |
| 0.36                    | 154979         | 1.05           | 4845.97 | 17780           | 26170           | 17780           | 26170           |                                                                                    |         |                             |
| 0.40                    | 140557         | 1.15           | 4417.59 | 19150           | 26460           | 19150           | 26460           |                                                                                    |         |                             |
| 0.44                    | 125551         | 1.30           | 3966.24 | 20350           | 26750           | 20350           | 26750           |                                                                                    |         |                             |
| 0.53                    | 104308         | 1.55           | 3337.74 | 21720           | 27180           | 21720           | 27180           |                                                                                    |         |                             |
| 0.58                    | 94918          | 1.70           | 3052.96 | 22230           | 27360           | 22230           | 27360           |                                                                                    |         |                             |
| 0.64                    | 84057          | 1.90           | 2731.65 | 22730           | 27560           | 22730           | 27560           |                                                                                    |         |                             |
| 0.76                    | 69888          | 2.30           | 2306.68 | 23290           | 27850           | 23290           | 27850           |                                                                                    |         |                             |
| 0.79                    | 66767          | 2.40           | 2215.09 | 23400           | 27920           | 23400           | 27920           |                                                                                    |         |                             |
| 0.93                    | 55878          | 2.90           | 1887.82 | 23740           | 28120           | 23740           | 28120           |                                                                                    |         |                             |
| 0.95                    | 54743          | 2.95           | 1854.30 | 23780           | 28150           | 23780           | 28150           |                                                                                    |         |                             |
| 0.29                    | 196477         | 0.85           | 3966.24 | 11960           | 20050           | 11960           | 20050           | KH155-11P-90S/L-06E                                                                | 1519    | 462                         |
| 0.34                    | 164499         | 1.00           | 3337.74 | 16730           | 25990           | 16730           | 25990           |                                                                                    |         |                             |
| 0.38                    | 149696         | 1.10           | 3052.96 | 18300           | 26280           | 18300           | 26280           |                                                                                    |         |                             |
| 0.42                    | 133256         | 1.20           | 2731.65 | 19760           | 26590           | 19760           | 26590           |                                                                                    |         |                             |
| 0.50                    | 111376         | 1.45           | 2306.68 | 21290           | 27040           | 21290           | 27040           |                                                                                    |         |                             |
| 0.52                    | 106679         | 1.50           | 2215.09 | 21580           | 27130           | 21580           | 27130           |                                                                                    |         |                             |
| 0.61                    | 89755          | 1.80           | 1887.82 | 22480           | 27450           | 22480           | 27450           |                                                                                    |         |                             |
| 0.62                    | 88161          | 1.85           | 1854.30 | 22550           | 27490           | 22550           | 27490           |                                                                                    |         |                             |
| 0.75                    | 71478          | 2.25           | 1530.83 | 23250           | 27810           | 23250           | 27810           |                                                                                    |         |                             |
| 0.76                    | 69990          | 2.30           | 1502.83 | 23290           | 27850           | 23290           | 27850           |                                                                                    |         |                             |
| 0.89                    | 58608          | 2.75           | 1281.49 | 23670           | 28080           | 23670           | 28080           |                                                                                    |         |                             |
| 0.87                    | 62584          | 2.55           | 1308.92 | 23540           | 27990           | 23540           | 27990           | KH154-11P-90S/L-06E                                                                | 1490    | 460                         |
| 1.1                     | 49448          | 2.35           | 1579.81 | 19360           | 20640           | 19360           | 20640           | KH124-11P-L80-04F                                                                  | 928     | 456                         |
| 1.3                     | 42580          | 2.75           | 1377.44 | 19540           | 20820           | 19540           | 20820           |                                                                                    |         |                             |
| 0.72                    | 78235          | 1.50           | 1579.81 | 18190           | 19900           | 18190           | 19900           | KH124-11P-90S/L-06E                                                                | 930     | 456                         |
| 0.83                    | 67794          | 1.70           | 1377.44 | 18680           | 20170           | 18680           | 20170           |                                                                                    |         |                             |
| 0.94                    | 59537          | 1.95           | 1219.69 | 19000           | 20390           | 19000           | 20390           |                                                                                    |         |                             |
| 0.97                    | 57797          | 2.00           | 1186.50 | 19060           | 20440           | 19060           | 20440           |                                                                                    |         |                             |
| 1.1                     | 51377          | 2.25           | 1063.46 | 19290           | 20590           | 19290           | 20590           |                                                                                    |         |                             |
| 1.2                     | 43617          | 2.65           | 916.04  | 19510           | 20790           | 19510           | 20790           |                                                                                    |         |                             |
| 1.3                     | 42379          | 2.75           | 891.88  | 19540           | 20820           | 19540           | 20820           |                                                                                    |         |                             |
| 1.4                     | 41674          | 1.70           | 1301.54 | 12750           | 14320           | 12750           | 14320           | KH104-11P-L80-04F                                                                  | 657     | 452                         |
| 1.6                     | 35804          | 2.00           | 1129.81 | 13060           | 14500           | 13060           | 14500           |                                                                                    |         |                             |
| 1.8                     | 31582          | 2.25           | 1004.85 | 13260           | 14610           | 13260           | 14610           |                                                                                    |         |                             |
| 2.0                     | 27076          | 2.65           | 872.27  | 13440           | 14750           | 13440           | 14750           |                                                                                    |         |                             |
| 2.1                     | 26051          | 2.75           | 842.74  | 13470           | 14790           | 13470           | 14790           |                                                                                    |         |                             |
| 0.88                    | 65388          | 1.10           | 1301.54 | 10790           | 13620           | 10790           | 13620           | KH104-11P-90S/L-06E                                                                | 659     | 452                         |
| 1.0                     | 56412          | 1.30           | 1129.81 | 11670           | 13890           | 11670           | 13890           |                                                                                    |         |                             |
| 1.1                     | 49865          | 1.45           | 1004.85 | 12210           | 14070           | 12210           | 14070           |                                                                                    |         |                             |
| 1.2                     | 48441          | 1.50           | 976.16  | 12300           | 14120           | 12300           | 14120           |                                                                                    |         |                             |
| 1.3                     | 42931          | 1.65           | 872.27  | 12680           | 14280           | 12680           | 14280           |                                                                                    |         |                             |
| 1.4                     | 41392          | 1.75           | 842.74  | 12770           | 14320           | 12770           | 14320           |                                                                                    |         |                             |
| 1.5                     | 36787          | 1.95           | 753.64  | 13020           | 14460           | 13020           | 14460           |                                                                                    |         |                             |
| 1.6                     | 35635          | 2.00           | 731.54  | 13080           | 14500           | 13080           | 14500           |                                                                                    |         |                             |
| 1.7                     | 31952          | 2.25           | 661.38  | 13240           | 14610           | 13240           | 14610           |                                                                                    |         |                             |
| 1.8                     | 30409          | 2.35           | 632.05  | 13310           | 14660           | 13310           | 14660           |                                                                                    |         |                             |
| 2.0                     | 27394          | 2.60           | 574.12  | 13420           | 14750           | 13420           | 14750           |                                                                                    |         |                             |
| 2.2                     | 24053          | 2.95           | 510.43  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                             |

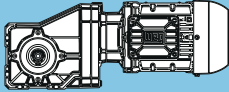
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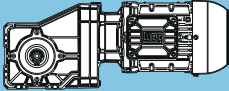
| P <sub>N</sub> = 1.0 hp |                |                |         |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 1.1                     | 50553          | 0.80           | 1531.00 | **              | **              | **              | **              | <b>KH094-11P-L80-04F</b>                                                           | 373     | 448                         |
| 1.2                     | 48800          | 0.85           | 1480.92 | 4140            | 6680            | 4140            | 6680            |                                                                                    |         |                             |
| 1.4                     | 41088          | 1.00           | 1251.99 | 5960            | 8770            | 5960            | 8770            |                                                                                    |         |                             |
| 1.5                     | 38219          | 1.05           | 1169.35 | 6450            | 8860            | 6450            | 8860            |                                                                                    |         |                             |
| 1.8                     | 32112          | 1.25           | 988.58  | 7280            | 9060            | 7280            | 9060            |                                                                                    |         |                             |
| 1.9                     | 29332          | 1.40           | 906.69  | 7600            | 9150            | 7600            | 9150            |                                                                                    |         |                             |
| 2.3                     | 24594          | 1.65           | 766.52  | 8030            | 9310            | 8030            | 9310            |                                                                                    |         |                             |
| 2.4                     | 23761          | 1.70           | 742.09  | 8090            | 9330            | 8090            | 9330            |                                                                                    |         |                             |
| 2.8                     | 19882          | 2.05           | 627.37  | 8360            | 9460            | 8360            | 9460            |                                                                                    |         |                             |
| 3.1                     | 17953          | 2.25           | 571.21  | 8480            | 9530            | 8480            | 9530            |                                                                                    |         |                             |
| 3.6                     | 14959          | 2.70           | 482.91  | 8630            | 9620            | 8630            | 9620            |                                                                                    |         |                             |
| 1.2                     | 50073          | 0.80           | 988.58  | **              | **              | **              | **              | <b>KH094-11P-90S/L-06E</b>                                                         | 375     | 448                         |
| 1.3                     | 45832          | 0.90           | 906.69  | 4950            | 8390            | 4950            | 8390            |                                                                                    |         |                             |
| 1.5                     | 38588          | 1.05           | 766.52  | 6380            | 8860            | 6380            | 8860            |                                                                                    |         |                             |
| 1.8                     | 31325          | 1.30           | 627.37  | 7370            | 9080            | 7370            | 9080            |                                                                                    |         |                             |
| 2.0                     | 28346          | 1.45           | 571.21  | 7690            | 9190            | 7690            | 9190            |                                                                                    |         |                             |
| 2.4                     | 23767          | 1.70           | 482.91  | 8090            | 9330            | 8090            | 9330            |                                                                                    |         |                             |
| 2.7                     | 21110          | 1.90           | 431.58  | 8300            | 9420            | 8300            | 9420            |                                                                                    |         |                             |
| 3.1                     | 17590          | 2.30           | 364.86  | 8500            | 9530            | 8500            | 9530            |                                                                                    |         |                             |
| 3.2                     | 16993          | 2.35           | 353.21  | 8540            | 9550            | 8540            | 9550            |                                                                                    |         |                             |
| 3.8                     | 14130          | 2.85           | 298.61  | 8680            | 9640            | 8680            | 9640            |                                                                                    |         |                             |
| 4.0                     | 13497          | 3.00           | 286.42  | 8700            | 9670            | 8700            | 9670            |                                                                                    |         |                             |
| 1.8                     | 32432          | 0.85           | 984.20  | 2360            | 3480            | 2360            | 1570            | <b>KH084-11P-L80-04F</b>                                                           | 262     | 444                         |
| 1.9                     | 29721          | 0.90           | 903.77  | 3420            | 5710            | 3420            | 1690            |                                                                                    |         |                             |
| 2.0                     | 28682          | 0.95           | 873.98  | 3730            | 6360            | 3730            | 1710            |                                                                                    |         |                             |
| 2.3                     | 24942          | 1.10           | 763.13  | 4610            | 8270            | 4610            | 1870            |                                                                                    |         |                             |
| 2.5                     | 23331          | 1.15           | 715.32  | 4900            | 8900            | 4900            | 1910            |                                                                                    |         |                             |
| 2.8                     | 20247          | 1.35           | 624.59  | 5370            | 9350            | 5370            | 2050            |                                                                                    |         |                             |
| 3.2                     | 17739          | 1.50           | 550.61  | 5690            | 9440            | 5690            | 2140            |                                                                                    |         |                             |
| 3.3                     | 16899          | 1.60           | 525.61  | 5780            | 9460            | 5780            | 2160            |                                                                                    |         |                             |
| 3.7                     | 15362          | 1.75           | 480.77  | 5930            | 9530            | 5930            | 2230            |                                                                                    |         |                             |
| 4.1                     | 13661          | 1.95           | 430.17  | 6090            | 9600            | 6090            | 2290            |                                                                                    |         |                             |
| 4.2                     | 13157          | 2.05           | 416.02  | 6110            | 9620            | 6110            | 2320            |                                                                                    |         |                             |
| 4.8                     | 11370          | 2.35           | 363.25  | 6250            | 9690            | 6250            | 2380            |                                                                                    |         |                             |
| 5.0                     | 10873          | 2.45           | 348.82  | 6290            | 9710            | 6290            | 2410            |                                                                                    |         |                             |
| 5.2                     | 10591          | 2.55           | 340.47  | 6290            | 9710            | 6290            | 2410            |                                                                                    |         |                             |
| 5.9                     | 9133           | 2.95           | 297.29  | 6380            | 9780            | 6380            | 2470            |                                                                                    |         |                             |
| 6.0                     | 8952           | 3.00           | 292.01  | 6380            | 9780            | 6380            | 2470            |                                                                                    |         |                             |
| 1.6                     | 35309          | 0.80           | 695.67  | **              | **              | **              | **              | <b>KH084-11P-90S/L-06E</b>                                                         | 265     | 444                         |
| 1.8                     | 31637          | 0.85           | 624.59  | 2740            | 4270            | 2740            | 1600            |                                                                                    |         |                             |
| 2.1                     | 27775          | 1.00           | 550.61  | 3980            | 6900            | 3980            | 1750            |                                                                                    |         |                             |
| 2.2                     | 26460          | 1.05           | 525.61  | 4290            | 7580            | 4290            | 1800            |                                                                                    |         |                             |
| 2.4                     | 24104          | 1.15           | 480.77  | 4770            | 8610            | 4770            | 1890            |                                                                                    |         |                             |
| 2.7                     | 21479          | 1.25           | 430.17  | 5190            | 9310            | 5190            | 2000            |                                                                                    |         |                             |
| 2.8                     | 20772          | 1.30           | 416.02  | 5310            | 9330            | 5310            | 2020            |                                                                                    |         |                             |
| 3.2                     | 17989          | 1.50           | 363.25  | 5670            | 9440            | 5670            | 2140            |                                                                                    |         |                             |
| 3.3                     | 17239          | 1.55           | 348.82  | 5760            | 9460            | 5760            | 2160            |                                                                                    |         |                             |
| 3.4                     | 16826          | 1.60           | 340.47  | 5800            | 9460            | 5800            | 2160            |                                                                                    |         |                             |
| 3.9                     | 14572          | 1.85           | 297.29  | 6000            | 9550            | 6000            | 2250            |                                                                                    |         |                             |
| 4.1                     | 13449          | 2.00           | 276.09  | 6090            | 9600            | 6090            | 2290            |                                                                                    |         |                             |
| 4.7                     | 11622          | 2.30           | 241.07  | 6230            | 9670            | 6230            | 2360            |                                                                                    |         |                             |
| 4.8                     | 11386          | 2.35           | 236.66  | 6250            | 9690            | 6250            | 2380            |                                                                                    |         |                             |
| 5.0                     | 11096          | 2.40           | 231.12  | 6270            | 9690            | 6270            | 2380            |                                                                                    |         |                             |
| 5.7                     | 9569           | 2.80           | 201.80  | 6360            | 9760            | 6360            | 2450            |                                                                                    |         |                             |
| 5.6                     | 11412          | 2.35           | 206.12  | 6250            | 9690            | 6250            | 2380            | <b>KH083-11P-90S/L-06E</b>                                                         | 236     | 442                         |
| 7.0                     | 9032           | 2.95           | 163.14  | 6380            | 9780            | 6380            | 2470            |                                                                                    |         |                             |

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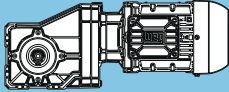
| P <sub>N</sub> = 1.0 hp |                         |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|-------------------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                         |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
|                         |                         |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| <b>6.9</b>              | 9226                    | 1.50           | 256.14 | 4090            | 3780            | 4090            | 1260            | <b>KH073-11P-L80-04F</b>                                                           | 143     | 440                         |
| <b>8.9</b>              | 7123                    | 1.95           | 197.75 | 4290            | 3890            | 4290            | 1370            |                                                                                    |         |                             |
| <b>11</b>               | 5974                    | 2.30           | 165.85 | 4380            | 3960            | 4290            | 1420            |                                                                                    |         |                             |
| <b>14</b>               | 4688                    | 2.95           | 130.16 | 4470            | 4020            | 3870            | 1480            |                                                                                    |         |                             |
| <b>4.5</b>              | 14181                   | 1.00           | 256.14 | 3260            | 3510            | 3260            | 990             | <b>KH073-11P-90S/L-06E</b>                                                         | 146     | 440                         |
| <b>5.8</b>              | 10949                   | 1.30           | 197.75 | 3870            | 3690            | 3870            | 1170            |                                                                                    |         |                             |
| <b>6.9</b>              | 9182                    | 1.50           | 165.85 | 4090            | 3780            | 4090            | 1260            |                                                                                    |         |                             |
| <b>8.8</b>              | 7206                    | 1.95           | 130.16 | 4290            | 3890            | 4290            | 1350            |                                                                                    |         |                             |
| <b>11</b>               | 5561                    | 2.50           | 100.45 | 4430            | 3980            | 4250            | 1440            |                                                                                    |         |                             |
| <b>14</b>               | 4600                    | 3.00           | 83.09  | 4470            | 4020            | 3870            | 1510            |                                                                                    |         |                             |
| <b>24</b>               | 2633                    | 2.10           | 47.56  | 4560            | 4070            | 3150            | 1530            |                                                                                    |         |                             |
| <b>8.9</b>              | 7132                    | 1.05           | 198.00 | 1930            | 2860            | 1930            | 610             | <b>KH063-11P-L80-04F</b>                                                           | 99      | 438                         |
| <b>11</b>               | 5652                    | 1.30           | 156.92 | 2290            | 2970            | 2290            | 740             |                                                                                    |         |                             |
| <b>14</b>               | 4389                    | 1.70           | 121.85 | 2520            | 3080            | 2520            | 830             |                                                                                    |         |                             |
| <b>18</b>               | 3601                    | 2.05           | 99.98  | 2610            | 3120            | 2610            | 900             |                                                                                    |         |                             |
| <b>22</b>               | 2937                    | 1.75           | 81.53  | 2680            | 3190            | 2680            | 940             |                                                                                    |         |                             |
| <b>23</b>               | 2789                    | 2.65           | 77.42  | 2700            | 3190            | 2700            | 970             |                                                                                    |         |                             |
| <b>40</b>               | 1597                    | 1.75           | 44.35  | 2770            | 3240            | 2230            | 1010            |                                                                                    |         |                             |
| <b>7.3</b>              | 8688                    | 0.85           | 156.92 | 1300            | 1910            | 1300            | 490             | <b>KH063-11P-90S/L-06E</b>                                                         | 101     | 438                         |
| <b>9.4</b>              | 6746                    | 1.10           | 121.85 | 2050            | 2880            | 2050            | 650             |                                                                                    |         |                             |
| <b>11</b>               | 5535                    | 1.35           | 99.98  | 2320            | 2990            | 2320            | 740             |                                                                                    |         |                             |
| <b>14</b>               | 4514                    | 1.15           | 81.53  | 2500            | 3060            | 2500            | 830             |                                                                                    |         |                             |
| <b>15</b>               | 4286                    | 1.70           | 77.42  | 2520            | 3080            | 2520            | 850             |                                                                                    |         |                             |
| <b>18</b>               | 3578                    | 2.05           | 64.62  | 2610            | 3150            | 2610            | 900             |                                                                                    |         |                             |
| <b>19</b>               | 3260                    | 2.25           | 58.89  | 2650            | 3170            | 2650            | 920             |                                                                                    |         |                             |
| <b>23</b>               | 2778                    | 2.65           | 50.17  | 2700            | 3190            | 2700            | 970             |                                                                                    |         |                             |
| <b>24</b>               | 2689                    | 2.70           | 48.56  | 2700            | 3210            | 2700            | 970             |                                                                                    |         |                             |
| <b>26</b>               | 2455                    | 1.15           | 44.35  | 2720            | 3150            | 2650            | 900             |                                                                                    |         |                             |
| <b>33</b>               | 1946                    | 2.10           | 35.15  | 2740            | 3210            | 2410            | 970             |                                                                                    |         |                             |
| <b>42</b>               | 1511                    | 2.95           | 27.29  | 2770            | 3260            | 2180            | 1010            |                                                                                    |         |                             |
| <b>9.0</b>              | 7014                    | 0.80           | 194.73 | **              | **              | **              | **              | <b>KH053-11P-L80-04F</b>                                                           | 71      | 436                         |
| <b>12</b>               | 5446                    | 1.00           | 151.20 | 1280            | 2140            | 1280            | 760             |                                                                                    |         |                             |
| <b>14</b>               | 4469                    | 1.20           | 124.06 | 1640            | 2340            | 1640            | 830             |                                                                                    |         |                             |
| <b>18</b>               | 3461                    | 1.55           | 96.08  | 1870            | 2430            | 1870            | 920             |                                                                                    |         |                             |
| <b>22</b>               | 2898                    | 1.75           | 80.46  | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |
| <b>24</b>               | 2632                    | 2.05           | 73.08  | 2020            | 2500            | 2020            | 990             |                                                                                    |         |                             |
| <b>28</b>               | 2297                    | 2.35           | 63.77  | 2070            | 2520            | 2070            | 1010            |                                                                                    |         |                             |
| <b>29</b>               | 2171                    | 2.45           | 60.26  | 2070            | 2520            | 2070            | 1010            |                                                                                    |         |                             |
| <b>36</b>               | 1784                    | 3.00           | 49.52  | 2110            | 2560            | 2110            | 1060            |                                                                                    |         |                             |
| <b>46</b>               | 1380                    | 1.75           | 38.32  | 2140            | 2540            | 2140            | 1030            |                                                                                    |         |                             |
| <b>9.2</b>              | 6869                    | 0.80           | 124.06 | **              | **              | **              | **              | <b>KH053-11P-90S/L-06E</b>                                                         | 73      | 436                         |
| <b>12</b>               | 5320                    | 1.00           | 96.08  | 1330            | 2250            | 1330            | 790             |                                                                                    |         |                             |
| <b>14</b>               | 4455                    | 1.15           | 80.46  | 1640            | 2360            | 1640            | 850             |                                                                                    |         |                             |
| <b>16</b>               | 4046                    | 1.35           | 73.08  | 1750            | 2380            | 1750            | 880             |                                                                                    |         |                             |
| <b>18</b>               | 3531                    | 1.55           | 63.77  | 1870            | 2430            | 1870            | 920             |                                                                                    |         |                             |
| <b>19</b>               | 3336                    | 1.60           | 60.26  | 1910            | 2430            | 1910            | 920             |                                                                                    |         |                             |
| <b>23</b>               | 2742                    | 1.95           | 49.52  | 2000            | 2470            | 2000            | 970             |                                                                                    |         |                             |
| <b>27</b>               | 2325                    | 2.30           | 42.00  | 2050            | 2520            | 2050            | 1010            |                                                                                    |         |                             |
| <b>28</b>               | 2249                    | 2.40           | 40.63  | 2070            | 2520            | 2070            | 1010            |                                                                                    |         |                             |
| <b>30</b>               | 2122                    | 1.15           | 38.32  | 2070            | 2450            | 2070            | 940             |                                                                                    |         |                             |
| <b>33</b>               | 1912                    | 2.80           | 34.53  | 2090            | 2540            | 2090            | 1030            |                                                                                    |         |                             |
| <b>38</b>               | 1681                    | 2.10           | 30.37  | 2110            | 2500            | 2110            | 990             |                                                                                    |         |                             |
| <b>49</b>               | 1306                    | 2.80           | 23.58  | 2160            | 2540            | 2160            | 1030            |                                                                                    |         |                             |

**P<sub>N</sub> = 1.0 hp**

| 60 Hz           |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 15              | 4100           | 0.90           | 113.83 | 250             | 70              | 250             | 70              | <b>KH043-11P-L80-04F</b>                                                           | 62      | 434                         |
| 20              | 3212           | 1.05           | 89.17  | 1010            | 1690            | 1010            | 540             |                                                                                    |         |                             |
| 24              | 2627           | 1.35           | 72.92  | 1210            | 1870            | 1210            | 610             |                                                                                    |         |                             |
| 27              | 2384           | 1.50           | 66.20  | 1300            | 1890            | 1300            | 630             |                                                                                    |         |                             |
| 31              | 2074           | 1.75           | 57.58  | 1370            | 1910            | 1370            | 650             |                                                                                    |         |                             |
| 32              | 1952           | 1.85           | 54.18  | 1390            | 1930            | 1390            | 670             |                                                                                    |         |                             |
| 37              | 1695           | 1.05           | 47.07  | 1440            | 1910            | 1440            | 650             |                                                                                    |         |                             |
| 39              | 1608           | 2.25           | 44.64  | 1460            | 1980            | 1460            | 720             |                                                                                    |         |                             |
| 40              | 1582           | 2.25           | 43.93  | 1460            | 1980            | 1460            | 720             |                                                                                    |         |                             |
| 46              | 1386           | 1.75           | 38.49  | 1480            | 1960            | 1480            | 700             |                                                                                    |         |                             |
| 48              | 1325           | 2.60           | 36.78  | 1510            | 2000            | 1510            | 740             |                                                                                    |         |                             |
| 58              | 1095           | 2.65           | 30.39  | 1530            | 2000            | 1530            | 740             |                                                                                    |         |                             |
| 59              | 1074           | 3.00           | 29.81  | 1530            | 2020            | 1530            | 760             |                                                                                    |         |                             |
| 16              | 4037           | 0.90           | 72.92  | 360             | 290             | 360             | 290             | <b>KH043-11P-90S/L-06E</b>                                                         | 64      | 434                         |
| 17              | 3665           | 1.00           | 66.20  | 740             | 1100            | 740             | 490             |                                                                                    |         |                             |
| 20              | 3188           | 1.15           | 57.58  | 1010            | 1690            | 1010            | 540             |                                                                                    |         |                             |
| 21              | 3000           | 1.20           | 54.18  | 1100            | 1820            | 1100            | 560             |                                                                                    |         |                             |
| 26              | 2472           | 1.45           | 44.64  | 1260            | 1890            | 1260            | 630             |                                                                                    |         |                             |
| 30              | 2131           | 1.15           | 38.49  | 1350            | 1840            | 1350            | 580             |                                                                                    |         |                             |
| 31              | 2036           | 1.70           | 36.78  | 1370            | 1930            | 1370            | 670             |                                                                                    |         |                             |
| 38              | 1683           | 1.75           | 30.39  | 1440            | 1910            | 1440            | 650             |                                                                                    |         |                             |
| 41              | 1557           | 2.30           | 28.13  | 1460            | 1980            | 1460            | 720             |                                                                                    |         |                             |
| 49              | 1305           | 2.10           | 23.57  | 1510            | 1960            | 1510            | 700             |                                                                                    |         |                             |
| 59              | 1068           | 2.45           | 19.29  | 1530            | 2000            | 1530            | 740             |                                                                                    |         |                             |
| 77              | 822            | 3.00           | 14.85  | 1550            | 2020            | 1550            | 760             |                                                                                    |         |                             |
| 30              | 2107           | 0.85           | 58.50  | 650             | 520             | 650             | 520             | <b>KH033-11P-L80-04F</b>                                                           | 55      | 432                         |
| 35              | 1797           | 1.00           | 49.88  | 810             | 560             | 810             | 560             |                                                                                    |         |                             |
| 38              | 1674           | 1.10           | 46.48  | 880             | 580             | 880             | 580             |                                                                                    |         |                             |
| 45              | 1398           | 1.30           | 38.80  | 970             | 610             | 970             | 610             |                                                                                    |         |                             |
| 49              | 1293           | 1.40           | 35.90  | 990             | 630             | 990             | 630             |                                                                                    |         |                             |
| 58              | 1091           | 1.65           | 30.29  | 1030            | 650             | 1030            | 650             |                                                                                    |         |                             |
| 59              | 1079           | 1.10           | 29.97  | 1060            | 630             | 1060            | 630             |                                                                                    |         |                             |
| 61              | 1033           | 1.75           | 28.67  | 1060            | 670             | 1060            | 670             |                                                                                    |         |                             |
| 72              | 878            | 1.65           | 24.38  | 1080            | 650             | 1080            | 650             |                                                                                    |         |                             |
| 81              | 781            | 2.30           | 21.67  | 1100            | 700             | 1100            | 700             |                                                                                    |         |                             |
| 91              | 698            | 2.10           | 19.37  | 1100            | 700             | 1100            | 700             |                                                                                    |         |                             |
| 107             | 593            | 3.00           | 16.47  | 1120            | 740             | 1120            | 740             |                                                                                    |         |                             |
| 118             | 539            | 2.70           | 14.96  | 1120            | 720             | 1120            | 720             |                                                                                    |         |                             |
| 30              | 2148           | 0.85           | 38.80  | 610             | 520             | 610             | 520             | <b>KH033-11P-90S/L-06E</b>                                                         | 57      | 432                         |
| 32              | 1988           | 0.90           | 35.90  | 720             | 540             | 720             | 540             |                                                                                    |         |                             |
| 38              | 1677           | 1.10           | 30.29  | 880             | 580             | 880             | 580             |                                                                                    |         |                             |
| 40              | 1587           | 1.15           | 28.67  | 900             | 580             | 900             | 580             |                                                                                    |         |                             |
| 47              | 1350           | 1.05           | 24.38  | 990             | 560             | 990             | 560             |                                                                                    |         |                             |
| 53              | 1200           | 1.50           | 21.67  | 1010            | 650             | 1010            | 650             |                                                                                    |         |                             |
| 59              | 1072           | 1.35           | 19.37  | 1060            | 630             | 1060            | 630             |                                                                                    |         |                             |
| 70              | 912            | 1.95           | 16.47  | 1080            | 700             | 1080            | 700             |                                                                                    |         |                             |
| 77              | 828            | 1.75           | 14.96  | 1100            | 670             | 1100            | 670             |                                                                                    |         |                             |
| 89              | 709            | 2.50           | 12.81  | 1100            | 720             | 1100            | 720             |                                                                                    |         |                             |
| 96              | 661            | 2.20           | 11.94  | 1120            | 700             | 1120            | 700             |                                                                                    |         |                             |
| 127             | 500            | 2.90           | 9.03   | 1120            | 720             | 1120            | 720             |                                                                                    |         |                             |

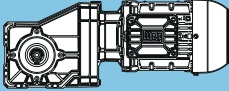
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| P <sub>N</sub> = 1.0 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 51                      | 1234           | 0.80           | 34.27 | **              | **              | **              | **              | <b>KH022-11P-L80-04F</b>                                                           | 51      | 462                         |
| 57                      | 1107           | 0.90           | 30.73 | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 67                      | 951            | 1.05           | 26.41 | 1100            | 630             | 1100            | 630             |                                                                                    |         |                             |
| 73                      | 866            | 0.85           | 24.05 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 74                      | 853            | 1.15           | 23.68 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 85                      | 743            | 1.25           | 20.63 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 90                      | 702            | 1.05           | 19.50 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 95                      | 666            | 1.40           | 18.50 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 114                     | 555            | 1.50           | 15.41 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 115                     | 553            | 1.30           | 15.36 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 127                     | 497            | 1.70           | 13.81 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 132                     | 479            | 1.65           | 13.29 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 148                     | 429            | 1.85           | 11.92 | 1100            | 630             | 1100            | 630             |                                                                                    |         |                             |
| 149                     | 426            | 1.70           | 11.84 | 1100            | 630             | 1100            | 630             |                                                                                    |         |                             |
| 152                     | 418            | 1.85           | 11.60 | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 169                     | 375            | 2.05           | 10.40 | 1030            | 630             | 1030            | 630             |                                                                                    |         |                             |
| 190                     | 333            | 2.20           | 9.25  | 1010            | 630             | 1010            | 630             |                                                                                    |         |                             |
| 207                     | 307            | 2.25           | 8.51  | 970             | 630             | 970             | 630             |                                                                                    |         |                             |
| 231                     | 275            | 2.50           | 7.63  | 940             | 630             | 940             | 630             |                                                                                    |         |                             |
| 255                     | 249            | 2.65           | 6.91  | 900             | 630             | 900             | 630             |                                                                                    |         |                             |
| 295                     | 215            | 2.85           | 5.96  | 850             | 630             | 850             | 630             |                                                                                    |         |                             |
| 338                     | 187            | 3.10           | 5.20  | 810             | 630             | 810             | 630             |                                                                                    |         |                             |
| 461                     | 138            | 3.70           | 3.82  | 740             | 630             | 740             | 630             |                                                                                    |         |                             |
| 56                      | 1142           | 0.80           | 20.63 | **              | **              | **              | **              | <b>KH022-11P-90S/L-06E</b>                                                         | 53      | 462                         |
| 62                      | 1024           | 0.90           | 18.50 | 1100            | 630             | 1100            | 630             |                                                                                    |         |                             |
| 74                      | 853            | 1.00           | 15.41 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 75                      | 850            | 0.85           | 15.36 | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 83                      | 765            | 1.10           | 13.81 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 86                      | 736            | 1.10           | 13.29 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 96                      | 660            | 1.20           | 11.92 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 97                      | 656            | 1.10           | 11.84 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 99                      | 642            | 1.20           | 11.60 | 1150            | 630             | 1150            | 630             |                                                                                    |         |                             |
| 110                     | 576            | 1.35           | 10.40 | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 124                     | 512            | 1.40           | 9.25  | 1170            | 630             | 1170            | 630             |                                                                                    |         |                             |
| 135                     | 471            | 1.45           | 8.51  | 1120            | 630             | 1120            | 630             |                                                                                    |         |                             |
| 150                     | 422            | 1.65           | 7.63  | 1080            | 630             | 1080            | 630             |                                                                                    |         |                             |
| 166                     | 383            | 1.75           | 6.91  | 1060            | 630             | 1060            | 630             |                                                                                    |         |                             |
| 192                     | 330            | 1.90           | 5.96  | 990             | 630             | 990             | 630             |                                                                                    |         |                             |
| 220                     | 288            | 2.00           | 5.20  | 940             | 630             | 940             | 630             |                                                                                    |         |                             |
| 300                     | 211            | 2.40           | 3.82  | 850             | 630             | 850             | 630             |                                                                                    |         |                             |

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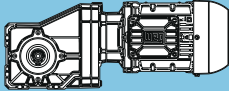
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| P <sub>N</sub> = 1.5 hp |                |                |         |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 0.40                    | 209340         | 0.80           | 4417.59 | **              | **              | **              | **              | KH155-11P-90S/L-04E                                                                | 1515    | 462                         |
| 0.44                    | 186993         | 0.90           | 3966.24 | 13850           | 24030           | 13850           | 24030           |                                                                                    |         |                             |
| 0.53                    | 156559         | 1.05           | 3337.74 | 17740           | 26170           | 17740           | 26170           |                                                                                    |         |                             |
| 0.58                    | 142469         | 1.15           | 3052.96 | 19060           | 26440           | 19060           | 26440           |                                                                                    |         |                             |
| 0.64                    | 126823         | 1.30           | 2731.65 | 20320           | 26750           | 20320           | 26750           |                                                                                    |         |                             |
| 0.76                    | 105998         | 1.55           | 2306.68 | 21670           | 27160           | 21670           | 27160           |                                                                                    |         |                             |
| 0.79                    | 101528         | 1.60           | 2215.09 | 21920           | 27250           | 21920           | 27250           |                                                                                    |         |                             |
| 0.93                    | 85421          | 1.90           | 1887.82 | 22710           | 27560           | 22710           | 27560           |                                                                                    |         |                             |
| 0.95                    | 83688          | 1.95           | 1854.30 | 22770           | 27580           | 22770           | 27580           |                                                                                    |         |                             |
| 1.1                     | 67850          | 2.35           | 1530.83 | 23380           | 27900           | 23380           | 27900           |                                                                                    |         |                             |
| 1.2                     | 66437          | 2.40           | 1502.83 | 23430           | 27920           | 23430           | 27920           |                                                                                    |         |                             |
| 1.4                     | 55488          | 2.90           | 1281.49 | 23760           | 28150           | 23760           | 28150           |                                                                                    |         |                             |
| 1.3                     | 59344          | 2.70           | 1308.92 | 23650           | 28060           | 23650           | 28060           | KH154-11P-90S/L-04E                                                                | 1486    | 460                         |
| 1.1                     | 74496          | 1.55           | 1579.81 | 18390           | 20010           | 18390           | 20010           | KH124-11P-90S/L-04E                                                                | 926     | 456                         |
| 1.3                     | 64420          | 1.80           | 1377.44 | 18840           | 20260           | 18840           | 20260           |                                                                                    |         |                             |
| 1.4                     | 56574          | 2.05           | 1219.69 | 19130           | 20460           | 19130           | 20460           |                                                                                    |         |                             |
| 1.5                     | 54921          | 2.10           | 1186.50 | 19180           | 20500           | 19180           | 20500           |                                                                                    |         |                             |
| 1.7                     | 48820          | 2.40           | 1063.46 | 19380           | 20660           | 19380           | 20660           |                                                                                    |         |                             |
| 1.9                     | 41446          | 2.80           | 916.04  | 19580           | 20860           | 19580           | 20860           |                                                                                    |         |                             |
| 2.0                     | 40185          | 2.90           | 891.88  | 19600           | 20880           | 19600           | 20880           |                                                                                    |         |                             |
| 1.4                     | 62263          | 1.15           | 1301.54 | 11170           | 13740           | 11170           | 13740           | KH104-11P-90S/L-04E                                                                | 655     | 452                         |
| 1.6                     | 53716          | 1.35           | 1129.81 | 11940           | 13980           | 11940           | 13980           |                                                                                    |         |                             |
| 1.8                     | 47481          | 1.50           | 1004.85 | 12390           | 14160           | 12390           | 14160           |                                                                                    |         |                             |
| 2.0                     | 40879          | 1.75           | 872.27  | 12810           | 14340           | 12810           | 14340           |                                                                                    |         |                             |
| 2.1                     | 39413          | 1.80           | 842.74  | 12880           | 14390           | 12880           | 14390           |                                                                                    |         |                             |
| 2.3                     | 34957          | 2.05           | 753.64  | 13130           | 14520           | 13130           | 14520           |                                                                                    |         |                             |
| 2.4                     | 33861          | 2.10           | 731.54  | 13170           | 14570           | 13170           | 14570           |                                                                                    |         |                             |
| 2.7                     | 30362          | 2.35           | 661.38  | 13330           | 14660           | 13330           | 14660           |                                                                                    |         |                             |
| 2.8                     | 28895          | 2.50           | 632.05  | 13380           | 14700           | 13380           | 14700           |                                                                                    |         |                             |
| 3.1                     | 26030          | 2.75           | 574.12  | 13490           | 14790           | 13490           | 14790           |                                                                                    |         |                             |
| 1.8                     | 47778          | 0.85           | 988.58  | 4520            | 7490            | 4520            | 7490            | KH094-11P-90S/L-04E                                                                | 370     | 448                         |
| 1.9                     | 43642          | 0.95           | 906.69  | 5510            | 8700            | 5510            | 8700            |                                                                                    |         |                             |
| 2.3                     | 36744          | 1.10           | 766.52  | 6700            | 8920            | 6700            | 8920            |                                                                                    |         |                             |
| 2.4                     | 35500          | 1.15           | 742.09  | 6880            | 8970            | 6880            | 8970            |                                                                                    |         |                             |
| 2.8                     | 29767          | 1.35           | 627.37  | 7580            | 9150            | 7580            | 9150            |                                                                                    |         |                             |
| 3.1                     | 26991          | 1.50           | 571.21  | 7820            | 9240            | 7820            | 9240            |                                                                                    |         |                             |
| 3.6                     | 22585          | 1.80           | 482.91  | 8180            | 9370            | 8180            | 9370            |                                                                                    |         |                             |
| 4.1                     | 20060          | 2.00           | 431.58  | 8360            | 9460            | 8360            | 9460            |                                                                                    |         |                             |
| 4.8                     | 16715          | 2.40           | 364.86  | 8570            | 9580            | 8570            | 9580            |                                                                                    |         |                             |
| 5.0                     | 16147          | 2.50           | 353.21  | 8590            | 9600            | 8590            | 9600            |                                                                                    |         |                             |
| 5.9                     | 13398          | 3.00           | 298.61  | 8700            | 9690            | 8700            | 9690            |                                                                                    |         |                             |
| 2.5                     | 34642          | 0.80           | 715.32  | **              | **              | **              | **              | KH084-11P-90S/L-04E                                                                | 260     | 444                         |
| 2.8                     | 30125          | 0.90           | 624.59  | 3370            | 5600            | 3370            | 1660            |                                                                                    |         |                             |
| 3.2                     | 26448          | 1.05           | 550.61  | 4340            | 7670            | 4340            | 1800            |                                                                                    |         |                             |
| 3.3                     | 25196          | 1.10           | 525.61  | 4590            | 8230            | 4590            | 1870            |                                                                                    |         |                             |
| 3.7                     | 22952          | 1.20           | 480.77  | 4990            | 9100            | 4990            | 1930            |                                                                                    |         |                             |
| 4.1                     | 20452          | 1.30           | 430.17  | 5370            | 9350            | 5370            | 2050            |                                                                                    |         |                             |
| 4.2                     | 19739          | 1.35           | 416.02  | 5460            | 9370            | 5460            | 2070            |                                                                                    |         |                             |
| 4.8                     | 17129          | 1.60           | 363.25  | 5780            | 9460            | 5780            | 2160            |                                                                                    |         |                             |
| 5.0                     | 16415          | 1.65           | 348.82  | 5850            | 9490            | 5850            | 2180            |                                                                                    |         |                             |
| 5.2                     | 15989          | 1.70           | 340.47  | 5890            | 9510            | 5890            | 2200            |                                                                                    |         |                             |
| 5.9                     | 13846          | 1.95           | 297.29  | 6070            | 9600            | 6070            | 2290            |                                                                                    |         |                             |
| 6.0                     | 13572          | 2.00           | 292.01  | 6090            | 9600            | 6090            | 2290            |                                                                                    |         |                             |
| 6.4                     | 12780          | 2.10           | 276.09  | 6160            | 9640            | 6160            | 2340            |                                                                                    |         |                             |
| 7.3                     | 11044          | 2.45           | 241.07  | 6270            | 9690            | 6270            | 2380            |                                                                                    |         |                             |
| 7.4                     | 10819          | 2.50           | 236.66  | 6290            | 9710            | 6290            | 2410            |                                                                                    |         |                             |
| 7.6                     | 10544          | 2.55           | 231.12  | 6320            | 9710            | 6320            | 2410            |                                                                                    |         |                             |
| 8.7                     | 9073           | 2.95           | 201.80  | 6380            | 9780            | 6380            | 2470            |                                                                                    |         |                             |

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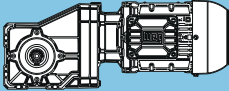
| P <sub>N</sub> = 1.5 hp |                         |                |        |                       |                       |                       |                       |                                                                                    |         |                             |
|-------------------------|-------------------------|----------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                         |                | i      | Output shaft          |                       | Hollow shaft          |                       |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | F <sub>rN</sub><br>lb | F <sub>aN</sub><br>lb | F <sub>rN</sub><br>lb | F <sub>aN</sub><br>lb |                                                                                    |         |                             |
| 8.5                     | 10889                   | 2.45           |        | 206.12                | 6290                  | 9710                  | 6290                  |                                                                                    |         |                             |
| 6.9                     | 13531                   | 1.05           | 256.14 | 3420                  | 3550                  | 3420                  | 1030                  | <b>KH073-11P-90S/L-04E</b>                                                         | 141     | 440                         |
| 8.9                     | 10447                   | 1.35           | 197.75 | 3930                  | 3710                  | 3930                  | 1190                  |                                                                                    |         |                             |
| 11                      | 8762                    | 1.60           | 165.85 | 4160                  | 3800                  | 4160                  | 1280                  |                                                                                    |         |                             |
| 14                      | 6876                    | 2.00           | 130.16 | 4340                  | 3910                  | 4090                  | 1370                  |                                                                                    |         |                             |
| 18                      | 5307                    | 2.60           | 100.45 | 4450                  | 4000                  | 3660                  | 1460                  |                                                                                    |         |                             |
| 37                      | 2512                    | 2.20           | 47.56  | 4560                  | 4070                  | 2740                  | 1550                  |                                                                                    |         |                             |
| 11                      | 8290                    | 0.90           | 156.92 | 1530                  | 2380                  | 1530                  | 520                   | <b>KH063-11P-90S/L-04E</b>                                                         | 97      | 438                         |
| 14                      | 6437                    | 1.15           | 121.85 | 2140                  | 2900                  | 2140                  | 670                   |                                                                                    |         |                             |
| 18                      | 5282                    | 1.40           | 99.98  | 2360                  | 3010                  | 2360                  | 760                   |                                                                                    |         |                             |
| 22                      | 4307                    | 1.20           | 81.53  | 2520                  | 3080                  | 2520                  | 850                   |                                                                                    |         |                             |
| 23                      | 4090                    | 1.80           | 77.42  | 2560                  | 3100                  | 2560                  | 850                   |                                                                                    |         |                             |
| 27                      | 3414                    | 2.15           | 64.62  | 2630                  | 3150                  | 2630                  | 920                   |                                                                                    |         |                             |
| 30                      | 3111                    | 2.35           | 58.89  | 2650                  | 3170                  | 2590                  | 940                   |                                                                                    |         |                             |
| 35                      | 2650                    | 2.75           | 50.17  | 2700                  | 3210                  | 2430                  | 970                   |                                                                                    |         |                             |
| 36                      | 2565                    | 2.85           | 48.56  | 2700                  | 3210                  | 2380                  | 990                   |                                                                                    |         |                             |
| 40                      | 2343                    | 1.20           | 44.35  | 2720                  | 3170                  | 2340                  | 920                   |                                                                                    |         |                             |
| 50                      | 1857                    | 2.20           | 35.15  | 2770                  | 3210                  | 2110                  | 990                   |                                                                                    |         |                             |
| 14                      | 6554                    | 0.85           | 124.06 | 540                   | 560                   | 540                   | 560                   | <b>KH053-11P-90S/L-04E</b>                                                         | 68      | 436                         |
| 18                      | 5076                    | 1.05           | 96.08  | 1440                  | 2290                  | 1440                  | 790                   |                                                                                    |         |                             |
| 22                      | 4251                    | 1.20           | 80.46  | 1710                  | 2360                  | 1710                  | 850                   |                                                                                    |         |                             |
| 24                      | 3861                    | 1.40           | 73.08  | 1800                  | 2410                  | 1800                  | 900                   |                                                                                    |         |                             |
| 28                      | 3369                    | 1.60           | 63.77  | 1890                  | 2430                  | 1890                  | 920                   |                                                                                    |         |                             |
| 29                      | 3183                    | 1.70           | 60.26  | 1930                  | 2450                  | 1930                  | 940                   |                                                                                    |         |                             |
| 36                      | 2616                    | 2.05           | 49.52  | 2020                  | 2500                  | 2020                  | 990                   |                                                                                    |         |                             |
| 42                      | 2219                    | 2.40           | 42.00  | 2070                  | 2520                  | 2070                  | 1010                  |                                                                                    |         |                             |
| 43                      | 2146                    | 2.50           | 40.63  | 2070                  | 2540                  | 2070                  | 1030                  |                                                                                    |         |                             |
| 46                      | 2024                    | 1.20           | 38.32  | 2090                  | 2470                  | 2090                  | 970                   |                                                                                    |         |                             |
| 51                      | 1824                    | 2.95           | 34.53  | 2110                  | 2560                  | 2110                  | 1060                  |                                                                                    |         |                             |
| 58                      | 1604                    | 2.20           | 30.37  | 2140                  | 2520                  | 2140                  | 1010                  |                                                                                    |         |                             |
| 75                      | 1246                    | 2.95           | 23.58  | 2160                  | 2560                  | 2160                  | 1060                  |                                                                                    |         |                             |
| 20                      | 4629                    | 0.80           | 87.62  | **                    | **                    | **                    | **                    | <b>KH043-11P-90S/L-04E</b>                                                         | 60      | 434                         |
| 24                      | 3852                    | 0.95           | 72.92  | 610                   | 810                   | 610                   | 470                   |                                                                                    |         |                             |
| 27                      | 3497                    | 1.05           | 66.20  | 850                   | 1350                  | 850                   | 520                   |                                                                                    |         |                             |
| 31                      | 3042                    | 1.20           | 57.58  | 1080                  | 1820                  | 1080                  | 560                   |                                                                                    |         |                             |
| 32                      | 2862                    | 1.25           | 54.18  | 1150                  | 1840                  | 1150                  | 580                   |                                                                                    |         |                             |
| 39                      | 2358                    | 1.55           | 44.64  | 1300                  | 1890                  | 1300                  | 630                   |                                                                                    |         |                             |
| 40                      | 2321                    | 1.55           | 43.93  | 1300                  | 1890                  | 1300                  | 630                   |                                                                                    |         |                             |
| 46                      | 2033                    | 1.20           | 38.49  | 1370                  | 1870                  | 1370                  | 610                   |                                                                                    |         |                             |
| 48                      | 1943                    | 1.75           | 36.78  | 1390                  | 1930                  | 1390                  | 670                   |                                                                                    |         |                             |
| 58                      | 1605                    | 1.80           | 30.39  | 1460                  | 1930                  | 1460                  | 670                   |                                                                                    |         |                             |
| 59                      | 1575                    | 2.05           | 29.81  | 1460                  | 1980                  | 1460                  | 720                   |                                                                                    |         |                             |
| 63                      | 1486                    | 2.40           | 28.13  | 1480                  | 1980                  | 1480                  | 720                   |                                                                                    |         |                             |
| 75                      | 1245                    | 2.20           | 23.57  | 1510                  | 1980                  | 1510                  | 720                   |                                                                                    |         |                             |
| 91                      | 1019                    | 2.60           | 19.29  | 1530                  | 2000                  | 1530                  | 740                   |                                                                                    |         |                             |
| 45                      | 2050                    | 0.90           | 38.80  | 700                   | 520                   | 700                   | 520                   | <b>KH033-11P-90S/L-04E</b>                                                         | 53      | 432                         |
| 49                      | 1897                    | 0.95           | 35.90  | 760                   | 540                   | 760                   | 540                   |                                                                                    |         |                             |
| 58                      | 1600                    | 1.15           | 30.29  | 900                   | 580                   | 900                   | 580                   |                                                                                    |         |                             |
| 61                      | 1515                    | 1.20           | 28.67  | 920                   | 610                   | 920                   | 610                   |                                                                                    |         |                             |
| 72                      | 1288                    | 1.10           | 24.38  | 990                   | 580                   | 990                   | 580                   |                                                                                    |         |                             |
| 81                      | 1145                    | 1.55           | 21.67  | 1030                  | 650                   | 1030                  | 650                   |                                                                                    |         |                             |
| 91                      | 1023                    | 1.45           | 19.37  | 1060                  | 630                   | 1060                  | 630                   |                                                                                    |         |                             |
| 107                     | 870                     | 2.05           | 16.47  | 1080                  | 700                   | 1080                  | 700                   |                                                                                    |         |                             |
| 118                     | 790                     | 1.85           | 14.96  | 1100                  | 670                   | 1100                  | 670                   |                                                                                    |         |                             |
| 137                     | 677                     | 2.65           | 12.81  | 1120                  | 720                   | 1120                  | 720                   |                                                                                    |         |                             |
| 147                     | 631                     | 2.30           | 11.94  | 1120                  | 700                   | 1120                  | 700                   |                                                                                    |         |                             |

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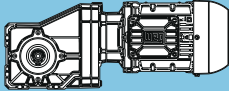
$P_N = 1.5 \text{ hp}$

| 60 Hz           |                |       | i     | Output shaft   |                | Hollow shaft   |                | <br><b>KH022-11P-90S/L-04E</b> | m<br>lb | Dimension<br>sheet<br>see page<br>462 |
|-----------------|----------------|-------|-------|----------------|----------------|----------------|----------------|------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------|
| $n_{60}$<br>rpm | $T_2$<br>lb-in | $f_B$ |       | $F_{rN}$<br>lb | $F_{aN}$<br>lb | $F_{rN}$<br>lb | $F_{aN}$<br>lb |                                                                                                                  |         |                                       |
| <b>74</b>       | 1251           | 0.80  |       | 23.68          | **             | **             | **             |                                                                                                                  |         |                                       |
| <b>85</b>       | 1090           | 0.85  | 20.63 | 1080           | 630            | 1080           | 630            |                                                                                                                  |         |                                       |
| <b>95</b>       | 977            | 0.95  | 18.50 | 1100           | 630            | 1100           | 630            |                                                                                                                  |         |                                       |
| <b>114</b>      | 814            | 1.05  | 15.41 | 1120           | 630            | 1120           | 630            |                                                                                                                  |         |                                       |
| <b>115</b>      | 811            | 0.90  | 15.36 | 1120           | 630            | 1120           | 630            |                                                                                                                  |         |                                       |
| <b>127</b>      | 730            | 1.15  | 13.81 | 1150           | 630            | 1150           | 630            |                                                                                                                  |         |                                       |
| <b>132</b>      | 702            | 1.15  | 13.29 | 1150           | 630            | 1150           | 630            |                                                                                                                  |         |                                       |
| <b>148</b>      | 630            | 1.30  | 11.92 | 1120           | 630            | 1120           | 630            |                                                                                                                  |         |                                       |
| <b>149</b>      | 625            | 1.15  | 11.84 | 1120           | 630            | 1120           | 630            |                                                                                                                  |         |                                       |
| <b>152</b>      | 613            | 1.25  | 11.60 | 1100           | 630            | 1100           | 630            |                                                                                                                  |         |                                       |
| <b>169</b>      | 549            | 1.40  | 10.40 | 1060           | 630            | 1060           | 630            |                                                                                                                  |         |                                       |
| <b>190</b>      | 489            | 1.50  | 9.25  | 1010           | 630            | 1010           | 630            |                                                                                                                  |         |                                       |
| <b>207</b>      | 450            | 1.55  | 8.51  | 990            | 630            | 990            | 630            |                                                                                                                  |         |                                       |
| <b>231</b>      | 403            | 1.70  | 7.63  | 940            | 630            | 940            | 630            |                                                                                                                  |         |                                       |
| <b>255</b>      | 365            | 1.80  | 6.91  | 920            | 630            | 920            | 630            |                                                                                                                  |         |                                       |
| <b>295</b>      | 315            | 1.95  | 5.96  | 880            | 630            | 880            | 630            |                                                                                                                  |         |                                       |
| <b>338</b>      | 275            | 2.10  | 5.20  | 830            | 630            | 830            | 630            |                                                                                                                  |         |                                       |
| <b>461</b>      | 202            | 2.50  | 3.82  | 740            | 630            | 740            | 630            |                                                                                                                  |         |                                       |

**K**

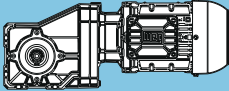
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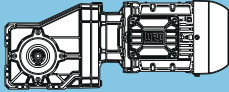
\*\* ... on request

| <b>P<sub>N</sub> = 2.0 hp</b> |                               |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|-------------------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                               |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b><br>rpm  | <b>T<sub>2</sub></b><br>lb-in | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
|                               |                               |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>0.57</b>                   | 197339                        | 0.85                 | 3052.96  | 12050                 | 20230                 | 12050                 | 20230                 | <b>KH155-11P-90S/L-04F</b>                                                         | 1517           | 462                                |
| <b>0.64</b>                   | 176119                        | 0.95                 | 2731.65  | 15420                 | 25790                 | 15420                 | 25790                 |                                                                                    |                |                                    |
| <b>0.76</b>                   | 147582                        | 1.10                 | 2306.68  | 18590                 | 26350                 | 18590                 | 26350                 |                                                                                    |                |                                    |
| <b>0.79</b>                   | 141360                        | 1.15                 | 2215.09  | 19150                 | 26460                 | 19150                 | 26460                 |                                                                                    |                |                                    |
| <b>0.93</b>                   | 119244                        | 1.35                 | 1887.82  | 20840                 | 26890                 | 20840                 | 26890                 |                                                                                    |                |                                    |
| <b>0.95</b>                   | 117127                        | 1.40                 | 1854.30  | 20970                 | 26930                 | 20970                 | 26930                 |                                                                                    |                |                                    |
| <b>1.1</b>                    | 95460                         | 1.70                 | 1530.83  | 22230                 | 27360                 | 22230                 | 27360                 |                                                                                    |                |                                    |
| <b>1.2</b>                    | 93473                         | 1.75                 | 1502.83  | 22320                 | 27400                 | 22320                 | 27400                 |                                                                                    |                |                                    |
| <b>1.4</b>                    | 78685                         | 2.05                 | 1281.49  | 22980                 | 27700                 | 22980                 | 27700                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 62302                         | 2.60                 | 1038.59  | 23560                 | 28010                 | 23560                 | 28010                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 83369                         | 1.95                 | 1308.92  | 22800                 | 27610                 | 22800                 | 27610                 | <b>KH154-11P-90S/L-04F</b>                                                         | 1488           | 460                                |
| <b>1.6</b>                    | 70920                         | 2.25                 | 1127.36  | 23270                 | 27830                 | 23270                 | 27830                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 64768                         | 2.50                 | 1035.99  | 23490                 | 27970                 | 23490                 | 27970                 |                                                                                    |                |                                    |
| <b>1.8</b>                    | 60584                         | 2.65                 | 975.12   | 23630                 | 28030                 | 23630                 | 28030                 |                                                                                    |                |                                    |
| <b>1.9</b>                    | 55736                         | 2.90                 | 904.58   | 23760                 | 28150                 | 23760                 | 28150                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 54979                         | 2.90                 | 892.29   | 23780                 | 28150                 | 23780                 | 28150                 |                                                                                    |                |                                    |
| <b>1.1</b>                    | 103350                        | 1.15                 | 1579.81  | 16680                 | 19270                 | 16680                 | 19270                 | <b>KH124-11P-90S/L-04F</b>                                                         | 928            | 456                                |
| <b>1.3</b>                    | 89558                         | 1.30                 | 1377.44  | 17580                 | 19630                 | 17580                 | 19630                 |                                                                                    |                |                                    |
| <b>1.4</b>                    | 78814                         | 1.50                 | 1219.69  | 18190                 | 19900                 | 18190                 | 19900                 |                                                                                    |                |                                    |
| <b>1.5</b>                    | 76670                         | 1.55                 | 1186.50  | 18280                 | 19940                 | 18280                 | 19940                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 68296                         | 1.70                 | 1063.46  | 18680                 | 20170                 | 18680                 | 20170                 |                                                                                    |                |                                    |
| <b>1.9</b>                    | 58225                         | 2.00                 | 916.04   | 19060                 | 20440                 | 19060                 | 20440                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 56572                         | 2.05                 | 891.88   | 19130                 | 20460                 | 19130                 | 20460                 |                                                                                    |                |                                    |
| <b>2.2</b>                    | 50502                         | 2.30                 | 802.79   | 19330                 | 20610                 | 19330                 | 20610                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 48129                         | 2.40                 | 768.25   | 19400                 | 20680                 | 19400                 | 20680                 |                                                                                    |                |                                    |
| <b>2.5</b>                    | 43488                         | 2.65                 | 699.95   | 19510                 | 20790                 | 19510                 | 20790                 |                                                                                    |                |                                    |
| <b>2.7</b>                    | 40847                         | 2.85                 | 661.56   | 19580                 | 20860                 | 19580                 | 20860                 |                                                                                    |                |                                    |
| <b>1.3</b>                    | 86022                         | 0.85                 | 1301.54  | 7850                  | 13040                 | 7850                  | 13040                 | <b>KH104-11P-90S/L-04F</b>                                                         | 657            | 452                                |
| <b>1.6</b>                    | 74367                         | 1.00                 | 1129.81  | 9760                  | 13380                 | 9760                  | 13380                 |                                                                                    |                |                                    |
| <b>1.7</b>                    | 65872                         | 1.10                 | 1004.85  | 10790                 | 13620                 | 10790                 | 13620                 |                                                                                    |                |                                    |
| <b>1.8</b>                    | 63860                         | 1.15                 | 976.16   | 10990                 | 13690                 | 10990                 | 13690                 |                                                                                    |                |                                    |
| <b>2.0</b>                    | 56830                         | 1.25                 | 872.27   | 11670                 | 13890                 | 11670                 | 13890                 |                                                                                    |                |                                    |
| <b>2.1</b>                    | 54793                         | 1.30                 | 842.74   | 11850                 | 13940                 | 11850                 | 13940                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 48799                         | 1.50                 | 753.64   | 12300                 | 14120                 | 12300                 | 14120                 |                                                                                    |                |                                    |
| <b>2.4</b>                    | 47271                         | 1.50                 | 731.54   | 12410                 | 14160                 | 12410                 | 14160                 |                                                                                    |                |                                    |
| <b>2.7</b>                    | 42474                         | 1.70                 | 661.38   | 12720                 | 14300                 | 12720                 | 14300                 |                                                                                    |                |                                    |
| <b>2.8</b>                    | 40507                         | 1.75                 | 632.05   | 12840                 | 14370                 | 12840                 | 14370                 |                                                                                    |                |                                    |
| <b>3.1</b>                    | 36567                         | 1.95                 | 574.12   | 13040                 | 14480                 | 13040                 | 14480                 |                                                                                    |                |                                    |
| <b>3.4</b>                    | 32177                         | 2.25                 | 510.43   | 13240                 | 14610                 | 13240                 | 14610                 |                                                                                    |                |                                    |
| <b>3.5</b>                    | 31205                         | 2.30                 | 496.04   | 13290                 | 14640                 | 13290                 | 14640                 |                                                                                    |                |                                    |
| <b>4.0</b>                    | 27586                         | 2.60                 | 443.08   | 13420                 | 14750                 | 13420                 | 14750                 |                                                                                    |                |                                    |
| <b>4.2</b>                    | 26177                         | 2.75                 | 422.20   | 13490                 | 14790                 | 13490                 | 14790                 |                                                                                    |                |                                    |
| <b>2.3</b>                    | 50765                         | 0.80                 | 766.52   | **                    | **                    | **                    | **                    | <b>KH094-11P-90S/L-04F</b>                                                         | 373            | 448                                |
| <b>2.4</b>                    | 49047                         | 0.85                 | 742.09   | 4140                  | 6680                  | 4140                  | 6680                  |                                                                                    |                |                                    |
| <b>2.8</b>                    | 41295                         | 1.00                 | 627.37   | 5980                  | 8770                  | 5980                  | 8770                  |                                                                                    |                |                                    |
| <b>3.1</b>                    | 37445                         | 1.10                 | 571.21   | 6610                  | 8900                  | 6610                  | 8900                  |                                                                                    |                |                                    |
| <b>3.6</b>                    | 31462                         | 1.30                 | 482.91   | 7370                  | 9080                  | 7370                  | 9080                  |                                                                                    |                |                                    |
| <b>4.1</b>                    | 27945                         | 1.45                 | 431.58   | 7730                  | 9220                  | 7730                  | 9220                  |                                                                                    |                |                                    |
| <b>4.8</b>                    | 23383                         | 1.75                 | 364.86   | 8140                  | 9350                  | 8140                  | 9350                  |                                                                                    |                |                                    |
| <b>5.0</b>                    | 22590                         | 1.80                 | 353.21   | 8180                  | 9370                  | 8180                  | 9370                  |                                                                                    |                |                                    |
| <b>5.9</b>                    | 18902                         | 2.15                 | 298.61   | 8430                  | 9510                  | 8430                  | 9510                  |                                                                                    |                |                                    |
| <b>6.1</b>                    | 18055                         | 2.25                 | 286.42   | 8480                  | 9530                  | 8480                  | 9530                  |                                                                                    |                |                                    |
| <b>7.2</b>                    | 15044                         | 2.65                 | 242.14   | 8630                  | 9620                  | 8630                  | 9620                  |                                                                                    |                |                                    |
| <b>7.3</b>                    | 14866                         | 2.70                 | 239.77   | 8660                  | 9620                  | 8660                  | 9620                  |                                                                                    |                |                                    |

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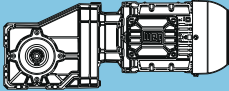
| P <sub>N</sub> = 2.0 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 3.3                     | 34810          | 0.80           | 525.61 | **              | **              | **              | **              | KH084-11P-90S/L-04F                                                                | 262     | 444                         |
| 3.7                     | 31775          | 0.85           | 480.77 | 2770            | 4340            | 2770            | 1620            |                                                                                    |         |                             |
| 4.1                     | 28315          | 0.95           | 430.17 | 3890            | 6700            | 3890            | 1730            |                                                                                    |         |                             |
| 4.2                     | 27328          | 1.00           | 416.02 | 4140            | 7240            | 4140            | 1780            |                                                                                    |         |                             |
| 4.8                     | 23764          | 1.15           | 363.25 | 4860            | 8810            | 4860            | 1910            |                                                                                    |         |                             |
| 5.0                     | 22773          | 1.20           | 348.82 | 5010            | 9170            | 5010            | 1960            |                                                                                    |         |                             |
| 5.2                     | 22228          | 1.20           | 340.47 | 5100            | 9280            | 5100            | 1980            |                                                                                    |         |                             |
| 5.9                     | 19290          | 1.40           | 297.29 | 5530            | 9400            | 5530            | 2090            |                                                                                    |         |                             |
| 6.0                     | 18908          | 1.45           | 292.01 | 5580            | 9400            | 5580            | 2090            |                                                                                    |         |                             |
| 6.4                     | 17840          | 1.50           | 276.09 | 5690            | 9440            | 5690            | 2140            |                                                                                    |         |                             |
| 7.3                     | 15450          | 1.75           | 241.07 | 5930            | 9530            | 5930            | 2230            |                                                                                    |         |                             |
| 7.4                     | 15167          | 1.80           | 236.66 | 5960            | 9530            | 5960            | 2230            |                                                                                    |         |                             |
| 7.6                     | 14782          | 1.80           | 231.12 | 6000            | 9550            | 6000            | 2250            |                                                                                    |         |                             |
| 8.7                     | 12774          | 2.10           | 201.80 | 6160            | 9620            | 6160            | 2320            |                                                                                    |         |                             |
| 9.4                     | 11783          | 2.30           | 187.31 | 6230            | 9670            | 6230            | 2360            |                                                                                    |         |                             |
| 11                      | 10161          | 2.65           | 163.55 | 6340            | 9730            | 6200            | 2430            |                                                                                    |         |                             |
| 8.5                     | 14891          | 1.80           | 206.12 | 5980            | 9550            | 5980            | 2250            | KH083-11P-90S/L-04F                                                                | 234     | 442                         |
| 11                      | 11786          | 2.30           | 163.14 | 6230            | 9670            | 6230            | 2360            |                                                                                    |         |                             |
| 12                      | 10291          | 2.60           | 142.45 | 6320            | 9730            | 6070            | 2430            |                                                                                    |         |                             |
| 14                      | 9095           | 2.95           | 125.90 | 6380            | 9780            | 5690            | 2470            |                                                                                    |         |                             |
| 8.9                     | 14286          | 1.00           | 197.75 | 3260            | 3510            | 3260            | 990             | KH073-11P-90S/L-04F                                                                | 143     | 440                         |
| 11                      | 11982          | 1.15           | 165.85 | 3710            | 3640            | 3710            | 1100            |                                                                                    |         |                             |
| 13                      | 9403           | 1.50           | 130.16 | 4070            | 3780            | 4070            | 1240            |                                                                                    |         |                             |
| 17                      | 7257           | 1.90           | 100.45 | 4290            | 3890            | 3930            | 1350            |                                                                                    |         |                             |
| 18                      | 7215           | 1.60           | 99.87  | 4290            | 3890            | 3870            | 1370            |                                                                                    |         |                             |
| 21                      | 6003           | 2.30           | 83.09  | 4410            | 3960            | 3570            | 1420            |                                                                                    |         |                             |
| 23                      | 5571           | 2.50           | 77.11  | 4430            | 3980            | 3440            | 1440            |                                                                                    |         |                             |
| 25                      | 5105           | 2.70           | 70.67  | 4450            | 4000            | 3330            | 1460            |                                                                                    |         |                             |
| 27                      | 4672           | 2.95           | 64.67  | 4470            | 4020            | 3190            | 1480            |                                                                                    |         |                             |
| 37                      | 3436           | 1.60           | 47.56  | 4540            | 4000            | 2860            | 1460            |                                                                                    |         |                             |
| 48                      | 2653           | 2.55           | 36.72  | 4560            | 4070            | 2560            | 1530            |                                                                                    |         |                             |
| 14                      | 8803           | 0.85           | 121.85 | 1280            | 1840            | 1280            | 470             | KH063-11P-90S/L-04F                                                                | 99      | 438                         |
| 18                      | 7223           | 1.05           | 99.98  | 1910            | 2860            | 1910            | 610             |                                                                                    |         |                             |
| 22                      | 5890           | 0.90           | 81.53  | 2250            | 2940            | 2250            | 720             |                                                                                    |         |                             |
| 23                      | 5593           | 1.30           | 77.42  | 2320            | 2970            | 2320            | 740             |                                                                                    |         |                             |
| 27                      | 4668           | 1.60           | 64.62  | 2470            | 3060            | 2470            | 810             |                                                                                    |         |                             |
| 30                      | 4254           | 1.75           | 58.89  | 2540            | 3080            | 2540            | 850             |                                                                                    |         |                             |
| 35                      | 3624           | 2.05           | 50.17  | 2610            | 3120            | 2560            | 900             |                                                                                    |         |                             |
| 36                      | 3508           | 2.10           | 48.56  | 2630            | 3150            | 2520            | 900             |                                                                                    |         |                             |
| 40                      | 3204           | 0.90           | 44.35  | 2650            | 3060            | 2470            | 830             |                                                                                    |         |                             |
| 43                      | 2974           | 2.45           | 41.17  | 2680            | 3190            | 2340            | 940             |                                                                                    |         |                             |
| 44                      | 2877           | 2.45           | 39.83  | 2680            | 3190            | 2290            | 970             |                                                                                    |         |                             |
| 50                      | 2539           | 1.60           | 35.15  | 2720            | 3150            | 2230            | 900             |                                                                                    |         |                             |
| 52                      | 2445           | 2.75           | 33.85  | 2720            | 3240            | 2140            | 990             |                                                                                    |         |                             |
| 64                      | 1972           | 2.25           | 27.29  | 2740            | 3190            | 1980            | 970             |                                                                                    |         |                             |
| 78                      | 1618           | 2.75           | 22.40  | 2770            | 3240            | 1820            | 1010            |                                                                                    |         |                             |
| 18                      | 6941           | 0.80           | 96.08  | **              | **              | **              | **              | KH053-11P-90S/L-04F                                                                | 71      | 436                         |
| 22                      | 5813           | 0.90           | 80.46  | 1120            | 1800            | 1120            | 740             |                                                                                    |         |                             |
| 24                      | 5280           | 1.05           | 73.08  | 1370            | 2290            | 1370            | 790             |                                                                                    |         |                             |
| 28                      | 4607           | 1.20           | 63.77  | 1600            | 2340            | 1600            | 830             |                                                                                    |         |                             |
| 29                      | 4353           | 1.25           | 60.26  | 1660            | 2360            | 1660            | 850             |                                                                                    |         |                             |
| 35                      | 3577           | 1.50           | 49.52  | 1870            | 2430            | 1870            | 920             |                                                                                    |         |                             |
| 36                      | 3571           | 1.50           | 49.43  | 1870            | 2430            | 1870            | 920             |                                                                                    |         |                             |
| 42                      | 3034           | 1.80           | 42.00  | 1960            | 2470            | 1960            | 970             |                                                                                    |         |                             |
| 43                      | 2935           | 1.85           | 40.63  | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |
| 46                      | 2768           | 0.90           | 38.32  | 2000            | 2380            | 2000            | 880             |                                                                                    |         |                             |
| 51                      | 2495           | 2.15           | 34.53  | 2050            | 2500            | 2050            | 990             |                                                                                    |         |                             |
| 56                      | 2273           | 2.35           | 31.46  | 2070            | 2520            | 2070            | 1010            |                                                                                    |         |                             |
| 58                      | 2194           | 1.60           | 30.37  | 2070            | 2450            | 2070            | 940             |                                                                                    |         |                             |
| 64                      | 1979           | 2.60           | 27.39  | 2090            | 2540            | 2090            | 1030            |                                                                                    |         |                             |
| 74                      | 1703           | 2.15           | 23.58  | 2110            | 2500            | 2110            | 990             |                                                                                    |         |                             |
| 91                      | 1398           | 2.65           | 19.35  | 2140            | 2540            | 2090            | 1030            |                                                                                    |         |                             |

| <b>P<sub>N</sub> = 2.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>30</b>                     | 4160                 | 0.90                 | 57.58    | **                    | **                    | **                    | **                    | <b>KH043-11P-90S/L-04F</b>                                                         | 64             | 434                                |
| <b>32</b>                     | 3914                 | 0.95                 | 54.18    | 540                   | 670                   | 540                   | 470                   |                                                                                    |                |                                    |
| <b>39</b>                     | 3225                 | 1.10                 | 44.64    | 1010                  | 1690                  | 1010                  | 540                   |                                                                                    |                |                                    |
| <b>40</b>                     | 3174                 | 1.15                 | 43.93    | 1030                  | 1750                  | 1030                  | 560                   |                                                                                    |                |                                    |
| <b>46</b>                     | 2781                 | 0.90                 | 38.49    | 1170                  | 1780                  | 1170                  | 520                   |                                                                                    |                |                                    |
| <b>48</b>                     | 2657                 | 1.30                 | 36.78    | 1210                  | 1870                  | 1210                  | 610                   |                                                                                    |                |                                    |
| <b>58</b>                     | 2195                 | 1.35                 | 30.39    | 1350                  | 1840                  | 1350                  | 580                   |                                                                                    |                |                                    |
| <b>59</b>                     | 2154                 | 1.50                 | 29.81    | 1350                  | 1910                  | 1350                  | 650                   |                                                                                    |                |                                    |
| <b>62</b>                     | 2032                 | 1.75                 | 28.13    | 1370                  | 1930                  | 1370                  | 670                   |                                                                                    |                |                                    |
| <b>74</b>                     | 1703                 | 1.60                 | 23.57    | 1440                  | 1910                  | 1440                  | 650                   |                                                                                    |                |                                    |
| <b>83</b>                     | 1535                 | 2.35                 | 21.25    | 1460                  | 1980                  | 1460                  | 720                   |                                                                                    |                |                                    |
| <b>91</b>                     | 1394                 | 1.90                 | 19.29    | 1480                  | 1960                  | 1480                  | 700                   |                                                                                    |                |                                    |
| <b>101</b>                    | 1256                 | 2.85                 | 17.39    | 1510                  | 2000                  | 1510                  | 740                   |                                                                                    |                |                                    |
| <b>118</b>                    | 1073                 | 2.30                 | 14.85    | 1530                  | 2000                  | 1530                  | 740                   |                                                                                    |                |                                    |
| <b>156</b>                    | 811                  | 2.90                 | 11.22    | 1550                  | 2020                  | 1390                  | 760                   |                                                                                    |                |                                    |
| <b>58</b>                     | 2188                 | 0.85                 | 30.29    | 580                   | 490                   | 580                   | 490                   |                                                                                    |                |                                    |
| <b>61</b>                     | 2071                 | 0.90                 | 28.67    | 670                   | 520                   | 670                   | 520                   |                                                                                    |                |                                    |
| <b>72</b>                     | 1761                 | 0.85                 | 24.38    | 830                   | 490                   | 830                   | 490                   |                                                                                    |                |                                    |
| <b>81</b>                     | 1566                 | 1.15                 | 21.67    | 920                   | 580                   | 920                   | 580                   |                                                                                    |                |                                    |
| <b>91</b>                     | 1399                 | 1.05                 | 19.37    | 970                   | 560                   | 970                   | 560                   |                                                                                    |                |                                    |
| <b>107</b>                    | 1190                 | 1.50                 | 16.47    | 1030                  | 650                   | 1030                  | 650                   |                                                                                    |                |                                    |
| <b>117</b>                    | 1081                 | 1.35                 | 14.96    | 1060                  | 630                   | 1060                  | 630                   |                                                                                    |                |                                    |
| <b>137</b>                    | 925                  | 1.95                 | 12.81    | 1080                  | 700                   | 1080                  | 700                   |                                                                                    |                |                                    |
| <b>147</b>                    | 863                  | 1.70                 | 11.94    | 1080                  | 650                   | 1080                  | 650                   |                                                                                    |                |                                    |
| <b>176</b>                    | 722                  | 2.50                 | 10.00    | 1100                  | 720                   | 1100                  | 720                   |                                                                                    |                |                                    |
| <b>194</b>                    | 652                  | 2.25                 | 9.03     | 1120                  | 700                   | 1120                  | 700                   |                                                                                    |                |                                    |
| <b>256</b>                    | 496                  | 2.70                 | 6.86     | 1120                  | 720                   | 1120                  | 720                   |                                                                                    |                |                                    |
| <b>127</b>                    | 998                  | 0.85                 | 13.81    | 1100                  | 630                   | 1100                  | 630                   | <b>KH022-11P-90S/L-04F</b>                                                         | 51             | 462                                |
| <b>132</b>                    | 960                  | 0.85                 | 13.29    | 1100                  | 630                   | 1100                  | 630                   |                                                                                    |                |                                    |
| <b>147</b>                    | 861                  | 0.95                 | 11.92    | 1120                  | 630                   | 1120                  | 630                   |                                                                                    |                |                                    |
| <b>148</b>                    | 855                  | 0.85                 | 11.84    | 1120                  | 630                   | 1120                  | 630                   |                                                                                    |                |                                    |
| <b>151</b>                    | 838                  | 0.90                 | 11.60    | 1120                  | 630                   | 1120                  | 630                   |                                                                                    |                |                                    |
| <b>169</b>                    | 751                  | 1.05                 | 10.40    | 1080                  | 630                   | 1080                  | 630                   |                                                                                    |                |                                    |
| <b>190</b>                    | 668                  | 1.10                 | 9.25     | 1030                  | 630                   | 1030                  | 630                   |                                                                                    |                |                                    |
| <b>206</b>                    | 615                  | 1.15                 | 8.51     | 1010                  | 630                   | 1010                  | 630                   |                                                                                    |                |                                    |
| <b>230</b>                    | 551                  | 1.25                 | 7.63     | 970                   | 630                   | 970                   | 630                   |                                                                                    |                |                                    |
| <b>254</b>                    | 499                  | 1.35                 | 6.91     | 920                   | 630                   | 920                   | 630                   |                                                                                    |                |                                    |
| <b>294</b>                    | 431                  | 1.45                 | 5.96     | 880                   | 630                   | 880                   | 630                   |                                                                                    |                |                                    |
| <b>338</b>                    | 376                  | 1.55                 | 5.20     | 830                   | 630                   | 830                   | 630                   |                                                                                    |                |                                    |
| <b>459</b>                    | 276                  | 1.85                 | 3.82     | 740                   | 630                   | 740                   | 630                   |                                                                                    |                |                                    |

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**P<sub>N</sub> = 3.0 hp**

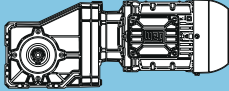
| 60 Hz           |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                                |
| rpm             | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                    |         |                                |
| <b>0.79</b>     | 211742         | 0.80           | 2215.09 | **              | **              | **              | **              | <b>KH155-11P-100L-04E</b>                                                          | 1539    | 462                            |
| <b>0.92</b>     | 179537         | 0.90           | 1887.82 | 14840           | 25700           | 14840           | 25700           |                                                                                    |         |                                |
| <b>0.94</b>     | 176350         | 0.95           | 1854.30 | 15260           | 25760           | 15260           | 25760           |                                                                                    |         |                                |
| <b>1.1</b>      | 144103         | 1.15           | 1530.83 | 18860           | 26390           | 18860           | 26390           |                                                                                    |         |                                |
| <b>1.2</b>      | 141468         | 1.15           | 1502.83 | 19090           | 26440           | 19090           | 26440           |                                                                                    |         |                                |
| <b>1.4</b>      | 119707         | 1.35           | 1281.49 | 20770           | 26860           | 20770           | 26860           |                                                                                    |         |                                |
| <b>1.7</b>      | 95532          | 1.70           | 1038.59 | 22210           | 27360           | 22210           | 27360           |                                                                                    |         |                                |
| <b>1.3</b>      | 125791         | 1.30           | 1308.92 | 20350           | 26750           | 20350           | 26750           | <b>KH154-11P-100L-04E</b>                                                          | 1510    | 460                            |
| <b>1.5</b>      | 107456         | 1.50           | 1127.36 | 21560           | 27110           | 21560           | 27110           |                                                                                    |         |                                |
| <b>1.7</b>      | 98342          | 1.65           | 1035.99 | 22050           | 27290           | 22050           | 27290           |                                                                                    |         |                                |
| <b>1.8</b>      | 92183          | 1.75           | 975.12  | 22370           | 27400           | 22370           | 27400           |                                                                                    |         |                                |
| <b>1.9</b>      | 85163          | 1.90           | 904.58  | 22710           | 27560           | 22710           | 27560           |                                                                                    |         |                                |
| <b>2.0</b>      | 83832          | 1.95           | 892.29  | 22750           | 27580           | 22750           | 27580           |                                                                                    |         |                                |
| <b>2.2</b>      | 74492          | 2.15           | 799.45  | 23130           | 27760           | 23130           | 27760           |                                                                                    |         |                                |
| <b>2.3</b>      | 71767          | 2.25           | 771.80  | 23250           | 27810           | 23250           | 27810           |                                                                                    |         |                                |
| <b>2.5</b>      | 63368          | 2.55           | 688.57  | 23520           | 27990           | 23520           | 27990           |                                                                                    |         |                                |
| <b>2.6</b>      | 62085          | 2.60           | 676.04  | 23560           | 28010           | 23560           | 28010           |                                                                                    |         |                                |
| <b>2.9</b>      | 54018          | 2.95           | 595.58  | 23810           | 28170           | 23810           | 28170           |                                                                                    |         |                                |
| <b>1.4</b>      | 118424         | 1.00           | 1219.69 | 15420           | 18860           | 15420           | 18860           | <b>KH124-11P-100L-04E</b>                                                          | 950     | 456                            |
| <b>1.6</b>      | 102622         | 1.15           | 1063.46 | 16700           | 19270           | 16700           | 19270           |                                                                                    |         |                                |
| <b>1.7</b>      | 98508          | 1.20           | 1022.92 | 17000           | 19380           | 17000           | 19380           |                                                                                    |         |                                |
| <b>1.9</b>      | 87854          | 1.35           | 916.04  | 17670           | 19650           | 17670           | 19650           |                                                                                    |         |                                |
| <b>2.0</b>      | 85361          | 1.35           | 891.88  | 17800           | 19720           | 17800           | 19720           |                                                                                    |         |                                |
| <b>2.2</b>      | 76519          | 1.55           | 802.79  | 18280           | 19940           | 18280           | 19940           |                                                                                    |         |                                |
| <b>2.3</b>      | 73077          | 1.60           | 768.25  | 18430           | 20030           | 18430           | 20030           |                                                                                    |         |                                |
| <b>2.5</b>      | 66170          | 1.75           | 699.95  | 18750           | 20210           | 18750           | 20210           |                                                                                    |         |                                |
| <b>2.6</b>      | 62283          | 1.85           | 661.56  | 18910           | 20320           | 18910           | 20320           |                                                                                    |         |                                |
| <b>2.8</b>      | 58089          | 2.00           | 619.56  | 19060           | 20410           | 19060           | 20410           |                                                                                    |         |                                |
| <b>2.9</b>      | 56412          | 2.05           | 602.92  | 19130           | 20460           | 19130           | 20460           |                                                                                    |         |                                |
| <b>3.2</b>      | 50127          | 2.30           | 540.20  | 19330           | 20610           | 19330           | 20610           |                                                                                    |         |                                |
| <b>3.4</b>      | 47978          | 2.40           | 519.19  | 19400           | 20680           | 19400           | 20680           |                                                                                    |         |                                |
| <b>3.8</b>      | 42556          | 2.75           | 465.31  | 19540           | 20820           | 19540           | 20820           |                                                                                    |         |                                |
| <b>3.9</b>      | 40695          | 2.85           | 446.82  | 19580           | 20860           | 19580           | 20860           |                                                                                    |         |                                |
| <b>4.0</b>      | 39618          | 2.95           | 435.90  | 19600           | 20910           | 19600           | 20910           |                                                                                    |         |                                |
| <b>2.0</b>      | 85039          | 0.85           | 872.27  | 7960            | 13040           | 7960            | 13040           | <b>KH104-11P-100L-04E</b>                                                          | 679     | 452                            |
| <b>2.1</b>      | 81992          | 0.90           | 842.74  | 8520            | 13130           | 8520            | 13130           |                                                                                    |         |                                |
| <b>2.3</b>      | 73173          | 1.00           | 753.64  | 9870            | 13400           | 9870            | 13400           |                                                                                    |         |                                |
| <b>2.4</b>      | 70882          | 1.00           | 731.54  | 10160           | 13470           | 10160           | 13470           |                                                                                    |         |                                |
| <b>2.6</b>      | 63822          | 1.15           | 661.38  | 10970           | 13670           | 10970           | 13670           |                                                                                    |         |                                |
| <b>2.8</b>      | 60867          | 1.20           | 632.05  | 11260           | 13760           | 11260           | 13760           |                                                                                    |         |                                |
| <b>3.0</b>      | 55062          | 1.30           | 574.12  | 11800           | 13940           | 11800           | 13940           |                                                                                    |         |                                |
| <b>3.4</b>      | 48753          | 1.50           | 510.43  | 12300           | 14120           | 12300           | 14120           |                                                                                    |         |                                |
| <b>3.5</b>      | 47281          | 1.50           | 496.04  | 12390           | 14160           | 12390           | 14160           |                                                                                    |         |                                |
| <b>3.9</b>      | 41973          | 1.70           | 443.08  | 12720           | 14320           | 12720           | 14320           |                                                                                    |         |                                |
| <b>4.1</b>      | 39830          | 1.80           | 422.20  | 12860           | 14390           | 12860           | 14390           |                                                                                    |         |                                |
| <b>4.6</b>      | 35892          | 2.00           | 382.82  | 13060           | 14500           | 13060           | 14500           |                                                                                    |         |                                |
| <b>4.8</b>      | 34291          | 2.10           | 366.49  | 13150           | 14550           | 13150           | 14550           |                                                                                    |         |                                |
| <b>4.9</b>      | 33532          | 2.15           | 359.12  | 13170           | 14570           | 13170           | 14570           |                                                                                    |         |                                |
| <b>5.5</b>      | 29262          | 2.45           | 316.65  | 13350           | 14680           | 13350           | 14680           |                                                                                    |         |                                |
| <b>5.6</b>      | 28748          | 2.50           | 311.74  | 13380           | 14700           | 13380           | 14700           |                                                                                    |         |                                |
| <b>6.5</b>      | 24555          | 2.90           | 270.17  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                                |
| <b>6.6</b>      | 23837          | 3.00           | 262.82  | 13560           | 14840           | 13560           | 14840           |                                                                                    |         |                                |



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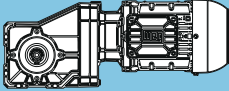
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| P <sub>N</sub> = 3.0 hp |                         |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|-------------------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                         |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm  | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>an</sub> | F <sub>rn</sub> | F <sub>an</sub> |                                                                                    |         |                             |
|                         |                         |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 3.6                     | 47080                   | 0.85           | 482.91 | 4650            | 7760            | 4650            | 7760            | KH094-11P-100L-04E                                                                 | 395     | 448                         |
| 4.0                     | 41903                   | 1.00           | 431.58 | 5820            | 8750            | 5820            | 8750            |                                                                                    |         |                             |
| 4.8                     | 35208                   | 1.15           | 364.86 | 6900            | 8970            | 6900            | 8970            |                                                                                    |         |                             |
| 4.9                     | 34014                   | 1.20           | 353.21 | 7060            | 8990            | 7060            | 8990            |                                                                                    |         |                             |
| 5.8                     | 28580                   | 1.40           | 298.61 | 7670            | 9170            | 7670            | 9170            |                                                                                    |         |                             |
| 6.1                     | 27357                   | 1.50           | 286.42 | 7780            | 9220            | 7780            | 9220            |                                                                                    |         |                             |
| 7.2                     | 22891                   | 1.75           | 242.14 | 8160            | 9370            | 8160            | 9370            |                                                                                    |         |                             |
| 7.3                     | 22667                   | 1.80           | 239.77 | 8180            | 9370            | 8180            | 9370            |                                                                                    |         |                             |
| 8.6                     | 18926                   | 2.15           | 202.70 | 8430            | 9490            | 8430            | 9490            |                                                                                    |         |                             |
| 9.0                     | 18069                   | 2.25           | 194.32 | 8480            | 9530            | 8480            | 9530            |                                                                                    |         |                             |
| 9.3                     | 17388                   | 2.30           | 187.38 | 8520            | 9550            | 8520            | 9550            |                                                                                    |         |                             |
| 11                      | 15056                   | 2.65           | 164.28 | 8630            | 9620            | 8630            | 9620            |                                                                                    |         |                             |
| 10                      | 18036                   | 2.25           | 169.25 | 8480            | 9530            | 8480            | 9530            | KH093-11P-100L-04E                                                                 | 366     | 446                         |
| 12                      | 15247                   | 2.65           | 143.08 | 8630            | 9620            | 8630            | 9620            |                                                                                    |         |                             |
| 5.0                     | 34077                   | 0.80           | 348.82 | **              | **              | **              | **              | KH084-11P-100L-04E                                                                 | 284     | 444                         |
| 5.1                     | 33193                   | 0.80           | 340.47 | **              | **              | **              | **              |                                                                                    |         |                             |
| 5.9                     | 28865                   | 0.95           | 297.29 | 3690            | 6270            | 3690            | 1710            |                                                                                    |         |                             |
| 6.0                     | 28352                   | 0.95           | 292.01 | 3840            | 6610            | 3840            | 1730            |                                                                                    |         |                             |
| 6.3                     | 26752                   | 1.00           | 276.09 | 4230            | 7440            | 4230            | 1800            |                                                                                    |         |                             |
| 7.2                     | 23263                   | 1.15           | 241.07 | 4920            | 8970            | 4920            | 1930            |                                                                                    |         |                             |
| 7.4                     | 22790                   | 1.20           | 236.66 | 4990            | 9100            | 4990            | 1930            |                                                                                    |         |                             |
| 7.6                     | 22257                   | 1.20           | 231.12 | 5080            | 9260            | 5080            | 1960            |                                                                                    |         |                             |
| 8.6                     | 19314                   | 1.40           | 201.80 | 5510            | 9370            | 5510            | 2070            |                                                                                    |         |                             |
| 9.3                     | 17854                   | 1.50           | 187.31 | 5690            | 9440            | 5690            | 2140            |                                                                                    |         |                             |
| 9.7                     | 17181                   | 1.55           | 180.62 | 5760            | 9460            | 5760            | 2160            |                                                                                    |         |                             |
| 11                      | 15461                   | 1.75           | 163.55 | 5930            | 9530            | 5930            | 2230            |                                                                                    |         |                             |
| 8.5                     | 21965                   | 1.25           | 206.12 | 5130            | 9280            | 5130            | 1980            | KH083-11P-100L-04E                                                                 | 256     | 442                         |
| 11                      | 17385                   | 1.55           | 163.14 | 5730            | 9460            | 5730            | 2160            |                                                                                    |         |                             |
| 12                      | 15180                   | 1.75           | 142.45 | 5960            | 9530            | 5960            | 2230            |                                                                                    |         |                             |
| 14                      | 13416                   | 2.00           | 125.90 | 6110            | 9600            | 6090            | 2290            |                                                                                    |         |                             |
| 16                      | 11345                   | 2.35           | 106.46 | 6250            | 9690            | 5690            | 2380            |                                                                                    |         |                             |
| 19                      | 9752                    | 2.75           | 91.51  | 6360            | 9760            | 5280            | 2450            |                                                                                    |         |                             |
| 22                      | 8498                    | 3.00           | 79.75  | 6410            | 9800            | 4970            | 2500            |                                                                                    |         |                             |
| 38                      | 4847                    | 3.00           | 45.48  | 6560            | 9870            | 3980            | 2560            |                                                                                    |         |                             |
| 11                      | 17674                   | 0.80           | 165.85 | **              | **              | **              | **              | KH073-11P-100L-04E                                                                 | 165     | 440                         |
| 13                      | 13870                   | 1.00           | 130.16 | 3350            | 3530            | 3350            | 1010            |                                                                                    |         |                             |
| 17                      | 10704                   | 1.30           | 100.45 | 3890            | 3710            | 3890            | 1170            |                                                                                    |         |                             |
| 21                      | 8854                    | 1.55           | 83.09  | 4140            | 3800            | 3890            | 1280            |                                                                                    |         |                             |
| 23                      | 8217                    | 1.70           | 77.11  | 4200            | 3840            | 3730            | 1300            |                                                                                    |         |                             |
| 25                      | 7531                    | 1.85           | 70.67  | 4270            | 3870            | 3570            | 1350            |                                                                                    |         |                             |
| 27                      | 6891                    | 2.00           | 64.67  | 4320            | 3910            | 3440            | 1370            |                                                                                    |         |                             |
| 28                      | 6527                    | 2.15           | 61.25  | 4360            | 3930            | 3370            | 1390            |                                                                                    |         |                             |
| 34                      | 5511                    | 2.50           | 51.72  | 4430            | 3980            | 3100            | 1440            |                                                                                    |         |                             |
| 35                      | 5315                    | 2.60           | 49.88  | 4430            | 3980            | 3060            | 1460            |                                                                                    |         |                             |
| 48                      | 3913                    | 1.75           | 36.72  | 4520            | 3960            | 2720            | 1440            |                                                                                    |         |                             |
| 57                      | 3281                    | 2.50           | 30.79  | 4540            | 4000            | 2520            | 1480            |                                                                                    |         |                             |
| 29                      | 6422                    | 0.85           | 60.26  | 650             | 810             | 650             | 700             | KH053-11P-100L-04E                                                                 | 93      | 436                         |
| 35                      | 5277                    | 1.05           | 49.52  | 1350            | 2290            | 1350            | 790             |                                                                                    |         |                             |
| 42                      | 4476                    | 1.20           | 42.00  | 1640            | 2340            | 1640            | 830             |                                                                                    |         |                             |
| 43                      | 4330                    | 1.25           | 40.63  | 1690            | 2360            | 1690            | 850             |                                                                                    |         |                             |
| 51                      | 3680                    | 1.45           | 34.53  | 1840            | 2410            | 1840            | 900             |                                                                                    |         |                             |
| 52                      | 3549                    | 1.50           | 33.30  | 1870            | 2430            | 1870            | 920             |                                                                                    |         |                             |
| 55                      | 3353                    | 1.60           | 31.46  | 1890            | 2430            | 1890            | 920             |                                                                                    |         |                             |
| 64                      | 2919                    | 1.75           | 27.39  | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |
| 73                      | 2550                    | 2.10           | 23.93  | 2020            | 2500            | 2020            | 990             |                                                                                    |         |                             |
| 74                      | 2513                    | 1.50           | 23.58  | 2020            | 2410            | 2020            | 900             |                                                                                    |         |                             |
| 88                      | 2103                    | 2.55           | 19.73  | 2090            | 2540            | 2090            | 1030            |                                                                                    |         |                             |
| 90                      | 2062                    | 1.80           | 19.35  | 2090            | 2450            | 2090            | 940             |                                                                                    |         |                             |
| 116                     | 1596                    | 2.30           | 14.98  | 2140            | 2520            | 2000            | 1010            |                                                                                    |         |                             |

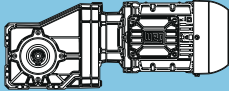
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| P <sub>N</sub> = 3.0 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 40                      | 4681           | 0.80           | 43.93 | **              | **              | **              | **              | KH043-11P-100L-04E                                                                 | 84      | 434                         |
| 47                      | 3919           | 0.90           | 36.78 | 520             | 630             | 520             | 470             |                                                                                    |         |                             |
| 48                      | 3894           | 0.95           | 36.54 | 560             | 720             | 560             | 470             |                                                                                    |         |                             |
| 59                      | 3177           | 1.05           | 29.81 | 1010            | 1690            | 1010            | 540             |                                                                                    |         |                             |
| 61                      | 3063           | 1.05           | 28.74 | 1080            | 1820            | 1080            | 560             |                                                                                    |         |                             |
| 62                      | 2998           | 1.20           | 28.13 | 1100            | 1820            | 1100            | 560             |                                                                                    |         |                             |
| 74                      | 2512           | 1.10           | 23.57 | 1260            | 1800            | 1260            | 540             |                                                                                    |         |                             |
| 82                      | 2264           | 1.60           | 21.25 | 1330            | 1910            | 1330            | 650             |                                                                                    |         |                             |
| 90                      | 2056           | 1.30           | 19.29 | 1370            | 1870            | 1370            | 610             |                                                                                    |         |                             |
| 100                     | 1853           | 1.95           | 17.39 | 1420            | 1960            | 1420            | 700             |                                                                                    |         |                             |
| 118                     | 1582           | 1.60           | 14.85 | 1460            | 1930            | 1460            | 670             |                                                                                    |         |                             |
| 124                     | 1503           | 2.40           | 14.10 | 1480            | 1980            | 1480            | 720             |                                                                                    |         |                             |
| 148                     | 1259           | 2.85           | 11.81 | 1510            | 2000            | 1460            | 740             |                                                                                    |         |                             |
| 156                     | 1196           | 1.95           | 11.22 | 1510            | 1980            | 1460            | 720             |                                                                                    |         |                             |
| 190                     | 978            | 2.30           | 9.18  | 1530            | 2000            | 1350            | 740             |                                                                                    |         |                             |
| 235                     | 793            | 2.70           | 7.44  | 1550            | 2020            | 1240            | 760             |                                                                                    |         |                             |
| 81                      | 2309           | 0.80           | 21.67 | **              | **              | **              | **              |                                                                                    |         |                             |
| 106                     | 1755           | 1.05           | 16.47 | 830             | 560             | 830             | 560             |                                                                                    |         |                             |
| 117                     | 1594           | 0.95           | 14.96 | 900             | 520             | 900             | 520             |                                                                                    |         |                             |
| 136                     | 1365           | 1.30           | 12.81 | 970             | 630             | 970             | 630             |                                                                                    |         |                             |
| 146                     | 1272           | 1.15           | 11.94 | 1010            | 580             | 1010            | 580             |                                                                                    |         |                             |
| 175                     | 1066           | 1.70           | 10.00 | 1060            | 670             | 1060            | 670             |                                                                                    |         |                             |
| 193                     | 962            | 1.50           | 9.03  | 1080            | 650             | 1080            | 650             |                                                                                    |         |                             |
| 254                     | 731            | 1.85           | 6.86  | 1100            | 670             | 1100            | 670             |                                                                                    |         |                             |
| 327                     | 569            | 2.15           | 5.34  | 1080            | 720             | 1080            | 720             |                                                                                    |         |                             |
| 418                     | 444            | 2.55           | 4.17  | 990             | 740             | 990             | 740             |                                                                                    |         |                             |

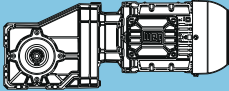
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\*\* ... on request

| P <sub>N</sub> = 4.0 hp |                |                |         |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 1.1                     | 199607         | 0.80           | 1530.83 | **              | **              | **              | **              | <b>KH155-11P-L100L-04F</b>                                                         | 1554    | 462                         |
| 1.2                     | 195956         | 0.85           | 1502.83 | 12360           | 20910           | 12360           | 20910           |                                                                                    |         |                             |
| 1.4                     | 166243         | 1.00           | 1281.49 | 16680           | 25990           | 16680           | 25990           |                                                                                    |         |                             |
| 1.7                     | 133359         | 1.20           | 1038.59 | 19830           | 26620           | 19830           | 26620           |                                                                                    |         |                             |
| 1.3                     | 173799         | 0.95           | 1308.92 | 15760           | 25830           | 15760           | 25830           | <b>KH154-11P-L100L-04F</b>                                                         | 1526    | 460                         |
| 1.5                     | 149079         | 1.10           | 1127.36 | 18480           | 26330           | 18480           | 26330           |                                                                                    |         |                             |
| 1.7                     | 136436         | 1.20           | 1035.99 | 19580           | 26570           | 19580           | 26570           |                                                                                    |         |                             |
| 1.8                     | 128157         | 1.25           | 975.12  | 20230           | 26730           | 20230           | 26730           |                                                                                    |         |                             |
| 1.9                     | 118398         | 1.35           | 904.58  | 20910           | 26910           | 20910           | 26910           |                                                                                    |         |                             |
| 2.0                     | 116790         | 1.40           | 892.29  | 21020           | 26950           | 21020           | 26950           |                                                                                    |         |                             |
| 2.2                     | 103995         | 1.55           | 799.45  | 21780           | 27200           | 21780           | 27200           |                                                                                    |         |                             |
| 2.3                     | 100192         | 1.60           | 771.80  | 21990           | 27270           | 21990           | 27270           |                                                                                    |         |                             |
| 2.5                     | 88836          | 1.80           | 688.57  | 22550           | 27490           | 22550           | 27490           |                                                                                    |         |                             |
| 2.6                     | 87040          | 1.85           | 676.04  | 22640           | 27520           | 22640           | 27520           |                                                                                    |         |                             |
| 2.9                     | 76050          | 2.10           | 595.58  | 23090           | 27740           | 23090           | 27740           |                                                                                    |         |                             |
| 3.0                     | 74197          | 2.15           | 582.27  | 23160           | 27790           | 23160           | 27790           |                                                                                    |         |                             |
| 3.4                     | 63845          | 2.50           | 507.30  | 23520           | 27990           | 23520           | 27990           |                                                                                    |         |                             |
| 3.5                     | 63385          | 2.55           | 503.64  | 23540           | 27990           | 23540           | 27990           |                                                                                    |         |                             |
| 4.0                     | 54195          | 2.95           | 436.93  | 23810           | 28170           | 23810           | 28170           |                                                                                    |         |                             |
| 1.6                     | 141786         | 0.85           | 1063.46 | 12990           | 18280           | 12990           | 18280           | <b>KH124-11P-L100L-04F</b>                                                         | 966     | 456                         |
| 1.7                     | 136381         | 0.85           | 1022.92 | 13650           | 18410           | 13650           | 18410           |                                                                                    |         |                             |
| 1.9                     | 121632         | 0.95           | 916.04  | 15200           | 18790           | 15200           | 18790           |                                                                                    |         |                             |
| 2.0                     | 118182         | 1.00           | 891.88  | 15510           | 18880           | 15510           | 18880           |                                                                                    |         |                             |
| 2.2                     | 106159         | 1.10           | 802.79  | 16480           | 19200           | 16480           | 19200           |                                                                                    |         |                             |
| 2.3                     | 101383         | 1.15           | 768.25  | 16840           | 19310           | 16840           | 19310           |                                                                                    |         |                             |
| 2.5                     | 91992          | 1.30           | 699.95  | 17450           | 19560           | 17450           | 19560           |                                                                                    |         |                             |
| 2.6                     | 86768          | 1.35           | 661.56  | 17760           | 19690           | 17760           | 19690           |                                                                                    |         |                             |
| 2.8                     | 80926          | 1.45           | 619.56  | 18070           | 19850           | 18070           | 19850           |                                                                                    |         |                             |
| 2.9                     | 78591          | 1.50           | 602.92  | 18190           | 19900           | 18190           | 19900           |                                                                                    |         |                             |
| 3.2                     | 69982          | 1.65           | 540.20  | 18610           | 20120           | 18610           | 20120           |                                                                                    |         |                             |
| 3.4                     | 67122          | 1.75           | 519.19  | 18730           | 20190           | 18730           | 20190           |                                                                                    |         |                             |
| 3.7                     | 59785          | 1.95           | 465.31  | 19020           | 20390           | 19020           | 20390           |                                                                                    |         |                             |
| 3.9                     | 57173          | 2.05           | 446.82  | 19110           | 20460           | 19110           | 20460           |                                                                                    |         |                             |
| 4.0                     | 55660          | 2.10           | 435.90  | 19150           | 20500           | 19150           | 20500           |                                                                                    |         |                             |
| 4.3                     | 50849          | 2.30           | 400.70  | 19310           | 20610           | 19310           | 20610           |                                                                                    |         |                             |
| 4.5                     | 48640          | 2.40           | 384.88  | 19380           | 20680           | 19380           | 20680           |                                                                                    |         |                             |
| 4.6                     | 48030          | 2.40           | 380.06  | 19400           | 20680           | 19400           | 20680           |                                                                                    |         |                             |
| 5.2                     | 41280          | 2.80           | 331.43  | 19580           | 20860           | 19580           | 20860           |                                                                                    |         |                             |
| 5.3                     | 41026          | 2.85           | 329.39  | 19580           | 20860           | 19580           | 20860           |                                                                                    |         |                             |
| 5.5                     | 39570          | 2.95           | 319.02  | 19630           | 20910           | 19630           | 20910           |                                                                                    |         |                             |
| 2.6                     | 88178          | 0.85           | 661.38  | 7440            | 12300           | 7440            | 12300           | <b>KH104-11P-L100L-04F</b>                                                         | 694     | 452                         |
| 2.8                     | 84268          | 0.85           | 632.05  | 8210            | 13080           | 8210            | 13080           |                                                                                    |         |                             |
| 3.0                     | 76232          | 0.95           | 574.12  | 9510            | 13330           | 9510            | 13330           |                                                                                    |         |                             |
| 3.4                     | 67498          | 1.05           | 510.43  | 10610           | 13580           | 10610           | 13580           |                                                                                    |         |                             |
| 3.5                     | 65595          | 1.10           | 496.04  | 10840           | 13620           | 10840           | 13620           |                                                                                    |         |                             |
| 3.9                     | 58232          | 1.25           | 443.08  | 11560           | 13850           | 11560           | 13850           |                                                                                    |         |                             |
| 4.1                     | 55374          | 1.30           | 422.20  | 11800           | 13940           | 11800           | 13940           |                                                                                    |         |                             |
| 4.5                     | 50004          | 1.45           | 382.82  | 12230           | 14100           | 12230           | 14100           |                                                                                    |         |                             |
| 4.7                     | 47772          | 1.50           | 366.49  | 12390           | 14160           | 12390           | 14160           |                                                                                    |         |                             |
| 4.8                     | 46715          | 1.55           | 359.12  | 12450           | 14190           | 12450           | 14190           |                                                                                    |         |                             |
| 5.5                     | 40937          | 1.75           | 316.65  | 12810           | 14340           | 12810           | 14340           |                                                                                    |         |                             |
| 5.6                     | 40219          | 1.80           | 311.74  | 12860           | 14370           | 12860           | 14370           |                                                                                    |         |                             |
| 6.4                     | 34570          | 2.05           | 270.17  | 13130           | 14550           | 13130           | 14550           |                                                                                    |         |                             |
| 6.5                     | 34392          | 2.10           | 269.34  | 13150           | 14550           | 13150           | 14550           |                                                                                    |         |                             |
| 6.6                     | 33560          | 2.15           | 262.82  | 13170           | 14570           | 13170           | 14570           |                                                                                    |         |                             |
| 6.9                     | 32228          | 2.20           | 253.44  | 13240           | 14610           | 13240           | 14610           |                                                                                    |         |                             |
| 7.5                     | 29500          | 2.45           | 233.43  | 13350           | 14680           | 13350           | 14680           |                                                                                    |         |                             |
| 7.6                     | 28773          | 2.50           | 228.15  | 13380           | 14700           | 13380           | 14700           |                                                                                    |         |                             |
| 7.9                     | 27630          | 2.60           | 220.00  | 13420           | 14750           | 13420           | 14750           |                                                                                    |         |                             |
| 8.0                     | 27136          | 2.65           | 216.51  | 13440           | 14750           | 13440           | 14750           |                                                                                    |         |                             |
| 8.8                     | 24501          | 2.90           | 197.12  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                             |

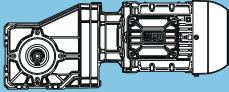


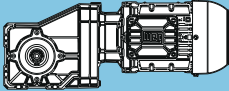
**P<sub>N</sub> = 4.0 hp**

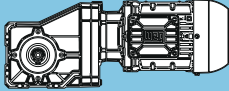
| 60 Hz           |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                                |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                                |
| 4.8             | 48645          | 0.85           | 364.86 | 4290            | 7010            | 4290            | 7010            | <b>KH094-11P-L100L-04F</b>                                                         | 410     | 448                            |
| 4.9             | 47092          | 0.85           | 353.21 | 4720            | 7910            | 4720            | 7910            |                                                                                    |         |                                |
| 5.8             | 39568          | 1.05           | 298.61 | 6270            | 8830            | 6270            | 8830            |                                                                                    |         |                                |
| 6.1             | 37875          | 1.10           | 286.42 | 6540            | 8880            | 6540            | 8880            |                                                                                    |         |                                |
| 7.2             | 31824          | 1.30           | 242.14 | 7350            | 9080            | 7350            | 9080            |                                                                                    |         |                                |
| 7.3             | 31512          | 1.30           | 239.77 | 7370            | 9080            | 7370            | 9080            |                                                                                    |         |                                |
| 8.6             | 26422          | 1.55           | 202.70 | 7890            | 9260            | 7890            | 9260            |                                                                                    |         |                                |
| 9.0             | 25226          | 1.60           | 194.32 | 7980            | 9310            | 7980            | 9310            |                                                                                    |         |                                |
| 9.3             | 24275          | 1.65           | 187.38 | 8070            | 9330            | 8070            | 9330            |                                                                                    |         |                                |
| 11              | 21107          | 1.90           | 164.28 | 8300            | 9420            | 8300            | 9420            |                                                                                    |         |                                |
| 10              | 24665          | 1.65           | 169.25 | 8030            | 9310            | 8030            | 9310            |                                                                                    |         |                                |
| 12              | 20851          | 1.95           | 143.08 | 8320            | 9440            | 8320            | 9440            |                                                                                    |         |                                |
| 14              | 18050          | 2.25           | 123.86 | 8480            | 9530            | 8480            | 9530            |                                                                                    |         |                                |
| 16              | 15987          | 2.50           | 109.70 | 8590            | 9600            | 8590            | 9600            |                                                                                    |         |                                |
| 18              | 13830          | 2.90           | 94.90  | 8700            | 9670            | 8700            | 9670            |                                                                                    |         |                                |
| 19              | 13336          | 3.00           | 91.51  | 8700            | 9690            | 8700            | 9690            |                                                                                    |         |                                |
| 7.2             | 32141          | 0.85           | 241.07 | 2630            | 4050            | 2630            | 1600            | <b>KH084-11P-L100L-04F</b>                                                         | 300     | 444                            |
| 7.4             | 31553          | 0.85           | 236.66 | 2880            | 4560            | 2880            | 1620            |                                                                                    |         |                                |
| 7.5             | 30751          | 0.90           | 231.12 | 3170            | 5170            | 3170            | 1640            |                                                                                    |         |                                |
| 7.6             | 30364          | 0.90           | 228.21 | 3300            | 5460            | 3300            | 1660            |                                                                                    |         |                                |
| 8.6             | 26740          | 1.00           | 201.80 | 4270            | 7530            | 4270            | 1800            |                                                                                    |         |                                |
| 9.3             | 24769          | 1.10           | 187.31 | 4680            | 8410            | 4680            | 1870            |                                                                                    |         |                                |
| 9.6             | 23836          | 1.15           | 180.62 | 4860            | 8810            | 4860            | 1910            |                                                                                    |         |                                |
| 11              | 21495          | 1.25           | 163.55 | 5220            | 9310            | 5220            | 2000            | <b>KH083-11P-L100L-04F</b>                                                         | 271     | 442                            |
| 8.4             | 30038          | 0.90           | 206.12 | 3390            | 5670            | 3390            | 1690            |                                                                                    |         |                                |
| 11              | 23775          | 1.15           | 163.14 | 4860            | 8810            | 4860            | 1910            |                                                                                    |         |                                |
| 12              | 20760          | 1.30           | 142.45 | 5330            | 9330            | 5330            | 2020            |                                                                                    |         |                                |
| 14              | 18348          | 1.45           | 125.90 | 5640            | 9420            | 5640            | 2110            |                                                                                    |         |                                |
| 16              | 15515          | 1.75           | 106.46 | 5930            | 9530            | 5930            | 2230            |                                                                                    |         |                                |
| 19              | 13336          | 2.00           | 91.51  | 6110            | 9620            | 5600            | 2320            |                                                                                    |         |                                |
| 22              | 11643          | 2.30           | 79.89  | 6250            | 9670            | 5240            | 2360            |                                                                                    |         |                                |
| 25              | 9974           | 2.70           | 68.44  | 6340            | 9730            | 4920            | 2430            |                                                                                    |         |                                |
| 26              | 9618           | 2.80           | 66.00  | 6360            | 9760            | 4830            | 2450            |                                                                                    |         |                                |
| 28              | 9199           | 2.80           | 63.12  | 6380            | 9780            | 4700            | 2470            |                                                                                    |         |                                |
| 38              | 6628           | 2.20           | 45.48  | 6500            | 9780            | 4160            | 2470            |                                                                                    |         |                                |
| 48              | 5245           | 2.80           | 35.99  | 6540            | 9850            | 3750            | 2540            |                                                                                    |         |                                |
| 17              | 14639          | 0.95           | 100.45 | 3190            | 3510            | 3190            | 970             | <b>KH073-11P-L100L-04F</b>                                                         | 181     | 440                            |
| 21              | 12109          | 1.15           | 83.09  | 3690            | 3640            | 3690            | 1100            |                                                                                    |         |                                |
| 23              | 11237          | 1.25           | 77.11  | 3820            | 3690            | 3820            | 1150            |                                                                                    |         |                                |
| 25              | 10299          | 1.35           | 70.67  | 3960            | 3730            | 3870            | 1190            |                                                                                    |         |                                |
| 27              | 9424           | 1.50           | 64.67  | 4070            | 3780            | 3710            | 1240            |                                                                                    |         |                                |
| 28              | 8926           | 1.55           | 61.25  | 4140            | 3800            | 3620            | 1280            |                                                                                    |         |                                |
| 34              | 7537           | 1.85           | 51.72  | 4270            | 3870            | 3300            | 1350            |                                                                                    |         |                                |
| 35              | 7269           | 1.90           | 49.88  | 4290            | 3890            | 3260            | 1350            |                                                                                    |         |                                |
| 41              | 6210           | 2.25           | 42.61  | 4380            | 3930            | 3010            | 1420            |                                                                                    |         |                                |
| 44              | 5708           | 2.45           | 39.17  | 4410            | 3980            | 2900            | 1440            |                                                                                    |         |                                |
| 47              | 5351           | 1.30           | 36.72  | 4430            | 3840            | 2900            | 1300            |                                                                                    |         |                                |
| 54              | 4722           | 2.95           | 32.40  | 4470            | 4020            | 2650            | 1480            |                                                                                    |         |                                |
| 57              | 4487           | 1.80           | 30.79  | 4500            | 3910            | 2650            | 1390            |                                                                                    |         |                                |
| 72              | 3522           | 2.30           | 24.17  | 4540            | 3980            | 2380            | 1460            |                                                                                    |         |                                |
| 93              | 2718           | 3.00           | 18.65  | 4560            | 4050            | 2140            | 1530            |                                                                                    |         |                                |

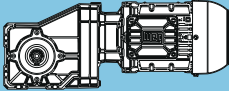
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| <b>P<sub>N</sub> = 4.0 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>50</sub></b>         | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>sN</sub></b> |                                                                                    |                |                                    |
| rpm                           | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>30</b>                     | 8582                 | 0.85                 | 58.89    | 1390                  | 2090                  | 1390                  | 490                   | <b>KH063-11P-L100L-04F</b>                                                         | 137            | 438                                |
| <b>35</b>                     | 7311                 | 1.00                 | 50.17    | 1890                  | 2830                  | 1890                  | 610                   |                                                                                    |                |                                    |
| <b>36</b>                     | 7077                 | 1.05                 | 48.56    | 1960                  | 2860                  | 1960                  | 630                   |                                                                                    |                |                                    |
| <b>42</b>                     | 6000                 | 1.25                 | 41.17    | 2230                  | 2940                  | 2230                  | 720                   |                                                                                    |                |                                    |
| <b>44</b>                     | 5805                 | 1.25                 | 39.83    | 2270                  | 2970                  | 2270                  | 720                   |                                                                                    |                |                                    |
| <b>51</b>                     | 4933                 | 1.40                 | 33.85    | 2430                  | 3030                  | 2430                  | 790                   |                                                                                    |                |                                    |
| <b>55</b>                     | 4646                 | 1.60                 | 31.88    | 2470                  | 3060                  | 2410                  | 810                   |                                                                                    |                |                                    |
| <b>63</b>                     | 4056                 | 1.60                 | 27.83    | 2560                  | 3100                  | 2250                  | 850                   |                                                                                    |                |                                    |
| <b>64</b>                     | 3977                 | 1.15                 | 27.29    | 2560                  | 2970                  | 2290                  | 740                   |                                                                                    |                |                                    |
| <b>65</b>                     | 3911                 | 1.60                 | 26.84    | 2590                  | 3100                  | 2200                  | 880                   |                                                                                    |                |                                    |
| <b>72</b>                     | 3534                 | 2.00                 | 24.25    | 2630                  | 3150                  | 2110                  | 900                   |                                                                                    |                |                                    |
| <b>78</b>                     | 3264                 | 1.40                 | 22.40    | 2650                  | 3060                  | 2090                  | 810                   |                                                                                    |                |                                    |
| <b>79</b>                     | 3216                 | 1.85                 | 22.07    | 2650                  | 3170                  | 2020                  | 920                   |                                                                                    |                |                                    |
| <b>87</b>                     | 2915                 | 2.25                 | 20.00    | 2680                  | 3190                  | 1910                  | 970                   |                                                                                    |                |                                    |
| <b>100</b>                    | 2527                 | 1.80                 | 17.34    | 2720                  | 3150                  | 1840                  | 900                   |                                                                                    |                |                                    |
| <b>106</b>                    | 2390                 | 2.60                 | 16.40    | 2720                  | 3240                  | 1750                  | 990                   |                                                                                    |                |                                    |
| <b>125</b>                    | 2032                 | 2.90                 | 13.94    | 2740                  | 3260                  | 1620                  | 1030                  |                                                                                    |                |                                    |
| <b>132</b>                    | 1922                 | 2.35                 | 13.19    | 2740                  | 3210                  | 1620                  | 970                   |                                                                                    |                |                                    |
| <b>160</b>                    | 1586                 | 2.80                 | 10.88    | 2770                  | 3240                  | 1480                  | 1010                  |                                                                                    |                |                                    |
| <b>41</b>                     | 6121                 | 0.90                 | 42.00    | 920                   | 1370                  | 920                   | 720                   | <b>KH053-11P-L100L-04F</b>                                                         | 106            | 436                                |
| <b>43</b>                     | 5921                 | 0.90                 | 40.63    | 1060                  | 1660                  | 1060                  | 740                   |                                                                                    |                |                                    |
| <b>50</b>                     | 5032                 | 1.10                 | 34.53    | 1460                  | 2320                  | 1460                  | 810                   |                                                                                    |                |                                    |
| <b>52</b>                     | 4853                 | 1.10                 | 33.30    | 1530                  | 2320                  | 1530                  | 810                   |                                                                                    |                |                                    |
| <b>55</b>                     | 4585                 | 1.20                 | 31.46    | 1620                  | 2340                  | 1620                  | 830                   |                                                                                    |                |                                    |
| <b>64</b>                     | 3992                 | 1.30                 | 27.39    | 1780                  | 2380                  | 1780                  | 880                   |                                                                                    |                |                                    |
| <b>73</b>                     | 3487                 | 1.55                 | 23.93    | 1870                  | 2430                  | 1870                  | 920                   |                                                                                    |                |                                    |
| <b>74</b>                     | 3436                 | 1.10                 | 23.58    | 1890                  | 2290                  | 1890                  | 790                   |                                                                                    |                |                                    |
| <b>88</b>                     | 2875                 | 1.85                 | 19.73    | 1980                  | 2470                  | 1980                  | 970                   |                                                                                    |                |                                    |
| <b>90</b>                     | 2820                 | 1.30                 | 19.35    | 2000                  | 2380                  | 2000                  | 880                   |                                                                                    |                |                                    |
| <b>107</b>                    | 2359                 | 2.30                 | 16.19    | 2050                  | 2520                  | 2050                  | 1010                  |                                                                                    |                |                                    |
| <b>116</b>                    | 2183                 | 1.70                 | 14.98    | 2070                  | 2450                  | 2070                  | 940                   |                                                                                    |                |                                    |
| <b>127</b>                    | 2004                 | 2.70                 | 13.75    | 2090                  | 2540                  | 1960                  | 1030                  |                                                                                    |                |                                    |
| <b>153</b>                    | 1661                 | 2.25                 | 11.40    | 2110                  | 2520                  | 1840                  | 1010                  |                                                                                    |                |                                    |
| <b>185</b>                    | 1370                 | 2.70                 | 9.40     | 2140                  | 2540                  | 1710                  | 1030                  |                                                                                    |                |                                    |
| <b>61</b>                     | 4188                 | 0.80                 | 28.74    | **                    | **                    | **                    | **                    | <b>KH043-11P-L100L-04F</b>                                                         | 99             | 434                                |
| <b>62</b>                     | 4099                 | 0.90                 | 28.13    | 310                   | 200                   | 310                   | 200                   |                                                                                    |                |                                    |
| <b>74</b>                     | 3435                 | 0.80                 | 23.57    | **                    | **                    | **                    | **                    |                                                                                    |                |                                    |
| <b>82</b>                     | 3097                 | 1.15                 | 21.25    | 1060                  | 1800                  | 1060                  | 560                   |                                                                                    |                |                                    |
| <b>90</b>                     | 2811                 | 0.95                 | 19.29    | 1170                  | 1780                  | 1170                  | 520                   |                                                                                    |                |                                    |
| <b>100</b>                    | 2534                 | 1.40                 | 17.39    | 1260                  | 1870                  | 1260                  | 610                   |                                                                                    |                |                                    |
| <b>117</b>                    | 2164                 | 1.15                 | 14.85    | 1350                  | 1840                  | 1350                  | 580                   |                                                                                    |                |                                    |
| <b>123</b>                    | 2055                 | 1.75                 | 14.10    | 1370                  | 1930                  | 1370                  | 670                   |                                                                                    |                |                                    |
| <b>147</b>                    | 1721                 | 2.10                 | 11.81    | 1440                  | 1960                  | 1440                  | 700                   |                                                                                    |                |                                    |
| <b>155</b>                    | 1635                 | 1.45                 | 11.22    | 1460                  | 1910                  | 1460                  | 650                   |                                                                                    |                |                                    |
| <b>182</b>                    | 1395                 | 2.40                 | 9.57     | 1480                  | 2000                  | 1420                  | 740                   |                                                                                    |                |                                    |
| <b>189</b>                    | 1345                 | 2.45                 | 9.23     | 1510                  | 2000                  | 1390                  | 740                   |                                                                                    |                |                                    |
| <b>190</b>                    | 1338                 | 1.70                 | 9.18     | 1510                  | 1960                  | 1420                  | 700                   |                                                                                    |                |                                    |
| <b>234</b>                    | 1084                 | 2.00                 | 7.44     | 1530                  | 2000                  | 1280                  | 740                   |                                                                                    |                |                                    |
| <b>279</b>                    | 908                  | 2.30                 | 6.23     | 1550                  | 2020                  | 1190                  | 760                   |                                                                                    |                |                                    |
| <b>345</b>                    | 736                  | 2.70                 | 5.05     | 1480                  | 2050                  | 1080                  | 790                   |                                                                                    |                |                                    |
| <b>357</b>                    | 710                  | 2.75                 | 4.87     | 1460                  | 2050                  | 1080                  | 790                   |                                                                                    |                |                                    |
| <b>136</b>                    | 1867                 | 0.95                 | 12.81    | 790                   | 540                   | 790                   | 540                   | <b>KH033-11P-L100L-04F</b>                                                         | 90             | 432                                |
| <b>146</b>                    | 1740                 | 0.85                 | 11.94    | 850                   | 490                   | 850                   | 490                   |                                                                                    |                |                                    |
| <b>174</b>                    | 1457                 | 1.25                 | 10.00    | 940                   | 610                   | 940                   | 610                   |                                                                                    |                |                                    |
| <b>193</b>                    | 1316                 | 1.10                 | 9.03     | 990                   | 580                   | 990                   | 580                   |                                                                                    |                |                                    |
| <b>254</b>                    | 1000                 | 1.35                 | 6.86     | 1060                  | 630                   | 1060                  | 630                   |                                                                                    |                |                                    |
| <b>326</b>                    | 778                  | 1.60                 | 5.34     | 1100                  | 670                   | 1100                  | 670                   |                                                                                    |                |                                    |
| <b>417</b>                    | 608                  | 1.85                 | 4.17     | 1010                  | 720                   | 1010                  | 720                   |                                                                                    |                |                                    |
| <b>1.7</b>                    | 178564               | 0.90                 | 1038.59  | 15080                 | 25740                 | 15080                 | 25740                 |                                                                                    |                |                                    |
| <b>1.8</b>                    | 171747               | 0.95                 | 1001.50  | 15980                 | 25880                 | 15980                 | 25880                 |                                                                                    |                |                                    |

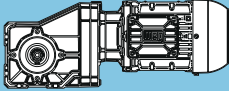
| P <sub>N</sub> = 5.4 hp |                |                |         |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|---------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i       | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |         | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |         | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 1.6                     | 198694         | 0.85           | 1127.36 | 11780           | 19670           | 11780           | 19670           | <b>KH154-11P-112M-04E</b>                                                          | 1528    | 460                         |
| 1.7                     | 182217         | 0.90           | 1035.99 | 14570           | 25580           | 14570           | 25580           |                                                                                    |         |                             |
| 1.8                     | 171160         | 0.95           | 975.12  | 16050           | 25880           | 16050           | 25880           |                                                                                    |         |                             |
| 1.9                     | 158454         | 1.05           | 904.58  | 17510           | 26120           | 17510           | 26120           |                                                                                    |         |                             |
| 2.0                     | 156301         | 1.05           | 892.29  | 17740           | 26170           | 17740           | 26170           |                                                                                    |         |                             |
| 2.2                     | 139465         | 1.15           | 799.45  | 19310           | 26500           | 19310           | 26500           |                                                                                    |         |                             |
| 2.3                     | 135639         | 1.20           | 779.11  | 19630           | 26570           | 19630           | 26570           |                                                                                    |         |                             |
| 2.5                     | 119140         | 1.35           | 688.57  | 20840           | 26890           | 20840           | 26890           |                                                                                    |         |                             |
| 2.6                     | 116972         | 1.40           | 676.04  | 21000           | 26930           | 21000           | 26930           |                                                                                    |         |                             |
| 2.9                     | 102417         | 1.60           | 595.58  | 21870           | 27220           | 21870           | 27220           |                                                                                    |         |                             |
| 3.0                     | 99922          | 1.60           | 582.27  | 22010           | 27270           | 22010           | 27270           |                                                                                    |         |                             |
| 3.5                     | 86342          | 1.85           | 507.30  | 22660           | 27540           | 22660           | 27540           |                                                                                    |         |                             |
| 4.0                     | 73601          | 2.20           | 436.93  | 23180           | 27790           | 23180           | 27790           |                                                                                    |         |                             |
| 4.1                     | 72775          | 2.20           | 432.92  | 23220           | 27810           | 23220           | 27810           |                                                                                    |         |                             |
| 4.2                     | 70308          | 2.30           | 419.11  | 23290           | 27850           | 23290           | 27850           |                                                                                    |         |                             |
| 4.6                     | 62876          | 2.55           | 377.93  | 23540           | 27990           | 23540           | 27990           |                                                                                    |         |                             |
| 4.7                     | 62151          | 2.60           | 374.35  | 23560           | 28010           | 23560           | 28010           |                                                                                    |         |                             |
| 4.9                     | 59683          | 2.70           | 360.98  | 23650           | 28060           | 23650           | 28060           |                                                                                    |         |                             |
| 2.2                     | 141489         | 0.85           | 802.79  | 12990           | 18280           | 12990           | 18280           | <b>KH124-11P-112M-04E</b>                                                          | 968     | 456                         |
| 2.3                     | 135125         | 0.90           | 768.25  | 13760           | 18460           | 13760           | 18460           |                                                                                    |         |                             |
| 2.5                     | 122860         | 0.95           | 699.95  | 15060           | 18770           | 15060           | 18770           |                                                                                    |         |                             |
| 2.7                     | 115884         | 1.00           | 661.56  | 15690           | 18950           | 15690           | 18950           |                                                                                    |         |                             |
| 2.8                     | 108305         | 1.10           | 619.56  | 16300           | 19130           | 16300           | 19130           |                                                                                    |         |                             |
| 2.9                     | 105180         | 1.10           | 602.92  | 16550           | 19220           | 16550           | 19220           |                                                                                    |         |                             |
| 3.2                     | 93853          | 1.25           | 540.20  | 17330           | 19510           | 17330           | 19510           |                                                                                    |         |                             |
| 3.4                     | 90018          | 1.30           | 519.19  | 17560           | 19600           | 17560           | 19600           |                                                                                    |         |                             |
| 3.8                     | 80345          | 1.45           | 465.31  | 18100           | 19850           | 18100           | 19850           |                                                                                    |         |                             |
| 3.9                     | 76994          | 1.50           | 446.82  | 18280           | 19940           | 18280           | 19940           |                                                                                    |         |                             |
| 4.0                     | 74958          | 1.55           | 435.90  | 18370           | 19990           | 18370           | 19990           |                                                                                    |         |                             |
| 4.4                     | 68622          | 1.70           | 400.70  | 18660           | 20170           | 18660           | 20170           |                                                                                    |         |                             |
| 4.6                     | 65777          | 1.75           | 384.88  | 18770           | 20230           | 18770           | 20230           |                                                                                    |         |                             |
| 5.3                     | 56061          | 2.10           | 331.43  | 19130           | 20480           | 19130           | 20480           |                                                                                    |         |                             |
| 5.4                     | 55261          | 2.10           | 327.38  | 19180           | 20500           | 19180           | 20500           |                                                                                    |         |                             |
| 5.5                     | 53739          | 2.15           | 319.02  | 19220           | 20550           | 19220           | 20550           |                                                                                    |         |                             |
| 5.7                     | 51712          | 2.25           | 307.62  | 19290           | 20590           | 19290           | 20590           |                                                                                    |         |                             |
| 6.2                     | 47302          | 2.45           | 283.73  | 19420           | 20700           | 19420           | 20700           |                                                                                    |         |                             |
| 6.3                     | 46276          | 2.50           | 278.15  | 19450           | 20730           | 19450           | 20730           |                                                                                    |         |                             |
| 6.5                     | 44531          | 2.60           | 268.22  | 19490           | 20770           | 19490           | 20770           |                                                                                    |         |                             |
| 6.7                     | 43541          | 2.65           | 262.80  | 19510           | 20790           | 19510           | 20790           |                                                                                    |         |                             |
| 7.2                     | 40145          | 2.90           | 244.33  | 19600           | 20880           | 19600           | 20880           |                                                                                    |         |                             |
| 7.3                     | 39285          | 2.95           | 239.59  | 19630           | 20910           | 19630           | 20910           |                                                                                    |         |                             |
| 3.4                     | 90146          | 0.80           | 510.43  | **              | **              | **              | **              | <b>KH104-11P-112M-04E</b>                                                          | 697     | 452                         |
| 3.5                     | 87426          | 0.85           | 496.04  | 7580            | 12590           | 7580            | 12590           |                                                                                    |         |                             |
| 4.0                     | 77773          | 0.95           | 443.08  | 9260            | 13260           | 9260            | 13260           |                                                                                    |         |                             |
| 4.2                     | 74108          | 1.00           | 422.20  | 9780            | 13380           | 9780            | 13380           |                                                                                    |         |                             |
| 4.6                     | 66921          | 1.10           | 382.82  | 10680           | 13600           | 10680           | 13600           |                                                                                    |         |                             |
| 4.8                     | 63935          | 1.15           | 366.49  | 10990           | 13670           | 10990           | 13670           |                                                                                    |         |                             |
| 4.9                     | 62649          | 1.15           | 359.12  | 11130           | 13710           | 11130           | 13710           |                                                                                    |         |                             |
| 5.5                     | 54901          | 1.30           | 316.65  | 11820           | 13940           | 11820           | 13940           |                                                                                    |         |                             |
| 5.6                     | 54050          | 1.35           | 311.74  | 11910           | 13960           | 11910           | 13960           |                                                                                    |         |                             |
| 6.5                     | 46459          | 1.55           | 270.17  | 12450           | 14190           | 12450           | 14190           |                                                                                    |         |                             |
| 6.7                     | 45195          | 1.60           | 262.82  | 12540           | 14230           | 12540           | 14230           |                                                                                    |         |                             |
| 6.9                     | 43492          | 1.65           | 253.44  | 12660           | 14280           | 12660           | 14280           |                                                                                    |         |                             |
| 7.5                     | 39812          | 1.80           | 233.43  | 12860           | 14390           | 12860           | 14390           |                                                                                    |         |                             |
| 7.7                     | 38831          | 1.85           | 228.15  | 12930           | 14410           | 12930           | 14410           |                                                                                    |         |                             |
| 8.0                     | 37367          | 1.90           | 220.00  | 12990           | 14460           | 12990           | 14460           |                                                                                    |         |                             |
| 8.1                     | 36774          | 1.95           | 216.51  | 13040           | 14480           | 13040           | 14480           |                                                                                    |         |                             |
| 8.9                     | 33205          | 2.15           | 197.12  | 13200           | 14570           | 13200           | 14570           |                                                                                    |         |                             |
| 9.2                     | 31953          | 2.25           | 190.08  | 13260           | 14610           | 13260           | 14610           |                                                                                    |         |                             |
| 9.3                     | 31529          | 2.25           | 187.95  | 13260           | 14640           | 13260           | 14640           |                                                                                    |         |                             |
| 11                      | 26905          | 2.65           | 162.39  | 13440           | 14770           | 13440           | 14770           |                                                                                    |         |                             |

| <b>P<sub>N</sub> = 5.4 hp</b> |                               |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|-------------------------------|-------------------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                  |                               |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b><br>rpm  | <b>T<sub>2</sub></b><br>lb-in | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
|                               |                               |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>12</b>                     | 27154                         | 2.65                 | 140.95   | 13440                 | 14750                 | 13440                 | 14750                 | <b>KH103-11P-112M-04E</b>                                                          | 644            | 450                                |
| <b>14</b>                     | 23985                         | 3.00                 | 124.50   | 13560                 | 14840                 | 13560                 | 14840                 |                                                                                    |                |                                    |
| <b>5.9</b>                    | 52737                         | 0.80                 | 298.61   | **                    | **                    | **                    | **                    | <b>KH094-11P-112M-04E</b>                                                          | 412            | 448                                |
| <b>6.1</b>                    | 50481                         | 0.80                 | 286.42   | **                    | **                    | **                    | **                    |                                                                                    |                |                                    |
| <b>7.2</b>                    | 42502                         | 0.95                 | 242.14   | 5730                  | 8720                  | 5730                  | 8720                  |                                                                                    |                |                                    |
| <b>7.3</b>                    | 42086                         | 0.95                 | 239.77   | 5820                  | 8750                  | 5820                  | 8750                  |                                                                                    |                |                                    |
| <b>8.7</b>                    | 35361                         | 1.15                 | 202.70   | 6900                  | 8970                  | 6900                  | 8970                  |                                                                                    |                |                                    |
| <b>9.0</b>                    | 33830                         | 1.20                 | 194.32   | 7100                  | 9010                  | 7100                  | 9010                  |                                                                                    |                |                                    |
| <b>9.4</b>                    | 32555                         | 1.25                 | 187.38   | 7260                  | 9060                  | 7260                  | 9060                  |                                                                                    |                |                                    |
| <b>11</b>                     | 28366                         | 1.45                 | 164.28   | 7710                  | 9190                  | 7710                  | 9190                  |                                                                                    |                |                                    |
| <b>10</b>                     | 32606                         | 1.25                 | 169.25   | 7240                  | 9060                  | 7240                  | 9060                  |                                                                                    |                |                                    |
| <b>12</b>                     | 27564                         | 1.45                 | 143.08   | 7780                  | 9220                  | 7780                  | 9220                  |                                                                                    |                |                                    |
| <b>14</b>                     | 23861                         | 1.70                 | 123.86   | 8090                  | 9330                  | 8090                  | 9330                  |                                                                                    |                |                                    |
| <b>16</b>                     | 21134                         | 1.90                 | 109.70   | 8300                  | 9420                  | 8300                  | 9420                  |                                                                                    |                |                                    |
| <b>18</b>                     | 18282                         | 2.20                 | 94.90    | 8480                  | 9530                  | 8480                  | 9530                  |                                                                                    |                |                                    |
| <b>19</b>                     | 17629                         | 2.30                 | 91.51    | 8500                  | 9530                  | 8500                  | 9530                  |                                                                                    |                |                                    |
| <b>22</b>                     | 15554                         | 2.60                 | 80.74    | 8610                  | 9600                  | 8610                  | 9600                  |                                                                                    |                |                                    |
| <b>9.4</b>                    | 33013                         | 0.85                 | 187.31   | 2180                  | 3100                  | 2180                  | 1550                  | <b>KH084-11P-112M-04E</b>                                                          | 302            | 444                                |
| <b>9.7</b>                    | 31834                         | 0.85                 | 180.62   | 2740                  | 4270                  | 2740                  | 1600                  |                                                                                    |                |                                    |
| <b>11</b>                     | 28707                         | 0.95                 | 163.55   | 3780                  | 6470                  | 3780                  | 1730                  |                                                                                    |                |                                    |
| <b>11</b>                     | 31429                         | 0.85                 | 163.14   | 2900                  | 4610                  | 2900                  | 1620                  | <b>KH083-11P-112M-04E</b>                                                          | 273            | 442                                |
| <b>12</b>                     | 27443                         | 1.00                 | 142.45   | 4090                  | 7150                  | 4090                  | 1780                  |                                                                                    |                |                                    |
| <b>14</b>                     | 24254                         | 1.10                 | 125.90   | 4770                  | 8610                  | 4770                  | 1890                  |                                                                                    |                |                                    |
| <b>16</b>                     | 20509                         | 1.30                 | 106.46   | 5350                  | 9330                  | 5350                  | 2020                  |                                                                                    |                |                                    |
| <b>19</b>                     | 17629                         | 1.55                 | 91.51    | 5710                  | 9440                  | 5710                  | 2140                  |                                                                                    |                |                                    |
| <b>22</b>                     | 15391                         | 1.75                 | 79.89    | 5930                  | 9530                  | 5580                  | 2230                  |                                                                                    |                |                                    |
| <b>26</b>                     | 13185                         | 2.05                 | 68.44    | 6140                  | 9620                  | 5150                  | 2320                  |                                                                                    |                |                                    |
| <b>27</b>                     | 12715                         | 2.10                 | 66.00    | 6160                  | 9640                  | 5060                  | 2340                  |                                                                                    |                |                                    |
| <b>28</b>                     | 12160                         | 2.10                 | 63.12    | 6200                  | 9670                  | 4970                  | 2360                  |                                                                                    |                |                                    |
| <b>30</b>                     | 11222                         | 2.40                 | 58.25    | 6270                  | 9690                  | 4790                  | 2380                  |                                                                                    |                |                                    |
| <b>32</b>                     | 10617                         | 2.55                 | 55.11    | 6290                  | 9710                  | 4650                  | 2410                  |                                                                                    |                |                                    |
| <b>36</b>                     | 9415                          | 2.85                 | 48.87    | 6380                  | 9760                  | 4410                  | 2450                  |                                                                                    |                |                                    |
| <b>39</b>                     | 8762                          | 1.65                 | 45.48    | 6410                  | 9670                  | 4340                  | 2360                  |                                                                                    |                |                                    |
| <b>49</b>                     | 6933                          | 2.10                 | 35.99    | 6500                  | 9760                  | 3910                  | 2450                  |                                                                                    |                |                                    |
| <b>56</b>                     | 6055                          | 2.85                 | 31.43    | 6520                  | 9800                  | 3690                  | 2500                  |                                                                                    |                |                                    |
| <b>21</b>                     | 16007                         | 0.90                 | 83.09    | 2810                  | 3420                  | 2810                  | 900                   | <b>KH073-11P-112M-04E</b>                                                          | 183            | 440                                |
| <b>23</b>                     | 14855                         | 0.95                 | 77.11    | 3120                  | 3480                  | 3120                  | 970                   |                                                                                    |                |                                    |
| <b>25</b>                     | 13614                         | 1.05                 | 70.67    | 3420                  | 3550                  | 3420                  | 1010                  |                                                                                    |                |                                    |
| <b>27</b>                     | 12459                         | 1.15                 | 64.67    | 3620                  | 3620                  | 3620                  | 1080                  |                                                                                    |                |                                    |
| <b>29</b>                     | 11800                         | 1.20                 | 61.25    | 3730                  | 3640                  | 3730                  | 1120                  |                                                                                    |                |                                    |
| <b>34</b>                     | 9964                          | 1.40                 | 51.72    | 4000                  | 3750                  | 3550                  | 1210                  |                                                                                    |                |                                    |
| <b>35</b>                     | 9777                          | 1.45                 | 50.75    | 4020                  | 3750                  | 3530                  | 1210                  |                                                                                    |                |                                    |
| <b>41</b>                     | 8209                          | 1.70                 | 42.61    | 4200                  | 3840                  | 3210                  | 1300                  |                                                                                    |                |                                    |
| <b>45</b>                     | 7546                          | 1.85                 | 39.17    | 4270                  | 3870                  | 3080                  | 1350                  |                                                                                    |                |                                    |
| <b>48</b>                     | 7074                          | 0.95                 | 36.72    | 4320                  | 3710                  | 3100                  | 1170                  |                                                                                    |                |                                    |
| <b>54</b>                     | 6242                          | 2.20                 | 32.40    | 4380                  | 3930                  | 2810                  | 1420                  |                                                                                    |                |                                    |
| <b>57</b>                     | 5932                          | 1.40                 | 30.79    | 4410                  | 3800                  | 2830                  | 1260                  |                                                                                    |                |                                    |
| <b>64</b>                     | 5309                          | 2.60                 | 27.56    | 4450                  | 3980                  | 2590                  | 1460                  |                                                                                    |                |                                    |
| <b>73</b>                     | 4656                          | 1.75                 | 24.17    | 4470                  | 3890                  | 2520                  | 1370                  |                                                                                    |                |                                    |
| <b>94</b>                     | 3593                          | 2.25                 | 18.65    | 4520                  | 3980                  | 2230                  | 1460                  |                                                                                    |                |                                    |
| <b>114</b>                    | 2973                          | 2.75                 | 15.43    | 4540                  | 4020                  | 2050                  | 1510                  |                                                                                    |                |                                    |

| P <sub>N</sub> = 5.4 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 35                      | 9665           | 0.80           | 50.17 | **              | **              | **              | **              | <b>KH063-11P-112M-04E</b>                                                          | 139     | 438                         |
| 36                      | 9355           | 0.80           | 48.56 | **              | **              | **              | **              |                                                                                    |         |                             |
| 43                      | 7931           | 0.95           | 41.17 | 1660            | 2700            | 1660            | 560             |                                                                                    |         |                             |
| 44                      | 7673           | 0.95           | 39.83 | 1780            | 2810            | 1780            | 560             |                                                                                    |         |                             |
| 52                      | 6521           | 1.05           | 33.85 | 2110            | 2900            | 2110            | 670             |                                                                                    |         |                             |
| 55                      | 6142           | 1.20           | 31.88 | 2200            | 2920            | 2200            | 700             |                                                                                    |         |                             |
| 63                      | 5361           | 1.20           | 27.83 | 2360            | 2990            | 2360            | 760             |                                                                                    |         |                             |
| 64                      | 5257           | 0.85           | 27.29 | 2380            | 2830            | 2380            | 580             |                                                                                    |         |                             |
| 65                      | 5171           | 1.25           | 26.84 | 2380            | 3010            | 2380            | 760             |                                                                                    |         |                             |
| 72                      | 4672           | 1.50           | 24.25 | 2470            | 3060            | 2270            | 810             |                                                                                    |         |                             |
| 78                      | 4315           | 1.05           | 22.40 | 2520            | 2940            | 2250            | 700             |                                                                                    |         |                             |
| 80                      | 4252           | 1.40           | 22.07 | 2540            | 3080            | 2160            | 850             |                                                                                    |         |                             |
| 88                      | 3853           | 1.70           | 20.00 | 2590            | 3120            | 2050            | 880             |                                                                                    |         |                             |
| 101                     | 3341           | 1.35           | 17.34 | 2630            | 3060            | 1960            | 810             |                                                                                    |         |                             |
| 107                     | 3159           | 1.95           | 16.40 | 2650            | 3170            | 1840            | 940             |                                                                                    |         |                             |
| 126                     | 2686           | 2.20           | 13.94 | 2700            | 3210            | 1710            | 970             |                                                                                    |         |                             |
| 133                     | 2541           | 1.75           | 13.19 | 2720            | 3150            | 1710            | 900             |                                                                                    |         |                             |
| 153                     | 2208           | 2.55           | 11.46 | 2740            | 3260            | 1570            | 1010            |                                                                                    |         |                             |
| 159                     | 2129           | 2.60           | 11.05 | 2740            | 3260            | 1530            | 1010            |                                                                                    |         |                             |
| 161                     | 2096           | 2.15           | 10.88 | 2740            | 3190            | 1570            | 940             |                                                                                    |         |                             |
| 193                     | 1751           | 2.95           | 9.09  | 2770            | 3280            | 1420            | 1060            |                                                                                    |         |                             |
| 197                     | 1718           | 2.60           | 8.92  | 2770            | 3240            | 1420            | 990             |                                                                                    |         |                             |
| 232                     | 1460           | 3.00           | 7.58  | 2770            | 3260            | 1330            | 1030            |                                                                                    |         |                             |
| 51                      | 6652           | 0.80           | 34.53 | **              | **              | **              | **              | <b>KH053-11P-112M-04E</b>                                                          | 108     | 436                         |
| 53                      | 6415           | 0.85           | 33.30 | 670             | 850             | 670             | 700             |                                                                                    |         |                             |
| 56                      | 6061           | 0.90           | 31.46 | 970             | 1460            | 970             | 720             |                                                                                    |         |                             |
| 64                      | 5277           | 1.00           | 27.39 | 1370            | 2290            | 1370            | 790             |                                                                                    |         |                             |
| 73                      | 4610           | 1.20           | 23.93 | 1600            | 2340            | 1600            | 830             |                                                                                    |         |                             |
| 74                      | 4543           | 0.85           | 23.58 | 1620            | 2180            | 1620            | 670             |                                                                                    |         |                             |
| 89                      | 3801           | 1.40           | 19.73 | 1820            | 2410            | 1820            | 900             |                                                                                    |         |                             |
| 91                      | 3728           | 1.00           | 19.35 | 1820            | 2270            | 1820            | 760             |                                                                                    |         |                             |
| 108                     | 3119           | 1.75           | 16.19 | 1930            | 2450            | 1930            | 940             |                                                                                    |         |                             |
| 117                     | 2886           | 1.30           | 14.98 | 1980            | 2360            | 1980            | 850             |                                                                                    |         |                             |
| 128                     | 2649           | 2.05           | 13.75 | 2020            | 2500            | 2020            | 990             |                                                                                    |         |                             |
| 154                     | 2196           | 1.70           | 11.40 | 2070            | 2450            | 1930            | 940             |                                                                                    |         |                             |
| 155                     | 2179           | 2.45           | 11.31 | 2070            | 2520            | 1890            | 1010            |                                                                                    |         |                             |
| 161                     | 2102           | 2.55           | 10.91 | 2090            | 2540            | 1840            | 1030            |                                                                                    |         |                             |
| 187                     | 1811           | 2.05           | 9.40  | 2110            | 2500            | 1780            | 990             |                                                                                    |         |                             |
| 196                     | 1728           | 2.90           | 8.97  | 2110            | 2560            | 1710            | 1060            |                                                                                    |         |                             |
| 228                     | 1485           | 2.50           | 7.71  | 2140            | 2520            | 1620            | 1010            |                                                                                    |         |                             |
| 268                     | 1262           | 2.90           | 6.55  | 2070            | 2560            | 1510            | 1060            |                                                                                    |         |                             |
| 83                      | 4094           | 0.90           | 21.25 | 310             | 200             | 310             | 200             | <b>KH043-11P-112M-04E</b>                                                          | 101     | 434                         |
| 101                     | 3350           | 1.10           | 17.39 | 940             | 1550            | 940             | 540             |                                                                                    |         |                             |
| 118                     | 2861           | 0.90           | 14.85 | 1150            | 1750            | 1150            | 490             |                                                                                    |         |                             |
| 124                     | 2716           | 1.35           | 14.10 | 1190            | 1870            | 1190            | 610             |                                                                                    |         |                             |
| 149                     | 2275           | 1.60           | 11.81 | 1330            | 1910            | 1330            | 650             |                                                                                    |         |                             |
| 156                     | 2162           | 1.10           | 11.22 | 1350            | 1840            | 1350            | 580             |                                                                                    |         |                             |
| 183                     | 1844           | 1.80           | 9.57  | 1420            | 1960            | 1420            | 700             |                                                                                    |         |                             |
| 190                     | 1778           | 1.85           | 9.23  | 1440            | 1960            | 1440            | 700             |                                                                                    |         |                             |
| 191                     | 1769           | 1.30           | 9.18  | 1440            | 1910            | 1440            | 650             |                                                                                    |         |                             |
| 236                     | 1433           | 1.50           | 7.44  | 1480            | 1960            | 1350            | 700             |                                                                                    |         |                             |
| 282                     | 1200           | 1.75           | 6.23  | 1510            | 1980            | 1240            | 720             |                                                                                    |         |                             |
| 348                     | 973            | 2.05           | 5.05  | 1530            | 2000            | 1120            | 740             |                                                                                    |         |                             |
| 360                     | 938            | 2.10           | 4.87  | 1510            | 2000            | 1100            | 740             |                                                                                    |         |                             |

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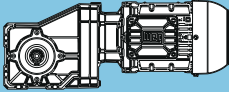
\*\* ... on request

| P <sub>N</sub> = 7.5 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|-------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                   |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub>         | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>sn</sub> | F <sub>rn</sub> | F <sub>sn</sub> |                                                                                    |         |                             |
| rpm                     | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 2.2                     | 192641         | 0.85           | 799.45 | 13060           | 22370           | 13060           | 22370           | <b>KH154-11P-132S-04E</b>                                                          | 1567    | 460                         |
| 2.3                     | 187356         | 0.90           | 779.11 | 13920           | 24190           | 13920           | 24190           |                                                                                    |         |                             |
| 2.6                     | 164907         | 1.00           | 688.57 | 16880           | 26010           | 16880           | 26010           |                                                                                    |         |                             |
| 3.0                     | 142053         | 1.15           | 595.58 | 19150           | 26460           | 19150           | 26460           |                                                                                    |         |                             |
| 3.5                     | 120255         | 1.35           | 507.30 | 20820           | 26890           | 20820           | 26890           |                                                                                    |         |                             |
| 4.0                     | 102725         | 1.60           | 436.93 | 21870           | 27220           | 21870           | 27220           |                                                                                    |         |                             |
| 4.1                     | 102185         | 1.60           | 434.63 | 21900           | 27250           | 21900           | 27250           |                                                                                    |         |                             |
| 4.2                     | 98333          | 1.65           | 419.11 | 22100           | 27310           | 22100           | 27310           |                                                                                    |         |                             |
| 4.7                     | 87944          | 1.85           | 377.93 | 22620           | 27520           | 22620           | 27520           |                                                                                    |         |                             |
| 4.8                     | 86077          | 1.90           | 369.91 | 22680           | 27540           | 22680           | 27540           |                                                                                    |         |                             |
| 4.9                     | 83826          | 1.95           | 360.98 | 22800           | 27580           | 22800           | 27580           |                                                                                    |         |                             |
| 5.5                     | 74571          | 2.15           | 323.79 | 23160           | 27760           | 23160           | 27760           |                                                                                    |         |                             |
| 5.7                     | 71760          | 2.25           | 312.23 | 23270           | 27830           | 23270           | 27830           |                                                                                    |         |                             |
| 6.4                     | 62554          | 2.55           | 275.58 | 23560           | 28010           | 23560           | 28010           |                                                                                    |         |                             |
| 6.6                     | 60540          | 2.65           | 267.26 | 23630           | 28060           | 23630           | 28060           |                                                                                    |         |                             |
| 6.7                     | 59110          | 2.70           | 261.49 | 23670           | 28080           | 23670           | 28080           |                                                                                    |         |                             |
| 2.8                     | 149599         | 0.80           | 619.56 | **              | **              | **              | **              | <b>KH124-11P-132S-04E</b>                                                          | 1008    | 456                         |
| 2.9                     | 145284         | 0.80           | 602.92 | **              | **              | **              | **              |                                                                                    |         |                             |
| 3.3                     | 129904         | 0.90           | 540.20 | 14410           | 18590           | 14410           | 18590           |                                                                                    |         |                             |
| 3.4                     | 124596         | 0.95           | 519.19 | 14950           | 18730           | 14950           | 18730           |                                                                                    |         |                             |
| 3.8                     | 111210         | 1.05           | 465.31 | 16120           | 19090           | 16120           | 19090           |                                                                                    |         |                             |
| 4.0                     | 106791         | 1.10           | 446.82 | 16460           | 19200           | 16460           | 19200           |                                                                                    |         |                             |
| 4.4                     | 95180          | 1.25           | 400.70 | 17270           | 19490           | 17270           | 19490           |                                                                                    |         |                             |
| 4.6                     | 91423          | 1.30           | 384.88 | 17490           | 19580           | 17490           | 19580           |                                                                                    |         |                             |
| 4.7                     | 89552          | 1.30           | 377.78 | 17600           | 19630           | 17600           | 19630           |                                                                                    |         |                             |
| 5.3                     | 78082          | 1.50           | 331.43 | 18230           | 19920           | 18230           | 19920           |                                                                                    |         |                             |
| 5.4                     | 77601          | 1.50           | 329.39 | 18250           | 19940           | 18250           | 19940           |                                                                                    |         |                             |
| 5.5                     | 75004          | 1.55           | 319.02 | 18390           | 20010           | 18390           | 20010           |                                                                                    |         |                             |
| 5.7                     | 72175          | 1.60           | 307.62 | 18520           | 20080           | 18520           | 20080           |                                                                                    |         |                             |
| 6.2                     | 66296          | 1.75           | 283.73 | 18770           | 20230           | 18770           | 20230           |                                                                                    |         |                             |
| 6.3                     | 65873          | 1.75           | 281.92 | 18790           | 20230           | 18790           | 20230           |                                                                                    |         |                             |
| 6.6                     | 62414          | 1.85           | 268.22 | 18930           | 20320           | 18930           | 20320           |                                                                                    |         |                             |
| 6.7                     | 61027          | 1.90           | 262.80 | 18970           | 20370           | 18970           | 20370           |                                                                                    |         |                             |
| 7.2                     | 56504          | 2.05           | 244.33 | 19130           | 20480           | 19130           | 20480           |                                                                                    |         |                             |
| 7.4                     | 55293          | 2.10           | 239.59 | 19180           | 20500           | 19180           | 20500           |                                                                                    |         |                             |
| 7.6                     | 53210          | 2.20           | 231.04 | 19240           | 20570           | 19240           | 20570           |                                                                                    |         |                             |
| 7.7                     | 52663          | 2.20           | 229.14 | 19270           | 20570           | 19270           | 20570           |                                                                                    |         |                             |
| 8.6                     | 47027          | 2.45           | 206.32 | 19420           | 20730           | 19420           | 20730           |                                                                                    |         |                             |
| 8.9                     | 45160          | 2.55           | 198.95 | 19490           | 20770           | 19490           | 20770           |                                                                                    |         |                             |
| 12                      | 39801          | 2.90           | 151.11 | 19630           | 20910           | 19630           | 20910           | <b>KH123-11P-132S-04E</b>                                                          | 955     | 454                         |
| 4.6                     | 92436          | 0.80           | 382.82 | **              | **              | **              | **              | <b>KH104-11P-132S-04E</b>                                                          | 736     | 452                         |
| 4.8                     | 88312          | 0.85           | 366.49 | 7460            | 12360           | 7460            | 12360           |                                                                                    |         |                             |
| 4.9                     | 86536          | 0.85           | 359.12 | 7820            | 13040           | 7820            | 13040           |                                                                                    |         |                             |
| 5.6                     | 75990          | 0.95           | 316.65 | 9580            | 13330           | 9580            | 13330           |                                                                                    |         |                             |
| 5.7                     | 74812          | 0.95           | 311.74 | 9730            | 13380           | 9730            | 13380           |                                                                                    |         |                             |
| 6.5                     | 64439          | 1.10           | 270.17 | 10970           | 13670           | 10970           | 13670           |                                                                                    |         |                             |
| 6.6                     | 64241          | 1.15           | 269.34 | 10990           | 13670           | 10990           | 13670           |                                                                                    |         |                             |
| 6.7                     | 62686          | 1.15           | 262.82 | 11150           | 13710           | 11150           | 13710           |                                                                                    |         |                             |
| 7.0                     | 60325          | 1.20           | 253.44 | 11380           | 13780           | 11380           | 13780           |                                                                                    |         |                             |
| 7.6                     | 55334          | 1.30           | 233.43 | 11820           | 13940           | 11820           | 13940           |                                                                                    |         |                             |
| 7.7                     | 54083          | 1.35           | 228.15 | 11910           | 13980           | 11910           | 13980           |                                                                                    |         |                             |
| 8.0                     | 52044          | 1.40           | 220.00 | 12070           | 14030           | 12070           | 14030           |                                                                                    |         |                             |
| 8.2                     | 51218          | 1.40           | 216.51 | 12140           | 14050           | 12140           | 14050           |                                                                                    |         |                             |
| 9.0                     | 46344          | 1.55           | 197.12 | 12480           | 14210           | 12480           | 14210           |                                                                                    |         |                             |
| 9.3                     | 44597          | 1.60           | 190.08 | 12590           | 14250           | 12590           | 14250           |                                                                                    |         |                             |
| 9.4                     | 44098          | 1.65           | 187.95 | 12630           | 14280           | 12630           | 14280           |                                                                                    |         |                             |
| 11                      | 37710          | 1.90           | 162.39 | 12990           | 14460           | 12990           | 14460           |                                                                                    |         |                             |

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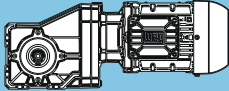
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**P<sub>N</sub> = 7.5 hp**

| 60 Hz           |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>an</sub> | F <sub>rn</sub> | F <sub>an</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| <b>13</b>       | 37125          | 1.95           | 140.95 | 13020           | 14480           | 13020           | 14480           | <b>KH103-11P-132S-04E</b>                                                          | 683     | 450                         |
| <b>14</b>       | 32792          | 2.20           | 124.50 | 13220           | 14590           | 13220           | 14590           |                                                                                    |         |                             |
| <b>16</b>       | 28465          | 2.50           | 108.07 | 13400           | 14720           | 13400           | 14720           |                                                                                    |         |                             |
| <b>17</b>       | 27448          | 2.60           | 104.21 | 13440           | 14750           | 13440           | 14750           |                                                                                    |         |                             |
| <b>19</b>       | 24593          | 2.90           | 93.37  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                             |
| <b>8.7</b>      | 48844          | 0.85           | 202.70 | 4270            | 6970            | 4270            | 6970            | <b>KH094-11P-132S-04E</b>                                                          | 452     | 448                         |
| <b>9.1</b>      | 46729          | 0.90           | 194.32 | 4860            | 8210            | 4860            | 8210            |                                                                                    |         |                             |
| <b>9.4</b>      | 45060          | 0.90           | 187.38 | 5260            | 8660            | 5260            | 8660            |                                                                                    |         |                             |
| <b>11</b>       | 39344          | 1.05           | 164.28 | 6340            | 8830            | 6340            | 8830            |                                                                                    |         |                             |
| <b>10</b>       | 44579          | 0.90           | 169.25 | 5350            | 8680            | 5350            | 8680            | <b>KH093-11P-132S-04E</b>                                                          | 423     | 446                         |
| <b>12</b>       | 37686          | 1.10           | 143.08 | 6590            | 8900            | 6590            | 8900            |                                                                                    |         |                             |
| <b>14</b>       | 32624          | 1.25           | 123.86 | 7260            | 9060            | 7260            | 9060            |                                                                                    |         |                             |
| <b>16</b>       | 28894          | 1.40           | 109.70 | 7670            | 9170            | 7670            | 9170            |                                                                                    |         |                             |
| <b>19</b>       | 24996          | 1.60           | 94.90  | 8030            | 9310            | 8030            | 9310            |                                                                                    |         |                             |
| <b>22</b>       | 21266          | 1.90           | 80.74  | 8300            | 9420            | 8300            | 9420            |                                                                                    |         |                             |
| <b>26</b>       | 18098          | 2.25           | 68.71  | 8480            | 9530            | 8480            | 9530            |                                                                                    |         |                             |
| <b>28</b>       | 16846          | 2.40           | 63.96  | 8540            | 9580            | 8540            | 9580            |                                                                                    |         |                             |
| <b>30</b>       | 15614          | 2.60           | 59.28  | 8610            | 9600            | 8610            | 9600            |                                                                                    |         |                             |
| <b>33</b>       | 14242          | 2.80           | 54.07  | 8680            | 9640            | 8680            | 9640            |                                                                                    |         |                             |
| <b>48</b>       | 9780           | 2.55           | 37.13  | 8830            | 9690            | 8830            | 9690            |                                                                                    |         |                             |
| <b>14</b>       | 33161          | 0.85           | 125.90 | 2180            | 3100            | 2180            | 1550            | <b>KH083-11P-132S-04E</b>                                                          | 313     | 442                         |
| <b>17</b>       | 28041          | 0.95           | 106.46 | 3980            | 6900            | 3980            | 1750            |                                                                                    |         |                             |
| <b>19</b>       | 24103          | 1.15           | 91.51  | 4810            | 8720            | 4810            | 1910            |                                                                                    |         |                             |
| <b>22</b>       | 21042          | 1.30           | 79.89  | 5310            | 9330            | 5310            | 2020            |                                                                                    |         |                             |
| <b>26</b>       | 18026          | 1.50           | 68.44  | 5690            | 9440            | 5580            | 2140            |                                                                                    |         |                             |
| <b>27</b>       | 17384          | 1.55           | 66.00  | 5760            | 9460            | 5460            | 2160            |                                                                                    |         |                             |
| <b>28</b>       | 16625          | 1.55           | 63.12  | 5820            | 9490            | 5350            | 2180            |                                                                                    |         |                             |
| <b>30</b>       | 15343          | 1.75           | 58.25  | 5960            | 9530            | 5150            | 2230            |                                                                                    |         |                             |
| <b>32</b>       | 14515          | 1.85           | 55.11  | 6020            | 9580            | 4990            | 2270            |                                                                                    |         |                             |
| <b>36</b>       | 12872          | 2.10           | 48.87  | 6160            | 9620            | 4700            | 2320            |                                                                                    |         |                             |
| <b>39</b>       | 11979          | 1.25           | 45.48  | 6230            | 9510            | 4650            | 2200            |                                                                                    |         |                             |
| <b>43</b>       | 10849          | 2.45           | 41.19  | 6290            | 9710            | 4320            | 2410            |                                                                                    |         |                             |
| <b>49</b>       | 9479           | 1.55           | 35.99  | 6360            | 9620            | 4160            | 2320            |                                                                                    |         |                             |
| <b>50</b>       | 9327           | 2.85           | 35.41  | 6380            | 9760            | 4020            | 2450            |                                                                                    |         |                             |
| <b>56</b>       | 8278           | 2.05           | 31.43  | 6430            | 9690            | 3890            | 2380            |                                                                                    |         |                             |
| <b>64</b>       | 7317           | 2.30           | 27.78  | 6470            | 9730            | 3660            | 2430            |                                                                                    |         |                             |
| <b>75</b>       | 6187           | 2.75           | 23.49  | 6520            | 9800            | 3390            | 2500            |                                                                                    |         |                             |
| <b>27</b>       | 17034          | 0.85           | 64.67  | 2520            | 3370            | 2520            | 850             | <b>KH073-11P-132S-04E</b>                                                          | 223     | 440                         |
| <b>29</b>       | 16133          | 0.90           | 61.25  | 2810            | 3420            | 2810            | 900             |                                                                                    |         |                             |
| <b>34</b>       | 13623          | 1.05           | 51.72  | 3420            | 3550            | 3420            | 1030            |                                                                                    |         |                             |
| <b>35</b>       | 13138          | 1.05           | 49.88  | 3510            | 3570            | 3510            | 1060            |                                                                                    |         |                             |
| <b>41</b>       | 11223          | 1.25           | 42.61  | 3840            | 3690            | 3510            | 1150            |                                                                                    |         |                             |
| <b>45</b>       | 10317          | 1.35           | 39.17  | 3960            | 3730            | 3370            | 1190            |                                                                                    |         |                             |
| <b>54</b>       | 8534           | 1.65           | 32.40  | 4180            | 3820            | 3060            | 1280            |                                                                                    |         |                             |
| <b>57</b>       | 8110           | 1.00           | 30.79  | 4230            | 3620            | 3100            | 1100            |                                                                                    |         |                             |
| <b>64</b>       | 7259           | 1.90           | 27.56  | 4290            | 3890            | 2790            | 1350            |                                                                                    |         |                             |
| <b>73</b>       | 6366           | 1.30           | 24.17  | 4360            | 3750            | 2720            | 1240            |                                                                                    |         |                             |
| <b>74</b>       | 6290           | 2.20           | 23.88  | 4380            | 3930            | 2610            | 1420            |                                                                                    |         |                             |
| <b>88</b>       | 5313           | 2.60           | 20.17  | 4450            | 4000            | 2380            | 1460            |                                                                                    |         |                             |
| <b>91</b>       | 5123           | 2.70           | 19.45  | 4450            | 4000            | 2340            | 1460            |                                                                                    |         |                             |
| <b>95</b>       | 4912           | 1.65           | 18.65  | 4470            | 3890            | 2380            | 1350            |                                                                                    |         |                             |
| <b>114</b>      | 4064           | 2.00           | 15.43  | 4520            | 3960            | 2180            | 1420            |                                                                                    |         |                             |
| <b>135</b>      | 3456           | 2.35           | 13.12  | 4540            | 4000            | 2000            | 1460            |                                                                                    |         |                             |
| <b>155</b>      | 2995           | 2.70           | 11.37  | 4540            | 4020            | 1890            | 1510            |                                                                                    |         |                             |

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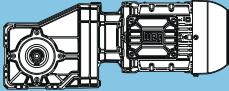


| P <sub>N</sub> = 7.5 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |                    |     |     |
|-------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|--------------------|-----|-----|
| 60 Hz                   |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |                    |     |     |
| n <sub>60</sub>         | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |                    |     |     |
| rpm                     | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |                    |     |     |
| 52                      | 8916           | 0.80           | 33.85 | **              | **              | **              | **              | KH063-11P-132S-04E                                                                 | 179     | 438                         |                    |     |     |
| 55                      | 8397           | 0.90           | 31.88 | 1480            | 2290            | 1480            | 520             |                                                                                    |         |                             |                    |     |     |
| 63                      | 7330           | 0.90           | 27.83 | 1890            | 2830            | 1890            | 610             |                                                                                    |         |                             |                    |     |     |
| 66                      | 7069           | 0.90           | 26.84 | 1980            | 2860            | 1980            | 630             |                                                                                    |         |                             |                    |     |     |
| 73                      | 6387           | 1.10           | 24.25 | 2140            | 2920            | 2140            | 670             |                                                                                    |         |                             |                    |     |     |
| 79                      | 5900           | 0.80           | 22.40 | **              | **              | **              | **              |                                                                                    |         |                             |                    |     |     |
| 80                      | 5813           | 1.05           | 22.07 | 2270            | 2970            | 2270            | 720             |                                                                                    |         |                             |                    |     |     |
| 88                      | 5268           | 1.25           | 20.00 | 2380            | 3010            | 2250            | 760             |                                                                                    |         |                             |                    |     |     |
| 102                     | 4567           | 1.00           | 17.34 | 2500            | 2900            | 2160            | 670             |                                                                                    |         |                             |                    |     |     |
| 108                     | 4320           | 1.45           | 16.40 | 2520            | 3080            | 2000            | 850             |                                                                                    |         |                             |                    |     |     |
| 127                     | 3672           | 1.60           | 13.94 | 2610            | 3120            | 1840            | 900             |                                                                                    |         |                             |                    |     |     |
| 134                     | 3474           | 1.30           | 13.19 | 2630            | 3030            | 1840            | 790             |                                                                                    |         |                             |                    |     |     |
| 154                     | 3018           | 1.85           | 11.46 | 2680            | 3190            | 1660            | 940             |                                                                                    |         |                             |                    |     |     |
| 160                     | 2910           | 1.90           | 11.05 | 2680            | 3190            | 1640            | 970             |                                                                                    |         |                             |                    |     |     |
| 162                     | 2866           | 1.55           | 10.88 | 2680            | 3100            | 1690            | 850             |                                                                                    |         |                             |                    |     |     |
| 194                     | 2394           | 2.20           | 9.09  | 2720            | 3240            | 1480            | 990             |                                                                                    |         |                             |                    |     |     |
| 198                     | 2349           | 1.90           | 8.92  | 2720            | 3170            | 1530            | 920             |                                                                                    |         |                             |                    |     |     |
| 233                     | 1997           | 2.20           | 7.58  | 2740            | 3190            | 1390            | 970             |                                                                                    |         |                             |                    |     |     |
| 283                     | 1641           | 2.50           | 6.23  | 2770            | 3240            | 1280            | 1010            |                                                                                    |         |                             |                    |     |     |
| 294                     | 1583           | 2.55           | 6.01  | 2770            | 3240            | 1260            | 1010            |                                                                                    |         |                             |                    |     |     |
| 357                     | 1301           | 2.95           | 4.94  | 2790            | 3280            | 1150            | 1030            |                                                                                    |         |                             |                    |     |     |
| 74                      | 6303           | 0.85           | 23.93 | 810             | 1120            | 810             | 700             |                                                                                    |         |                             | KH053-11P-132S-04E | 150 | 436 |
| 89                      | 5197           | 1.05           | 19.73 | 1420            | 2290            | 1420            | 790             |                                                                                    |         |                             |                    |     |     |
| 109                     | 4264           | 1.25           | 16.19 | 1710            | 2360            | 1710            | 850             |                                                                                    |         |                             |                    |     |     |
| 118                     | 3946           | 0.95           | 14.98 | 1780            | 2250            | 1780            | 740             |                                                                                    |         |                             |                    |     |     |
| 128                     | 3622           | 1.50           | 13.75 | 1840            | 2430            | 1840            | 920             |                                                                                    |         |                             |                    |     |     |
| 155                     | 3003           | 1.25           | 11.40 | 1960            | 2360            | 1960            | 850             |                                                                                    |         |                             |                    |     |     |
| 156                     | 2979           | 1.80           | 11.31 | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |                    |     |     |
| 162                     | 2874           | 1.85           | 10.91 | 1980            | 2470            | 1980            | 970             |                                                                                    |         |                             |                    |     |     |
| 188                     | 2476           | 1.50           | 9.40  | 2050            | 2410            | 1890            | 900             |                                                                                    |         |                             |                    |     |     |
| 197                     | 2363           | 2.15           | 8.97  | 2050            | 2520            | 1800            | 1010            |                                                                                    |         |                             |                    |     |     |
| 229                     | 2031           | 1.85           | 7.71  | 2090            | 2470            | 1730            | 970             |                                                                                    |         |                             |                    |     |     |
| 269                     | 1725           | 2.15           | 6.55  | 2110            | 2500            | 1600            | 990             |                                                                                    |         |                             |                    |     |     |
| 327                     | 1420           | 2.60           | 5.39  | 1980            | 2540            | 1460            | 1030            |                                                                                    |         |                             |                    |     |     |
| 340                     | 1367           | 2.70           | 5.19  | 1960            | 2540            | 1440            | 1030            |                                                                                    |         |                             |                    |     |     |

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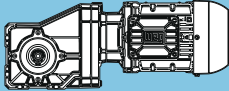
\*\* ... on request



| P <sub>N</sub> = 10 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>an</sub> | F <sub>rn</sub> | F <sub>an</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 3.0                    | 195149         | 0.85           | 595.58 | 12520           | 21240           | 12520           | 21240           | KH154-11P-L132M-04F                                                                | 1598    | 460                         |
| 3.5                    | 165544         | 1.00           | 507.30 | 16770           | 25990           | 16770           | 25990           |                                                                                    |         |                             |
| 4.1                    | 141707         | 1.15           | 436.93 | 19150           | 26460           | 19150           | 26460           |                                                                                    |         |                             |
| 4.2                    | 135649         | 1.20           | 419.11 | 19650           | 26570           | 19650           | 26570           |                                                                                    |         |                             |
| 4.7                    | 121820         | 1.35           | 377.93 | 20680           | 26840           | 20680           | 26840           |                                                                                    |         |                             |
| 4.8                    | 118990         | 1.35           | 369.91 | 20860           | 26910           | 20860           | 26910           |                                                                                    |         |                             |
| 4.9                    | 116118         | 1.40           | 360.98 | 21060           | 26950           | 21060           | 26950           |                                                                                    |         |                             |
| 5.5                    | 103514         | 1.55           | 323.79 | 21810           | 27200           | 21810           | 27200           |                                                                                    |         |                             |
| 5.6                    | 101855         | 1.60           | 318.60 | 21900           | 27250           | 21900           | 27250           |                                                                                    |         |                             |
| 5.7                    | 99613          | 1.60           | 312.23 | 22030           | 27290           | 22030           | 27290           |                                                                                    |         |                             |
| 6.4                    | 87199          | 1.85           | 275.58 | 22640           | 27520           | 22640           | 27520           |                                                                                    |         |                             |
| 6.6                    | 84392          | 1.90           | 267.26 | 22750           | 27580           | 22750           | 27580           |                                                                                    |         |                             |
| 6.8                    | 82570          | 1.95           | 261.49 | 22840           | 27610           | 22840           | 27610           |                                                                                    |         |                             |
| 7.7                    | 72245          | 2.25           | 231.17 | 23250           | 27810           | 23250           | 27810           |                                                                                    |         |                             |
| 7.9                    | 70240          | 2.30           | 225.22 | 23310           | 27850           | 23310           | 27850           |                                                                                    |         |                             |
| 9.1                    | 60002          | 2.70           | 194.80 | 23630           | 28060           | 23630           | 28060           |                                                                                    |         |                             |
| 3.8                    | 152777         | 0.80           | 465.31 | **              | **              | **              | **              |                                                                                    |         |                             |
| 4.0                    | 146706         | 0.80           | 446.82 | **              | **              | **              | **              |                                                                                    |         |                             |
| 4.1                    | 142828         | 0.85           | 435.90 | 12860           | 18250           | 12860           | 18250           |                                                                                    |         |                             |
| 4.4                    | 131026         | 0.90           | 400.70 | 14250           | 18570           | 14250           | 18570           |                                                                                    |         |                             |
| 4.6                    | 125596         | 0.95           | 384.88 | 14810           | 18700           | 14810           | 18700           |                                                                                    |         |                             |
| 4.7                    | 124023         | 0.95           | 380.06 | 14950           | 18750           | 14950           | 18750           |                                                                                    |         |                             |
| 5.3                    | 107712         | 1.10           | 331.43 | 16370           | 19150           | 16370           | 19150           |                                                                                    |         |                             |
| 5.4                    | 107049         | 1.10           | 329.39 | 16410           | 19180           | 16410           | 19180           |                                                                                    |         |                             |
| 5.5                    | 103466         | 1.15           | 319.02 | 16680           | 19270           | 16680           | 19270           |                                                                                    |         |                             |
| 5.8                    | 99564          | 1.20           | 307.62 | 16950           | 19360           | 16950           | 19360           |                                                                                    |         |                             |
| 6.2                    | 91644          | 1.30           | 283.73 | 17470           | 19580           | 17470           | 19580           |                                                                                    |         |                             |
| 6.3                    | 91059          | 1.30           | 281.92 | 17510           | 19580           | 17510           | 19580           |                                                                                    |         |                             |
| 6.4                    | 89657          | 1.30           | 278.15 | 17600           | 19630           | 17600           | 19630           |                                                                                    |         |                             |
| 6.6                    | 86279          | 1.35           | 268.22 | 17780           | 19720           | 17780           | 19720           |                                                                                    |         |                             |
| 6.7                    | 84536          | 1.40           | 262.80 | 17890           | 19760           | 17890           | 19760           |                                                                                    |         |                             |
| 7.2                    | 78272          | 1.50           | 244.33 | 18210           | 19920           | 18210           | 19920           |                                                                                    |         |                             |
| 7.4                    | 76754          | 1.50           | 239.59 | 18300           | 19940           | 18300           | 19940           |                                                                                    |         |                             |
| 7.7                    | 73862          | 1.60           | 231.04 | 18430           | 20030           | 18430           | 20030           |                                                                                    |         |                             |
| 8.6                    | 65418          | 1.80           | 206.32 | 18790           | 20230           | 18790           | 20230           |                                                                                    |         |                             |
| 8.9                    | 62952          | 1.85           | 198.95 | 18880           | 20300           | 18880           | 20300           |                                                                                    |         |                             |
| 9.0                    | 62455          | 1.85           | 197.38 | 18910           | 20320           | 18910           | 20320           |                                                                                    |         |                             |
| 10                     | 53229          | 2.20           | 169.97 | 19240           | 20550           | 19240           | 20550           |                                                                                    |         |                             |
| 12                     | 54121          | 2.15           | 151.11 | 19220           | 20530           | 19220           | 20530           |                                                                                    |         |                             |
| 13                     | 47191          | 2.45           | 131.76 | 19420           | 20700           | 19420           | 20700           |                                                                                    |         |                             |
| 14                     | 45504          | 2.55           | 127.05 | 19470           | 20750           | 19470           | 20750           |                                                                                    |         |                             |
| 16                     | 40647          | 2.85           | 113.49 | 19600           | 20880           | 19600           | 20880           |                                                                                    |         |                             |
| 36                     | 17607          | 3.00           | 49.16  | 19990           | 21470           | 19990           | 21470           |                                                                                    |         |                             |
| 63                     | 10039          | 3.00           | 28.03  | 18430           | 21600           | 18430           | 21600           |                                                                                    |         |                             |
| 6.6                    | 88525          | 0.80           | 270.17 | **              | **              | **              | **              | KH104-11P-L132M-04F                                                                | 767     | 452                         |
| 6.7                    | 86116          | 0.85           | 262.82 | 7870            | 13040           | 7870            | 13040           |                                                                                    |         |                             |
| 7.0                    | 82873          | 0.90           | 253.44 | 8480            | 13130           | 8480            | 13130           |                                                                                    |         |                             |
| 7.6                    | 76174          | 0.95           | 233.43 | 9510            | 13330           | 9510            | 13330           |                                                                                    |         |                             |
| 7.8                    | 74451          | 1.00           | 228.15 | 9760            | 13380           | 9760            | 13380           |                                                                                    |         |                             |
| 8.0                    | 71645          | 1.00           | 220.00 | 10120           | 13470           | 10120           | 13470           |                                                                                    |         |                             |
| 8.2                    | 70508          | 1.05           | 216.51 | 10270           | 13490           | 10270           | 13490           |                                                                                    |         |                             |
| 9.0                    | 63931          | 1.15           | 197.12 | 11020           | 13690           | 11020           | 13690           |                                                                                    |         |                             |
| 9.3                    | 61521          | 1.20           | 190.08 | 11240           | 13760           | 11240           | 13760           |                                                                                    |         |                             |
| 9.4                    | 60832          | 1.20           | 187.95 | 11310           | 13780           | 11310           | 13780           |                                                                                    |         |                             |
| 11                     | 52237          | 1.40           | 162.39 | 12050           | 14030           | 12050           | 14030           |                                                                                    |         |                             |

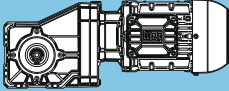
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| P <sub>N</sub> = 10 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 13                     | 50482          | 1.45           | 140.95 | 12180           | 14070           | 12180           | 14070           | <b>KH103-11P-L132M-04F</b>                                                         | 714     | 450                         |
| 14                     | 44590          | 1.60           | 124.50 | 12590           | 14250           | 12590           | 14250           |                                                                                    |         |                             |
| 16                     | 38706          | 1.85           | 108.07 | 12930           | 14410           | 12930           | 14410           |                                                                                    |         |                             |
| 17                     | 37323          | 1.90           | 104.21 | 12990           | 14460           | 12990           | 14460           |                                                                                    |         |                             |
| 19                     | 33441          | 2.15           | 93.37  | 13200           | 14570           | 13200           | 14570           |                                                                                    |         |                             |
| 22                     | 28617          | 2.50           | 79.90  | 13400           | 14700           | 13400           | 14700           |                                                                                    |         |                             |
| 26                     | 24716          | 2.90           | 69.01  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                             |
| 33                     | 19079          | 2.80           | 53.27  | 13690           | 14990           | 13690           | 14990           |                                                                                    |         |                             |
| 45                     | 14104          | 3.00           | 39.38  | 13800           | 15130           | 13800           | 15130           |                                                                                    |         |                             |
| 58                     | 10863          | 2.80           | 30.33  | 12880           | 15150           | 12880           | 15150           |                                                                                    |         |                             |
| 79                     | 8030           | 3.00           | 22.42  | 11600           | 15260           | 11600           | 15260           |                                                                                    |         |                             |
| 11                     | 52011          | 0.80           | 158.41 | **              | **              | **              | **              | <b>KH094-11P-L132M-04F</b>                                                         | 483     | 448                         |
| 12                     | 51245          | 0.80           | 143.08 | **              | **              | **              | **              | <b>KH093-11P-L132M-04F</b>                                                         | 454     | 446                         |
| 14                     | 44361          | 0.90           | 123.86 | 5370            | 8680            | 5370            | 8680            |                                                                                    |         |                             |
| 16                     | 39290          | 1.05           | 109.70 | 6320            | 8830            | 6320            | 8830            |                                                                                    |         |                             |
| 19                     | 33989          | 1.20           | 94.90  | 7080            | 9010            | 7080            | 9010            |                                                                                    |         |                             |
| 22                     | 28917          | 1.40           | 80.74  | 7670            | 9170            | 7670            | 9170            |                                                                                    |         |                             |
| 26                     | 24609          | 1.65           | 68.71  | 8050            | 9310            | 8050            | 9310            |                                                                                    |         |                             |
| 28                     | 22908          | 1.75           | 63.96  | 8160            | 9370            | 8160            | 9370            |                                                                                    |         |                             |
| 30                     | 21231          | 1.90           | 59.28  | 8300            | 9420            | 8300            | 9420            |                                                                                    |         |                             |
| 33                     | 19365          | 2.10           | 54.07  | 8410            | 9490            | 8410            | 9490            |                                                                                    |         |                             |
| 38                     | 16765          | 2.40           | 46.81  | 8540            | 9580            | 8540            | 9580            |                                                                                    |         |                             |
| 43                     | 14849          | 2.70           | 41.46  | 8660            | 9640            | 8660            | 9640            |                                                                                    |         |                             |
| 48                     | 13298          | 1.90           | 37.13  | 8720            | 9530            | 8720            | 9530            |                                                                                    |         |                             |
| 51                     | 12385          | 3.00           | 34.58  | 8750            | 9710            | 8750            | 9710            |                                                                                    |         |                             |
| 56                     | 11242          | 2.25           | 31.39  | 8790            | 9620            | 8790            | 9620            |                                                                                    |         |                             |
| 65                     | 9735           | 2.55           | 27.18  | 8830            | 9690            | 8830            | 9690            |                                                                                    |         |                             |
| 88                     | 7192           | 3.00           | 20.08  | 8900            | 9800            | 8900            | 9800            |                                                                                    |         |                             |
| 19                     | 32775          | 0.85           | 91.51  | 2340            | 3440            | 2340            | 1570            | <b>KH083-11P-L132M-04F</b>                                                         | 344     | 442                         |
| 22                     | 28613          | 0.95           | 79.89  | 3820            | 6560            | 3820            | 1730            |                                                                                    |         |                             |
| 26                     | 24512          | 1.10           | 68.44  | 4720            | 8520            | 4720            | 1890            |                                                                                    |         |                             |
| 27                     | 23638          | 1.15           | 66.00  | 4880            | 8860            | 4880            | 1910            |                                                                                    |         |                             |
| 28                     | 22607          | 1.15           | 63.12  | 5060            | 9260            | 5060            | 1960            |                                                                                    |         |                             |
| 30                     | 20863          | 1.30           | 58.25  | 5310            | 9330            | 5310            | 2020            |                                                                                    |         |                             |
| 32                     | 19738          | 1.35           | 55.11  | 5460            | 9370            | 5460            | 2070            |                                                                                    |         |                             |
| 36                     | 17503          | 1.55           | 48.87  | 5730            | 9460            | 5130            | 2160            |                                                                                    |         |                             |
| 39                     | 16289          | 0.90           | 45.48  | 5870            | 9280            | 5080            | 1980            |                                                                                    |         |                             |
| 43                     | 14752          | 1.80           | 41.19  | 6000            | 9550            | 4680            | 2250            |                                                                                    |         |                             |
| 49                     | 12890          | 1.15           | 35.99  | 6160            | 9460            | 4500            | 2160            |                                                                                    |         |                             |
| 50                     | 12682          | 2.10           | 35.41  | 6160            | 9640            | 4320            | 2340            |                                                                                    |         |                             |
| 56                     | 11257          | 1.55           | 31.43  | 6270            | 9530            | 4180            | 2230            |                                                                                    |         |                             |
| 57                     | 11071          | 2.40           | 30.91  | 6270            | 9690            | 4050            | 2380            |                                                                                    |         |                             |
| 64                     | 9950           | 1.70           | 27.78  | 6340            | 9600            | 3930            | 2290            |                                                                                    |         |                             |
| 67                     | 9484           | 2.80           | 26.48  | 6360            | 9760            | 3750            | 2450            |                                                                                    |         |                             |
| 69                     | 9147           | 2.85           | 25.54  | 6380            | 9780            | 3690            | 2470            |                                                                                    |         |                             |
| 75                     | 8413           | 2.05           | 23.49  | 6430            | 9690            | 3620            | 2380            |                                                                                    |         |                             |
| 88                     | 7231           | 2.35           | 20.19  | 6470            | 9730            | 3370            | 2430            |                                                                                    |         |                             |
| 100                    | 6314           | 2.75           | 17.63  | 6520            | 9800            | 3170            | 2500            |                                                                                    |         |                             |
| 122                    | 5215           | 3.00           | 14.56  | 6540            | 9850            | 2900            | 2540            |                                                                                    |         |                             |

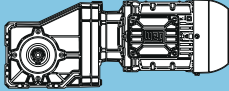
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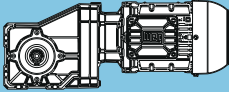
| <b>P<sub>N</sub> = 10 hp</b> |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                        |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>              | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                          | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 35                           | 18176          | 0.80           | 50.75 | **              | **              | **              | **              | KH073-11P-L132M-04F                                                                | 254     | 440                         |
| 42                           | 15261          | 0.90           | 42.61 | 3030            | 3460            | 2920            | 940             |                                                                                    |         |                             |
| 45                           | 14029          | 1.00           | 39.17 | 3330            | 3530            | 2970            | 1010            |                                                                                    |         |                             |
| 55                           | 11604          | 1.20           | 32.40 | 3780            | 3660            | 2990            | 1120            |                                                                                    |         |                             |
| 64                           | 9871           | 1.40           | 27.56 | 4020            | 3750            | 2990            | 1210            |                                                                                    |         |                             |
| 73                           | 8657           | 0.95           | 24.17 | 4160            | 3570            | 2790            | 1060            |                                                                                    |         |                             |
| 74                           | 8553           | 1.65           | 23.88 | 4180            | 3820            | 2830            | 1280            |                                                                                    |         |                             |
| 88                           | 7224           | 1.90           | 20.17 | 4290            | 3890            | 2590            | 1370            |                                                                                    |         |                             |
| 91                           | 6966           | 2.00           | 19.45 | 4320            | 3910            | 2540            | 1370            |                                                                                    |         |                             |
| 95                           | 6680           | 1.25           | 18.65 | 4340            | 3730            | 2610            | 1210            |                                                                                    |         |                             |
| 107                          | 5949           | 2.35           | 16.61 | 4410            | 3960            | 2340            | 1440            |                                                                                    |         |                             |
| 115                          | 5526           | 1.50           | 15.43 | 4430            | 3820            | 2340            | 1300            |                                                                                    |         |                             |
| 135                          | 4699           | 1.75           | 13.12 | 4470            | 3890            | 2160            | 1370            |                                                                                    |         |                             |
| 156                          | 4072           | 2.00           | 11.37 | 4520            | 3960            | 2000            | 1420            |                                                                                    |         |                             |
| 184                          | 3438           | 2.35           | 9.60  | 4540            | 4000            | 1840            | 1460            |                                                                                    |         |                             |
| 191                          | 3317           | 2.45           | 9.26  | 4540            | 4000            | 1820            | 1480            |                                                                                    |         |                             |
| 224                          | 2833           | 2.85           | 7.91  | 4560            | 4050            | 1690            | 1510            |                                                                                    |         |                             |
| 73                           | 8685           | 0.80           | 24.25 | **              | **              | **              | **              | KH063-11P-L132M-04F                                                                | 209     | 438                         |
| 89                           | 7163           | 0.95           | 20.00 | 1930            | 2860            | 1930            | 610             |                                                                                    |         |                             |
| 108                          | 5874           | 1.05           | 16.40 | 2250            | 2940            | 2050            | 720             |                                                                                    |         |                             |
| 127                          | 4993           | 1.20           | 13.94 | 2430            | 3030            | 2020            | 790             |                                                                                    |         |                             |
| 134                          | 4724           | 0.95           | 13.19 | 2470            | 2900            | 1930            | 650             |                                                                                    |         |                             |
| 154                          | 4104           | 1.35           | 11.46 | 2540            | 3100            | 1820            | 850             |                                                                                    |         |                             |
| 160                          | 3958           | 1.40           | 11.05 | 2560            | 3100            | 1780            | 880             |                                                                                    |         |                             |
| 163                          | 3897           | 1.15           | 10.88 | 2590            | 2990            | 1840            | 740             |                                                                                    |         |                             |
| 195                          | 3256           | 1.60           | 9.09  | 2650            | 3170            | 1620            | 920             |                                                                                    |         |                             |
| 198                          | 3195           | 1.40           | 8.92  | 2650            | 3060            | 1640            | 830             |                                                                                    |         |                             |
| 234                          | 2715           | 1.60           | 7.58  | 2700            | 3120            | 1510            | 880             |                                                                                    |         |                             |
| 284                          | 2231           | 1.85           | 6.23  | 2740            | 3170            | 1370            | 940             |                                                                                    |         |                             |
| 295                          | 2153           | 1.90           | 6.01  | 2740            | 3190            | 1350            | 940             |                                                                                    |         |                             |
| 358                          | 1769           | 2.15           | 4.94  | 2770            | 3240            | 1210            | 990             |                                                                                    |         |                             |
| 90                           | 7066           | 0.80           | 19.73 | **              | **              | **              | **              | KH053-11P-L132M-04F                                                                | 181     | 436                         |
| 109                          | 5799           | 0.95           | 16.19 | 1120            | 1800            | 1120            | 740             |                                                                                    |         |                             |
| 129                          | 4925           | 1.10           | 13.75 | 1510            | 2320            | 1510            | 810             |                                                                                    |         |                             |
| 155                          | 4083           | 0.90           | 11.40 | 1750            | 2230            | 1750            | 720             |                                                                                    |         |                             |
| 156                          | 4051           | 1.35           | 11.31 | 1750            | 2380            | 1750            | 880             |                                                                                    |         |                             |
| 162                          | 3907           | 1.40           | 10.91 | 1800            | 2410            | 1800            | 900             |                                                                                    |         |                             |
| 188                          | 3367           | 1.10           | 9.40  | 1910            | 2320            | 1910            | 810             |                                                                                    |         |                             |
| 197                          | 3213           | 1.60           | 8.97  | 1930            | 2450            | 1930            | 940             |                                                                                    |         |                             |
| 230                          | 2761           | 1.35           | 7.71  | 2000            | 2380            | 1840            | 880             |                                                                                    |         |                             |
| 270                          | 2346           | 1.60           | 6.55  | 2050            | 2430            | 1710            | 920             |                                                                                    |         |                             |
| 328                          | 1930           | 1.90           | 5.39  | 2070            | 2470            | 1550            | 970             |                                                                                    |         |                             |
| 341                          | 1859           | 2.00           | 5.19  | 2020            | 2500            | 1530            | 990             |                                                                                    |         |                             |
| 415                          | 1529           | 2.40           | 4.27  | 1870            | 2520            | 1390            | 1010            |                                                                                    |         |                             |

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| P <sub>N</sub> = 12.5 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|--------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                    |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>          | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                      | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 3.5                      | 204897         | 0.80           | 507.30 | **              | **              | **              | **              | <b>KH154-11P-L132M-04G</b>                                                         | 1609    | 460                         |
| 4.0                      | 175754         | 0.95           | 436.93 | 15490           | 25790           | 15490           | 25790           |                                                                                    |         |                             |
| 4.1                      | 174471         | 0.95           | 434.63 | 15670           | 25810           | 15670           | 25810           |                                                                                    |         |                             |
| 4.2                      | 168241         | 0.95           | 419.11 | 16430           | 25940           | 16430           | 25940           |                                                                                    |         |                             |
| 4.7                      | 151090         | 1.10           | 377.93 | 18280           | 26280           | 18280           | 26280           |                                                                                    |         |                             |
| 4.8                      | 147884         | 1.10           | 369.91 | 18590           | 26350           | 18590           | 26350           |                                                                                    |         |                             |
| 4.9                      | 144019         | 1.15           | 360.98 | 18930           | 26420           | 18930           | 26420           |                                                                                    |         |                             |
| 5.5                      | 128652         | 1.25           | 323.79 | 20190           | 26710           | 20190           | 26710           |                                                                                    |         |                             |
| 5.7                      | 123805         | 1.30           | 312.23 | 20550           | 26800           | 20550           | 26800           |                                                                                    |         |                             |
| 6.4                      | 108601         | 1.50           | 275.58 | 21510           | 27110           | 21510           | 27110           |                                                                                    |         |                             |
| 6.6                      | 105105         | 1.55           | 267.26 | 21720           | 27180           | 21720           | 27180           |                                                                                    |         |                             |
| 6.7                      | 102836         | 1.55           | 261.49 | 21850           | 27220           | 21850           | 27220           |                                                                                    |         |                             |
| 7.6                      | 90166          | 1.80           | 231.17 | 22480           | 27470           | 22480           | 27470           |                                                                                    |         |                             |
| 7.8                      | 87665          | 1.85           | 225.22 | 22620           | 27520           | 22620           | 27520           |                                                                                    |         |                             |
| 9.1                      | 75045          | 2.15           | 194.80 | 23130           | 27760           | 23130           | 27760           |                                                                                    |         |                             |
| 4.7                      | 152584         | 0.80           | 377.78 | **              | **              | **              | **              | <b>KH124-11P-L132M-04G</b>                                                         | 1049    | 456                         |
| 5.3                      | 133317         | 0.90           | 331.43 | 13980           | 18500           | 13980           | 18500           |                                                                                    |         |                             |
| 5.4                      | 132496         | 0.90           | 329.39 | 14070           | 18520           | 14070           | 18520           |                                                                                    |         |                             |
| 5.5                      | 128325         | 0.90           | 319.02 | 14520           | 18640           | 14520           | 18640           |                                                                                    |         |                             |
| 5.7                      | 123486         | 0.95           | 307.62 | 14990           | 18750           | 14990           | 18750           |                                                                                    |         |                             |
| 6.2                      | 113663         | 1.05           | 283.73 | 15890           | 19000           | 15890           | 19000           |                                                                                    |         |                             |
| 6.3                      | 112938         | 1.05           | 281.92 | 15940           | 19020           | 15940           | 19020           |                                                                                    |         |                             |
| 6.6                      | 107230         | 1.10           | 268.22 | 16390           | 19180           | 16390           | 19180           |                                                                                    |         |                             |
| 6.7                      | 104848         | 1.10           | 262.80 | 16570           | 19220           | 16570           | 19220           |                                                                                    |         |                             |
| 7.2                      | 97280          | 1.20           | 244.33 | 17110           | 19420           | 17110           | 19420           |                                                                                    |         |                             |
| 7.4                      | 95392          | 1.25           | 239.59 | 17240           | 19470           | 17240           | 19470           |                                                                                    |         |                             |
| 7.6                      | 91800          | 1.30           | 231.04 | 17470           | 19560           | 17470           | 19560           |                                                                                    |         |                             |
| 7.7                      | 91045          | 1.30           | 229.14 | 17510           | 19580           | 17510           | 19580           |                                                                                    |         |                             |
| 8.6                      | 81474          | 1.45           | 206.32 | 18050           | 19830           | 18050           | 19830           |                                                                                    |         |                             |
| 8.9                      | 78402          | 1.50           | 198.95 | 18210           | 19920           | 18210           | 19920           |                                                                                    |         |                             |
| 10                       | 66433          | 1.75           | 169.97 | 18750           | 20210           | 18750           | 20210           |                                                                                    |         |                             |
| 12                       | 66576          | 1.75           | 151.11 | 18750           | 20210           | 18750           | 20210           |                                                                                    |         |                             |
| 13                       | 58051          | 2.00           | 131.76 | 19060           | 20440           | 19060           | 20440           |                                                                                    |         |                             |
| 14                       | 55976          | 2.10           | 127.05 | 19150           | 20480           | 19150           | 20480           |                                                                                    |         |                             |
| 16                       | 50002          | 2.35           | 113.49 | 19330           | 20640           | 19330           | 20640           |                                                                                    |         |                             |
| 18                       | 43058          | 2.70           | 97.73  | 19540           | 20820           | 19540           | 20820           |                                                                                    |         |                             |
| 36                       | 21659          | 2.45           | 49.16  | 19940           | 21360           | 19940           | 21360           |                                                                                    |         |                             |
| 63                       | 12350          | 2.45           | 28.03  | 18590           | 21540           | 18590           | 21540           |                                                                                    |         |                             |
| 7.6                      | 94281          | 0.80           | 233.43 | **              | **              | **              | **              | <b>KH104-11P-L132M-04G</b>                                                         | 778     | 452                         |
| 7.7                      | 92149          | 0.80           | 228.15 | **              | **              | **              | **              |                                                                                    |         |                             |
| 8.0                      | 88676          | 0.80           | 220.00 | **              | **              | **              | **              |                                                                                    |         |                             |
| 8.2                      | 87269          | 0.85           | 216.51 | 7620            | 12700           | 7620            | 12700           |                                                                                    |         |                             |
| 9.0                      | 79291          | 0.90           | 197.12 | 9040            | 13240           | 9040            | 13240           |                                                                                    |         |                             |
| 9.3                      | 76303          | 0.95           | 190.08 | 9490            | 13310           | 9490            | 13310           |                                                                                    |         |                             |
| 9.4                      | 75448          | 0.95           | 187.95 | 9620            | 13350           | 9620            | 13350           |                                                                                    |         |                             |
| 11                       | 64788          | 1.10           | 162.39 | 10900           | 13650           | 10900           | 13650           |                                                                                    |         |                             |
| 13                       | 62100          | 1.15           | 140.95 | 11200           | 13740           | 11200           | 13740           |                                                                                    |         |                             |
| 14                       | 54852          | 1.30           | 124.50 | 11850           | 13940           | 11850           | 13940           |                                                                                    |         |                             |
| 16                       | 47614          | 1.50           | 108.07 | 12390           | 14160           | 12390           | 14160           |                                                                                    |         |                             |
| 17                       | 45913          | 1.55           | 104.21 | 12500           | 14210           | 12500           | 14210           |                                                                                    |         |                             |
| 19                       | 41137          | 1.75           | 93.37  | 12790           | 14340           | 12790           | 14340           |                                                                                    |         |                             |
| 22                       | 35202          | 2.05           | 79.90  | 13110           | 14520           | 13110           | 14520           |                                                                                    |         |                             |
| 26                       | 30405          | 2.35           | 69.01  | 13310           | 14660           | 13310           | 14660           |                                                                                    |         |                             |
| 33                       | 23470          | 2.25           | 53.27  | 13560           | 14860           | 13560           | 14860           |                                                                                    |         |                             |
| 45                       | 17350          | 2.45           | 39.38  | 13740           | 15040           | 13740           | 15040           |                                                                                    |         |                             |
| 58                       | 13363          | 2.25           | 30.33  | 13040           | 15060           | 13040           | 15060           |                                                                                    |         |                             |
| 79                       | 9878           | 2.45           | 22.42  | 11740           | 15200           | 11740           | 15200           |                                                                                    |         |                             |

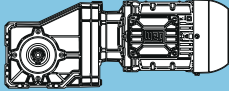
**P<sub>N</sub> = 12.5 hp**

| 60 Hz           |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 16              | 48332          | 0.85           | 109.70 | 4380            | 7190            | 4380            | 7190            | <b>KH093-11P-L132M-04G</b>                                                         | 465     | 446                         |
| 19              | 41811          | 1.00           | 94.90  | 5890            | 8750            | 5890            | 8750            |                                                                                    |         |                             |
| 22              | 35573          | 1.15           | 80.74  | 6880            | 8970            | 6880            | 8970            |                                                                                    |         |                             |
| 26              | 30272          | 1.35           | 68.71  | 7510            | 9130            | 7510            | 9130            |                                                                                    |         |                             |
| 28              | 28180          | 1.45           | 63.96  | 7730            | 9190            | 7730            | 9190            |                                                                                    |         |                             |
| 30              | 26118          | 1.55           | 59.28  | 7910            | 9260            | 7910            | 9260            |                                                                                    |         |                             |
| 33              | 23822          | 1.70           | 54.07  | 8090            | 9350            | 8090            | 9350            |                                                                                    |         |                             |
| 38              | 20624          | 1.95           | 46.81  | 8320            | 9440            | 8320            | 9440            |                                                                                    |         |                             |
| 43              | 18267          | 2.20           | 41.46  | 8480            | 9530            | 8480            | 9530            |                                                                                    |         |                             |
| 48              | 16359          | 1.55           | 37.13  | 8570            | 9400            | 8570            | 9400            |                                                                                    |         |                             |
| 49              | 15799          | 2.55           | 35.86  | 8610            | 9600            | 8610            | 9600            |                                                                                    |         |                             |
| 51              | 15235          | 2.45           | 34.58  | 8630            | 9620            | 8630            | 9620            |                                                                                    |         |                             |
| 56              | 13830          | 1.80           | 31.39  | 8700            | 9510            | 8700            | 9510            |                                                                                    |         |                             |
| 58              | 13442          | 3.00           | 30.51  | 8700            | 9690            | 8700            | 9690            |                                                                                    |         |                             |
| 65              | 11975          | 2.10           | 27.18  | 8770            | 9580            | 8770            | 9580            |                                                                                    |         |                             |
| 73              | 10605          | 2.50           | 24.07  | 8810            | 9640            | 8810            | 9640            |                                                                                    |         |                             |
| 85              | 9173           | 2.90           | 20.82  | 8860            | 9710            | 8860            | 9710            |                                                                                    |         |                             |
| 88              | 8847           | 2.45           | 20.08  | 8860            | 9710            | 8860            | 9710            |                                                                                    |         |                             |
| 22              | 35198          | 0.80           | 79.89  | **              | **              | **              | **              | <b>KH083-11P-L132M-04G</b>                                                         | 355     | 442                         |
| 26              | 30153          | 0.90           | 68.44  | 3350            | 5550            | 3350            | 1660            |                                                                                    |         |                             |
| 27              | 29078          | 0.95           | 66.00  | 3690            | 6270            | 3690            | 1710            |                                                                                    |         |                             |
| 28              | 27810          | 0.95           | 63.12  | 4020            | 6990            | 4020            | 1750            |                                                                                    |         |                             |
| 30              | 25664          | 1.05           | 58.25  | 4500            | 8030            | 4500            | 1840            |                                                                                    |         |                             |
| 32              | 24280          | 1.10           | 55.11  | 4770            | 8610            | 4770            | 1890            |                                                                                    |         |                             |
| 36              | 21531          | 1.25           | 48.87  | 5220            | 9310            | 5220            | 2000            |                                                                                    |         |                             |
| 43              | 18148          | 1.50           | 41.19  | 5670            | 9420            | 4970            | 2110            |                                                                                    |         |                             |
| 49              | 15857          | 0.95           | 35.99  | 5890            | 9310            | 4790            | 2000            |                                                                                    |         |                             |
| 50              | 15601          | 1.75           | 35.41  | 5930            | 9530            | 4590            | 2230            |                                                                                    |         |                             |
| 56              | 13847          | 1.25           | 31.43  | 6070            | 9400            | 4450            | 2090            |                                                                                    |         |                             |
| 57              | 13618          | 1.95           | 30.91  | 6090            | 9600            | 4270            | 2290            |                                                                                    |         |                             |
| 64              | 12239          | 1.40           | 27.78  | 6200            | 9490            | 4160            | 2180            |                                                                                    |         |                             |
| 67              | 11667          | 2.30           | 26.48  | 6250            | 9670            | 3930            | 2360            |                                                                                    |         |                             |
| 69              | 11252          | 2.35           | 25.54  | 6270            | 9690            | 3870            | 2380            |                                                                                    |         |                             |
| 75              | 10349          | 1.65           | 23.49  | 6320            | 9580            | 3820            | 2270            |                                                                                    |         |                             |
| 78              | 9931           | 2.55           | 22.54  | 6340            | 9730            | 3640            | 2430            |                                                                                    |         |                             |
| 87              | 8895           | 1.90           | 20.19  | 6410            | 9670            | 3530            | 2360            |                                                                                    |         |                             |
| 93              | 8331           | 2.90           | 18.91  | 6430            | 9800            | 3350            | 2500            |                                                                                    |         |                             |
| 100             | 7767           | 2.25           | 17.63  | 6450            | 9710            | 3300            | 2410            |                                                                                    |         |                             |
| 117             | 6653           | 2.60           | 15.10  | 6500            | 9780            | 3060            | 2470            |                                                                                    |         |                             |
| 121             | 6415           | 2.45           | 14.56  | 6500            | 9780            | 3010            | 2470            |                                                                                    |         |                             |
| 45              | 17258          | 0.80           | 39.17  | **              | **              | **              | **              | <b>KH073-11P-L132M-04G</b>                                                         | 265     | 440                         |
| 54              | 14275          | 1.00           | 32.40  | 3260            | 3510            | 2650            | 990             |                                                                                    |         |                             |
| 64              | 12142          | 1.15           | 27.56  | 3690            | 3620            | 2680            | 1100            |                                                                                    |         |                             |
| 73              | 10649          | 0.80           | 24.17  | **              | **              | **              | **              |                                                                                    |         |                             |
| 74              | 10521          | 1.35           | 23.88  | 3930            | 3710            | 2700            | 1190            |                                                                                    |         |                             |
| 88              | 8887           | 1.55           | 20.17  | 4140            | 3800            | 2680            | 1280            |                                                                                    |         |                             |
| 91              | 8569           | 1.65           | 19.45  | 4180            | 3820            | 2680            | 1280            |                                                                                    |         |                             |
| 95              | 8217           | 1.00           | 18.65  | 4200            | 3620            | 2500            | 1080            |                                                                                    |         |                             |
| 106             | 7318           | 1.90           | 16.61  | 4290            | 3890            | 2500            | 1350            |                                                                                    |         |                             |
| 114             | 6798           | 1.20           | 15.43  | 4340            | 3730            | 2500            | 1190            |                                                                                    |         |                             |
| 135             | 5780           | 1.40           | 13.12  | 4410            | 3800            | 2290            | 1280            |                                                                                    |         |                             |
| 155             | 5009           | 1.65           | 11.37  | 4450            | 3870            | 2140            | 1350            |                                                                                    |         |                             |
| 184             | 4230           | 1.95           | 9.60   | 4500            | 3930            | 1960            | 1390            |                                                                                    |         |                             |
| 191             | 4080           | 2.00           | 9.26   | 4520            | 3930            | 1910            | 1420            |                                                                                    |         |                             |
| 223             | 3485           | 2.35           | 7.91   | 4540            | 4000            | 1780            | 1460            |                                                                                    |         |                             |

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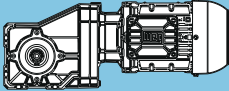
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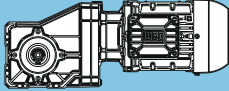


| P <sub>N</sub> = 12.5 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |                     |     |     |
|--------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|---------------------|-----|-----|
| 60 Hz                    |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |                     |     |     |
| n <sub>60</sub>          | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |                     |     |     |
| rpm                      | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |                     |     |     |
| 108                      | 7226           | 0.90           | 16.40 | 1910            | 2860            | 1840            | 610             | KH063-11P-L132M-04G                                                                | 220     | 438                         |                     |     |     |
| 127                      | 6142           | 1.00           | 13.94 | 2200            | 2920            | 1840            | 700             |                                                                                    |         |                             |                     |     |     |
| 134                      | 5811           | 0.80           | 13.19 | **              | **              | **              | **              |                                                                                    |         |                             |                     |     |     |
| 154                      | 5049           | 1.10           | 11.46 | 2410            | 3010            | 1840            | 790             |                                                                                    |         |                             |                     |     |     |
| 160                      | 4868           | 1.15           | 11.05 | 2450            | 3030            | 1840            | 810             |                                                                                    |         |                             |                     |     |     |
| 162                      | 4794           | 0.95           | 10.88 | 2450            | 2880            | 1750            | 650             |                                                                                    |         |                             |                     |     |     |
| 194                      | 4005           | 1.30           | 9.09  | 2560            | 3100            | 1710            | 880             |                                                                                    |         |                             |                     |     |     |
| 198                      | 3930           | 1.15           | 8.92  | 2560            | 2990            | 1730            | 740             |                                                                                    |         |                             |                     |     |     |
| 233                      | 3340           | 1.30           | 7.58  | 2630            | 3060            | 1620            | 810             |                                                                                    |         |                             |                     |     |     |
| 283                      | 2745           | 1.50           | 6.23  | 2700            | 3120            | 1460            | 880             |                                                                                    |         |                             |                     |     |     |
| 294                      | 2648           | 1.55           | 6.01  | 2700            | 3120            | 1420            | 900             |                                                                                    |         |                             |                     |     |     |
| 357                      | 2176           | 1.75           | 4.94  | 2740            | 3170            | 1280            | 940             |                                                                                    |         |                             |                     |     |     |
| 128                      | 6058           | 0.90           | 13.75 | 970             | 1460            | 970             | 720             |                                                                                    |         |                             | KH053-11P-L132M-04G | 192 | 436 |
| 156                      | 4983           | 1.10           | 11.31 | 1480            | 2320            | 1480            | 810             |                                                                                    |         |                             |                     |     |     |
| 162                      | 4807           | 1.15           | 10.91 | 1530            | 2320            | 1530            | 810             |                                                                                    |         |                             |                     |     |     |
| 188                      | 4141           | 0.90           | 9.40  | 1730            | 2230            | 1730            | 720             |                                                                                    |         |                             |                     |     |     |
| 197                      | 3952           | 1.30           | 8.97  | 1780            | 2380            | 1780            | 880             |                                                                                    |         |                             |                     |     |     |
| 229                      | 3397           | 1.10           | 7.71  | 1890            | 2320            | 1890            | 810             |                                                                                    |         |                             |                     |     |     |
| 269                      | 2886           | 1.30           | 6.55  | 1980            | 2360            | 1800            | 850             |                                                                                    |         |                             |                     |     |     |
| 327                      | 2375           | 1.55           | 5.39  | 2050            | 2430            | 1640            | 920             |                                                                                    |         |                             |                     |     |     |
| 340                      | 2287           | 1.60           | 5.19  | 2070            | 2430            | 1600            | 920             |                                                                                    |         |                             |                     |     |     |
| 413                      | 1881           | 1.95           | 4.27  | 1930            | 2470            | 1460            | 970             |                                                                                    |         |                             |                     |     |     |

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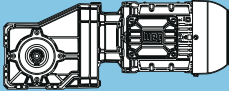
\*\* ... on request

| P <sub>N</sub> = 15 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 4.1                    | 209813         | 0.80           | 436.93 | **              | **              | **              | **              | KH154-22P-160M-04E                                                                 | 1746    | 460                         |
| 4.7                    | 180741         | 0.90           | 377.93 | 14840           | 25700           | 14840           | 25700           |                                                                                    |         |                             |
| 4.8                    | 176905         | 0.95           | 369.91 | 15380           | 25790           | 15380           | 25790           |                                                                                    |         |                             |
| 5.5                    | 153901         | 1.05           | 323.79 | 18030           | 26210           | 18030           | 26210           |                                                                                    |         |                             |
| 5.6                    | 151434         | 1.10           | 318.60 | 18250           | 26280           | 18250           | 26280           |                                                                                    |         |                             |
| 5.7                    | 147489         | 1.10           | 310.30 | 18640           | 26350           | 18640           | 26350           |                                                                                    |         |                             |
| 6.4                    | 130183         | 1.25           | 275.58 | 20080           | 26680           | 20080           | 26680           |                                                                                    |         |                             |
| 6.6                    | 126252         | 1.30           | 267.26 | 20370           | 26750           | 20370           | 26750           |                                                                                    |         |                             |
| 6.8                    | 123273         | 1.30           | 261.49 | 20590           | 26820           | 20590           | 26820           |                                                                                    |         |                             |
| 7.7                    | 108310         | 1.50           | 231.17 | 21540           | 27110           | 21540           | 27110           |                                                                                    |         |                             |
| 7.9                    | 105305         | 1.55           | 225.22 | 21720           | 27180           | 21720           | 27180           |                                                                                    |         |                             |
| 8.3                    | 100035         | 1.60           | 214.39 | 22010           | 27270           | 22010           | 27270           |                                                                                    |         |                             |
| 9.1                    | 90334          | 1.80           | 194.80 | 22480           | 27470           | 22480           | 27470           |                                                                                    |         |                             |
| 9.6                    | 85451          | 1.90           | 184.65 | 22710           | 27560           | 22710           | 27560           |                                                                                    |         |                             |
| 11                     | 73004          | 2.20           | 159.72 | 23200           | 27810           | 23200           | 27810           |                                                                                    |         |                             |
| 12                     | 76838          | 2.10           | 146.69 | 23070           | 27720           | 23070           | 27720           |                                                                                    |         |                             |
| 14                     | 66179          | 2.45           | 126.34 | 23450           | 27940           | 23450           | 27940           |                                                                                    |         |                             |
| 16                     | 57242          | 2.80           | 109.28 | 23720           | 28100           | 23720           | 28100           |                                                                                    |         |                             |
| 5.6                    | 153193         | 0.80           | 319.02 | **              | **              | **              | **              | KH124-22P-160M-04E                                                                 | 1186    | 456                         |
| 6.3                    | 135691         | 0.85           | 283.73 | 13740           | 18430           | 13740           | 18430           |                                                                                    |         |                             |
| 6.4                    | 133022         | 0.90           | 278.15 | 14030           | 18500           | 14030           | 18500           |                                                                                    |         |                             |
| 6.8                    | 125424         | 0.95           | 262.80 | 14840           | 18700           | 14840           | 18700           |                                                                                    |         |                             |
| 7.3                    | 116371         | 1.00           | 244.33 | 15670           | 18930           | 15670           | 18930           |                                                                                    |         |                             |
| 7.4                    | 114113         | 1.05           | 239.59 | 15850           | 19000           | 15850           | 19000           |                                                                                    |         |                             |
| 7.7                    | 108913         | 1.10           | 229.14 | 16280           | 19130           | 16280           | 19130           |                                                                                    |         |                             |
| 8.6                    | 97665          | 1.20           | 206.32 | 17090           | 19420           | 17090           | 19420           |                                                                                    |         |                             |
| 9.0                    | 93241          | 1.25           | 197.38 | 17380           | 19540           | 17380           | 19540           |                                                                                    |         |                             |
| 10                     | 79800          | 1.45           | 169.97 | 18140           | 19870           | 18140           | 19870           |                                                                                    |         |                             |
| 12                     | 79154          | 1.50           | 151.11 | 18160           | 19900           | 18160           | 19900           |                                                                                    |         |                             |
| 13                     | 69018          | 1.70           | 131.76 | 18640           | 20140           | 18640           | 20140           |                                                                                    |         |                             |
| 16                     | 59448          | 1.95           | 113.49 | 19020           | 20390           | 19020           | 20390           |                                                                                    |         |                             |
| 18                     | 51192          | 2.25           | 97.73  | 19310           | 20610           | 19310           | 20610           |                                                                                    |         |                             |
| 21                     | 44718          | 2.60           | 85.37  | 19490           | 20770           | 19490           | 20770           |                                                                                    |         |                             |
| 24                     | 38626          | 3.00           | 73.74  | 19650           | 20930           | 19650           | 20930           |                                                                                    |         |                             |
| 30                     | 30627          | 2.55           | 58.47  | 19810           | 21130           | 19810           | 21130           |                                                                                    |         |                             |
| 53                     | 17464          | 2.55           | 33.34  | 19850           | 21380           | 19850           | 21380           |                                                                                    |         |                             |
| 9.4                    | 90253          | 0.80           | 187.95 | **              | **              | **              | **              | KH104-22P-160M-04E                                                                 | 915     | 452                         |
| 11                     | 77502          | 0.95           | 162.39 | 9330            | 13290           | 9330            | 13290           |                                                                                    |         |                             |
| 14                     | 65215          | 1.10           | 124.50 | 10880           | 13650           | 10880           | 13650           |                                                                                    |         |                             |
| 16                     | 56609          | 1.30           | 108.07 | 11690           | 13890           | 11690           | 13890           |                                                                                    |         |                             |
| 19                     | 48909          | 1.45           | 93.37  | 12300           | 14120           | 12300           | 14120           |                                                                                    |         |                             |
| 22                     | 41853          | 1.70           | 79.90  | 12750           | 14320           | 12750           | 14320           |                                                                                    |         |                             |
| 26                     | 36148          | 2.00           | 69.01  | 13060           | 14500           | 13060           | 14500           |                                                                                    |         |                             |
| 30                     | 30570          | 2.35           | 58.36  | 13310           | 14660           | 13310           | 14660           |                                                                                    |         |                             |
| 37                     | 24944          | 2.85           | 47.62  | 13510           | 14810           | 13510           | 14810           |                                                                                    |         |                             |
| 38                     | 24645          | 2.70           | 47.05  | 13530           | 14840           | 13530           | 14840           |                                                                                    |         |                             |
| 66                     | 14033          | 2.70           | 26.79  | 12630           | 15040           | 12630           | 15040           |                                                                                    |         |                             |
| 19                     | 49710          | 0.85           | 94.90  | 3980            | 6340            | 3980            | 6340            |                                                                                    |         |                             |
| 22                     | 42293          | 0.95           | 80.74  | 5800            | 8750            | 5800            | 8750            |                                                                                    |         |                             |
| 26                     | 35991          | 1.15           | 68.71  | 6830            | 8950            | 6830            | 8950            |                                                                                    |         |                             |
| 30                     | 31052          | 1.30           | 59.28  | 7440            | 9100            | 7440            | 9100            |                                                                                    |         |                             |
| 36                     | 26049          | 1.55           | 49.73  | 7910            | 9260            | 7910            | 9260            |                                                                                    |         |                             |
| 43                     | 21717          | 1.85           | 41.46  | 8250            | 9420            | 8250            | 9420            |                                                                                    |         |                             |
| 44                     | 21178          | 1.90           | 40.43  | 8300            | 9420            | 8300            | 9420            |                                                                                    |         |                             |
| 49                     | 18784          | 2.15           | 35.86  | 8450            | 9510            | 8450            | 9510            |                                                                                    |         |                             |
| 56                     | 16558          | 2.45           | 31.61  | 8570            | 9580            | 8570            | 9580            |                                                                                    |         |                             |
| 58                     | 15982          | 2.50           | 30.51  | 8590            | 9600            | 8590            | 9600            |                                                                                    |         |                             |
| 68                     | 13603          | 2.95           | 25.97  | 8700            | 9670            | 8700            | 9670            |                                                                                    |         |                             |
| 74                     | 12608          | 2.10           | 24.07  | 8750            | 9550            | 8750            | 9550            |                                                                                    |         |                             |
| 85                     | 10906          | 2.45           | 20.82  | 8790            | 9620            | 8790            | 9620            |                                                                                    |         |                             |
| 100                    | 9282           | 2.90           | 17.72  | 8860            | 9710            | 8860            | 9710            |                                                                                    |         |                             |

| <b>P<sub>N</sub> = 15 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                 |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>        | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                          | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>30</b>                    | 30512                | 0.90                 | 58.25    | 3260                  | 5370                  | 3260                  | 1660                  | <b>KH083-22P-160M-04E</b>                                                          | 492            | 442                                |
| <b>36</b>                    | 25599                | 1.05                 | 48.87    | 4520                  | 8070                  | 4520                  | 1840                  |                                                                                    |                |                                    |
| <b>43</b>                    | 21571                | 1.25                 | 41.18    | 5220                  | 9310                  | 5040                  | 2000                  |                                                                                    |                |                                    |
| <b>53</b>                    | 17684                | 1.55                 | 33.76    | 5710                  | 9440                  | 4700                  | 2140                  |                                                                                    |                |                                    |
| <b>57</b>                    | 16191                | 1.65                 | 30.91    | 5870                  | 9510                  | 4500                  | 2200                  |                                                                                    |                |                                    |
| <b>67</b>                    | 13871                | 1.90                 | 26.48    | 6070                  | 9600                  | 4140                  | 2290                  |                                                                                    |                |                                    |
| <b>79</b>                    | 11807                | 2.15                 | 22.54    | 6230                  | 9670                  | 3800                  | 2360                  |                                                                                    |                |                                    |
| <b>94</b>                    | 9905                 | 2.45                 | 18.91    | 6340                  | 9730                  | 3460                  | 2430                  |                                                                                    |                |                                    |
| <b>101</b>                   | 9235                 | 1.90                 | 17.63    | 6380                  | 9640                  | 3440                  | 2340                  |                                                                                    |                |                                    |
| <b>111</b>                   | 8344                 | 2.75                 | 15.93    | 6430                  | 9800                  | 3190                  | 2500                  |                                                                                    |                |                                    |
| <b>118</b>                   | 7910                 | 2.20                 | 15.10    | 6450                  | 9710                  | 3190                  | 2410                  |                                                                                    |                |                                    |
| <b>138</b>                   | 6731                 | 2.55                 | 12.85    | 6500                  | 9780                  | 2940                  | 2470                  | <b>KH073-22P-160M-04E</b>                                                          | 401            | 440                                |
| <b>74</b>                    | 12509                | 1.10                 | 23.88    | 3620                  | 3620                  | 2430                  | 1080                  |                                                                                    |                |                                    |
| <b>88</b>                    | 10565                | 1.30                 | 20.17    | 3930                  | 3710                  | 2470                  | 1190                  |                                                                                    |                |                                    |
| <b>107</b>                   | 8701                 | 1.60                 | 16.61    | 4160                  | 3820                  | 2470                  | 1280                  |                                                                                    |                |                                    |
| <b>156</b>                   | 5956                 | 1.40                 | 11.37    | 4410                  | 3800                  | 2230                  | 1260                  |                                                                                    |                |                                    |
| <b>185</b>                   | 5029                 | 1.65                 | 9.60     | 4450                  | 3870                  | 2050                  | 1350                  |                                                                                    |                |                                    |
| <b>224</b>                   | 4143                 | 1.95                 | 7.91     | 4500                  | 3930                  | 1840                  | 1420                  |                                                                                    |                |                                    |

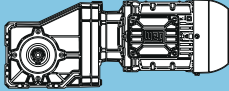
Legend see page 337



| P <sub>N</sub> = 20 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 5.5                    | 212023         | 0.80           | 323.79 | **              | **              | **              | **              | KH154-22P-160L-04F                                                                 | 1797    | 460                         |
| 5.6                    | 208624         | 0.80           | 318.60 | **              | **              | **              | **              |                                                                                    |         |                             |
| 5.7                    | 203189         | 0.80           | 310.30 | **              | **              | **              | **              |                                                                                    |         |                             |
| 6.4                    | 179718         | 0.90           | 275.58 | 14900           | 25720           | 14900           | 25720           |                                                                                    |         |                             |
| 6.6                    | 173936         | 0.95           | 267.26 | 15690           | 25830           | 15690           | 25830           |                                                                                    |         |                             |
| 6.8                    | 170180         | 0.95           | 261.49 | 16160           | 25900           | 16160           | 25900           |                                                                                    |         |                             |
| 7.7                    | 149833         | 1.10           | 231.17 | 18370           | 26300           | 18370           | 26300           |                                                                                    |         |                             |
| 7.9                    | 145677         | 1.10           | 225.22 | 18750           | 26370           | 18750           | 26370           |                                                                                    |         |                             |
| 8.3                    | 138672         | 1.15           | 214.39 | 19380           | 26500           | 19380           | 26500           |                                                                                    |         |                             |
| 9.1                    | 125485         | 1.30           | 194.80 | 20390           | 26770           | 20390           | 26770           |                                                                                    |         |                             |
| 9.6                    | 118459         | 1.35           | 184.65 | 20880           | 26910           | 20880           | 26910           |                                                                                    |         |                             |
| 11                     | 101836         | 1.60           | 159.72 | 21900           | 27220           | 21900           | 27220           |                                                                                    |         |                             |
| 12                     | 104780         | 1.55           | 146.69 | 21720           | 27180           | 21720           | 27180           | KH153-22P-160L-04F                                                                 | 1695    | 458                         |
| 14                     | 90244          | 1.80           | 126.34 | 22480           | 27450           | 22480           | 27450           |                                                                                    |         |                             |
| 16                     | 78058          | 2.05           | 109.28 | 23000           | 27700           | 23000           | 27700           |                                                                                    |         |                             |
| 18                     | 68851          | 2.35           | 96.39  | 23360           | 27880           | 23360           | 27880           |                                                                                    |         |                             |
| 21                     | 59136          | 2.70           | 82.79  | 23650           | 28080           | 23650           | 28080           |                                                                                    |         |                             |
| 31                     | 40536          | 2.40           | 56.75  | 24120           | 28440           | 24120           | 28440           |                                                                                    |         |                             |
| 50                     | 25450          | 2.40           | 35.63  | 24350           | 28550           | 24350           | 28550           |                                                                                    |         |                             |
| 7.7                    | 150045         | 0.80           | 229.14 | **              | **              | **              | **              | KH124-22P-160L-04F                                                                 | 1237    | 456                         |
| 8.6                    | 134550         | 0.90           | 206.32 | 13830           | 18460           | 13830           | 18460           |                                                                                    |         |                             |
| 9.0                    | 128720         | 0.90           | 197.38 | 14460           | 18610           | 14460           | 18610           |                                                                                    |         |                             |
| 10                     | 110166         | 1.05           | 169.97 | 16140           | 19090           | 16140           | 19090           |                                                                                    |         |                             |
| 12                     | 107937         | 1.10           | 151.11 | 16320           | 19150           | 16320           | 19150           | KH123-22P-160L-04F                                                                 | 1184    | 454                         |
| 13                     | 94115          | 1.25           | 131.76 | 17310           | 19490           | 17310           | 19490           |                                                                                    |         |                             |
| 16                     | 81065          | 1.45           | 113.49 | 18050           | 19830           | 18050           | 19830           |                                                                                    |         |                             |
| 18                     | 69808          | 1.65           | 97.73  | 18590           | 20120           | 18590           | 20120           |                                                                                    |         |                             |
| 21                     | 60979          | 1.90           | 85.37  | 18970           | 20350           | 18970           | 20350           |                                                                                    |         |                             |
| 24                     | 52672          | 2.20           | 73.74  | 19240           | 20570           | 19240           | 20570           |                                                                                    |         |                             |
| 29                     | 43558          | 2.65           | 60.98  | 19510           | 20790           | 19510           | 20790           |                                                                                    |         |                             |
| 30                     | 41765          | 1.90           | 58.47  | 19560           | 20840           | 19560           | 20840           |                                                                                    |         |                             |
| 35                     | 36415          | 2.40           | 50.98  | 19690           | 20970           | 19690           | 20970           |                                                                                    |         |                             |
| 53                     | 23815          | 1.90           | 33.34  | 19920           | 21180           | 19920           | 21180           |                                                                                    |         |                             |
| 61                     | 20764          | 2.40           | 29.07  | 19290           | 21270           | 19290           | 21270           |                                                                                    |         |                             |
| 14                     | 88929          | 0.80           | 124.50 | **              | **              | **              | **              | KH103-22P-160L-04F                                                                 | 913     | 450                         |
| 16                     | 77194          | 0.95           | 108.07 | 9330            | 13290           | 9330            | 13290           |                                                                                    |         |                             |
| 19                     | 66694          | 1.10           | 93.37  | 10680           | 13600           | 10680           | 13600           |                                                                                    |         |                             |
| 22                     | 57072          | 1.25           | 79.90  | 11650           | 13870           | 11650           | 13870           |                                                                                    |         |                             |
| 26                     | 49293          | 1.45           | 69.01  | 12250           | 14100           | 12250           | 14100           |                                                                                    |         |                             |
| 30                     | 41686          | 1.70           | 58.36  | 12770           | 14320           | 12770           | 14320           |                                                                                    |         |                             |
| 37                     | 34015          | 2.10           | 47.62  | 13150           | 14550           | 13150           | 14550           |                                                                                    |         |                             |
| 38                     | 33607          | 2.00           | 47.05  | 13170           | 14570           | 13170           | 14570           |                                                                                    |         |                             |
| 43                     | 29172          | 2.30           | 40.84  | 13380           | 14700           | 13380           | 14700           |                                                                                    |         |                             |
| 46                     | 27600          | 2.60           | 38.64  | 13420           | 14750           | 13420           | 14750           |                                                                                    |         |                             |
| 50                     | 25207          | 2.65           | 35.29  | 13510           | 14810           | 13510           | 14810           |                                                                                    |         |                             |
| 66                     | 19136          | 2.00           | 26.79  | 12990           | 14860           | 12990           | 14860           |                                                                                    |         |                             |
| 76                     | 16607          | 2.30           | 23.25  | 12320           | 14950           | 12320           | 14950           |                                                                                    |         |                             |
| 88                     | 14350          | 2.65           | 20.09  | 11690           | 15040           | 11690           | 15040           |                                                                                    |         |                             |

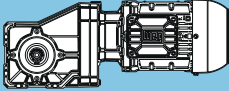
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| P <sub>N</sub> = 20 hp |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>50</sub>        | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 26                     | 49079          | 0.85           | 68.71 | 4110            | 6630            | 4110            | 6630            | KH093-22P-160L-04F                                                                 | 653     | 446                         |
| 30                     | 42343          | 0.95           | 59.28 | 5760            | 8750            | 5760            | 8750            |                                                                                    |         |                             |
| 36                     | 35522          | 1.15           | 49.73 | 6880            | 8950            | 6880            | 8950            |                                                                                    |         |                             |
| 43                     | 29615          | 1.35           | 41.46 | 7580            | 9150            | 7580            | 9150            |                                                                                    |         |                             |
| 44                     | 28879          | 1.40           | 40.43 | 7640            | 9170            | 7640            | 9170            |                                                                                    |         |                             |
| 49                     | 25615          | 1.60           | 35.86 | 7960            | 9280            | 7960            | 9280            |                                                                                    |         |                             |
| 56                     | 22579          | 1.80           | 31.61 | 8180            | 9370            | 8180            | 9370            |                                                                                    |         |                             |
| 58                     | 21793          | 1.85           | 30.51 | 8250            | 9400            | 8250            | 9400            |                                                                                    |         |                             |
| 68                     | 18550          | 2.15           | 25.97 | 8450            | 9510            | 8450            | 9510            |                                                                                    |         |                             |
| 74                     | 17193          | 1.55           | 24.07 | 8520            | 9350            | 8520            | 9350            |                                                                                    |         |                             |
| 79                     | 16000          | 2.50           | 22.40 | 8590            | 9600            | 8590            | 9600            |                                                                                    |         |                             |
| 85                     | 14872          | 1.80           | 20.82 | 8630            | 9440            | 8630            | 9440            |                                                                                    |         |                             |
| 94                     | 13422          | 3.00           | 18.79 | 8700            | 9690            | 8700            | 9690            |                                                                                    |         |                             |
| 100                    | 12657          | 2.10           | 17.72 | 8750            | 9550            | 8750            | 9550            |                                                                                    |         |                             |
| 118                    | 10772          | 2.50           | 15.08 | 8680            | 9640            | 8680            | 9640            |                                                                                    |         |                             |
| 136                    | 9293           | 2.85           | 13.01 | 8210            | 9710            | 8210            | 9710            |                                                                                    |         |                             |
| 36                     | 34907          | 0.80           | 48.87 | **              | **              | **              | **              | KH083-22P-160L-04F                                                                 | 542     | 442                         |
| 43                     | 29415          | 0.95           | 41.18 | 3570            | 6020            | 3570            | 1690            |                                                                                    |         |                             |
| 53                     | 24115          | 1.15           | 33.76 | 4790            | 8660            | 4270            | 1890            |                                                                                    |         |                             |
| 57                     | 22079          | 1.25           | 30.91 | 5130            | 9280            | 4320            | 1980            |                                                                                    |         |                             |
| 67                     | 18914          | 1.40           | 26.48 | 5550            | 9400            | 4320            | 2090            |                                                                                    |         |                             |
| 79                     | 16100          | 1.60           | 22.54 | 5870            | 9510            | 4180            | 2200            |                                                                                    |         |                             |
| 94                     | 13507          | 1.80           | 18.91 | 6090            | 9600            | 3800            | 2290            |                                                                                    |         |                             |
| 101                    | 12593          | 1.40           | 17.63 | 6180            | 9460            | 3780            | 2160            |                                                                                    |         |                             |
| 111                    | 11379          | 2.00           | 15.93 | 6250            | 9690            | 3460            | 2380            |                                                                                    |         |                             |
| 118                    | 10786          | 1.60           | 15.10 | 6290            | 9550            | 3460            | 2250            |                                                                                    |         |                             |
| 136                    | 9329           | 2.30           | 13.06 | 6380            | 9760            | 3120            | 2450            |                                                                                    |         |                             |
| 138                    | 9179           | 1.90           | 12.85 | 6380            | 9640            | 3190            | 2340            |                                                                                    |         |                             |
| 165                    | 7700           | 2.25           | 10.78 | 6450            | 9710            | 2900            | 2410            |                                                                                    |         |                             |
| 195                    | 6493           | 2.65           | 9.09  | 6500            | 9780            | 2680            | 2470            |                                                                                    |         |                             |
| 74                     | 17057          | 0.85           | 23.88 | 2470            | 3370            | 1840            | 830             | KH073-22P-160L-04F                                                                 | 452     | 440                         |
| 88                     | 14407          | 1.00           | 20.17 | 3240            | 3510            | 1960            | 990             |                                                                                    |         |                             |
| 107                    | 11864          | 1.20           | 16.61 | 3730            | 3640            | 2050            | 1120            |                                                                                    |         |                             |
| 156                    | 8122           | 1.00           | 11.37 | 4200            | 3620            | 1960            | 1100            |                                                                                    |         |                             |
| 185                    | 6857           | 1.20           | 9.60  | 4340            | 3730            | 1960            | 1190            |                                                                                    |         |                             |
| 224                    | 5650           | 1.45           | 7.91  | 4430            | 3820            | 1960            | 1280            |                                                                                    |         |                             |

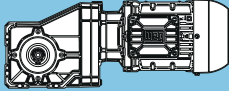
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| P <sub>N</sub> = 25 hp |                |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>        | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                    | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 6.8                    | 211181         | 0.80           | 261.49 | **              | **              | **              | **              | <b>KH154-22P-180M-04E</b>                                                          | 1828    | 460                         |
| 7.7                    | 185932         | 0.90           | 231.17 | 14070           | 24530           | 14070           | 24530           |                                                                                    |         |                             |
| 7.9                    | 181147         | 0.90           | 225.22 | 14790           | 25700           | 14790           | 25700           |                                                                                    |         |                             |
| 8.3                    | 172084         | 0.95           | 214.39 | 15980           | 25880           | 15980           | 25880           |                                                                                    |         |                             |
| 9.1                    | 156040         | 1.05           | 194.80 | 17800           | 26190           | 17800           | 26190           |                                                                                    |         |                             |
| 9.6                    | 147606         | 1.10           | 184.65 | 18640           | 26350           | 18640           | 26350           |                                                                                    |         |                             |
| 11                     | 126895         | 1.30           | 159.72 | 20320           | 26750           | 20320           | 26750           |                                                                                    |         |                             |
| 12                     | 129228         | 1.25           | 146.69 | 20170           | 26710           | 20170           | 26710           | <b>KH153-22P-180M-04E</b>                                                          | 1726    | 458                         |
| 14                     | 111301         | 1.45           | 126.34 | 21360           | 27040           | 21360           | 27040           |                                                                                    |         |                             |
| 16                     | 96271          | 1.70           | 109.28 | 22190           | 27340           | 22190           | 27340           |                                                                                    |         |                             |
| 18                     | 84916          | 1.90           | 96.39  | 22730           | 27560           | 22730           | 27560           |                                                                                    |         |                             |
| 21                     | 72935          | 2.20           | 82.79  | 23220           | 27810           | 23220           | 27810           |                                                                                    |         |                             |
| 26                     | 60681          | 2.65           | 68.88  | 23630           | 28030           | 23630           | 28030           |                                                                                    |         |                             |
| 31                     | 49995          | 1.95           | 56.75  | 23920           | 28260           | 23920           | 28260           |                                                                                    |         |                             |
| 36                     | 43061          | 2.95           | 48.88  | 24080           | 28390           | 24080           | 28390           |                                                                                    |         |                             |
| 50                     | 31389          | 1.95           | 35.63  | 24280           | 28390           | 24280           | 28390           |                                                                                    |         |                             |
| 58                     | 27037          | 2.95           | 30.69  | 24350           | 28510           | 24350           | 28510           |                                                                                    |         |                             |
| 13                     | 116075         | 1.00           | 131.76 | 15690           | 18950           | 15690           | 18950           | <b>KH123-22P-180M-04E</b>                                                          | 1215    | 454                         |
| 16                     | 99980          | 1.20           | 113.49 | 16930           | 19360           | 16930           | 19360           |                                                                                    |         |                             |
| 18                     | 86096          | 1.35           | 97.73  | 17800           | 19720           | 17800           | 19720           |                                                                                    |         |                             |
| 21                     | 75208          | 1.55           | 85.37  | 18370           | 19990           | 18370           | 19990           |                                                                                    |         |                             |
| 24                     | 64962          | 1.80           | 73.74  | 18820           | 20260           | 18820           | 20260           |                                                                                    |         |                             |
| 29                     | 53721          | 2.15           | 60.98  | 19220           | 20550           | 19220           | 20550           |                                                                                    |         |                             |
| 35                     | 44207          | 2.65           | 50.18  | 19510           | 20790           | 19510           | 20790           |                                                                                    |         |                             |
| 35                     | 44911          | 1.95           | 50.98  | 19490           | 20770           | 19490           | 20770           |                                                                                    |         |                             |
| 40                     | 38683          | 2.95           | 43.91  | 19650           | 20930           | 19650           | 20930           |                                                                                    |         |                             |
| 61                     | 25610          | 1.95           | 29.07  | 19580           | 21110           | 19580           | 21110           |                                                                                    |         |                             |
| 71                     | 22059          | 2.95           | 25.04  | 18570           | 21220           | 18570           | 21220           |                                                                                    |         |                             |
| 19                     | 82255          | 0.90           | 93.37  | 8590            | 13150           | 8590            | 13150           | <b>KH103-22P-180M-04E</b>                                                          | 944     | 450                         |
| 22                     | 70389          | 1.05           | 79.90  | 10300           | 13490           | 10300           | 13490           |                                                                                    |         |                             |
| 26                     | 60795          | 1.20           | 69.01  | 11330           | 13780           | 11330           | 13780           |                                                                                    |         |                             |
| 30                     | 51413          | 1.40           | 58.36  | 12120           | 14050           | 12120           | 14050           |                                                                                    |         |                             |
| 37                     | 41951          | 1.70           | 47.62  | 12750           | 14320           | 12750           | 14320           |                                                                                    |         |                             |
| 43                     | 35978          | 1.85           | 40.84  | 13060           | 14500           | 13060           | 14500           |                                                                                    |         |                             |
| 46                     | 34040          | 2.10           | 38.64  | 13170           | 14550           | 13170           | 14550           |                                                                                    |         |                             |
| 50                     | 31089          | 2.15           | 35.29  | 13290           | 14640           | 13290           | 14640           |                                                                                    |         |                             |
| 58                     | 27178          | 2.65           | 30.85  | 13440           | 14750           | 13440           | 14750           |                                                                                    |         |                             |
| 59                     | 26605          | 2.50           | 30.20  | 13470           | 14770           | 13470           | 14770           |                                                                                    |         |                             |
| 68                     | 22975          | 2.90           | 26.08  | 12970           | 14880           | 12970           | 14880           |                                                                                    |         |                             |
| 76                     | 20482          | 1.85           | 23.25  | 12590           | 14810           | 12590           | 14810           |                                                                                    |         |                             |
| 88                     | 17699          | 2.15           | 20.09  | 11910           | 14900           | 11910           | 14900           |                                                                                    |         |                             |
| 103                    | 15144          | 2.50           | 17.19  | 11240           | 15020           | 11240           | 15020           |                                                                                    |         |                             |
| 120                    | 13082          | 2.90           | 14.85  | 10660           | 15080           | 10660           | 15080           |                                                                                    |         |                             |
| 30                     | 52223          | 0.80           | 59.28  | **              | **              | **              | **              | <b>KH093-22P-180M-04E</b>                                                          | 683     | 446                         |
| 36                     | 43810          | 0.95           | 49.73  | 5510            | 8700            | 5510            | 8700            |                                                                                    |         |                             |
| 44                     | 35617          | 1.15           | 40.43  | 6880            | 8970            | 6880            | 8970            |                                                                                    |         |                             |
| 49                     | 31591          | 1.30           | 35.86  | 7370            | 9080            | 7370            | 9080            |                                                                                    |         |                             |
| 56                     | 27847          | 1.45           | 31.61  | 7760            | 9220            | 7760            | 9220            |                                                                                    |         |                             |
| 58                     | 26878          | 1.50           | 30.51  | 7850            | 9240            | 7850            | 9240            |                                                                                    |         |                             |
| 68                     | 22879          | 1.75           | 25.97  | 8180            | 9370            | 8180            | 9370            |                                                                                    |         |                             |
| 79                     | 19734          | 2.05           | 22.40  | 8390            | 9460            | 8390            | 9460            |                                                                                    |         |                             |
| 85                     | 18342          | 1.45           | 20.82  | 8480            | 9310            | 8480            | 9310            |                                                                                    |         |                             |
| 94                     | 16553          | 2.45           | 18.79  | 8570            | 9580            | 8570            | 9580            |                                                                                    |         |                             |
| 100                    | 15611          | 1.70           | 17.72  | 8610            | 9420            | 8610            | 9420            |                                                                                    |         |                             |
| 116                    | 13461          | 3.00           | 15.28  | 8700            | 9690            | 8700            | 9690            |                                                                                    |         |                             |
| 118                    | 13285          | 2.00           | 15.08  | 8720            | 9530            | 8720            | 9530            |                                                                                    |         |                             |
| 136                    | 11461          | 2.35           | 13.01  | 8410            | 9600            | 8410            | 9600            |                                                                                    |         |                             |
| 163                    | 9611           | 2.80           | 10.91  | 7850            | 9690            | 7850            | 9690            |                                                                                    |         |                             |

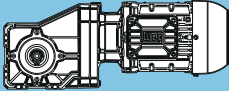
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| <b>P<sub>N</sub> = 25 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                 |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>        | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                          | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>53</b>                    | 29741                | 0.90                 | 33.76    | 3510                  | 5890                  | 3510                  | 1690                  | <b>KH083-22P-180M-04E</b>                                                          | 573            | 442                                |
| <b>67</b>                    | 23328                | 1.15                 | 26.48    | 4950                  | 9010                  | 3840                  | 1930                  |                                                                                    |                |                                    |
| <b>79</b>                    | 19857                | 1.30                 | 22.54    | 5460                  | 9370                  | 3890                  | 2070                  |                                                                                    |                |                                    |
| <b>94</b>                    | 16659                | 1.45                 | 18.91    | 5820                  | 9490                  | 3890                  | 2180                  |                                                                                    |                |                                    |
| <b>111</b>                   | 14034                | 1.65                 | 15.93    | 6070                  | 9580                  | 3710                  | 2270                  |                                                                                    |                |                                    |
| <b>118</b>                   | 13303                | 1.30                 | 15.10    | 6110                  | 9440                  | 3660                  | 2140                  |                                                                                    |                |                                    |
| <b>136</b>                   | 11505                | 1.85                 | 13.06    | 6250                  | 9690                  | 3300                  | 2380                  |                                                                                    |                |                                    |
| <b>138</b>                   | 11320                | 1.55                 | 12.85    | 6270                  | 9530                  | 3390                  | 2230                  |                                                                                    |                |                                    |
| <b>165</b>                   | 9497                 | 1.85                 | 10.78    | 6360                  | 9620                  | 3080                  | 2320                  |                                                                                    |                |                                    |
| <b>195</b>                   | 8008                 | 2.15                 | 9.09     | 6450                  | 9710                  | 2830                  | 2410                  |                                                                                    |                |                                    |
| <b>238</b>                   | 6563                 | 2.65                 | 7.45     | 6500                  | 9780                  | 2540                  | 2470                  |                                                                                    |                |                                    |

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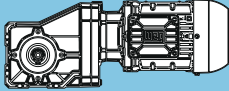
**P<sub>N</sub> = 30 hp**

| 60 Hz           |                |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>an</sub> | F <sub>rn</sub> | F <sub>an</sub> |                                                                                    |         |                                |
| rpm             | lb-in          |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                                |
| 8.3             | 205900         | 0.80           | 214.39 | **              | **              | **              | **              | <b>KH154-22P-180L-04F</b>                                                          | 1874    | 460                            |
| 9.1             | 186322         | 0.90           | 194.80 | 14010           | 24370           | 14010           | 24370           |                                                                                    |         |                                |
| 9.6             | 176614         | 0.95           | 184.65 | 15400           | 25790           | 15400           | 25790           |                                                                                    |         |                                |
| 11              | 151833         | 1.05           | 159.72 | 18230           | 26260           | 18230           | 26260           |                                                                                    |         |                                |
| 12              | 153677         | 1.05           | 146.69 | 18050           | 26240           | 18050           | 26240           | <b>KH153-22P-180L-04F</b>                                                          | 1773    | 458                            |
| 14              | 132357         | 1.25           | 126.34 | 19920           | 26640           | 19920           | 26640           |                                                                                    |         |                                |
| 16              | 114485         | 1.40           | 109.28 | 21180           | 27000           | 21180           | 27000           |                                                                                    |         |                                |
| 18              | 100981         | 1.60           | 96.39  | 21960           | 27250           | 21960           | 27250           |                                                                                    |         |                                |
| 21              | 86733          | 1.85           | 82.79  | 22660           | 27540           | 22660           | 27540           |                                                                                    |         |                                |
| 26              | 72161          | 2.25           | 68.88  | 23250           | 27810           | 23250           | 27810           |                                                                                    |         |                                |
| 31              | 59872          | 2.70           | 57.15  | 23650           | 28060           | 23650           | 28060           |                                                                                    |         |                                |
| 36              | 51208          | 2.45           | 48.88  | 23870           | 28240           | 23870           | 28240           |                                                                                    |         |                                |
| 50              | 37327          | 1.65           | 35.63  | 24170           | 28240           | 24170           | 28240           |                                                                                    |         |                                |
| 58              | 32152          | 2.45           | 30.69  | 24260           | 28370           | 24260           | 28370           |                                                                                    |         |                                |
| 13              | 138036         | 0.85           | 131.76 | 13470           | 18390           | 13470           | 18390           | <b>KH123-22P-180L-04F</b>                                                          | 1261    | 454                            |
| 16              | 118895         | 1.00           | 113.49 | 15440           | 18880           | 15440           | 18880           |                                                                                    |         |                                |
| 18              | 102385         | 1.15           | 97.73  | 16770           | 19290           | 16770           | 19290           |                                                                                    |         |                                |
| 21              | 89436          | 1.30           | 85.37  | 17600           | 19630           | 17600           | 19630           |                                                                                    |         |                                |
| 24              | 77252          | 1.50           | 73.74  | 18280           | 19940           | 18280           | 19940           |                                                                                    |         |                                |
| 29              | 63884          | 1.85           | 60.98  | 18860           | 20280           | 18860           | 20280           |                                                                                    |         |                                |
| 35              | 53408          | 1.65           | 50.98  | 19240           | 20550           | 19240           | 20550           |                                                                                    |         |                                |
| 40              | 46001          | 2.45           | 43.91  | 19450           | 20750           | 19450           | 20750           |                                                                                    |         |                                |
| 43              | 43215          | 2.70           | 41.25  | 19540           | 20820           | 19540           | 20820           |                                                                                    |         |                                |
| 47              | 39611          | 2.95           | 37.81  | 19630           | 20910           | 19630           | 20910           |                                                                                    |         |                                |
| 61              | 30455          | 1.65           | 29.07  | 19810           | 20950           | 19810           | 20950           |                                                                                    |         |                                |
| 71              | 26233          | 2.45           | 25.04  | 18820           | 21090           | 18820           | 21090           |                                                                                    |         |                                |
| 22              | 83706          | 0.85           | 79.90  | 8320            | 13110           | 8320            | 13110           | <b>KH103-22P-180L-04F</b>                                                          | 990     | 450                            |
| 26              | 72297          | 1.00           | 69.01  | 10050           | 13440           | 10050           | 13440           |                                                                                    |         |                                |
| 30              | 61140          | 1.20           | 58.36  | 11290           | 13760           | 11290           | 13760           |                                                                                    |         |                                |
| 37              | 49888          | 1.45           | 47.62  | 12230           | 14100           | 12230           | 14100           |                                                                                    |         |                                |
| 43              | 42785          | 1.60           | 40.84  | 12700           | 14300           | 12700           | 14300           |                                                                                    |         |                                |
| 46              | 40480          | 1.75           | 38.64  | 12840           | 14370           | 12840           | 14370           |                                                                                    |         |                                |
| 50              | 36971          | 1.80           | 35.29  | 13020           | 14480           | 13020           | 14480           |                                                                                    |         |                                |
| 58              | 32319          | 2.20           | 30.85  | 13240           | 14610           | 13240           | 14610           |                                                                                    |         |                                |
| 59              | 31638          | 2.10           | 30.20  | 13260           | 14640           | 13260           | 14640           |                                                                                    |         |                                |
| 68              | 27322          | 2.45           | 26.08  | 13240           | 14750           | 13240           | 14750           |                                                                                    |         |                                |
| 76              | 24357          | 1.60           | 23.25  | 12860           | 14680           | 12860           | 14680           |                                                                                    |         |                                |
| 80              | 23100          | 2.90           | 22.05  | 12430           | 14880           | 12430           | 14880           |                                                                                    |         |                                |
| 88              | 21047          | 1.80           | 20.09  | 12140           | 14790           | 12140           | 14790           |                                                                                    |         |                                |
| 103             | 18009          | 2.10           | 17.19  | 11440           | 14900           | 11440           | 14900           |                                                                                    |         |                                |
| 120             | 15557          | 2.45           | 14.85  | 10810           | 14990           | 10810           | 14990           |                                                                                    |         |                                |
| 141             | 13158          | 2.90           | 12.56  | 10180           | 15080           | 10180           | 15080           |                                                                                    |         |                                |
| 36              | 52099          | 0.80           | 49.73  | **              | **              | **              | **              | <b>KH093-22P-180L-04F</b>                                                          | 730     | 446                            |
| 44              | 42356          | 0.95           | 40.43  | 5800            | 8750            | 5800            | 8750            |                                                                                    |         |                                |
| 49              | 37568          | 1.10           | 35.86  | 6610            | 8900            | 6610            | 8900            |                                                                                    |         |                                |
| 56              | 33116          | 1.25           | 31.61  | 7190            | 9040            | 7190            | 9040            |                                                                                    |         |                                |
| 58              | 31963          | 1.25           | 30.51  | 7330            | 9080            | 7330            | 9080            |                                                                                    |         |                                |
| 68              | 27207          | 1.50           | 25.97  | 7820            | 9240            | 7820            | 9240            |                                                                                    |         |                                |
| 79              | 23467          | 1.70           | 22.40  | 8140            | 9350            | 8140            | 9350            |                                                                                    |         |                                |
| 85              | 21812          | 1.25           | 20.82  | 8250            | 9150            | 8250            | 9150            |                                                                                    |         |                                |
| 94              | 19685          | 2.05           | 18.79  | 8390            | 9490            | 8390            | 9490            |                                                                                    |         |                                |
| 100             | 18564          | 1.45           | 17.72  | 8450            | 9280            | 8450            | 9280            |                                                                                    |         |                                |
| 116             | 16008          | 2.50           | 15.28  | 8590            | 9600            | 8590            | 9600            |                                                                                    |         |                                |
| 118             | 15798          | 1.70           | 15.08  | 8610            | 9420            | 8610            | 9420            |                                                                                    |         |                                |
| 136             | 13630          | 1.95           | 13.01  | 8610            | 9510            | 8610            | 9510            |                                                                                    |         |                                |
| 163             | 11430          | 2.35           | 10.91  | 8030            | 9600            | 8030            | 9600            |                                                                                    |         |                                |
| 200             | 9292           | 2.85           | 8.87   | 7400            | 9710            | 7400            | 9710            |                                                                                    |         |                                |

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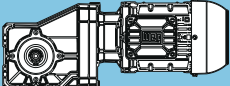


| <b>P<sub>N</sub> = 30 hp</b> |                      |                      |          |                       |                       |                       |                       |                                                                                    |                |                                    |
|------------------------------|----------------------|----------------------|----------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|----------------|------------------------------------|
| <b>60 Hz</b>                 |                      |                      | <b>i</b> | <b>Output shaft</b>   |                       | <b>Hollow shaft</b>   |                       |  | <b>m</b><br>lb | <b>Dimension sheet</b><br>see page |
| <b>n<sub>60</sub></b>        | <b>T<sub>2</sub></b> | <b>f<sub>B</sub></b> |          | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> | <b>F<sub>rN</sub></b> | <b>F<sub>aN</sub></b> |                                                                                    |                |                                    |
| rpm                          | lb-in                |                      |          | lb                    | lb                    | lb                    | lb                    |                                                                                    |                |                                    |
| <b>53</b>                    | 35368                | 0.80                 | 33.76    | **                    | **                    | **                    | **                    | <b>KH083-22P-180L-04F</b>                                                          | 619            | 442                                |
| <b>67</b>                    | 27741                | 0.95                 | 26.48    | 4050                  | 7040                  | 3370                  | 1750                  |                                                                                    |                |                                    |
| <b>79</b>                    | 23614                | 1.10                 | 22.54    | 4900                  | 8900                  | 3480                  | 1910                  |                                                                                    |                |                                    |
| <b>94</b>                    | 19811                | 1.25                 | 18.91    | 5460                  | 9370                  | 3550                  | 2070                  |                                                                                    |                |                                    |
| <b>111</b>                   | 16689                | 1.40                 | 15.93    | 5820                  | 9490                  | 3570                  | 2180                  |                                                                                    |                |                                    |
| <b>118</b>                   | 15819                | 1.10                 | 15.10    | 5910                  | 9310                  | 3370                  | 2000                  |                                                                                    |                |                                    |
| <b>136</b>                   | 13682                | 1.60                 | 13.06    | 6090                  | 9600                  | 3510                  | 2290                  |                                                                                    |                |                                    |
| <b>138</b>                   | 13462                | 1.30                 | 12.85    | 6110                  | 9420                  | 3390                  | 2110                  |                                                                                    |                |                                    |
| <b>165</b>                   | 11293                | 1.55                 | 10.78    | 6270                  | 9530                  | 3260                  | 2230                  |                                                                                    |                |                                    |
| <b>195</b>                   | 9523                 | 1.85                 | 9.09     | 6360                  | 9620                  | 2970                  | 2320                  |                                                                                    |                |                                    |
| <b>238</b>                   | 7805                 | 2.20                 | 7.45     | 6450                  | 9710                  | 2680                  | 2410                  |                                                                                    |                |                                    |

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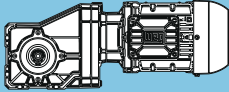
**P<sub>N</sub> = 40 hp**

| 60 Hz                  |                         |                | i      | Output shaft          |                       | Hollow shaft          |                       |  | m<br>lb | Dimension sheet<br>see page |                           |                           |      |
|------------------------|-------------------------|----------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------------------------------------------------------------|---------|-----------------------------|---------------------------|---------------------------|------|
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | F <sub>rN</sub><br>lb | F <sub>aN</sub><br>lb | F <sub>rN</sub><br>lb | F <sub>aN</sub><br>lb |                                                                                    |         |                             |                           |                           |      |
| <b>11</b>              | 208587                  | 0.80           |        | 159.72                | **                    | **                    | **                    |                                                                                    |         |                             | **                        | <b>KH154-22P-200L-04E</b> | 2002 |
| <b>16</b>              | 155677                  | 1.05           | 109.28 | 17920                 | 26190                 | 17920                 | 26190                 | <b>KH153-22P-200L-04E</b>                                                          | 1900    | 458                         |                           |                           |      |
| <b>18</b>              | 137315                  | 1.20           | 96.39  | 19560                 | 26550                 | 19560                 | 26550                 |                                                                                    |         |                             |                           |                           |      |
| <b>22</b>              | 117940                  | 1.40           | 82.79  | 20970                 | 26930                 | 20970                 | 26930                 |                                                                                    |         |                             |                           |                           |      |
| <b>26</b>              | 98125                   | 1.65           | 68.88  | 22120                 | 27310                 | 22120                 | 27310                 |                                                                                    |         |                             |                           |                           |      |
| <b>31</b>              | 81414                   | 2.00           | 57.15  | 22890                 | 27650                 | 22890                 | 27650                 |                                                                                    |         |                             |                           |                           |      |
| <b>37</b>              | 67895                   | 2.35           | 47.66  | 23400                 | 27900                 | 23400                 | 27900                 |                                                                                    |         |                             |                           |                           |      |
| <b>42</b>              | 60231                   | 2.65           | 42.28  | 23650                 | 28060                 | 23650                 | 28060                 |                                                                                    |         |                             |                           |                           |      |
| <b>43</b>              | 58365                   | 2.75           | 40.97  | 23690                 | 28100                 | 23690                 | 28100                 |                                                                                    |         |                             |                           |                           |      |
| <b>48</b>              | 53137                   | 3.00           | 37.30  | 23830                 | 28190                 | 23830                 | 28190                 |                                                                                    |         |                             |                           |                           |      |
| <b>67</b>              | 37808                   | 2.65           | 26.54  | 24170                 | 28240                 | 24170                 | 28240                 |                                                                                    |         |                             |                           |                           |      |
| <b>18</b>              | 139223                  | 0.85           | 97.73  | 13380                 | 18370                 | 13380                 | 18370                 | <b>KH123-22P-200L-04E</b>                                                          | 1389    | 454                         |                           |                           |      |
| <b>21</b>              | 121616                  | 0.95           | 85.37  | 15240                 | 18820                 | 15240                 | 18820                 |                                                                                    |         |                             |                           |                           |      |
| <b>24</b>              | 105048                  | 1.10           | 73.74  | 16610                 | 19240                 | 16610                 | 19240                 |                                                                                    |         |                             |                           |                           |      |
| <b>29</b>              | 86870                   | 1.35           | 60.98  | 17780                 | 19690                 | 17780                 | 19690                 |                                                                                    |         |                             |                           |                           |      |
| <b>35</b>              | 71485                   | 1.65           | 50.18  | 18550                 | 20100                 | 18550                 | 20100                 |                                                                                    |         |                             |                           |                           |      |
| <b>43</b>              | 58764                   | 2.00           | 41.25  | 19060                 | 20410                 | 19060                 | 20410                 |                                                                                    |         |                             |                           |                           |      |
| <b>47</b>              | 53863                   | 2.15           | 37.81  | 19220                 | 20550                 | 19220                 | 20550                 |                                                                                    |         |                             |                           |                           |      |
| <b>51</b>              | 49889                   | 2.35           | 35.02  | 19360                 | 20640                 | 19360                 | 20640                 |                                                                                    |         |                             |                           |                           |      |
| <b>54</b>              | 47054                   | 2.45           | 33.03  | 19420                 | 20730                 | 19420                 | 20730                 |                                                                                    |         |                             |                           |                           |      |
| <b>60</b>              | 42580                   | 2.75           | 29.89  | 19560                 | 20840                 | 19560                 | 20840                 |                                                                                    |         |                             |                           |                           |      |
| <b>62</b>              | 40643                   | 2.85           | 28.53  | 19600                 | 20880                 | 19600                 | 20880                 |                                                                                    |         |                             |                           |                           |      |
| <b>83</b>              | 30714                   | 2.35           | 21.56  | 18300                 | 20950                 | 18300                 | 20950                 |                                                                                    |         |                             |                           |                           |      |
| <b>94</b>              | 26839                   | 2.70           | 18.84  | 17470                 | 21090                 | 17470                 | 21090                 |                                                                                    |         |                             |                           |                           |      |
| <b>31</b>              | 83138                   | 0.90           | 58.36  | 8480                  | 13130                 | 8480                  | 13130                 |                                                                                    |         |                             | <b>KH103-22P-200L-04E</b> | 1118                      | 450  |
| <b>37</b>              | 67838                   | 1.05           | 47.62  | 10610                 | 13580                 | 10610                 | 13580                 |                                                                                    |         |                             |                           |                           |      |
| <b>46</b>              | 55045                   | 1.30           | 38.64  | 11850                 | 13940                 | 11850                 | 13940                 |                                                                                    |         |                             |                           |                           |      |
| <b>58</b>              | 43948                   | 1.65           | 30.85  | 12630                 | 14280                 | 12630                 | 14280                 |                                                                                    |         |                             |                           |                           |      |
| <b>59</b>              | 43022                   | 1.55           | 30.20  | 12700                 | 14300                 | 12700                 | 14300                 |                                                                                    |         |                             |                           |                           |      |
| <b>68</b>              | 37153                   | 1.80           | 26.08  | 13020                 | 14480                 | 13020                 | 14480                 |                                                                                    |         |                             |                           |                           |      |
| <b>81</b>              | 31412                   | 2.15           | 22.05  | 12900                 | 14640                 | 12900                 | 14640                 |                                                                                    |         |                             |                           |                           |      |
| <b>99</b>              | 25642                   | 2.60           | 18.00  | 11890                 | 14790                 | 11890                 | 14790                 |                                                                                    |         |                             |                           |                           |      |
| <b>104</b>             | 24488                   | 1.55           | 17.19  | 11850                 | 14680                 | 11850                 | 14680                 |                                                                                    |         |                             |                           |                           |      |
| <b>120</b>             | 21155                   | 1.80           | 14.85  | 11200                 | 14790                 | 11200                 | 14790                 |                                                                                    |         |                             |                           |                           |      |
| <b>142</b>             | 17893                   | 2.15           | 12.56  | 10500                 | 14900                 | 10500                 | 14900                 |                                                                                    |         |                             |                           |                           |      |
| <b>174</b>             | 14602                   | 2.60           | 10.25  | 9710                  | 15020                 | 9710                  | 15020                 |                                                                                    |         |                             |                           |                           |      |
| <b>56</b>              | 45031                   | 0.90           | 31.61  | 5280                  | 8660                  | 5280                  | 8660                  | <b>KH093-22P-200L-04E</b>                                                          | 858     | 446                         |                           |                           |      |
| <b>69</b>              | 36996                   | 1.10           | 25.97  | 6700                  | 8920                  | 6700                  | 8920                  |                                                                                    |         |                             |                           |                           |      |
| <b>79</b>              | 31910                   | 1.25           | 22.40  | 7350                  | 9080                  | 7350                  | 9080                  |                                                                                    |         |                             |                           |                           |      |
| <b>95</b>              | 26768                   | 1.50           | 18.79  | 7870                  | 9240                  | 7870                  | 9240                  |                                                                                    |         |                             |                           |                           |      |
| <b>116</b>             | 21767                   | 1.85           | 15.28  | 8250                  | 9420                  | 8250                  | 9420                  |                                                                                    |         |                             |                           |                           |      |
| <b>118</b>             | 21483                   | 1.25           | 15.08  | 8270                  | 9170                  | 8270                  | 9170                  |                                                                                    |         |                             |                           |                           |      |
| <b>137</b>             | 18534                   | 1.45           | 13.01  | 8450                  | 9280                  | 8450                  | 9280                  |                                                                                    |         |                             |                           |                           |      |
| <b>149</b>             | 17024                   | 2.35           | 11.95  | 8540                  | 9550                  | 8540                  | 9550                  |                                                                                    |         |                             |                           |                           |      |
| <b>163</b>             | 15542                   | 1.75           | 10.91  | 8410                  | 9420                  | 8410                  | 9420                  |                                                                                    |         |                             |                           |                           |      |
| <b>201</b>             | 12636                   | 2.10           | 8.87   | 7710                  | 9550                  | 7710                  | 9550                  |                                                                                    |         |                             |                           |                           |      |
| <b>256</b>             | 9887                    | 2.70           | 6.94   | 6990                  | 9670                  | 6990                  | 9670                  |                                                                                    |         |                             |                           |                           |      |

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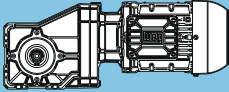
| P <sub>N</sub> = 50 hp |                         |                |        |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------|-------------------------|----------------|--------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                  |                         |                | i      | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub><br>rpm | T <sub>2</sub><br>lb-in | f <sub>B</sub> |        | F <sub>rn</sub> | F <sub>aN</sub> | F <sub>rn</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
|                        |                         |                |        | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 16                     | 191786                  | 0.85           | 109.28 | 13220           | 22710           | 13220           | 22710           | KH153-22P-200L-04F                                                                 | 1960    | 458                         |
| 18                     | 169165                  | 0.95           | 96.39  | 16410           | 25940           | 16410           | 25940           |                                                                                    |         |                             |
| 22                     | 145297                  | 1.10           | 82.79  | 18880           | 26390           | 18880           | 26390           |                                                                                    |         |                             |
| 26                     | 120884                  | 1.35           | 68.88  | 20770           | 26860           | 20770           | 26860           |                                                                                    |         |                             |
| 31                     | 100298                  | 1.60           | 57.15  | 22010           | 27270           | 22010           | 27270           |                                                                                    |         |                             |
| 37                     | 83643                   | 1.95           | 47.66  | 22800           | 27610           | 22800           | 27610           |                                                                                    |         |                             |
| 42                     | 74201                   | 2.15           | 42.28  | 23180           | 27790           | 23180           | 27790           |                                                                                    |         |                             |
| 43                     | 71902                   | 2.25           | 40.97  | 23270           | 27830           | 23270           | 27830           |                                                                                    |         |                             |
| 48                     | 65462                   | 2.45           | 37.30  | 23470           | 27940           | 23470           | 27940           |                                                                                    |         |                             |
| 50                     | 62215                   | 2.60           | 35.45  | 23580           | 28010           | 23580           | 28010           |                                                                                    |         |                             |
| 56                     | 56213                   | 2.85           | 32.03  | 23760           | 28120           | 23760           | 28120           |                                                                                    |         |                             |
| 67                     | 46578                   | 2.15           | 26.54  | 23990           | 28010           | 23990           | 28010           |                                                                                    |         |                             |
| 76                     | 41085                   | 2.95           | 23.41  | 24100           | 28150           | 24100           | 28150           |                                                                                    |         |                             |
| 21                     | 149824                  | 0.80           | 85.37  | **              | **              | **              | **              | KH123-22P-200L-04F                                                                 | 1448    | 454                         |
| 24                     | 129414                  | 0.90           | 73.74  | 14460           | 18610           | 14460           | 18610           |                                                                                    |         |                             |
| 29                     | 107020                  | 1.10           | 60.98  | 16460           | 19180           | 16460           | 19180           |                                                                                    |         |                             |
| 36                     | 88066                   | 1.35           | 50.18  | 17690           | 19670           | 17690           | 19670           |                                                                                    |         |                             |
| 43                     | 72394                   | 1.60           | 41.25  | 18500           | 20080           | 18500           | 20080           |                                                                                    |         |                             |
| 47                     | 66357                   | 1.75           | 37.81  | 18770           | 20230           | 18770           | 20230           |                                                                                    |         |                             |
| 51                     | 61460                   | 1.90           | 35.02  | 18950           | 20350           | 18950           | 20350           |                                                                                    |         |                             |
| 54                     | 57968                   | 2.00           | 33.03  | 19090           | 20440           | 19090           | 20440           |                                                                                    |         |                             |
| 60                     | 52457                   | 2.20           | 29.89  | 19270           | 20570           | 19270           | 20570           |                                                                                    |         |                             |
| 62                     | 50070                   | 2.30           | 28.53  | 19330           | 20640           | 19330           | 20640           |                                                                                    |         |                             |
| 76                     | 41418                   | 2.80           | 23.60  | 19150           | 20860           | 19150           | 20860           |                                                                                    |         |                             |
| 83                     | 37838                   | 1.90           | 21.56  | 18750           | 20730           | 18750           | 20730           |                                                                                    |         |                             |
| 95                     | 33064                   | 2.20           | 18.84  | 17800           | 20880           | 17800           | 20880           |                                                                                    |         |                             |
| 110                    | 28554                   | 2.55           | 16.27  | 16840           | 21020           | 16840           | 21020           |                                                                                    |         |                             |
| 37                     | 83573                   | 0.85           | 47.62  | 8390            | 13110           | 8390            | 13110           | KH103-22P-200L-04F                                                                 | 1177    | 450                         |
| 46                     | 67813                   | 1.05           | 38.64  | 10610           | 13580           | 10610           | 13580           |                                                                                    |         |                             |
| 58                     | 54142                   | 1.35           | 30.85  | 11910           | 13980           | 11910           | 13980           |                                                                                    |         |                             |
| 59                     | 53001                   | 1.30           | 30.20  | 12000           | 14010           | 12000           | 14010           |                                                                                    |         |                             |
| 68                     | 45770                   | 1.45           | 26.08  | 12520           | 14210           | 12520           | 14210           |                                                                                    |         |                             |
| 81                     | 38698                   | 1.75           | 22.05  | 12950           | 14430           | 12950           | 14430           |                                                                                    |         |                             |
| 99                     | 31590                   | 2.15           | 18.00  | 12270           | 14640           | 12270           | 14640           |                                                                                    |         |                             |
| 104                    | 30168                   | 1.30           | 17.19  | 12250           | 14480           | 12250           | 14480           |                                                                                    |         |                             |
| 120                    | 26062                   | 1.45           | 14.85  | 11530           | 14610           | 11530           | 14610           |                                                                                    |         |                             |
| 122                    | 25623                   | 2.60           | 14.60  | 11290           | 14790           | 11290           | 14790           |                                                                                    |         |                             |
| 142                    | 22043                   | 1.75           | 12.56  | 10790           | 14770           | 10790           | 14770           |                                                                                    |         |                             |
| 174                    | 17989                   | 2.15           | 10.25  | 9960            | 14900           | 9960            | 14900           |                                                                                    |         |                             |
| 214                    | 14584                   | 2.60           | 8.31   | 9190            | 15020           | 9190            | 15020           |                                                                                    |         |                             |

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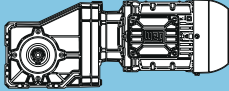
**P<sub>N</sub> = 60 hp**

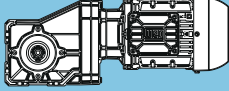
| 60 Hz           |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension<br>sheet<br>see page |
|-----------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|--------------------------------|
| n <sub>60</sub> | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                                |
| rpm             | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                                |
| 18              | 205741         | 0.80           | 96.39 | **              | **              | **              | **              | KH153-22P-225S/M-04F                                                               | 2262    | 458                            |
| 22              | 176712         | 0.95           | 82.79 | 15470           | 25790           | 15470           | 25790           |                                                                                    |         |                                |
| 26              | 147022         | 1.10           | 68.88 | 18730           | 26370           | 18730           | 26370           |                                                                                    |         |                                |
| 31              | 121984         | 1.35           | 57.15 | 20700           | 26840           | 20700           | 26840           |                                                                                    |         |                                |
| 37              | 101728         | 1.60           | 47.66 | 21920           | 27250           | 21920           | 27250           |                                                                                    |         |                                |
| 42              | 90245          | 1.75           | 42.28 | 22500           | 27470           | 22500           | 27470           |                                                                                    |         |                                |
| 43              | 87449          | 1.85           | 40.97 | 22640           | 27520           | 22640           | 27520           |                                                                                    |         |                                |
| 48              | 79615          | 2.05           | 37.30 | 22950           | 27670           | 22950           | 27670           |                                                                                    |         |                                |
| 50              | 75667          | 2.15           | 35.45 | 23110           | 27760           | 23110           | 27760           |                                                                                    |         |                                |
| 56              | 68367          | 2.35           | 32.03 | 23380           | 27900           | 23380           | 27900           |                                                                                    |         |                                |
| 67              | 56883          | 2.85           | 26.65 | 23740           | 28120           | 23740           | 28120           |                                                                                    |         |                                |
| 76              | 49968          | 2.45           | 23.41 | 23920           | 27920           | 23920           | 27920           |                                                                                    |         |                                |
| 89              | 42924          | 2.80           | 20.11 | 24080           | 28100           | 24080           | 28100           |                                                                                    |         |                                |
| 29              | 130159         | 0.90           | 60.98 | 14390           | 18590           | 14390           | 18590           | KH123-22P-225S/M-04F                                                               | 1750    | 454                            |
| 36              | 107107         | 1.10           | 50.18 | 16430           | 19180           | 16430           | 19180           |                                                                                    |         |                                |
| 43              | 88046          | 1.35           | 41.25 | 17690           | 19670           | 17690           | 19670           |                                                                                    |         |                                |
| 47              | 80704          | 1.45           | 37.81 | 18100           | 19850           | 18100           | 19850           |                                                                                    |         |                                |
| 51              | 74749          | 1.55           | 35.02 | 18390           | 20010           | 18390           | 20010           |                                                                                    |         |                                |
| 54              | 70501          | 1.65           | 33.03 | 18590           | 20120           | 18590           | 20120           |                                                                                    |         |                                |
| 60              | 63799          | 1.85           | 29.89 | 18860           | 20300           | 18860           | 20300           |                                                                                    |         |                                |
| 62              | 60896          | 1.90           | 28.53 | 18970           | 20370           | 18970           | 20370           |                                                                                    |         |                                |
| 76              | 50373          | 2.30           | 23.60 | 19330           | 20640           | 19330           | 20640           |                                                                                    |         |                                |
| 83              | 46019          | 1.55           | 21.56 | 19240           | 20480           | 19240           | 20480           |                                                                                    |         |                                |
| 92              | 41451          | 2.80           | 19.42 | 18210           | 20860           | 18210           | 20860           |                                                                                    |         |                                |
| 95              | 40213          | 1.80           | 18.84 | 18230           | 20660           | 18230           | 20660           |                                                                                    |         |                                |
| 110             | 34728          | 2.10           | 16.27 | 17220           | 20840           | 17220           | 20840           |                                                                                    |         |                                |
| 132             | 28730          | 2.55           | 13.46 | 16050           | 21020           | 16050           | 21020           |                                                                                    |         |                                |
| 46              | 82476          | 0.90           | 38.64 | 8590            | 13150           | 8590            | 13150           | KH103-22P-225S/M-04F                                                               | 1479    | 450                            |
| 58              | 65848          | 1.10           | 30.85 | 10840           | 13620           | 10840           | 13620           |                                                                                    |         |                                |
| 59              | 64461          | 1.05           | 30.20 | 10970           | 13670           | 10970           | 13670           |                                                                                    |         |                                |
| 68              | 55667          | 1.20           | 26.08 | 11800           | 13940           | 11800           | 13940           |                                                                                    |         |                                |
| 81              | 47065          | 1.45           | 22.05 | 12430           | 14190           | 12430           | 14190           |                                                                                    |         |                                |
| 99              | 38420          | 1.75           | 18.00 | 12700           | 14430           | 12700           | 14430           |                                                                                    |         |                                |
| 104             | 36691          | 1.05           | 17.19 | 12700           | 14230           | 12700           | 14230           |                                                                                    |         |                                |
| 120             | 31697          | 1.20           | 14.85 | 11910           | 14410           | 11910           | 14410           |                                                                                    |         |                                |
| 122             | 31163          | 2.15           | 14.60 | 11620           | 14640           | 11620           | 14640           |                                                                                    |         |                                |
| 142             | 26809          | 1.45           | 12.56 | 11110           | 14590           | 11110           | 14590           |                                                                                    |         |                                |
| 153             | 24888          | 2.70           | 11.66 | 10590           | 14810           | 10590           | 14810           |                                                                                    |         |                                |
| 174             | 21878          | 1.75           | 10.25 | 10230           | 14770           | 10230           | 14770           |                                                                                    |         |                                |
| 214             | 17737          | 2.15           | 8.31  | 9420            | 14900           | 9420            | 14900           |                                                                                    |         |                                |
| 268             | 14173          | 2.70           | 6.64  | 8630            | 15040           | 8630            | 15040           |                                                                                    |         |                                |



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| <b>P<sub>N</sub> = 75 hp</b> |                |                |       |                 |                 |                 |                 |                                                                                    |         |                             |
|------------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                        |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>              | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                    |         |                             |
| rpm                          | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                    |         |                             |
| 26                           | 179391         | 0.90           | 68.88 | 15060           | 25740           | 15060           | 25740           | <b>KH153-22P-225S/M-04G</b>                                                        | 2368    | 458                         |
| 31                           | 148841         | 1.10           | 57.15 | 18520           | 26330           | 18520           | 26330           |                                                                                    |         |                             |
| 37                           | 124126         | 1.30           | 47.66 | 20530           | 26800           | 20530           | 26800           |                                                                                    |         |                             |
| 44                           | 106702         | 1.50           | 40.97 | 21650           | 27160           | 21650           | 27160           |                                                                                    |         |                             |
| 48                           | 97144          | 1.65           | 37.30 | 22170           | 27340           | 22170           | 27340           |                                                                                    |         |                             |
| 50                           | 92326          | 1.75           | 35.45 | 22390           | 27430           | 22390           | 27430           |                                                                                    |         |                             |
| 56                           | 83419          | 1.95           | 32.03 | 22800           | 27610           | 22800           | 27610           |                                                                                    |         |                             |
| 67                           | 69407          | 2.30           | 26.65 | 23340           | 27880           | 23340           | 27880           |                                                                                    |         |                             |
| 76                           | 60969          | 2.00           | 23.41 | 23600           | 27630           | 23600           | 27630           |                                                                                    |         |                             |
| 81                           | 57583          | 2.80           | 22.11 | 23720           | 28100           | 23720           | 28100           |                                                                                    |         |                             |
| 89                           | 52374          | 2.30           | 20.11 | 23850           | 27850           | 23850           | 27850           |                                                                                    |         |                             |
| 107                          | 43572          | 2.90           | 16.73 | 24050           | 28080           | 24050           | 28080           |                                                                                    |         |                             |
| 36                           | 130689         | 0.90           | 50.18 | 14300           | 18570           | 14300           | 18570           |                                                                                    |         |                             |
| 43                           | 107432         | 1.10           | 41.25 | 16410           | 19180           | 16410           | 19180           |                                                                                    |         |                             |
| 51                           | 91206          | 1.30           | 35.02 | 17510           | 19580           | 17510           | 19580           |                                                                                    |         |                             |
| 54                           | 86023          | 1.35           | 33.03 | 17800           | 19720           | 17800           | 19720           |                                                                                    |         |                             |
| 60                           | 77846          | 1.50           | 29.89 | 18230           | 19920           | 18230           | 19920           |                                                                                    |         |                             |
| 63                           | 74304          | 1.55           | 28.53 | 18410           | 20010           | 18410           | 20010           |                                                                                    |         |                             |
| 76                           | 61464          | 1.90           | 23.60 | 18950           | 20350           | 18950           | 20350           |                                                                                    |         |                             |
| 92                           | 50577          | 2.30           | 19.42 | 18730           | 20610           | 18730           | 20610           |                                                                                    |         |                             |
| 95                           | 49067          | 1.50           | 18.84 | 18790           | 20390           | 18790           | 20390           |                                                                                    |         |                             |
| 110                          | 42374          | 1.75           | 16.27 | 17690           | 20590           | 17690           | 20590           |                                                                                    |         |                             |
| 112                          | 41566          | 2.80           | 15.96 | 17310           | 20860           | 17310           | 20860           |                                                                                    |         |                             |
| 133                          | 35055          | 2.10           | 13.46 | 16410           | 20820           | 16410           | 20820           |                                                                                    |         |                             |
| 161                          | 28831          | 2.55           | 11.07 | 15240           | 21020           | 15240           | 21020           |                                                                                    |         |                             |

| <b>P<sub>N</sub> = 100 hp</b> |                |                |       |                 |                 |                 |                 |                                                                                      |         |                             |
|-------------------------------|----------------|----------------|-------|-----------------|-----------------|-----------------|-----------------|--------------------------------------------------------------------------------------|---------|-----------------------------|
| 60 Hz                         |                |                | i     | Output shaft    |                 | Hollow shaft    |                 |  | m<br>lb | Dimension sheet<br>see page |
| n <sub>60</sub>               | T <sub>2</sub> | f <sub>B</sub> |       | F <sub>rN</sub> | F <sub>aN</sub> | F <sub>rN</sub> | F <sub>aN</sub> |                                                                                      |         |                             |
| rpm                           | lb-in          |                |       | lb              | lb              | lb              | lb              |                                                                                      |         |                             |
| 31                            | 203536         | 0.80           | 57.15 | **              | **              | **              | **              | <b>KH153-22P-250S/M-04F</b>                                                          | 2597    | 458                         |
| 37                            | 169738         | 0.95           | 47.66 | 16370           | 25920           | 16370           | 25920           |                                                                                      |         |                             |
| 43                            | 145912         | 1.10           | 40.97 | 18840           | 26390           | 18840           | 26390           |                                                                                      |         |                             |
| 48                            | 132841         | 1.20           | 37.30 | 19920           | 26640           | 19920           | 26640           |                                                                                      |         |                             |
| 50                            | 126253         | 1.30           | 35.45 | 20410           | 26770           | 20410           | 26770           |                                                                                      |         |                             |
| 56                            | 114073         | 1.40           | 32.03 | 21220           | 27000           | 21220           | 27000           |                                                                                      |         |                             |
| 67                            | 94912          | 1.70           | 26.65 | 22280           | 27380           | 22280           | 27380           |                                                                                      |         |                             |
| 76                            | 83373          | 1.45           | 23.41 | 22820           | 27040           | 22820           | 27040           |                                                                                      |         |                             |
| 81                            | 78743          | 2.05           | 22.11 | 23000           | 27700           | 23000           | 27700           |                                                                                      |         |                             |
| 89                            | 71620          | 1.70           | 20.11 | 23270           | 27340           | 23270           | 27340           |                                                                                      |         |                             |
| 97                            | 65673          | 2.45           | 18.44 | 23470           | 27940           | 23470           | 27940           |                                                                                      |         |                             |
| 106                           | 59583          | 2.10           | 16.73 | 23650           | 27650           | 23650           | 27650           |                                                                                      |         |                             |
| 112                           | 56449          | 2.85           | 15.85 | 23740           | 28120           | 23740           | 28120           |                                                                                      |         |                             |
| 128                           | 49433          | 2.55           | 13.88 | 23920           | 27920           | 23920           | 27920           |                                                                                      |         |                             |
| 154                           | 41241          | 3.00           | 11.58 | 23450           | 28150           | 23450           | 28150           |                                                                                      |         |                             |

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# Selection tables - Gear units

## Structure of the selection tables

| 1<br>Type                   | 2<br>i | 3<br>T <sub>2max</sub><br>[lb-in] | 4<br>n <sub>2</sub><br>[rpm] | 5<br>i <sub>exact</sub> | 6<br>n <sub>1max</sub><br>[rpm] | 7<br>IEC motor frame size |          |      |      |          |          |          |          |      |      |      |      |      |  |
|-----------------------------|--------|-----------------------------------|------------------------------|-------------------------|---------------------------------|---------------------------|----------|------|------|----------|----------|----------|----------|------|------|------|------|------|--|
|                             |        |                                   |                              |                         |                                 | 63                        | 71       | 80   | 90   | 100      | 112      | 132      | 160      | 180  | 200  | 225  | 250  | -    |  |
|                             |        |                                   |                              |                         |                                 | 8<br>IEC adapter          |          |      |      |          |          |          |          |      |      |      |      |      |  |
|                             |        |                                   |                              |                         |                                 | I63                       | I71      | I80  | I90  | I100     | I112     | I132     | I160     | I180 | I200 | I225 | I250 | I280 |  |
| 9<br>NEMA adapter           |        |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
|                             |        |                                   |                              |                         |                                 | N56                       | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | N364 | -    | -    |      |      |  |
| <b>K022</b>                 |        |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| 2 stages                    | 10     |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| n <sub>1</sub> =1750 rpm    | 11     |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |
| Maximum torque<br>974 lb-in | 12     |                                   |                              |                         |                                 |                           |          |      |      |          |          |          |          |      |      |      |      |      |  |

| 1<br>Type | 2<br>i | 13<br>SERVO adapter        |                    |      |      |      |      |      |      |      |                            | 15<br>Input unit       |      |       |       |       |       |        |        |        |  |
|-----------|--------|----------------------------|--------------------|------|------|------|------|------|------|------|----------------------------|------------------------|------|-------|-------|-------|-------|--------|--------|--------|--|
|           |        | n <sub>1max</sub><br>[rpm] | 14<br>Adapter size |      |      |      |      |      |      |      | n <sub>1max</sub><br>[rpm] | 16<br>Input shaft [mm] |      |       |       |       |       |        |        |        |  |
|           |        |                            | S92                | S105 | S114 | S115 | S130 | S141 | S142 | S180 |                            | S189                   | S190 | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
|           |        |                            |                    |      |      |      |      |      |      |      |                            |                        |      |       |       |       |       |        |        |        |  |

- 1 Type of gear unit
- 2 Total ratio
- 3 Permissible output torque at S1 operation ( $f_b = 1.0$ )
- 4 Output speed (gear unit) at  $n_1 = 1750$  rpm
- 5 Exact mathematical ratio
- 6 Maximum permissible input speed gear unit, valid for direct mounting and IEC / NEMA adapter  
Max. perm. input speed IEC / NEMA adapter: I63 - I132 / N56 - N213 = 3000 rpm, I160 - I280 / N254 - N364 = 2500 rpm  
Max. perm. motor speed (Direct mounting): motor frame size 63 - 180 = 3000 rpm, 200 - 250 = 2500 rpm, higher motor speed on request
- 7 Possible motor frame sizes (Direct mounting)
- 8 Possible IEC adapter sizes
- 9 Possible NEMA adapter sizes
- 10 Number of gear stages
- 11 Motor speed
- 12 Maximum torque
- 13 Maximum input speed - SERVO adapter
- 14 Possible SERVO adapter sizes
- 15 Maximum input speed - input unit (higher input speeds on request)
- 16 Possible input shafts of the input unit

| Type         | i     | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |     |          |    |   |   |   |   |   |   |   |   |
|--------------|-------|-------------------|----------------|--------------------|-------------------|----------------------|-----|----------|----|---|---|---|---|---|---|---|---|
|              |       |                   |                |                    |                   | 63                   | 71  | 80       | 90 | - | - | - | - | - | - | - | - |
|              |       | IEC adapter       |                |                    |                   |                      |     |          |    |   |   |   |   |   |   |   |   |
|              |       | 163               | 171            |                    |                   | 180                  | 190 | -        | -  | - | - | - | - | - | - |   |   |
| NEMA adapter |       |                   |                |                    |                   |                      |     |          |    |   |   |   |   |   |   |   |   |
|              |       | [lb-in]           | [rpm]          |                    |                   | N56                  |     | N143/145 |    | - | - | - | - | - | - | - | - |
|              |       | [rpm]             |                |                    |                   |                      |     |          |    |   |   |   |   |   |   |   |   |
| K022         | 68.88 | 974               | 25             | 551/8              | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 61.75 | 903               | 28             | 247/4              | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 53.65 | 974               | 33             | 1073/20            | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 48.10 | 974               | 36             | 481/10             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 43.50 | 974               | 40             | 87/2               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 39.00 | 974               | 45             | 39/1               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 34.27 | 974               | 51             | 377/11             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 30.88 | 451               | 57             | 247/8              | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 30.73 | 974               | 57             | 338/11             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 26.41 | 974               | 66             | 1479/56            | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 24.05 | 717               | 73             | 481/20             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 23.68 | 974               | 74             | 663/28             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 20.63 | 912               | 85             | 1073/52            | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 19.50 | 717               | 90             | 39/2               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 18.50 | 903               | 95             | 37/2               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 15.41 | 823               | 114            | 493/32             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 15.36 | 717               | 114            | 169/11             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 13.81 | 823               | 127            | 221/16             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 13.29 | 788               | 132            | 319/24             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 11.92 | 788               | 147            | 143/12             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 11.84 | 717               | 148            | 663/56             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 11.60 | 752               | 151            | 58/5               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 10.40 | 752               | 168            | 52/5               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 9.25  | 717               | 189            | 37/4               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 8.51  | 682               | 206            | 783/92             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 7.63  | 682               | 229            | 351/46             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 6.91  | 655               | 253            | 221/32             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 5.96  | 611               | 294            | 143/24             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 5.20  | 575               | 337            | 26/5               | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |
|              | 3.82  | 504               | 459            | 351/92             | 6000              |                      |     |          |    |   |   |   |   |   |   |   |   |

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| Type        | i      | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                  |       |       |       |        |        |        |  |  |  |  |
|-------------|--------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|
|             |        | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft [mm] |       |       |       |        |        |        |  |  |  |  |
|             |        |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40            | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |
| <b>K043</b> | 277.79 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 227.16 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 179.37 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 139.08 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 113.83 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 89.17  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 87.62  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 72.92  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 66.20  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 57.58  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 54.18  | 4200                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 47.07  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 44.64  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 43.93  | 3700                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 38.49  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 36.78  | 3400                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 36.54  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 30.39  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 29.81  | 3000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 28.74  | 2900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2900  |       |       |        |        |        |  |  |  |  |
|             | 28.13  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 23.57  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 21.25  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 19.29  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 17.39  | 4200                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 14.85  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 14.10  | 3700                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 11.81  | 3400                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 11.22  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 9.57   | 3000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 9.23   | 2900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2900  |       |       |        |        |        |  |  |  |  |
|             | 9.18   | 4200                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 7.44   | 3700                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 6.23   | 3400                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 5.05   | 3000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 4.87   | 2900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2900  |       |       |        |        |        |  |  |  |  |



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| Type        | i      | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                  |       |       |       |        |        |        |  |  |  |  |
|-------------|--------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|
|             |        | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft [mm] |       |       |       |        |        |        |  |  |  |  |
|             |        |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40            | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |
| <b>K053</b> | 245.70 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 194.73 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 151.20 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 124.06 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 96.08  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 80.46  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 73.08  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 63.77  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 60.26  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 49.52  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 49.43  | 3900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 42.00  | 3600                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 40.63  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 38.32  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 34.53  | 3200                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 33.30  | 3100                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 31.46  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 30.37  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 27.39  | 2800                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2800  |       |       |        |        |        |  |  |  |  |
|             | 23.93  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 23.58  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 19.73  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 19.35  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 16.19  | 3900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 14.98  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 13.75  | 3600                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 11.40  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 11.31  | 3200                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 10.91  | 3100                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 9.40   | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 8.97   | 2800                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2800  |       |       |        |        |        |  |  |  |  |
|             | 7.71   | 3900                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 6.55   | 3600                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 5.39   | 3200                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 5.19   | 3100                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 3000  |       |       |        |        |        |  |  |  |  |
|             | 4.27   | 2800                       |              |      |      |      |      |      |      |      |      |            |                            |                  | 2800  |       |       |        |        |        |  |  |  |  |



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| Type         | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |   |   |   |   |
|--------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|---|---|---|---|
|              |        |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | - | - | - | - |
|              |        | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|              |        | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | -   | -   | - | - |   |   |
| NEMA adapter |        |                   |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|              |        | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | - | - | - |   |
| K063         | 198.00 | 7258              | 8.8            | 198/1              | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 156.92 | 7258              | 11             | 2040/13            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 121.85 | 7258              | 14             | 1584/13            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 99.98  | 7258              | 18             | 16896/169          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 81.53  | 5054              | 21             | 1386/17            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 77.42  | 7258              | 23             | 2013/26            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 64.62  | 7258              | 27             | 840/13             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 58.89  | 7258              | 30             | 3828/65            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 50.17  | 7258              | 35             | 11088/221          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 48.56  | 7258              | 36             | 14520/299          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 44.35  | 2753              | 39             | 754/17             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 41.17  | 7258              | 43             | 118272/2873        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 39.83  | 7036              | 44             | 6732/169           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 35.15  | 4018              | 50             | 1160/33            | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 33.85  | 6700              | 52             | 440/13             | 5600              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 31.88  | 7258              | 55             | 14091/442          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 27.83  | 6319              | 63             | 3256/117           | 5000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 27.29  | 4425              | 64             | 464/17             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 26.84  | 6257              | 65             | 2442/91            | 4800              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 24.25  | 6921              | 72             | 26796/1105         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 22.40  | 4425              | 78             | 14848/663          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 22.07  | 5895              | 79             | 6600/299           | 4400              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 20.00  | 6532              | 88             | 101640/5083        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 17.34  | 4425              | 101            | 1769/102           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 16.40  | 6151              | 107            | 2772/169           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 13.94  | 5859              | 126            | 3080/221           | 5600              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 13.19  | 4425              | 133            | 3364/255           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 11.46  | 5523              | 153            | 22792/1989         | 5000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 11.05  | 5470              | 158            | 2442/221           | 4800              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 10.88  | 4425              | 161            | 12760/1173         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 9.09   | 5151              | 193            | 46200/5083         | 4400              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 8.92   | 4425              | 196            | 116/13             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
| 7.58         | 4310   | 231               | 1160/153       | 5600               |                   |                      |          |      |      |          |     |     |   |   |   |   |
| 6.23         | 4062   | 281               | 8584/1377      | 5000               |                   |                      |          |      |      |          |     |     |   |   |   |   |
| 6.01         | 4018   | 291               | 2146/357       | 4800               |                   |                      |          |      |      |          |     |     |   |   |   |   |
| 4.94         | 3788   | 354               | 5800/1173      | 4400               |                   |                      |          |      |      |          |     |     |   |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |  |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |
| <b>K063</b> | 198.00 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 156.92 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 121.85 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 99.98  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 81.53  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 77.42  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 64.62  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 58.89  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 50.17  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 48.56  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 44.35  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 41.17  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 39.83  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 35.15  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 33.85  | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 31.88  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 27.83  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 27.29  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 26.84  | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 24.25  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 22.40  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 22.07  | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 20.00  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 17.34  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 16.40  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 13.94  | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 13.19  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 11.46  | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 11.05  | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 10.88  | 4700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 9.09   | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 8.92   | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 7.58   | 3700              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 6.23   | 3300              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 6.01   | 3200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 4.94   | 2900              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |



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| Type         | i                             | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |     |   |   |   |   |
|--------------|-------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|-----|---|---|---|---|
|              |                               |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | 160 | - | - | - | - |
|              |                               | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | -   | -   | -   | - | - |   |   |
| NEMA adapter |                               |                   |                |                    |                   |                      |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | -   | - | - |   |   |
| K073         | 256.14                        | 13719             | 6.8            | 5635/22            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 197.75                        | 13719             | 8.8            | 791/4              | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 165.85                        | 13719             | 11             | 2156/13            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 130.16                        | 13719             | 13             | 4165/32            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 100.45                        | 13719             | 17             | 2009/20            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 99.87                         | 11400             | 18             | 18676/187          | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 83.09                         | 13719             | 21             | 1911/23            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 77.11                         | 13719             | 23             | 6554/85            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 70.67                         | 13719             | 25             | 3675/52            | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 64.67                         | 13719             | 27             | 71456/1105         | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 61.25                         | 13719             | 29             | 245/4              | 5600              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 51.72                         | 13719             | 34             | 931/18             | 5000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 50.75                         | 13719             | 34             | 203/4              | 6000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 49.88                         | 13719             | 35             | 399/8              | 4800              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 3 stages                      | 47.56             | 5426           | 37                 | 26680/561         | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              | n <sub>1</sub> =1750 rpm      | 42.61             | 13719          | 41                 | 980/23            | 4400                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 39.17             | 13719          | 45                 | 16646/425         | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              | Maximum torque<br>13719 lb-in | 36.72             | 6700           | 48                 | 13108/357         | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 32.40             | 13719          | 54                 | 63336/1955        | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 30.79             | 8054           | 57                 | 20416/663         | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 27.56             | 13719          | 64                 | 6090/221          | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 24.17             | 8054           | 72                 | 145/6             | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 23.88             | 13719          | 73                 | 406/17            | 5600                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 20.17             | 13719          | 87                 | 15428/765         | 5000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 19.45             | 13719          | 90                 | 1653/85           | 4800                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 18.65             | 8054           | 94                 | 4756/255          | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 16.61             | 13719          | 105                | 6496/391          | 4400                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 15.43             | 8054           | 113                | 6032/391          | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              |                               | 13.12             | 8054           | 133                | 2900/221          | 6000                 |          |      |      |          |     |     |     |   |   |   |   |
|              | 11.37                         | 8054              | 154            | 580/51             | 5600              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 9.60                          | 8054              | 182            | 4408/459           | 5000              |                      |          |      |      |          |     |     |     |   |   |   |   |
|              | 9.26                          | 8054              | 189            | 1102/119           | 4800              |                      |          |      |      |          |     |     |     |   |   |   |   |
| 7.91         | 8054                          | 221               | 9280/1173      | 4400               |                   |                      |          |      |      |          |     |     |     |   |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 |
| <b>K073</b> | 256.14 | 5000              |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |
|             | 197.75 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 165.85 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 130.16 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 100.45 | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 99.87  | 5000              |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |
|             | 83.09  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 77.11  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 70.67  | 4600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 64.67  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 61.25  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 51.72  | 3700              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 50.75  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 49.88  | 3600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 47.56  | 5000              |              |     |      |      |      |      |      |      |      |            | 3000              |                  |       |       |       |       |       |        |        |
|             | 42.61  | 3300              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 39.17  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 36.72  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 32.40  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 30.79  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 27.56  | 4600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 24.17  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 23.88  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 20.17  | 3700              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 19.45  | 3600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 18.65  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 16.61  | 3300              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 15.43  | 5000              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 13.12  | 4600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 11.37  | 4200              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 9.60   | 3700              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 9.26   | 3600              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |
|             | 7.91   | 3300              |              |     |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |       |        |        |



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| Type         | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |          |     |     |   |   |   |
|--------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|----------|-----|-----|---|---|---|
|              |        |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132      | 160 | 180 | - | - | - |
|              |        | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
|              |        | 63                | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | 1160     | 1180     | -   | -   | - | - |   |
| NEMA adapter |        |                   |                |                    |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
|              |        | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | -   | -   | - | - |   |
| K083         | 206.12 | 26552             | 8.5            | 13398/65           | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 163.14 | 26552             | 11             | 26103/160          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 142.45 | 26552             | 12             | 2849/20            | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 125.90 | 26552             | 14             | 25179/200          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 106.46 | 26552             | 16             | 12243/115          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 91.51  | 26552             | 19             | 23793/260          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 79.89  | 26552             | 22             | 6391/80            | 5600              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 79.75  | 25233             | 22             | 319/4              | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 68.44  | 26552             | 26             | 616/9              | 5000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 66.00  | 26552             | 27             | 66/1               | 4800              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 63.12  | 25313             | 28             | 16159/256          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 58.25  | 26552             | 30             | 6699/115           | 4400              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 55.11  | 26552             | 32             | 5291/96            | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 48.87  | 26552             | 36             | 2541/52            | 3900              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 48.71  | 26552             | 36             | 15587/320          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 45.48  | 14391             | 38             | 2001/44            | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 41.19  | 26552             | 42             | 7579/184           | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 41.18  | 26552             | 42             | 9471/230           | 3500              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 35.99  | 14436             | 49             | 101361/2816        | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 35.41  | 26552             | 49             | 1133/32            | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 33.76  | 26552             | 52             | 4389/130           | 3100              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 31.43  | 16958             | 56             | 11063/352          | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 30.91  | 26552             | 57             | 11869/384          | 5600              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 27.78  | 16825             | 63             | 97773/3520         | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 26.48  | 26304             | 66             | 715/27             | 5000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 25.54  | 26021             | 69             | 715/28             | 4800              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 23.49  | 16958             | 75             | 2067/88            | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 22.54  | 25065             | 78             | 4147/184           | 4400              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 20.19  | 16693             | 87             | 7107/352           | 6000              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 18.91  | 23773             | 93             | 605/32             | 3900              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 17.63  | 17144             | 99             | 24817/1408         | 5600              |                      |          |      |      |          |          |          |     |     |   |   |   |
|              | 15.93  | 22587             | 110            | 5863/368           | 3500              |                      |          |      |      |          |          |          |     |     |   |   |   |
| 15.10        | 17144  | 116               | 1495/99        | 5000               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
| 14.56        | 15471  | 120               | 4485/308       | 4800               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
| 13.06        | 21277  | 134               | 209/16         | 3100               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
| 12.85        | 17144  | 136               | 1131/88        | 4400               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
| 10.78        | 17144  | 162               | 345/32         | 3900               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
| 9.09         | 17144  | 193               | 1599/176       | 3500               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |
| 7.45         | 17144  | 235               | 1311/176       | 3100               |                   |                      |          |      |      |          |          |          |     |     |   |   |   |

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| Type        | i      | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                     |       |       |       |        |        |        |  |  |  |
|-------------|--------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|---------------------|-------|-------|-------|--------|--------|--------|--|--|--|
|             |        | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft<br>[mm] |       |       |       |        |        |        |  |  |  |
|             |        |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40               | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |
| <b>K083</b> | 206.12 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 163.14 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 142.45 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 125.90 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 106.46 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 91.51  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 79.89  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 79.75  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 68.44  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 66.00  | 3900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 63.12  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 58.25  | 3600                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 55.11  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 48.87  | 3100                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 48.71  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 45.48  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 41.19  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 41.18  | 2800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 35.99  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 35.41  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 33.76  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 31.43  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 30.91  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 27.78  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 26.48  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 25.54  | 3900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 23.49  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 22.54  | 3600                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 20.19  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 18.91  | 3100                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 17.63  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 15.93  | 2800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 15.10  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 14.56  | 3900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 13.06  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 12.85  | 3600                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 10.78  | 3100                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 9.09   | 2800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |
|             | 7.45   | -                          |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |



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| Type         | i       | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |   |   |   |   |
|--------------|---------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|---|---|---|---|
|              |         |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | - | - | - | - |
|              |         | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|              |         | 163               | 171            |                    | 180               | 190                  | 1100     | 1112 | 1132 | -        | -   | -   | - |   |   |   |
| NEMA adapter |         |                   |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|              |         | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | - | - | - |   |
| K084         | 2205.52 | 26552             | 0.8            | 716793/325         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1803.58 | 26552             | 1.0            | 46893/26           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1745.64 | 26552             | 1.0            | 2793021/1600       | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1524.22 | 26552             | 1.1            | 304843/200         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1427.51 | 26552             | 1.2            | 182721/128         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1424.12 | 26552             | 1.2            | 92568/65           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1246.44 | 26552             | 1.4            | 19943/16           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1127.18 | 26552             | 1.6            | 45087/40           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 1104.23 | 26552             | 1.6            | 14355/13           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 984.20  | 26552             | 1.8            | 4921/5             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 903.77  | 26552             | 1.9            | 763686/845         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 873.98  | 26552             | 2.0            | 55935/64           | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 763.13  | 26552             | 2.3            | 6105/8             | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 715.32  | 26552             | 2.4            | 1487871/2080       | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 695.67  | 26552             | 2.5            | 180873/260         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 624.59  | 26552             | 2.8            | 162393/260         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 550.61  | 26552             | 3.2            | 704781/1280        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 525.61  | 26552             | 3.3            | 341649/650         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 480.77  | 26552             | 3.6            | 76923/160          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 430.17  | 26552             | 4.1            | 643104/1495        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 416.02  | 26552             | 4.2            | 1331253/3200       | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 363.25  | 26552             | 4.8            | 145299/400         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 348.82  | 26552             | 5.0            | 294756/845         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 340.47  | 26552             | 5.1            | 78309/230          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 297.29  | 26552             | 5.9            | 34188/115          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 292.01  | 26552             | 6.0            | 37961/130          | 5600              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 276.09  | 26552             | 6.3            | 287133/1040        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 241.07  | 26552             | 7.3            | 31339/130          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 236.66  | 26552             | 7.4            | 138446/585         | 5000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 231.12  | 26552             | 7.6            | 147917/640         | 5600              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 228.21  | 26552             | 7.7            | 29667/130          | 4800              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 201.80  | 26552             | 8.7            | 48433/240          | 5600              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 187.31  | 26552             | 9.3            | 269731/1440        | 5000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 180.62  | 26552             | 9.7            | 115599/640         | 4800              |                      |          |      |      |          |     |     |   |   |   |   |
| 163.55       | 26552   | 11                | 88319/540      | 5000               |                   |                      |          |      |      |          |     |     |   |   |   |   |
| 157.71       | 26552   | 11                | 12617/80       | 4800               |                   |                      |          |      |      |          |     |     |   |   |   |   |

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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |
| <b>K093</b> | 169.25 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 143.08 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 123.86 | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 109.70 | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 94.90  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 91.51  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 80.74  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 68.71  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 63.96  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 59.28  | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 54.07  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 49.73  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 46.81  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 41.46  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 40.43  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |        |
|             | 37.13  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 35.86  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 34.58  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 31.61  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2000             |       |       |       |       |       |        |        |        |
|             | 31.39  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 30.51  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 27.18  | 5000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 25.97  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 24.07  | 4800              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 22.40  | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 20.82  | 4200              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 20.08  | 4100              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 18.79  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 17.72  | 3700              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 15.28  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |        |
|             | 15.08  | 3300              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 13.01  | 3000              |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 11.95  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2000             |       |       |       |       |       |        |        |        |
|             | 10.91  | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2500             |       |       |       |       |       |        |        |        |
|             | 8.87   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2300             |       |       |       |       |       |        |        |        |
|             | 6.94   | -                 |              |     |      |      |      |      |      |      |      |            |                   | 2000             |       |       |       |       |       |        |        |        |



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| Type                                 | i                             | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|--------------------------------------|-------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|---|---|---|---|--|--|--|--|--|--|--|--|--|
|                                      |                               |                   |                |                    |                   | IEC adapter          |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | NEMA adapter      |                |                    |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | - | - | - | - |  |  |  |  |  |  |  |  |  |
| <b>K094</b>                          | 1810.95                       | 39828             | 1.0            | 1131846/625        | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 4 stages<br>n <sub>1</sub> =1750 rpm | 1531.00                       | 39828             | 1.1            | 2640974/1725       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1480.92                       | 39828             | 1.2            | 37023/25           | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1251.99                       | 39828             | 1.4            | 86387/69           | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 1169.35                       | 39828             | 1.5            | 1607856/1375       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 988.58                        | 39828             | 1.8            | 3751664/3795       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 906.69                        | 39828             | 1.9            | 31734/35           | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 766.52                        | 39828             | 2.3            | 17630/23           | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 742.09                        | 39828             | 2.4            | 1205892/1625       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 627.37                        | 39828             | 2.8            | 937916/1495        | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 571.21                        | 39828             | 3.1            | 142803/250         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 482.91                        | 39828             | 3.6            | 111069/230         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 431.58                        | 39828             | 4.1            | 269739/625         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | 364.86                        | 39828             | 4.8            | 209797/575         | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      | Maximum torque<br>39828 lb-in | 353.21            | 39828          | 5.0                | 1015488/2875      | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 298.61            | 39828          | 5.9                | 789824/2645       | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
|                                      |                               | 286.42            | 39828          | 6.1                | 465432/1625       | 6000                 |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 242.14                               |                               | 39828             | 7.2            | 1086008/4485       | 6000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 239.77                               |                               | 39828             | 7.3            | 29971/125          | 5600              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 202.70                               |                               | 39828             | 8.6            | 209797/1035        | 5600              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 194.32                               |                               | 39828             | 9.0            | 218612/1125        | 5000              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 187.38                               |                               | 39828             | 9.3            | 163959/875         | 4800              |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 164.28                               | 39828                         | 11                | 1530284/9315   | 5000               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 158.41                               | 39828                         | 11                | 54653/345      | 4800               |                   |                      |          |      |      |          |   |   |   |   |  |  |  |  |  |  |  |  |  |

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| Type        | i       | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |  |
|-------------|---------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|
|             |         | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |
|             |         |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
| <b>K094</b> | 1810.95 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1531.00 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1480.92 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1251.99 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 1169.35 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 988.58  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 906.69  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 766.52  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 742.09  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 627.37  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 571.21  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 482.91  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 431.58  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 364.86  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 353.21  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 298.61  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 286.42  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 242.14  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 239.77  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 202.70  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 194.32  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 187.38  | 4100              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 164.28  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |
|             | 158.41  | 4100              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |



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| Type         | i      | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |          |          |      |     |     |   |
|--------------|--------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|----------|----------|------|-----|-----|---|
|              |        |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132      | 160      | 180  | 200 | 225 | - |
|              |        | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |          |          |      |     |     |   |
|              |        | 63                | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | 1160     | 1180     | 1200     | 1225 | -   | -   |   |
| NEMA adapter |        |                   |                |                    |                   |                      |          |      |      |          |          |          |          |      |     |     |   |
|              |        | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | N364 | -   | -   |   |
| K103         | 140.95 | 70806             | 12             | 128269/910         | 6000              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 124.50 | 70806             | 14             | 13072/105          | 5600              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 108.07 | 70806             | 16             | 20425/189          | 5000              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 104.21 | 70806             | 17             | 20425/196          | 4800              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 93.37  | 70806             | 19             | 3268/35            | 4400              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 79.90  | 70806             | 22             | 72713/910          | 3900              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 69.01  | 70806             | 25             | 55556/805          | 3500              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 58.36  | 70806             | 30             | 817/14             | 3100              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 53.27  | 52777             | 33             | 2983/56            | 6000              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 47.62  | 70806             | 37             | 41667/875          | 2700              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 47.05  | 66363             | 37             | 988/21             | 5600              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 40.84  | 66363             | 43             | 30875/756          | 5000              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 39.38  | 41846             | 44             | 30875/784          | 4800              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 38.64  | 70806             | 45             | 39216/1015         | 2300              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 35.29  | 66363             | 50             | 247/7              | 4400              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 30.85  | 70806             | 57             | 30229/980          | 2100              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 30.33  | 30048             | 58             | 2669/88            | 6000              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 30.20  | 66363             | 58             | 1691/56            | 3900              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 26.79  | 37784             | 65             | 884/33             | 5600              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 26.08  | 66363             | 67             | 4199/161           | 3500              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 23.25  | 37784             | 75             | 27625/1188         | 5000              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 22.42  | 23826             | 78             | 27625/1232         | 4800              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 22.05  | 66363             | 79             | 1235/56            | 3100              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 20.09  | 37784             | 87             | 221/11             | 4400              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 18.00  | 66363             | 97             | 12597/700          | 2700              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 17.19  | 37784             | 102            | 1513/88            | 3900              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 14.85  | 37784             | 118            | 3757/253           | 3500              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 14.60  | 66363             | 120            | 2964/203           | 2300              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 12.56  | 37784             | 139            | 1105/88            | 3100              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 11.66  | 66363             | 150            | 9139/784           | 2100              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 10.25  | 37784             | 171            | 11271/1100         | 2700              |                      |          |      |      |          |          |          |          |      |     |     |   |
|              | 8.31   | 37784             | 211            | 2652/319           | 2300              |                      |          |      |      |          |          |          |          |      |     |     |   |
| 6.64         | 37784  | 264               | 8177/1232      | 2100               |                   |                      |          |      |      |          |          |          |          |      |     |     |   |

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| Type         | i       | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |     |     |   |   |   |   |
|--------------|---------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|-----|-----|---|---|---|---|
|              |         |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132 | 160 | - | - | - | - |
|              |         | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |   |
|              |         | 163               | 171            |                    | 180               | 190                  | 1100     | 1112 | 1132 | 1160     | -        | -   | -   | - | - |   |   |
| NEMA adapter |         |                   |                |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | -   | -   | - | - | - |   |
|              |         | [lb-in]           | [rpm]          |                    | [rpm]             |                      |          |      |      |          |          |     |     |   |   |   |   |
| K104         | 1301.54 | 70806             | 1.3            | 300656/231         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 1129.81 | 70806             | 1.5            | 2348875/2079       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 1004.85 | 70806             | 1.7            | 738568/735         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 976.16  | 70806             | 1.8            | 75164/77           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 872.27  | 70806             | 2.0            | 2308025/2646       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 842.74  | 70806             | 2.1            | 1150336/1365       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 753.64  | 70806             | 2.3            | 184642/245         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 731.54  | 70806             | 2.4            | 1797400/2457       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 661.38  | 70806             | 2.6            | 13889/21           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 632.05  | 70806             | 2.8            | 287584/455         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 574.12  | 70806             | 3.0            | 1736125/3024       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 510.43  | 70806             | 3.4            | 267976/525         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 496.04  | 70806             | 3.5            | 13889/28           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 443.08  | 70806             | 3.9            | 167485/378         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 422.20  | 70806             | 4.1            | 339872/805         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 382.82  | 70806             | 4.6            | 66994/175          | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 366.49  | 70806             | 4.8            | 531050/1449        | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 359.12  | 70806             | 4.9            | 32680/91           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 316.65  | 70806             | 5.5            | 254904/805         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 311.74  | 70806             | 5.6            | 510625/1638        | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 311.24  | 70806             | 5.6            | 6536/21            | 5600              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 270.17  | 70806             | 6.5            | 102125/378         | 5600              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 269.34  | 70806             | 6.5            | 24510/91           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 262.82  | 70806             | 6.7            | 248368/945         | 5000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 253.44  | 70806             | 6.9            | 62092/245          | 4800              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 233.43  | 70806             | 7.5            | 1634/7             | 5600              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 228.15  | 70806             | 7.7            | 388075/1701        | 5000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 220.00  | 70806             | 8.0            | 388075/1764        | 4800              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 216.51  | 70806             | 8.1            | 104576/483         | 4400              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 197.12  | 70806             | 8.9            | 62092/315          | 5000              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 190.08  | 70806             | 9.2            | 46569/245          | 4800              |                      |          |      |      |          |          |     |     |   |   |   |   |
|              | 187.95  | 70806             | 9.3            | 817000/4347        | 4400              |                      |          |      |      |          |          |     |     |   |   |   |   |
| 162.39       | 70806   | 11                | 26144/161      | 4400               |                   |                      |          |      |      |          |          |     |     |   |   |   |   |

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| Type        | i       | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                     |       |       |       |        |        |        |  |  |  |  |
|-------------|---------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|---------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|
|             |         | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft<br>[mm] |       |       |       |        |        |        |  |  |  |  |
|             |         |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40               | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |
| <b>K104</b> | 1301.54 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 3000                |       |       |       |        |        |        |  |  |  |  |
|             | 1129.81 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 3000                |       |       |       |        |        |        |  |  |  |  |
|             | 1004.85 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 976.16  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 3000                |       |       |       |        |        |        |  |  |  |  |
|             | 872.27  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 842.74  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 753.64  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 731.54  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 661.38  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 632.05  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 574.12  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 510.43  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 496.04  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 443.08  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 422.20  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 382.82  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 366.49  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 359.12  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 316.65  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 311.74  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 311.24  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 270.17  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 269.34  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 262.82  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 253.44  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 233.43  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 228.15  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 220.00  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 216.51  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 197.12  | 4500                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 190.08  | 4400                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 187.95  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |
|             | 162.39  | 4000                       |              |      |      |      |      |      |      |      |      |            |                            | 2500                |       |       |       |        |        |        |  |  |  |  |



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| Type        | i      | SERVO adapter     |              |     |      |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |        |        |        |  |
|-------------|--------|-------------------|--------------|-----|------|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|--------|--------|--------|--|
|             |        | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |        |        |        |  |
|             |        |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                   | [rpm]            | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |
| <b>K123</b> | 151.11 | 5000              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 131.76 | 4800              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 127.05 | 4600              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 113.49 | 4200              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 97.73  | 3700              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 85.37  | 3400              |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 73.74  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 60.98  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 58.47  | 5000              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 50.98  | 4800              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 50.18  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 49.16  | 4600              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 43.91  | 4200              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 41.25  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 37.81  | 3700              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 35.02  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 33.34  | 5000              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 33.03  | 3400              |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 29.89  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1600              |                  |       |       |       |       |        |        |        |  |
|             | 29.07  | 4800              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 28.53  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 28.03  | 4600              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 25.04  | 4200              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 23.60  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 21.56  | 3700              |              |     |      |      |      |      |      |      |      |      |            | 2500              |                  |       |       |       |       |        |        |        |  |
|             | 19.42  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 18.84  | 3400              |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 16.27  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 15.96  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 13.55  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 13.46  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 11.57  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1600              |                  |       |       |       |       |        |        |        |  |
|             | 11.07  | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 9.10   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 7.73   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1800              |                  |       |       |       |       |        |        |        |  |
|             | 6.60   | -                 |              |     |      |      |      |      |      |      |      |      |            | 1600              |                  |       |       |       |       |        |        |        |  |



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| Type         | i       | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |     |     |   |   |   |
|--------------|---------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|-----|-----|---|---|---|
|              |         |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132 | 160 | - | - | - |
|              |         | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |         | 63                | I71            |                    |                   | I80                  | I90      | I100 | I112 | I132     | I160     | -   | -   | - | - | - |
| NEMA adapter |         |                   |                |                    |                   |                      |          |      |      |          |          |     |     |   |   |   |
|              |         | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | -   | -   | - | - | - |
| K124         | 1579.81 | 115060            | 1.1            | 25277/16           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1377.44 | 115060            | 1.3            | 12397/9            | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1219.69 | 115060            | 1.4            | 195151/160         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1186.50 | 115060            | 1.5            | 2373/2             | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1063.46 | 115060            | 1.6            | 95711/90           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1022.92 | 115060            | 1.7            | 132979/130         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 1021.73 | 115060            | 1.7            | 26565/26           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 916.04  | 115060            | 1.9            | 421377/460         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 891.88  | 115060            | 2.0            | 521752/585         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 802.79  | 115060            | 2.2            | 205513/256         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 788.83  | 115060            | 2.2            | 41019/52           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 768.25  | 115060            | 2.3            | 1148532/1495       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 699.95  | 115060            | 2.5            | 100793/144         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 661.56  | 115060            | 2.6            | 111804/169         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 619.56  | 115060            | 2.8            | 495649/800         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 602.92  | 115060            | 2.9            | 443751/736         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 540.20  | 115060            | 3.2            | 243089/450         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 519.19  | 115060            | 3.4            | 215985/416         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 512.47  | 115060            | 3.4            | 471471/920         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 465.31  | 115060            | 3.8            | 1070223/2300       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 446.82  | 115060            | 3.9            | 154154/345         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 435.90  | 115060            | 4.0            | 181335/416         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 400.70  | 115060            | 4.4            | 104181/260         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 384.88  | 115060            | 4.5            | 1018017/2645       | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 380.06  | 115060            | 4.6            | 29645/78           | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 377.78  | 115060            | 4.6            | 12089/32           | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 331.43  | 115060            | 5.3            | 7623/23            | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 329.39  | 115060            | 5.3            | 5929/18            | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 327.38  | 115060            | 5.3            | 391545/1196        | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 319.02  | 115060            | 5.5            | 229691/720         | 5000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 307.62  | 115060            | 5.7            | 98439/320          | 4800              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 283.73  | 115060            | 6.2            | 26103/92           | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 281.92  | 115060            | 6.2            | 190575/676         | 6000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 278.15  | 115060            | 6.3            | 112651/405         | 5000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 268.22  | 115060            | 6.5            | 16093/60           | 4800              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 262.80  | 115060            | 6.7            | 12089/46           | 4400              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 244.33  | 115060            | 7.2            | 12705/52           | 5600              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 239.59  | 115060            | 7.3            | 165319/690         | 5000              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 231.04  | 115060            | 7.6            | 212553/920         | 4800              |                      |          |      |      |          |          |     |     |   |   |   |
|              | 229.14  | 115060            | 7.6            | 47432/207          | 4400              |                      |          |      |      |          |          |     |     |   |   |   |
| 206.32       | 115060  | 8.5               | 16093/78       | 5000               |                   |                      |          |      |      |          |          |     |     |   |   |   |
| 198.95       | 115060  | 8.8               | 20691/104      | 4800               |                   |                      |          |      |      |          |          |     |     |   |   |   |
| 197.38       | 115060  | 8.9               | 104412/529     | 4400               |                   |                      |          |      |      |          |          |     |     |   |   |   |
| 169.97       | 115060  | 10                | 50820/299      | 4400               |                   |                      |          |      |      |          |          |     |     |   |   |   |

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| Type        | i       | SERVO adapter     |              |     |      |      |      |      |      |      |      | Input unit |                   |                  |       |       |       |       |       |        |        |        |  |  |
|-------------|---------|-------------------|--------------|-----|------|------|------|------|------|------|------|------------|-------------------|------------------|-------|-------|-------|-------|-------|--------|--------|--------|--|--|
|             |         | n <sub>1max</sub> | Adapter size |     |      |      |      |      |      |      |      |            | n <sub>1max</sub> | Input shaft [mm] |       |       |       |       |       |        |        |        |  |  |
|             |         |                   | [rpm]        | S92 | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189       |                   | S190             | [rpm] | 19x40 | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |
| <b>K124</b> | 1579.81 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 1377.44 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 1219.69 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 1186.50 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 1063.46 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 1022.92 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 1021.73 | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 3000  |       |       |       |       |        |        |        |  |  |
|             | 916.04  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 891.88  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 802.79  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 788.83  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 768.25  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 699.95  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 661.56  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 619.56  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 602.92  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 540.20  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 519.19  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 512.47  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 465.31  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 446.82  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 435.90  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 400.70  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 384.88  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 380.06  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 377.78  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 331.43  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 329.39  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 327.38  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 319.02  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 307.62  | 4600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 283.73  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 281.92  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 278.15  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 268.22  | 4600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 262.80  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 244.33  | 5000              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 239.59  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 231.04  | 4600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 229.14  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 206.32  | 4800              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 198.95  | 4600              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 197.38  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |
|             | 169.97  | 4200              |              |     |      |      |      |      |      |      |      |            |                   |                  | 2500  |       |       |       |       |        |        |        |  |  |



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| Type        | i      | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                  |       |       |       |        |        |        |  |  |  |  |  |  |  |  |
|-------------|--------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|--|--|--|--|
|             |        | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft [mm] |       |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             |        |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40            | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |  |  |  |  |
| <b>K153</b> | 146.69 | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 126.34 | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 109.28 | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 96.39  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 82.79  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 68.88  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 57.15  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 56.75  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 48.88  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 47.66  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 42.28  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 40.97  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 37.30  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 35.63  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 35.45  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1700  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 32.03  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 30.69  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 26.65  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 26.54  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 2500  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 23.41  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 22.11  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 20.11  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 18.44  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 16.73  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 15.85  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 13.88  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 13.72  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1700  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 11.58  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 9.95   | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1800  |       |       |        |        |        |  |  |  |  |  |  |  |  |
|             | 8.61   | -                          |              |      |      |      |      |      |      |      |      |            |                            |                  | 1700  |       |       |        |        |        |  |  |  |  |  |  |  |  |



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| Type         | i       | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |          |          |          |     |     |   |   |
|--------------|---------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|----------|----------|----------|-----|-----|---|---|
|              |         |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112      | 132      | 160      | 180 | 200 | - | - |
|              |         | IEC adapter       |                |                    |                   |                      |          |      |      |          |          |          |          |     |     |   |   |
|              |         | 163               | 171            |                    |                   | 180                  | 190      | 1100 | 1112 | 1132     | 1160     | 1180     | 1200     | -   | -   | - |   |
| NEMA adapter |         |                   |                |                    |                   |                      |          |      |      |          |          |          |          |     |     |   |   |
|              |         | [lb-in]           | [rpm]          |                    |                   | N56                  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | -   | -   | - |   |
| K154         | 1308.92 | 159313            | 1.3            | 765716/585         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1127.36 | 159313            | 1.6            | 674163/598         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 1035.99 | 159313            | 1.7            | 745913/720         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 975.12  | 159313            | 1.8            | 823977/845         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 904.58  | 159313            | 1.9            | 244237/270         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 892.29  | 159313            | 2.0            | 2626911/2944       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 799.45  | 159313            | 2.2            | 719509/900         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 779.11  | 159313            | 2.2            | 286713/368         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 771.80  | 159313            | 2.3            | 3210669/4160       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 688.57  | 159313            | 2.5            | 2533923/3680       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 676.04  | 159313            | 2.6            | 30422/45           | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 673.90  | 159313            | 2.6            | 350427/520         | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 595.58  | 159313            | 2.9            | 3097017/5200       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 582.27  | 159313            | 3.0            | 1232091/2116       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 581.11  | 159313            | 3.0            | 679903/1170        | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 507.30  | 159313            | 3.4            | 547883/1080        | 5600              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 503.64  | 159313            | 3.5            | 1505889/2990       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 500.51  | 159313            | 3.5            | 2394441/4784       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 436.93  | 159313            | 4.0            | 643167/1472        | 5600              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 434.63  | 159313            | 4.0            | 105616/243         | 5000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 432.92  | 159313            | 4.0            | 2926539/6760       | 6000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 419.11  | 159313            | 4.2            | 3772/9             | 4800              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 377.93  | 159313            | 4.6            | 786093/2080        | 5600              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 374.35  | 159313            | 4.7            | 8610/23            | 5000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 369.91  | 159313            | 4.7            | 16646/45           | 4400              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 360.98  | 159313            | 4.8            | 16605/46           | 4800              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 323.79  | 159313            | 5.4            | 12628/39           | 5000              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 318.60  | 159313            | 5.5            | 674163/2116        | 4400              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 312.23  | 159313            | 5.6            | 4059/13            | 4800              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 310.30  | 159313            | 5.6            | 72611/234          | 3900              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 275.58  | 159313            | 6.4            | 823977/2990        | 4400              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 267.26  | 159313            | 6.5            | 1278585/4784       | 3900              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 261.49  | 159313            | 6.7            | 11767/45           | 3500              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 231.17  | 159313            | 7.6            | 312543/1352        | 3900              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 225.22  | 159313            | 7.8            | 953127/4232        | 3500              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 214.39  | 159313            | 8.2            | 125419/585         | 3100              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 194.80  | 159313            | 9.0            | 1164933/5980       | 3500              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 184.65  | 159313            | 9.5            | 441693/2392        | 3100              |                      |          |      |      |          |          |          |          |     |     |   |   |
|              | 159.72  | 159313            | 11             | 539847/3380        | 3100              |                      |          |      |      |          |          |          |          |     |     |   |   |

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| Type        | i       | SERVO adapter              |              |      |      |      |      |      |      |      |      | Input unit |                            |                     |       |       |       |        |        |        |  |  |  |  |  |
|-------------|---------|----------------------------|--------------|------|------|------|------|------|------|------|------|------------|----------------------------|---------------------|-------|-------|-------|--------|--------|--------|--|--|--|--|--|
|             |         | n <sub>1max</sub><br>[rpm] | Adapter size |      |      |      |      |      |      |      |      |            | n <sub>1max</sub><br>[rpm] | Input shaft<br>[mm] |       |       |       |        |        |        |  |  |  |  |  |
|             |         |                            | S92          | S105 | S114 | S115 | S130 | S141 | S142 | S180 | S189 | S190       |                            | 19x40               | 24x50 | 28x60 | 38x80 | 42x110 | 48x110 | 55x110 |  |  |  |  |  |
| <b>K154</b> | 1308.92 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1127.36 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 1035.99 | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 975.12  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 904.58  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 892.29  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 799.45  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 779.11  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 771.80  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 688.57  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 676.04  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 673.90  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 595.58  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 582.27  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 581.11  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 507.30  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 503.64  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 500.51  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 436.93  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 434.63  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 432.92  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 419.11  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 377.93  | 5000                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 374.35  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 369.91  | 4300                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 360.98  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 323.79  | 4900                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 318.60  | 4300                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 312.23  | 4700                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 310.30  | 3800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 275.58  | 4300                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 267.26  | 3800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 261.49  | 3500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 231.17  | 3800                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 225.22  | 3500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 214.39  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 194.80  | 3500                       |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 184.65  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |
|             | 159.72  | -                          |              |      |      |      |      |      |      |      |      |            |                            |                     | 2500  |       |       |        |        |        |  |  |  |  |  |



Legend see page 393

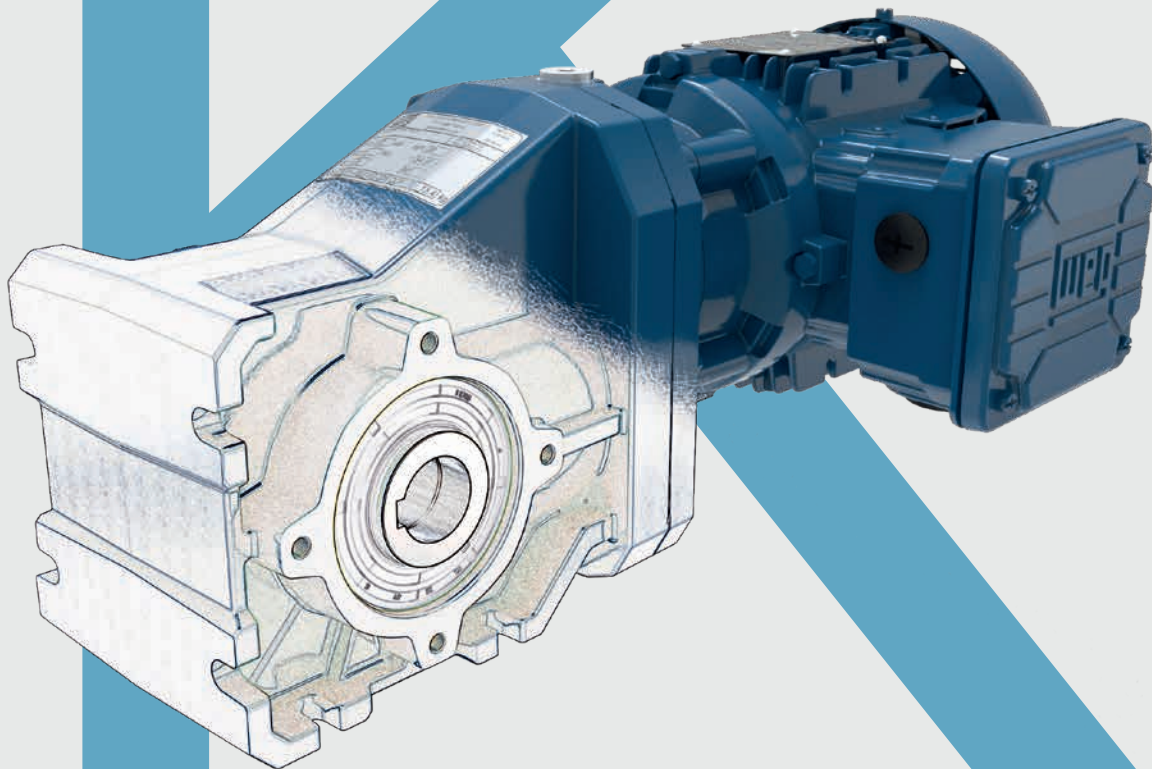
| Type         | i                              | T <sub>2max</sub> | n <sub>2</sub> | i <sub>exact</sub> | n <sub>1max</sub> | IEC motor frame size |          |      |      |          |     |     |   |   |   |   |
|--------------|--------------------------------|-------------------|----------------|--------------------|-------------------|----------------------|----------|------|------|----------|-----|-----|---|---|---|---|
|              |                                |                   |                |                    |                   | 63                   | 71       | 80   | 90   | 100      | 112 | 132 | - | - | - | - |
|              |                                | IEC adapter       |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|              |                                | 63                | 171            |                    | 180               | 190                  | 1100     | 1112 | 1132 | -        | -   | -   | - |   |   |   |
| NEMA adapter |                                |                   |                |                    |                   |                      |          |      |      |          |     |     |   |   |   |   |
|              |                                | [lb-in]           | [rpm]          |                    | [rpm]             | N56                  | N143/145 | N182 | N184 | N213/215 | -   | -   | - | - | - |   |
| K155         | 14005.40                       | 159313            | 0.1            | 40965806/2925      | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 11453.02                       | 159313            | 0.2            | 1340003/117        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 9679.02                        | 159313            | 0.2            | 26133359/2700      | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 9043.42                        | 159313            | 0.2            | 58194416/6435      | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 7915.09                        | 159313            | 0.2            | 1709659/216        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 7012.05                        | 159313            | 0.2            | 273470/39          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 6249.84                        | 159313            | 0.3            | 9281006/1485       | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 5739.09                        | 159313            | 0.3            | 14548604/2535      | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 4845.97                        | 159313            | 0.4            | 174455/36          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 4417.59                        | 159313            | 0.4            | 574287/130         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 3966.24                        | 159313            | 0.4            | 4640503/1170       | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 3337.74                        | 159313            | 0.5            | 3254293/975        | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 3052.96                        | 159313            | 0.6            | 244237/80          | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | 2731.65                        | 159313            | 0.6            | 532672/195         | 6000              |                      |          |      |      |          |     |     |   |   |   |   |
|              | Maximum torque<br>159313 lb-in | 2306.68           | 159313         | 0.8                | 4152029/1800      | 6000                 |          |      |      |          |     |     |   |   |   |   |
|              |                                | 2215.09           | 159313         | 0.8                | 16845752/7605     | 6000                 |          |      |      |          |     |     |   |   |   |   |
|              |                                | 1887.82           | 159313         | 0.9                | 84952/45          | 6000                 |          |      |      |          |     |     |   |   |   |   |
|              |                                | 1854.30           | 159313         | 0.9                | 3254293/1755      | 5600                 |          |      |      |          |     |     |   |   |   |   |
|              |                                | 1530.83           | 159313         | 1.1                | 2686607/1755      | 6000                 |          |      |      |          |     |     |   |   |   |   |
|              |                                | 1502.83           | 159313         | 1.2                | 23737196/15795    | 5000                 |          |      |      |          |     |     |   |   |   |   |
| 1449.16      |                                | 159313            | 1.2            | 847757/585         | 4800              |                      |          |      |      |          |     |     |   |   |   |   |
| 1281.49      |                                | 159313            | 1.4            | 4152029/3240       | 5600              |                      |          |      |      |          |     |     |   |   |   |   |
| 1038.59      | 159313                         | 1.7               | 7571347/7290   | 5000               |                   |                      |          |      |      |          |     |     |   |   |   |   |
| 1001.50      | 159313                         | 1.7               | 1081621/1080   | 4800               |                   |                      |          |      |      |          |     |     |   |   |   |   |

Legend see page 393

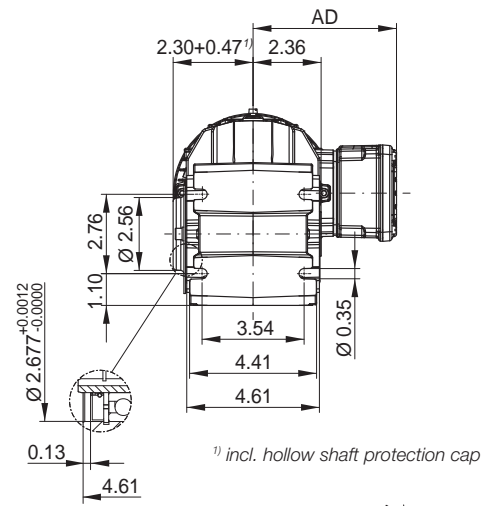
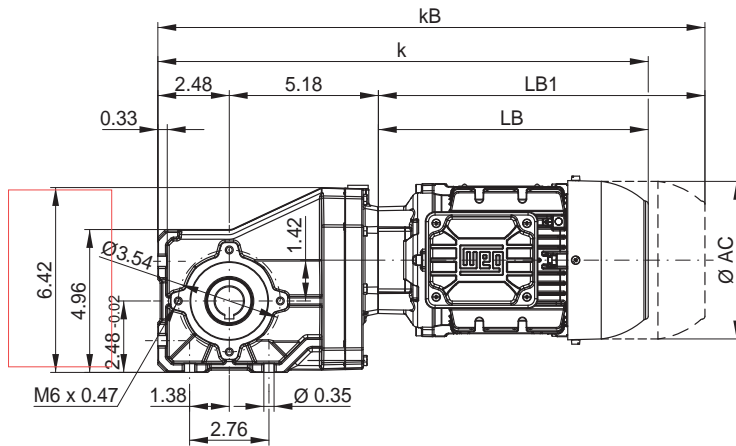




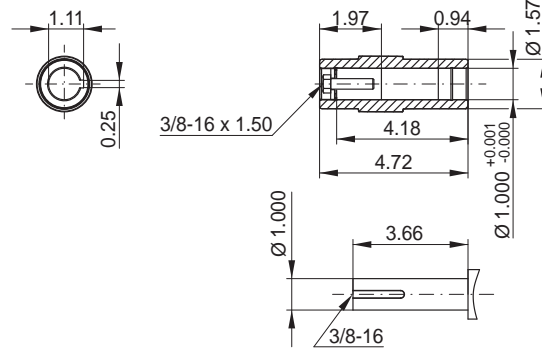
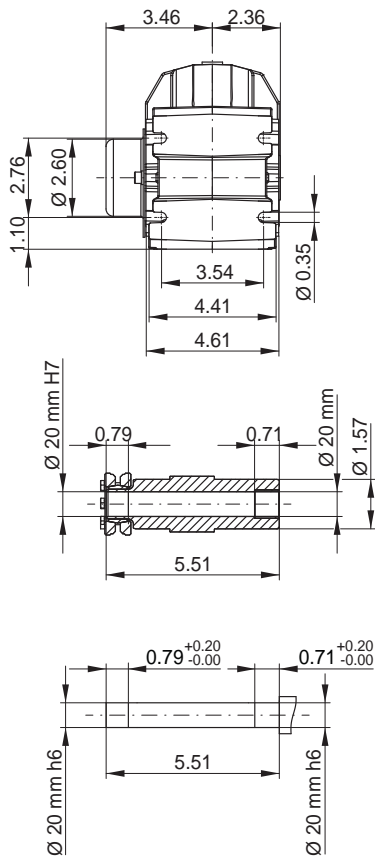
Dimension sheets - Geared motors



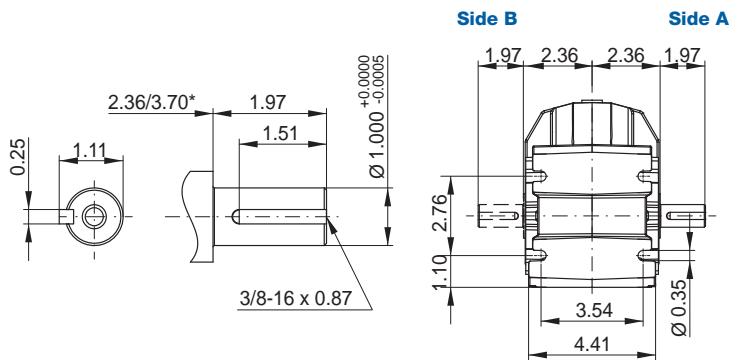
### KH022 - Hollow shaft



### KD022 - Shrink disc



### KS022 - Output shaft



| Motor fr. | 63    | 71    | 80    | L80   | 90S/L |
|-----------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  |
| k         | 15.71 | 17.05 | 17.36 | 18.29 | 19.02 |
| kB        | 17.44 | 18.98 | 19.65 | 20.57 | 21.89 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 |

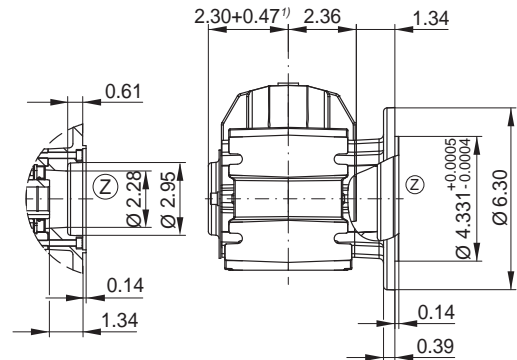
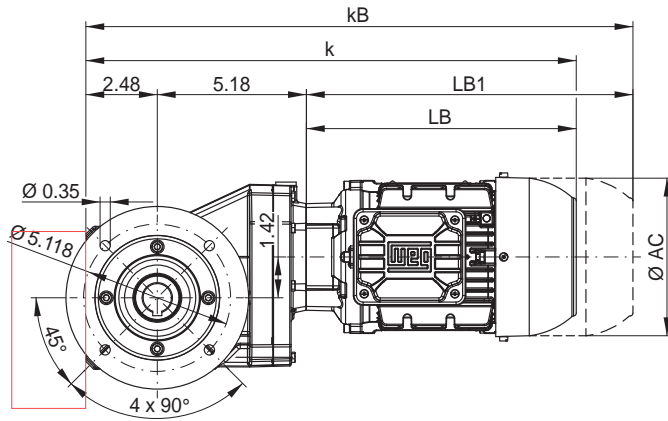
Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

\*Designs KS/KF

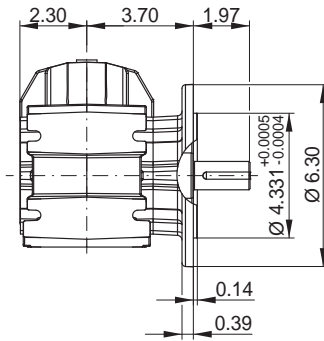


**KO022 - Flange execution  $\varnothing$  6.30 in ( $\varnothing$  160 mm) with hollow shaft**

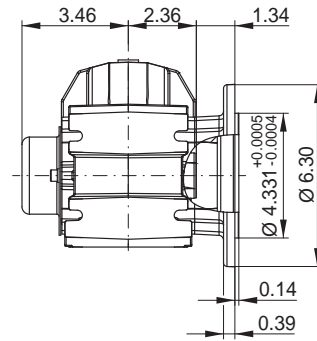


¹) incl. hollow shaft protection cap

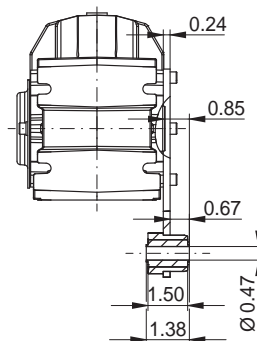
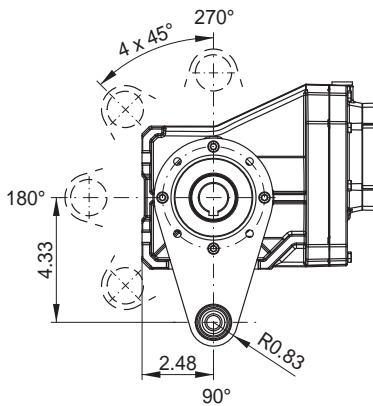
**KF022 - Flange execution  $\varnothing$  6.30 in ( $\varnothing$  160 mm) with output shaft**



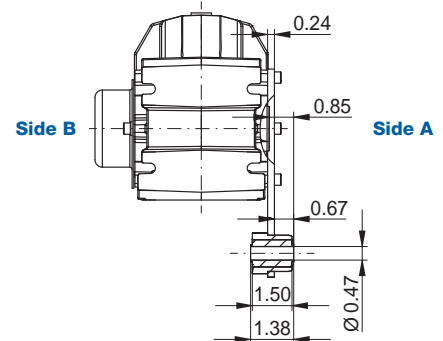
**KP022 - Flange execution  $\varnothing$  6.30 in ( $\varnothing$  160 mm) with hollow shaft and shrink disc**



**KT022 - Hollow shaft with torque arm \*\***



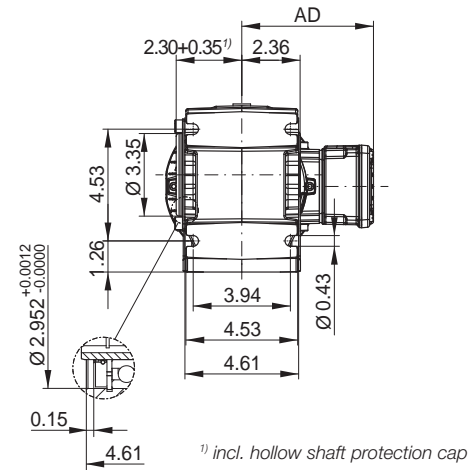
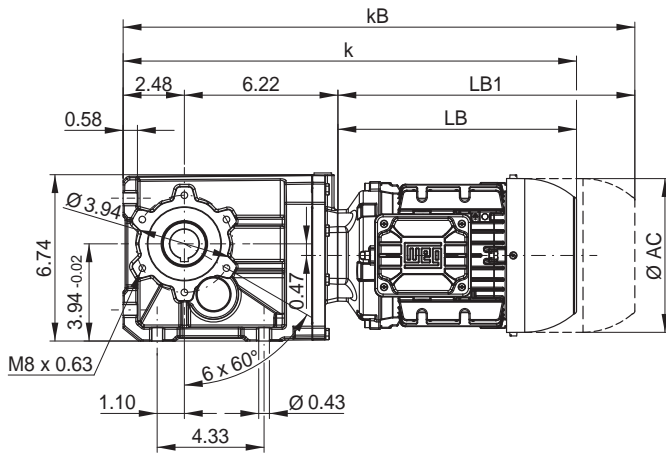
**KU022 - Hollow shaft with shrink disc and torque arm \*\***



Torque arm possible positions:  
90°. 120°. 150°. 180°. 210°. 240°. 270°  
Dimensions in inch.

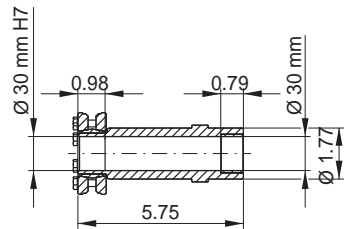
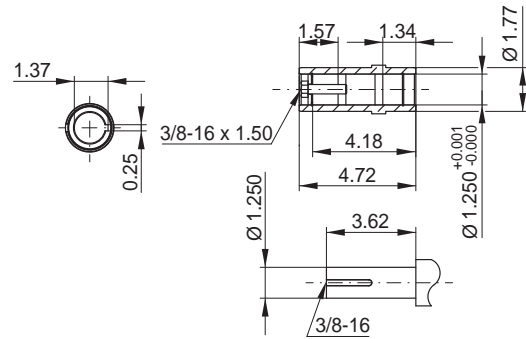
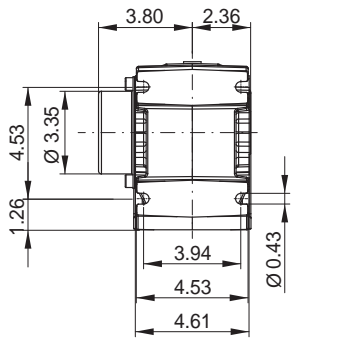
\*\* Torque arm may be mounted on side A or side B.

### KH033 - Hollow shaft

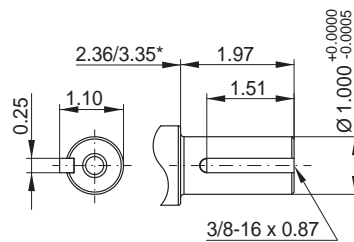
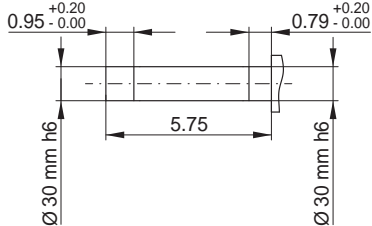


<sup>1)</sup> incl. hollow shaft protection cap

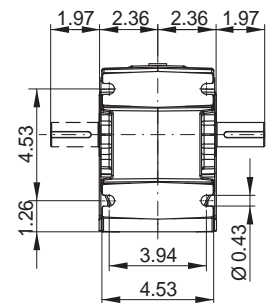
### KD033 - Shrink disc



### KS033 - Output shaft



Side B Side A



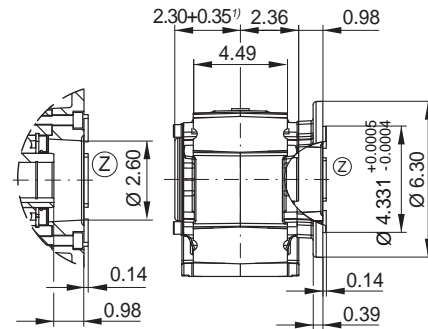
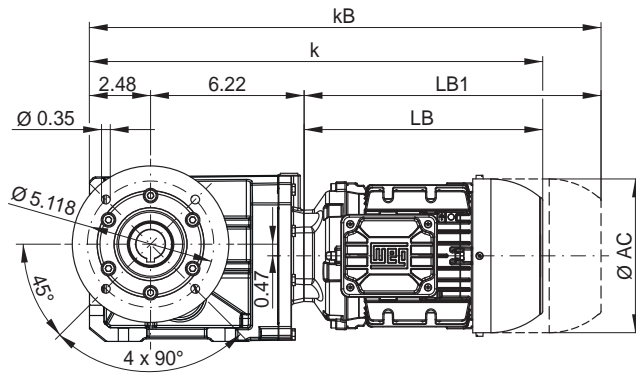
| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L |
|-----------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  |
| k         | 16.73 | 18.07 | 18.39 | 19.33 | 20.04 | 22.01 | 23.50 |
| kB        | 18.46 | 20.00 | 20.67 | 21.61 | 22.91 | 25.31 | 26.81 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

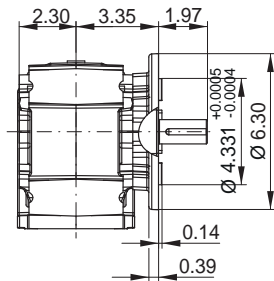
\*Designs KS/KF

**KO033 - Flange execution Ø 6.30 in (Ø 160 mm) with hollow shaft**

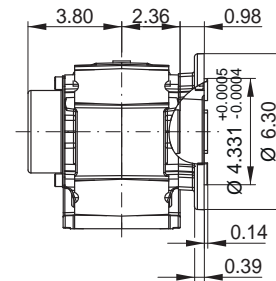


<sup>1)</sup> incl. hollow shaft protection cap

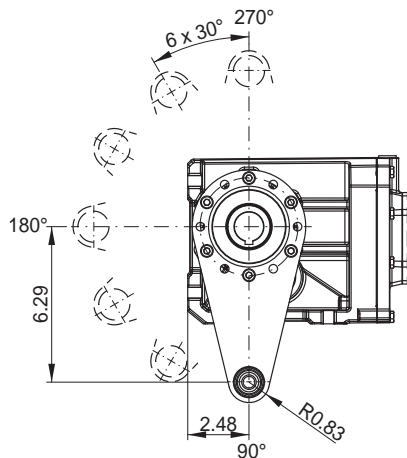
**KF033 - Flange execution Ø 6.30 in (Ø 160 mm) with output shaft**



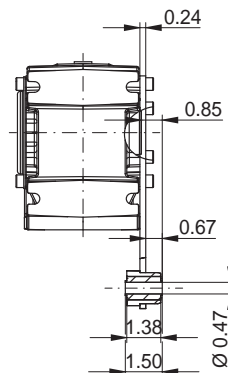
**KP033 - Flange execution Ø 6.30 in (Ø 160 mm) with hollow shaft and shrink disc**



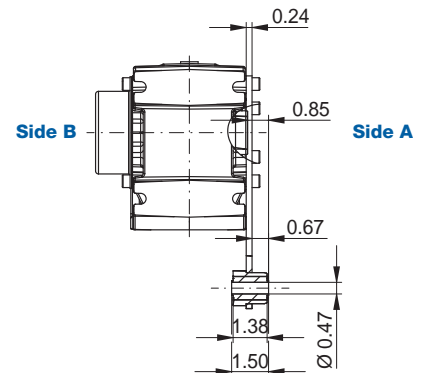
**KT033 - Hollow shaft with torque arm \*\***



Torque arm possible positions:  
90°. 120°. 150°. 180°. 210°. 240°. 270°  
Dimensions in inch.

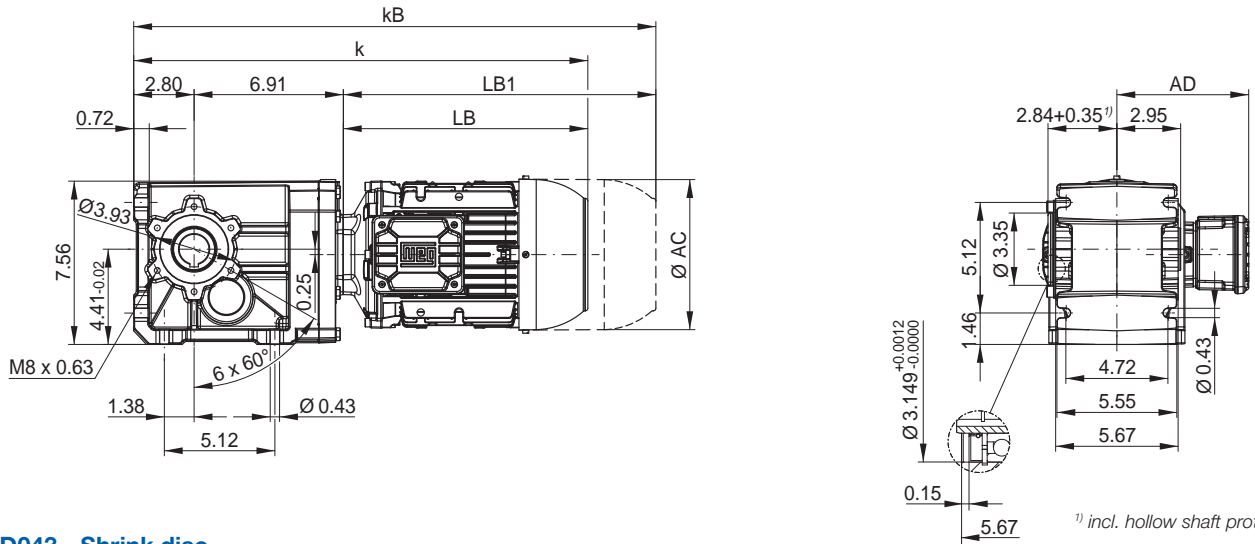


**KU033 - Hollow shaft with shrink disc and torque arm \*\***

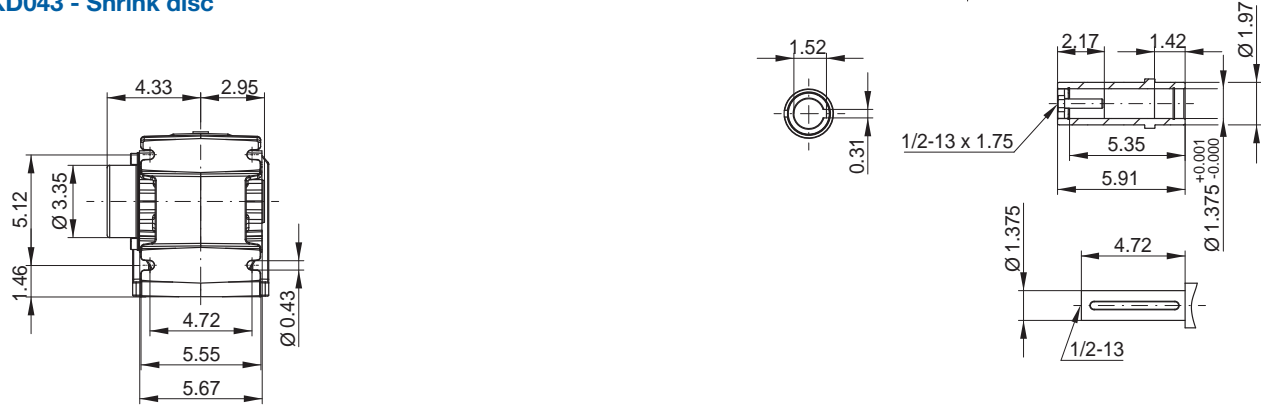


\*\* Torque arm may be mounted on side A or side B.

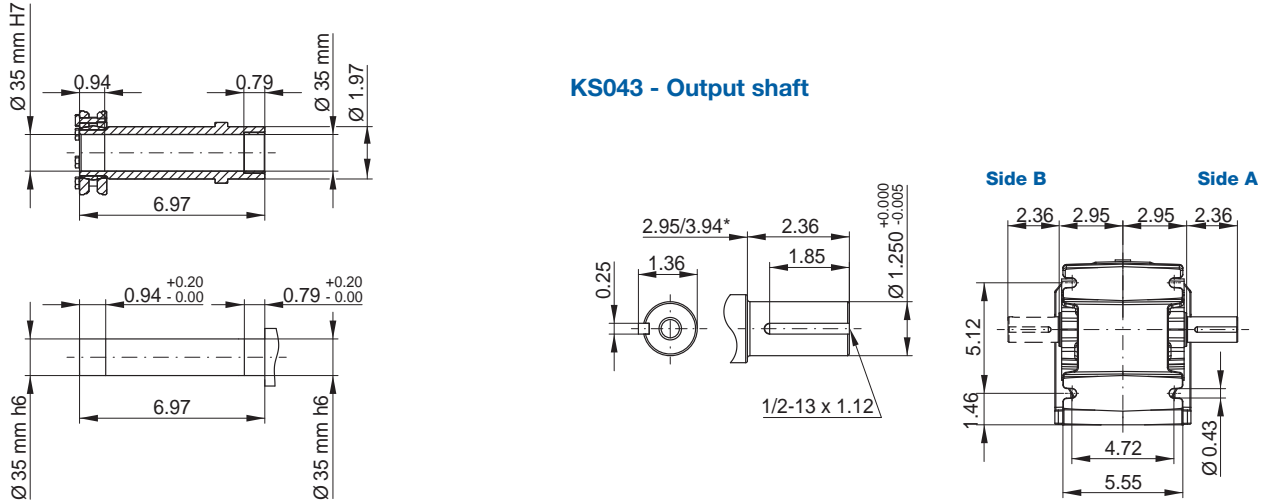
### KH043 - Hollow shaft



### KD043 - Shrink disc



### KS043 - Output shaft



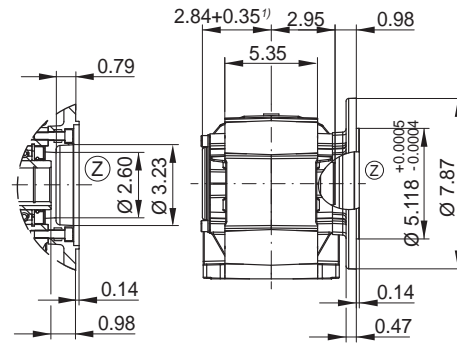
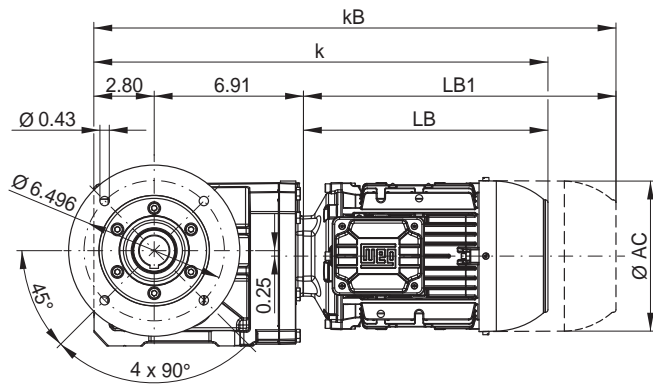
| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  |
| k         | 17.76 | 19.09 | 19.41 | 20.33 | 21.06 | 23.03 | 24.53 | 23.43 |
| kB        | 19.49 | 21.02 | 21.69 | 22.62 | 23.94 | 26.34 | 27.83 | 26.85 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

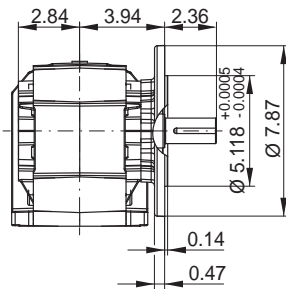
\*Designs KS/KF

**KO043 - Flange execution  $\varnothing$  7.87 in ( $\varnothing$  200 mm) with hollow shaft**

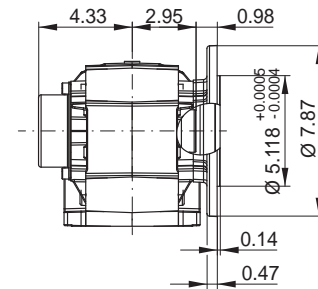


<sup>1)</sup> incl. hollow shaft protection cap

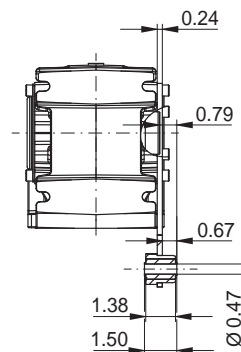
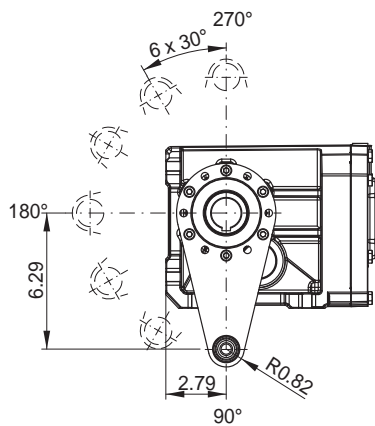
**KF043 - Flange execution  $\varnothing$  7.87 in ( $\varnothing$  200 mm) with output shaft**



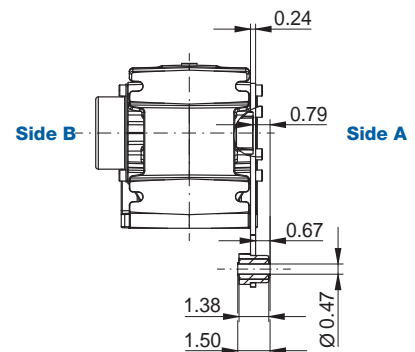
**KP043 - Flange execution  $\varnothing$  7.87 in ( $\varnothing$  200 mm) with hollow shaft and shrink disc**



**KT043 - Hollow shaft with torque arm \*\***



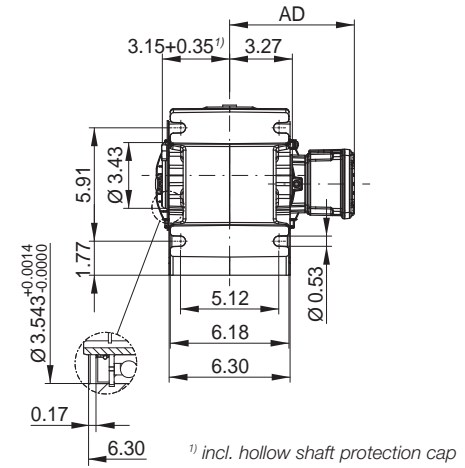
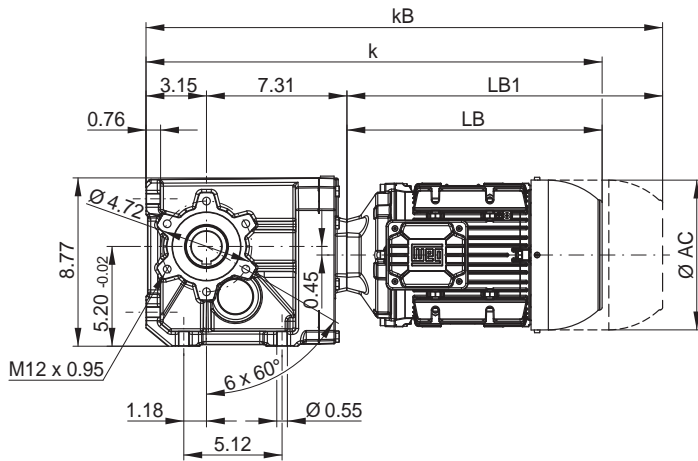
**KU043 - Hollow shaft with shrink disc and torque arm \*\***



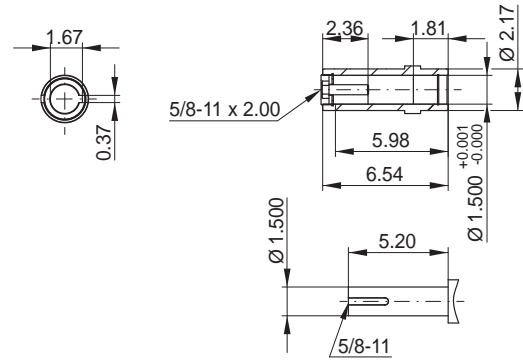
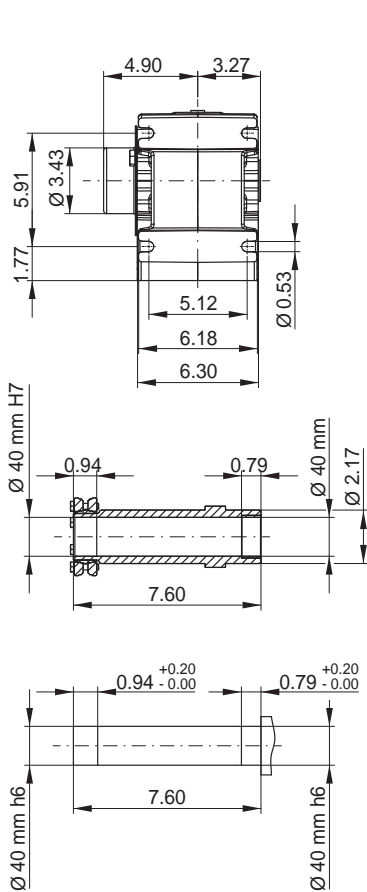
Torque arm possible positions:  
90°, 120°, 150°, 180°, 210°, 240°, 270°  
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

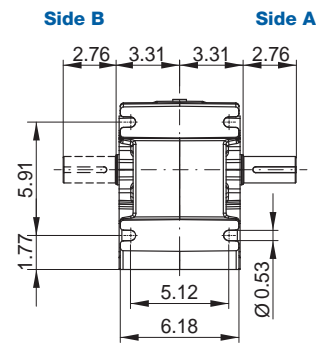
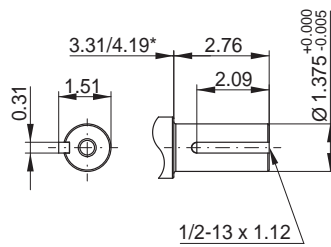
### KH053 - Hollow shaft



### KD053 - Shrink disc



### KS053 - Output shaft



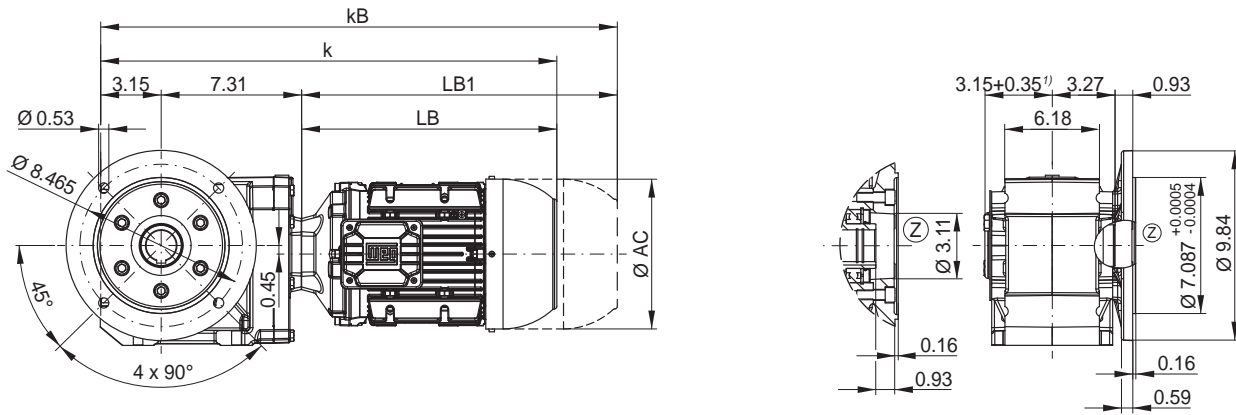
| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  |
| k         | 18.50 | 19.84 | 20.16 | 21.10 | 21.81 | 23.78 | 25.28 | 24.17 | 26.73  | 28.23 |
| kB        | 20.24 | 21.77 | 22.44 | 23.39 | 24.69 | 27.09 | 28.58 | 27.60 | 31.38  | 32.87 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

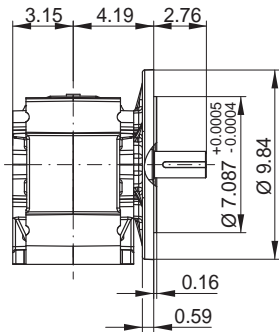
\*Designs KS/KF

**KO053 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with hollow shaft**

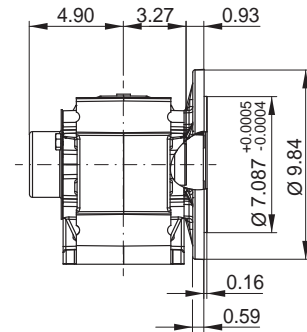


<sup>1)</sup> incl. hollow shaft protection cap

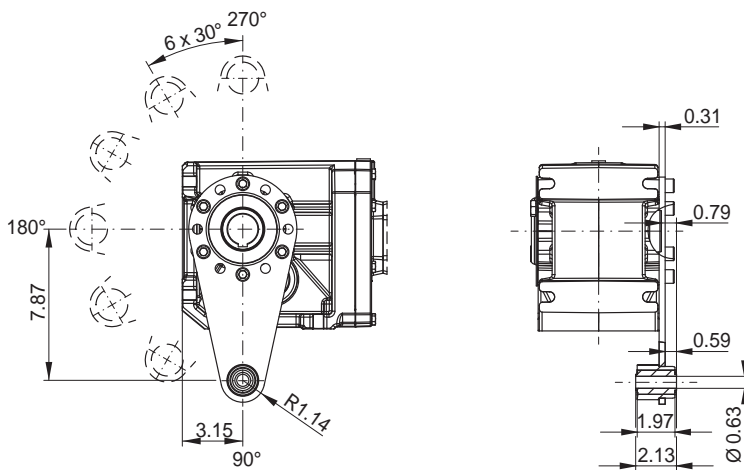
**KF053 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with output shaft**



**KP053 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with hollow shaft and shrink disc**

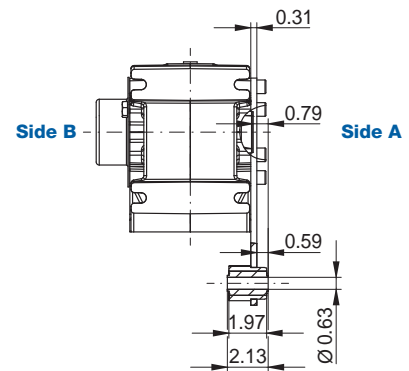


**KT053 - Hollow shaft with torque arm \*\***



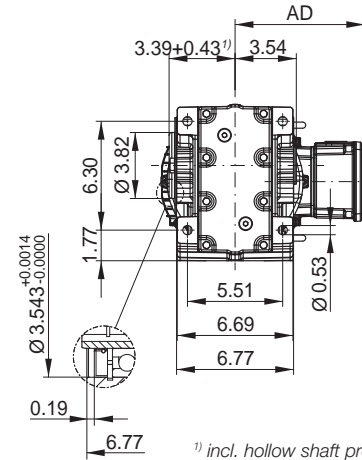
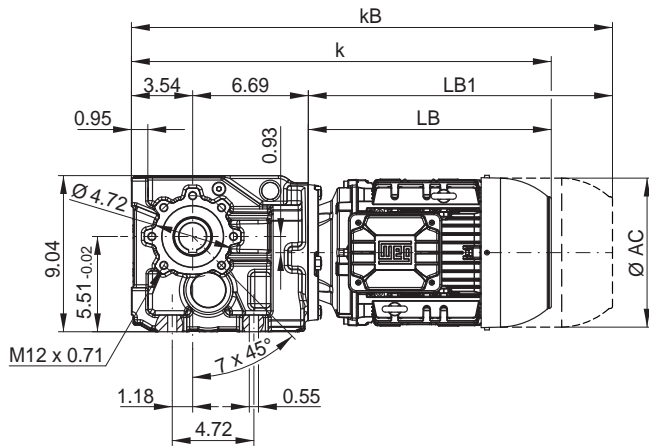
Torque arm possible positions:  
 $90^\circ$ ,  $120^\circ$ ,  $150^\circ$ ,  $180^\circ$ ,  $210^\circ$ ,  $240^\circ$ ,  $270^\circ$   
 Dimensions in inch.

**KU053 - Hollow shaft with shrink disc and torque arm \*\***



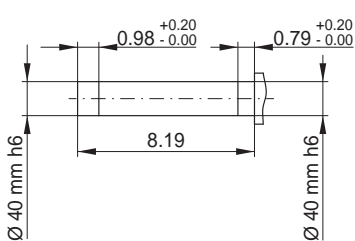
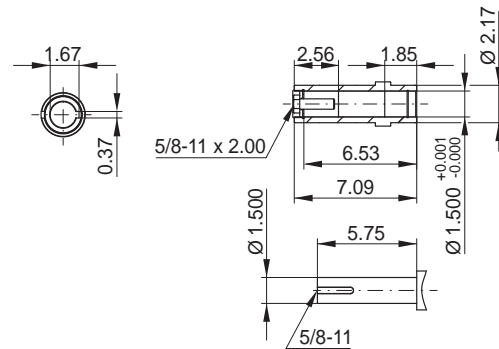
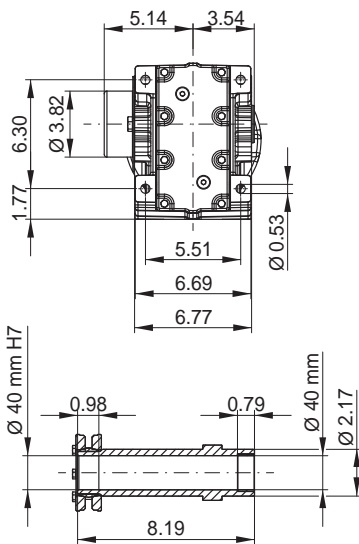
\*\* Torque arm may be mounted on side A or side B.

### KH063 - Hollow shaft

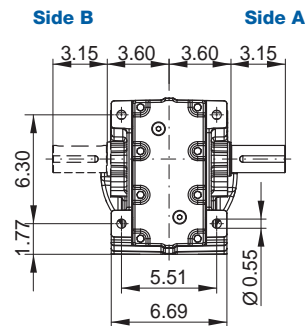
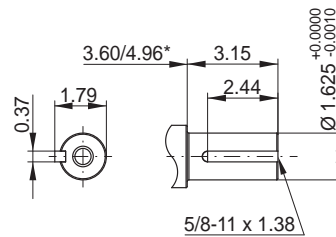


<sup>1)</sup> incl. hollow shaft protection cap

### KD063 - Shrink disc



### KS063 - Output shaft



| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  |
| k         | 18.27 | 19.61 | 19.92 | 20.87 | 21.57 | 23.54 | 25.04 | 23.94 | 26.50  | 27.99 |
| kB        | 20.00 | 21.54 | 22.20 | 23.15 | 24.45 | 26.85 | 28.35 | 27.36 | 31.14  | 32.64 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 |

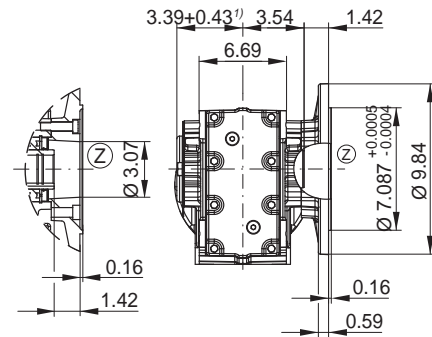
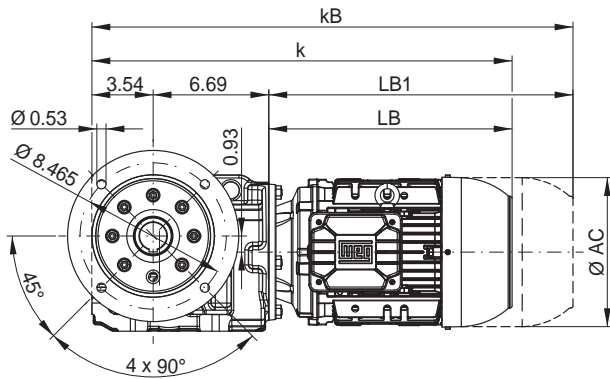
Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

\*Designs KS/KF

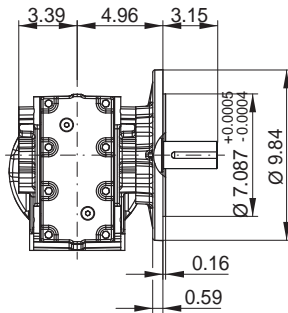


**KO063 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm)**

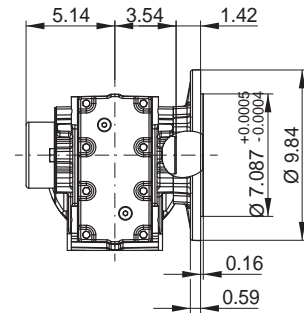


<sup>1)</sup> incl. hollow shaft protection cap

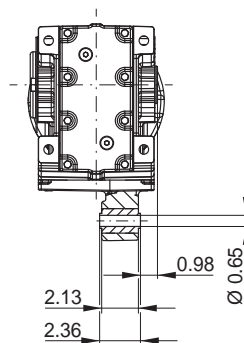
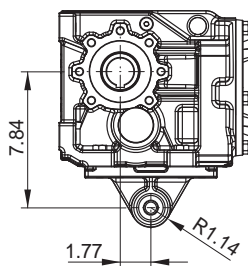
**KF063 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with output shaft**



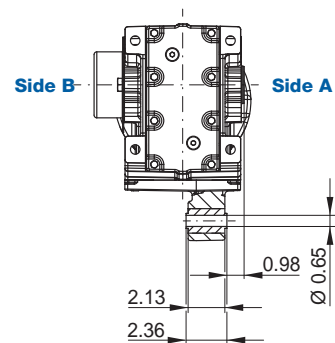
**KP063 - Flange execution  $\varnothing$  9.84 in ( $\varnothing$  250 mm) with hollow shaft and shrink disc**



**KT063 - Hollow shaft with torque arm \*\***



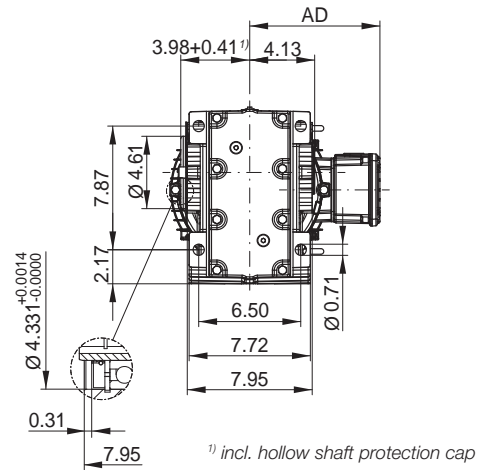
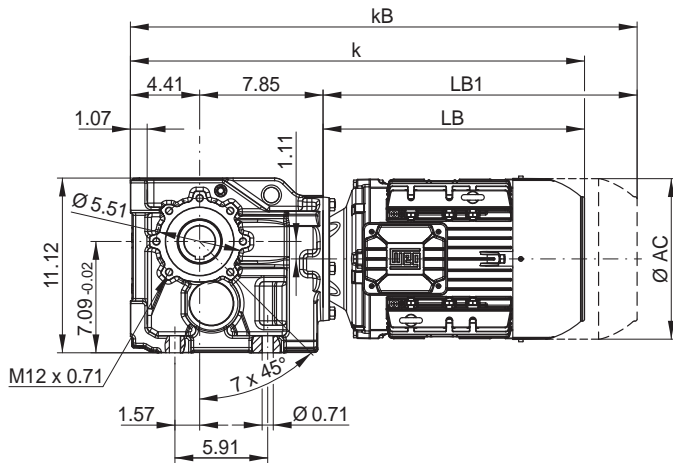
**KU063 - Hollow shaft with shrink disc and torque arm \*\***



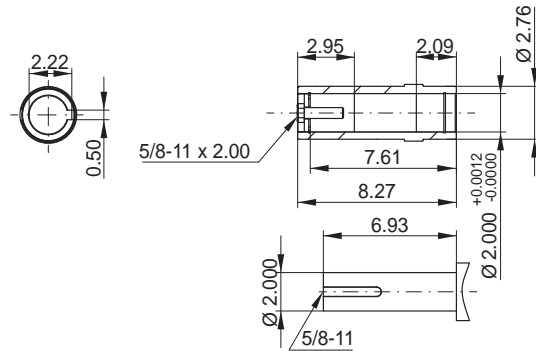
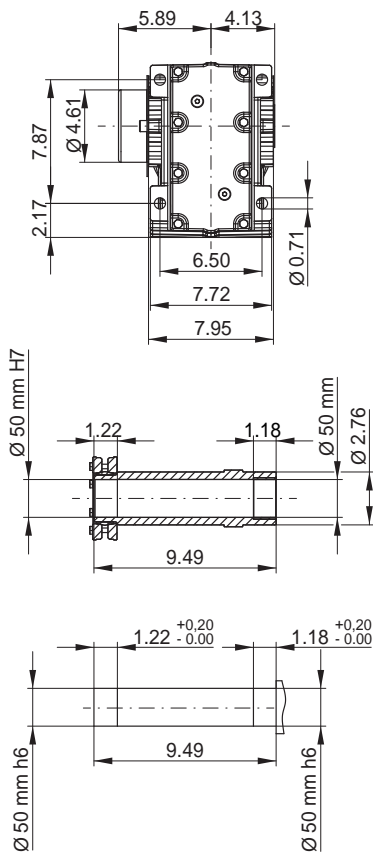
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

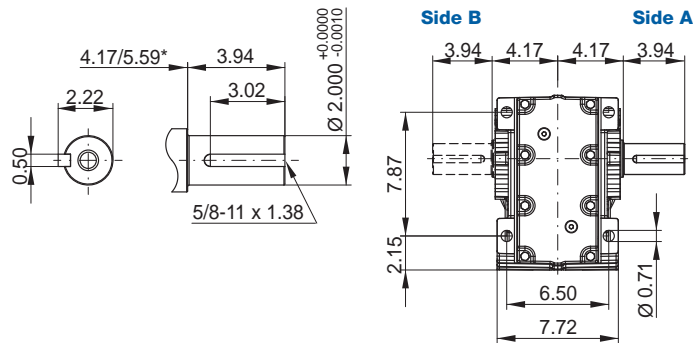
### KH073 - Hollow shaft



### KD073 - Shrink disc



### KS073 - Output shaft



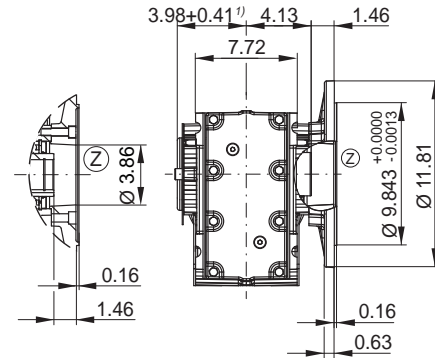
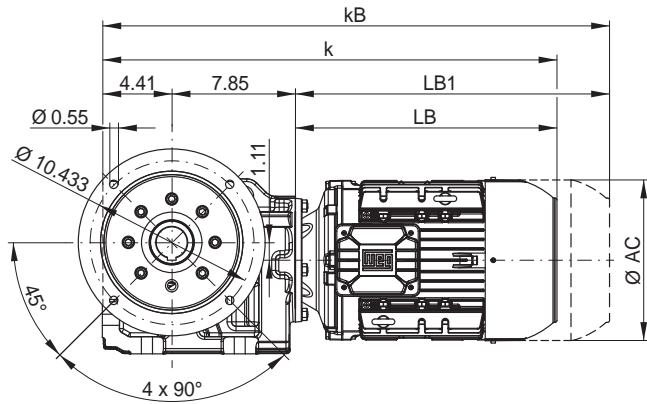
| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M | 160M  | 160L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 | 12.95 | 12.95 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  | 10.47 | 10.47 |
| k         | 20.31 | 21.65 | 21.97 | 22.89 | 23.62 | 25.59 | 27.09 | 25.98 | 28.54  | 30.04 | 33.74 | 35.47 |
| kB        | 22.05 | 23.58 | 24.25 | 25.18 | 26.50 | 28.90 | 30.39 | 29.41 | 33.19  | 34.69 | 38.62 | 40.35 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 | 21.46 | 23.19 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 | 26.34 | 28.07 |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

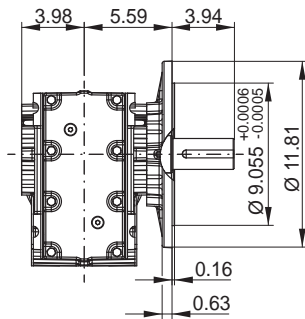
\*Designs KS/KF

**KO073 - Flange execution  $\varnothing$  11.81 in ( $\varnothing$  300 mm) with hollow shaft**

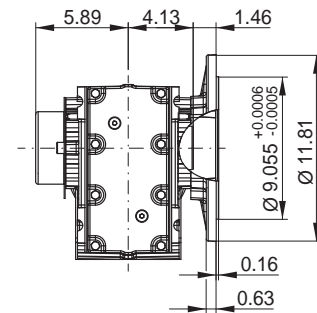


<sup>1)</sup> incl. hollow shaft protection cap

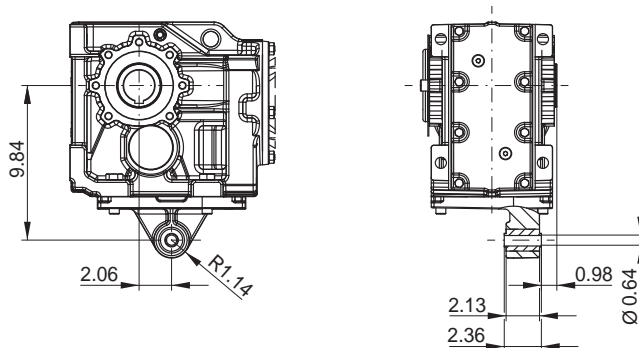
**KF073 - Flange execution  $\varnothing$  11.81 in ( $\varnothing$  300 mm) with output shaft**



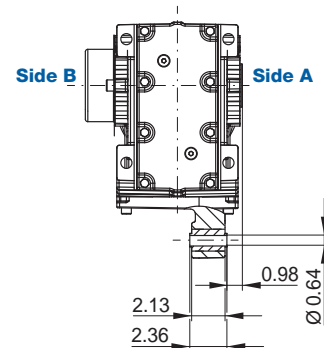
**KP073 - Flange execution  $\varnothing$  11.81 in ( $\varnothing$  300 mm) with hollow shaft and shrink disc**



**KT073 - Hollow shaft with torque arm \*\***



**KU073 - Hollow shaft with shrink disc and torque arm \*\***

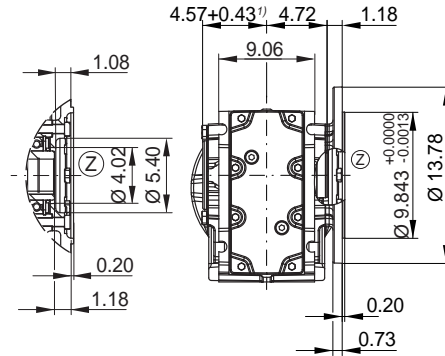
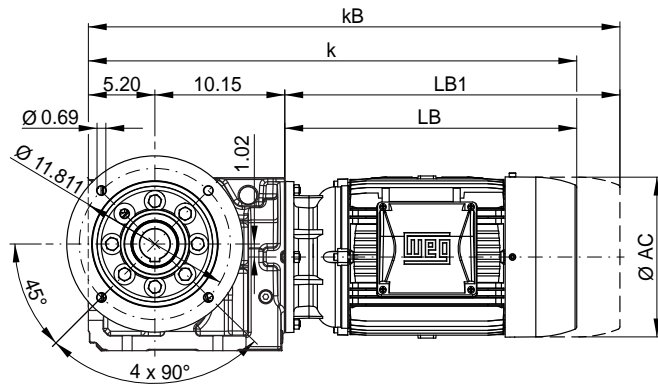


Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

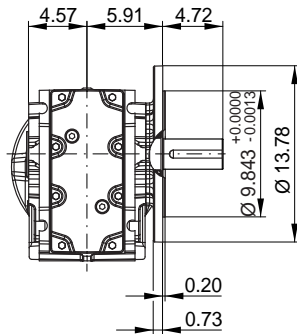


**KO083 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with hollow shaft**

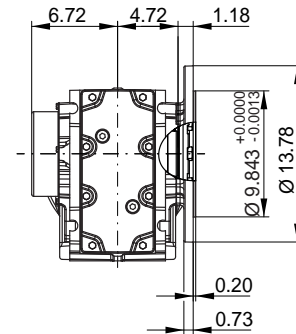


<sup>1)</sup> incl. hollow shaft protection cap

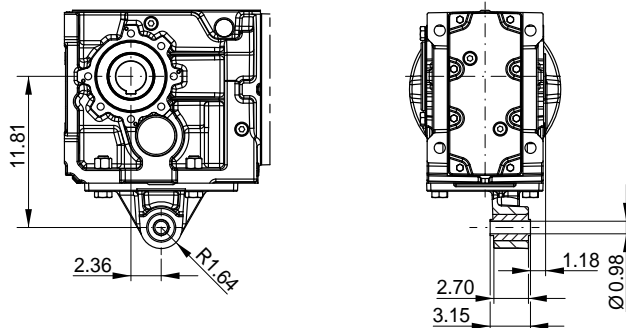
**KF083 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with output shaft**



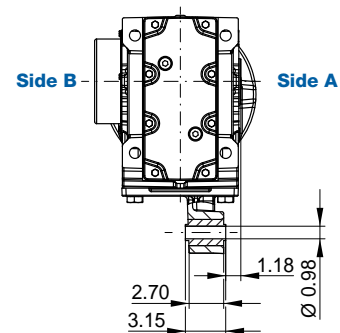
**KP083 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with hollow shaft and shrink disc**



**KT083 - Hollow shaft with torque arm \*\***



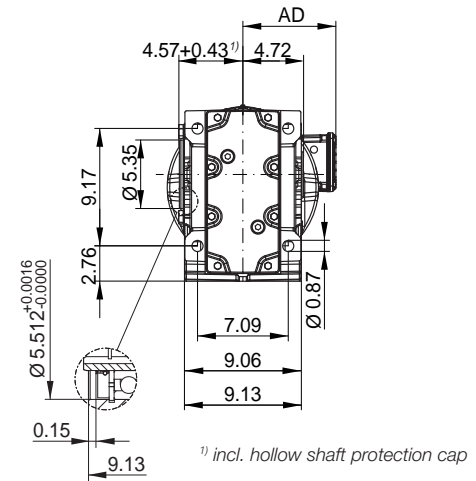
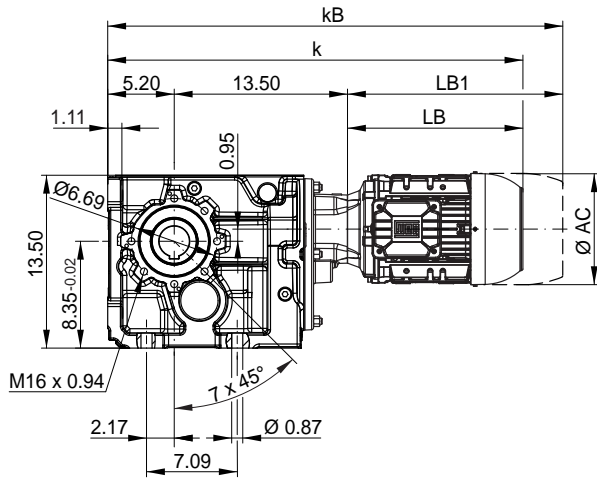
**KU083 - Hollow shaft with shrink disc and torque arm \*\***



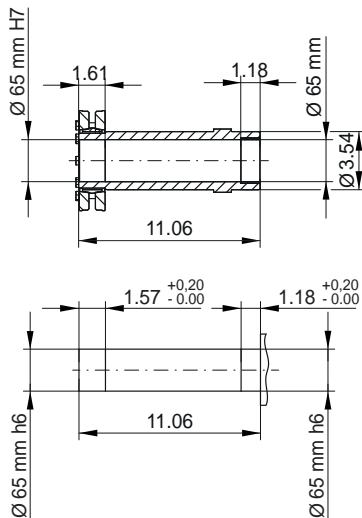
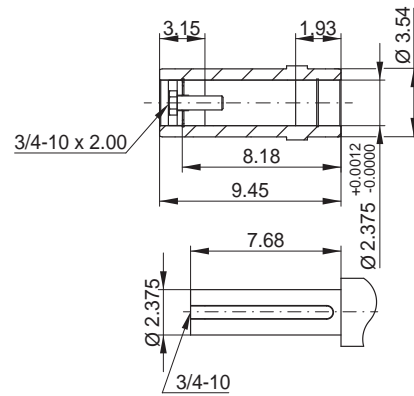
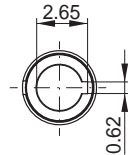
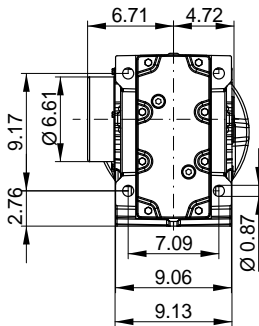
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

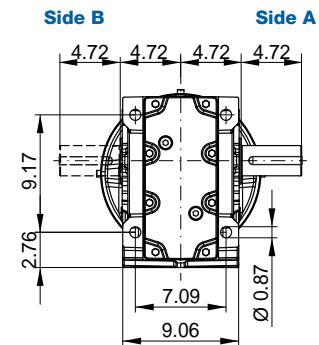
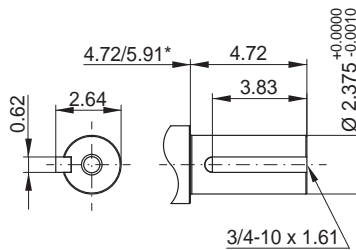
### KH084 - Hollow shaft



### KD084 - Shrink disc



### KS084 - Output shaft



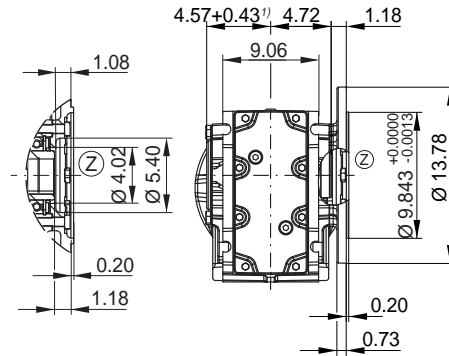
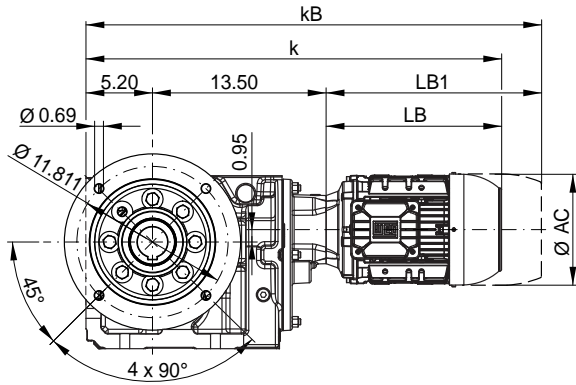
| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  |
| k         | 26.73 | 28.07 | 28.39 | 29.33 | 30.04 | 32.01 | 33.50 | 32.40 | 34.96  | 36.46 |
| kB        | 28.46 | 30.00 | 30.67 | 31.61 | 32.91 | 35.31 | 36.81 | 35.83 | 39.61  | 41.10 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

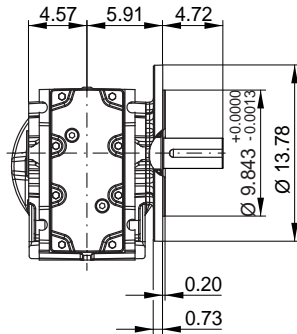
\*Designs KS/KF

**KO084 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with hollow shaft**

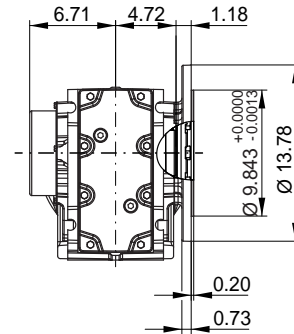


<sup>1)</sup> incl. hollow shaft protection cap

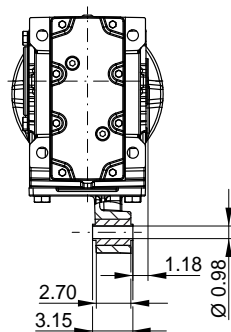
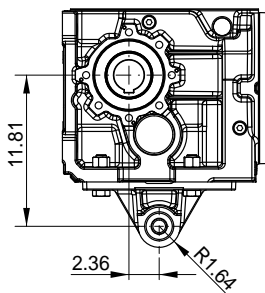
**KF084 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with output shaft**



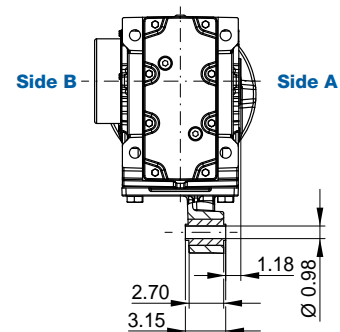
**KP084 - Flange execution  $\varnothing$  13.78 in ( $\varnothing$  350 mm) with hollow shaft and shrink disc**



**KT084 - Hollow shaft with torque arm \*\***



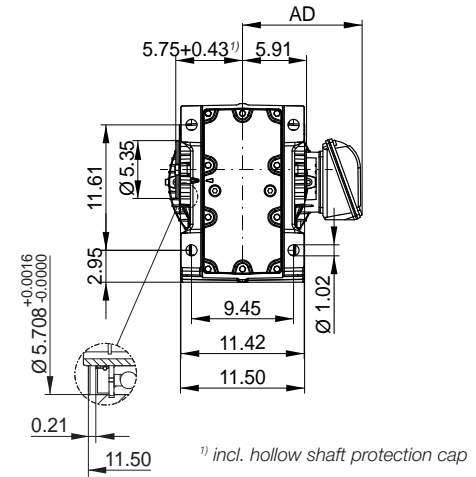
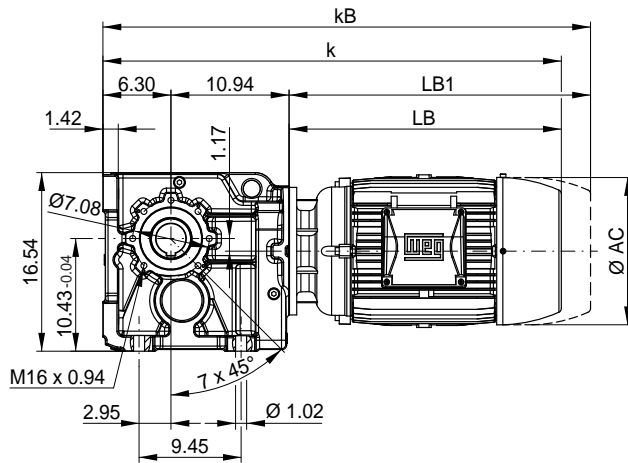
**KU084 - Hollow shaft with shrink disc and torque arm \*\***



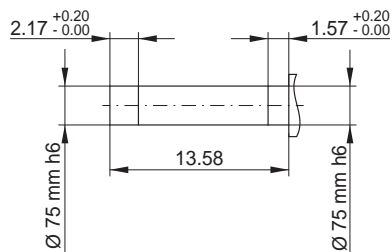
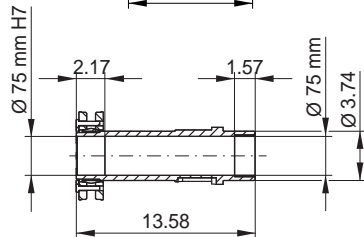
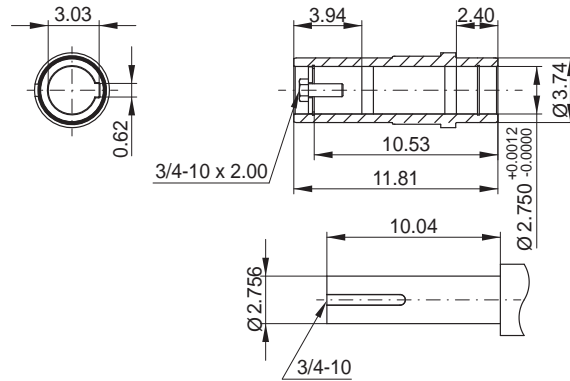
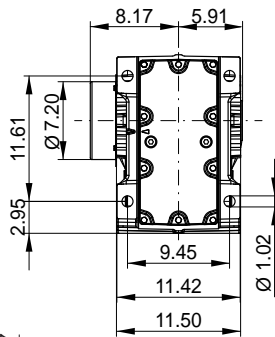
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

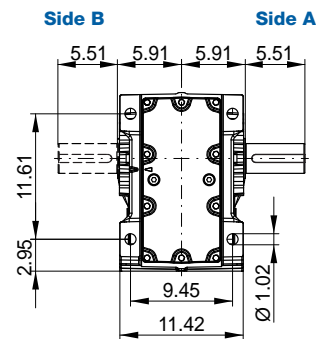
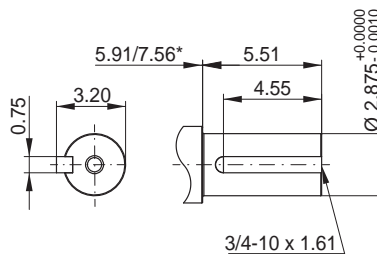
### KH093 - Hollow shaft



### KD093 - Shrink disc



### KS093 - Output shaft



| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M | 160M  | 160L  | 180M  | 180L  | 200L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 |
| k         | 25.28 | 26.61 | 26.93 | 27.87 | 28.58 | 30.55 | 32.05 | 30.94 | 33.50  | 35.00 | 38.31 | 40.04 | 40.98 | 42.48 | 46.10 |
| kB        | 27.01 | 28.54 | 29.21 | 30.16 | 31.46 | 33.86 | 35.35 | 34.37 | 38.15  | 39.65 | 43.19 | 44.92 | 45.63 | 47.13 | 51.06 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 | 28.86 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 | 25.94 | 27.68 | 28.39 | 29.88 | 33.82 |

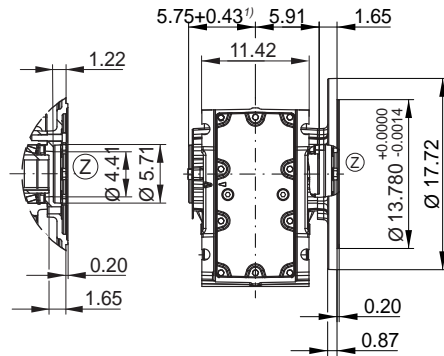
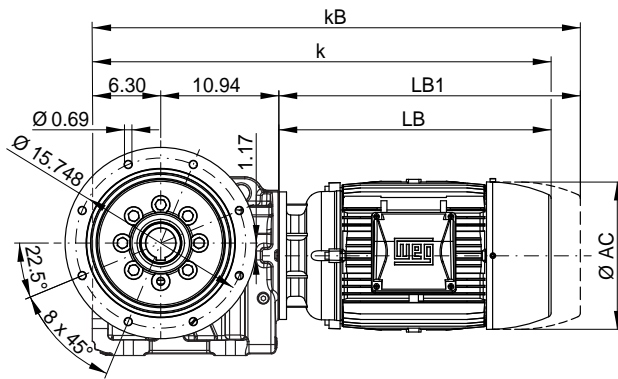
Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

\*Designs KS/KF

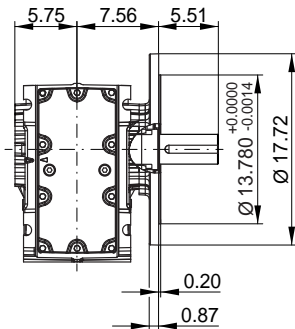


**KO093 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft**

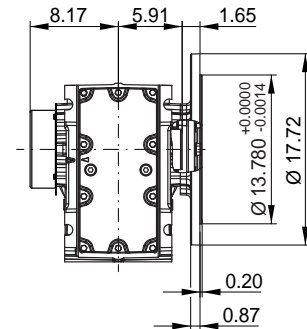


<sup>1)</sup> incl. hollow shaft protection cap

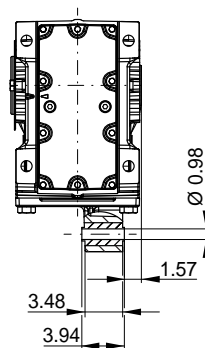
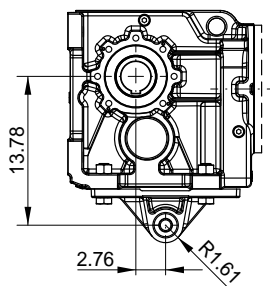
**KF093 - Flange execution  $\varnothing 17.72$  ( $\varnothing 450$  mm) with output shaft**



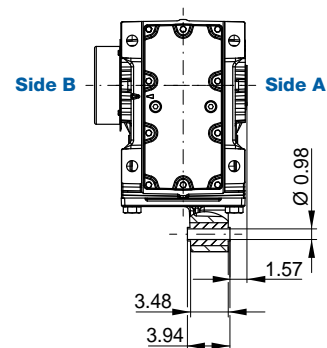
**KP093 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft and shrink disc**



**KT093 - Hollow shaft with torque arm \*\***



**KU093 - Hollow shaft with shrink disc and torque arm \*\***

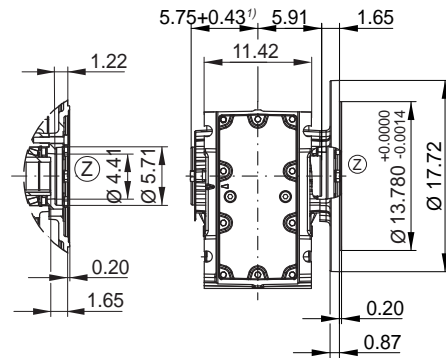
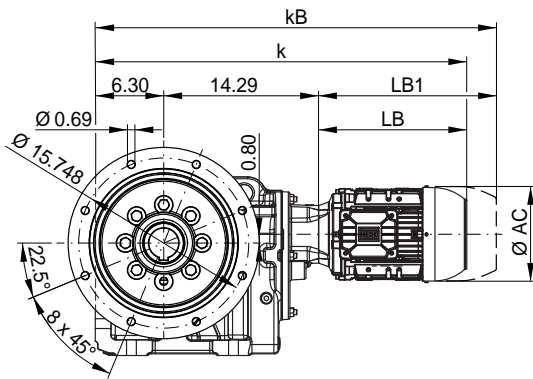


Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

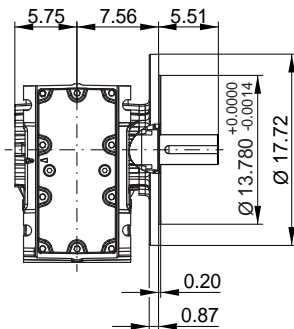


**KO094 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft**

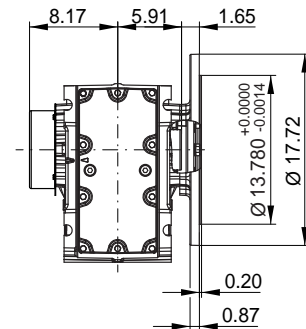


<sup>1)</sup> incl. hollow shaft protection cap

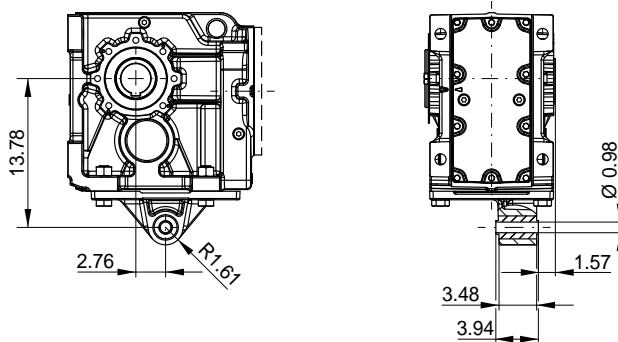
**KF094 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with output shaft**



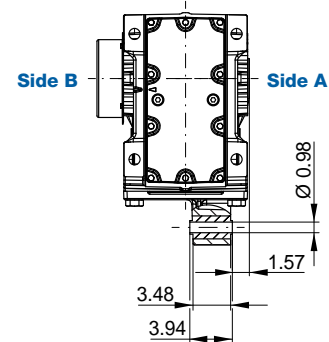
**KP094 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft and shrink disc**



**KT094 - Hollow shaft with torque arm \*\***



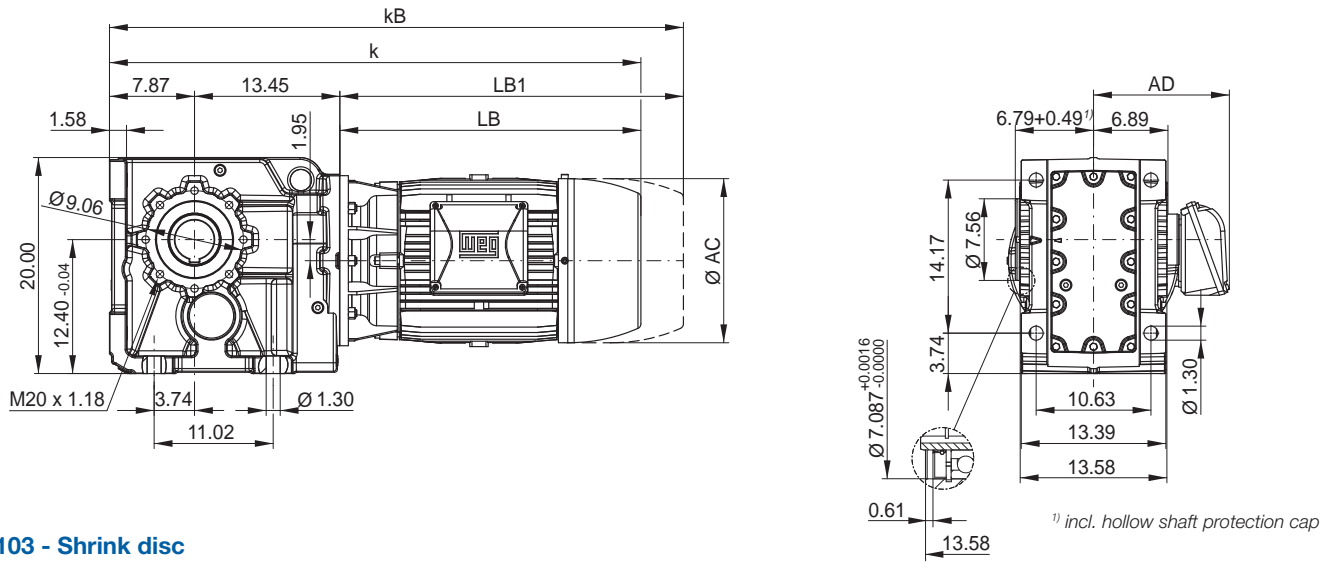
**KU094 - Hollow shaft with shrink disc and torque arm \*\***



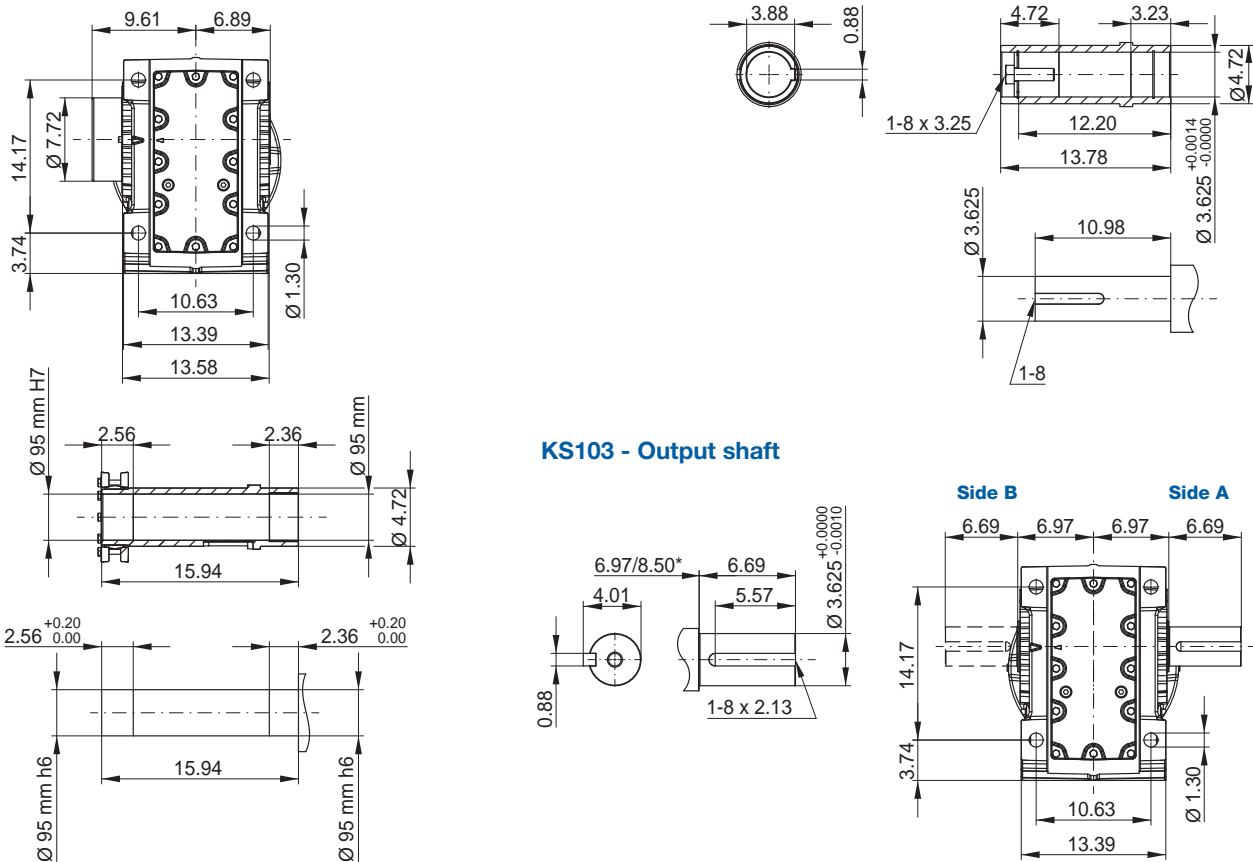
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

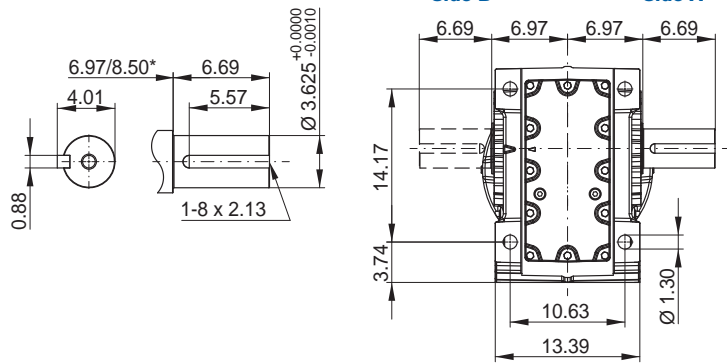
### KH103 - Hollow shaft



### KD103 - Shrink disc



### KS103 - Output shaft



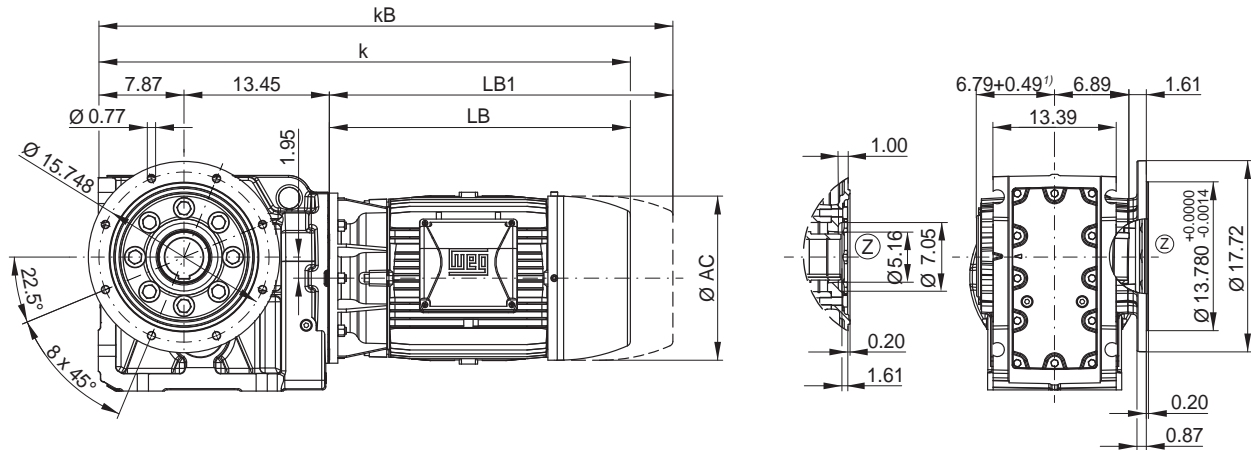
| Motor fr. | 63 | 71 | 80 | L80 | 90S/L | 100L | L100L | 112M  | 132S.M | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M |
|-----------|----|----|----|-----|-------|------|-------|-------|--------|-------|-------|-------|-------|-------|-------|--------|
| AC        | -  | -  | -  | -   | -     | -    | -     | 8.70  | 10.28  | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  |
| AD        | -  | -  | -  | -   | -     | -    | -     | 7.28  | 8.07   | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  |
| k         | -  | -  | -  | -   | -     | -    | -     | 35.04 | 37.60  | 39.09 | 41.89 | 43.62 | 44.57 | 46.06 | 49.69 | 53.94  |
| kB        | -  | -  | -  | -   | -     | -    | -     | 38.46 | 42.24  | 43.74 | 46.77 | 48.50 | 49.21 | 50.71 | 54.65 | 58.58  |
| LB        | -  | -  | -  | -   | -     | -    | -     | 13.70 | 16.26  | 17.76 | 20.55 | 22.28 | 23.23 | 24.72 | 28.35 | 32.60  |
| LB1       | -  | -  | -  | -   | -     | -    | -     | 17.13 | 20.91  | 22.40 | 25.43 | 27.17 | 27.87 | 29.37 | 33.31 | 37.24  |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

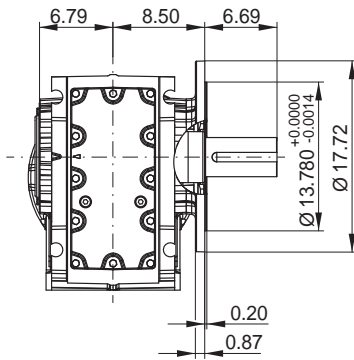
\*Designs KS/KF

**KO103 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft**

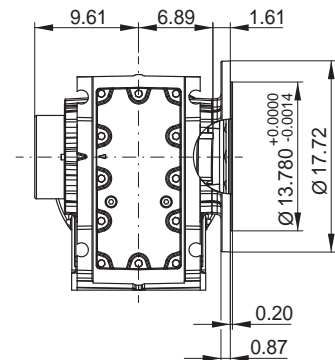


<sup>1)</sup> incl. hollow shaft protection cap

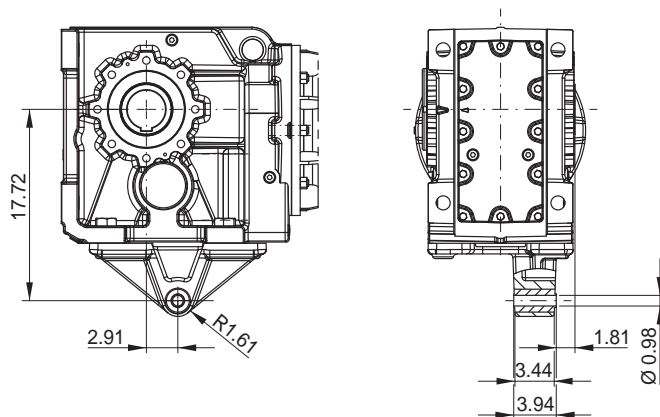
**KF103 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with output shaft**



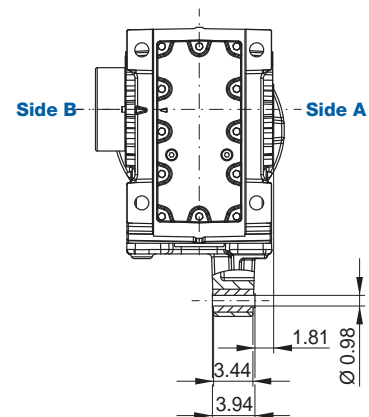
**KP103 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft and shrink disc**



**KT103 - Hollow shaft with torque arm \*\***



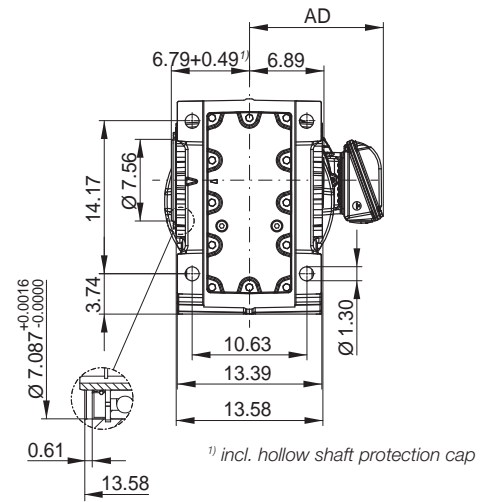
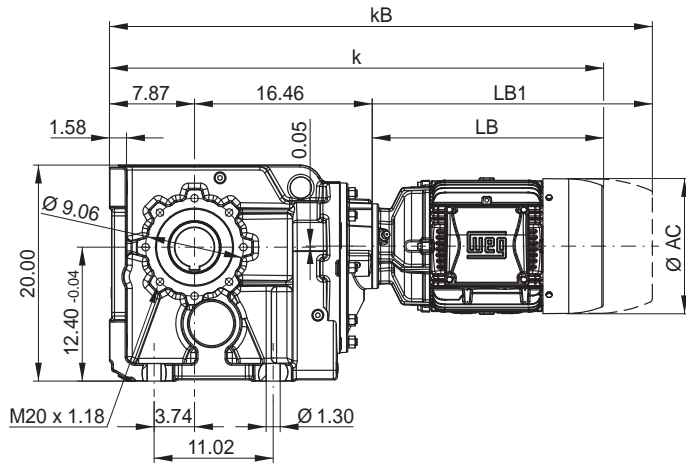
**KU103 - Hollow shaft with shrink disc and torque arm \*\***



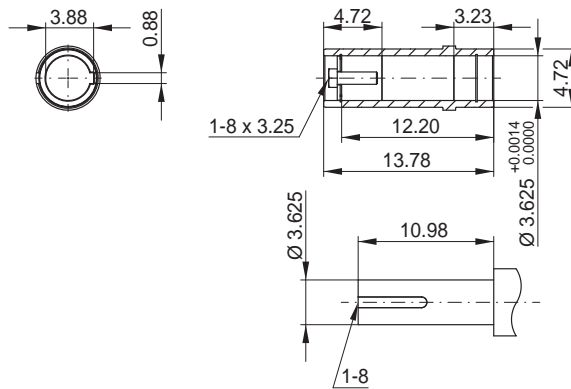
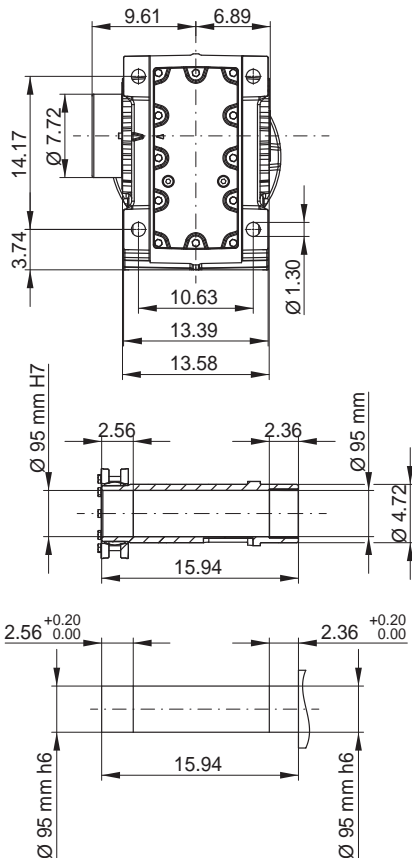
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

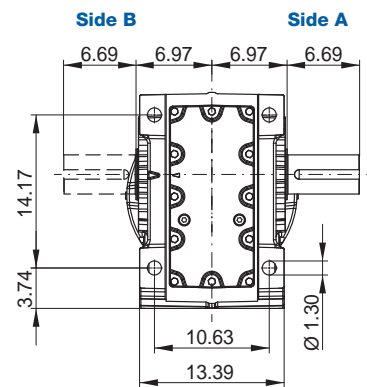
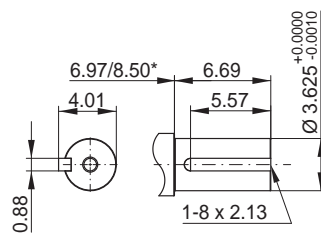
### KH104 - Hollow shaft



### KD104 - Shrink disc



### KS104 - Output shaft



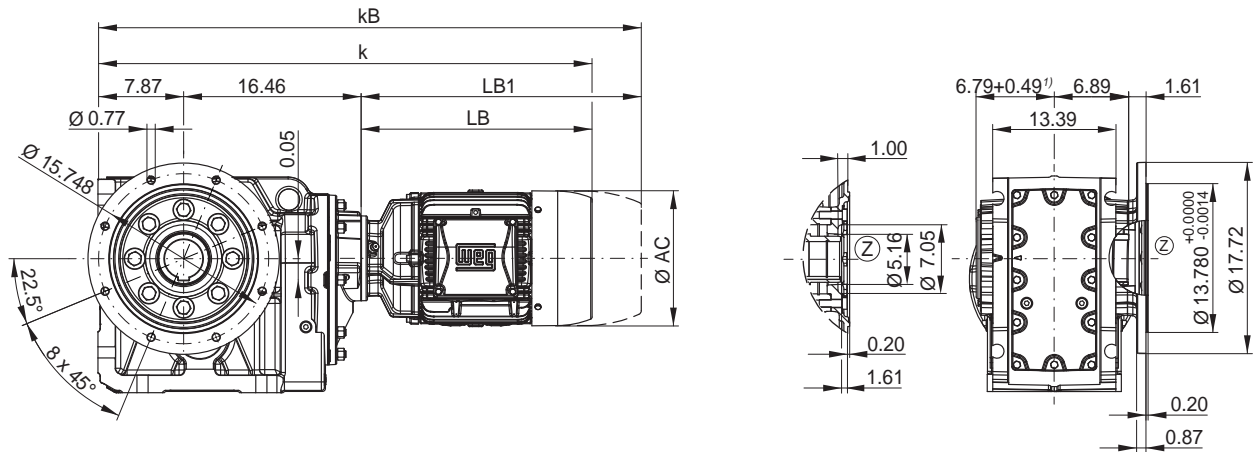
| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M | 160M  | 160L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 | 12.95 | 12.95 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  | 10.47 | 10.47 |
| k         | 32.36 | 33.70 | 34.02 | 34.96 | 35.67 | 37.64 | 39.13 | 38.03 | 40.59  | 42.09 | 45.79 | 47.52 |
| kB        | 34.09 | 35.63 | 36.30 | 37.24 | 38.54 | 40.94 | 42.44 | 41.46 | 45.24  | 46.73 | 50.67 | 52.40 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 | 21.46 | 23.19 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 | 26.34 | 28.07 |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

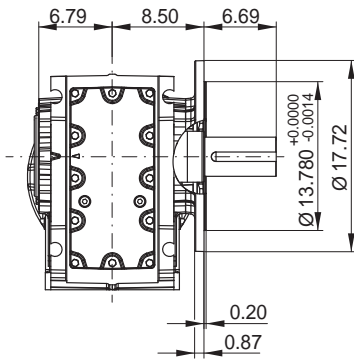
\*Designs KS/KF

**KO104 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft**

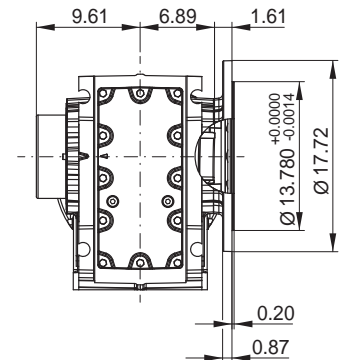


<sup>1)</sup> incl. hollow shaft protection cap

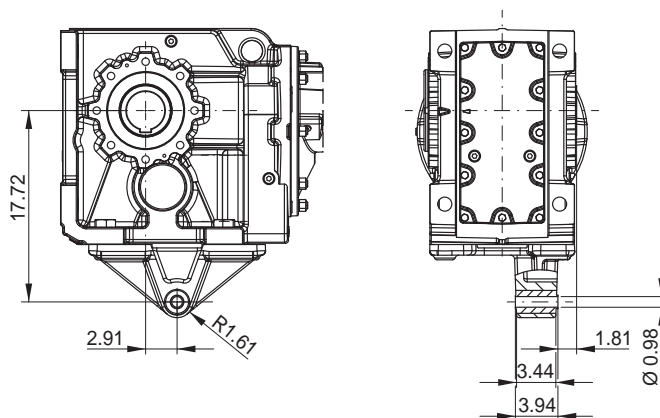
**KF104 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with output shaft**



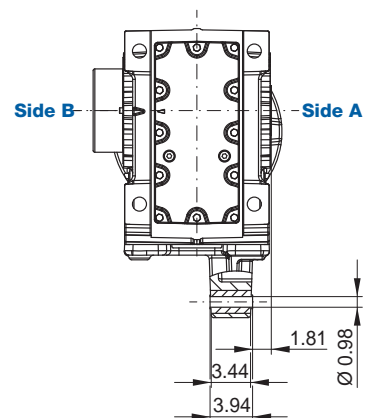
**KP104 - Flange execution  $\varnothing 17.72$  in ( $\varnothing 450$  mm) with hollow shaft and shrink disc**



**KT104 - Hollow shaft with torque arm \*\***



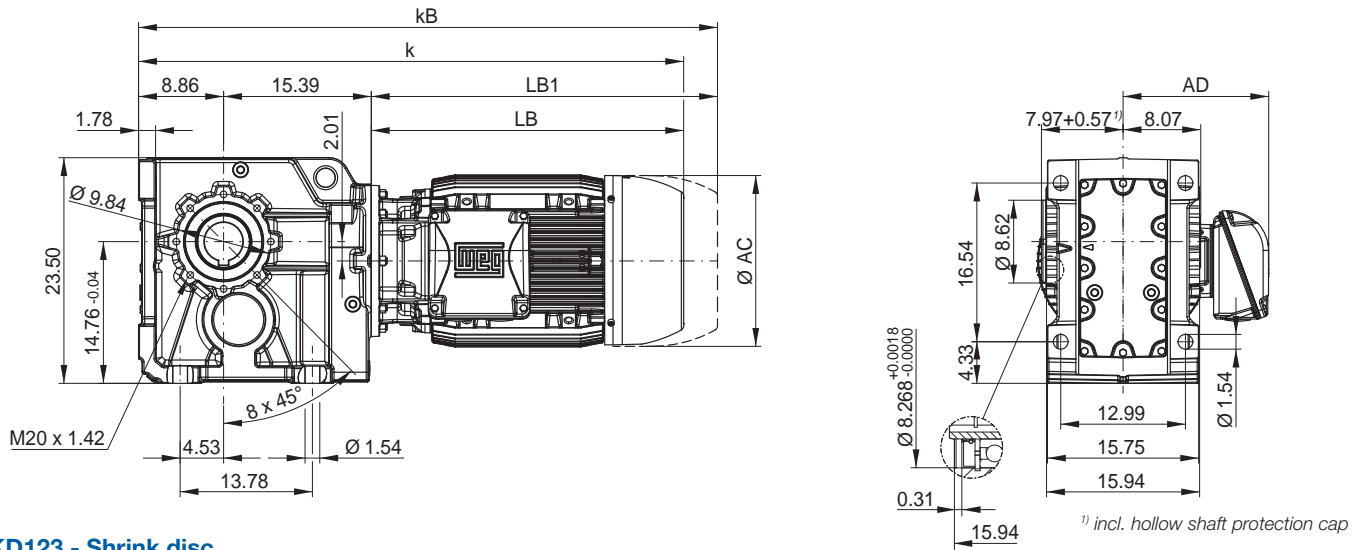
**KU104 - Hollow shaft with shrink disc and torque arm \*\***



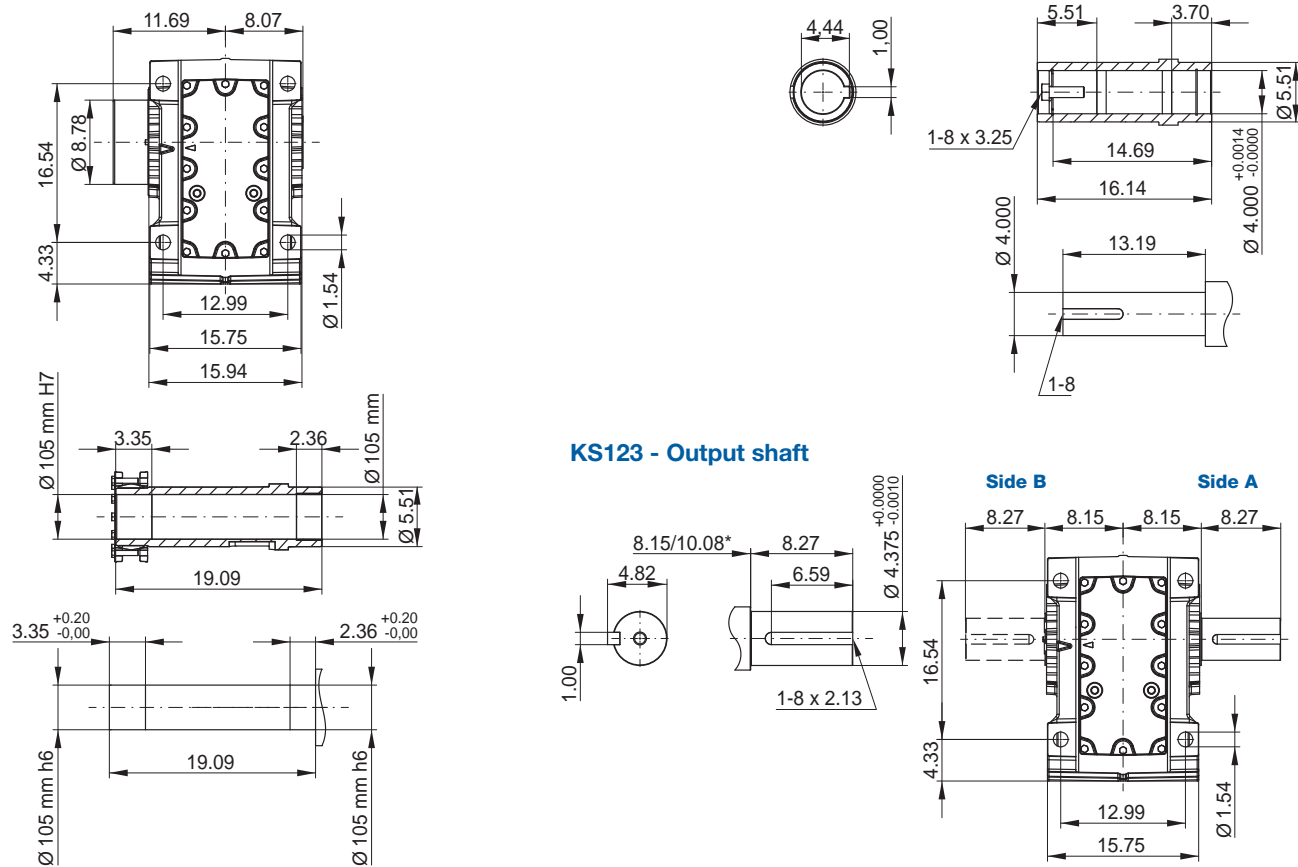
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

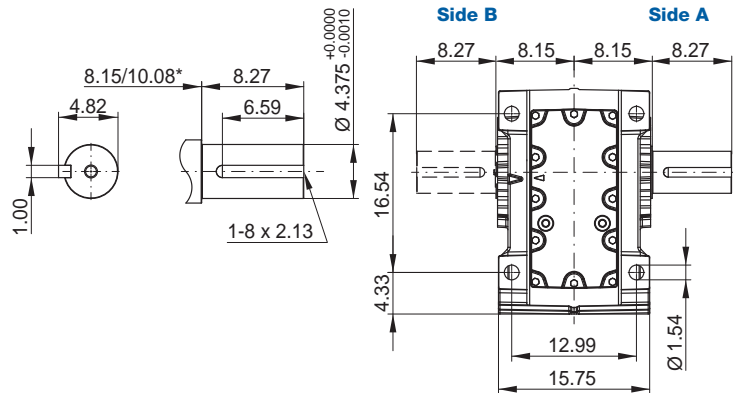
### KH123 - Hollow shaft



### KD123 - Shrink disc



### KS123 - Output shaft



| Motor fr. | 63 | 71 | 80 | L80 | 90S/L | 100L | L100L | 112M  | 132S.M | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M |
|-----------|----|----|----|-----|-------|------|-------|-------|--------|-------|-------|-------|-------|-------|-------|--------|
| AC        | -  | -  | -  | -   | -     | -    | -     | 8.70  | 10.28  | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  |
| AD        | -  | -  | -  | -   | -     | -    | -     | 7.28  | 8.07   | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  |
| k         | -  | -  | -  | -   | -     | -    | -     | 37.95 | 40.51  | 42.01 | 44.80 | 46.54 | 47.48 | 48.98 | 52.60 | 56.85  |
| kB        | -  | -  | -  | -   | -     | -    | -     | 41.38 | 45.16  | 46.65 | 49.69 | 51.42 | 52.13 | 53.62 | 57.56 | 61.50  |
| LB        | -  | -  | -  | -   | -     | -    | -     | 13.70 | 16.26  | 17.76 | 20.55 | 22.28 | 23.23 | 24.72 | 28.35 | 32.60  |
| LB1       | -  | -  | -  | -   | -     | -    | -     | 17.13 | 20.91  | 22.40 | 25.43 | 27.17 | 27.87 | 29.37 | 33.31 | 37.24  |

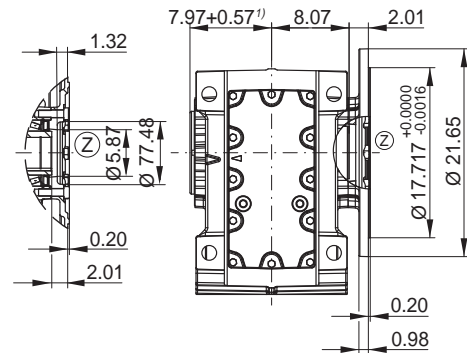
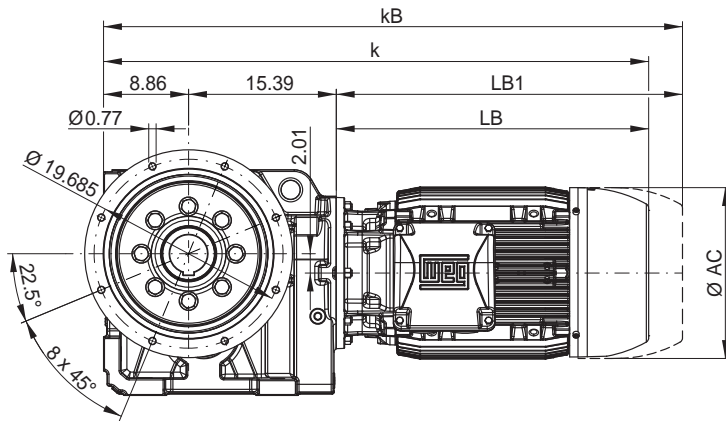
Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

\*Designs KS/KF

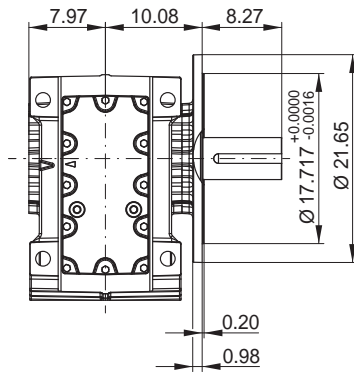


**KO123 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  450 mm) with hollow shaft**

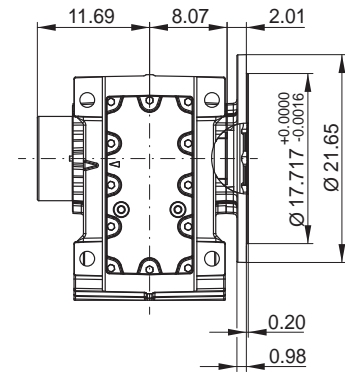


<sup>1)</sup> incl. hollow shaft protection cap

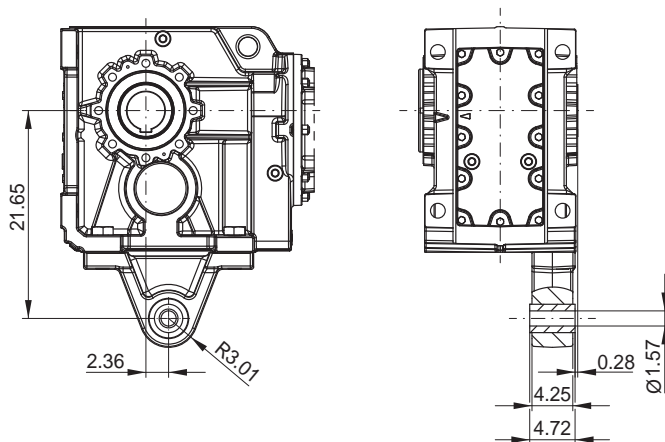
**KF123 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  450 mm) with output shaft**



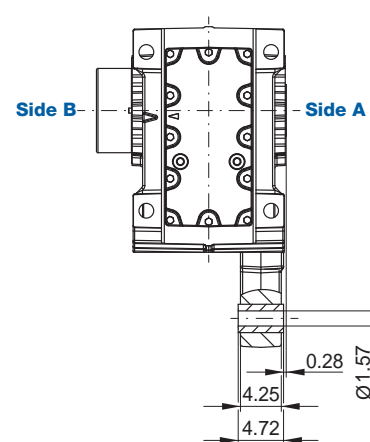
**KP123 - Flange execution  $\varnothing$  21.65 in ( $\varnothing$  450 mm) with hollow shaft and shrink disc**



**KT123 - Hollow shaft with torque arm \*\***



**KU123 - Hollow shaft with shrink disc and torque arm \*\***

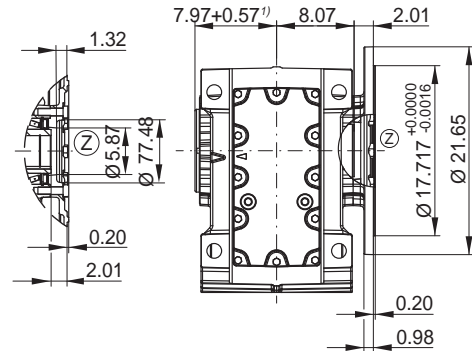
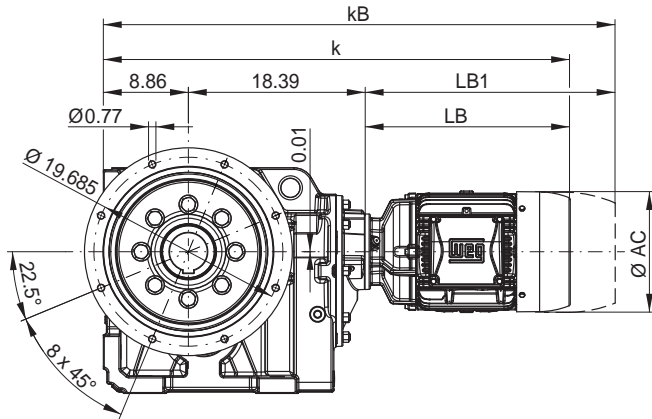


Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

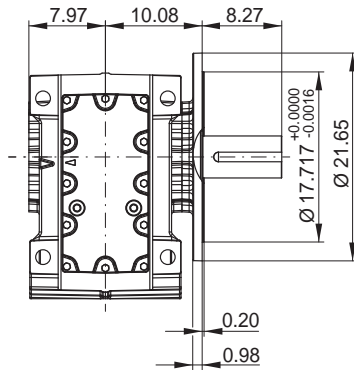


**KO124 - Flange execution Ø 21.65 in (Ø 550 mm) with hollow shaft**

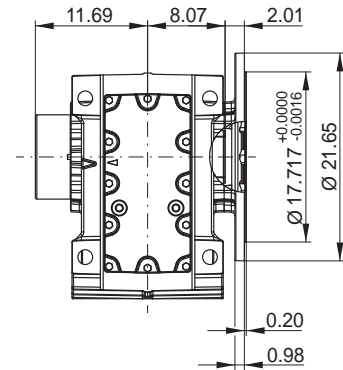


<sup>1)</sup> incl. hollow shaft protection cap

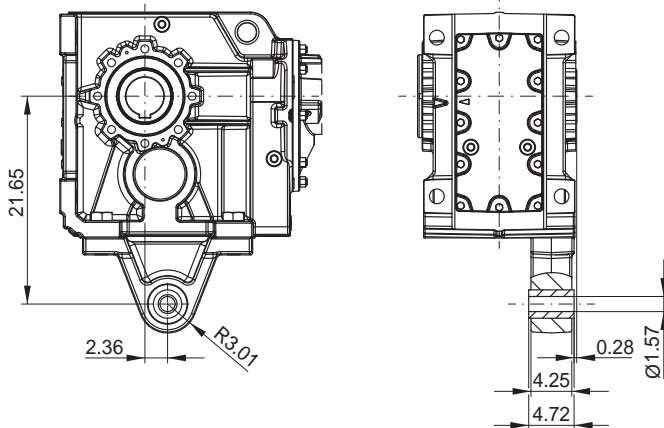
**KF124 - Flange execution Ø 21.65 in (Ø 550 mm) with output shaft**



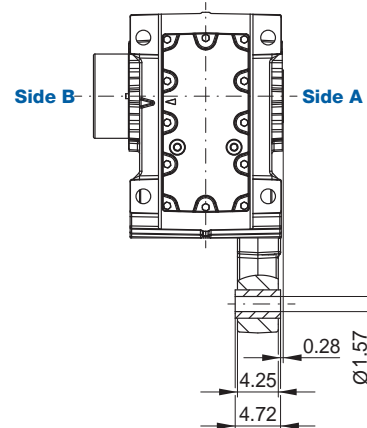
**KP124 - Flange execution Ø 21.65 in (Ø 550 mm) with hollow shaft and shrink disc**



**KT124 - Hollow shaft with torque arm \*\***



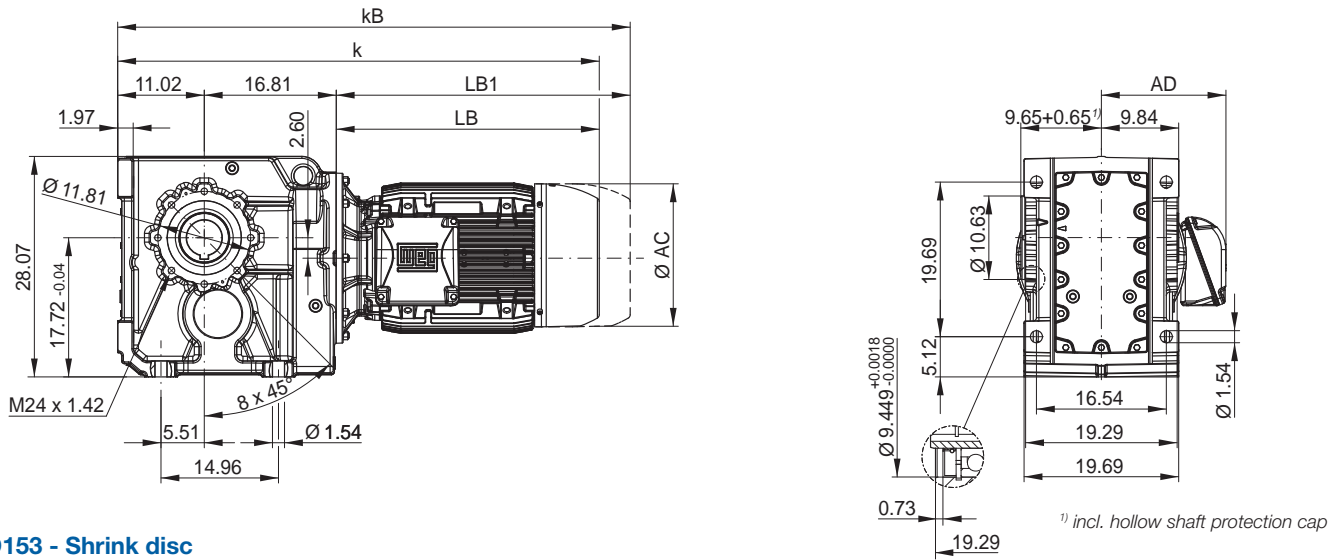
**KU124 - Hollow shaft with shrink disc and torque arm \*\***



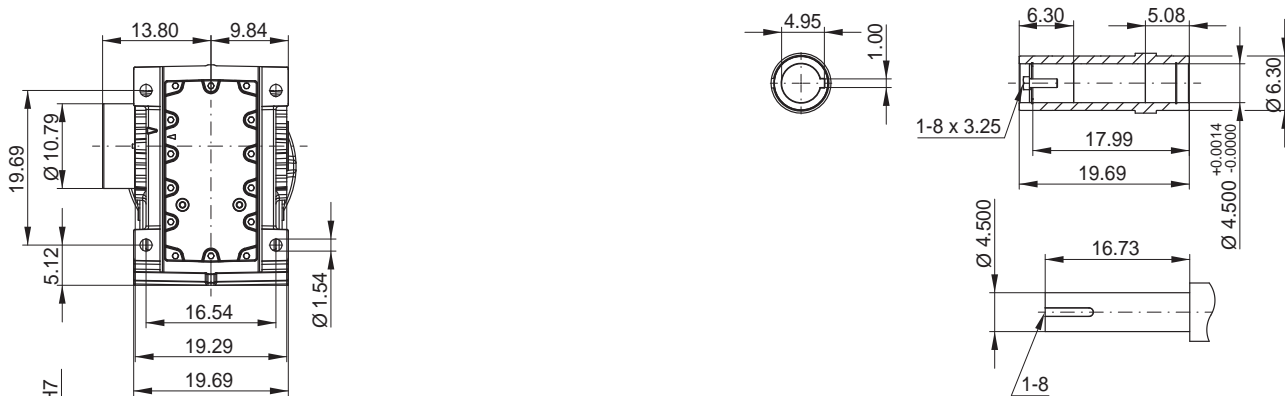
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

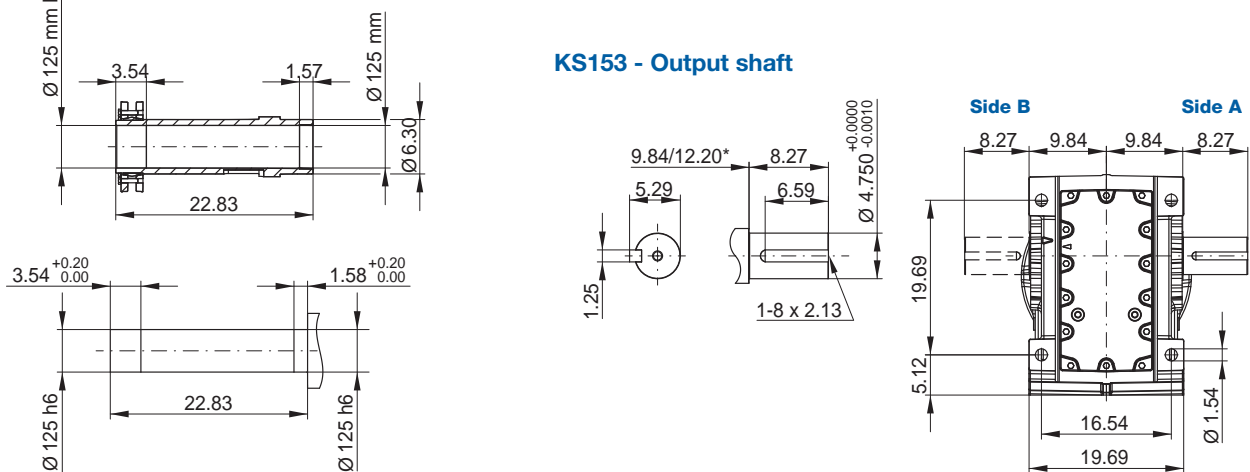
### KH153 - Hollow shaft



### KD153 - Shrink disc



### KS153 - Output shaft



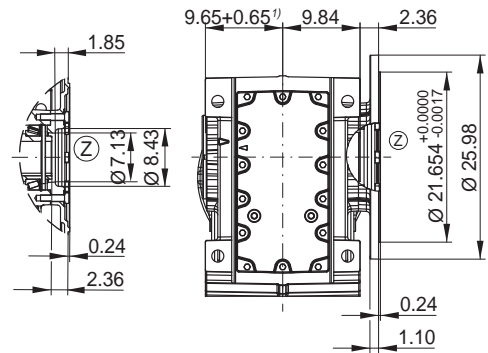
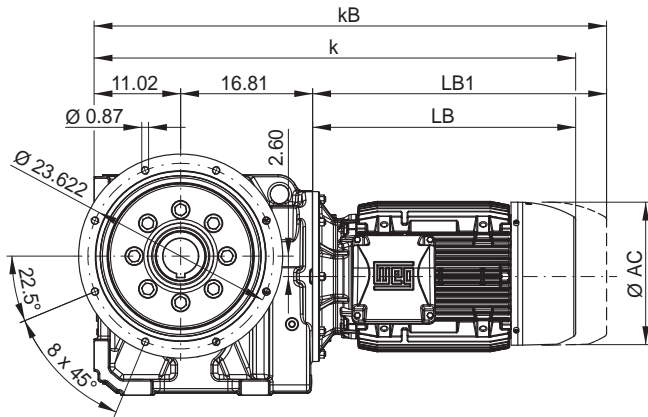
| Motor fr. | 63 | 71 | 80 | L80 | 90S/L | 100L | L100L | 112M | 132S.M | L132M | 160M  | 160L  | 180M  | 180L  | 200L  | 225S/M | 250S/M |
|-----------|----|----|----|-----|-------|------|-------|------|--------|-------|-------|-------|-------|-------|-------|--------|--------|
| AC        | -  | -  | -  | -   | -     | -    | -     | -    | -      | -     | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 | 17.83  | 18.98  |
| AD        | -  | -  | -  | -   | -     | -    | -     | -    | -      | -     | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 | 15.16  | 15.87  |
| k         | -  | -  | -  | -   | -     | -    | -     | -    | -      | -     | 47.76 | 49.49 | 50.43 | 51.93 | 55.55 | 59.80  | 61.34  |
| kB        | -  | -  | -  | -   | -     | -    | -     | -    | -      | -     | 52.64 | 54.37 | 55.08 | 56.57 | 60.51 | 64.45  | 65.98  |
| LB        | -  | -  | -  | -   | -     | -    | -     | -    | -      | -     | 19.92 | 21.65 | 22.60 | 24.09 | 27.72 | 31.97  | 33.50  |
| LB1       | -  | -  | -  | -   | -     | -    | -     | -    | -      | -     | 24.80 | 26.54 | 27.24 | 28.74 | 32.68 | 36.61  | 38.15  |

Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

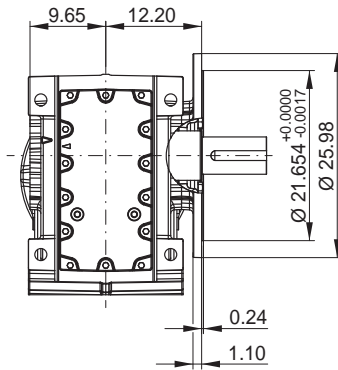
\*Designs KS/KF

**KO153 - Flange execution  $\varnothing$  25.98 in ( $\varnothing$  660 mm) with hollow shaft**

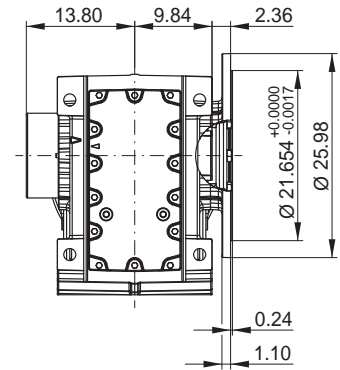


<sup>1)</sup> incl. hollow shaft protection cap

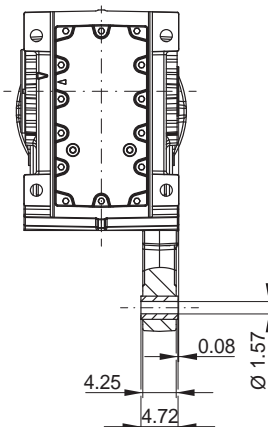
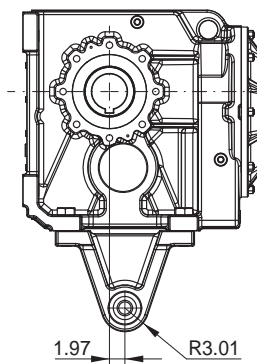
**KF153 - Flange execution  $\varnothing$  25.98 in ( $\varnothing$  660 mm) with output shaft**



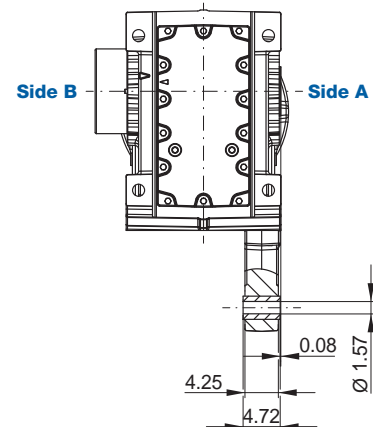
**KP153 - Flange execution  $\varnothing$  25.98 in ( $\varnothing$  660 mm) with hollow shaft and shrink disc**



**KT153 - Hollow shaft with torque arm \*\***



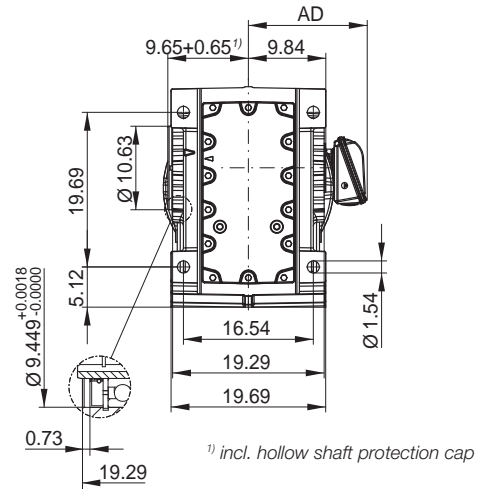
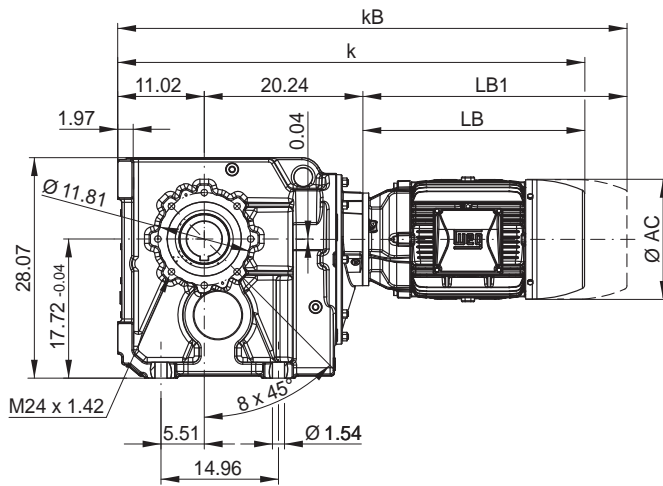
**KU153 - Hollow shaft with shrink disc and torque arm \*\***



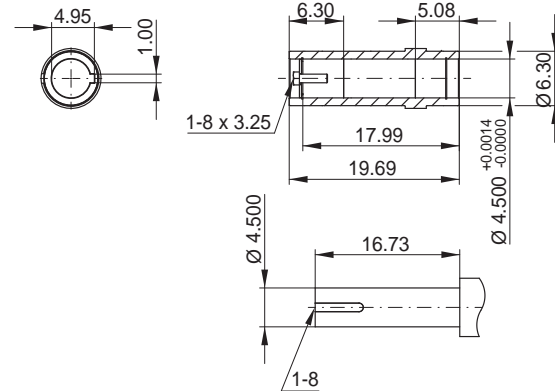
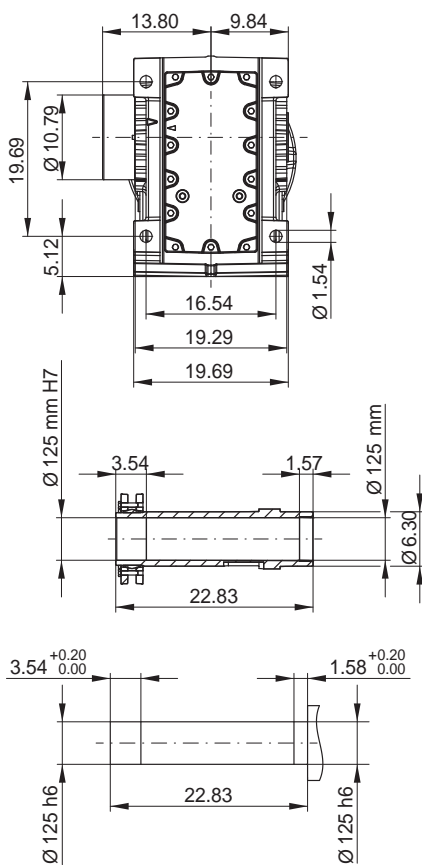
Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

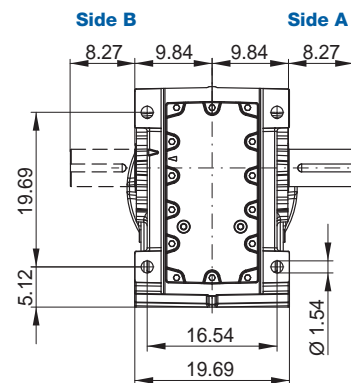
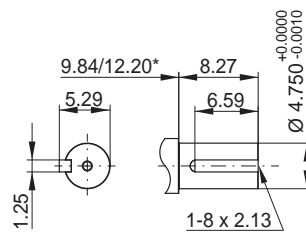
### KH154 - Hollow shaft



### KD154 - Shrink disc



### KS154 - Output shaft



| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M | 160M  | 160L  | 180M  | 180L  | 200L  |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 | 12.95 | 12.95 | 13.66 | 13.66 | 15.20 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  | 10.47 | 10.47 | 11.06 | 11.06 | 12.48 |
| k         | 39.29 | 40.63 | 40.94 | 41.89 | 42.60 | 44.57 | 46.06 | 44.96 | 47.52  | 49.02 | 52.32 | 54.06 | 55.00 | 56.50 | 60.12 |
| kB        | 41.02 | 42.56 | 43.23 | 44.17 | 45.47 | 47.87 | 49.37 | 48.39 | 52.17  | 53.66 | 57.20 | 58.94 | 59.65 | 61.14 | 65.08 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 | 21.06 | 22.80 | 23.74 | 25.24 | 28.86 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 | 25.94 | 27.68 | 28.39 | 29.88 | 33.82 |

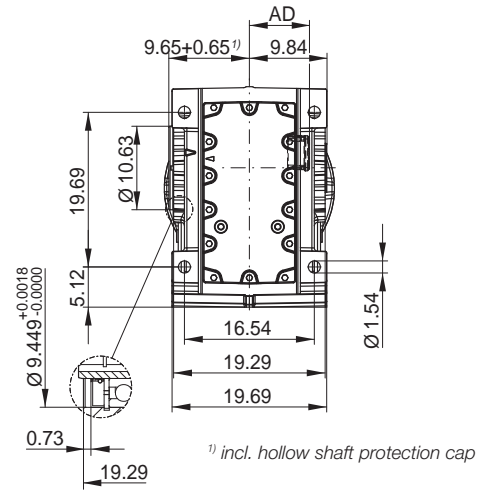
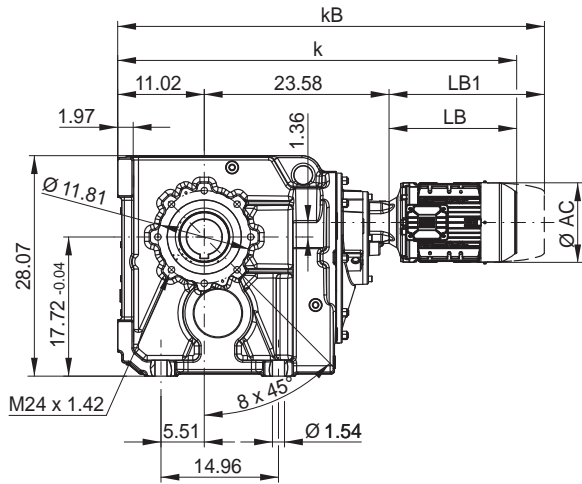
Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

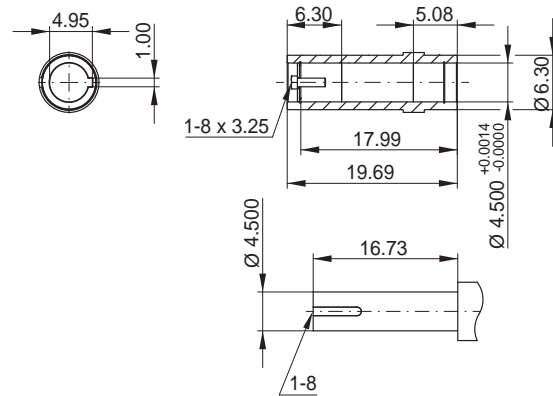
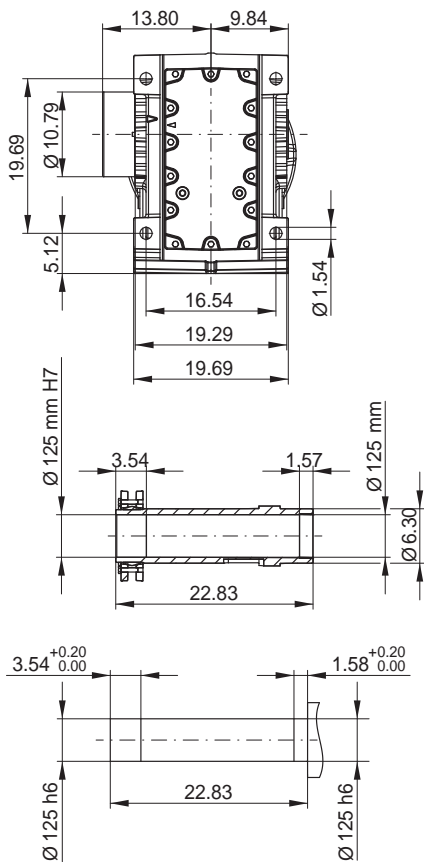
\*Designs KS/KF



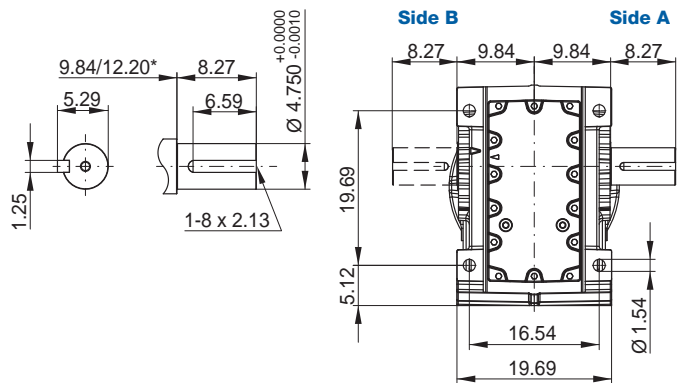
### KH155 - Hollow shaft



### KD155 - Shrink disc



### KS155 - Output shaft



| Motor fr. | 63    | 71    | 80    | L80   | 90S/L | 100L  | L100L | 112M  | 132S.M | L132M |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| AC        | 4.96  | 5.55  | 6.26  | 6.26  | 7.01  | 7.83  | 7.83  | 8.70  | 10.28  | 10.28 |
| AD        | 5.04  | 5.35  | 5.71  | 5.71  | 6.10  | 6.50  | 6.50  | 7.28  | 8.07   | 8.07  |
| k         | 42.64 | 43.98 | 44.29 | 45.24 | 45.94 | 47.91 | 49.41 | 48.31 | 50.87  | 52.36 |
| kB        | 44.37 | 45.91 | 46.57 | 47.52 | 48.82 | 51.22 | 52.72 | 51.73 | 55.51  | 57.01 |
| LB        | 8.03  | 9.37  | 9.69  | 10.63 | 11.34 | 13.31 | 14.80 | 13.70 | 16.26  | 17.76 |
| LB1       | 9.76  | 11.30 | 11.97 | 12.91 | 14.21 | 16.61 | 18.11 | 17.13 | 20.91  | 22.40 |

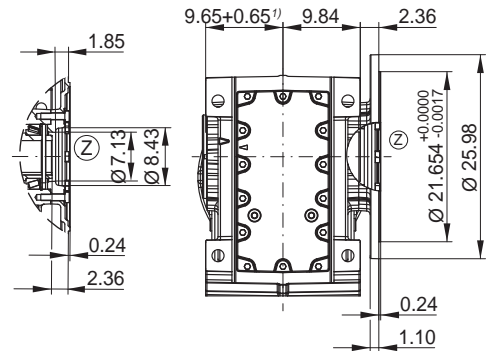
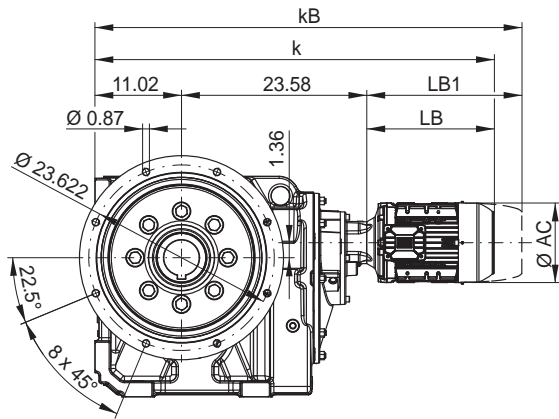
Motor dimension sheets see from page 488

Description of motor lengths LB and LB1 see page 492

\*Designs KS/KF

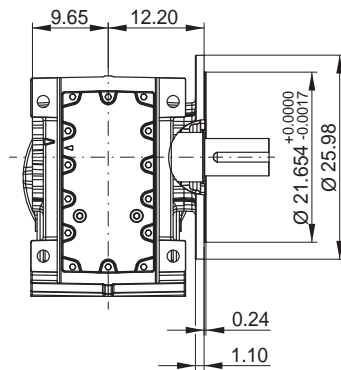


**KO155 - Flange execution  $\varnothing 25.98$  in ( $\varnothing 660$  mm) with hollow shaft**

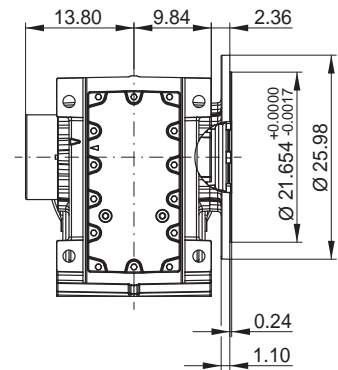


<sup>1)</sup> incl. hollow shaft protection cap

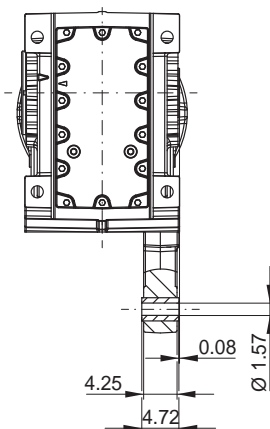
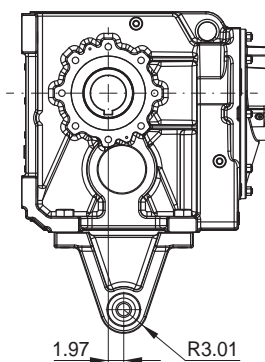
**KF155 - Flange execution  $\varnothing 25.98$  in ( $\varnothing 660$  mm) with output shaft**



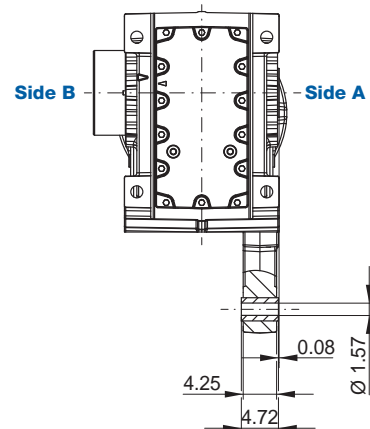
**KP155 - Flange execution  $\varnothing 25.98$  in ( $\varnothing 660$  mm) with hollow shaft and shrink disc**



**KT155 - Hollow shaft with torque arm \*\***



**KU155 - Hollow shaft with shrink disc and torque arm \*\***

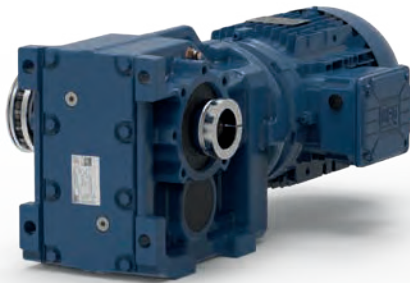


Dimensions in inch.

\*\* Torque arm may be mounted on side A or side B.

# EasyLock

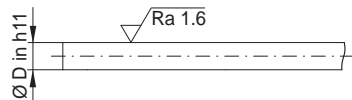
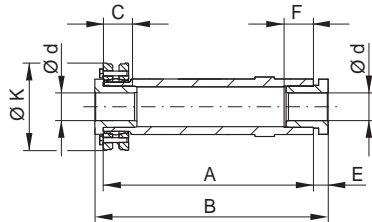
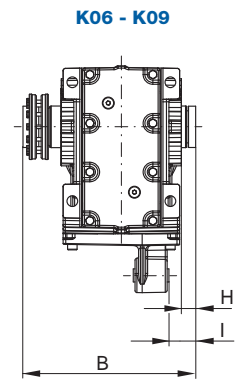
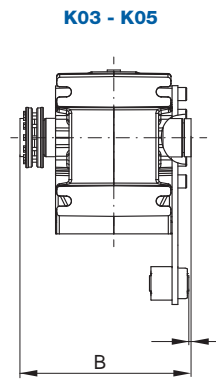
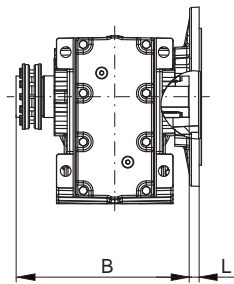
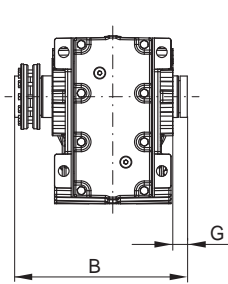
K



**KE... - Hollow shaft with EasyLock**

**KQ... - Flange execution with EasyLock**

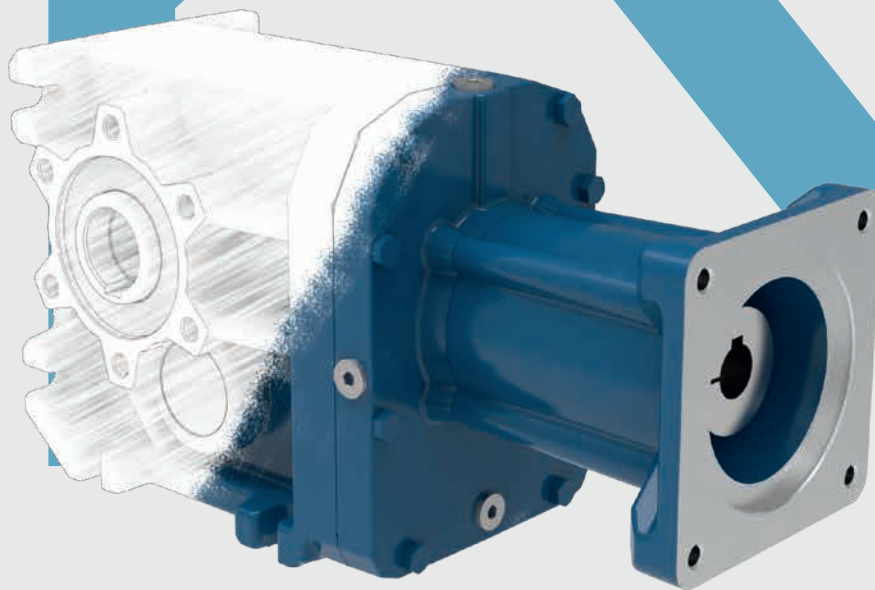
**KV... - Hollow shaft and torque arm with EasyLock**



| Dimension \ Gear unit size | K03.   |    | K04.   |    | K05.   |    | K06.   |    | K07.   |    | K08.   |    | K09.   |    |
|----------------------------|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|
|                            | inch   | mm | inch   | mm | inch   | mm | inch   | mm | inch   | mm | inch   | mm | inch   | mm |
| A                          | 5.73   |    | 7.05   |    | 7.99   |    | 8.50   |    | 10.43  |    | 12.09  |    | 14.49  |    |
| B                          | 6.73   |    | 8.19   |    | 9.13   |    | 9.65   |    | 11.57  |    | 13.23  |    | 15.63  |    |
| C                          | 1.40   |    | 1.42   |    | 1.42   |    | 1.42   |    | 1.46   |    | 1.57   |    | 1.89   |    |
| d, D                       | 1.0000 | 25 | 1.1875 | 30 | 1.1875 | 35 | 1.1875 | 35 | 1.6250 | 40 | 1.9375 | 45 | 2.3750 | 55 |
|                            | 1.1250 | 30 | 1.2500 | 32 | 1.3750 | 38 | 1.3750 | 38 | 1.7500 | 45 | 2.0000 | 50 | 2.4375 | 60 |
|                            | 1.1875 | 35 | 1.3750 | 35 | 1.4375 | 40 | 1.4375 | 40 | 1.9375 | 48 | 2.3750 | 55 | 2.7500 | 65 |
|                            | 1.2500 | 32 | 1.4375 | 38 | 1.5000 | 42 | 1.5000 | 42 | 1.9375 | 50 | 2.3750 | 60 | 2.7500 | 70 |
|                            |        |    |        | 40 | 1.6250 | 45 | 1.6250 | 45 | 2.0000 | 55 | 2.4375 | 65 | 2.9375 | 75 |
| E                          | 0.71   |    | 0.71   |    | 0.71   |    | 0.71   |    | 0.73   |    | 0.71   |    | 0.71   |    |
| F                          | 1.30   |    | 1.42   |    | 1.42   |    | 1.42   |    | 1.46   |    | 1.57   |    | 1.89   |    |
| G                          | 0.73   |    | 0.87   |    | 0.91   |    | 0.94   |    | 0.94   |    | 1.18   |    | 1.18   |    |
| H                          | 0.73   |    | 0.87   |    | 0.91   |    | 0.94   |    | 0.94   |    | 1.18   |    | 1.18   |    |
| I                          | 0.18   |    | 0.04   |    | 0.00   |    | 1.77   |    | 1.77   |    | 2.20   |    | 2.60   |    |
| K                          | 3.15   |    | 3.54   |    | 3.54   |    | 3.54   |    | 4.33   |    | 6.10   |    | 6.10   |    |
| L                          | 0.27   |    | 0.47   |    | 0.59   |    | 0.59   |    | 0.63   |    | 0.73   |    | 0.87   |    |

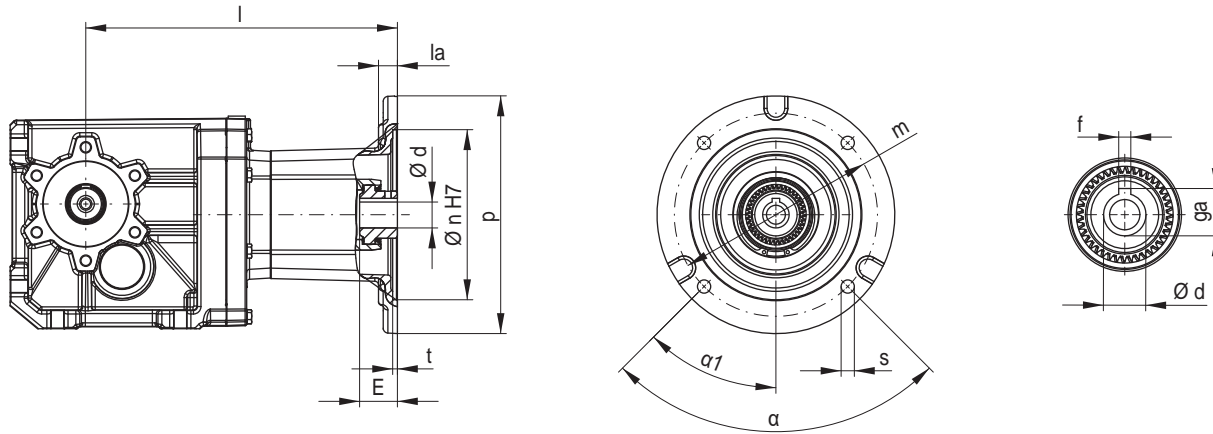
Gear unit dimension sheets see from page 429

# Dimension sheets - Input types



## IEC Adapter I63 to I280

K



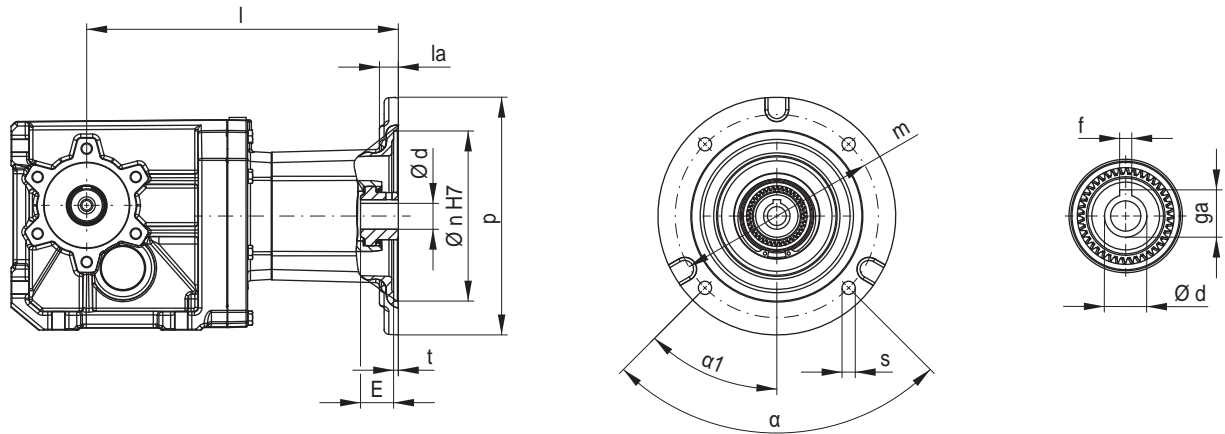
| Type            | I63       | I71       | I80  | I90  | I100 | I112 | I132  | I160  | I180  | I200  | I225  | I250  | I280  |
|-----------------|-----------|-----------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| p               | 6.30      | 6.30      | 7.87 | 7.87 | 9.84 | 9.84 | 11.81 | 13.78 | 13.78 | 15.75 | 17.72 | 21.65 | 21.65 |
| n               | 3.74      | 4.33      | 5.12 | 5.12 | 7.09 | 7.09 | 9.06  | 9.84  | 9.84  | 11.81 | 13.78 | 17.72 | 17.72 |
| la              | 0.89      | 0.39      | 0.51 | 0.51 | 0.59 | 0.79 | 0.59  | 1.38  | 1.38  | 0.79  | 0.79  | 0.79  | 0.79  |
| m               | 4.53      | 5.12      | 6.50 | 6.50 | 8.46 | 8.46 | 10.43 | 11.81 | 11.81 | 13.78 | 15.75 | 19.69 | 19.69 |
| t               | 0.18      | 0.18      | 0.18 | 0.18 | 0.20 | 0.20 | 0.20  | 0.20  | 0.20  | 0.22  | 0.20  | 0.20  | 0.20  |
| s               | M8 x 0.63 | M8 x 0.39 | 0.47 | 0.47 | 0.55 | 0.55 | 0.55  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  | 0.75  |
| $\alpha$        | 3.54      | 3.54      | 3.54 | 3.54 | 3.54 | 3.54 | 3.54  | 3.54  | 3.54  | 3.54  | 1.77  | 1.77  | 1.77  |
| $\alpha_1$      | 1.38      | 1.77      | 1.77 | 1.77 | 1.77 | 1.77 | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  | 1.77  |
| d               | 0.43      | 0.55      | 0.75 | 0.94 | 1.10 | 1.10 | 1.50  | 1.65  | 1.89  | 2.17  | 2.36  | 2.56  | 2.95  |
| f               | 0.16      | 0.20      | 0.24 | 0.31 | 0.31 | 0.31 | 0.39  | 0.47  | 0.55  | 0.63  | 0.71  | 0.71  | 0.79  |
| ga              | 0.50      | 0.64      | 0.86 | 1.07 | 1.23 | 1.23 | 1.63  | 1.78  | 2.04  | 2.33  | 2.54  | 2.73  | 3.15  |
| E <sup>1)</sup> | 0.98      | 1.26      | 1.69 | 1.87 | 2.48 | 3.94 | 3.37  | 4.39  | 4.39  | 4.51  | 5.51  | 5.75  | 5.75  |

<sup>1)</sup> Maximum motor shaft length for motors with key

| Gear unit size | I63   | I71   | I80   | I90   | I100  | I112  | I132  | I160  | I180  | I200  | I225  | I250  | I280  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | l     |       |       |       |       |       |       |       |       |       |       |       |       |
| K02            | 6.44  | 6.44  | 7.54  | 7.54  | -     | -     | -     | -     | -     | -     | -     | -     | -     |
| K03            | 7.48  | 7.48  | 8.58  | 8.58  | 9.80  | -     | -     | -     | -     | -     | -     | -     | -     |
| K04            | 8.17  | 8.17  | 9.27  | 9.27  | 10.49 | 12.58 | -     | -     | -     | -     | -     | -     | -     |
| K05            | 8.58  | 8.58  | 9.69  | 9.69  | 10.91 | 12.99 | 13.43 | -     | -     | -     | -     | -     | -     |
| K06            | 7.97  | 7.97  | 9.07  | 9.07  | 10.30 | 12.38 | 12.81 | -     | -     | -     | -     | -     | -     |
| K07            | 9.15  | 9.15  | 10.26 | 10.26 | 11.48 | 13.56 | 14.00 | 17.38 | -     | -     | -     | -     | -     |
| K08            | 11.08 | 11.08 | 12.19 | 12.19 | 13.41 | 15.49 | 15.93 | 19.25 | 19.25 | -     | -     | -     | -     |
| K09            | 11.87 | 11.87 | 12.97 | 12.97 | 14.19 | 16.28 | 16.71 | 20.04 | 20.04 | 21.16 | -     | -     | -     |
| K10            | -     | -     | -     | -     | -     | 18.41 | 18.84 | 22.07 | 22.07 | 23.19 | 24.37 | -     | -     |
| K12            | -     | -     | -     | -     | -     | 20.33 | 20.77 | 24.00 | 24.00 | 25.12 | 26.30 | 29.80 | 29.80 |
| K15            | -     | -     | -     | -     | -     | -     | -     | 24.78 | 24.78 | 25.91 | 27.09 | 30.59 | 30.59 |

Dimensions in inch.

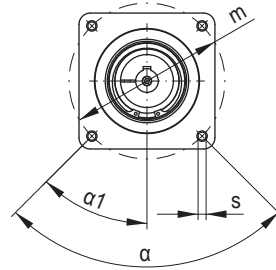
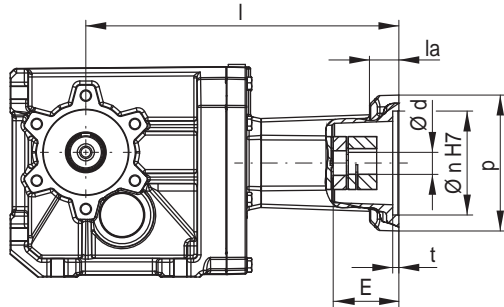
## NEMA Adapter N56 to N364



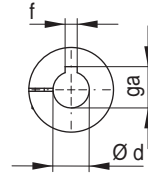
| Type           | N56  | N143/145 | N182 | N184 | N213/215 | N254/256 | N284/286 | N324/326 | N364  |
|----------------|------|----------|------|------|----------|----------|----------|----------|-------|
| p              | 6.69 | 6.69     | 9.84 | 9.84 | 11.81    | 8.86     | 11.02    | 13.78    | 15.75 |
| n              | 4.50 | 4.50     | 8.50 | 8.50 | 8.50     | 8.50     | 10.50    | 12.50    | 12.50 |
| la             | 0.51 | 0.51     | 0.39 | 0.66 | 0.39     | 1.18     | 1.38     | 0.59     | 0.59  |
| m              | 5.88 | 5.88     | 7.25 | 7.25 | 7.25     | 7.25     | 9.00     | 11.00    | 11.00 |
| t              | 0.18 | 0.18     | 0.20 | 0.13 | 0.20     | 0.20     | 0.12     | 0.20     | 0.20  |
| s              | 0.43 | 0.43     | 0.55 | 0.55 | 0.55     | 0.55     | 0.55     | 0.75     | 0.75  |
| α              | 90°  | 90°      | 90°  | 90°  | 90°      | 90°      | 90°      | 90°      | 90°   |
| α <sub>1</sub> | 45°  | 45°      | 45°  | 45°  | 45°      | 45°      | 45°      | 45°      | 45°   |
| d              | 0.63 | 0.88     | 1.13 | 1.13 | 1.38     | 1.63     | 1.88     | 2.13     | 2.38  |
| f              | 0.19 | 0.19     | 0.25 | 0.25 | 0.31     | 0.38     | 0.50     | 0.50     | 0.63  |
| ga             | 0.71 | 0.96     | 1.24 | 1.24 | 1.52     | 1.80     | 2.10     | 2.35     | 2.65  |
| E              | 2.17 | 2.17     | 2.66 | 3.81 | 3.17     | 4.15     | 4.39     | 4.31     | 4.31  |

| Gear unit size | N56   | N143/145 | N182  | N184  | N213/215 | N254/256 | N284/286 | N324/326 | N364  |
|----------------|-------|----------|-------|-------|----------|----------|----------|----------|-------|
|                | l     |          |       |       |          |          |          |          |       |
| K02            | 7.54  | 7.54     | -     | -     | -        | -        | -        | -        | -     |
| K03            | 8.58  | 8.58     | 9.80  | -     | -        | -        | -        | -        | -     |
| K04            | 9.27  | 9.27     | 10.49 | 12.58 | -        | -        | -        | -        | -     |
| K05            | 9.69  | 9.69     | 10.91 | 12.99 | 13.43    | -        | -        | -        | -     |
| K06            | 9.07  | 9.07     | 10.30 | 12.38 | 12.81    | -        | -        | -        | -     |
| K07            | 10.26 | 10.26    | 11.48 | 13.56 | 14.00    | 17.38    | -        | -        | -     |
| K08            | 12.19 | 12.19    | 13.41 | 15.49 | 15.93    | 19.25    | 19.37    | -        | -     |
| K09            | 12.97 | 12.97    | 14.19 | 16.28 | 16.71    | 20.04    | 20.16    | 22.03    | -     |
| K10            | -     | -        | -     | 18.41 | 18.84    | 22.07    | 22.19    | 24.06    | 24.67 |
| K12            | -     | -        | -     | 20.33 | 20.77    | 24.00    | 24.11    | 25.98    | 26.59 |
| K15            | -     | -        | -     | -     | -        | 24.78    | 24.90    | 27.38    | 27.38 |

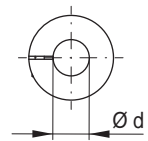
## SERVO Adapter S92 bis S190



Shaft with key



Smooth shaft



| Type            | S92     | S105    | S114    | S115    | S130    | S141    | S142  | S180 | S189 | S190 |      |      |      |      |      |      |      |      |      |
|-----------------|---------|---------|---------|---------|---------|---------|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| p               | 3.98    | 5.67    | 5.67    | 5.67    | 5.67    | 5.67    | 5.67  | 7.76 | 7.76 | 7.76 |      |      |      |      |      |      |      |      |      |
| n               | 3.15    | 3.74    | 3.74    | 4.33    | 4.33    | 4.33    | 5.12  | 4.50 | 5.12 | 7.09 |      |      |      |      |      |      |      |      |      |
| la              | 0.69    | 1.22    | 1.22    | 1.22    | 1.22    | 1.22    | 1.22  | 1.38 | 1.26 | 1.50 |      |      |      |      |      |      |      |      |      |
| m               | 3.94    | 4.53    | 5.12    | 5.12    | 5.71    | 6.50    | 6.50  | 7.87 | 8.46 | 8.46 |      |      |      |      |      |      |      |      |      |
| t               | 0.26    | 0.26    | 0.26    | 0.26    | 0.26    | 0.26    | 0.26  | 0.26 | 0.26 | 0.26 |      |      |      |      |      |      |      |      |      |
| s               | M6x0.47 | M8x0.63 | M8x0.63 | M8x0.63 | M8x0.63 | M8x0.63 | M8x16 | 0.53 | 0.59 | 0.59 |      |      |      |      |      |      |      |      |      |
| α               | 90°     | 90°     | 90°     | 90°     | 90°     | 90°     | 90°   | 90°  | 90°  | 90°  |      |      |      |      |      |      |      |      |      |
| α <sub>1</sub>  | 45°     | 45°     | 45°     | 45°     | 45°     | 45°     | 45°   | 45°  | 45°  | 45°  |      |      |      |      |      |      |      |      |      |
| d <sup>1)</sup> | 0.55    | 0.63    | 0.75    | 0.75    | 0.75    | 0.94    | 0.94  | 0.75 | 0.87 | 0.94 | 1.10 | 0.94 | 0.94 | 1.26 | 1.38 | 1.26 | 1.50 | 1.50 |      |
| f               | 0.20    | 0.20    | 0.24    | 0.24    | 0.24    | 0.31    | 0.31  | 0.24 | 0.24 | 0.31 | 0.31 | 0.31 | 0.31 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 | 0.39 |
| ga              | 0.64    | 0.72    | 0.86    | 0.86    | 0.86    | 1.07    | 1.07  | 0.86 | 0.98 | 1.07 | 1.23 | 1.07 | 1.07 | 1.39 | 1.51 | 1.39 | 1.39 | 1.39 | 1.63 |
| E <sup>2)</sup> | 1.87    | 2.74    | 2.74    | 2.11    | 2.11    | 2.97    | 2.97  | 2.46 | 2.46 | 2.62 | 2.46 | 2.46 | 2.46 | 2.58 | 2.89 | 2.34 | 3.41 | 3.41 | 3.41 |
| E <sup>3)</sup> | 1.87    | 2.74    | 2.74    | 2.62    | 2.62    | 2.97    | 2.97  | 2.97 | 2.46 | 2.11 | 2.97 | 2.46 | 3.41 | 2.89 | 2.34 | 3.41 | 3.41 | 3.41 | 3.41 |

<sup>1)</sup> Other shaft diameters on request

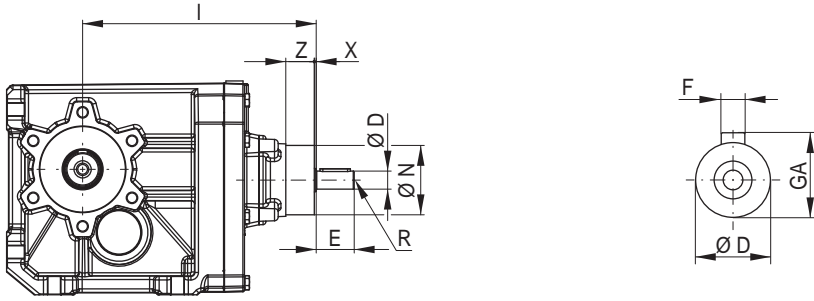
<sup>2)</sup> Maximum motor shaft length for motors with key

<sup>3)</sup> Maximum motor shaft length for motors with smooth shaft

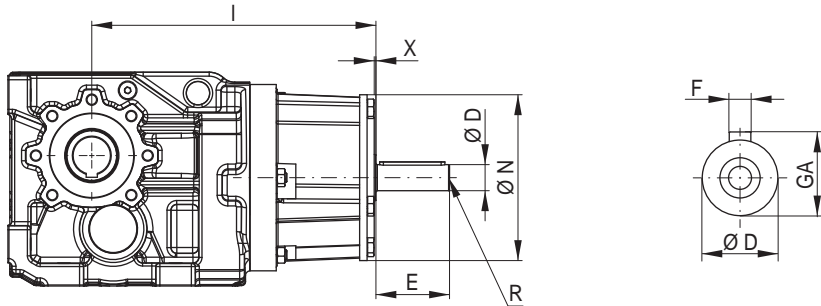
| Gear unit size | S92   | S105  | S114  | S115  | S130  | S141  | S142  | S180  | S189  | S190  |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | l     |       |       |       |       |       |       |       |       |       |
| K02            | 9.02  | 10.91 | 10.91 | 10.91 | 10.91 | 10.91 | 10.91 | -     | -     | -     |
| K03            | 10.06 | 11.95 | 11.95 | 11.95 | 11.95 | 11.95 | 11.95 | -     | -     | -     |
| K04            | 10.75 | 12.64 | 12.64 | 12.64 | 12.64 | 12.64 | 12.64 | 15.41 | 15.18 | 16.24 |
| K05            | 11.16 | 13.05 | 13.05 | 13.05 | 13.05 | 13.05 | 13.05 | 15.83 | 15.59 | 16.65 |
| K06            | 10.55 | 12.44 | 12.44 | 12.44 | 12.44 | 12.44 | 12.44 | 15.22 | 14.98 | 16.04 |
| K07            | 11.73 | 13.62 | 13.62 | 13.62 | 13.62 | 13.62 | 13.62 | 16.40 | 16.16 | 17.22 |
| K08            | 13.66 | 15.55 | 15.55 | 15.55 | 15.55 | 15.55 | 15.55 | 18.33 | 18.09 | 19.15 |
| K09            | 14.45 | 16.34 | 16.34 | 16.34 | 16.34 | 16.34 | 16.34 | 19.11 | 18.88 | 19.94 |
| K10            | -     | -     | -     | -     | -     | -     | -     | 21.24 | 21.00 | 22.07 |
| K12            | -     | -     | -     | -     | -     | -     | -     | 23.17 | 22.93 | 24.00 |
| K15            | -     | -     | -     | -     | -     | -     | -     | -     | -     | -     |

Dimensions in inch.

### Input Unit U2, U3



### Input Unit U5, U6, U7



| Type | Input shaft |        |        |        |         |         |         |
|------|-------------|--------|--------|--------|---------|---------|---------|
|      | 19x40*      | 24x50* | 28x60* | 38x80* | 42x110* | 48x110* | 55x110* |
|      | U2          | U3     | U5     |        |         | U6      | U7      |
| D    | 0.75        | 0.94   | 1.10   | 1.50   | 1.65    | 1.89    | 2.17    |
| F    | 0.24        | 0.31   | 0.31   | 0.39   | 0.47    | 0.55    | 0.63    |
| GA   | 0.85        | 1.06   | 1.22   | 1.61   | 1.77    | 2.03    | 2.32    |
| E    | 1.57        | 1.97   | 2.36   | 3.15   | 4.33    | 4.33    | 4.33    |
| N    | 2.87        | 3.98   | 7.01   |        |         | 9.25    | 11.42   |
| X    | 0.08        | 0.10   | 0.07   |        |         | 0.26    | 0.16    |
| Z    | 0.12        | 1.38   | -      |        |         | -       | -       |
| R    | M6          | M10    | M10    | M12    | M16     | M16     | M20     |

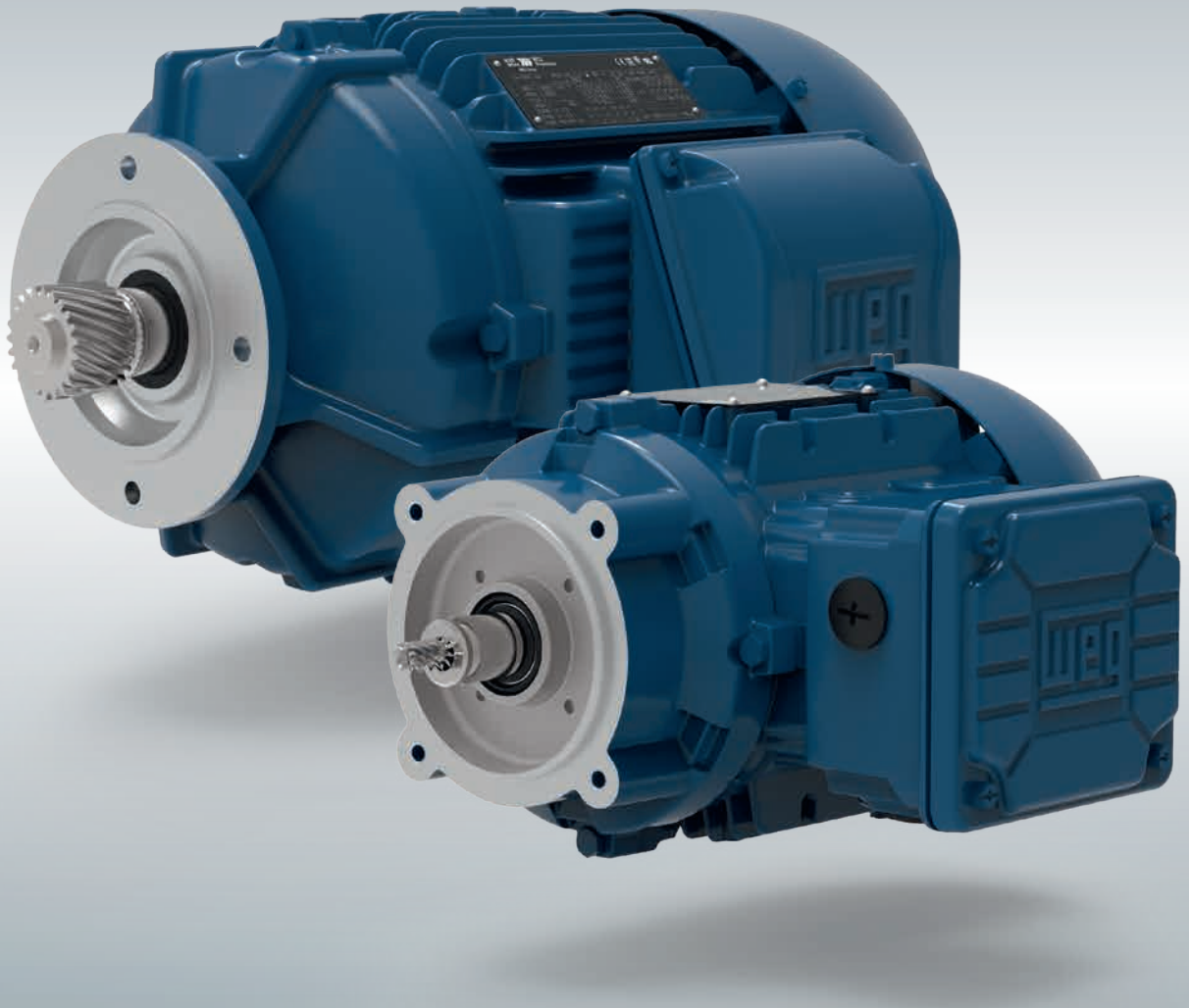
| Tolerances     |                                |    |
|----------------|--------------------------------|----|
| Dimension name | ISO tolerance DIN EN ISO 286-2 |    |
| D              | < Ø 55 mm (2.17 in)            | k6 |
|                | ≥ Ø 55 mm (2.17 in)            | m6 |

| Gear unit size | Input shaft |        |                             |         |         |
|----------------|-------------|--------|-----------------------------|---------|---------|
|                | 19x40*      | 24x50* | 28x60*<br>38x80*<br>42x110* | 48x110* | 55x110* |
|                | U2          | U3     | U5                          | U6      | U7      |
|                | I           |        |                             |         |         |
| K02            | 7.54        | -      | -                           | -       | -       |
| K03            | 8.58        | -      | -                           | -       | -       |
| K04            | 9.27        | 10.53  | -                           | -       | -       |
| K05            | 9.69        | 10.94  | -                           | -       | -       |
| K06            | 9.07        | 10.33  | 12.01                       | -       | -       |
| K07            | 10.26       | 11.52  | 13.19                       | -       | -       |
| K08            | 12.19       | 13.44  | 15.06                       | 15.93   | -       |
| K09            | 12.97       | 14.23  | 15.85                       | 16.71   | -       |
| K10            | -           | 16.36  | 17.87                       | 18.74   | 21.46   |
| K12            | -           | 18.29  | 19.80                       | 20.67   | 23.39   |
| K15            | -           | -      | 20.59                       | 21.46   | 24.17   |

\* Shaft sizes in mm.







## Modular System Motor





Terminal box designs  
page 494

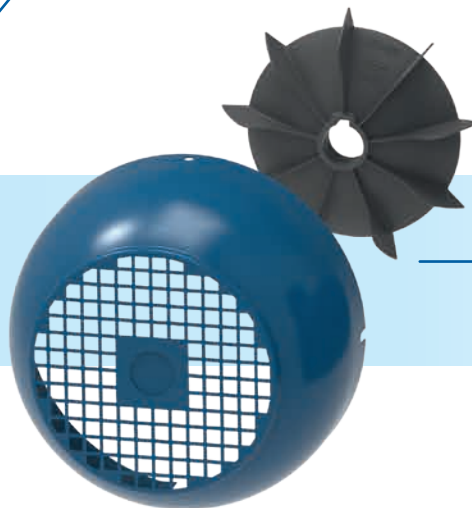
M



Brake systems  
and backstops  
page 497

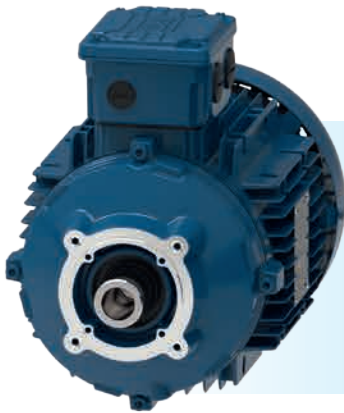


Encoder systems  
page 508



Ventilation systems  
page 511

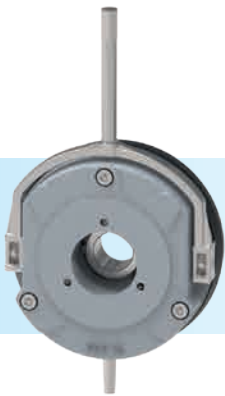




Motor series 11  
with aluminium housing  
(frame sizes 63 - 132)



Motor series 22  
with cast iron housing  
(frame sizes 160 - 250)



## The modular motor system

Our motor system is an optimized and modularly designed kit. It includes harmonized modules like brakes, encoders, forced ventilation and connecting systems which are combined to meet the customer's requirements.

The significant advantage of this concept offers fast and reliable delivery times, not only to our local customers but also internationally, because WEG's competent sales network and assembling centers guarantee the availability of components worldwide.

Detailed description of the motor modules from page 493.

## The modular system motor

Due to special windings and clever connecting systems it's possible to use the same motor all over the world. Just a change of connection (4 possible options) and the motor can do its job reliably in Europe, USA or Far East, from 115 V to 690 V, 50 Hz and 60 Hz.

### The modular system motor is available in two energy efficiency classes:

- IE1: Series 11N, IEC frame sizes 63 to 80 (up to 0.75 hp)
- IE3: Series 11P (aluminium), IEC sizes 80 to 132 (1.0 - 12.5 hp);  
Series 22P (cast iron), IEC sizes 160 to 250 (15-100 hp)
- Motors in energy efficiency class IE4 on request

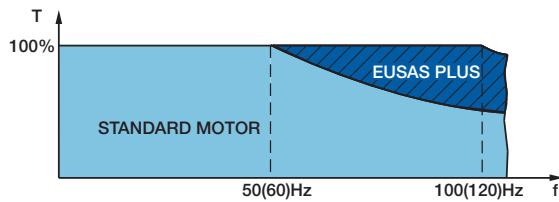
### Advantages

- Wide voltage range
- Switchable to all usual voltages worldwide:
  - 115-460 V - 50/60 Hz up to and including frame size 100
  - 200-690 V - 50/60 Hz for frame sizes 112 to 250
- Frequency inverter operation 100/120 Hz
- Ambient temperature -4 to +104 °F
- Nameplate with 50/60 Hz data
- Flexible adjustment of the terminal box
- Reinforced bearings (integral motor)
- Shaft system for immediate assembling of motor modules, like encoders, brakes, backstop, etc.
- Degree of protection IP55
- Thermal protection with bimetal switch and PTC thermistor
- Thermal class F
- System motor, prepared for flexible assembling of motor modules
- Certified for worldwide distribution: CE, CSA, UL, EAC

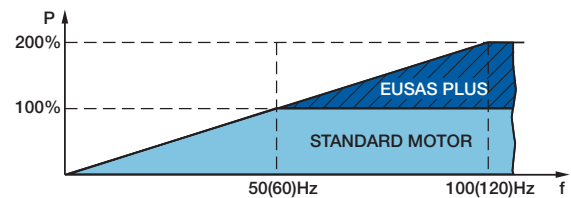
### The ideal motor for frequency inverter operation

Switchable to 100/120 Hz. Simply switch over and use the double output.

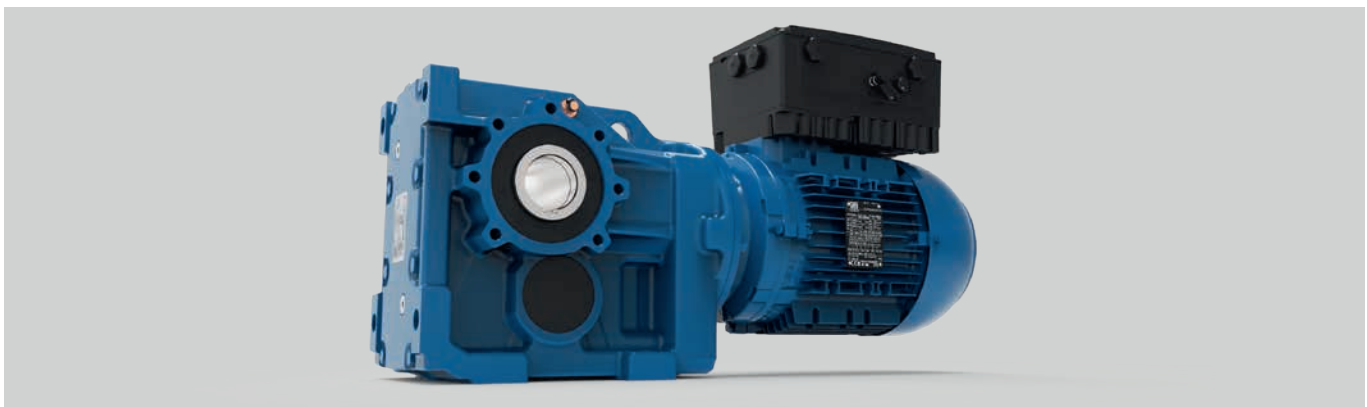
The excellent combination of the modular system motor and variable speed drives by WEG (type CFW for various applications and decentralized motor drive MW500) enables drive systems with a wide speed range.



Rated torque up to double rated speed



Two times rated power at double rated speed



WG20 geared motor with decentralized motor drive MW500

## Type code

11P-EX-L100L-04F-LT-TH-SH-K1-KB-MIP-BR..-SG-FL-SD

1  
 2  
 3  
 4  
 3  
 5  
 6  
 7  
 8  
 9  
 10  
 11  
 12  
 13  
 14  
 15  
 16

- 1** Motor series:                    11N = Aluminium motor in energy efficiency class IE1, frame sizes 63 - 80 (up to 0.75 hp)  
                                          11P = Aluminium motor in energy efficiency class IE3, frame sizes 80 - 132 (1 - 12.5 hp)  
                                          22P = Cast iron motor in energy efficiency class IE3, frame sizes 160 - 250 (15 - 100 hp)
- 2** ATEX execution:                    when operated in explosive atmospheres, see page 482
- 3** Stator length:                    L.  
                                          .S  
                                          .S/L  
                                          .S/M  
                                          .M  
                                          .L
- 4** IEC frame size:                    63        132  
                                          71        160  
                                          80        180  
                                          90        200  
                                          100      225  
                                          112      250
- 5** Number of poles:                    04 = 4 poles  
                                          06 = 6 poles
- 6** Power indicator:                    E  
                                          F  
                                          G
- 7** High/Low temperature execution:    see page 493
- 8** Temperature control:                    see page 493
- 9** Anti-condensation heater:                    see page 493
- 10** Climatic protection:                    see page 494
- 11** Drain:                                    see page 494
- 12** Terminal box designs:                    see page 494
- 13** Brake systems and backstop:                    see page 497
- 14** Encoder systems:                    see page 508
- 15** Ventilation systems:                    see page 511
- 16** Additional modules:                    see page 513



# Options

## 1. Basic execution

| Description                                        | Key | Page | IEC frame size |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
|----------------------------------------------------|-----|------|----------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|---|
|                                                    |     |      | 63             | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 |   |   |   |
| Switchable voltage (4 connections)                 | -   | 482  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Temperature controller for switch off (+311 °F)    | TH  | 493  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| PTC thermistor protection for switch off (+311 °F) | TF  | 493  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Thermal class F (up to +311 °F)                    | -   | 482  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Fixed bearing NDE                                  | -   | -    |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Fixed bearing DE                                   | -   | -    | -              | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | - | - | - |
| Degree of protection IP55                          | -   | 18   |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Certifications (CE, EAC, UL, CSA)                  | -   | -    |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |

## 2. Electrical options

| Description                                          | Key | Page | IEC frame size |    |    |    |     |     |     |     |     |     |     |     |  |  |  |
|------------------------------------------------------|-----|------|----------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
|                                                      |     |      | 63             | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 |  |  |  |
| Special voltage SPECI-Volt                           | -   | 482  |                |    |    |    |     |     |     |     |     |     |     |     |  |  |  |
| Temperature controller for warning and switch off    | 2TH | 493  |                |    |    |    |     |     |     |     |     |     |     |     |  |  |  |
| PTC thermistor protection for warning and switch off | 2TF | 493  |                |    |    |    |     |     |     |     |     |     |     |     |  |  |  |
| Temperature sensor KTY                               | KTY | 493  |                |    |    |    |     |     |     |     |     |     |     |     |  |  |  |
| Temperature sensor PT100                             | -   | -    |                |    |    |    |     |     |     |     |     |     |     |     |  |  |  |
| Anti-condensation heater 230 V                       | SH  | 493  | -              |    |    |    |     |     |     |     |     |     |     |     |  |  |  |
| Thermal class H (up to +356 °F)                      | -   | -    |                |    |    |    |     |     |     |     |     |     |     |     |  |  |  |

## 3. Mechanical options

| Description                                                        | Key      | Page | IEC frame size |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
|--------------------------------------------------------------------|----------|------|----------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|---|---|---|
|                                                                    |          |      | 63             | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 |   |   |   |
| Degree of protection IP56                                          | -        | 18   |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Degree of protection IP65                                          | -        | 18   |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Degree of protection IP66                                          | -        | 18   |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Degree of protection IP67                                          | -        | 18   |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| High temperature execution (max. +176 °F ambient temperature)      | HT       | 493  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Low temperature execution                                          | LT       | 493  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| ATEX zone 2+22: II 3G Ex ec IIC T3 Gc / II 3D Ex tc IIIC T125°C Dc | EX       | 482  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Humidity protection K1                                             | K1       | 494  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Corrosion protection K2                                            | K2       | 494  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Drain                                                              | KB       | 494  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Multipin box                                                       | MIP      | 494  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Multi-plug-connect systems                                         | MIG..    | 495  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Multi-plug-connect system for forced ventilation                   | MIG10-FL | 495  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Non-ventilated without NDE shaft end                               | U        | 512  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Non-ventilated with NDE shaft end                                  | UW       | 512  |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Different position of the terminal box                             | -        | -    |                |    |    |    |     |     |     |     |     |     |     |     |   |   |   |
| Relubrication                                                      | -        | -    | -              | -  | -  | -  | -   | -   | -   | -   | -   | -   | -   | -   | - | - | - |

- Standard
- Special execution (on request)
- Not available

#### 4. Options - motor modules

| Description                                       | Key      | Page | IEC frame size |    |    |    |     |     |     |     |     |     |     |     |    |    |
|---------------------------------------------------|----------|------|----------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
|                                                   |          |      | 63             | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 |    |    |
| Spring loaded brake - IP55, 24 V                  | BR..     | 501  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Spring loaded brake - IP55, 102 V                 | BR..     | 501  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Spring loaded brake - IP55, 190 V, 195 V          | BR..     | 501  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Double spring loaded brake in low noise execution | BBRHGD.. | 502  | -              |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Totally enclosed spring loaded brake - IP66       | BRGH..   | 503  | -              |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Manual release for brake                          | (BR)H..  | 501  | 1)             |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Locking device for manual release                 | (BR)HA.. | 501  | 1)             |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Corrosion protection IP55 for brake               | (BR)R..  | 501  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Dust protection IP65 for brake                    | (BR)S..  | 501  | 1)             |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Corrosion and dust protection IP65 for brake      | (BR)SR.. | 501  | 1)             |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Brake in low noise execution                      | (BR)GD.. | 501  | -              |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Micro switch                                      | (BR)M    | 501  | 2)             | 2) | 2) |    |     |     |     |     |     |     |     |     |    |    |
| Anti-condensation heater for brakes               | -        | 503  | -              | -  |    |    |     |     |     |     |     |     |     |     |    |    |
| Fast excitation rectifier                         | -        | 505  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Backstop KKM                                      | KKM      | 507  |                |    |    |    | -   | -   | -   | -   | -   | -   | -   | -   | -  | -  |
| Backstop RSM                                      | RSM      | 507  | -              | -  | -  | -  |     |     |     |     |     |     |     |     |    |    |
| Encoder outside the fan cover                     | I.       | 508  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Encoder inside the fan cover                      | S.       | 508  | -              |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Encoder (1024 pulses, HTL/TTL, IP66)              | .G       | 508  | I.             | S. |    |    |     |     |     |     |     |     |     |     |    |    |
| Mating plug for encoder without cable             | -        | -    | I.             | S. |    |    |     |     |     |     |     |     |     |     |    |    |
| Mating plug for encoder with cable                | -        | -    | I.             | S. |    |    |     |     |     |     |     |     |     |     |    |    |
| SINCOS encoder                                    | .C       | 508  | -              | -  |    |    |     |     |     |     |     |     |     |     | I. | S. |
| Resolver                                          | .R       | 508  | -              |    |    |    |     |     |     |     |     |     |     |     | -  | -  |
| Special encoder                                   | .A       | 509  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| SSI multiturn encoder                             | SS       | 509  | -              |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Heavy Duty encoder                                | SV       | 509  | -              | -  | -  |    |     |     |     |     |     |     |     |     |    |    |
| Forced ventilation (TEFV)                         | FL       | 511  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Fly wheel fan                                     | ZL       | 512  | -              |    |    |    |     |     |     |     | -   | -   | -   | -   | -  | -  |
| Hand wheel                                        | HR       | 513  | -              |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Protection cap                                    | SD       | 513  |                |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Protection cap for encoders                       | ID       | 513  | -              | -  | -  |    |     |     |     |     |     |     |     |     |    |    |
| Second shaft end - module shaft                   | ZWM      | 514  | -              |    |    |    |     |     |     |     |     |     |     |     |    |    |
| Second shaft end - solid shaft                    | ZWV      | 514  |                |    |    |    |     |     |     |     |     |     |     |     | -  | -  |

#### 5. Additional options

| Description                                                          | Key | Page | IEC frame size |    |    |    |     |     |     |     |     |     |     |     |  |  |
|----------------------------------------------------------------------|-----|------|----------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|                                                                      |     |      | 63             | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 |  |  |
| Special nameplate (aluminium)                                        | -   | -    |                |    |    |    |     |     |     |     |     |     |     |     |  |  |
| Second nameplate (not fixed, aluminium or stainless steel)           | -   | -    |                |    |    |    |     |     |     |     |     |     |     |     |  |  |
| Metal fan                                                            | ZM  | 512  |                |    |    |    |     |     |     |     |     |     |     |     |  |  |
| Vibration severity grade "B" (reduced) according to DIN IEC 60034-14 | -   | 482  |                |    |    |    |     |     |     |     |     |     |     |     |  |  |
| Wide range grease (-354 °F to +1548 °F)                              | -   | -    |                |    |    |    |     |     |     |     |     |     |     |     |  |  |

1) not possible with 2 Nm (18 lb-in) brake

2) Micro switch not possible for totally closed brakes at 2 Nm (18 lb-in) and 5 Nm (44 lb-in)

|  |          |  |                                |
|--|----------|--|--------------------------------|
|  | Standard |  | Special execution (on request) |
|  | Optional |  | Not available                  |

# General information

| Frame size                 | 63                                             | 71                                                            | (L)80       | 90S/L     | (L)100L   | 112M         | 132S, L132M          | 160M,L                                | 180M,L                                         | 200L                                 | 225S/M                                                   | 250S/M                       |            |
|----------------------------|------------------------------------------------|---------------------------------------------------------------|-------------|-----------|-----------|--------------|----------------------|---------------------------------------|------------------------------------------------|--------------------------------------|----------------------------------------------------------|------------------------------|------------|
| <b>Mechanical features</b> |                                                |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Mounting form              | B14R                                           |                                                               |             |           |           |              | B5R                  |                                       |                                                |                                      |                                                          |                              |            |
| Housing material           | aluminium EN AC-46100                          |                                                               |             |           |           |              | cast iron EN GJL-200 |                                       |                                                |                                      |                                                          |                              |            |
| Degree of protection       | IP55                                           |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Grounding                  | simple grounding - one inside the terminal box |                                                               |             |           |           |              |                      |                                       |                                                |                                      | double - in the terminal box and on the frame            |                              |            |
| Cooling method             | fan - IC411 (TEFC)                             |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Fan material               | polypropylen                                   |                                                               |             |           |           |              |                      |                                       |                                                |                                      | aluminium                                                |                              |            |
| Fan cover material         | sheet steel                                    |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Endshields material        | aluminium EN AC-46100 *                        |                                                               |             |           |           |              | cast iron EN GJL-200 |                                       |                                                |                                      |                                                          |                              |            |
| Drain                      | rubber drain plug                              |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Bearings                   | Locking                                        | without bearing cap with circlip - NDE                        |             |           |           |              |                      | without bearing cap with circlip - DE |                                                |                                      | internal + external bearing cap and spring washers - NDE |                              |            |
|                            | DE                                             | 6203 ZZ                                                       | 6204 ZZ     | 6205 ZZ   | 6305 ZZ   | 6207 ZZ      | 6307 ZZ              | 6309 ZZ                               | 6309 ZZ-C3                                     | 6312 ZZ-C3                           | 6314 ZZ-C3                                               | 6314 ZZ-C3                   | 6316 ZZ-C3 |
|                            | NDE                                            | 6201 ZZ                                                       | 6203 ZZ     | 6203 ZZ   | 6205 ZZ   | 6206 ZZ      | 6206 ZZ              | 6308 ZZ                               | 6209 ZZ-C3                                     | 6211 ZZ-C3                           | 6212 ZZ-C3                                               | 6314 ZZ-C3                   | 6314 ZZ-C3 |
| Shaft seal                 | Type                                           | radial shaft seal                                             |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
|                            | DE                                             | 17x30x7                                                       | 20x30x7     | 25x40x7   | 25x40x7   | 35x52x7      | 35x52x7              | 45x60x8                               | 45x60x8                                        | 60x90x10                             | 60x90x10                                                 | 70x90x10                     | 70x90x10   |
|                            | NDE                                            | 12x22x7                                                       | 17x28x5     | 17x28x5   | 25x35x7   | 30x40x4      | 30x40x4              | 40x56x8                               | 45x62x7                                        | 55x70x8                              | 60x75x8                                                  | 70x85x8                      | 70x85x8    |
| Lubrication                | Material                                       | NBR                                                           |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
|                            | Type of grease                                 | Mobil Polyrex EM                                              |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
|                            | Grease fitting                                 | without grease fitting                                        |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Terminal block             | 9 pins                                         |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Terminal box material      | aluminium EN AC 47000                          |                                                               |             |           |           |              | cast iron EN GJL-200 |                                       |                                                |                                      |                                                          |                              |            |
| Cable entry                | Main                                           | 2 x M25x0.06                                                  |             |           |           | 2 x M32x0.06 |                      | 2 x M40x0.06                          |                                                | 2 x M50x0.06                         |                                                          | 2 x M63x0.06                 |            |
|                            | Accessory                                      | 2 x M16x0.06                                                  |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
|                            | Plug                                           | threaded plug for transport and storage; cable gland optional |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Shaft material             | 1.0511/1.1191 – C40/C45E – AISI 1040/45        |                                                               |             |           |           |              |                      |                                       |                                                |                                      | 1.7225 - 42CrMo4 - AISI 4140                             |                              |            |
| Direction of rotation      | both directions                                |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Vibration                  | class A                                        |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Nameplate material         | stainless steel 1.4301 (AISI 304)              |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Flange                     | FC-120                                         |                                                               |             |           |           | FC-160       |                      |                                       | FR-200<br>FR-250<br>FR-300<br>FR-400<br>FR-550 | FR-250<br>FR-300<br>FR-400<br>FR-550 | FR-300<br>FR-400<br>FR-550                               | FR-400<br>FR-550             | FR-550     |
|                            |                                                |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| <b>Electrical features</b> |                                                |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Power [hp] 4 poles         | 0.16 - 0.25                                    | 0.33 - 0.50                                                   | 0.75 - 1.0  | 1.5 - 2.0 | 3.0 - 4.0 | 5.5          | 7.5 - 12.5           | 15.0 - 20                             | 25 - 30                                        | 40                                   | 60 - 75                                                  | 100                          |            |
| Power [hp] 6 poles         | 0.16                                           | 0.25 - 0.33                                                   | 0.50 - 0.75 | 1.00      | 1.5 - 2.0 | 3.0          | 4.0 - 7.5            | -                                     | -                                              | -                                    | -                                                        | -                            |            |
| Design                     | N                                              |                                                               |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |
| Voltage / Frequency        | Δ                                              | 230 V (50Hz) // 265 V (60Hz)                                  |             |           |           |              | Δ                    | 400 V (50 Hz) // 460 V (60 Hz)        |                                                |                                      |                                                          |                              |            |
|                            | ΔΔ                                             | 115 V (50 Hz) // 132 V (60Hz)                                 |             |           |           |              | ΔΔ                   | 200 V (50 Hz) // 230 V (60 Hz)        |                                                |                                      |                                                          |                              |            |
|                            | Y                                              | 400 V (50 Hz) // 460 V (60 Hz)                                |             |           |           |              | Y                    | 690 V (50 Hz) // -                    |                                                |                                      |                                                          |                              |            |
|                            | YY                                             | 200 V (50 Hz) // 230 V (60 Hz)                                |             |           |           |              | YY                   | 346 V (50 Hz) // 400 V (60 Hz)        |                                                |                                      |                                                          |                              |            |
| Winding                    | Impregnation                                   | dip                                                           |             |           |           |              |                      |                                       |                                                |                                      |                                                          | continuous flow impregnation |            |
|                            | Insulation class                               | F (DT 80K)                                                    |             |           |           |              |                      |                                       |                                                |                                      |                                                          |                              |            |

\* Except frame sizes L100L and L132M: endshield (NDE) made from cast iron EN GJL-200



## 1. Nameplate

The stainless steel plate is fixed on the frame and bears data for 50 Hz and 60 Hz. The information on the nameplate contains all relevant specifications of the product (see examples for motor frame sizes 90, 132 and 160).

|                                            |     |                  |            |                                          |      |
|--------------------------------------------|-----|------------------|------------|------------------------------------------|------|
| WEG                                        |     | W21              |            | 14057615                                 |      |
| M330015009A4YC12031G                       |     | ~ 3 AL90S/L-04   |            | IP55 INS CLF ΔT 80 K S1 SF 1.00 AMB 40°C |      |
| V                                          | Hz  | kW               | RPM        | A                                        | PF   |
| 115 ΔΔ / 200 Y Y                           | 50  | 1.5              | 1450       | 11.0 / 6.30                              | 0.80 |
| 230 Δ / 400 Y                              |     |                  |            | 5.50 / 3.15                              |      |
| 132 ΔΔ / 230 Y Y                           | 60  | 1755             | 1755       | 9.72 / 5.58                              | 0.78 |
| 265 Δ / 460 Y                              |     |                  |            | 4.84 / 2.78                              |      |
| 50Hz                                       | IE3 | 86.0 (100%)      | 86.0 (75%) | 84.0 (50%)                               |      |
| 60Hz                                       |     | 86.5 (100%)      | 85.5 (75%) | 82.5 (50%)                               |      |
| <br>IEC 60034-1 MOD.TE0=AOX0\$0000300647   |     |                  |            |                                          |      |
| NEMA Eff 86.5% 2.0HP 460 V 60Hz 1755 RPM   |     |                  |            |                                          |      |
| 2.78 A PF 0.78 DES A CODE L SF 1.15 CCO29A |     |                  |            |                                          |      |
| → 6305-ZZ                                  |     | MOBIL POLYREX EM |            | 23 kg                                    |      |
| → 6205-ZZ                                  |     |                  |            |                                          |      |
| 2753 Markt Piesting, Austria               |     |                  |            |                                          |      |

|                                            |     |                  |            |                                          |      |
|--------------------------------------------|-----|------------------|------------|------------------------------------------|------|
| WEG                                        |     | W21              |            | 14057670                                 |      |
| M330055013A48C16031G                       |     | ~ 3 AL132S-04    |            | IP55 INS CLF ΔT 80 K S1 SF 1.00 AMB 40°C |      |
| V                                          | Hz  | kW               | RPM        | A                                        | PF   |
| 200 ΔΔ / 346 Y Y                           | 50  | 5.5              | 1465       | 20.6 / 11.9                              | 0.85 |
| 400 Δ / 690 Y                              |     |                  |            | 10.3 / 5.97                              |      |
| 230 ΔΔ / 400 Y Y                           | 60  | 1765             | 1765       | 18.1 / 10.4                              | 0.83 |
| 460 Δ / -                                  |     |                  |            | 9.05 / -                                 |      |
| 50Hz                                       | IE3 | 90.7 (100%)      | 90.7 (75%) | 90.0 (50%)                               |      |
| 60Hz                                       |     | 91.7 (100%)      | 91.0 (75%) | 88.5 (50%)                               |      |
| <br>IEC 60034-1 MOD.TE0=AOX0\$0000302360   |     |                  |            |                                          |      |
| NEMA Eff 91.7% 7.5HP 460 V 60Hz 1765 RPM   |     |                  |            |                                          |      |
| 9.05 A PF 0.83 DES A CODE K SF 1.15 CCO29A |     |                  |            |                                          |      |
| → 6309-ZZ                                  |     | MOBIL POLYREX EM |            | 69 kg                                    |      |
| → 6308-ZZ                                  |     |                  |            |                                          |      |
| 2753 Markt Piesting, Austria               |     |                  |            |                                          |      |

|                  |    |                  |      |                                            |      |
|------------------|----|------------------|------|--------------------------------------------|------|
| WEG              |    | W22 Premium      |      | M430110016G41R20010G                       |      |
| 13910925         |    | ~ 3 160M-04      |      | IP55 INS CLF ΔT 80 K S1 SF 1.00 AMB 40°C   |      |
| V                | Hz | kW               | RPM  | A                                          | PF   |
| 200 ΔΔ / 346 Y Y | 50 | 11               | 1470 | 41.8 / 24.1                                | 0.83 |
| 400 Δ / 690 Y    |    |                  |      | 20.9 / 12.1                                |      |
| 230 ΔΔ / 400 Y Y | 60 | 1775             | 1775 | 36.9 / 21.2                                | 0.81 |
| 460 Δ / -        |    |                  |      | 18.4 / -                                   |      |
| → 6309-ZZ-C3     |    | MOBIL POLYREX EM |      | 2753 Markt Piesting, Austria               |      |
| → 6209-ZZ-C3     |    |                  |      |                                            |      |
|                  |    |                  |      | NEMA Eff 92.4% 15HP 460 V 60Hz 1775 RPM    |      |
|                  |    |                  |      | 18.4 A PF 0.81 Des A Code K SF 1.00 CCO29A |      |
|                  |    |                  |      | Alt 1 000 m.a.s.l. 127 kg                  |      |

## 2. Voltage and frequency fluctuations

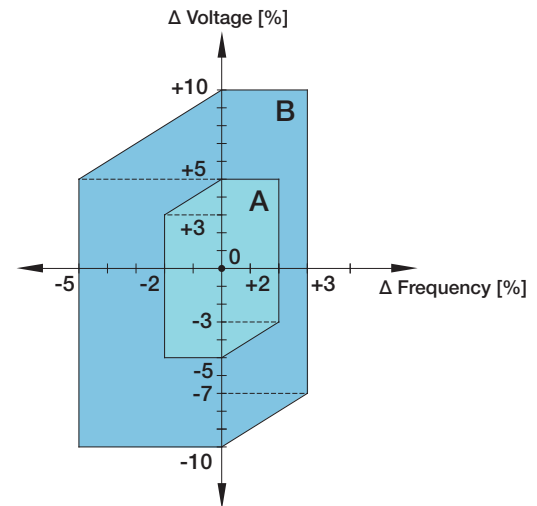
According to DIN EN 60034-1, a distinction is made between range A and range B (outside A) for voltage and frequency fluctuations. Range A and range B describe the permissible range in which frequency and voltage levels are permitted to deviate from the relevant measurement point (see illustration). The coordinate mean point "0" identifies the measurement point for the frequency and voltage in each case. The motor must be able to issue the rated torque in both ranges A and B.

### Range A

In continuous operation in range A, the characteristics are permitted to vary from the rated operation, and the heating at the limits of range A can be around 10 K higher.

### Range B

The deviations from the characteristics are permitted to be greater than in range A, the heating levels can be higher than at the measurement point. Duration and frequency of operation in range B should be limited. Corrective measures, e.g. power reduction, should be provided. If a machine has multiple rated voltages or a rated voltage range, the permissible voltage and frequency fluctuations apply for each individual value of the rated voltage.



Ranges A and B according to DIN EN 60034-1

### 3. Modes of operation

Duty type according to DIN EN 60034-1 and VDE 0530-1.

The duty type is designated by the abbreviations S1 to S10. For the duty types S4, S5 and S7 the duty cycles/hour (c/h) and the factor of inertia  $F_I$  should also be stated at the bottom.

The factor of inertia  $F_I$  is the ratio of the total load moment of inertia (referred to the motor shaft) and the motor moment of inertia, to the motor moment of inertia, i.e.

$$F_I = \frac{\sum J_{ex,red} + J_{mot}}{J_{mot}}$$

| Definition |                                                                                                                                                                                                                                                    | Example                                                                             |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| S1         | Continuous running duty with constant load                                                                                                                                                                                                         | S1                                                                                  |
| S2         | Short-time duty with constant load<br>Duration of operation under rated conditions (recommended values: 10, 30, 60 or 90 min)                                                                                                                      | S2<br>10 min                                                                        |
| S3         | Intermittent periodic duty. Motor temperature not affected by starting operation<br>Cyclic duration factor (recommended values: 15, 25, 40 or 60 %):<br>Cycle duration (10 min unless otherwise stated)                                            | S3<br>25 %<br>60 min                                                                |
| S4         | Intermittent periodic duty. Motor temperature affected by starting operation<br>Cyclic duration factor (recommended values: 15, 25, 40 or 60 %):<br>Indication of the duty cycles per hour and of the factor of inertia $F_I$                      | S4<br>40 %<br>200, $F_I=2$                                                          |
| S5         | Intermittent periodic duty. Motor temperature affected by starting operation and electric braking<br>Cyclic duration factor (recommended values: 15, 25, 40 or 60 %):<br>Indication of the duty cycles per hour and of the factor of inertia $F_I$ | S5<br>15 %<br>300, $F_I=1$                                                          |
| S6         | Continuous operation periodic duty.<br>Cyclic duration factor (recommended values: 15, 25, 40 or 60 %):<br>Cycle duration (10 min unless otherwise stated)                                                                                         | S6<br>25 %<br>60 min                                                                |
| S7         | Continuous operation with starting and electric braking<br>Indication of the duty cycles per hour and of the factor of inertia $F_I$                                                                                                               | S7<br>200, $F_I=1$                                                                  |
| S8         | Continuous operation with related load/speed changes (Sequence of similar cycles)<br>Speeds during the duty cycle<br>Periods for which these speeds are maintained during the duty cycle<br>Indication of the factor of inertia $F_I$              | S8<br>3000 <sup>min-1</sup> , 10 min<br>1500 <sup>min-1</sup> , 15 min<br>$F_I=1,5$ |
| S9         | Continuous operation duty with unrelated load/speed changes                                                                                                                                                                                        | S9                                                                                  |
| S10        | Duty with discrete constant loads and speed                                                                                                                                                                                                        | S10<br>$F_I=0,6$                                                                    |

Legend see page 504.

### 4. Rated power according to VDE 0530-1

The listed rated power of the motor corresponds to the output power according to VDE 0530-1 for continuous operation S1, frequency 50/60 Hz, max. ambient temperature +104 °F, max. altitude 3280 ft above sea level.

According to this standard at rated values (voltage and frequency) the motors may be overloaded for two minutes by 1.5 times the rated current, without damage of the winding.

The motors are calculated by rated values according to thermal class B, but produced in class F and by operation with rated values fit for higher loads:

- a. At rated power and rated voltage the ambient temperature may be increased from +104 °F to +140 °F.
- b. Provided that ambient temperature does not exceed +104 °F, the normal capacity in continuous operation can be increased by appr. 10 %.

All technical data stated applies to rated frequency of 50 Hz and supply voltage of 400 V rated voltage at rated power. If the load changes, the stated values will deviate to higher or lower.

## 5. Power correction factors

| S2         |                  |       |      |
|------------|------------------|-------|------|
| Time [min] | Motor frame size | Poles |      |
|            |                  | 2     | 4-8  |
| 15         | 63 - 132         | 1.20  | 1.25 |
| 30         |                  | 1.05  | 1.10 |
| 60         |                  | 1.00  | 1.00 |
| 15         | 160 - 200        | 1.40  | 1.45 |
| 30         |                  | 1.20  | 1.25 |
| 60         |                  | 1.10  | 1.10 |
| 15         | 225 - 250        | 1.45  | 1.45 |
| 30         |                  | 1.30  | 1.30 |
| 60         |                  | 1.15  | 1.15 |

| S3     |                  |           |      |
|--------|------------------|-----------|------|
| DC [%] | Motor frame size | Poles     |      |
|        |                  | 2         | 4-8  |
| 15     | 63 - 132         | 1.15      | 1.40 |
| 25     |                  | 1.10      | 1.30 |
| 40     |                  | 1.05      | 1.20 |
| 60     |                  | 1.03      | 1.10 |
| 15     |                  | 1.30      | 1.40 |
| 25     | 160 - 200        | 1.20      | 1.30 |
| 40     |                  | 1.10      | 1.20 |
| 60     |                  | 1.05      | 1.10 |
| 15     |                  | 225 - 250 | 1.35 |
| 25     | 1.25             |           | 1.30 |
| 40     | 1.15             |           | 1.20 |
| 60     | 1.05             |           | 1.10 |

| S6     |                  |           |      |
|--------|------------------|-----------|------|
| DC [%] | Motor frame size | Poles     |      |
|        |                  | 2         | 4-8  |
| 15     | 63 - 132         | 1.20      | 1.30 |
| 25     |                  | 1.15      | 1.25 |
| 40     |                  | 1.10      | 1.20 |
| 60     |                  | 1.05      | 1.15 |
| 15     |                  | 160 - 200 | 1.25 |
| 25     | 1.20             |           | 1.25 |
| 40     | 1.15             |           | 1.20 |
| 60     | 1.10             |           | 1.15 |
| 15     | 225 - 250        | 1.30      | 1.35 |
| 25     |                  | 1.25      | 1.30 |
| 40     |                  | 1.15      | 1.25 |
| 60     |                  | 1.10      | 1.15 |

- Factors for low voltage safe area motors with insulation class F/B ( $\Delta T80K$ )
- The breakdown torque should be at least 30 % higher than factors

## 6. Torque

The motors are fitted with squirrel-cage rotors suitable for direct online starting. The values of starting torque and breakdown torque, expressed as a multiple of the rated torque, are given in the performance data. A deviation in the voltage from rated value changes the torques as an approximate function of the square of the voltages.

## 7. Efficiency class

WG20 geared motors are available in NEMA Standard Efficiency and NEMA Premium Efficiency. They meet the requirements and regulations of all respective standards. List of standards see page 514. Our motors are labelled with efficiency class and factor on the nameplate.

## 8. Motor protection

The correct selection of protective equipment essentially determines the operation reliability and service life of motors. Current dependent protection and thermal protective devices are available. Fuses do not protect the motor against overloads, they only protect the supply cables or switchboards against short circuits.

## 9. Overload protection (protection relay)

It is recommended to use starters with thermal overload protection. The overloads should be adjusted to the rated current shown on the nameplate. For thermal protective devices (thermistors in windings) see page 493.

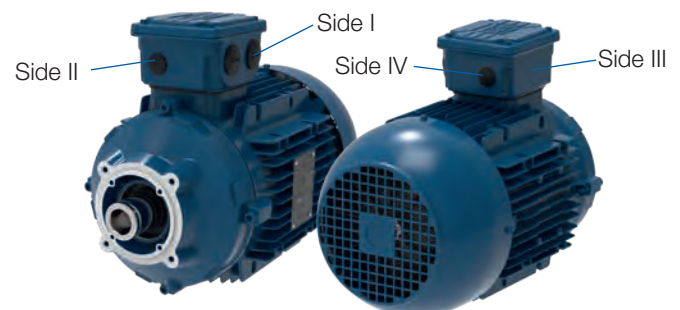
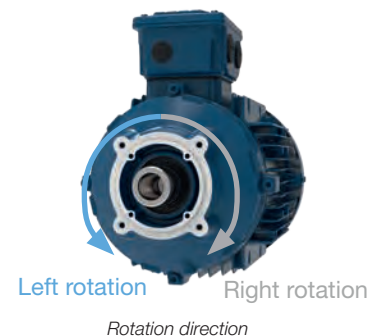
## 10. Speed and rotation direction

The rated speed is valid for the rated data (voltage, frequency). The synchronous speed depends on the line frequency.

The motors are able for operation in both directions. By connection of U1, V1, W1 to L1, L2, L3 the rotation will be to the right if you look at the shaft from the driveside. Left direction can be easily made by changing of two wires.

## 11. Cable entry

For all frames, the terminal box can be rotated in 90° increments. Terminal boxes are not delivered with cable glands as a standard. Motors are supplied with plastic threaded plugs in the cable entries to maintain the degree of protection during transport and storage. In order to guarantee the degree of protection, cable entries must comply with at least the same degree of protection indicated on the motor nameplate.



Side designation for cable entries

## 12. Motors for the Ex area according to Directive 2014/34/EU

The modular integral motors can be used in both safe area applications and explosion-proof areas. The motors are certified for category 3, zone 2+22.

Zone 2: II 3G Ex ec IIC T3 Gc  
 Zone 22: II 3D Ex tc IIIC T125°C Dc

The protection types in this case are increased safety (Ex ec) and protection by means of housing (Ex tc). The motors can be used in a temperature range of -4 to +104 °F. If temperatures deviate or additional motor options (brakes, encoders, etc.) are required, please contact us beforehand.

## 13. Cooling

The motors are totally enclosed fan cooled (TEFC) by means of external surface ventilation (IC411), as per IEC 60034-6. Maximum ambient temperature +104 °F. Please check the minimum distance “Y” (see dimension sheets from page 488) between the fan cover and adjacent wall.

### ▪ Integral fans (TEFC, IC411)

Particular attention has been dedicated to the shape in order to reduce noise and improve the efficiency of the motor. Radial construction has been selected to allow rotation in both directions.

### ▪ Fan cover

In treated steel plate, properly profiled to improve efficiency and reduce the noise produced by the fan.

### ▪ Forced ventilation (TEFV, IC416) see also page 511

For special operating conditions, e.g. increased permissible number of operations per hour or variable speed operation, the motors of IEC sizes 63 to 250 can be supplied with forced ventilation by means of a separately fitted fan motor.

## 14. Insulation

The motors in this catalog comply with the requirements of thermal class F. All windings are impregnated with varnish with a high mechanical strength. The maximum temperature of the insulation is, according to thermal class F, at +311 °F. The motors are utilized at rated values according to thermal class B (+266 °F). Copper wire insulation and the impregnation varnish have a temperature index class F and therefore there is a large margin of safety in addition to high overload capacity.

Motors from frame size 160 are equipped with the WISE® insulation system of the new W22 motor range by WEG.

## 15. Noise levels

Noise measurements were taken in accordance with standard IEC 60034-9 (see table to the right).

## 16. Balancing of rotors

Motors comply with vibration strength level "A" according to standard IEC 60034-14. On request, motors may also be balanced according to level "B".

## 17. Shaft ends

Shaft ends of motors in frame sizes 63 up to 132 are equipped with a conical bore and do not have a key, while the frame sizes 160 and 250 have a shaft with closed end keyway. On the non-driven side, modular motors have a system shaft to mount motor modules, such as brakes, encoders, backstops, etc.

## 18. Voltage, current and frequency

In standard execution the motors are delivered with following rated voltages: see Chapter 19 - Electrical connection.

### Special voltages

Motors for special voltages and/or frequencies are available on request.

### Speed and connection

Tolerance of the motor speed according to IEC 60034. Terminal board connection see page 483.

| Frame size | Noise level - dB(A), Distance: 1 meter |    |
|------------|----------------------------------------|----|
|            | 60 Hz                                  |    |
|            | 4p                                     | 6p |
| 63         | 48                                     | 47 |
| 71         | 47                                     | 47 |
| 80         | 48                                     | 47 |
| 90         | 51                                     | 49 |
| 100        | 54                                     | 53 |
| 112        | 56                                     | 52 |
| 132        | 58                                     | 55 |
| 160        | -                                      | -  |
| 180        | -                                      | -  |
| 200        | -                                      | -  |
| 225        | -                                      | -  |
| 250        | -                                      | -  |

## Connection

### ▪ Direct connection









The starting torque in direct connection amounts to 160 to 330 % of the rated torque, depending on power and number of poles. The starting current is about 2.5 to 8 times of the rated current.

### ▪ Star-delta starting




The star-delta (Y-D) starting is an easy way to reduce the starting current and starting torque. Motors can be started with this starting method whenever the supply voltage corresponds to the rated voltage of the motors in delta connections. Up from frame size 112 the standard modular motors are supplied with windings designed for this starting method (e.g. 400 V D / 690 V Y). A Y-D-starting is only possible with delta service connection (this shall be considered when selecting a motor!), as the motor is first Y-connected and is changed over to D-connection after the run-up phase. At Y-D-starting, the starting currents and torques will be reduced to about 1/3 of the values produced in case of direct-online starting. Attention should be paid to the fact that a current impulse is produced when changing over to D-connection.

## 19. Electrical connection







### Motor series 11N (IEC frame sizes 63 to 80) and 11P (IEC frame sizes 90 to 100)

| Possible connection                                                                |                            | Rated voltages*                  |                                        | Frequency inverter operation                                                         |               |
|------------------------------------------------------------------------------------|----------------------------|----------------------------------|----------------------------------------|--------------------------------------------------------------------------------------|---------------|
|                                                                                    |                            | Rated power $P_N$                | Increased rated power $1,2 \times P_N$ |                                                                                      |               |
|   | Delta                      | 230 V at 50 Hz<br>265 V at 60 Hz | -<br>265 V at 60 Hz                    |   | 400 V, 87 Hz  |
|   | Delta - Delta              | 115 V at 50 Hz<br>132 V at 60 Hz | -<br>132 V at 60 Hz                    |   | 230 V, 100 Hz |
|   | Star<br>(basic connection) | 400 V at 50 Hz<br>460 V at 60 Hz | -<br>460 V at 60 Hz                    |   | 400 V, 100 Hz |
|  | Star - Star                | 200 V at 50 Hz<br>230 V at 60 Hz | -<br>230 V at 60 Hz                    |  | 460 V, 120 Hz |

### Motor series 11P (IEC frame size 80)

| Possible connection                                                                 |                            | Rated voltages*   |                                        | Frequency inverter operation                                                          |               |
|-------------------------------------------------------------------------------------|----------------------------|-------------------|----------------------------------------|---------------------------------------------------------------------------------------|---------------|
|                                                                                     |                            | Rated power $P_N$ | Increased rated power $1,2 \times P_N$ |                                                                                       |               |
|  | Star<br>(basic connection) | 460 V at 60 Hz    | 460 V at 60 Hz                         | -                                                                                     | -             |
|  | Star - Star                | 230 V at 60 Hz    | 230 V at 60 Hz                         |  | 460 V, 120 Hz |

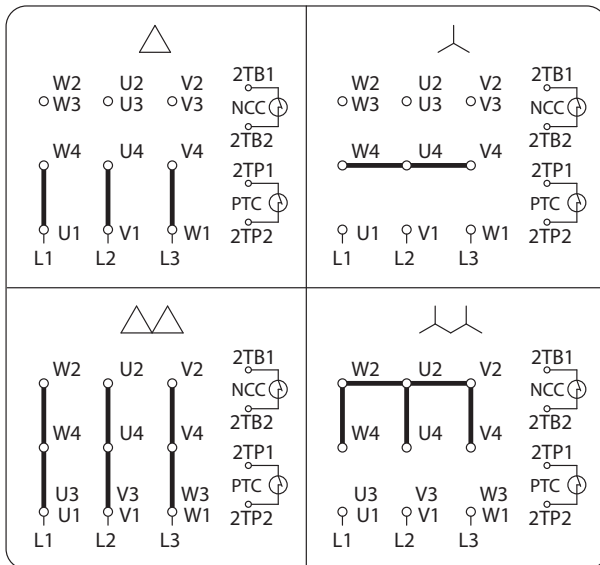
### Motor series 11P and 22P (IEC frame sizes 112 to 250)

| Possible connection                                                                 |                             | Rated voltages*                  |                                        | Frequency inverter operation                                                          |               |
|-------------------------------------------------------------------------------------|-----------------------------|----------------------------------|----------------------------------------|---------------------------------------------------------------------------------------|---------------|
|                                                                                     |                             | Rated power $P_N$                | Increased rated power $1,2 \times P_N$ |                                                                                       |               |
|  | Delta<br>(basic connection) | 400 V at 50 Hz<br>460 V at 60 Hz | -<br>460 V at 60 Hz                    |  | 400 V, 100 Hz |
|  | Delta - Delta               | 200 V at 50 Hz<br>230 V at 60 Hz | -<br>230 V at 60 Hz                    |  | 460 V, 120 Hz |
|  | Star                        | 690 V at 50 Hz<br>-              | -                                      | -                                                                                     | -             |
|  | Star - Star                 | 346 V at 50 Hz<br>400 V at 60 Hz | -<br>400 V at 60 Hz                    | -                                                                                     | -             |

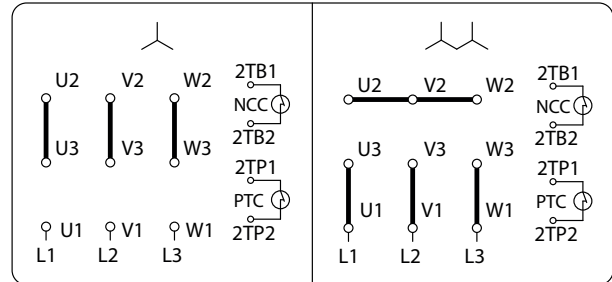
\* Tolerances of rated voltages in compliance with range A according to DIN EN 60034-1 (see page 479)

## Terminal board connection

### Motor series 11N, 11P (IEC frame sizes 90 to 100) and 22P



### Motor series 11P (IEC frame size 80)



## 20. Variable speed drive application

The stator windings of the motors are wound with class F insulation (class H optional) and are suitable for either DOL starting or - regarding the limits shown in the table below - via a variable speed drive.

| Rated voltage                                      |                                  |                                   |                        |                      |
|----------------------------------------------------|----------------------------------|-----------------------------------|------------------------|----------------------|
| 220-240/380-415 V (50 Hz)<br>400-460 V (60 Hz)     |                                  |                                   |                        |                      |
| Motor rated voltage                                | Voltage spikes                   | dV/dt *                           | Rise time *            | Time between pulses  |
|                                                    | At motor terminals (phase-phase) | At motor terminals (phase-phase)  |                        |                      |
| $V_{rated} < 460 \text{ V}$                        | $\leq 1600 \text{ V}$            | $\leq 5200 \text{ V}/\mu\text{s}$ | $\geq 0.1 \mu\text{s}$ | $\geq 6 \mu\text{s}$ |
| $460 \text{ V} \leq V_{rated} < 575 \text{ V}$     | $\leq 2000 \text{ V}$            | $\leq 6500 \text{ V}/\mu\text{s}$ |                        |                      |
| $575 \text{ V} \leq V_{rated} \leq 1000 \text{ V}$ | $\leq 2400 \text{ V}$            | $\leq 7800 \text{ V}/\mu\text{s}$ |                        |                      |

\* dV/dt and rise time definition according to NEMA MG1 - part 30

### Notes:

- In order to protect the motor insulation system, the maximum recommended switching frequency is 5 kHz.
- If one or more of the above conditions is not attended, a filter (load reactor or dV/dt filter) must be installed in the output of the VSD.
- General purpose motors with rated voltage greater than 575 V, which at the time of purchase did not have any indication of operation with VSD, are able to withstand the electrical limits set in the table above for rated voltage up to 575 V. If such conditions are not fully satisfied, output filters must be used.
- General purpose motors of the dual voltage type, for example 400/690 V or 380/660 V, which at the time of purchase did not have any indication of operation with VSD, are able to be driven by a VSD in the higher voltage only if the limits set in the table above for rated voltage up to 460 V are fully attended in the application. Otherwise, a load reactor or a dV/dt filter must be installed in the VSD output.

# Electrical basic data

## Notes for electrical basic data

The technical data according to selection tables (starting current, torques, power factor, etc.) are valid for the rated values, that means for the rated voltage and rated frequency.

If the motors are running on higher or lower voltage within the wide range voltage, the stator winding will be utilized according to thermal class F. In these cases a power increase in accordance to a. and b. on page 480 is not possible.

The design of the wide range winding permits supply voltage deviations in the indicated wide range voltage of  $\pm 5\%$  without reduction of the power.

| Efficiency class | Series | IEC frame size | Type | 1             | 2              | 3                           |                             |                             |                             | 4                           | 5                 | 6                    |                      |                      | 7          | 8                | 9                 | 10                | 11                                 | 12          |
|------------------|--------|----------------|------|---------------|----------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------|----------------------|----------------------|----------------------|------------|------------------|-------------------|-------------------|------------------------------------|-------------|
|                  |        |                |      | $P_N$<br>[hp] | $n_N$<br>[rpm] | $I_N$<br>at<br>132 V<br>[A] | $I_N$<br>at<br>230 V<br>[A] | $I_N$<br>at<br>400 V<br>[A] | $I_N$<br>at<br>265 V<br>[A] | $I_N$<br>at<br>460 V<br>[A] | $\frac{I_A}{I_N}$ | $\eta$<br>4/4<br>[%] | $\eta$<br>3/4<br>[%] | $\eta$<br>1/2<br>[%] | $\cos\phi$ | $T_N$<br>[lb-in] | $\frac{T_A}{T_N}$ | $\frac{T_K}{T_N}$ | $J_{mot}$<br>[lb-ft <sup>2</sup> ] | $m$<br>[lb] |
|                  |        |                |      |               |                |                             |                             |                             |                             |                             |                   |                      |                      |                      |            |                  |                   |                   |                                    |             |

| IEC frame size | Type | $P_N$<br>[hp] | at 380 V     |                   |                   | at 420 V     |                   |                   | at 440 V     |                   |                   | at 480 V     |                   |                   | Frequency inverter operation<br>460 V / 120 Hz |                |              | Brake         |                  |             |
|----------------|------|---------------|--------------|-------------------|-------------------|--------------|-------------------|-------------------|--------------|-------------------|-------------------|--------------|-------------------|-------------------|------------------------------------------------|----------------|--------------|---------------|------------------|-------------|
|                |      |               | $I_N$<br>[A] | $\frac{T_A}{T_N}$ | $\frac{T_K}{T_N}$ | $I_N$<br>[A] | $\frac{T_A}{T_N}$ | $\frac{T_K}{T_N}$ | $I_N$<br>[A] | $\frac{T_A}{T_N}$ | $\frac{T_K}{T_N}$ | $I_N$<br>[A] | $\frac{T_A}{T_N}$ | $\frac{T_K}{T_N}$ | $P_N$<br>[hp]                                  | $n_N$<br>[rpm] | $I_N$<br>[A] | $T_B$<br>[Nm] | $J_B$<br>[lb-in] | $m$<br>[lb] |
|                |      |               |              |                   |                   |              |                   |                   |              |                   |                   |              |                   |                   |                                                |                |              |               |                  |             |

- 1  $P_N$  = Rated power
- 2  $n_N$  = Rated speed
- 3  $I_N$  = Rated current
- 4  $I_A/I_N$  = Ratio of starting current to rated current
- 5 IE class = Efficiency class
- 6  $\eta$  4/4 (3/4, 1/2) = Efficiency at rated power
- 7  $\cos\phi$  = Power factor
- 8  $T_N$  = Rated torque
- 9  $T_A/T_N$  = Ratio of starting torque to rated torque
- 10  $T_K/T_N$  = Ratio of sweeping torque to rated torque
- 11  $J_{mot}$  = Motor moment of inertia
- 12  $m$  = Weight of the motor
- 13  $T_B$  = Braking torque
- 14  $J_B$  = Brake moment of inertia
- 15  $m$  = Weight of the motor brake

### 4 poles, 1800 rpm, 60 Hz

| Efficiency class | Series         | IEC frame size | Type          | P <sub>N</sub><br>[hp] | n <sub>N</sub><br>[rpm] | I <sub>N</sub><br>at<br>132 V<br>[A] | I <sub>N</sub><br>at<br>230 V<br>[A] | I <sub>N</sub><br>at<br>400 V<br>[A] | I <sub>N</sub><br>at<br>265 V<br>[A] | I <sub>N</sub><br>at<br>460 V<br>[A] | $\frac{I_A}{I_N}$ | $\eta$<br>4/4<br>[%] | $\eta$<br>3/4<br>[%] | $\eta$<br>1/2<br>[%] | cos $\phi$ | T <sub>N</sub><br>[lb-in] | $\frac{T_A}{T_N}$ | $\frac{T_K}{T_N}$ | J <sub>mot</sub><br>[lb-ft <sup>2</sup> ] | m<br>[lb] |      |
|------------------|----------------|----------------|---------------|------------------------|-------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------|----------------------|----------------------|----------------------|------------|---------------------------|-------------------|-------------------|-------------------------------------------|-----------|------|
|                  |                |                |               |                        |                         |                                      |                                      |                                      |                                      |                                      |                   |                      |                      |                      |            |                           |                   |                   |                                           |           |      |
| Standard         | 11N            | 63             | 11N-63-04E    | 0.16                   | 1695                    | 1.54                                 | 0.88                                 | -                                    | 0.77                                 | 0.44                                 | 5.0               | 62.0                 | 55.0                 | 42.0                 | 0.55       | 5.98                      | 3.2               | 4.2               | 0.00712                                   | 11.0      |      |
|                  |                |                | 11N-63-04F    | 0.25                   | 1700                    | 1.89                                 | 1.09                                 | -                                    | 0.94                                 | 0.54                                 | 4.2               | 66.0                 | 55.7                 | 47.5                 | 0.63       | 8.94                      | 2.6               | 2.7               | 0.00949                                   | 11.5      |      |
|                  |                | 71             | 11N-71-04E    | 0.33                   | 1700                    | 2.40                                 | 1.38                                 | -                                    | 1.20                                 | 0.69                                 | 3.7               | 68.0                 | 65.0                 | 55.0                 | 0.67       | 12.5                      | 2.1               | 2.2               | 0.00949                                   | 13.2      |      |
|                  |                |                | 11N-71-04F    | 0.5                    | 1685                    | 3.52                                 | 2.02                                 | -                                    | 1.75                                 | 1.01                                 | 4.7               | 70.0                 | 64.0                 | 58.2                 | 0.66       | 18.6                      | 2.7               | 2.7               | 0.01424                                   | 15.0      |      |
|                  |                | 80             | 11N-80-04E    | 0.75                   | 1725                    | 4.29                                 | 2.46                                 | -                                    | 2.14                                 | 1.23                                 | 6.5               | 74.0                 | 71.0                 | 64.9                 | 0.76       | 27.0                      | 2.5               | 3.6               | 0.04509                                   | 19.4      |      |
| Premium          | 11P            | 80             | 11P-L80-04F   | 1.0                    | 1760                    | -                                    | 2.90                                 | -                                    | -                                    | 1.45                                 | 9.0               | 85.5                 | 85.4                 | 83.0                 | 0.76       | 36.0                      | 2.8               | 3.0               | 0.08780                                   | 28        |      |
|                  |                |                | 11P-90S/L-04E | 1.5                    | 1760                    | 7.32                                 | 4.20                                 | -                                    | 3.65                                 | 2.10                                 | 8.5               | 86.5                 | 84.0                 | 80.0                 | 0.76       | 52.8                      | 2.9               | 3.9               | 0.13052                                   | 35        |      |
|                  |                | 90             | 11P-90S/L-04F | 2                      | 1755                    | 9.86                                 | 5.66                                 | -                                    | 4.91                                 | 2.83                                 | 8.3               | 86.5                 | 85.5                 | 82.5                 | 0.77       | 72.3                      | 3.0               | 3.8               | 0.15662                                   | 38        |      |
|                  |                |                | 100           | 11P-100L-04E           | 3                       | 1745                                 | 14.1                                 | 8.12                                 | -                                    | 7.02                                 | 4.04              | 9.0                  | 89.5                 | 88.0                 | 85.0       | 0.76                      | 106               | 2.8               | 3.5                                       | 0.21357   | 60   |
|                  |                | 11P-L100L-04F  |               | 4                      | 1740                    | 19.0                                 | 10.9                                 | -                                    | 9.46                                 | 5.43                                 | 8.6               | 89.5                 | 86.5                 | 84.0                 | 0.77       | 146                       | 4.6               | 4.8               | 0.28476                                   | 74        |      |
|                  |                | 112            | 11P-112M-04E  | 5.4                    | 1755                    | -                                    | 14.6                                 | 8.37                                 | -                                    | 7.28                                 | 8.0               | 89.5                 | 89.5                 | 87.5                 | 0.77       | 193                       | 2.5               | 3.5               | 0.43189                                   | 76        |      |
|                  |                | 132            | 11P-132S-04E  | 7.5                    | 1765                    | -                                    | 18.1                                 | 10.4                                 | -                                    | 9.07                                 | 8.9               | 91.7                 | 91.0                 | 88.5                 | 0.83       | 264                       | 2.6               | 4.3               | 1.25296                                   | 118       |      |
|                  |                |                | 11P-L132M-04F | 10                     | 1770                    | -                                    | 24.8                                 | 14.3                                 | -                                    | 12.4                                 | 9.0               | 91.7                 | 91.5                 | 91.0                 | 0.83       | 358                       | 2.7               | 4.3               | 1.51400                                   | 148       |      |
|                  |                |                | 11P-L132M-04G | 12.5                   | 1765                    | -                                    | 30.7                                 | 17.7                                 | -                                    | 15.4                                 | 9.0               | 91.7                 | 91.5                 | 90.4                 | 0.82       | 441                       | 2.6               | 3.8               | 1.73232                                   | 159       |      |
|                  |                | 22P            | 160           | 22P-160M-04E           | 15                      | 1775                                 | -                                    | 36.9                                 | 21.2                                 | -                                    | 18.4              | 8.2                  | 92.4                 | 92.2                 | 91.0       | 0.81                      | 524               | 3.0               | 3.7                                       | 2.82629   | 295  |
|                  |                |                |               | 22P-160L-04F           | 20                      | 1775                                 | -                                    | 49.4                                 | 28.4                                 | -                                    | 24.7              | 7.6                  | 93.0                 | 92.9                 | 92.0       | 0.82                      | 714               | 2.9               | 3.5                                       | 3.64024   | 346  |
|                  |                |                | 180           | 22P-180M-04E           | 25                      | 1775                                 | -                                    | 61.3                                 | 35.2                                 | -                                    | 30.6              | 7.7                  | 93.6                 | 93.0                 | 92.0       | 0.81                      | 882               | 3.4               | 3.6                                       | 4.12908   | 377  |
|                  |                |                |               | 22P-180L-04F           | 30                      | 1775                                 | -                                    | 72.0                                 | 41.4                                 | -                                    | 36.0              | 8.5                  | 93.6                 | 93.2                 | 92.1       | 0.82                      | 1044              | 3.5               | 3.8                                       | 4.97626   | 423  |
|                  |                |                | 200           | 22P-200L-04E           | 40                      | 1780                                 | -                                    | 100                                  | 57.5                                 | -                                    | 50.0              | 8.3                  | 94.1                 | 93.7                 | 92.6       | 0.80                      | 1425              | 2.9               | 3.5                                       | 7.59846   | 551  |
|                  |                |                |               | 22P-200L-04F           | 50                      | 1782                                 | -                                    | 124                                  | 71.5                                 | -                                    | 62.2              | 9.3                  | 94.5                 | 94.0                 | 93.0       | 0.79                      | 1752              | 3.5               | 3.6                                       | 9.18128   | 611  |
|                  |                |                | 225           | 22P-225S/M-04F         | 60                      | 1782                                 | -                                    | 142                                  | 81.4                                 | -                                    | 70.8              | 8.6                  | 95.0                 | 94.5                 | 93.0       | 0.84                      | 2133              | 3.2               | 3.5                                       | 15.97765  | 913  |
|                  |                |                |               | 22P-225S/M-04G         | 75                      | 1785                                 | -                                    | 179                                  | 103                                  | -                                    | 89.3              | 9.6                  | 95.4                 | 94.5                 | 93.8       | 0.81                      | 2602              | 3.7               | 4.2                                       | 17.43470  | 1019 |
| 250              | 22P-250S/M-04F |                | 100           | 1780                   | -                       | 229                                  | 132                                  | -                                    | 115                                  | 8.2                                  | 95.4              | 95.0                 | 94.1                 | 0.86                 | 3567       | 3.2                       | 4.1               | 28.95104          | 1248                                      |           |      |

### 6 poles, 1200 rpm, 60 Hz

| Efficiency class | Series | IEC frame size | Type          | P <sub>N</sub><br>[hp] | n <sub>N</sub><br>[rpm] | I <sub>N</sub><br>at<br>132 V<br>[A] | I <sub>N</sub><br>at<br>230 V<br>[A] | I <sub>N</sub><br>at<br>400 V<br>[A] | I <sub>N</sub><br>at<br>265 V<br>[A] | I <sub>N</sub><br>at<br>460 V<br>[A] | $\frac{I_A}{I_N}$ | $\eta$<br>4/4<br>[%] | $\eta$<br>3/4<br>[%] | $\eta$<br>1/2<br>[%] | cos $\phi$ | T <sub>N</sub><br>[lb-in] | $\frac{T_A}{T_N}$ | $\frac{T_K}{T_N}$ | J <sub>mot</sub><br>[lb-ft <sup>2</sup> ] | m<br>[lb] |
|------------------|--------|----------------|---------------|------------------------|-------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------|----------------------|----------------------|----------------------|------------|---------------------------|-------------------|-------------------|-------------------------------------------|-----------|
|                  |        |                |               |                        |                         |                                      |                                      |                                      |                                      |                                      |                   |                      |                      |                      |            |                           |                   |                   |                                           |           |
| Standard         | 11N    | 63             | 11N-63-06F    | 0.16                   | 1105                    | 1.67                                 | 0.96                                 | -                                    | 0.83                                 | 0.48                                 | 2.9               | 53.2                 | 50.4                 | 46.6                 | 0.59       | 9.20                      | 2.0               | 2.0               | 0.01187                                   | 11.9      |
|                  |        |                | 71            | 11N-71-06E             | 0.25                    | 1105                                 | 2.76                                 | 1.58                                 | -                                    | 1.37                                 | 0.79              | 4.0                  | 54.9                 | 51.8                 | 45.4       | 0.52                      | 13.8              | 2.2               | 2.9                                       | 0.01898   |
|                  |        | 11N-71-06F     |               | 0.33                   | 1110                    | 3.52                                 | 2.02                                 | -                                    | 1.75                                 | 1.01                                 | 3.7               | 58.5                 | 58.0                 | 57.5                 | 0.53       | 19.0                      | 2.6               | 2.6               | 0.02136                                   | 17.6      |
|                  |        | 80             | 11N-80-06E    | 0.50                   | 1130                    | 3.76                                 | 2.16                                 | -                                    | 1.87                                 | 1.08                                 | 4.5               | 63.1                 | 59.9                 | 53.1                 | 0.68       | 27.7                      | 2.2               | 2.2               | 0.04509                                   | 21.2      |
|                  |        |                | 11N-80-06F    | 0.75                   | 1140                    | 5.54                                 | 3.18                                 | -                                    | 2.76                                 | 1.59                                 | 5.0               | 67.0                 | 67.0                 | 65.0                 | 0.65       | 40.4                      | 2.5               | 3.4               | 0.07119                                   | 23.8      |
| Pre-<br>mium     | 11P    | 90             | 11P-90S/L-06E | 1.0                    | 1145                    | 5.82                                 | 3.34                                 | -                                    | 2.90                                 | 1.66                                 | 6.2               | 82.5                 | 80.0                 | 77.0                 | 0.69       | 55.4                      | 2.9               | 3.4               | 0.15662                                   | 39.2      |

Legend see page 485



### 4 poles, 1800 rpm, 60 Hz

| IEC frame size | Type           | P <sub>N</sub><br>[hp] | at 380 V              |                                  |                                  | at 420 V              |                                  |                                  | at 440 V              |                                  |                                  | at 480 V              |                                  |                                  | Frequency inverter operation<br>460 V / 120 Hz |                         |                       | Brake          |              |                                     |             |
|----------------|----------------|------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|------------------------------------------------|-------------------------|-----------------------|----------------|--------------|-------------------------------------|-------------|
|                |                |                        | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | P <sub>N</sub><br>[hp]                         | n <sub>N</sub><br>[rpm] | I <sub>N</sub><br>[A] | T <sub>B</sub> |              | J <sub>B</sub><br>x10 <sup>-3</sup> | m           |
|                |                |                        | [Nm]                  | [lb-in]                          | [lb-ft <sup>2</sup> ]            | [lb]                  |                                  |                                  |                       |                                  |                                  |                       |                                  |                                  |                                                |                         |                       |                |              |                                     |             |
| 63             | 11N-63-04E     | 0.16                   | 0.54                  | 2.2                              | 2.9                              | 0.48                  | 2.7                              | 3.5                              | 0.46                  | 2.9                              | 3.8                              | 0.42                  | 3.5                              | 4.6                              | 0.32                                           | 3390                    | 0,93                  | 2<br>4         | 18<br>35     | 0.36<br>0.36                        | 2.4<br>2.2  |
|                | 11N-63-04F     | 0.25                   | 0.66                  | 1.8                              | 1.8                              | 0.59                  | 2.2                              | 2.3                              | 0.57                  | 2.4                              | 2.5                              | 0.52                  | 2.8                              | 2.9                              | 0.48                                           | 3400                    | 1,14                  |                |              |                                     |             |
| 71             | 11N-71-04E     | 0.33                   | 0.83                  | 1.4                              | 1.5                              | 0.75                  | 1.8                              | 1.8                              | 0.72                  | 1.9                              | 2.0                              | 0.66                  | 2.3                              | 2.4                              | 0.67                                           | 3400                    | 1,45                  | 4<br>2         | 35<br>18     | 0.36<br>0.36                        | 2.2<br>2.4  |
|                | 11N-71-04F     | 0.5                    | 1.22                  | 1.8                              | 1.8                              | 1.11                  | 2.3                              | 2.3                              | 1.06                  | 2.5                              | 2.5                              | 0.97                  | 2.9                              | 2.9                              | 1.0                                            | 3370                    | 2,12                  |                |              |                                     |             |
| 80             | 11N-80-04E     | 0.75                   | 1.49                  | 1.7                              | 2.5                              | 1.35                  | 2.1                              | 3.0                              | 1.29                  | 2.3                              | 3.3                              | 1.18                  | 2.7                              | 3.9                              | 1.5                                            | 3450                    | 2,58                  | 8<br>4         | 71<br>35     | 1.45<br>0.36                        | 3.5<br>2.2  |
| 80             | 11P-L80-04F    | 1.0                    | 1.76                  | 1.9                              | 2.0                              | 1.59                  | 2.3                              | 2.5                              | 1.52                  | 2.6                              | 2.7                              | 1.39                  | 3.0                              | 3.3                              | 2.0                                            | 3520                    | 3,05                  |                |              |                                     |             |
| 90             | 11P-90S/L-04E  | 1.5                    | 2.54                  | 2.0                              | 2.7                              | 2.30                  | 2.4                              | 3.3                              | 2.20                  | 2.7                              | 3.6                              | 2.01                  | 3.2                              | 4.2                              | 3.0                                            | 3520                    | 4,41                  | 16<br>8        | 142<br>71    | 4.75<br>1.45                        | 6.8<br>3.5  |
|                | 11P-90S/L-04F  | 2                      | 3.43                  | 2.0                              | 2.6                              | 3.10                  | 2.5                              | 3.2                              | 2.96                  | 2.7                              | 3.5                              | 2.71                  | 3.3                              | 4.1                              | 4.0                                            | 3510                    | 5,94                  |                |              |                                     |             |
| 100            | 11P-100L-04E   | 3                      | 4.89                  | 1.9                              | 2.4                              | 4.42                  | 2.3                              | 2.9                              | 4.22                  | 2.6                              | 3.2                              | 3.87                  | 3.0                              | 3.8                              | 6.0                                            | 3490                    | 8,48                  | 32<br>16       | 283<br>142   | 10.68<br>4.75                       | 9.3<br>6.8  |
|                | 11P-L100L-04F  | 4                      | 6.57                  | 3.1                              | 3.3                              | 5.95                  | 3.8                              | 4.0                              | 5.68                  | 4.2                              | 4.4                              | 5.20                  | 5.0                              | 5.2                              | 8.0                                            | 3480                    | 11,4                  |                |              |                                     |             |
| 112            | 11P-112M-04E   | 5.4                    | 8.81                  | 2.3                              | 3.2                              | 7.97                  | 2.8                              | 3.9                              | 7.61                  | 2.3                              | 3.2                              | 6.98                  | 2.7                              | 3.8                              | 11.0                                           | 3510                    | 15,3                  | 60<br>32       | 531<br>283   | 20.41<br>10.68                      | 13.9<br>9.3 |
| 132            | 11P-132S-04E   | 7.5                    | 10.9                  | 2.3                              | 3.9                              | 9.90                  | 2.9                              | 4.7                              | 9.48                  | 2.4                              | 3.9                              | 8.69                  | 2.8                              | 4.7                              | 15.0                                           | 3530                    | 19,0                  |                |              |                                     |             |
|                | 11P-L132M-04F  | 10                     | 15.1                  | 2.4                              | 3.9                              | 13.6                  | 3.0                              | 4.7                              | 13.0                  | 2.5                              | 3.9                              | 11.9                  | 2.9                              | 4.7                              | 20                                             | 3540                    | 26,0                  | 100<br>60      | 885<br>531   | 28.95<br>20.41                      | 22<br>13.9  |
|                | 11P-L132M-04G  | 12.5                   | 18.6                  | 2.3                              | 3.4                              | 16.9                  | 2.9                              | 4.2                              | 16.1                  | 2.4                              | 3.5                              | 14.8                  | 2.8                              | 4.1                              | 25                                             | 3530                    | 32,3                  |                |              |                                     |             |
| 160            | 22P-160M-04E   | 15                     | 22.3                  | 2.7                              | 3.3                              | 20.2                  | 3.3                              | 4.1                              | 19.2                  | 2.7                              | 3.4                              | 17.6                  | 3.3                              | 4.0                              | 30                                             | 3550                    | 38,6                  | 150<br>100     | 1328<br>885  | 67.63<br>28.95                      | 32<br>22    |
|                | 22P-160L-04F   | 20                     | 29.9                  | 2.6                              | 3.2                              | 27.0                  | 3.2                              | 3.9                              | 25.8                  | 2.7                              | 3.2                              | 23.7                  | 3.2                              | 3.8                              | 40                                             | 3550                    | 51,9                  |                |              |                                     |             |
| 180            | 22P-180M-04E   | 25                     | 37.1                  | 3.1                              | 3.2                              | 33.5                  | 3.7                              | 4.0                              | 32.0                  | 3.1                              | 3.3                              | 29.3                  | 3.7                              | 3.9                              | 50                                             | 3550                    | 64,3                  | 250<br>150     | 2213<br>1328 | 157.81<br>67.63                     | 47<br>32    |
|                | 22P-180L-04F   | 30                     | 43.6                  | 3.2                              | 3.4                              | 39.4                  | 3.9                              | 4.2                              | 37.6                  | 3.2                              | 3.5                              | 34.5                  | 3.8                              | 4.1                              | 60                                             | 3550                    | 75,6                  |                |              |                                     |             |
| 200            | 22P-200L-04E   | 40                     | 60.5                  | 2.6                              | 3.2                              | 54.8                  | 3.2                              | 3.9                              | 52.3                  | 2.7                              | 3.2                              | 47.9                  | 3.2                              | 3.8                              | 80                                             | 3560                    | 105                   | 400<br>250     | 3540<br>2213 | 462.74<br>157.81                    | 77<br>47    |
|                | 22P-200L-04F   | 50                     | 75.3                  | 3.2                              | 3.2                              | 68.1                  | 3.9                              | 4.0                              | 65.0                  | 3.2                              | 3.3                              | 59.6                  | 3.8                              | 3.9                              | 100                                            | 3564                    | 131                   |                |              |                                     |             |
| 225            | 22P-225S/M-04F | 60                     | 85.7                  | 2.9                              | 3.2                              | 77.5                  | 3.5                              | 3.9                              | 74.0                  | 2.9                              | 3.2                              | 67.9                  | 3.5                              | 3.8                              | 125                                            | 3564                    | 149                   | 400<br>250     | 3540<br>2213 | 462.74<br>157.81                    | 77<br>47    |
|                | 22P-225S/M-04G | 75                     | 108                   | 3.3                              | 3.8                              | 98.1                  | 4.1                              | 4.6                              | 93.4                  | 3.4                              | 3.8                              | 85.6                  | 4.0                              | 4.6                              | 150                                            | 3570                    | 188                   |                |              |                                     |             |
| 250            | 22P-250S/M-04F | 100                    | 139                   | 2.9                              | 3.7                              | 126                   | 3.5                              | 4.5                              | 120                   | 2.9                              | 3.8                              | 110                   | 3.5                              | 4.5                              | 200                                            | 3560                    | 242                   | 1000           | 8851         | 1067.86                             | 161         |

### 6 poles, 1200 rpm, 60 Hz

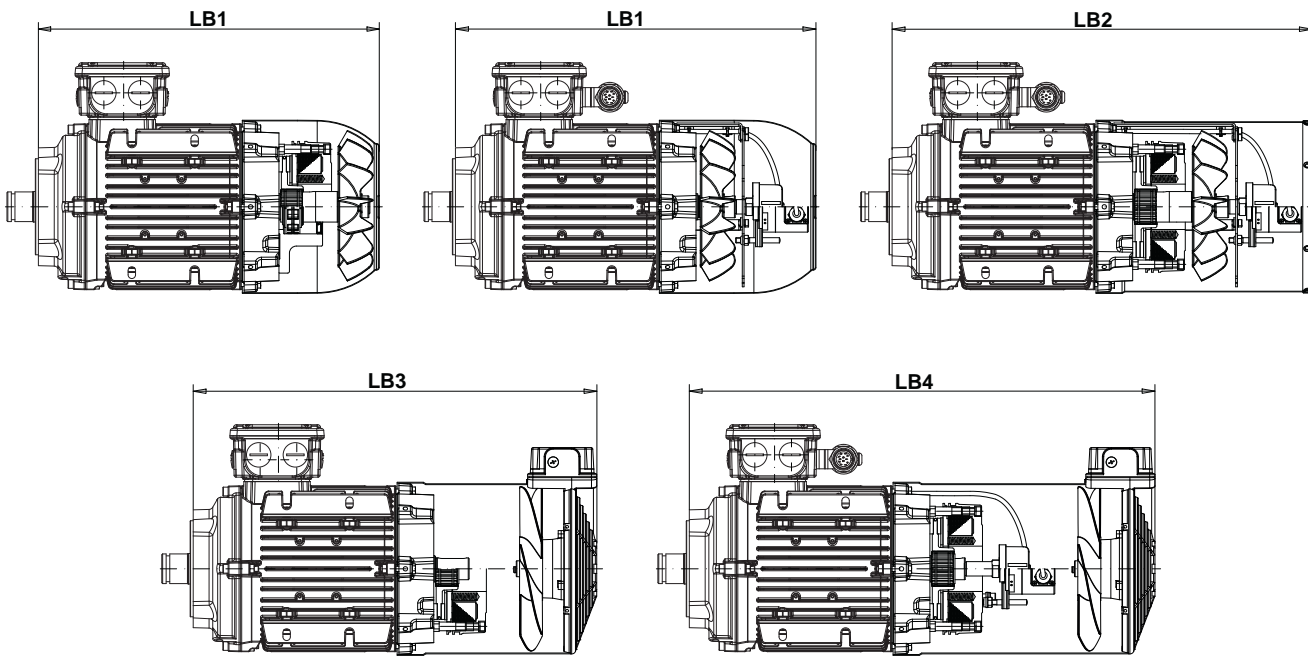
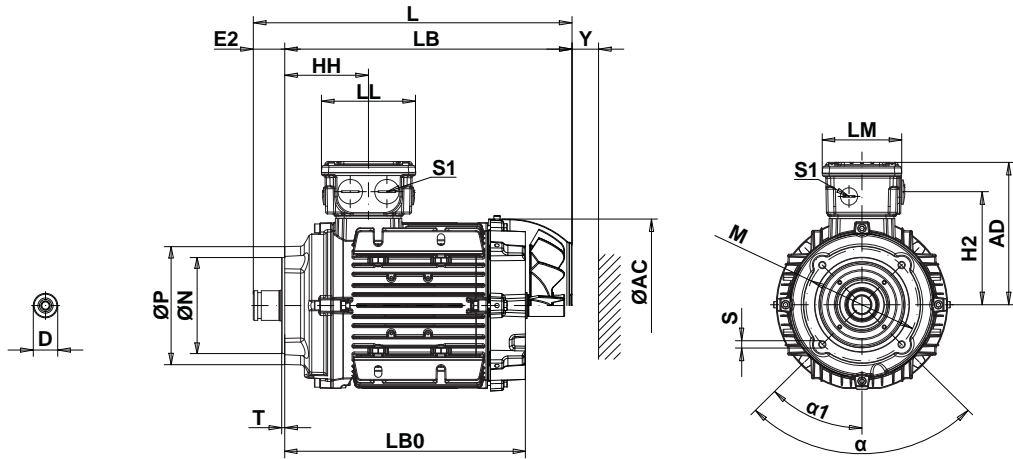
| IEC frame size | Type          | P <sub>N</sub><br>[hp] | at 380 V              |                                  |                                  | at 420 V              |                                  |                                  | at 440 V              |                                  |                                  | at 480 V              |                                  |                                  | Frequency inverter operation<br>460 V / 120 Hz |                         |                       | Brake          |           |                                     |            |
|----------------|---------------|------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|-----------------------|----------------------------------|----------------------------------|------------------------------------------------|-------------------------|-----------------------|----------------|-----------|-------------------------------------|------------|
|                |               |                        | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | I <sub>N</sub><br>[A] | T <sub>A</sub><br>T <sub>N</sub> | T <sub>K</sub><br>T <sub>N</sub> | P <sub>N</sub><br>[hp]                         | n <sub>N</sub><br>[rpm] | I <sub>N</sub><br>[A] | T <sub>B</sub> |           | J <sub>B</sub><br>x10 <sup>-3</sup> | m          |
|                |               |                        | [Nm]                  | [lb-in]                          | [lb-ft <sup>2</sup> ]            | [lb]                  |                                  |                                  |                       |                                  |                                  |                       |                                  |                                  |                                                |                         |                       |                |           |                                     |            |
| 63             | 11N-63-06F    | 0.16                   | 0,58                  | 1,4                              | 1,4                              | 0,52                  | 1,7                              | 1,7                              | 0,50                  | 1,8                              | 1,8                              | 0,46                  | 2,2                              | 2,2                              | 0,32                                           | 2210                    | 1,0                   | 2<br>4         | 18<br>35  | 0,36<br>0,36                        | 2,4<br>2,2 |
| 71             | 11N-71-06E    | 0.25                   | 0,95                  | 1,5                              | 2,0                              | 0,86                  | 1,8                              | 2,4                              | 0,82                  | 2,0                              | 2,7                              | 0,75                  | 2,4                              | 3,2                              | 0,48                                           | 2210                    | 1,7                   | 4<br>2         | 35<br>18  | 0,36<br>0,36                        | 2,2<br>2,4 |
|                | 11N-71-06F    | 0.33                   | 1,22                  | 1,8                              | 1,8                              | 1,11                  | 2,2                              | 2,2                              | 1,06                  | 2,4                              | 2,4                              | 0,97                  | 2,8                              | 2,8                              | 0,67                                           | 2220                    | 2,1                   |                |           |                                     |            |
| 80             | 11N-80-06E    | 0.50                   | 1,31                  | 1,5                              | 1,5                              | 1,18                  | 1,8                              | 1,8                              | 1,13                  | 2,0                              | 2,0                              | 1,04                  | 2,4                              | 2,4                              | 1,0                                            | 2260                    | 2,3                   | 8<br>4         | 71<br>35  | 1,45<br>0,36                        | 3,5<br>2,2 |
|                | 11N-80-06F    | 0.75                   | 1,92                  | 1,7                              | 2,3                              | 1,74                  | 2,1                              | 2,8                              | 1,66                  | 2,3                              | 3,1                              | 1,52                  | 2,7                              | 3,7                              | 1,5                                            | 2280                    | 3,4                   |                |           |                                     |            |
| 90             | 11P-90S/L-06E | 1.0                    | 2,01                  | 2,0                              | 2,3                              | 1,82                  | 2,4                              | 2,8                              | 1,74                  | 2,7                              | 3,1                              | 1,59                  | 3,2                              | 3,7                              | 2,0                                            | 2290                    | 3,5                   | 16<br>8        | 142<br>71 | 4,75<br>1,45                        | 6,8<br>3,5 |

Legend see page 485

# Dimension sheets

## Integral motor frame sizes 63 - 132

M



Description of the dimensions L, LB, LB0,... see page 492

| Tolerances     |                                            |    |
|----------------|--------------------------------------------|----|
| Dimension name | ISO tolerance DIN EN ISO 286-2             |    |
| D              | ≤ Ø 30 mm (1.186 in)                       | j6 |
|                | > Ø 30 mm (1.186 in) to Ø 50 mm (1.186 in) | k6 |
|                | > Ø 50 mm (1.186 in)                       | m6 |
| N              | ≤ Ø 250 mm (9.884 in)                      | j6 |
|                | > Ø 250 mm (9.884 in)                      | h6 |

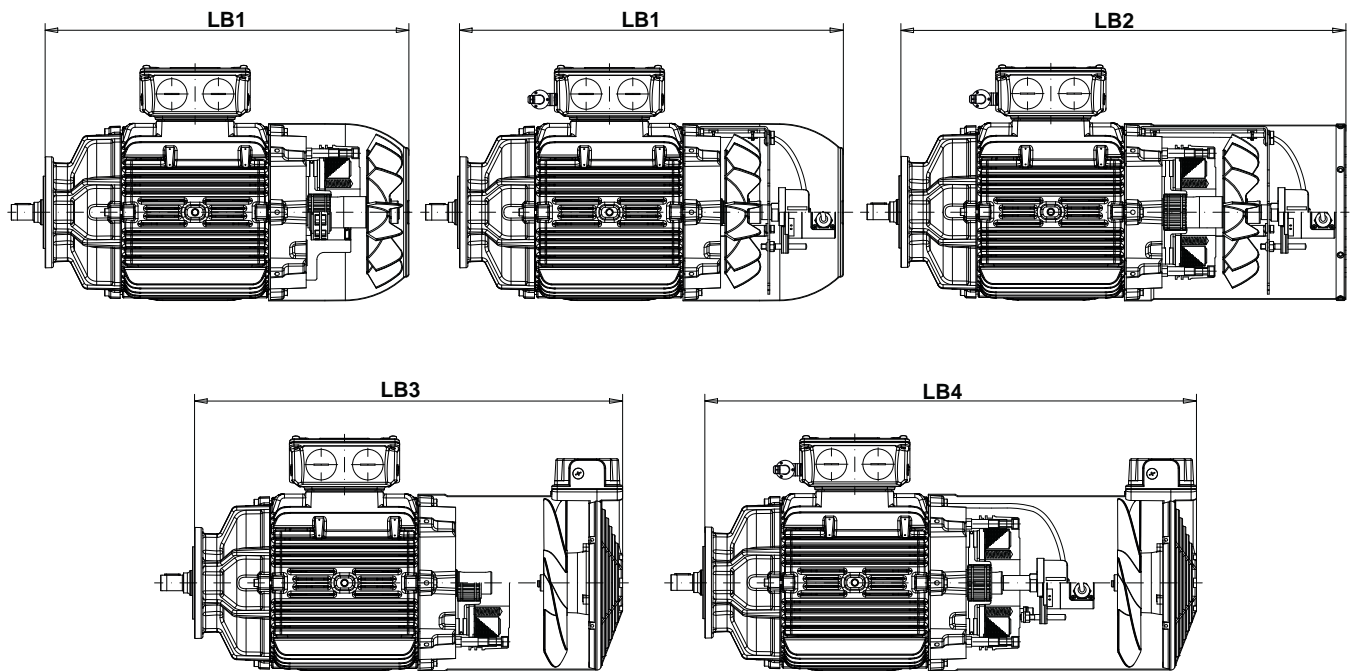
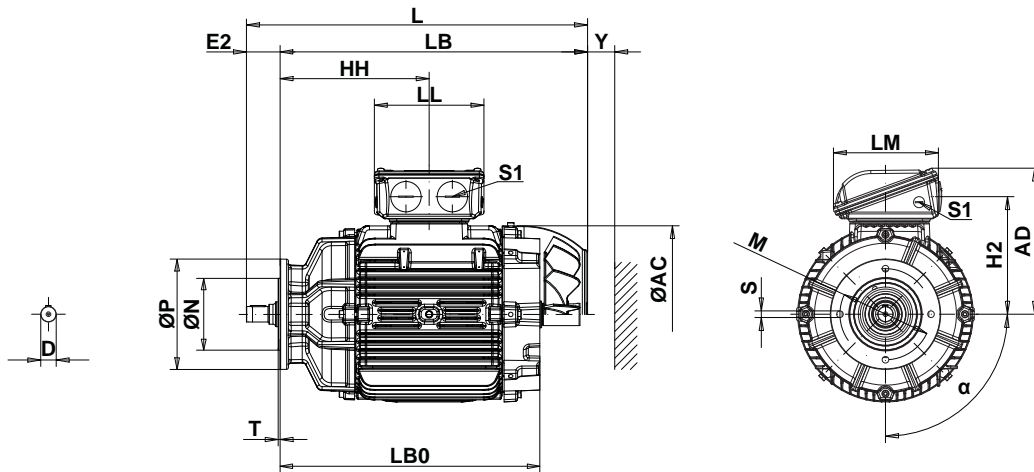
| Dimension tolerances |                                        |                       |
|----------------------|----------------------------------------|-----------------------|
| Dimension name       | Dimensions                             | Permissible deviation |
| M                    | ≤ 200 mm (7.907 in)                    | ± 0.25 mm (0.010 in)  |
|                      | > 200 (7.907 in), ≤ 500 mm (19.768 in) | ± 0.5 mm (0.020 in)   |
|                      | > 500 mm (19.768 in)                   | ± 1.0 mm (0.040 in)   |

Dimensions in inch. Motor dimensions are typical values. Subject to change.

| IEC frame size | 63                              | 71      | 80      | L80     | 90      | 100     | L100                           | 112     | 132     | L132    |
|----------------|---------------------------------|---------|---------|---------|---------|---------|--------------------------------|---------|---------|---------|
| AC             | 4.96                            | 5.55    | 6.26    | 6.26    | 7.01    | 7.83    | 7.83                           | 8.70    | 10.28   | 10.28   |
| AD             | 5.04                            | 5.35    | 5.71    | 5.71    | 6.10    | 6.50    | 6.50                           | 7.28    | 8.07    | 8.07    |
| D              | 0.63                            | 0.75    | 0.94    | 0.94    | 0.94    | 1.34    | 1.34                           | 1.34    | 1.65    | 1.65    |
| E2             | 1.02                            | 1.02    | 1.02    | 1.02    | 1.02    | 1.02    | 1.02                           | 1.42    | 1.42    | 1.42    |
| HH             | 3.27                            | 3.58    | 3.46    | 3.46    | 3.46    | 4.21    | 4.21                           | 4.61    | 4.80    | 4.80    |
| H2             | 3.58                            | 3.90    | 4.25    | 4.25    | 4.65    | 5.04    | 5.04                           | 5.67    | 6.46    | 6.46    |
| LL             | 4.25                            | 4.25    | 4.25    | 4.25    | 4.25    | 4.25    | 4.25                           | 5.39    | 5.39    | 5.39    |
| LM             | 3.62                            | 3.62    | 3.62    | 3.62    | 3.62    | 3.62    | 3.62                           | 4.65    | 4.65    | 4.65    |
| M              | 3.94                            | 3.94    | 3.94    | 3.94    | 3.94    | 3.94    | 3.94                           | 5.12    | 5.12    | 5.12    |
| N              | 3.15                            | 3.15    | 3.15    | 3.15    | 3.15    | 3.15    | 3.15                           | 4.33    | 4.33    | 4.33    |
| P              | 3.70                            | 3.70    | 3.70    | 3.70    | 3.70    | 3.70    | 3.70                           | 5.31    | 5.31    | 5.31    |
| S              | M6                              | M6      | M6      | M6      | M6      | M6      | M6                             | M8      | M8      | M8      |
| S1             | 2 x M25 x 0.06 + 2 x M16 x 0.06 |         |         |         |         |         | 2 x M32 x 1.5 + 2 x M16 x 0.06 |         |         |         |
| T              | 0.12                            | 0.12    | 0.12    | 0.12    | 0.12    | 0.12    | 0.12                           | 0.14    | 0.14    | 0.14    |
| Y              | 0.98                            | 1.02    | 1.18    | 1.18    | 1.30    | 1.42    | 1.42                           | 1.61    | 1.97    | 1.97    |
| $\alpha$       | 4 x 90°                         | 4 x 90° | 4 x 90° | 4 x 90° | 4 x 90° | 4 x 90° | 4 x 90°                        | 4 x 90° | 4 x 90° | 4 x 90° |
| $\alpha_1$     | 45°                             | 45°     | 45°     | 45°     | 45°     | 45°     | 45°                            | 45°     | 45°     | 45°     |
| L              | 9.06                            | 10.39   | 10.71   | 11.65   | 12.36   | 14.33   | 15.83                          | 15.12   | 17.68   | 19.17   |
| LB             | 8.03                            | 9.37    | 9.69    | 10.63   | 11.34   | 13.31   | 14.80                          | 13.70   | 16.26   | 17.76   |
| LB0            | 6.81                            | 7.72    | 8.07    | 9.02    | 9.53    | 11.22   | 12.72                          | 11.42   | 14.13   | 15.63   |
| LB1            | 9.76                            | 11.30   | 11.97   | 12.91   | 14.21   | 16.61   | 18.11                          | 17.13   | 20.91   | 22.40   |
| LB2            | -                               | 14.09   | 15.00   | 15.94   | 17.20   | 19.69   | 21.18                          | 20.12   | 24.17   | 25.67   |
| LB3            | 12.68                           | 13.66   | 14.37   | 15.31   | 16.61   | 18.74   | 20.24                          | 19.41   | 23.54   | 25.04   |
| LB4            | 15.43                           | 16.42   | 17.13   | 18.07   | 19.09   | 20.94   | 22.44                          | 21.61   | 25.59   | 27.09   |

Integral motor frame sizes 160 to 250

M



Description of the dimensions L, LB, LB0,... see page 492

| Tolerances     |                                              |    |
|----------------|----------------------------------------------|----|
| Dimension name | ISO tolerance DIN EN ISO 286-2               |    |
| D              | $\geq \varnothing 28 \text{ mm (1.107 in)}$  | n6 |
| N              | $\leq \varnothing 250 \text{ mm (9.884 in)}$ | j6 |
|                | $> \varnothing 250 \text{ mm (9.884 in)}$    | h6 |

| Dimension tolerances |                                                                 |                                  |
|----------------------|-----------------------------------------------------------------|----------------------------------|
| Dimension name       | Dimensions                                                      | Permissible deviation            |
| M                    | $\leq 200 \text{ mm (7.907 in)}$                                | $\pm 0.25 \text{ mm (0.010 in)}$ |
|                      | $> 200 \text{ mm (7.907 in), } \leq 500 \text{ mm (19.768 in)}$ | $\pm 0.5 \text{ mm (0.020 in)}$  |
|                      | $> 500 \text{ mm (19.768 in)}$                                  | $\pm 1.0 \text{ mm (0.040 in)}$  |

Dimensions in inch. Motor dimensions are typical values. Subject to change.

| IEC frame size | 160M                        |        |        |        |        | 160L                        |        |        |        |        |
|----------------|-----------------------------|--------|--------|--------|--------|-----------------------------|--------|--------|--------|--------|
| Motor flange   | FR-200                      | FR-250 | FR-300 | FR-400 | FR-550 | FR-200                      | FR-250 | FR-300 | FR-400 | FR-550 |
| AC             | 12.95                       |        |        |        |        | 12.95                       |        |        |        |        |
| AD             | 10.47                       |        |        |        |        | 10.47                       |        |        |        |        |
| D              | 1.10                        |        |        |        |        | 1.10                        |        |        |        |        |
| E2             | 2.40                        | 2.60   | 2.80   | 3.31   | 3.94   | 2.40                        | 2.60   | 2.80   | 3.31   | 3.94   |
| HH             | 10.63                       | 10.43  | 10.24  | 10.12  | 9.49   | 10.63                       | 10.43  | 10.24  | 10.12  | 9.49   |
| H2             | 8.39                        |        |        |        |        | 8.39                        |        |        |        |        |
| LL             | 7.83                        |        |        |        |        | 7.83                        |        |        |        |        |
| LM             | 7.48                        |        |        |        |        | 7.48                        |        |        |        |        |
| M              | 6.50                        | 8.46   | 10.43  | 11.81  | 15.75  | 6.50                        | 8.46   | 10.43  | 11.81  | 15.75  |
| N              | 5.12                        | 7.09   | 9.06   | 11.81  | 17.72  | 5.12                        | 7.09   | 9.06   | 11.81  | 17.72  |
| P              | 7.87                        | 9.84   | 11.81  | 15.75  | 21.65  | 7.87                        | 9.84   | 11.81  | 15.75  | 21.65  |
| S              | 0.47                        | 0.59   | 0.59   | 0.75   | 0.75   | 0.47                        | 0.59   | 0.59   | 0.75   | 0.75   |
| S1             | 2 x M40x0.06 + 2 x M16x0.06 |        |        |        |        | 2 x M40x0.06 + 2 x M16x0.06 |        |        |        |        |
| T              | 0.14                        | 0.16   | 0.16   | 0.20   | 0.20   | 0.14                        | 0.16   | 0.16   | 0.20   | 0.20   |
| Y              | 2.56                        |        |        |        |        | 2.56                        |        |        |        |        |
| α              | 4 x 90°                     |        |        |        |        | 4 x 90°                     |        |        |        |        |
| L              | 23.86                       |        |        |        |        | 25.59                       |        |        |        |        |
| LB             | 21.46                       | 21.26  | 21.06  | 20.55  | 19.92  | 23.19                       | 22.99  | 22.80  | 22.28  | 21.65  |
| LB0            | 18.90                       | 18.70  | 18.50  | 17.99  | 17.36  | 20.63                       | 20.43  | 20.24  | 19.72  | 19.09  |
| LB1            | 26.34                       | 26.14  | 25.94  | 25.43  | 24.80  | 28.07                       | 27.87  | 27.68  | 27.17  | 26.54  |
| LB2            | 29.41                       | 29.21  | 29.02  | 28.50  | 27.87  | 31.14                       | 30.94  | 30.75  | 30.24  | 29.61  |
| LB3            | 29.80                       | 29.61  | 29.41  | 28.90  | 28.27  | 31.54                       | 31.34  | 31.14  | 30.63  | 30.00  |
| LB4            | 32.40                       | 32.20  | 32.01  | 31.50  | 30.87  | 34.13                       | 33.94  | 33.74  | 33.23  | 32.60  |

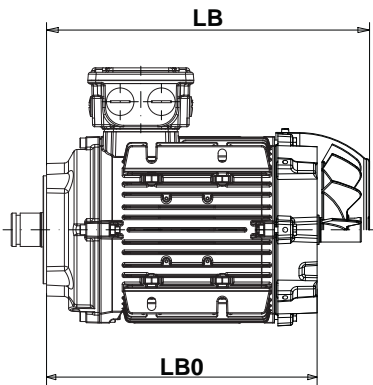
| IEC frame size | 180M                         |        |        |        | 180L                         |        |        |        |
|----------------|------------------------------|--------|--------|--------|------------------------------|--------|--------|--------|
| Motor flange   | FR-250                       | FR-300 | FR-400 | FR-550 | FR-250                       | FR-300 | FR-400 | FR-550 |
| AC             | 13.66                        |        |        |        | 13.66                        |        |        |        |
| AD             | 11.06                        |        |        |        | 11.06                        |        |        |        |
| D              | 1.26                         |        |        |        | 1.26                         |        |        |        |
| E2             | 2.60                         | 2.80   | 3.31   | 3.94   | 2.60                         | 2.80   | 3.31   | 3.94   |
| HH             | 11.93                        | 11.73  | 11.22  | 10.59  | 11.93                        | 11.73  | 11.22  | 10.59  |
| H2             | 8.98                         |        |        |        | 8.98                         |        |        |        |
| LL             | 7.83                         |        |        |        | 7.83                         |        |        |        |
| LM             | 7.48                         |        |        |        | 7.48                         |        |        |        |
| M              | 8.46                         | 10.43  | 11.81  | 15.75  | 8.46                         | 10.43  | 11.81  | 15.75  |
| N              | 7.09                         | 9.06   | 11.81  | 17.72  | 7.09                         | 9.06   | 11.81  | 17.72  |
| P              | 9.84                         | 11.81  | 15.75  | 21.65  | 9.84                         | 11.81  | 15.75  | 21.65  |
| S              | 0.59                         | 0.59   | 0.75   | 0.75   | 0.59                         | 0.59   | 0.75   | 0.75   |
| S1             | 2 x M40x0.06 + 2 x M16 x0.06 |        |        |        | 2 x M40x0.06 + 2 x M16 x0.06 |        |        |        |
| T              | 0.16                         | 0.16   | 0.20   | 0.20   | 0.16                         | 0.16   | 0.20   | 0.20   |
| Y              | 2.68                         |        |        |        | 2.68                         |        |        |        |
| α              | 4 x 90°                      |        |        |        | 4 x 90°                      |        |        |        |
| L              | 26.54                        |        |        |        | 28.03                        |        |        |        |
| LB             | 23.94                        | 23.74  | 23.23  | 22.60  | 25.43                        | 25.24  | 24.72  | 24.09  |
| LB0            | 20.91                        | 20.71  | 20.20  | 19.57  | 22.40                        | 22.20  | 21.69  | 21.06  |
| LB1            | 28.58                        | 28.39  | 27.87  | 27.24  | 30.08                        | 29.88  | 29.37  | 28.74  |
| LB2            | 33.03                        | 32.83  | 32.32  | 31.69  | 34.53                        | 34.33  | 33.82  | 33.19  |
| LB3            | 32.60                        | 32.40  | 31.89  | 31.26  | 34.09                        | 33.90  | 33.39  | 32.76  |
| LB4            | 35.16                        | 34.96  | 34.45  | 33.82  | 36.65                        | 36.46  | 35.94  | 35.31  |

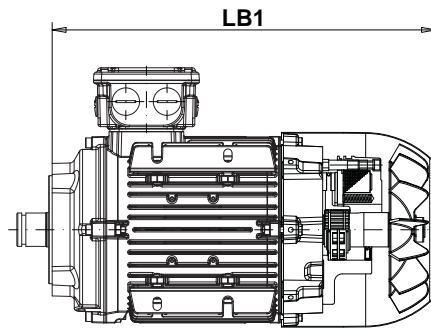
| IEC frame size | 200L                        |        |        | 225S/M                      |        | 250S/M                      |
|----------------|-----------------------------|--------|--------|-----------------------------|--------|-----------------------------|
| Motor flange   | FR-300                      | FR-400 | FR-550 | FR-400                      | FR-550 | FR-550                      |
| AC             | 15.20                       |        |        | 17.83                       |        | 18.98                       |
| AD             | 12.48                       |        |        | 15.16                       |        | 15.87                       |
| D              | 1.50                        |        |        | 1.50                        |        | 1.89                        |
| E2             | 2.80                        | 3.31   | 3.94   | 3.31                        | 3.94   | 3.94                        |
| HH             | 13.70                       | 13.19  | 12.56  | 11.26                       | 10.63  | 10.28                       |
| H2             | 10.24                       |        |        | 11.97                       |        | 12.64                       |
| LL             | 9.06                        |        |        | 10.59                       |        | 10.55                       |
| LM             | 8.58                        |        |        | 11.26                       |        | 11.26                       |
| M              | 10.43                       | 11.81  | 15.75  | 11.81                       | 15.75  | 15.75                       |
| N              | 9.06                        | 11.81  | 17.72  | 11.81                       | 17.72  | 17.72                       |
| P              | 11.81                       | 15.75  | 21.65  | 15.75                       | 21.65  | 21.65                       |
| S              | 0.59                        | 0.75   | 0.75   | 0.75                        | 0.75   | 0.75                        |
| S1             | 2 x M50x0.06 + 2 x M16x0.06 |        |        | 2 x M50x0.06 + 2 x M16x0.06 |        | 2 x M63x0.06 + 2 x M16x0.06 |
| T              | 0.16                        | 0.20   | 0.20   | 0.20                        | 0.20   | 0.20                        |
| Y              | 3.07                        |        |        | 3.35                        |        | 3.35                        |
| α              | 4 x 90°                     |        |        | 8 x 45°                     |        | 8 x 45°                     |
| L              | 31.65                       |        |        | 35.91                       |        | 37.44                       |
| LB             | 28.86                       | 28.35  | 27.72  | 32.60                       | 31.97  | 33.50                       |
| LB0            | 24.76                       | 24.25  | 23.62  | 28.11                       | 27.48  | 29.02                       |
| LB1            | 33.82                       | 33.31  | 32.68  | 37.24                       | 36.61  | 38.15                       |
| LB2            | 38.46                       | 37.95  | 37.32  | 41.81                       | 41.18  | 42.72                       |
| LB3            | 36.57                       | 36.06  | 35.43  | 43.31                       | 42.68  | 44.21                       |
| LB4            | 39.72                       | 39.21  | 38.58  | 43.31                       | 42.68  | 44.21                       |

## Length description motor modules

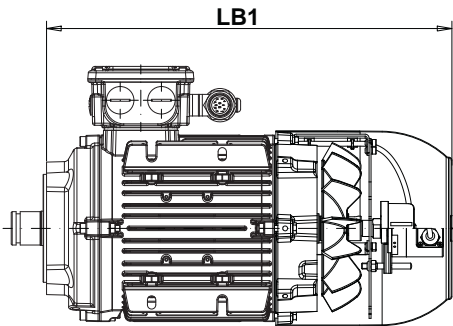
M



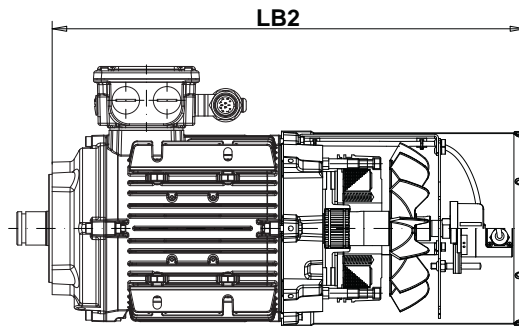
**LB** Self ventilated  
**LB0** Non-ventilated



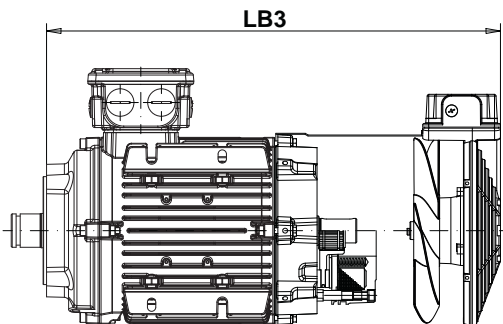
**LB1** Self ventilated with brake  
 or backstop type RSM



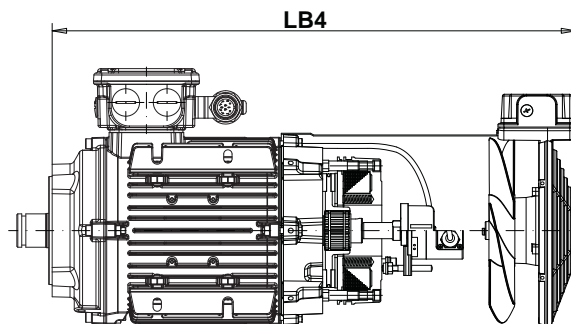
**LB1** Self ventilated with standard encoder,  
 SSI multiturn encoder or resolver



**LB2** Self ventilated with brake and standard encoder,  
 SSI multiturn encoder or resolver



**LB3** Forced ventilation with or without brake



**LB4** Forced ventilation with/without brake and standard encoder,  
 SSI multiturn encoder or resolver

# Motor modules

## High / Low temperature execution

|           |                            |
|-----------|----------------------------|
| <b>HT</b> | High temperature execution |
| <b>LT</b> | Low temperature execution  |

To ensure steady operation even at increased or very low ambient temperatures, we offer specially adjusted motor executions with more resistant components.

## Temperature control

|            |                                           |            |                                           |
|------------|-------------------------------------------|------------|-------------------------------------------|
| <b>TH</b>  | Bimetal switch for switch off             | <b>TF</b>  | PTC thermistor for switch off             |
| <b>2TH</b> | Bimetal switch for warning and switch off | <b>2TF</b> | PTC thermistor for warning and switch off |
| <b>KTY</b> | Temperature sensor                        |            |                                           |

In the standard version, the motors are designed with motor protection in the motor winding. In order to protect the winding of a three-phase induction motor against thermal overloads, resulting for example from overloading and operation with only two phases, one of the following devices can be provided:

### TH - Bimetal switch “NC contact“ (+311 °F)

The contact is normally closed (NC); the disc opens when the winding’s temperature reaches limits dangerous for the insulation system. When a limit temperature is reached, these bimetal switches (NC contacts) can deactivate an auxiliary circuit. The circuit can only be reclosed following a considerable fall in temperature. When the motor current rises quickly (e.g. with a locked rotor), these switches are not suitable due to their large thermal time constants.

### TF - PTC thermistor (+311 °F)

The most comprehensive protection against thermal overloading caused in starting against heavy masses, heavy alternating load and high frequency starting resp. brake operation or high ambient temperatures of the motor is provided by PTC thermistors installed in the motor winding. The sensors are temperature sensitive resistors (PTC) which change value almost instantaneously at their response temperature. The switch off level corresponds to the thermal class of the insulation. This characteristic is used in combination with tripping devices (on request) to monitor the temperature of the motor. For warning purposes additional bimetal switches or PTC thermistors with lower switch off temperature can be fitted. These correspond to the key **2TH** and **2TF**.

### KTY - Temperature sensor

This sensor is a semiconductor that changes its resistance depending on temperature in accordance with a defined characteristic. The evaluation is made by an extra tripping device (on request). The temperature sensor is embedded in the winding head of the motor in the same manner as a PTC thermistor. Evaluation is performed, for example, in the frequency inverter.

## Anti-condensation heater

|           |                          |
|-----------|--------------------------|
| <b>SH</b> | Anti-condensation heater |
|-----------|--------------------------|

Windings of motors, which are operating at conditions of extreme temperature changes or extreme climatic conditions, are endangered of condensation water. The built in anti-condensation heater warms up the motor windings after switching off and prevents condensation inside the motor.

**During motor operation the anti-condensation heater must not be switched on.  
The limit temperature of the winding (+311 °C in thermal class F) must not be exceeded!  
Temperature control is advisable!**

The anti-condensation heater must be supplied with a separate voltage.

Supply voltage: 230 V (1~)

Voltage range for IEC frame sizes: 71 to 200: 220 - 240 V, 50/60 Hz

| IEC frame size | Heating performance [W] |
|----------------|-------------------------|
| 71             | 13                      |
| 80             | 25                      |
| 90             |                         |
| 100            |                         |
| 112            | 50                      |
| 132            |                         |
| 160            | 75                      |
| 180            |                         |
| 200            | 100                     |
| 225            |                         |
| 250            |                         |

## Climatic protection

|           |                      |
|-----------|----------------------|
| <b>K1</b> | Humidity protection  |
| <b>K2</b> | Corrosion protection |

The following standardized climatic protection executions are available for motors exposed to extreme climatic conditions:

### K1 - Humidity protection

Humid warm climate or humid variable climate with max. relative air humidity of 92 %, also for areas on the seaside

### K2 - Corrosion protection

Relative air humidity of more than 92 % (extreme formation of condensation water), furthermore against chemically aggressive gases and vapours of increased concentration

## Drain

|           |       |
|-----------|-------|
| <b>KB</b> | Drain |
|-----------|-------|

In cases of increased air humidity, periodic duty, installation in the open air or when subject to extreme climatic conditions, the motors are endangered by the formation of condensation. The endshields have holes for drainage of water that may condense inside the frame. These holes are supplied with rubber drain plugs, which leave the factory in closed position and must be opened periodically to allow the exit of condensed water.

**To determine the correct position of the hole the exact mounting position of the motor must be defined.**

## Terminal box designs

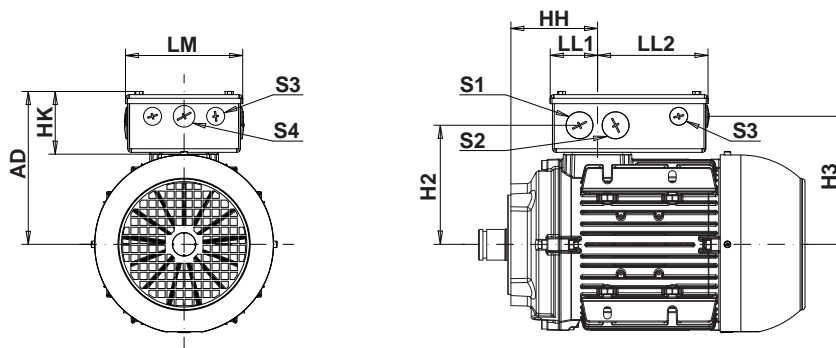
|              |                       |
|--------------|-----------------------|
| <b>MIP</b>   | Multipin box          |
| <b>MIG..</b> | MIG - connect systems |

### MIP - Multipin box

IEC frame sizes: 63 to 250

This extended terminal box was designed to permit additional options, such as brakes, incremental encoders, thermal elements, anti-condensation heaters and the like, to be connected in an orderly fashion in the box.

The terminal box can be equipped with up to 22 sockets, including a brake rectifier. The terminal used are two-wire terminals fitted with cage clamp connectors. These are suitable for single-wire, multi-wire and fine-wire lines with diameters up to #12 AWG.





| IEC frame size | MIP box |       |       |      |       |       |      |      |       |       |       |       |       |
|----------------|---------|-------|-------|------|-------|-------|------|------|-------|-------|-------|-------|-------|
|                | AD      | HH    | HK    | H2   | H3    | LM    | LL1  | LL2  | S1    | S2    | S3    | S4    |       |
| 63             | 5.20    | 3.54  | 2.72  | 3.74 | 3.90  | 5.12  | 2.05 | 4.80 | 2xM25 | 2xM25 | 4xM16 | 1xM20 |       |
| 71             | 5.51    | 3.90  | 2.72  | 4.06 | 4.21  | 5.12  | 2.05 | 4.80 | 2xM25 | 2xM25 | 4xM16 | 1xM20 |       |
| 80             | 5.87    | 3.74  | 2.72  | 4.41 | 4.57  | 5.12  | 2.05 | 4.80 | 2xM25 | 2xM25 | 4xM16 | 1xM20 |       |
| 90             | 6.26    | 3.78  | 2.72  | 4.80 | 4.96  | 5.12  | 2.05 | 4.80 | 2xM25 | 2xM25 | 4xM16 | 1xM20 |       |
| 100            | 6.65    | 4.29  | 2.72  | 5.20 | 5.35  | 5.12  | 2.05 | 4.80 | 2xM25 | 2xM25 | 4xM16 | 1xM20 |       |
| 112            | 7.17    | 5.12  | 2.76  | 5.67 | 6.06  | 5.51  | 2.68 | 5.43 | 2xM32 | 2xM32 | 4xM16 | 1xM25 |       |
| 132            | 7.95    | 4.84  | 2.76  | 6.46 | 6.85  | 5.51  | 2.68 | 5.43 | 2xM32 | 2xM32 | 4xM16 | 1xM25 |       |
| 160            | FR-200  | 10.59 | 10.63 | 4.09 | 8.31  | 8.66  | 8.07 | 4.13 | 6.73  | 2xM50 | 2xM40 | 4xM16 | 1xM25 |
|                | FR-250  |       | 10.43 |      |       |       |      |      |       |       |       |       |       |
|                | FR-300  |       | 10.24 |      |       |       |      |      |       |       |       |       |       |
|                | FR-400  |       | 10.12 |      |       |       |      |      |       |       |       |       |       |
| 180            | FR-500  | 11.18 | 9.49  | 4.09 | 9.09  | 9.45  | 8.07 | 4.13 | 6.73  | 2xM50 | 2xM40 | 4xM16 | 1xM25 |
|                | FR-250  |       | 11.93 |      |       |       |      |      |       |       |       |       |       |
|                | FR-300  |       | 11.73 |      |       |       |      |      |       |       |       |       |       |
|                | FR-400  |       | 11.22 |      |       |       |      |      |       |       |       |       |       |
| 200            | FR-550  | 11.81 | 10.59 | 4.09 | 9.84  | 10.08 | 8.07 | 4.13 | 6.97  | 2xM50 | 2xM40 | 4xM16 | 1xM25 |
|                | FR-300  |       | 13.70 |      |       |       |      |      |       |       |       |       |       |
|                | FR-400  |       | 13.19 |      |       |       |      |      |       |       |       |       |       |
| 225            | FR-550  | 13.54 | 12.56 | 4.09 | 11.38 | 11.61 | 8.07 | 4.13 | 6.97  | 2xM50 | 2xM40 | 4xM16 | 1xM25 |
|                | FR-400  |       | 11.26 |      |       |       |      |      |       |       |       |       |       |
|                | FR-550  |       | 10.63 |      |       |       |      |      |       |       |       |       |       |
| 250            | FR-550  | 14.21 | 10.28 | 4.09 | 12.05 | 12.28 | 8.07 | 4.13 | 6.97  | 2xM50 | 2xM40 | 4xM16 | 1xM25 |

Dimensions in inch

### MIG - connect system

Models: MIG10B, MIG16, MIG40, MIG10-FL  
IEC frame sizes: 63 to 180 (MIG10-FL up to 250)

The MIG (Multiplug) - connect system is a standardized distributed connection system. It is used for the integration of power and control cabling into a single motor connector. The plug is assembled in-house and replaces the terminal box.

#### Most important advantages:

- Quick installation and service at site
- Avoiding wiring faults
- Motor replacement without electrical manipulation

For motor frame sizes 63 to 180 three MIG types of different power ratings are used. For each MIG model mating connectors are available.

#### MIG10B:

With 18 PINs and ground this most compact plug enables connection to motors up to a rated current of 10 A with voltages up to 400/690 V and protection degrees up to IP67. Beside the power wires a variety of auxiliary wires can be connected as well.

#### MIG16:

This MIG for mid-sized motors supports a maximum current of 16 A at 500 V with 10 PINs in total. In case a wider variety of auxiliary PINs is necessary a mixed holding can be offered (6 PINs - 16 A; 12 PINs - auxiliary).

#### MIG40:

To achieve all contacts to be connected with one plug a mixed holding of PINs has to be used in this case. 6 PINs for 40 A at 400/690 V together with 12 PINs auxiliary guarantees full connectivity.

For motor frame sizes 63 to 250 with forced ventilation the following MIG type is available:

#### MIG10-FL:

On demand this MIG can replace the normal forced ventilation connection. Thereby this motor module has all advantages of a MIG - connect plug system. The plug is equipped with 3 PINs and grounding and can be mounted on every forced ventilation size.

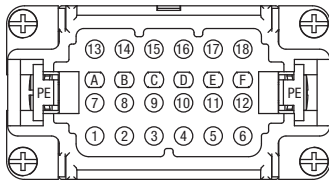


MIG40 execution

### MIG - connect system overview table

| IEC frame size |    | 63  | 71  | 80  | 90  | 100 | 112 | 132 | 160 | 180 |
|----------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 400 V, 50 Hz   | 4p | 10B | 10B | 10B | 10B | 10B | 16  | 16  | 40  | 40  |
|                | 6p | 10B | 10B | 10B | 10B | 10B | 16  | 16  | 40  | 40  |
| 230 V, 50 Hz   | 4p | 10B | 10B | 10B | 10B | 16  | -   | -   | -   | -   |
|                | 6p | 10B | 10B | 10B | 10B | 16  | -   | -   | -   | -   |
| 400 V, 100 Hz  | 4p | 10B | 10B | 10B | 10B | 16  | 40  | 40  | -   | -   |
|                | 6p | 10B | 10B | 10B | 10B | 10B | 16  | 40  | -   | -   |
| 460 V, 60 Hz   | 4p | 10B | 10B | 10B | 10B | 10B | 16  | 16  | 40  | 40  |
|                | 6p | 10B | 10B | 10B | 10B | 10B | 16  | 16  | 40  | 40  |
| 460 V, 120 Hz  | 4p | 10B | 10B | 10B | 10B | 16  | 16  | 40  | -   | -   |
|                | 6p | 10B | 10B | 10B | 10B | 10B | 16  | 40  | -   | -   |

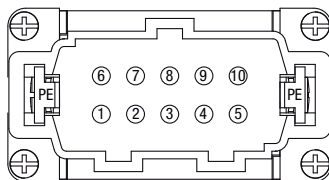
#### PIN assignment MIG10B



| PIN | Assignment               |
|-----|--------------------------|
| PE  | Grounding terminal       |
| 1   | Winding connection U1    |
| 2   | Winding connection V1    |
| 3   | Winding connection W1    |
| 4*  | Bimetal release 1 TH1    |
| 5   | Brake heating tape       |
| 6   | Anti-condensation heater |
| 7   | Winding connection W4    |
| 8   | Winding connection U4    |
| 9   | Winding connection V4    |
| 10* | Bimetal release 1 TH1    |
| 11  | Brake heating tape       |
| 12  | Anti-condensation heater |

| PIN            | Assignment                   |
|----------------|------------------------------|
| 13             | Brake                        |
| 14             | Brake                        |
| 15             | Brake microswitch            |
| 16             | Brake microswitch            |
| 17*            | Bimetal release 2 TH2        |
| 18*            | Bimetal release 2 TH2        |
| *alternatively |                              |
| 4              | PTC thermistor 1 TF1         |
| 10             | PTC thermistor 1 TF1         |
| 17             | PTC thermistor 2 TF2         |
| 17             | Resistance thermometer KTY1  |
| 18             | PTC thermistor 2 TF2         |
| 18             | Resistance thermometer KTY 1 |

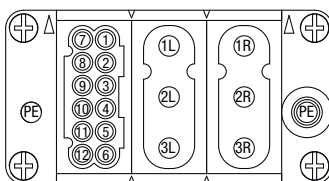
#### PIN assignment MIG16



| PIN | Assignment            |
|-----|-----------------------|
| PE  | Grounding terminal    |
| 1   | Winding connection U1 |
| 2   | Winding connection V1 |
| 3   | Winding connection W1 |
| 4*  | Brake                 |
| 5*  | Brake                 |
| 6   | Winding connection W4 |
| 7   | Winding connection U4 |

| PIN            | Assignment               |
|----------------|--------------------------|
| 8              | Winding connection V4    |
| 9*             | Temperature sensor 1     |
| 10*            | Temperature sensor 1     |
| *alternatively |                          |
| 9              | Anti-condensation heater |
| 10             | Anti-condensation heater |
| 4              | Temperature sensor 2     |
| 5              | Temperature sensor 2     |

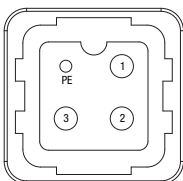
#### PIN assignment MIG40



| PIN | Assignment            |
|-----|-----------------------|
| PE  | Grounding terminal    |
| 1R  | Winding connection U1 |
| 2R  | Winding connection V1 |
| 3R  | Winding connection W1 |
| 1L  | Winding connection W4 |
| 2L  | Winding connection U4 |
| 3L  | Winding connection V4 |
| 1   | Brake                 |
| 2   | Temperature sensor 1  |
| 3   | Temperature sensor 2  |

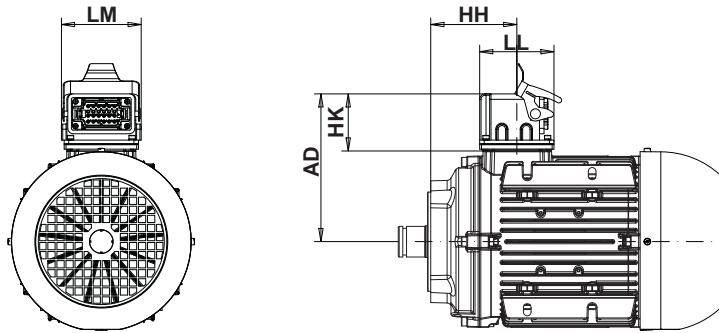
| PIN | Assignment               |
|-----|--------------------------|
| 4   | Temperature sensor 3     |
| 5   | Anti-condensation heater |
| 6   |                          |
| 7   | Brake                    |
| 8   | Temperature sensor 1     |
| 9   | Temperature sensor 2     |
| 10  | Temperature sensor 3     |
| 11  | Anti-condensation heater |
| 12  |                          |

#### PIN assignment MIG10-FL



| PIN | Assignment          |
|-----|---------------------|
| PE  | Grounding terminal  |
| 1   | Power connection L1 |
| 2   | Power connection L2 |
| 3   | Power connection L3 |

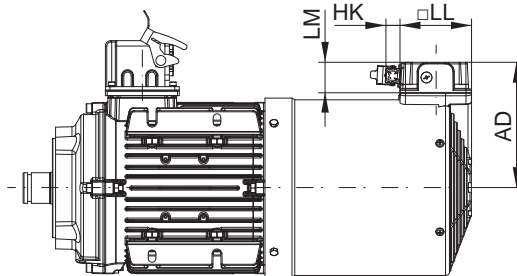
### Dimension sheet MIG10B, MIG16, MIG40



| IEC frame size | MIG - connect system |      |      |       |      |      |      |
|----------------|----------------------|------|------|-------|------|------|------|
|                | MIG Type             | AD   | HH   | HK    | LL   | LM   |      |
| 63             | 10B                  | 4.88 | 3.54 | 2.40  | 3.23 | 3.39 |      |
| 71             | 10B                  | 5.20 | 3.90 | 2.40  | 3.23 | 3.39 |      |
| 80             | 10B                  | 5.55 | 3.74 | 2.40  | 3.23 | 3.39 |      |
| 90             | 10B                  | 5.94 | 3.78 | 2.40  | 3.23 | 3.39 |      |
| 100            | 10B / 16             | 6.34 | 4.29 | 2.40  | 3.23 | 3.39 |      |
| 112            | 16 / 40              | 6.81 | 5.12 | 2.40  | 3.23 | 3.39 |      |
| 132            | 16 / 40              | 7.60 | 4.84 | 2.40  | 3.23 | 3.39 |      |
| 160            | FR-200               | 40   | 8.90 | 10.63 | 2.40 | 3.23 | 3.39 |
|                | FR-250               |      |      | 10.43 |      |      |      |
|                | FR-300               |      |      | 10.24 |      |      |      |
|                | FR-400               |      |      | 10.12 |      |      |      |
|                | FR-550               |      |      | 9.50  |      |      |      |
| 180            | FR-250               | 40   | 9.49 | 11.93 | 2.40 | 3.23 | 3.39 |
|                | FR-300               |      |      | 11.73 |      |      |      |
|                | FR-400               |      |      | 11.22 |      |      |      |
|                | FR-550               |      |      | 10.59 |      |      |      |

Dimensions in inch

### Dimension sheet MIG10-FL



| IEC frame size | MIG10-FL |      |      |      |
|----------------|----------|------|------|------|
|                | AD       | HK   | LL   | LM   |
| 63             | 4.53     | 1.10 | 4.21 | 1.26 |
| 71             | 4.84     |      |      |      |
| 80             | 5.20     |      |      |      |
| 90             | 5.59     |      |      |      |
| 100            | 5.94     |      |      |      |
| 112            | 6.42     |      |      |      |
| 132            | 7.20     |      |      |      |
| 160            | 8.27     | 1.10 | 4.21 | 1.26 |
| 180            |          |      |      |      |
| 200            |          |      |      |      |
| 225            |          |      |      |      |
| 250            |          |      |      |      |

Dimensions in inch

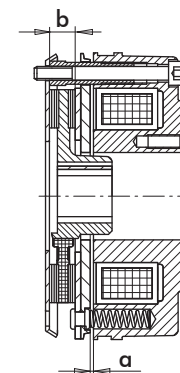
## Brake systems and Backstop

|                 |                                                   |
|-----------------|---------------------------------------------------|
| <b>BR..</b>     | Spring loaded brake                               |
| <b>BBRHGD..</b> | Double spring loaded brake                        |
| <b>BRGH..</b>   | Totally enclosed spring loaded brake (Heavy Duty) |
| <b>KKM</b>      | Backstop (frame sizes 63 to 90)                   |
| <b>RSM</b>      | Backstop (frame sizes 100 to 250)                 |

The mounted spring loaded brake is a single-disc brake with two friction surfaces. It is released electromagnetically and brakes by spring pressure, when the brake is de-energized. The DC-brake coil is supplied from a rectifier which is located in the motor terminal box and will be delivered as standard for AC-side connection.

### Product information

- Voltages: 24 V DC and 195 V DC (102 V DC special execution)
- All bare parts corrosion protected
- Short switching times
- Large reserve for abrasion
- Designed for 100 % duty cycle and max. admissible temperature limit of +293 °F
- Degree of protection IP55 (standard)



a - air gap  
b - brake lining thickness

On motors with brake-endshield on the non-driven side subsequent installation of brakes is possible (brake-motor-set available).

### Function and adjustment (see illustration below)

When the brake is de-energized, the springs are pressing the armature disc (9) against the brake disc (7) and the friction plate (5). The motor shaft (3) is braked via the brake disc (7) and the gear hub (6). When the brake is energized, a magnetic field is built up and the armature disc (9) is pulled against the magnetic case with the coil (10). When the motor is running, the brake disc (7) can rotate freely from the brake surfaces. In the case of power failure, the brake functions automatically by spring force. A manual release (11) is optionally available (subsequent assembling is also possible).

### Braking torque adjustment

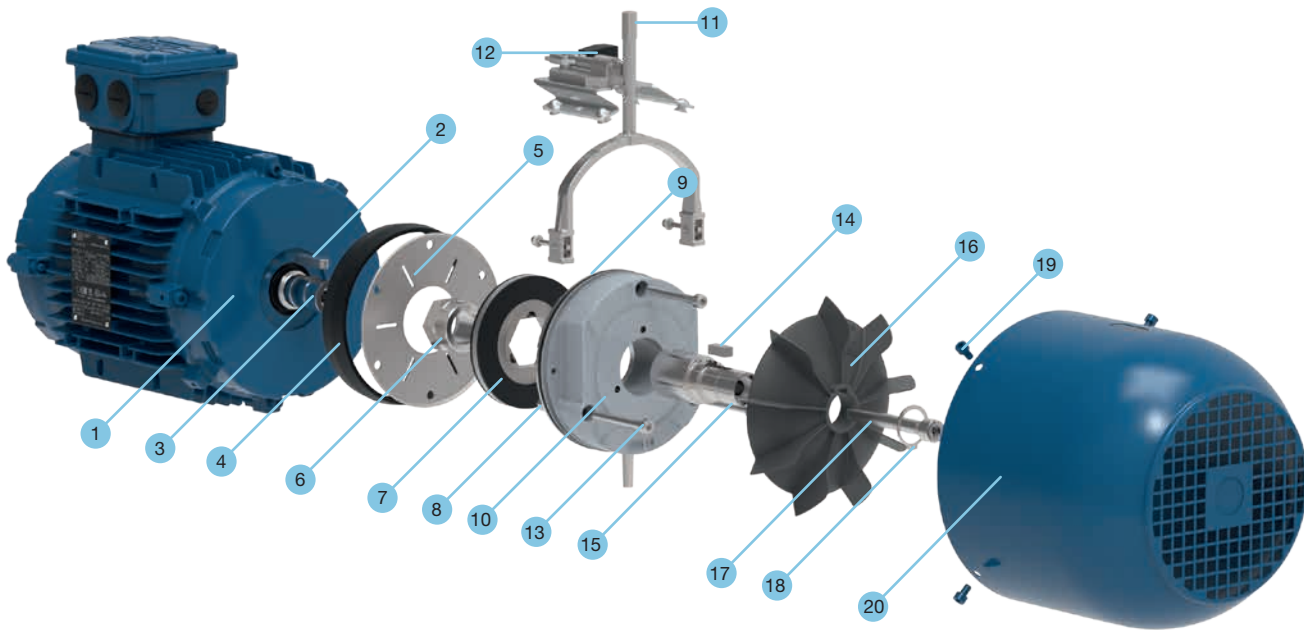
Upon delivery, the brakes and the brake motors are adjusted to the brake torque  $T_B$ . Brake torque reduction is done by removal of springs. Reduced brake torque values on request.

### Maintenance

Due to abrasion of the friction linings (7) the air gap between magnetic case (10) and armature disc (9) expands. It is necessary to check and readjust the air gap "a" in certain intervals or replace the brake disc (7).

### Readjustment of the air gap

First of all the three fixing screws (13) must be loosened half a turn. Now the sleeve screws (8) can be screwed into the magnetic case (10) by turning counter-clockwise. By turning the three fixing screws (13) clockwise, the magnetic case (10) can be moved in direction to the armature disc (9), until the nominal air gap  $a_{normal}$  (see table on page 500) is obtained. Now the three sleeve screws (8) will be unscrewed clockwise from the magnetic case (10) and the fixing screws (13) will be fixed. Please confirm the air gap "a" is consistent around the diameter of the brake. If not, adjust as necessary.



- |                                    |                                    |
|------------------------------------|------------------------------------|
| 1 Brake endshield                  | 11 Manual release lever (optional) |
| 2 Key                              | 12 Locking device                  |
| 3 Motor shaft                      | 13 Socket cap screw                |
| 4 Dust protection ring             | 14 Key                             |
| 5 Friction plate                   | 15 Brake shaft extension           |
| 6 Gear hub                         | 16 Fan                             |
| 7 Brake disc with friction linings | 17 Socket cap screw                |
| 8 Sleeve screws                    | 18 Retaining ring                  |
| 9 Armature disc                    | 19 Fan cover screws                |
| 10 Magnetic case                   | 20 Fan cover (brake execution)     |

Exploded view: Brake with manual release and locking device, frame size 100

## Brake selection

As shown in the following selection table, it is possible to supply brake motors with different brake torques to correspond to the largest number of possible applications. It is also possible to achieve an optimal adaption, by means of the mode of connection of the brake. If exact values about the application are available, we recommend to calculate the braking torque according to the following formulas on page 504, otherwise the proportion between motor rated torque ( $T_N$ ) and braking torque ( $T_B$ ) can be taken as an indication for the sizing of the brake and if the safety factor is sufficient.

For normal applications we recommend sizing the brake 1.5 - 2 times the motor rated torque ( $T_N$ ), for special applications (lifting gears, switching operation, etc.) 2 - 3 times the motor torque and as holding brake approx. 1 time the rated torque.

- **Execution A - working brake**

$T_B$  approx. 1.5 - 2 times  $T_N$ , or applications with medium masses to be accelerated and medium number of starts

- **Execution B - holding brake**

$T_B$  approx. 1 time  $T_N$  for drives with small masses to be accelerated and number of starts resp. for keeping the drive stopped

## Brake selection table

| IEC frame size | BR.. Standard brake        |         |                   |         | BBRHGD.. Double brake      |           |                   |          | BRGH.. Totally enclosed brake |         |                   |         |
|----------------|----------------------------|---------|-------------------|---------|----------------------------|-----------|-------------------|----------|-------------------------------|---------|-------------------|---------|
|                | Standard Execution A $T_B$ |         | Execution B $T_B$ |         | Standard Execution A $T_B$ |           | Execution B $T_B$ |          | Standard Execution A $T_B$    |         | Execution B $T_B$ |         |
|                | [Nm]                       | [lb-in] | [Nm]              | [lb-in] | [Nm]                       | [lb-in]   | [Nm]              | [lb-in]  | [Nm]                          | [lb-in] | [Nm]              | [lb-in] |
| 63             | 2                          | 18      | 4                 | 35      | -                          | -         | -                 | -        | -                             | -       | -                 | -       |
| 71             | 4                          | 35      | 2                 | 18      | 2 x 6                      | 2 x 53    | -                 | -        | 5                             | 44      | -                 | -       |
| 80             | 8                          | 71      | 4                 | 35      | 2 x 12.5                   | 2 x 111   | 2 x 6             | 2 x 53   | 10                            | 89      | 5                 | 44      |
| 90             | 16                         | 142     | 8                 | 71      | 2 x 25                     | 2 x 221   | 2 x 12.5          | 2 x 111  | 20                            | 177     | 10                | 89      |
| 100            | 32                         | 283     | 16                | 142     | 2 x 50                     | 2 x 443   | 2 x 25            | 2 x 221  | 40                            | 354     | 20                | 177     |
| 112            | 60                         | 531     | 32                | 283     | 2 x 75                     | 2 x 664   | 2 x 50            | 2 x 443  | 60                            | 531     | 40                | 354     |
| 132            | 100                        | 885     | 60                | 531     | 2 x 125                    | 2 x 1106  | 2 x 75            | 2 x 664  | 100                           | 885     | 60                | 531     |
| 160            | 150                        | 1328    | 100               | 885     | 2 x 187                    | 2 x 1655  | 2 x 125           | 2 x 1106 | 150                           | 1328    | 100               | 885     |
| 180            | 250                        | 2213    | 150               | 1328    | 2 x 300                    | 2 x 2655  | 2 x 187           | 2 x 1655 | 250                           | 2213    | 150               | 1328    |
| 200            | 400                        | 3540    | 250               | 2213    | 2 x 500                    | 2 x 4425  | 2 x 300           | 2 x 2655 | 400                           | 3540    | 250               | 2213    |
| 225            | 400                        | 3540    | 250               | 2213    | 2 x 500                    | 2 x 4425  | 2 x 300           | 2 x 2655 | 400                           | 3540    | 250               | 2213    |
| 250            | 1000                       | 8851    | -                 | -       | 2 x 1200                   | 2 x 10621 | -                 | -        | 1000                          | 8851    | -                 | -       |

| Spring loaded brake: electrical characteristics |                    |              |         |      |      |      |      |      |      |      |      |      |      |       |       |       |       |        |
|-------------------------------------------------|--------------------|--------------|---------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|--------|
| $U_{2nenn}$                                     | $U_2$              | Brake size   |         | 2**  | 4*   | 5**  | 8*   | 10** | 16*  | 20** | 32*  | 40** | 60** | 100** | 150** | 250** | 400** | 1000** |
| [V]                                             | [V]                | $T_B$        | [lb-in] | 18   | 35   | 44   | 71   | 89   | 142  | 177  | 283  | 354  | 531  | 885   | 1328  | 2213  | 3540  | 8851   |
|                                                 |                    |              | [Nm]    | 2    | 4    | 5    | 8    | 10   | 16   | 20   | 32   | 40   | 60   | 100   | 150   | 250   | 400   | 1000   |
| 190*<br>195**                                   | 170-210<br>162-236 | Coil current | [A]     | 0.13 | 0.11 | 0.13 | 0.13 | 0.18 | 0.16 | 0.20 | 0.21 | 0.26 | 0.32 | 0.42  | 0.50  | 0.65  | 0.85  | 0.83   |
|                                                 |                    | Power        | [W]     | 26   | 20   | 26   | 25   | 36   | 30   | 38   | 40   | 50   | 63   | 82    | 99    | 127   | 165   | 162    |
|                                                 |                    | Resistance   | [Ω]     | 1475 | 1805 | 1475 | 1444 | 1070 | 1203 | 990  | 903  | 754  | 600  | 464   | 385   | 300   | 230   | 235    |
| 24                                              | 19-28              | Coil current | [A]     | 1.14 | 0.83 | 1.14 | 1.04 | 1.44 | 1.25 | 1.70 | 1.66 | 2.10 | 2.70 | 3.30  | 4.00  | 5.20  | 7.30  | -      |
|                                                 |                    | Power        | [W]     | 27   | 20   | 27   | 25   | 34   | 30   | 41   | 40   | 50   | 65   | 80    | 96    | 125   | 175   | -      |
|                                                 |                    | Resistance   | [Ω]     | 21   | 29   | 21   | 23   | 17   | 19   | 14   | 14   | 12   | 8.9  | 7.2   | 6.0   | 4.6   | 3.3   | -      |
| 102 <sup>1)</sup> **<br>103 <sup>1)</sup> *     | 85-133<br>93-113   | Coil current | [A]     | 0.30 | 0.19 | 0.30 | 0.24 | 0.38 | 0.31 | 0.45 | 0.39 | 0.53 | 0.60 | 0.85  | 0.94  | 1.23  | 1.76  | -      |
|                                                 |                    | Power        | [W]     | 31   | 20   | 31   | 25   | 38   | 32   | 46   | 40   | 54   | 60   | 87    | 95    | 125   | 179   | -      |
|                                                 |                    | Resistance   | [Ω]     | 340  | 531  | 340  | 424  | 271  | 332  | 228  | 265  | 192  | 174  | 120   | 109   | 83    | 58    | -      |

■ standard brake

<sup>1)</sup> special execution (on demand)

| Spring loaded brake: mechanical characteristics |                                         |        |            |            |        |        |         |         |          |          |          |          |          |               |          |         |
|-------------------------------------------------|-----------------------------------------|--------|------------|------------|--------|--------|---------|---------|----------|----------|----------|----------|----------|---------------|----------|---------|
| Brake size                                      |                                         | 2      | 4          | 5          | 8      | 10     | 16      | 20      | 32       | 40       | 60       | 100      | 150      | 250           | 400      | 1000    |
| T <sub>B</sub>                                  | [lb-in]                                 | 18     | 35         | 44         | 71     | 89     | 142     | 177     | 283      | 354      | 531      | 885      | 1328     | 2213          | 3540     | 8851    |
|                                                 | [Nm]                                    | 2      | 4          | 5          | 8      | 10     | 16      | 20      | 32       | 40       | 60       | 100      | 150      | 250           | 400      | 1000    |
| T <sub>BS</sub>                                 | [lb-in]                                 | -      | 53         | 66         | 106    | 133    | 212     | 266     | 425      | 531      | 797      | 1328     | 1991     | 3319          | 5310     | 13276   |
| P <sub>20</sub>                                 | [W]                                     | 26     | 20         | 26         | 25     | 36     | 30      | 38      | 40       | 50       | 63       | 82       | 100      | 127           | 165      | 162     |
| J <sub>B</sub>                                  | [lb-ft <sup>2</sup> x10 <sup>-3</sup> ] | 0.36   | 0.36       | 0.36       | 1.45   | 1.07   | 4.75    | 4.08    | 10.68    | 10.68    | 20.41    | 28.95    | 67.63    | 157.81        | 462.74   | 1067.86 |
| P <sub>R</sub>                                  | [hp]                                    | 0.11   | *          | 0.11       | *      | 0.13   | *       | 0.17    | *        | 0.21     | 0.27     | 0.34     | 0.40     | 0.47          | 0.54     | 0.60    |
| W <sub>Rmax</sub>                               | [cal <sub>15</sub> x10 <sup>4</sup> ]   | 7      | 7          | 7          | 18     | 14     | 29      | 29      | 57       | 60       | 84       | 119      | 179      | 251           | 358      | 478     |
| W <sub>RN</sub>                                 | [cal <sub>15</sub> x10 <sup>8</sup> ]   | 12     | 20         | 12         | 38     | 29     | 63      | 48      | 127      | 84       | 143      | 299      | 478      | 812           | 1003     | 1075    |
| a <sub>normal</sub>                             | [in]                                    | 0.01   | 0.01       | 0.01       | 0.01   | 0.01   | 0.01    | 0.01    | 0.01     | 0.01     | 0.01     | 0.02     | 0.02     | 0.02          | 0.02     | 0.02    |
| a <sub>max</sub>                                | [in]                                    | 0.02   | 0.02       | 0.02       | 0.02   | 0.03   | 0.02    | 0.03    | 0.03     | 0.04     | 0.04     | 0.04     | 0.04     | 0.05          | 0.05     | 0.07    |
| b <sub>min</sub>                                | [in]                                    | 0.18   | 0.18       | 0.18       | 0.22   | 0.22   | 0.30    | 0.30    | 0.31     | 0.37     | 0.45     | 0.49     | 0.57     | 0.65          | 0.65     | 0.83    |
| m                                               | [lb]                                    | 2.4    | 2.2        | 2.4        | 3.5    | 4.2    | 6.8     | 6.8     | 9.3      | 10.1     | 13.9     | 22       | 32       | 47            | 77       | 161     |
| t <sub>2=</sub>                                 | [ms]                                    | 35     | 45         | 35         | 57     | 45     | 76      | 60      | 115      | 80       | 120      | 160      | 200      | 220           | 300      | 320     |
| t <sub>1≈</sub>                                 | [ms]                                    | 70     | *          | 70         | *      | 95     | *       | 140     | *        | 175      | 210      | 280      | 350      | 500           | 800      | 3000    |
| t <sub>1=</sub>                                 | [ms]                                    | 30     | 28         | 30         | 31     | 45     | 47      | 60      | 53       | 75       | 90       | 120      | 150      | 180           | 200      | 160     |
| Fits on IEC motor frame size                    |                                         | 63, 71 | 63, 71, 80 | 63, 71, 80 | 80, 90 | 80, 90 | 90, 100 | 90, 100 | 100, 112 | 100, 112 | 112, 132 | 132, 160 | 160, 180 | 180, 200, 225 | 200, 225 | 250     |

\* on request

|                                           | Designation       | Unit                  |
|-------------------------------------------|-------------------|-----------------------|
| Rated torque of spring loaded brake       | T <sub>B</sub>    | [lb-in] / [Nm]        |
| Holding torque of the spring loaded brake | T <sub>BS</sub>   | [lb-in]               |
| Brake coil power consumption              | P <sub>20</sub>   | [W]                   |
| Brake moment of inertia                   | J <sub>B</sub>    | [lb-ft <sup>2</sup> ] |
| Friction performance                      | P <sub>R</sub>    | [hp]                  |
| Friction per switch cycle                 | W <sub>Rmax</sub> | [cal <sub>15</sub> ]  |
| Friction until readjustment               | W <sub>RN</sub>   | [cal <sub>15</sub> ]  |
| Air gap                                   | a                 | [in]                  |

|                               | Designation     | Unit |
|-------------------------------|-----------------|------|
| Minimum brake rotor thickness | b               | [in] |
| Mass of moved machine parts   | m               | [lb] |
| Engaging time                 | t <sub>1</sub>  | [ms] |
| Release time of brake         | t <sub>2</sub>  | [ms] |
| Output voltage DC rectifier   | U <sub>2=</sub> | [V]  |
| For DC switching              | =               | -    |
| For AC switching              | ≈               | -    |

## BR.. - Spring loaded brake

Degree of protection IP55.

|                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>BR..</b> Spring loaded brake without additional options</p> <p><b>Possible options:</b></p> <p><b>BRH..</b> With manual release</p> <p><b>BRHA..</b> With manual release and locking device</p> <p><b>BRR..</b> With corrosion protection IP55</p> <p><b>BRS..</b> With dust protection IP65</p> <p><b>BRSR..</b> With dust and corrosion protection IP65</p> <p><b>BRGD..</b> Low noise execution</p> |  | <p><b>Ordering examples:</b></p> <p><b>BR4</b> Brake 4 Nm (35 lb-in)</p> <p><b>BRHASRGD32</b> Brake 32 Nm (283 lb-in) with manual release, locking device, dust and corrosion protection and low noise execution</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

M

### BRM - Micro switch

When brake release monitoring is necessary, a micro switch (5) can be fitted to indicate brake release. This signal can be used to start the electric motor. When air gap “a” (see page 497) is at its maximum and the armature is no longer attracted to the magnet body the motor will not start and air gap “a” must be adjusted.

The installation of the micro switch is possible for brake sizes 5, 10, 20, 40, 60, 100, 150, 250, 400 and 1000.

### BRH.. - Manual release

The installation of the manual release is possible for brakes > 4 Nm (35 lb-in). The manual release (1) is necessary for manually releasing the brake in cases of power failure. Brakes will be supplied with manual releases fitted by factory. The adjustment of the manual release may not be changed, not even when air gap “a” (see page 497) is readjusted, as safety can be adversely affected.

### BRHA.. - Manual release with locking device

In case of service the manual release can be fastened with a locking device. Take care that in rated condition the brake is released (see illustration on page 502). The 0° position of the manual release with locking device is **only possible** with motor frame sizes 225 and 250.

### BRR.. - Corrosion protection

Protection class IP55. Consists of painted brake endshield and friction plate (3), which is made of non-corrosive material.

### BRS.. - Dust protection

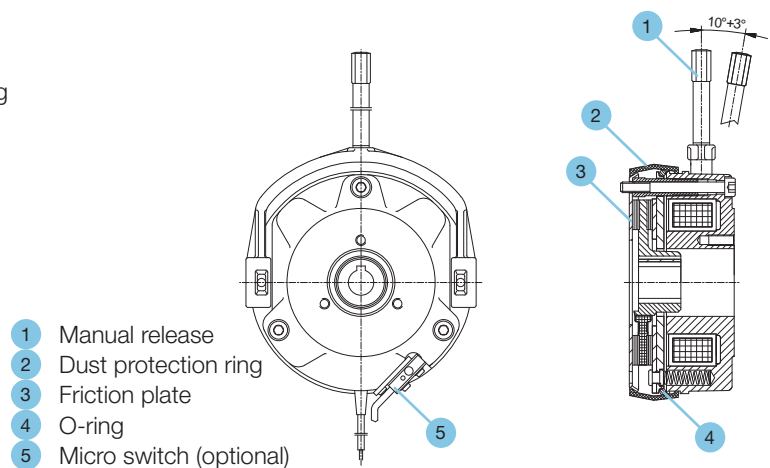
Protection class IP65. Consists of friction plate (3), which is made of non-corrosive material, dust protection ring (2) and shaft seal.

### BRSR.. - Corrosion and dust protection

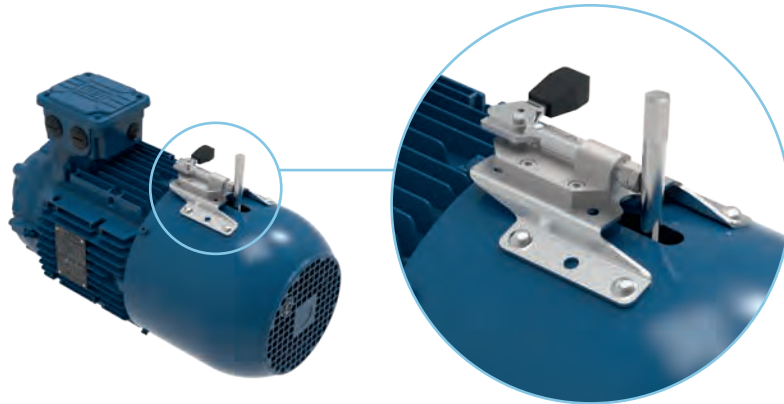
Protection class IP65. Consists of painted brake endshield, friction plate (3), which is made of a non-corrosive material, dust protection ring (2) and shaft seal.

### BRGD.. - Low noise execution

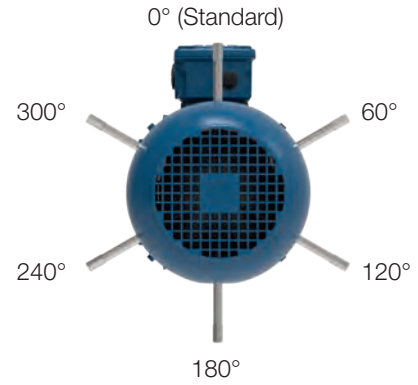
To reduce the switching noises of the spring loaded brake, the o-ring (4) can be inserted between armature plate and brake body.







Manual release with locking device (from brake size 4)



Possible positions of the manual release from the view of the motor fan cover. (The 0° position of the manual release with locking device is only possible with motor frame sizes 225 and 250.)

### BBRHGD.. - Double spring loaded brake

Double brakes (from motor frame size 71) are two specially designed low noise brakes working independently of each other meeting high demands on safety.

As option a micro switch (5) is monitoring the function of the brakes. The brakes are executed per default in low noise execution and with manual release.

|                                                                                                                                                                                                                          |   |                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>BBRHGD..</b> Double brake in low noise execution with manual release (standard)</p> <p><b>Possible options:</b></p> <p><b>BBRHSGD..</b> With dust protection IP65</p> <p><b>BBRGD..</b> Without manual release</p> | ➔ | <p><b>Ordering examples:</b></p> <p><b>BBRHGD6</b> Double brake<br/>2 x 6 Nm (53 lb-in) in low noise execution with manual release</p> <p><b>BBRHSGD187</b> Double brake<br/>2 x 187 Nm (1655 lb-in) in low noise execution with manual release and dust protection</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### BBRM - Micro switch

When brake release monitoring is necessary, a micro switch (5) can be fitted to indicate brake release.

This signal can be used to start the electric motor. When air gap "a" (see page 497) is at its maximum and the armature is no longer attracted to the magnet body the motor will not start and air gap "a" must be readjusted.

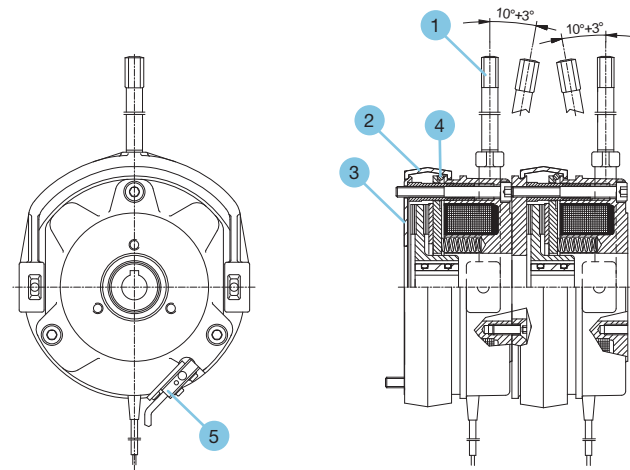
### BBRHSGD.. - Dust protection

Protection class IP65. Consists of friction plate (3), which is made of non-corrosive material, dust protection ring (2) and shaft seal.

### BBRHGD.. - Manual release

The manual release (1) for manually releasing of the brake in cases of power failure. Brakes will be supplied as a standard with manual release fitted by factory. The adjustment of the manual release may not be changed, not even when air gap "a" (see page 497) is readjusted, as security can be adversely affected.

Possible positions of the manual release see on page 502.



- 1 Manual release
- 2 Dust protection ring
- 3 Friction plate
- 4 O-ring
- 5 Micro switch (optional)



### BRGH - Totally enclosed spring loaded brake “heavy duty“

The fully encapsulated brake design with dust and waterproof cable glands is in accordance with protection degree IP66. On ventilated motor executions IC411 the shaft passage is sealed by seal rings. The brake is executed with manual release as a standard. On the brake disc a lining for high loads is fitted. Brake selection table see page 499.

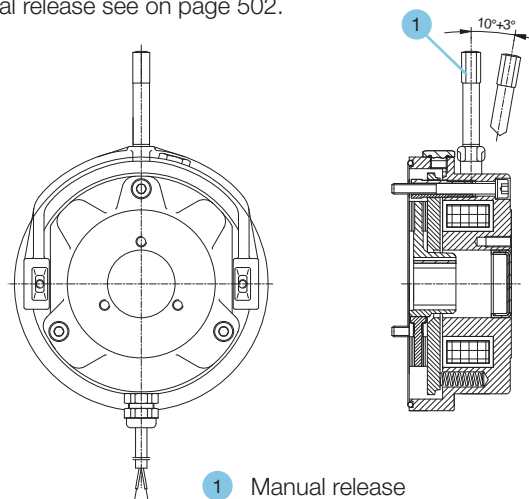
|                                                                                                                                                                                                                     |   |                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>BRGH..</b> Totally closed spring loaded brake with manual release</p> <p><b>Possible options:</b></p> <p><b>BRGHA..</b> With manual release and locking device</p> <p><b>BRG..</b> Without manual release</p> | ➔ | <p><b>Ordering examples:</b></p> <p><b>BRGH10</b> Brake 10 Nm (89 lb-in) with manual release</p> <p><b>BRGHA150</b> Brake 150 Nm (1328 lb-in) with manual release and locking device</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### BRGH.. - Manual release

The manual release (1) is necessary for manually releasing the brake in cases of power failure. Brakes will be supplied as a standard with manual release fitted by factory.

The adjustment of the manual release may not be changed, not even when air gap “a” (see page 497) is readjusted, as safety can be adversely affected.

Possible positions of the manual release see on page 502.



1 Manual release

#### Anti-condensation heater for brakes

When operating at conditions of extreme temperature changes or extreme climatic conditions, the windings are endangered from condensation water. The built-in anti-condensation heater warms up the magnet windings after switching off and prevents condensation inside the brake.

The anti-condensation heater must be supplied with a separate voltage.

Supply voltage 230 V (1~)

Voltage range: 220 - 230 V, 50/60 Hz

| Brake |         | Performance |
|-------|---------|-------------|
| [Nm]  | [lb-in] | [W]         |
| 10    | 89      | 16          |
| 20    | 177     | 29          |
| 40    | 354     | 33          |
| 60    | 531     | 35          |
| 100   | 885     | 48          |
| 150   | 1328    | 53          |
| 250   | 2213    | 70          |
| 400   | 3540    | 128         |
| 1000  | 8851    | 131         |

## Calculation of the brake torque

If the mass moment of inertia, the rotation speed and the permissible braking time of the machine are known, the torque of the spring loaded brake can be calculated.

|                                                                                                                                                                 | Formula                                                                                                                              | Unit                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Load moment (static load)                                                                                                                                       | $T_L = F \cdot r \cdot 12$                                                                                                           | [lb-in]                      |
| Braking torque (dynamic load)<br>There is a pure dynamic load if fly-wheels, rolls, etc. have to be slowed down and when the static load is very insignificant. | $T_a = 39 \cdot J_{zus} \cdot \frac{n}{t - t_1}$<br>$T_{aerf} = T_a \cdot K \leq T_B$                                                | [lb-in]                      |
| Braking torque (dynamic and static load)<br>in most applications there is also dynamic load in addition to static load.                                         | $T_{aerf} = (T_a \pm T_L) \cdot K$<br>$T_{aerf} = (39 \cdot J_{zus} \cdot \frac{n}{t - t_1} \pm T_L) \cdot K$<br>$T_{aerf} \leq T_B$ | [lb-in]                      |
| Estimated determination of braking torque                                                                                                                       | $T_{aerf} = 63025 \cdot \frac{P}{n} \cdot K$<br>$T_{aerf} \leq T_B$                                                                  | [lb-in]                      |
| Deceleration time                                                                                                                                               | $t = t_B + t_1$                                                                                                                      | [ms]                         |
| Acceleration time                                                                                                                                               | $t_A = \frac{J_{ges} \cdot n_1}{102.8 \cdot (T_A \pm T_L)} + t_2$<br>$J_{ges} = J_E + J_{zus}$                                       | [s]<br>[lb-ft <sup>2</sup> ] |
| Braking time                                                                                                                                                    | $t_B = \frac{J_{ges} \cdot n_1}{102.8 \cdot (T_A \pm T_L)}$<br>$J_{ges} = J_E + J_{zus}$                                             | [s]<br>[lb-ft <sup>2</sup> ] |
| The conversion of several mass moments of inertia with different rotation speeds in a mass moment of inertia reduced to the motor shaft                         | $J_{zus} = \frac{J_2 \cdot n_2^2 + J_3 \cdot n_3^2 \dots}{n_1^2}$                                                                    | [lb-ft <sup>2</sup> ]        |
| Conversion of straight-line moved machine parts into a corresponding J on the motor shaft                                                                       | $J = \frac{m \cdot v^2}{39.5 \cdot n_1^2}$                                                                                           | [lb-ft <sup>2</sup> ]        |
| Friction per switch cycle                                                                                                                                       | $W_R = \frac{J_{zus} \cdot n^2}{18128} \cdot \frac{T_B}{T_B \pm T_L}$<br>$W_R < W_{Rmax}$                                            | [cal <sub>15</sub> ]         |
| Friction performance                                                                                                                                            | $P_R = \frac{W_R \cdot S}{178}$<br>$P_R < P_{Rmax}$                                                                                  | [hp]                         |

| Designation   | Unit                  | Description                                                                                                                                                     |
|---------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| $T_L$         | [lb-in]               | Load moment<br>Sign + : when the load moment acts decelerating (lifts when going up)<br>Sign - : when the load moment acts accelerating (lifts when going down) |
| $T_{aerf}$    | [lb-in]               | Necessary braking torque                                                                                                                                        |
| $T_a$         | [lb-in]               | Braking torque                                                                                                                                                  |
| $T_A$         | [lb-in]               | Starting torque of motor                                                                                                                                        |
| $T_B$         | [lb-in]               | Rated torque of spring loaded brake                                                                                                                             |
| K             | -                     | Safety factor according to the operating conditions (1...3)                                                                                                     |
| F             | [lb]                  | Force                                                                                                                                                           |
| $F_I$         | -                     | Factor of inertia                                                                                                                                               |
| r             | [in]                  | Lever arm                                                                                                                                                       |
| m             | [lb]                  | Mass of moved machine parts                                                                                                                                     |
| $J, J_1, J_2$ | [lb-ft <sup>2</sup> ] | Mass moment of inertia                                                                                                                                          |
| $J_E$         | [lb-ft <sup>2</sup> ] | Proper mass moment of inertia                                                                                                                                   |
| $J_{ges}$     | [lb-ft <sup>2</sup> ] | Total mass moment of inertia                                                                                                                                    |
| $J_{mot}$     | [lb-ft <sup>2</sup> ] | Mass moment of inertia of the motor                                                                                                                             |

| Designation | Unit                  | Description                           |
|-------------|-----------------------|---------------------------------------|
| $J_{zus}$   | [lb-ft <sup>2</sup> ] | Additional mass moment of inertia     |
| K           | -                     | Safety factor $K \geq 2$              |
| P           | [hp]                  | Power                                 |
| $P_R$       | [hp]                  | Friction performance                  |
| $P_{Rmax}$  | [hp]                  | Maximum friction performance          |
| n           | [rpm]                 | Rotation speed                        |
| $n_1$       | [rpm]                 | Rotation speed of motor               |
| $n_2, n_3$  | [rpm]                 | Rotation speeds                       |
| t           | [ms]                  | Deceleration time                     |
| $t_A$       | [s]                   | Acceleration time                     |
| $t_B$       | [s]                   | Braking time                          |
| $t_1$       | [ms]                  | Engaging time                         |
| $t_2$       | [ms]                  | Release time of brake                 |
| v           | [fpm]                 | Speed                                 |
| $W_R$       | [cal <sub>15</sub> ]  | Friction work per switch cycle        |
| $W_{Rmax}$  | [cal <sub>15</sub> ]  | Permissible friction per switch cycle |
| S           | [s <sup>-1</sup> ]    | Number of switch cycle per second     |

## Rectifier

### Power supply

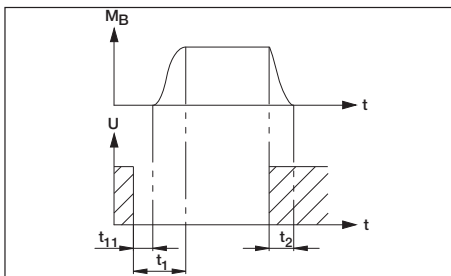
The DC-brake coil is normally supplied by a half wave rectifier incorporated in the motor terminal box and is also available for coil voltages 162-236 V DC, 85-133 V DC or 24 V DC (24 V with block terminal for external power supply!) Corresponding rectifiers and coil voltages are optionally available for all special voltages. The rectifiers are equipped with varistors to protect them against over-voltages.

If number of starts is more than 1/s, please contact us for rectifier loading capacity.

### Switching modes

By default, brake motors will be delivered with connected rectifier for AC-side switching. For DC-side switching the bridge between terminals 5 and 6 must be removed and a switching contact must be connected. Start-up of motor only with connecting brake.

- **AC-side switching** is executed before the rectifier on AC-side. Here the magnetic field is de-energized slowly, the brake interrupts softly with delay. (Release time  $t_{1\approx}$ )
- **DC-side switching** is executed between rectifier and coil. Thereby an extremely low degree of overrunning is achieved. For all gear units, which require exact braking, especially for lifting gears, a DC-side switching of the brake is absolutely required. (Release time  $t_{1=}$ )



|                                                                                     | Designation | Unit    |
|-------------------------------------------------------------------------------------|-------------|---------|
| Braking torque                                                                      | $T_B$       | [lb-in] |
| Voltage                                                                             | U           | [V DC]  |
| Engaging time                                                                       | $t_1$       | [ms]    |
| Response delay (time from switching power off until braking torque increases)       | $t_{11}$    | [ms]    |
| Release time (time from switching power on until braking torque begins to decrease) | $t_2$       | [ms]    |

### Rectifier selection

- *Half-wave and bridge rectifier*

The half wave rectifier which halves the supply voltage is the most cost effective. The bridge rectifier produces 90 % DC voltage from the AC supply voltage. Both rectifiers are available for switching on AC or DC side. Varistors in the input and output protect the rectifiers against surge voltages.

Half-wave rectifier:  $U_{2=} = 0.45 \times U_{1\sim}$   $I_{max} = 1 \text{ A}$

Bridge rectifier:  $U_{2=} = 0.9 \times U_{1\sim}$   $I_{max} = 2 \text{ A}$

- *Fast excitation rectifier*

For motor frame sizes 63-132 this rectifier can't be installed in the standard terminal box.

The high-speed rectifier uses special connections to make different direct voltages available on the terminals. This means that the following brake operating modes can be selected:

1. Rapid response: Brake voltage level equal to the holding voltage of the fast excitation rectifier: The ventilation time of the brake is reduced.
2. Power reduction: Brake voltage level equal to overexcitation voltage of the fast excitation rectifier: reduced performance losses in the brake coil, engage time of the brake is reduced.

Max. connection voltage:  $U_{1\sim} = 500 \text{ V AC}$

Max. permissible connections: 600 connections/h

Max. permissible switching capacity: 210 W

| Rectifier type | System                    | $U_N$ [V] | $I_N$ [A] |
|----------------|---------------------------|-----------|-----------|
| PMEAF500-S     | Half-wave rectifier       | 500       | 1         |
| PMBAF400-S     | Bridge rectifier          | 400       | 2         |
| PMG480-S       | Fast excitation rectifier | 500       | 2         |

|                                |                                                |                                  |                     |
|--------------------------------|------------------------------------------------|----------------------------------|---------------------|
| Overexcitation phase (voltage) | $T = 0 - 500 \text{ ms } (\pm 200 \text{ ms})$ | $U_{2=} = 0.9 \times U_{1\sim}$  | $I_N = 4 \text{ A}$ |
| Holding phase (voltage)        | $T > 500 \text{ ms}$                           | $U_{2=} = 0.45 \times U_{1\sim}$ | $I_N = 2 \text{ A}$ |



**Fields of application:**

- Drives for elevators and inclined lifts
- Pumps and fans with backpressure ratchet
- Geared motors for conveyors with non-reversing characteristic

**KKM - Backstop (ball bearing freewheel clutch)**

The elements have bearing characteristics and are used instead of the bearing on the fan side. The outer dimensions are identical to the deep-groove ball bearings.

▪ *Function*

Rolling elements and spring loaded clamping bodies are built in between the inner and outer ring. The rolling elements and ratchet elements are fixed in a plastic cage. Torque transmission is made by tight fits on the inner and outer ring. The elements are pre lubricated with grease and are maintenance-free for 10,000 to 20,000 hours under normal working conditions.

▪ *Mounting*

The KKM backstop will be mounted instead of the bearing on the non-driven side.

**RSM - Backstop (with centrifugal mechanism)**

Because the mounted backstops have no bearing properties, they are mounted directly near the non-drive bearing. Above the lifting speed the centrifugal elements are working contactless and so they are maintenance-free under normal conditions.

▪ *Mounting*

The centrifugal elements are mounted directly near the non-driven side bearing between bearing and fan under the fan cover. The inner ring of the backstop is connected to the motor shaft with a key DIN 6885-1.

▪ *Direction of rotation*

The direction of rotation has to be given when ordering.

▪ *Backstop direction*

Backstop direction when viewing the output shaft right or left.  
By turning the entire backstop system by 180°, the backstop direction can be reversed (applies only for RSM!).



**Backstop overview**

| IEC frame size | Backstop type | Torque [lb-in] | Motor length dimension (see from page 488) |
|----------------|---------------|----------------|--------------------------------------------|
| 63             | KKM           | 65             | LB                                         |
| 71             | KKM           | 119            | LB                                         |
| 80             | KKM           | 354            | LB                                         |
| 90             | KKM           | 602            | LB                                         |
| 100            | RSM           | 1328           | LB1                                        |
| 112            | RSM           | 1328           | LB1                                        |
| 132            | RSM           | 3452           | LB1                                        |
| 160            | RSM           | 5133           | LB1                                        |
| 180            | RSM           | 5133           | LB1                                        |
| 200            | RSM           | 9293           | LB1                                        |
| 225            | RSM           | 9293           | LB1                                        |
| 250            | RSM           | 18587          | LB1                                        |

## Encoder systems

- I. Encoder outside the fan cover
- S. Encoder inside the fan cover

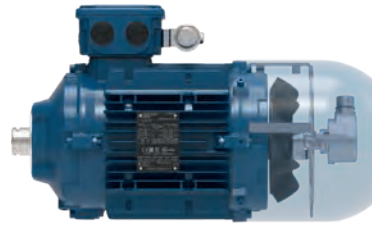
M



Encoder outside the fan cover



Standard position connector (M23)



Encoder inside the fan cover

### Modular design

We are using encoders with hollow shaft ( $\varnothing$  0.5 in) open at one end. The modular motor shafts are pre-machined to attach an encoder kit. The mounting of encoders is therefore easy and immediately possible. Add-on kits are easy to retrofit.

### Mounting of encoders

The encoders are equipped with an integral bearing and connected directly on the non-driven motor shaft side. During angular acceleration of the shaft the stator coupling must absorb only the torque resulting from friction in the bearing.

### IG, SG - Standard encoder

Available for IEC motor frame sizes 63 to 250 (IG) / 71 to 250 (SG)

Type: Kübler Sendix 5020

Pulses per revolution: 1024

Output signal: HTL or TTL

Voltage supply: 10-30 V at HTL, 5 V at TTL

Degree of protection: IP66

IG standard: with PIN connector (M23) on the encoder

SG standard: with PIN connector (M23) on the terminal box (mating connector not included in delivery)

Other numbers of pulses per revolution on request.

### IC, SC - SINCOS encoder

Available for IEC motor frame sizes 80 to 225 (IC) / 80 to 250 (SC)

Pulses per revolution: 1024

Output signal: Sinus 1VSS

Voltage supply: 10-30 V or 5 V

IC standard: with PIN connector (M23) on the encoder

SC standard: with PIN connector (M23) on the terminal box (mating connector not included in delivery)

Other numbers of pulses per revolution on request.

Encoders in standard mechanical designs can also be implemented as electric SINCOS versions. In this case, signals A and B are available on the output as sinusoidal voltage signals with a signal level of 1 VSS or one 0 pulse once per rotation. These can be used in many different ways in the downstream electronics. Via interpolation of the two signals shifted by  $90^\circ$ , very high resolutions are achieved and can therefore also be used with very slow movements for speed control.

### IR, SR - Resolver

Available for IEC motor frame sizes 71 to 200

Degree of protection: IP54 (IP66 on request)

IR standard: with 2 ft cable (open one way, 6 strands)

SR standard: with 2 ft cable (open one way, 6 strands)

Resolvers are primarily 2-pole, electromagnetic measuring transducers for converting the angle position of a rotor into an electrical value. Resolvers are wear-free and robust, as the most important elements for acquiring the information consist only of an iron core and copper coils. Contamination therefore plays a lesser role. The configuration consists of 2 stator coils positioned at an offset of 90° (S1/S3 and S2/S4) and a rotating rotor coil (R1/R2). In this process, the rotor coil supply is inductive, in other words, brushless. The R1/R2 rotor coil is excited using a sinusoidal alternating voltage. The amplitudes of the voltages induced in stator coils S1/S3 and S2/S4 depend on the rotor angle.

Input voltage:  $E_{(R1/R2)} = E \times \sin(\omega t)$

Output:  $E_{(S1/S3)} = T_r \times E_{(R1/R2)} \times \cos(\varphi)$   
 $E_{(S2/S4)} = T_r \times E_{(R1/R2)} \times \sin(\varphi)$

Standard input voltage:  $E_{(R1/R2)} = 7 \text{ V}$

Standard transformation ratio:  $T_r = 0.5$

### IS, SS - SSI multi turn encoder

Available for IEC motor frame sizes 71 to 250

Digits per revolution: 8192 at 4096 possible rotations

Output signal: TTL

Voltage supply: 5 V

Degree of protection: IP66

SS standard execution: with PIN connector on the terminal box

The SSI multiturn absolute encoder signals a precisely defined position to the drive frequency controller. Maximum permissible number of motor revolutions can be 4096. The resolution is 8192 steps per revolution. The serial communication is corresponding to the specification of the SSI-protocol. SSI means Synchronous Serial Interface.

The permissible cable length is at least 328 ft if EMC-compatible wiring is guaranteed.

### IV, SV - Heavy Duty encoder

Available for IEC motor frame sizes 90 to 250

Pulses per revolution: 1024

Output signal: HTL or TTL

Voltage supply: 10 - 30 V at HTL, 5 V at TTL

Degree of protection: IP65

Optional insulation inserts available to protect against shaft currents.

The Heavy Duty encoder boasts a high degree of ruggedness in a very compact design. Its special construction makes it perfect for all applications in very harsh environments.

### IA, SA - Special encoder

The mounting of special encoders is possible on request.

#### Type of signal

##### HTL-/TTL - output signal

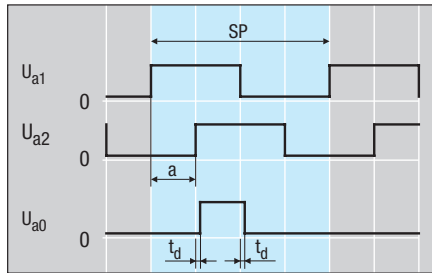
Encoders with HTL/TTL square-wave output signals incorporate a circuit that digitizes scanning signals, providing two 90° (el.) phase-shifted HTL-/TTL square-wave pulse trains  $U_{a1}$  and  $U_{a2}$  and a reference pulse  $U_{a0}$ , which is gated with the incremental signals  $U_{a1}$  and  $U_{a2}$ . The integrated electronics also generate the inverse signals of all square-wave pulse trains. The distance between two successive edges of the combined pulse trains  $U_{a1}$  and  $U_{a2}$  is one measuring step. HTL/TTL square-wave signals can be transmitted to the subsequent electronics (without inverting: max. cable length 328 ft; with inverting: 820 ft), provided that the specified  $5 \text{ V} \pm 5 \%$  supply voltage is maintained at the encoder. Extended cable length is possible with fiber-optic cable.

##### 1VPP - output signals

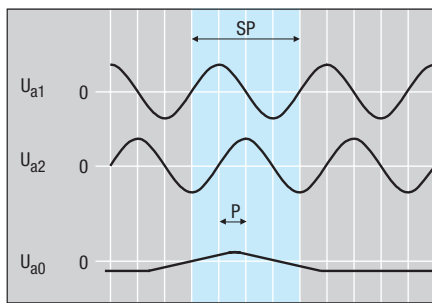
The sinusoidal incremental signals  $U_{a1}$  and  $U_{a2}$  are phase-shifted by 90° and have signal levels of approximately 1VPP. The signal peaks from the reference mark signal have a usable component of approximately 0.5 V. Signal interpolation and digitalization can be performed by electronics, which output TTL-compatible signals.

Voltage signals can be transmitted to the subsequent electronics unit over cables as long as 164 ft, provided that the specified  $5\text{ V} \pm 5\%$  supply voltage is maintained at the encoder. Encoders that produce voltage signals have sensor line connections for detection of the supply voltage at the encoder; corresponding control systems in the subsequent electronics can then maintain the voltage tolerance.

M



HTL/TTL



1VSS

#### HTL signal levels

$$U_H \geq 2.1\text{ V at } I_H = 20\text{ mA}$$

$$U_L \leq 2.8\text{ V at } I_L = 20\text{ mA}$$

with power supply +24 V, without cable

#### TTL signal levels

$$U_H \geq 2.5\text{ V at } I_H = 20\text{ mA}$$

$$U_L \leq 0.5\text{ V at } I_L = 20\text{ mA}$$

|                              | Designation      |
|------------------------------|------------------|
| Encoder signals              | $U_{a1}, U_{a2}$ |
| Reference pulse              | $U_{a0}$         |
| Signal level HIGH            | $U_H$            |
| Signal level LOW             | $U_L$            |
| Edge separation              | $a$              |
| Phase shift                  | $P$              |
| Current at signal level HIGH | $I_H$            |
| Current at signal level LOW  | $I_L$            |
| Signal period                | $SP$             |
| Delay time                   | $t_d$            |



## Ventilation systems

|           |                                      |
|-----------|--------------------------------------|
| <b>FL</b> | Forced ventilation                   |
| <b>ZL</b> | Fly wheel fan                        |
| <b>ZM</b> | Metal fan                            |
| <b>U</b>  | Non-ventilated without NDE shaft end |
| <b>UW</b> | Non-ventilated with NDE shaft end    |

### FL - Forced ventilation (TEFV, IC416)

IEC frame sizes: 63 to 250

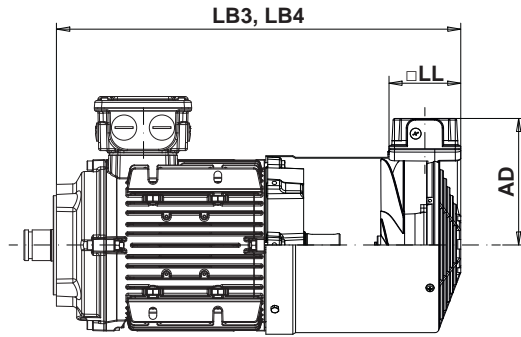
At applications with high starting frequencies, starts against heavy masses, heavy alternating load and operations with frequency inverters, self ventilation of the motor sometimes will not be sufficient and forced ventilation is necessary.

At frequencies under 30 Hz forced ventilation is recommended in order to not thermally overstrain the motor.

### Forced ventilation currents

| IEC frame size | Phases Connection | Capacitor<br><br>μF | 60 Hz         |                 |                 |                      |             |
|----------------|-------------------|---------------------|---------------|-----------------|-----------------|----------------------|-------------|
|                |                   |                     | Voltage range | Current         | Power           | Air current capacity | Noise level |
|                |                   |                     | V             | A <sup>1)</sup> | W <sup>1)</sup> | cfm                  | dB(A)       |
| 63             | 3~Y               | -                   | 380-575       | 0.08            | 29              | 41                   | 52          |
|                | 3~Δ               | -                   | 220-332       | 0.14            | 29              |                      |             |
|                | 1~1Δ              | 1.5                 | 230-277       | 0.21            | 54              |                      |             |
| 71             | 3~Y               | -                   | 380-575       | 0.07            | 28              | 58                   | 56          |
|                | 3~Δ               | -                   | 220-332       | 0.13            | 28              |                      |             |
|                | 1~1Δ              | 1.5                 | 230-277       | 0.21            | 56              |                      |             |
| 80             | 3~Y               | -                   | 380-575       | 0.07            | 36              | 89                   | 58          |
|                | 3~Δ               | -                   | 220-332       | 0.13            | 36              |                      |             |
|                | 1~1Δ              | 1.5                 | 230-277       | 0.22            | 59              |                      |             |
| 90             | 3~Y               | -                   | 380-575       | 0.18            | 71              | 152                  | 63          |
|                | 3~Δ               | -                   | 220-332       | 0.32            | 71              |                      |             |
|                | 1~1Δ              | 3.0                 | 220-277       | 0.23            | 61              |                      |             |
| 100            | 3~Y               | -                   | 380-575       | 0.18            | 80              | 193                  | 65          |
|                | 3~Δ               | -                   | 220-332       | 0.30            | 80              |                      |             |
|                | 1~1Δ              | 3.0                 | 220-277       | 0.28            | 73              |                      |             |
| 112            | 3~Y               | -                   | 380-575       | 0.17            | 93              | 246                  | 66          |
|                | 3~Δ               | -                   | 220-332       | 0.29            | 93              |                      |             |
|                | 1~1Δ              | 3.0                 | 220-277       | 0.36            | 88              |                      |             |
| 132            | 3~Y               | -                   | 380-575       | 0.32            | 180             | 383                  | 71          |
|                | 3~Δ               | -                   | 220-332       | 0.55            | 180             |                      |             |
|                | 1~1Δ              | 6.0                 | 230-277       | 0.61            | 163             |                      |             |
| 160            | 3~Y               | -                   | 380-575       | 0.62            | 391             | 683                  | 77          |
|                | 3~Δ               | -                   | 220-332       | 1.08            | 391             |                      |             |
|                | 1~1Δ              | 12                  | 230-277       | 1.52            | 390             |                      |             |
| 180            | 3~Y               | -                   | 380-575       | 0.62            | 391             | 812                  | 80          |
|                | 3~Δ               | -                   | 220-332       | 1.08            | 391             |                      |             |
|                | 1~1Δ              | 12                  | 230-277       | 1.52            | 390             |                      |             |
| 200            | 3~Y               | -                   | 380-575       | 0.62            | 391             | 927                  | 81          |
|                | 3~Δ               | -                   | 220-332       | 1.08            | 391             |                      |             |
|                | 1~1Δ              | 12                  | 230-277       | 1.52            | 390             |                      |             |
| 225            | 3~Y               | -                   | 380-575       | 0.62            | 391             |                      |             |
|                | 3~Δ               | -                   | 220-332       | 1.08            | 391             |                      |             |
|                | 1~1Δ              | 12                  | 230-277       | 1.52            | 390             |                      |             |
| 250            | 3~Y               | -                   | 380-575       | 0.62            | 391             |                      |             |
|                | 3~Δ               | -                   | 220-332       | 1.08            | 391             |                      |             |
|                | 1~1Δ              | 12                  | 230-277       | 1.52            | 390             |                      |             |

1) maximum permissible values



| IEC frame size | AD   | □LL  |
|----------------|------|------|
| 63             | 4.65 | 4.13 |
| 71             | 4.88 | 4.13 |
| 80             | 5.28 | 4.13 |
| 90             | 5.63 | 4.13 |
| 100            | 5.98 | 4.13 |
| 112            | 6.46 | 4.13 |
| 132            | 7.28 | 4.13 |
| 160            | 8.31 | 4.13 |
| 180            | 8.31 | 4.13 |
| 200            | 8.31 | 4.13 |
| 250            | 8.31 | 4.13 |

Dimensions in inch.  
Dimensions LB3 and LB4 see drawings from page 488

### ZL - Fly wheel fan

IEC frame size: 71 to 132 (special execution)

Fly wheel fans increase the inertial moment of the standard motors by a multiple and help to decrease the start up time of the motors. Motors with fly wheel fan are often used with crane drives or machine-systems where a soft start up is required. Available for motor sizes 71 to 132 on request, exchangeable without modification with standard fan, pay attention to the reduced starting frequency! Braking by reversal and driving up against a buffer stop is not permissible.

Motor without brake:  $J_{ges} = J_{mot} + J_{ZL}$

Brake motor:  $J_{ges} = J_{mot} + J_{ZL} + J_B$

|                              | Designation | Unit                  |
|------------------------------|-------------|-----------------------|
| Total mass moment of inertia | $J_{ges}$   | [lb-ft <sup>2</sup> ] |
| Mass moment of motor         | $J_{mot}$   | [lb-ft <sup>2</sup> ] |
| Mass moment of brake         | $J_B$       | [lb-ft <sup>2</sup> ] |
| Mass moment of fly wheel fan | $J_{ZL}$    | [lb-ft <sup>2</sup> ] |
| Weight of fly wheel fan      | m           | [lb]                  |

| IEC frame size | $J_{ZL}$<br>[lb-ft <sup>2</sup> ] x 10 <sup>-3</sup> | m<br>[lb] |
|----------------|------------------------------------------------------|-----------|
| 71             | 47.5                                                 | 2.9       |
| 80             | 47.5                                                 | 2.9       |
| 90             | 71.2                                                 | 3.5       |
| 100            | 237.3                                                | 7.3       |
| 112            | 237.3                                                | 7.3       |
| 132            | 332.2                                                | 8.4       |

### ZM - Metal fan

IEC frame size: 63 to 250

For ambient temperatures which are less than or greater than the operation temperatures of the standard plastic fan, the ventilation can be provided via a metal fan. These can be manufactured from aluminium, steel plate or cast iron. Using a metal fan can be appropriate in the event of difficult climatic conditions.

### U - Non-ventilated without NDE shaft end (TENV)

IEC frame size: 63 to 250

In this version, there is no fan or fan cover. The NDE is completely enclosed. A cover plate is used as the sealing component. This prevents dirt, water, etc. from entering the motor.



### UW - Non-ventilated with NDE shaft end (TENV)

IEC frame size: 63 to 250

This design is realized by omitting the fan. The standard fan cover is used as contact protection for the remaining NDE rotating shaft. Motors of these designs are intended for use in systems where fans or fan covers integrated into the motor are not appropriate due to the environmental conditions, for design reasons or at the customer's request. The motors are therefore designed without integrated fans or fan covers.

In the non-ventilated version, the resulting reduction in nominal motor output must be observed!



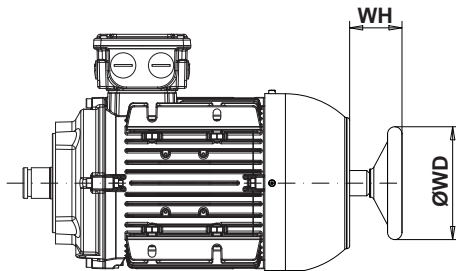
## Additional modules

|            |                                 |
|------------|---------------------------------|
| <b>HR</b>  | Hand wheel                      |
| <b>SD</b>  | Protection cap                  |
| <b>ID</b>  | Protection cap for encoders     |
| <b>ZWM</b> | Second shaft end - module shaft |
| <b>ZWV</b> | Second shaft end - solid shaft  |

### HR - Hand wheel

IEC frame sizes: 71 to 250

By using a second shaft end it is possible to fit a hand wheel.



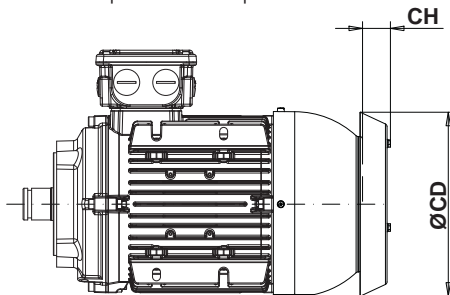
| IEC frame size | ØWD  | WH   |
|----------------|------|------|
| 71             | 4.92 | 2.01 |
| 80             | 4.92 | 2.01 |
| 90             | 4.92 | 2.01 |
| 100            | 4.92 | 2.01 |
| 112            | 4.92 | 2.01 |
| 132            | 7.87 | 2.36 |
| 160            | 7.87 | 2.36 |
| 180            | 7.87 | 2.36 |
| 200            | 7.87 | 2.36 |
| 225            | 7.87 | 2.36 |
| 250            | 7.87 | 2.36 |

Dimensions in inch.

### SD - Protection cap

IEC frame sizes: 63 to 250

When installed vertically with the shaft downward, e.g. IM V1, the air intake opening can be protected against water and foreign substance by means of a protective cap.



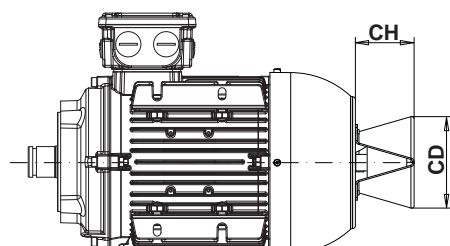
| IEC frame size | ØCD   | CH   |
|----------------|-------|------|
| 63             | 4.88  | 0.79 |
| 71             | 5.47  | 0.79 |
| 80             | 6.18  | 0.79 |
| 90             | 6.93  | 0.79 |
| 100            | 7.76  | 1.26 |
| 112            | 8.62  | 1.38 |
| 132            | 10.0  | 1.38 |
| 160            | 10.47 | 2.05 |
| 180            | 12.20 | 2.24 |
| 200            | 14.96 | 2.64 |
| 225            | 16.81 | 2.83 |
| 250            | 16.81 | 2.83 |

Dimensions in inch.

### ID - Protection cap for encoders

IEC frame sizes: 90 to 250

If mounted outside the fan cover, the encoder may be protected against foreign matter and other external influence by a separate protection cap.



| Protection cap for    | CD   | CH   |
|-----------------------|------|------|
| IG standard encoder   | 2.91 | 4.57 |
| IV Heavy Duty encoder | 4.53 | 7.20 |

Dimensions in inch.

## ZW. - Second shaft end

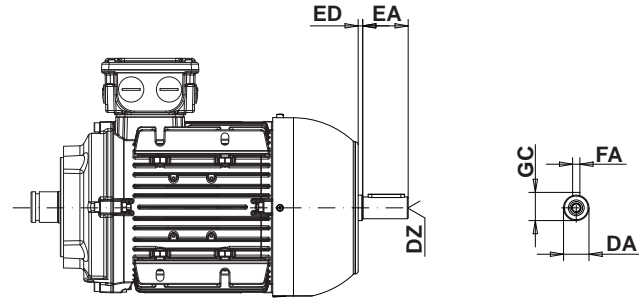
Motors with or without brake can be supplied with a second free shaft end.

### ZWM: Module shaft

IEC frame sizes: 71 to 250. This shaft end can be used to transfer half the rated output of the motor.

### ZWV: Solid shaft

IEC frame sizes: 63 to 200. Available on request.



| IEC frame size    | DA   | DZ <sup>2)</sup> | EA   | ED   | FA   | GC   |
|-------------------|------|------------------|------|------|------|------|
| 63 <sup>1)</sup>  | 0.43 | M4               | 0.91 | -    | 0.16 | 0.49 |
| 71                | 0.55 | M5               | 1.18 | 0.20 | 0.20 | 0.63 |
| 80                | 0.55 | M5               | 1.18 | 0.20 | 0.20 | 0.63 |
| 90                | 0.75 | M6               | 1.57 | 0.20 | 0.24 | 0.85 |
| 100               | 0.94 | M8               | 1.97 | 0.20 | 0.31 | 1.06 |
| 112               | 0.94 | M8               | 1.97 | 0.20 | 0.31 | 1.06 |
| 132               | 1.10 | M10              | 2.36 | 0.20 | 0.31 | 1.22 |
| 160               | 1.50 | M12              | 3.15 | 0.20 | 0.39 | 1.61 |
| 180               | 1.50 | M12              | 3.15 | 0.20 | 0.39 | 1.61 |
| 200               | 1.50 | M12              | 3.15 | 0.20 | 0.39 | 1.61 |
| 225 <sup>2)</sup> | 1.50 | M12              | 3.15 | 0.20 | 0.39 | 1.61 |
| 250 <sup>2)</sup> | 1.50 | M12              | 3.15 | 0.20 | 0.39 | 1.61 |

| Tolerances     |                                                  |    |
|----------------|--------------------------------------------------|----|
| Dimension name | ISO tolerance DIN EN ISO 286-2                   |    |
| DA             | ≤ Ø 30 mm (1.181 in)                             | j6 |
|                | > Ø 30 mm (1.181 in)<br>up to Ø 50 mm (1.969 in) | k6 |

Dimensions in inch. <sup>1)</sup> ZWV only <sup>2)</sup> center hole with thread according to DIN 332-1

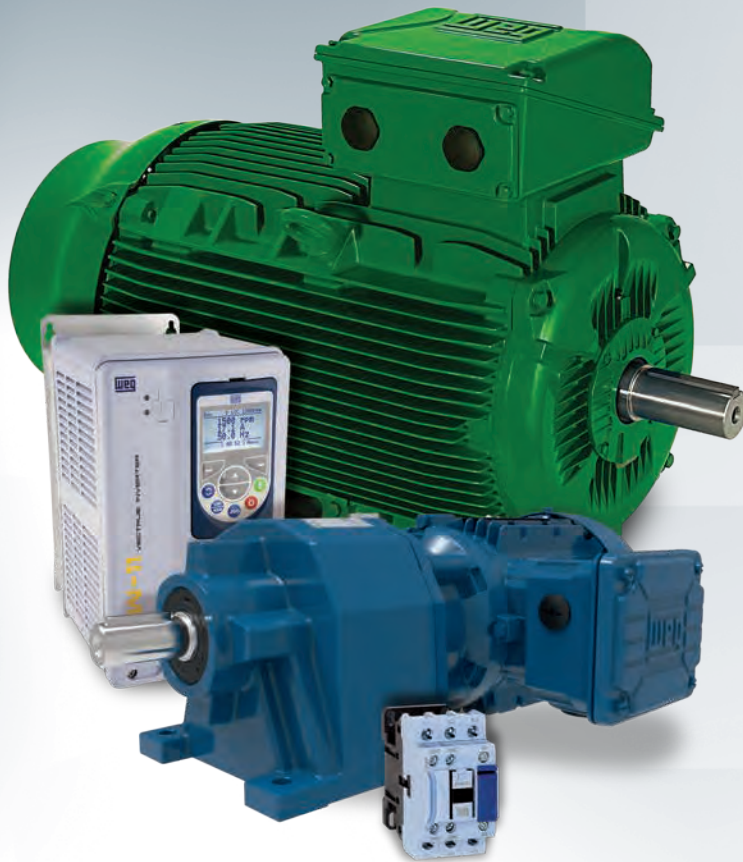
## Standards

The motors comply with the competent standards and specifications, especially with the following:

| Title                                                                                                                                      | Code                     |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------|
| <b>NEMA</b>                                                                                                                                |                          |                  |
| Motor and Generators                                                                                                                       | CSA C22.2 No. 100-04     |                  |
| Test methods, marking requirements and energy efficiency levels for three-phase induction motors                                           | CSA C390                 |                  |
| IEEE standard test procedure for polyphase induction motors and generators                                                                 | IEEE STD 112             |                  |
| Motors and Generators                                                                                                                      | NEMA MG-1                |                  |
| Rotating electrical machines - general requirements                                                                                        | UL 1004-1                |                  |
| <b>IEC</b>                                                                                                                                 |                          |                  |
| Rotating electrical machines<br>Rating and performance                                                                                     | IEC 60034-1<br>IEC 60085 | DIN EN 60034-1   |
| Standard methods for determining losses and efficiency from tests<br>(excluding machines for traction vehicles)                            | IEC 60034-2-1            | DIN EN 60034-2-1 |
| Degrees of protection provided by integral design of rotating electrical machines (IP Code)                                                | IEC 60034-5              | DIN EN 60034-5   |
| Methods of cooling (IC Code)                                                                                                               | IEC 60034-6              | DIN EN 60034-6   |
| Classification of types of construction, mounting arrangements and terminal box position (IM Code)                                         | IEC 60034-7              | DIN EN 60034-7   |
| Terminal markings and direction of rotation                                                                                                | IEC 60034-8              | DIN EN 60034-8   |
| Noise limits                                                                                                                               | IEC 60034-9              | DIN EN 60034-9   |
| Starting performance of single-speed three-phase cage induction motors                                                                     | IEC 60034-12             | DIN EN 60034-12  |
| Mechanical vibration of certain machines with shaft heights 56 mm and higher -<br>measurement, evaluation and limits of vibration severity | IEC 60034-14             | DIN EN 60034-14  |
| Dimensions and output series for rotating electrical machines                                                                              | IEC 60072-1              | DIN EN 50347     |
| Thermal protection                                                                                                                         | IEC 60034-11             | DIN EN 60034-11  |
| CENELEC standard voltages                                                                                                                  | IEC 60038                | DIN EN 60038     |

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Data and illustrations given are subject to change without notice.