

RUBIX

eVOX INCLUDED
PLATFORM

C-A-F-S SERIES

IE2-IE3

Helical gear units C

Helical bevel gear units A  INCLUDED

Shaft mounted gear units F

Single stage gearboxes S

 **Bonfiglioli**



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Revisions

Refer to page 680 for the catalogue revision index. Visit www.bonfiglioli.com to search for catalogues with up-to-date revisions.



GENERAL INFORMATION

1 SYMBOLS AND UNITS OF MEASURE

| Symbols | Units of Measure | Description | Symbols | Units of Measure | Description |
|-------------|----------------------|--|-------------|------------------|---|
| $A_{N 1,2}$ | [N] | Permissible axial force | $P_{1,2}$ | [kW] | Power |
| f_s | – | Service factor | $P_{N 1,2}$ | [kW] | Rated power |
| f_T | – | Thermal factor | $P_{R 1,2}$ | [kW] | Power demand |
| f_{TP} | – | Temperature factor | $R_{C 1,2}$ | [N] | Calculated radial force |
| i | – | Gear ratio | $R_{N 1,2}$ | [N] | Permissible overhung load |
| l | – | Cyclic duration factor | S | – | Safety factor |
| J_C | [Kgm ²] | Mass moment of inertia to be driven | t_a | [°C] | Ambient temperature |
| J_M | [Kgm ²] | Motor mass moment of inertia | t_s | [°C] | Surface temperature |
| J_R | [Kgm ²] | Mass moment of inertia for the gear unit | t_o | [°C] | Oil temperature |
| K | – | Mass acceleration factor | t_f | [min] | Work time under constant load |
| K_T | – | Transmission element factor | t_r | [min] | Rest time |
| $M_{1,2}$ | [Nm] | Torque | η_d | – | Dynamic efficiency |
| $M_{c 1,2}$ | [Nm] | Calculated torque | η_s | – | Static efficiency |
| $M_{n 1,2}$ | [Nm] | Rated torque | φ | ['] | Output shaft angular backlash (with locked input shaft) |
| $M_{r 1,2}$ | [Nm] | Torque demand | | | |
| $n_{1,2}$ | [min ⁻¹] | Speed | | | |

₁ value applies to input shaft
₂ value applies to output shaft



The symbol shows the page the information can be sorted from.



This symbol refers to the angle the overhung load applies (viewing from drive end).



DANGER - WARNING
This symbol indicates situations of danger, which if ignored, may result in serious injury to the operator.



Symbol refers to weight of gearmotors and speed reducers.
Figure for gearmotors incorporates the weight of the 4-pole motor and for life lubricated units, where applicable, the weight of the oil.



IMPORTANT
This symbol indicates important technical information.



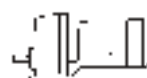
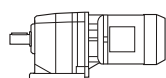
Apply to equipment complying with "ATEX" Directive.

Series C

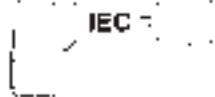
Series A

Series F

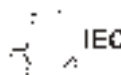
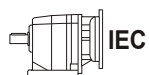
Series S



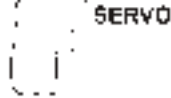
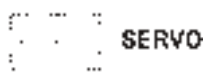
Gearmotor with compact motor.



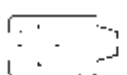
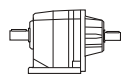
Gearmotor with IEC motor.



Gear unit with IEC motor interface.



Gear unit with servomotor input adapter.




Speed reducer with solid input shaft.




2 ALLOWED TEMPERATURE LIMITS

| Symbols | Description / Condition | Value (*) | |
|----------------------|---|---------------|-------------------|
| | | Synthetic Oil | Mineral Oil |
| t_a | Ambient temperature | | |
| $t_{au \text{ min}}$ | Minimum operating ambient temperature | -30°C | -10°C |
| $t_{au \text{ Max}}$ | Maximum operating ambient temperature | +50°C | +40°C |
| $t_{as \text{ min}}$ | Minimum storage ambient temperature | -40°C | -10°C |
| $t_{as \text{ Max}}$ | Maximum storage ambient temperature | +50°C | +50°C |
| t_s | Surface temperature | | |
| $t_{s \text{ min}}$ | Minimum gearbox surface temperature starting with partial load (#) | -25°C | -10°C |
| $t_{sc \text{ min}}$ | Minimum gearbox surface temperature starting with full load | -10°C | -5°C |
| $t_{s \text{ Max}}$ | Maximum casing surface temperature during continuous operation (measured next to the gearbox input) | +100°C | +100°C (@) |
| t_o | Oil temperature | | |
| $t_{o \text{ Max}}$ | Maximum oil temperature during continuous operation | +95°C | +95°C (@) |

(*) = Refer to the table "Selection of the optimal oil viscosity" for further information about minimum and maximum values of different oil viscosity. For values of $t_a < -20^\circ\text{C}$ and $t_s, t_o > 80^\circ\text{C}$, choose (as permitted in the product configuration stage) the sealing type of the most suitable material to the type of application. If needed contact Bonfiglioli Technical Service. 

(@) = Continuous operation it is not advised if t_s and t_o range is 80°C to 95°C .

(#) = For full load start-up it is recommended to ramp-up and provide for greater absorption of the motor. If needed, contact Bonfiglioli Technical Service. 



3 TORQUE

3.1 Rated torque M_{n2} [Nm]

The torque that can be transmitted continuously through the output shaft, with the gear unit operated under a service factor $f_s = 1$.
Rating is speed sensitive.

3.2 Required torque M_{r2} [Nm]

The torque demand based on application requirement.
It must always be equal to or less than torque M_{n2} the gearbox under study is rated for.

3.3 Calculated torque M_{c2} [Nm]

Computational torque value to be used when selecting the gearbox. It is calculated considering the required torque M_{r2} and service factor f_s , as per the equation here after:

$$M_{c2} = M_{r2} \cdot f_s < M_{n2} \quad (1)$$

4 POWER

4.1 Rated power P_{n1} [kW]

In the gearbox selection charts this is the power applicable to input shaft, based on input speed n_1 and corresponding to service factor $f_s = 1$.



5 THERMAL CAPACITY P_t [kW]

The following indications are valid for C, F and S gearboxes. For the thermal verification of the A gearboxes, refer to the indications in paragraph 48 (valid both for standard and ATEX products).


P_t is the power that can be transmitted through the gear unit, under a continuous duty and an ambient temperature of 20 °C, without resulting into damage of the inner parts or degradation of the lubricant properties. Refer to chart (A1) for specific kW ratings.


In case of intermittent duty, or an operating ambient temperature other than the rated 20°C, the P_t value should be adjusted through the factor f_t , obtained from chart (A2), as per the following equation:


$$P_t = P_t \times f_t$$

Gear units featuring more than 2 reductions and/or a gear ratio greater than $i = 45$ do not normally require the thermal limit to be checked as in these cases the thermal rating usually exceeds the mechanical rating.

(A 1)

| P_t [kW] 20 °C | | |
|---|-------------------------------|-------------------------------|
|  | $n_1 = 1400 \text{ min}^{-1}$ | $n_1 = 2800 \text{ min}^{-1}$ |
| C 05 2 | — | — |
| C 12 2 | — | — |
| C 22 2 | — | — |
| C 32 2 | — | 4.5 |
| C 36 2 | 6.5 | 5.0 |
| C 41 2 | 8.0 | 6.0 |
| C 51 2 | 11.0 | 7.8 |
| C 61 2 | 14.0 | 10.0 |
| C 70 2 | 21 | 16.0 |
| C 80 2 | 32 | 24 |
| C 90 2 | 43 | 32 |
| C 100 2 | 59 | 42 |

| P_t [kW] 20 °C | | |
|---|-------------------------------|-------------------------------|
|  | $n_1 = 1400 \text{ min}^{-1}$ | $n_1 = 2800 \text{ min}^{-1}$ |
| F 10 2 | 3.8 | 2.7 |
| F 20 2 | 9.1 | 6.5 |
| F 25 2 | 10.2 | 7.4 |
| F 31 2 | 11.7 | 8.5 |
| F 41 2 | 14.3 | 10.4 |
| F 51 2 | 21.5 | 15.0 |
| F 60 3 | 26.0 | 18.9 |
| F 70 3 | 36.4 | 26.0 |
| F 80 3 | 52 | 36 |
| F 90 3 | 75 | 53 |

| P_t [kW] 20 °C | | |
|---|-------------------------------|-------------------------------|
|  | $n_1 = 1400 \text{ min}^{-1}$ | $n_1 = 2800 \text{ min}^{-1}$ |
| S 10 1 | 5.5 | 4.9 |
| S 20 1 | 7.8 | 7.2 |
| S 30 1 | 10.0 | 9.1 |
| S 40 1 | 15.6 | 14.3 |
| S 50 1 | 21 | 18.9 |



(A 2)

| | | f_t | | | |
|------------|-----------------|-------------------------------|-----|-----|-----|
| t_a [°C] | Continuous duty | Intermittent duty | | | |
| | | Degree of intermittence [I] | | | |
| | | 80% | 60% | 40% | 20% |
| 40 | 0.80 | 1.1 | 1.3 | 1.5 | 1.6 |
| 30 | 0.85 | 1.3 | 1.5 | 1.6 | 1.8 |
| 20 | 1.0 | 1.5 | 1.6 | 1.8 | 2.0 |
| 10 | 1.15 | 1.6 | 1.8 | 2.0 | 2.3 |

Where cyclic duration factor (I)% is the relationship of operating time under load t_f to total time ($t_f + t_r$) expressed as a percentage.

$$I = \frac{t_f}{t_f + t_r} \cdot 100 \quad (2)$$

The condition to be verified is:

$$P_{r1} \leq P_t \times f_t \quad (3)$$

6 EFFICIENCY

6.1 Dynamic efficiency η_d

Obtained from the relationship of delivered power P_2 to input power P_1 , according to the following equation:

$$\eta_d = \frac{P_2}{P_1} \cdot 100 \quad [\%] \quad (4)$$

(A 3)

| | | | | | | | |
|----------|-----|-----|-----|----------|-----|-----|-----|
| | 2 x | 3 x | 4 x | | 2 x | 3 x | 4 x |
| η_d | 95% | 93% | 90% | η_d | 94% | 91% | 89% |
| | 2 x | 3 x | 4 x | | 1 x | | |
| η_d | 95% | 93% | 90% | η_d | 98% | | |



7 GEAR RATIO i

The value for the gear ratio is referred to with the letter [i] and calculated through the relationship of the input speed n_1 to the output speed n_2 :

$$i = \frac{n_1}{n_2} \quad (5)$$

The gear ratio is usually a decimal number which in this catalogue is truncated at one digit after the comma (no decimals for $i > 1000$).

If interested in knowing the exact value see also chapters "EXACT RATIOS".

8 ANGULAR VELOCITY

8.1 Input speed n_1 [min⁻¹]

The speed is related to the prime mover selected. Catalogue values refer to speed of either single or double speed motors that are common in the industry.

If the gearbox is driven by an external transmission it is recommended to operate it with a speed of 1400 min⁻¹, or lower, in order to optimise operating conditions and lifetime.

Higher input speeds are permitted, however in this case consider that torque rating M_{n2} is affected adversely.

Please consult a Bonfiglioli representative.

8.2 Output speed n_2 [min⁻¹]

The output speed value n_2 is calculated from the relationship of input speed n_1 to the gear ratio i , as per the following equation:

$$n_2 = \frac{n_1}{i} \quad (6)$$

9 MOMENT OF INERTIA J_r [Kgm²]

Moments of inertia specified in the catalogue refer to the gear unit input axis.

They are therefore related to motor speed, in the case of direct motor mounting.



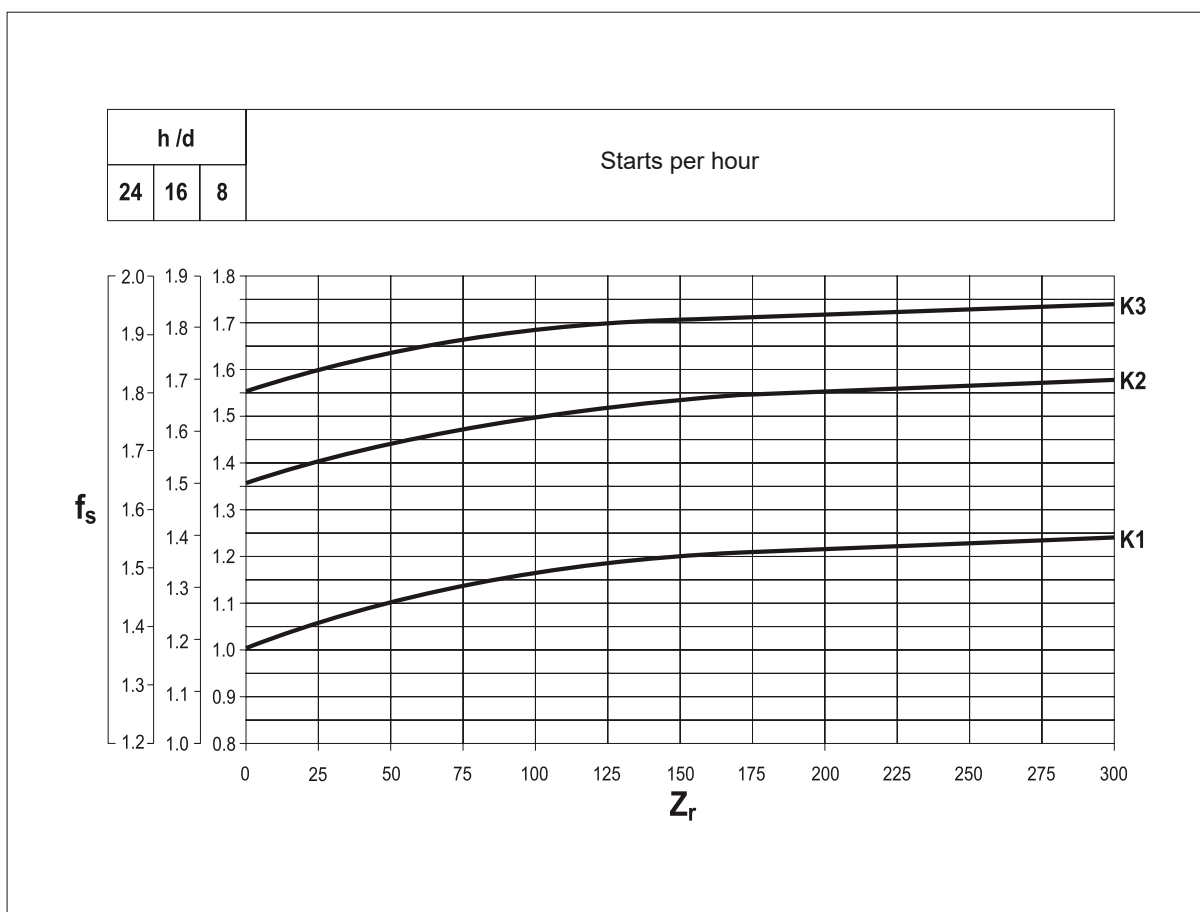
10 SERVICE FACTOR f_s

This factor is the numeric value describing reducer service duty. It takes into consideration, with unavoidable approximation, daily operating conditions, load variations and overloads connected with reducer application.

In the graph (A4) below, after selecting proper “daily working hours” column, the service factor is given by intersecting the number of starts per hour and one of the K1, K2 or K3 curves.

K _ curves are linked with the service nature (approximately: uniform, medium and heavy) through the acceleration factor of masses K , connected to the ratio between driven masses and motor inertia values. Regardless of the value given for the service factor, we would like to remind that in some applications, which for example involve lifting of parts, failure of the reducer may expose the operators to the risk of injuries. If in doubt, please contact our Technical Service Department.

(A 4)



10.1 Acceleration factor of masses K

This parameter serves for selecting the right curve for the type of load.

The value is given by the following ratio:

(A 5)

| | | | | | |
|-----------------------|---|--|---------------------------------|---|--|
| $K = \frac{J_c}{J_m}$ | → | $J_c =$ Moment of inertia of driven masses referred to motor drive shaft | | → | $K \leq 0,25$ → K1 Uniform load |
| | | | | | $0,25 < K \leq 3$ → K2 Moderate shock load |
| | | | | | $3 < K \leq 10$ → K3 Heavy shock load |
| | | | $J_m =$ Motor moment of inertia | | |



11 LUBRICATION

Life lubricated gearboxes do not require any periodical oil changes.

Refer to the User's Manual available at www.bonfiglioli.com for indications about checking the oil level and its replacement for other types of gearboxes.

Do not mix mineral oils with synthetic oils and/or different brands.

However, oil level should be checked at regular intervals and topped up as required.

Check monthly if unit operates under intermittent duty, more frequently if duty is continuous.

11.1 Selection of the optimal oil viscosity (data relating to Shell Oils)

(A 6)

| | | Operating ambient temperature [C°] | | | | | | | | | | | | | | | | | | |
|--------------------|-------------------------|------------------------------------|-----|-----|-----|--|-----|-----|----|---|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | -40 | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 |
| | | suitability seals check | | | | standard seals provided in the catalog | | | | | | | | | | | | | | |
| Splash lubrication | Mineral oil [1] | 150 VG | | | | | | | * | | | | | | | | | | | |
| | | 220 VG | ⊘ | | | | | | * | | | | | | | | | | | |
| | | 320 VG | ⊘ | ☎ | | | | | | * | | | | | | | | | | |
| | | 460 VG | | | | | | | | * | | | | | | | | | | |
| | Synthetic oil (PAG) [2] | 150 VG | | * | * | | | | | | | | | | | | | | | ☎ |
| | | 220 VG | ⊘ | * | * | | | | | | | | | | | | | | | |
| | | 320 VG | | | * | * | | | | | | | | | | | | | | |
| | | 460 VG | | ☎ | * | * | | | | | | | | | | | | | | |
| | Synthetic oil (PAO) | 150 VG | | | | * | * | | | | | | | | | | | | | ☎ |
| | | 220 VG | ⊘ | | | * | * | | | | | | | | | | | | | |
| | | 320 VG | | ☎ | * | * | | | | | | | | | | | | | | |
| | | 460 VG | | | | * | * | | | | | | | | | | | | | |

Recommended operating limits

Allowed operating limits. ☎

Forbidden operating limits.

* = It is recommended to ramp-up and to provide for greater absorption of the motor.

If needed and in the event of impulse loads, contact Bonfiglioli Technical Service. ☎

[1] The use of mineral oil is permitted on gearmotors with service factor $f_s \geq 1.30$

[2] Gearboxes A05...60 must be used with PAG oil strictly (suggested the viscosity 320).
For different needs please contact the technical service.



11.2 Lubrication for C, A, F, S series gearboxes

The inner parts of Bonfiglioli gear units are oil-bath and splash lubricated.

Frame sizes C 05...C 41, A 05...A 41, F 10...F 41, S 10...S 40 are supplied by the factory, or by the authorized dealers, already filled with oil.

Unless otherwise specified, units size C 51, A 50, F 51, S 50 and larger are usually supplied unlubricated at it will be the customer care to fill them with oil prior to putting them into operation. In both cases, depending on the version, prior to putting the gear unit into operation may need to replace the closed plug used for transportation purposes with breather plug supplied with.

For the reference charts of oil plugs placement and quantity of lubricant, refer to the Installation, Operation and Maintenance Manual (available on www.bonfiglioli.com).

The “long life” polyglycol-based lubricant supplied by the factory (SHELL OMALA S4 WE 320), in the absence of contamination, does not require periodical oil changes throughout the lifetime of the gear unit.

11.3 Lubrication for A-EX (Atex) gearboxes

The inner parts of Bonfiglioli gear units are oil-bath and splash lubricated.

The ATEX version gear unit (with some exceptions see Table below) are factory-charged with “long-life” lubricant SHELL OMALA S4 WE 320 in the quantity suitable for the mounting position specified in the order.

(A 7)

| | | | | | | | | | | | | | |
|------|------|------|------|------|------|------|--------------------|----------------------|----------------------|----------------------|--------------------|--------------------|--------------------|
| A 05 | A 10 | A 20 | A 30 | A 35 | A 41 | A 50 | A 55 ¹⁾ | A 60 2 ²⁾ | A 60 3 ¹⁾ | A 60 4 ¹⁾ | A 70 ¹⁾ | A 80 ¹⁾ | A 90 ¹⁾ |
|------|------|------|------|------|------|------|--------------------|----------------------|----------------------|----------------------|--------------------|--------------------|--------------------|

Gearbox pre-filled with a synthetic “for life” lubricant
 Gearbox pre-filled with a synthetic lubricant

⁽¹⁾ Without lubricant for mounting positions B6 and B7

⁽²⁾ Without lubricant for mounting positions B6, B7 and VB

Gearboxes are fitted with sealed filler plugs for transport purposes. Depending on version, they may be supplied with a vented plug which the user must fit before putting the gearbox into service. Refer to the installation, operation and maintenance manual to replace the filler plug correctly. (These manuals are available in a number of languages and can be downloaded in pdf format from the website www.bonfiglioli.com.)

When a gearbox is supplied with no lubricant, it is recommended to fill it with a lubricant of a similar type, selected from those listed in its installation, operation and maintenance manual.




12 SELECTION

Some fundamental data are necessary to assist the correct selection of a gearbox or gearmotor. The table below (A8) briefly sums up this information.

To simplify selection, fill in the table and send a copy to our Technical Service which will select the most suitable drive unit for your application.

(A8)

| | |  TECHNICAL DATA REQUIRED FOR THE SELECTION OF GEARBOXS SERIES ... | | Nr: | | |
|--------------------------------------|----|---|---|------------------------------------|-----------------------|----------------------|
| | | | | Date: | | |
| | | Rev_ | Date: | | | |
| A) GENERAL DATA | | | | | | |
| # | 1 | Company / Customer | | | | |
| # | 2 | Contact | | | | |
| # | 3 | Branch / Distributor | | | | |
| # | 4 | Order quantity | | | | |
| | 5 | Delivery time | | | | |
| B₁) ELECTRIC MOTOR | | | | | | |
| | 6 | Motor Type | | | | |
| # | 7 | P _{n1} | Rated motor Power | [kW] | | |
| # | 8 | P _{r1} | Motor power demand | [kW] | | |
| | 9 | n ₁ | Input speed | [min ⁻¹] | | |
| | 10 | No. of Poles | | | | |
| C) GEARBOX | | | | | | |
| # | 11 | Gearbox configuration | | | | |
| # | 12 | i | Gear ratio | | | |
| # | 13 | n ₁ | Input speed | [min ⁻¹] | | |
| # | 14 | M _{r2} | Output torque demand | [Nm] | | |
| # | 15 | f _s | Service factor demand | | | |
| | 16 | Rotation of the output shaft [frontal view]: | | CW | CCW | |
| # | 17 | L _{10H} | Bearings lifetime | [h] | | |
| | 18 | Gears lifetime | | [h] | | |
| | 19 | SF _{min} | Safety for tooth root stress | standard reference (ISO preferred) | | |
| | 20 | SH _{min} | Safety for flank pressure | standard reference (ISO preferred) | | |
| D) ADDITIONAL LOADS | | | | | | |
| | 21 | R _{c2} | Radial load on output shaft | [N] | Orientation [°] | |
| | 22 | x ₂ | Load application distance from shaft shoulder | [mm] | | |
| | 23 | R _{c1} | Radial load on input shaft | [N] | Orientation [°] | |
| | 24 | x ₁ | Load application distance from shaft shoulder | [mm] | | |
| | 25 | A _{n2} | Thrust load on output shaft (+ / -) | [N] | + = push | |
| | 26 | A _{n1} | Thrust load on input shaft (+ / -) | [N] | - = pull | |
| E) APPLICATION | | | | | | |
| # | 27 | Type of application | | | | |
| | 28 | Duty cycle | | Time phase | Gearbox output torque | |
| | | | | % | [Nm] | Gearbox output speed |
| | | | | **** | **** | [min ⁻¹] |
| | | | | **** | **** | |
| | 29 | Notes about Duty Cycle: | | | | |
| | 30 | Rating according FEM class | | T- | L- M- | |
| | 31 | Degree of intermittence | | [%] | | |
| | 32 | t _a | Ambient temperature range | [°C] | | |
| # | 33 | Altitude a.s.l. | | [m] | | |
| | 34 | Type of ambient | small indoor space | large indoor space | outdoor | |
| F) NOTES | | | | | | |
| | 35 | Notes and additional Customer requirements: | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| # Mandatory for the selection | | | | | | |



For the selection of Series A gear units in ATEX configuration, see also the specific chapter on page 348.

12.1 Selection of a gearmotor

a) Determine service factor f_s according to type of duty (factor K), number of starts per hour Z_r and hours of operation.

b) From values of torque M_{r2} , speed n_2 and efficiency η_d the required input power can be calculated from the equation:

$$P_{r1} = \frac{M_{r2} \cdot n_2}{9550 \cdot \eta_d} \text{ [kW]} \quad (7)$$

Value of η_d for the captioned gear unit can be sorted out from paragraph 6.

c) Consult the gearmotor selection charts and locate the table corresponding to normalised power P_n :

$$P_n \geq P_{r1} \quad (8)$$

Unless otherwise specified, power P_n of motors indicated in the catalogue refers to continuous duty S1. For motors used in conditions other than S1, the type of duty required by reference to CEI 2-3/IEC 34-1 Standards must be mentioned.

For duties from S2 to S8 in particular and for motor frame 132 or smaller, extra power output can be obtained with respect to continuous duty.

Accordingly the following condition must be satisfied:

$$P_n \geq \frac{P_{r1}}{f_m} \quad (9)$$

The adjusting factor f_m can be obtained from table (A9).

12.2 Intermittence ratio

$$I = \frac{t_f}{t_f + t_r} \cdot 100 \quad (10)$$

t_f = work time at constant load

t_r = rest time



(A 9)

| | DUTY | | | | | | Please contact us |
|-------|----------------------|------|------|----------------------------|------|-----|-------------------|
| | S2 | | | S3* | | | |
| | Cycle duration [min] | | | Cyclic duration factor (I) | | | |
| | 10 | 30 | 60 | 25% | 40% | 70% | |
| f_m | 1.35 | 1.15 | 1.05 | 1.25 | 1.15 | 1.1 | |

* Cycle duration, in any event, must be 10 minutes or less. If it is longer, please contact our Technical Service.

Next, refer to the appropriate P_n section within the gearmotor selection charts and locate the unit that features the desired output speed n_2 , or closest to, along with a safety factor S that meets or exceeds the applicable service factor f_s .

The safety factor is so defined:

$$S = \frac{M_{n2}}{M_2} = \frac{P_{n1}}{P_1} \quad (11)$$

As standard, gear and motor combinations are implemented with 2, 4 and 6 pole motors, 50 Hz supplied.

Should the drive speed be different from 2800, 1400 or 900 min⁻¹, base the selection on the gear unit nominal rating.

12.3 Selection of speed reducer and gearbox with IEC motor adapter

a) Determine service factor f_s .

b) Assuming the required output torque for the application M_{r2} is known, the calculation torque can be then defined as:

$$M_{c2} = M_{r2} \cdot f_s \quad (12)$$

c) The gear ratio is calculated according to requested output speed n_2 and drive speed n_1 :

$$i = \frac{n_1}{n_2} \quad (13)$$



Once values for M_{c2} and i are known consult the rating charts under the appropriate input speed n_1 and locate the gear unit that features the gear ratio closest to $[i]$ and at same time offers a rated torque value M_{n2} so that:

$$M_{n2} \geq M_{c2} \quad (14)$$

If a IEC normalized motor must be fitted check geometrical compatibility with the gear unit at paragraph "MOTOR AVAILABILITY".

13 VERIFICATION

After the selection of the speed reducer, or gearmotor, is complete it is recommended that the following verifications are conducted:

a) Thermal capacity

Make sure that the thermal capacity of the gearbox is equal to or greater than the power required by the application according to equation (3) on page 7.

If this condition is not verified, select a larger gearbox or apply a forced cooling system.

b) Maximum torque

The maximum torque (intended as instantaneous peak load) applicable to the gearbox must not, in general, exceed 200% of rated torque M_{n2} . Therefore, check that this limit is not exceeded, using suitable torque limiting devices, if necessary.

For three-phase double speed motors, it is important to pay attention to the switching torque which is generated when switching from high to low speed, because it could be significantly higher than maximum torque.

A simple, economical way to minimize overloading is to power only two phases of the motor during switch-over (power-up time on two phases can be controlled with a time-relay):

$$M_{g2} = 0.5 \cdot M_{g3}$$

M_{g2} = Switching torque with two-phase power-up

M_{g3} = Switching torque with three-phase power-up

We recommend, in any event, to contact our Technical Service.

c) Radial loads

Make sure that radial forces applying on input and/or output shaft are within permittend catalogue values.

If they were higher consider designing a different bearing arrangement before switching to a larger gear unit.

Catalogue values for rated overhung loads refer to mid-point of shaft under study.

Should application point of the overhung load be localised further out the revised loading capability must be adjusted as per instructions given in this manual.

Please refer to the paragraphs relating to radial loads.



d) Thrust loads

Actual thrust load must be found within 20% of the equivalent overhung load capacity.

Should an extremely high, or a combination of radial and axial load apply, consult Bonfiglioli Technical Service.

e) Starts per hour

For duties featuring a high number of switches the actual starting capability in loaded condition [Z] must be calculated.

Actual number of starts per hour must be lower than value so calculated.

14 INSTALLATION

The following installation instructions must be observed:

a) Make sure that the gearbox is correctly secured to avoid vibrations.

If shocks or overloads are expected, install hydraulic couplings, clutches, torque limiters, etc.

b) Before being paint coated, the machined surfaces and the outer face of the oil seals must be protected to prevent paint drying out the rubber and jeopardising the sealing function.

c) Parts fitted on the gearbox output shaft must be machined to ISO H7 tolerance to prevent interference fits that could damage the gearbox itself.

Further, to mount or remove such parts, use suitable pullers or extraction devices using the tapped hole located at the top of the shaft extension.

d) Mating surfaces must be cleaned and treated with suitable protective products before mounting to avoid oxidation and, as a result, seizure of parts.

e) Prior to putting the gear unit into operation make sure that the equipment that incorporates the same complies with the current revision of the Machines Directive 2006/42/EC.

f) Before starting up the machine, make sure that oil level conforms to the mounting position specified for the gear unit and the viscosity is adequate (refer to the User's Manual available at www.bonfiglioli.com).

g) For outdoor installation provide adequate guards in order to protect the drive from rainfalls as well as direct sun radiation.



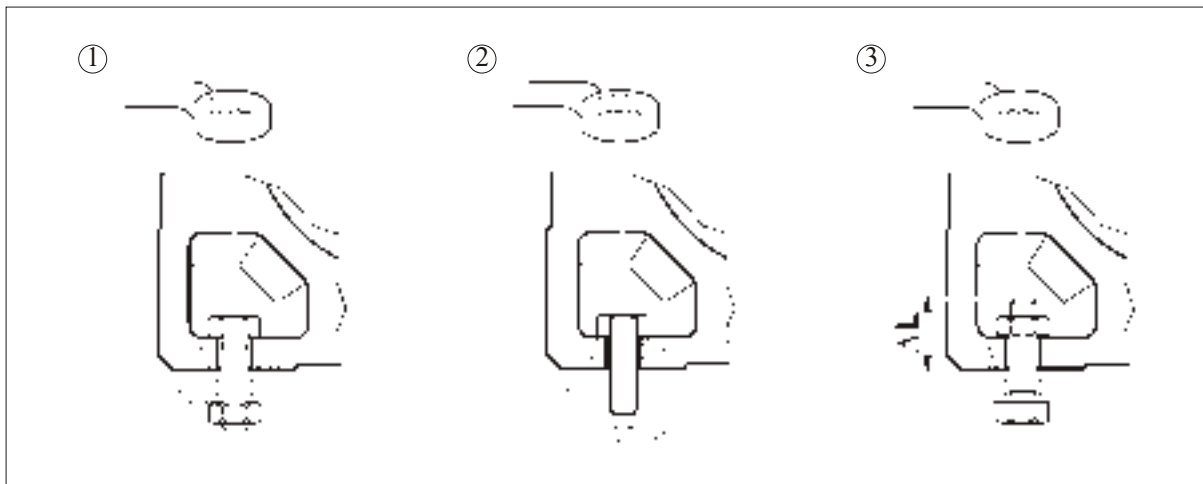
14.1 Fitting servomotors to gear heads featuring a clamping device (adapter type SC)

Turn the clamping device until its slot is aligned to those that are milled on the reducer input shaft. If the motor shaft features a key, this must be removed and the relevant keyway must also be aligned with the slots of clamping device and gear head input shaft, prior to inserting the servomotor into site. The keyway must be sitting on the same side as the locking screw. Tighten the bolts that hold the servomotor to the gear head, insert a torque wrench through the hole on the side of the flange and tighten the locking screw of the clamping device to the torque that is specified in the drawing section for the given adapter.

15 INSTALLATION INSTRUCTIONS

Schemes in table (A10) show the 3 possible installation patterns for A gear units to the machine frame. For each of these circumstances, table (A11) indicates exagonal head screw sizes to be used. Besides, to facilitate the installation, we suggest to use a wrench of the type shown in table (A10).

(A 10)



(A 11)

| | Bolt type | | | ΔL (mm) |
|-------------|-----------|--------|----------|-----------------|
| | ① | ② | ③ | |
| A 05 | M8x22 | M8x20 | M8x ... | 22 |
| A 10 | M8x25 | M8x20 | M8x ... | 20 |
| A 20 | M8x25 | M8x20 | M8x ... | 20 |
| A 30 | M10x30 | M10x25 | M10x ... | 25 |
| A 35 | M10x30 | M10x25 | M10x ... | 25 |
| A 41 | M12x35 | M12x30 | M12x ... | 30 |

| | Bolt type | | | ΔL (mm) |
|-------------|-----------|--------|----------|-----------------|
| | ① | ② | ③ | |
| A 50 | M14x45 | M14x40 | M14x ... | 35 |
| A 55 | M14x40 | M14x40 | M14x ... | 35 |
| A 60 | M16x50 | M16x45 | M16x ... | 40 |
| A 70 | M20x60 | M20x55 | M20x ... | 45 |
| A 80 | M24x70 | M24x65 | M24x ... | 55 |
| A 90 | M24x90 | M24x80 | M24x ... | 65 |



16 STORAGE

Observe the following instructions to ensure correct storage of the products:

- a) Do not store outdoors, in areas exposed to weather or with excessive humidity.
- b) Always place boards, wood or other material between the products and the floor. The gearboxes should not have direct contact with the floor.
- c) In case of long-term storage all machined surfaces such as flanges, shafts and couplings must be coated with a suitable rust inhibiting product (Mobilarma 248 or equivalent).
- d) In the cases of long-term storage defined in the order phase with the optional choice of SLM or SLP (see specific chapter for cases and times), the appropriate technical requirements are given in the User Manual available on www.bonfiglioli.com. To guarantee times, conditions and extensions, contact the Bonfiglioli Assistance Center available on the company website.

Furthermore gear units must be placed with the fill plug in the highest position and filled up with oil. Before putting the units into operation the appropriate quantity, and type, of oil must be restored (refer to the User's Manual available at www.bonfiglioli.com).

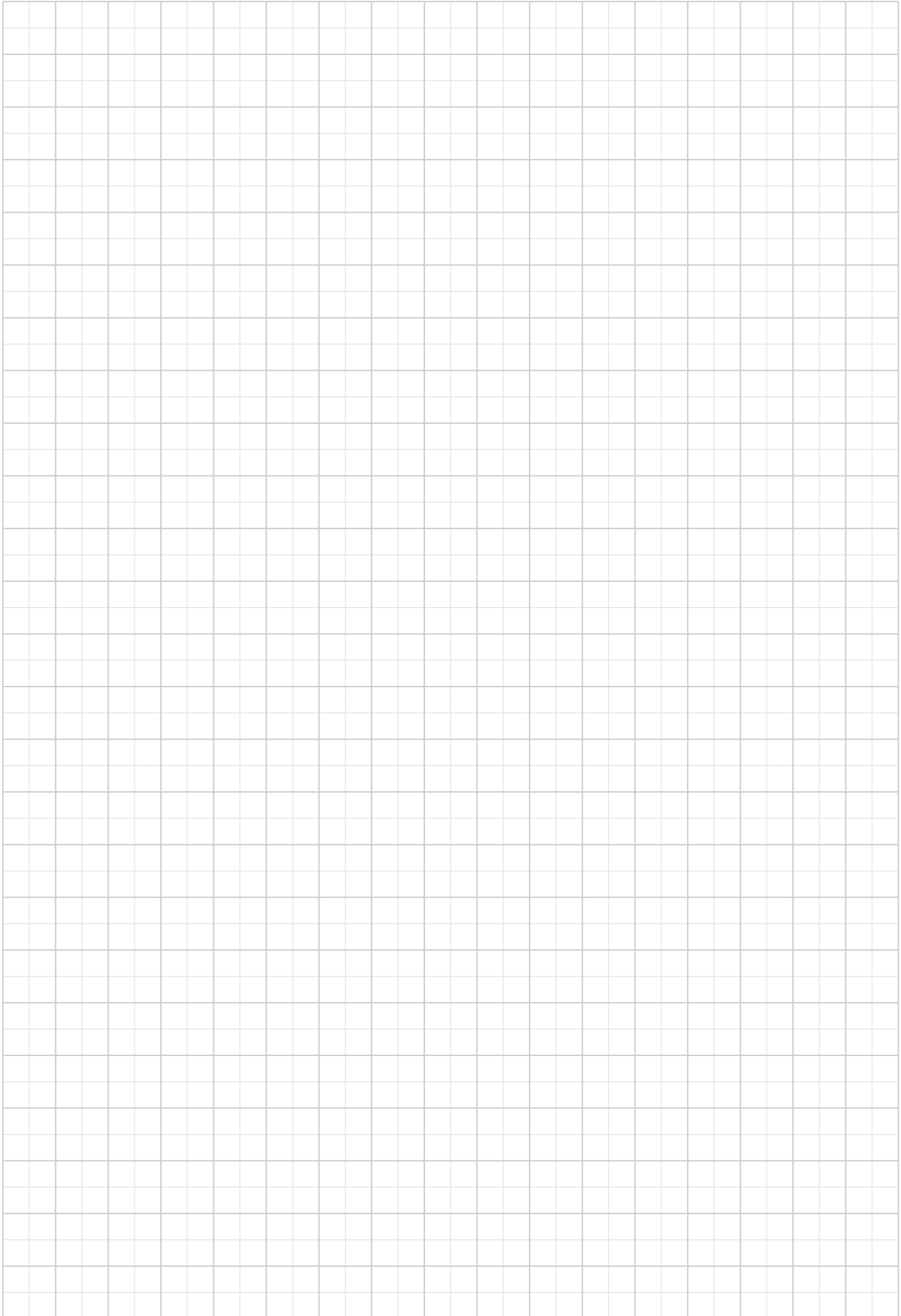
17 CONDITIONS OF SUPPLY

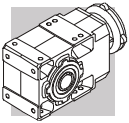
Gear units are supplied as follows:

- a) configured for installation in the mounting position specified when ordering;
- b) tested to manufacturer specifications;
- c) mating machined surfaces come unpainted;
- d) nuts and bolts for mounting motors are provided;
- e) shafts are protected during transportation by plastic caps;
- f) supplied with lifting lug (where applicable).

18 PAINT SPECIFICATIONS

Specifications for paint applied to gearboxes (where applicable) may be obtained from the branches or dealers that supplied the units.





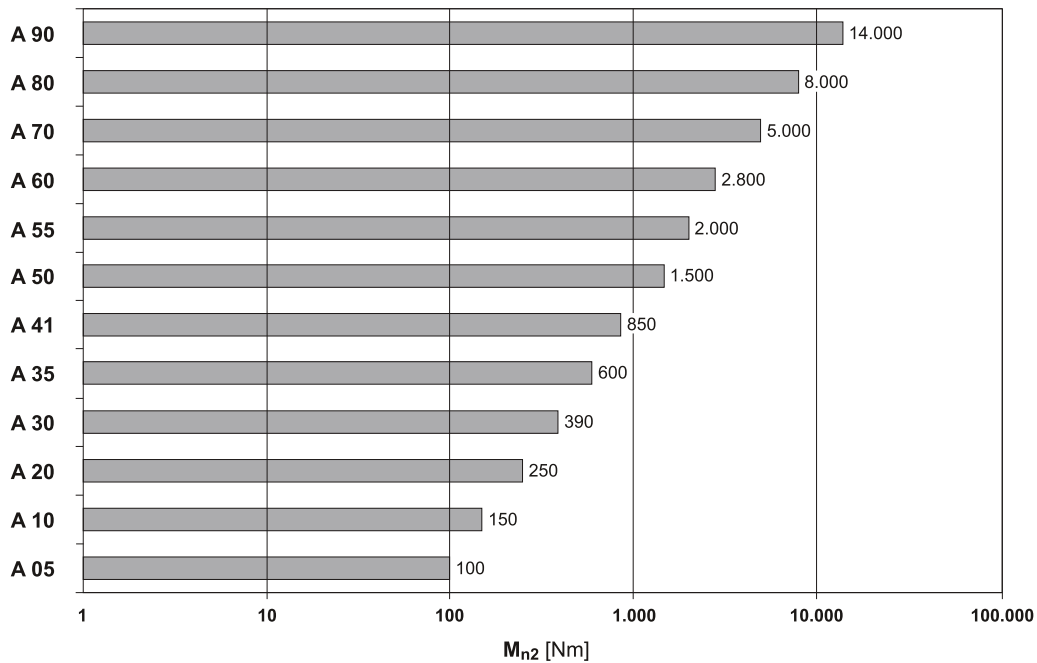
HELICAL BEVEL GEAR UNITS SERIES A

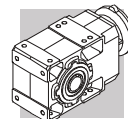
31 DESIGN FEATURES

The main design characteristics are:

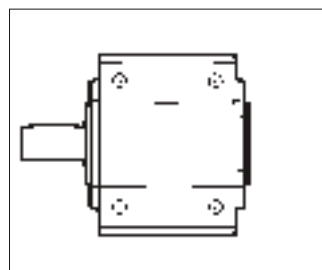
- modularity
- space effective
- universal mounting
- high efficiency
- quiet operation
- gears in hardened and case-hardened steel
- bare aluminium housing for sizes 05, 10, 20, 30, unpainted high strength painted cast-iron housings for larger frame sizes
- input and output shafts from high grade steel.

(C 26)





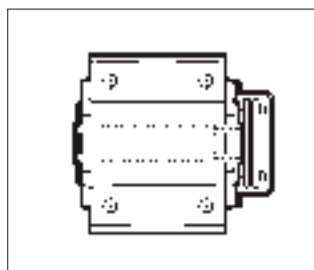
32 VERSIONS



UR

Single extension
output shaft

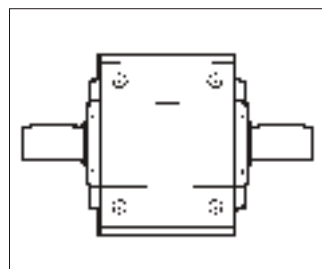
A 05 ... A 90



US

Hollow output shaft
and shrink disc

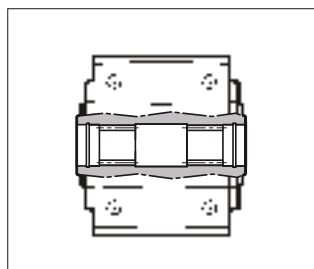
A 05 ... A 90



UD

Double extended
output shaft

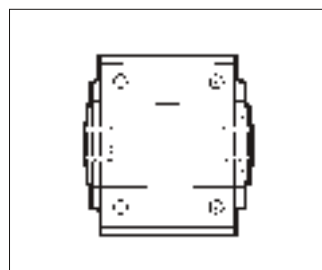
A 05 ... A 90



UV

Splined hollow shaft
DIN 5480

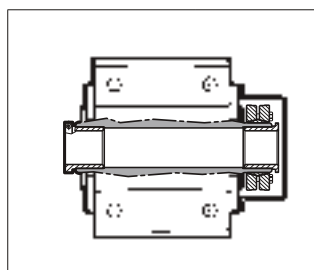
A 20 ... A 60



UH

Hollow output shaft
and keyway

A 05 ... A 90



QF (Quick-fit)

Hollow shaft with
adapter bushings
and shrink disc

A 10 ... A 60

| $M_{n2 \max}$ [Nm] | |
|--------------------|------|
| A 35 QF35 | 550 |
| A 55 QF55 | 1900 |

Basic versions with bolted flange

The sketches show the applicable flanges to the basic versions and their positions, designated with either ① or ②.

UR F1...

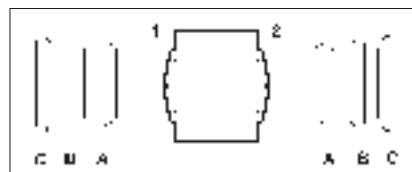
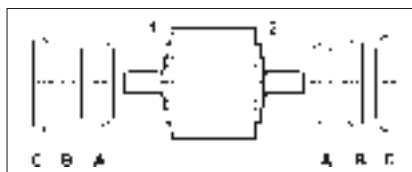
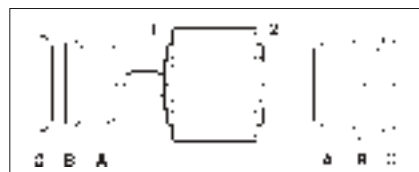
UR F2...

UD F1...

UD F2...

UH... F1...

UH... F2...



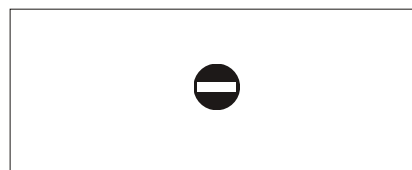
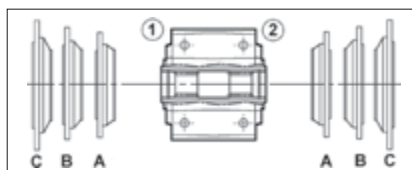
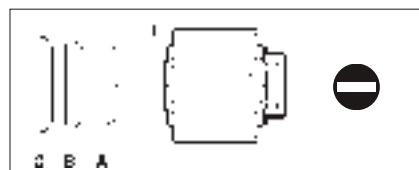
US F1...

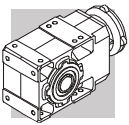
US F2...

UV F1...

UV F2...

QF...





33 DESIGNATION

GEAR UNIT

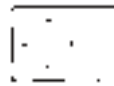
A 35 2 UH40 F1A 49.1 S1 VA

OPTIONS

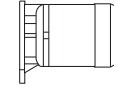
MOUNTING POSITION

B3 (Standard), **B6, B7, B8, VA, VB**

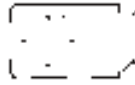
INPUT CONFIGURATION



S05 ... S5



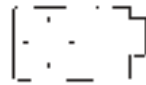
**M - ME -
MX - MXN**



IEC_ P63 ... P250



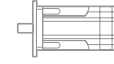
**BN - BE
BX - BXN**



SK_

SC_

S_



HS

GEAR RATIO

OUTPUT FLANGE SIZE AND POSITION

(specify only if requested)

F = Flanged version

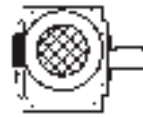
1, 2 = Flange position

A, B, C = Flange size

VERSION

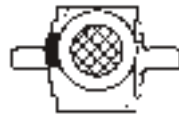


UH_



UR

(A 05...A 90)



UD

(A 05...A 90)



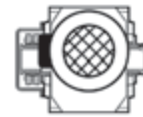
US

(A 05...A 90)



UV

(A 20...A 60)



QF

(A 10...A 60)

| | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|-------|
| A 05 | A 10 | A 20 | A 30 | A 35 | A 41 | A 50 | A 55 | A 60 | A 70 | A 80 | A 90 |
| UH25 | UH25 | UH30 | UH35 | UH40 | UH45 | UH50 | UH60 | UH60 | UH70 | UH80 | UH90 |
| — | UH30 | UH35 | UH40 | UH35 | UH40 | UH55 | UH50 | UH70 | UH80 | UH90 | UH100 |

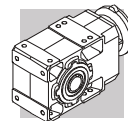
REDUCTIONS

2 (A 05...A 60), **3** (A 20...A 90), **4** (A 50...A 90)

GEAR FRAME SIZE

05, 10, 20, 30, 35, 41, 50, 55, 60, 70, 80, 90

TYPE: **A** = Helical bevel gear units



MOTOR

BRAKE

M 1LA 4 230/400-50 IP54 CLF W FD 7.5 R SB 220 SA

OPTIONS

BRAKE SUPPLY

RECTIFIER TYPE
AC/DC
NB, SB, NBR, SBR

BRAKE HAND RELEASE
R, RM

BRAKE TORQUE

BRAKE TYPE
FD (d.c. brake)
FA (a.c. brake)

TERMINAL BOX POSITION
W (default), N, E, S

MOTOR MOUNTING
— (compact motor)
B5 (IEC - motor)

INSULATION CLASS
CL F standard
CL H option

DEGREE OF PROTECTION
IP55 standard (IP54 - brake motor)

VOLTAGE - FREQUENCY
For BXN/MXN see the "Voltage & frequency" section on EVOX catalogue

POLE NUMBER
2, 4, 6, 2/4, 2/6, 2/8, 2/12, 4/6, 4/8

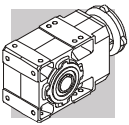
MOTOR SIZE
0B ... 5LA (compact motor)
63A ... 250MA (IEC motor)

MOTOR TYPE

MX - MXN = compact 3-phase, class IE3
BX - BXN = IEC 3-phase, class IE3

ME = compact 3-phase, class IE2
BE = IEC 3-phase, class IE2

M = compact 3-phase, class IE1
BN = IEC 3-phase, class IE1



33.1 Gearbox options



LUBRICATION

Gearboxes A05, A10, A20, A30, A35, and A41, are usually factory filled with oil in the standard version. Gearboxes A50, A55, A60, A70, A80 and A90, are usually supplied unlubricated in the standard version.

However, for all sizes of gearbox factory filled with oil, it is possible to request the supply with more types of oil, selectable according to what is defined in the following table.

The option is not available for gearboxes A50, A55, A60, A70, A80 and A90 in mounting positions B6 and B7.

The option is not available for gearbox A602 in mounting position VB.

| Lubrication | Type | Designation | Producer |
|------------------------------|-----------------------|-----------------------|---|
| LU ^[1] | PolyAlfaOlefine (PAO) | OMALA S4 GX 150 |  |
| LY ^[1] | PolyAlfaOlefine (PAO) | OMALA S4 GX 220 | |
| LV ^[1] | PolyAlfaOlefine (PAO) | OMALA S4 GX 320 | |
| LW ^[1] | PolyAlfaOlefine (PAO) | OMALA S4 GX 460 | |
| | | | |
| LH | PolyGlicole (PAG) | OMALA S4 WE 150 | |
| LS | PolyGlicole (PAG) | OMALA S4 WE 220 | |
| LO* | PolyGlicole (PAG) | OMALA S4 WE 320 | |
| LK | PolyGlicole (PAG) | OMALA S4 WE 460 | |
| | | | |
| LN ^{[1] [2]} | Mineral Base EP | OMALA S2 G 150 | |
| LZ ^{[1] [2]} | Mineral Base EP | OMALA S2 G 220 | |
| LI ^{[1] [2]} | Mineral Base EP | OMALA S2 G 320 | |
| LJ ^{[1] [2]} | Mineral Base EP | OMALA S2 G 460 | |
| | | |  |
| LA | Food grade | KLUBERSYNTH UH1 6-150 | |
| LB | Food grade | KLUBERSYNTH UH1 6-220 | |
| LC | Food grade | KLUBERSYNTH UH1 6-320 | |
| LD | Food grade | KLUBERSYNTH UH1 6-460 | |

* unless otherwise specified, the gearboxes A05, A10, A20, A30, A35 and A41 supplied with lubricant use OMALA S4 WE 320 oil..

[1] Use not permitted for gearboxes A 05.... A 60.

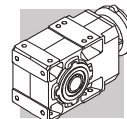
[2] The use of mineral oil is permitted on gearmotors with service factor $f_s \geq 1.30$.

SO

Gear units A05, A10, A20, A30, A35 and A41, usually factory filled with oil, are, in this case, supplied unlubricated.

DV

Dual oil seals on input shaft. (Only available for integral gearmotors).



VV

Fluoro elastomer oil seal on input shaft.

PV

All oil seals in Fluoro elastomer material.

TKL

Taconite seals are available, for output axis of gearboxes sizes (from) A70 to A90, to use in environments characterized by the presence of abrasive dust or powders. Taconite seals incorporate a combination of sealing rings, labyrinths and a grease chamber.

Greasing must be ensured as part of the scheduled maintenance programme.

This option includes fluoro elastomer oil seals on all axes.

For mounting position B6 please consult Bonfiglioli's Technical service.

AL, AR

On request the gear unit can be provided complete with a backstop device allowing the output shaft to rotate only in the direction specified at the time of ordering. The following table shows the gearboxes in which the anti-run back device can be installed. Anti-run back device exclude RB option.

(C 27)

| | | | | | | | | |
|----------------|--------------------------------|--------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| A 30 2* | A 35 2* ● (5.4_11.8) | A 41 2 ● (5.2; 10.1) | A 50 3 | A 55 3 | A 60 3 | A 70 3 | A 80 3 | A 90 3 |
| | | | A 50 4 | A 55 4 | A 60 4 | A 70 4 | A 80 4 | A 90 4 |

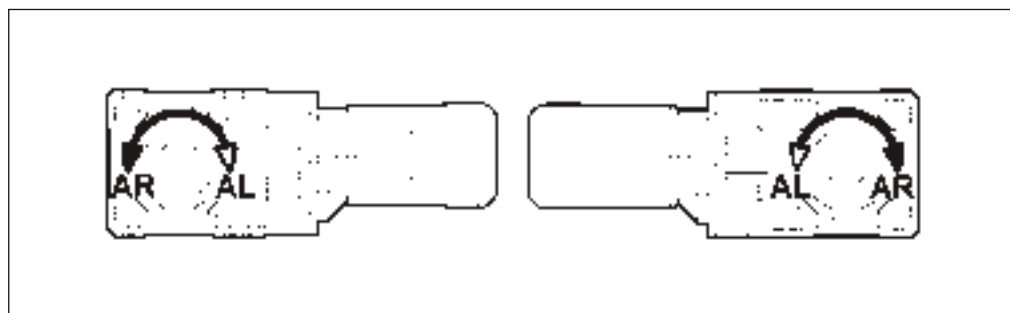
* The supply of the backstop will ban the configuration of servomotor adapters type S_60A, S_60B, S_80A.

When ordering the gear unit, the direction of free rotation must be specified through either the AR or the AL option (Table C28).



N.B. When the anti-run back device operates very frequently make sure that the torque backdriving the gearbox does not exceed 70% of the rated torque M_{n2} for the captioned gear unit.

(C 28)

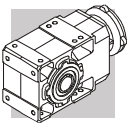


HDB


Certain gearboxes are available with increased overhung load ratings for use in applications characterised by high overhung loads beyond the capacity of the standard gearboxes. Specify the HDB option when ordering to obtain this increased overhung load capacity. The HDB option is available for gearbox sizes A10 to A50 with a single sided or through solid output shaft.

The following table specifies the maximum loads for HDB reinforced gearbox versions.

Figures refer to forces along the centreline of the output shaft.



(C 29)

| HDB | R_{N2} | | | | | |
|---|---------------|---------------|----------------|---|--|-----------------|
| | A 10 | A 20 | A 30 | A 35 | A 41 | A 50 |
| $n_1 = 2800$ | 5500 N | 6200 N | 9600 N | 12000 N | 15000 N | 20000 N |
|  | | | 8970 N @ i=5.4 | 10200 N @ i=5.4 10600 N @ i=6.4 11000 N @ i=7.0 | 11500 N @ i=5.2 12700 N @ i=7.1 13300 N @ i=8.3 13700 N @ i=9.2 | 19000 N @ i=7.7 |
| $n_1 = 1400$ | 5500 N | 6200 N | 9600 N | 12000 N | 15000 N | 20000 N |
| $n_1 = 900$ | 5500 N | 6200 N | 9600 N | 12000 N | 15000 N | 20000 N |
| $n_1 = 500$ | 5500 N | 6200 N | 9600 N | 12000 N | 15000 N | 20000 N |

Reinforced bearings also allow these versions to withstand increased thrust loads, and in particular.

$$A_{N2} = 0.35 \times R_{N2} \quad (24)$$

In applications free from overhung load, thrust load capacity increases to:

$$A_{N2} = 0.70 \times R_{N2} \quad (25)$$

If load is applied simultaneously to both ends of a through output shaft, contact the Bonfiglioli Technical Service to verify the application.

IHB

For applications where the Rated torque M_{r2} - Torque demand M_{r2} gearbox's ratio:

$$\frac{M_{n2}}{M_{r2}} \leq 1.5$$

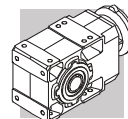
some gearboxes can be requested with bearings with increased load ratings by specifying the **IHB** option in the order.

The **IHB** option is available for all gearboxes supplied with IEC motor adaptor: P160 - P180 - P200. It is advisable to contact the Bonfiglioli Technical Service to verify the application.

RB

Gear units A10, A20, A30, A35, A41, A50, A55 and A60, usually supplied with standard values of angular backlash, are, in this case, supplied with reduced angular backlash values (excludes gear units options AL and AR described in this paragraph).

The following table specifies the corresponding figures of angular backlash.



(C 30)

| | | standard | | RB | |
|------------|---------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|
| A05 | i = | 5.5_12.3 - \ominus (10.6) | 10.6_91.6 - \ominus (12.3) | — | |
| | φ [°] | 28 | 18 | — | |
| A10 | i = | 5.5_12.3 - \ominus (10.6) | 10.6_91.6 - \ominus (12.3) | 5.5_12.3 - \ominus (10.6) | 10.6_91.6 - \ominus (12.3) |
| | φ [°] | 27 | 17 | 12 | 8 |
| A20 | i = | 5.4_12 - \ominus (10.3) | 10.3_380.9 - \ominus (12) | 5.4_12 - \ominus (10.3) | 10.3_380.9 - \ominus (12) |
| | φ [°] | 23 | 15 | 11 | 7 |
| A30 | i = | 5.4_11.8 - \ominus (10.5) | 10.5_400.8 - \ominus (11.8) | 5.4_11.8 - \ominus (10.5) | 10.5_400.8 - \ominus (11.8) |
| | φ [°] | 22 | 15 | 10 | 7 |
| A35 | i = | 5.4_11.8 | 13.1_393.2 | 5.4_11.8 | 13.1_393.2 |
| | φ [°] | 20 | 11 | 9 | 6 |
| A41 | i = | 5.2_11.7 - \ominus (10.1) | 10.1_376.8 - \ominus (11.7) | 5.2-11.7 - \ominus (10.1) | 10.1_376.8 - \ominus (11.7) |
| | φ [°] | 19 | 13 | 9 | 6 |
| A50 | i = | 7.7_778.2 | | 7.7_778.2 | |
| | φ [°] | 16 | | 7 | |
| A55 | i = | 4.9_19.2 | 23.8_793 | 4.9_19.2 | 23.8_793 |
| | φ [°] | 17 | 11 | 8 | 6 |
| A60 | i = | 7.9_20.6 | 25.7_755.4 | 7.9_20.6 | 25.7_755.4 |
| | φ [°] | 12 | 9 | 5 | 4 |
| A70 | i = | 9.4_21.3 | 23.5_1715 | — | |
| | φ [°] | 14 | 12 | — | |
| A80 | i = | 9.8_20.9 | 22.6_1558 | — | |
| | φ [°] | 13 | 11 | — | |
| A90 | i = | 9.7_21 | 22.3_1632 | — | |
| | φ [°] | 12 | 10 | — | |

For the delivery timeframe contact the Bonfiglioli's sales network

BP

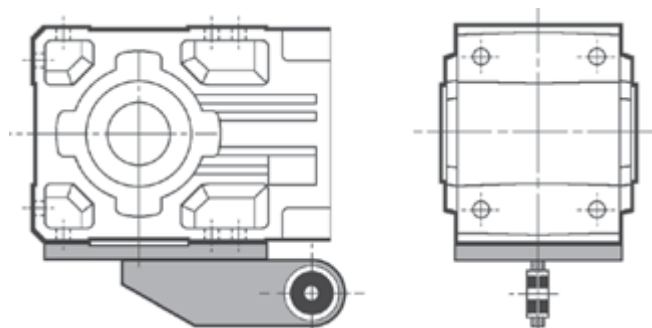
Gearboxes, usually supplied with open breather plug, are supplied with a valve breather plug. The calibration of the valve can vary from 0,10 to 0,15 bar depending on the plug type. The valve opens at intervals and allows venting of internal pressure keeping out foreign bodies.

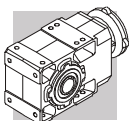
For option availability see chapter “Mounting positions and service plugs” of the Installation, Operation and Maintenance Manual (available at: www.bonfiglioli.com).

If needed contact Bonfiglioli Technical Service.

TA

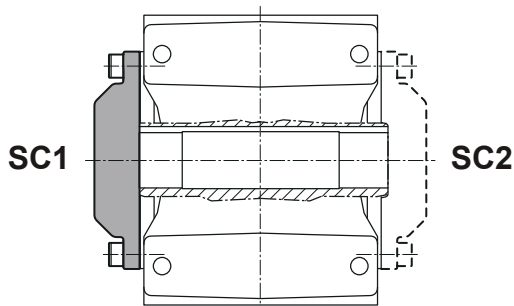
Gearboxes A05...A60 are supplied with the torque arm assembled as shown.





PROTECTION CAP

Gearboxes are supplied with a protection cap for the output axis (metallic material). It is possible to request the torque arm mounted at several position as shown (SC1, SC2).



The applicability of the option PROTECTION CAP is described in the following table.

| | PROTECTION CAP | |
|-----------------------|----------------|-----|
| | SC1 | SC2 |
| A0.5...A90 UH... | X | X |
| A0.5...A90 UH...F1... | ⊖ | X |
| A0.5...A90 UH...F2... | X | ⊖ |
| A20...A60 UV... | X | X |
| A20...A60 UV...F1... | ⊖ | X |
| A20...A60 UV...F2... | X | ⊖ |

LONG TERM STOCK

In presence of Long Term Stock option the configured product is supplied without the standard lubricant oil but with an anticorrosive protective liquid to grant the integrity and full functionality of the gear unit in those cases where the unit will not be installed immediately but it has to be stocked for a long period of time (installation later than 6 months from delivery).

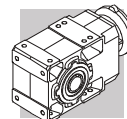
The warranty conditions are valid 12 months from commissioning (with commissioning within 24 months from delivery) or 24 months from delivery without commissioning.

After 2 years of stock, the unit with SL option needs to be checked by Bonfiglioli assistance center. In case of a product that is not properly preserved, an offer by Bonfiglioli will be issued for a complete restore.

With the recovery activity successfully concluded, the warranty conditions restart from the 12 months of commissioning (with commissioning within 24 months from restore date) or 24 months from restore date

Applicability of Long Term Stock option:

| Gearbox size | Applicability of Long Term Stock option |
|--------------|---|
| A05 ... A41 | Only when oil lubrication options are not active (SO option is active) |
| A51 ... A90 | Only when oil lubrication options are not active (LO, LH, LS, LK, LA, LB, LC, LD) |



The Long Term Stock option can be requested in 2 versions:

- **SLM Long Term Stock_Mineral Oil:** option having anti-corrosive protective oil compatible with all mineral-based oil lubricants listed in the “Installation, operation and maintenance” Bonfiglioli manual (MUM).



- **SLP Long Term Stock_Polyglycol Oil:** option having anti-corrosive protective oil compatible with all polyglycol-based oil lubricants listed in the “Installation, operation and maintenance” Bonfiglioli manual (MUM).

Note: only one version can be selected. SLM and SLP can't coexist.

When configuring a gear unit or gearmotor with Long Term Stock option, it is necessary to know the type of lubricating oil that will be used by the customer during the operating period (mineral or polyglycol oil).

Before commissioning a Bonfiglioli product with Long Term Stock option, make sure that the lubricating oil filling activity takes place through the specific filling plug determined by the mounting position indicated on the plate.

With regards to gear units with lifetime lubrication (see table below), the quantity of lubricating oil to top up is not indicated in the relevant “installation, use and maintenance” Bonfiglioli manual. In this case, if the Long Term Stock option is active, it is therefore necessary to contact the Bonfiglioli assistance center to receive this information.

| Gearbox size | Lubricant charge quantity |
|--------------------|---|
| A05 ... A41 |  BONFIGLIOLI TECHNICAL SERVICE |
| A51 ... C90 |  |

SURFACE PROTECTION

When no specific protection class is requested, the painted (ferrous) surfaces of gearboxes are protected to at least corrosivity class C2 (UNI EN ISO 12944-2). For improved resistance to atmospheric corrosion, gearboxes can be delivered with **C3** and **C4** surface protection, obtained by painting the complete gearbox.

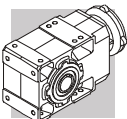
(C 31)

| SURFACE PROTECTION | Typical environments | Maximum surface temperature | Corrosivity class according to UNI EN ISO 12944-2 |
|--------------------|---|-----------------------------|---|
| C3 | Urban and industrial environments with up to 100% relative humidity (medium air pollution) | 120°C | C3 |
| C4 | Industrial areas, coastal areas, chemical plant, with up to 100% relative humidity (high air pollution) | 120°C | C4 |

Gearboxes with optional protection to class **C3** or **C4** are available in a choice of colours.

If no specific colour is requested (see the “PAINTING” option) gearboxes are finished in RAL 7042.

Gearboxes can also be supplied with surface protection for corrosivity class **C5** according to UNI EN ISO 12944-2. Contact our Technical Service for further details.



PAINTING

Gearboxes with optional protection to class C3 or C4 are available in the colours listed in the following table.

(C 32)

| PAINTING | Colour | RAL number |
|-----------------|-----------------|------------|
| RAL7042* | Traffik Grey A | 7042 |
| RAL5010 | Gentian Blue | 5010 |
| RAL9005 | Jet Black | 9005 |
| RAL9006 | White Aluminium | 9006 |
| RAL9010 | Pure White | 9010 |
| RAL7035 | Light Grey | 7035 |
| RAL7001 | Silver Grey | 7001 |
| RAL5015 | Sky Blue | 5015 |
| RAL7037 | Dusty Grey | 7037 |
| RAL5024 | Pastel Blue | 5024 |

* Gearboxes are supplied in this standard colour if no other colour is specified.

NOTE – “PAINTING” options can only be specified in conjunction with “SURFACE PROTECTION” options.

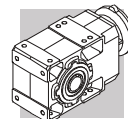
CERTIFICATES

AC - Certificate of compliance

The document certifies the compliance of the product with the purchase order and the construction in conformity with the applicable procedures of the Bonfiglioli Quality System.

CC - Inspection certificate

The document entails checking on order compliance, the visual inspection of external conditions and of mating dimensions. Checking on main functional parameters in unloaded conditions is also performed along with oil seal proofing, both in static and in running conditions. Units inspected are sampled within the shipping batch and marked individually.



33.3 Motor options

AL, AR

The backstop option is also available for M, ME or MX motors and is not compatible with the presence of the same option of the gearbox. The following table shows the direction of free rotation of the gearbox, on the basis of which the correct option must be selected.

(C 34)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------|------|------|------|------|------|------|------|------|----|------|------|------|------|--|--|--|--|----|------|------|--|--|--|--|--|--|---|----|------|--|--|--|--|--|--|--|----|------|------|------|------|------|------|--|--|----|------|------|------|------|--|--|--|--|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>2x </td> <td>A 05</td> <td>A 10</td> <td>A 20</td> <td>A 30</td> <td>A 35</td> <td>A 41</td> <td>A 50</td> <td>A 60</td> </tr> <tr> <td>3x </td> <td>A 60</td> <td>A 70</td> <td>A 80</td> <td>A 90</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4x </td> <td>A 50</td> <td>A 55</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | 2x | A 05 | A 10 | A 20 | A 30 | A 35 | A 41 | A 50 | A 60 | 3x | A 60 | A 70 | A 80 | A 90 | | | | | 4x | A 50 | A 55 | | | | | | | <table border="1"> <tr> <td>2x </td> <td>A 55</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3x </td> <td>A 20</td> <td>A 30</td> <td>A 35</td> <td>A 41</td> <td>A 50</td> <td>A 55</td> <td></td> <td></td> </tr> <tr> <td>4x </td> <td>A 60</td> <td>A 70</td> <td>A 80</td> <td>A 90</td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | 2x | A 55 | | | | | | | | 3x | A 20 | A 30 | A 35 | A 41 | A 50 | A 55 | | | 4x | A 60 | A 70 | A 80 | A 90 | | | | |
| 2x | A 05 | A 10 | A 20 | A 30 | A 35 | A 41 | A 50 | A 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3x | A 60 | A 70 | A 80 | A 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4x | A 50 | A 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2x | A 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3x | A 20 | A 30 | A 35 | A 41 | A 50 | A 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4x | A 60 | A 70 | A 80 | A 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

For further information on options, consult the electric motors section.

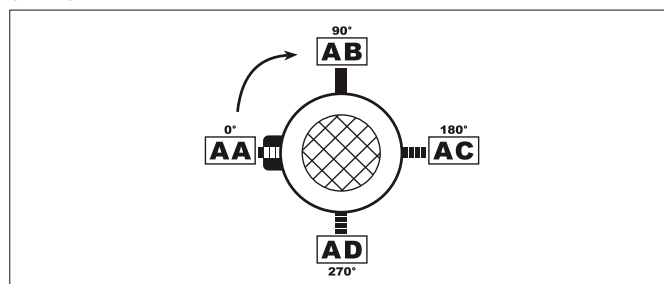
34 MOUNTING POSITION AND TERMINAL BOX ANGULAR LOCATION

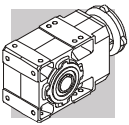
Location of motor terminal box can be specified by viewing the motor from the fan side; standard location is shown in black (W).

Angular location of the brake release lever.

Unless otherwise specified, brake motors have the manual device side located, 90° apart from terminal box. Different angles can be specified through the relevant options available.

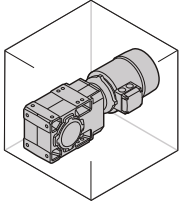
(C 33)



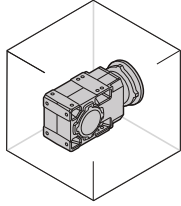


A ...

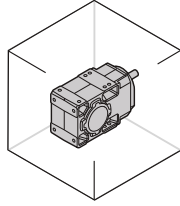
B3



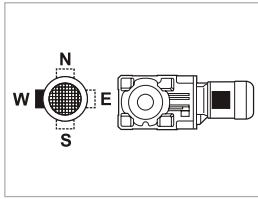
_S



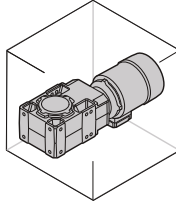
_P(IEC) _SK / _SC



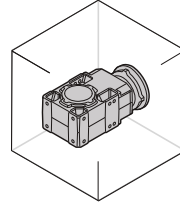
_HS



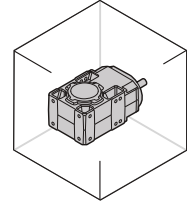
B6



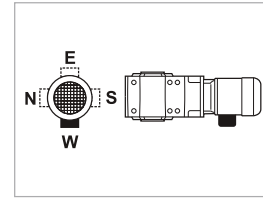
_S



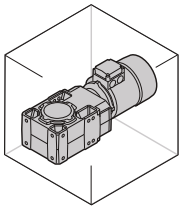
_P(IEC) _SK / _SC



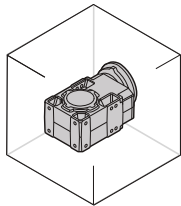
_HS



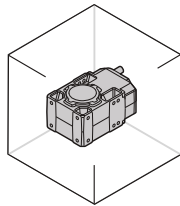
B7



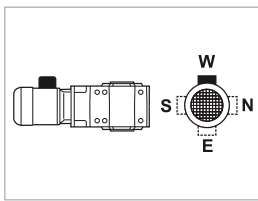
_S



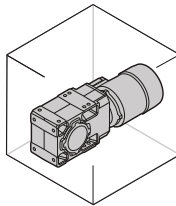
_P(IEC) _SK / _SC



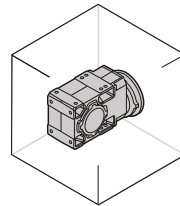
_HS



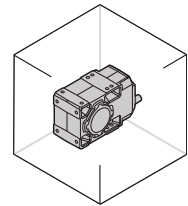
B8



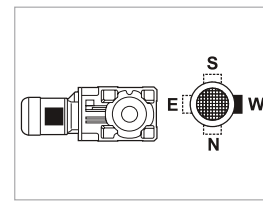
_S



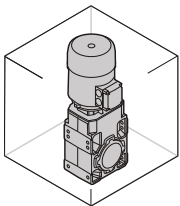
_P(IEC) _SK / _SC



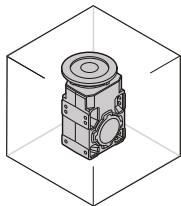
_HS



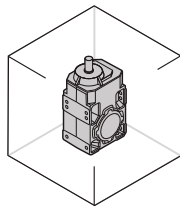
VA



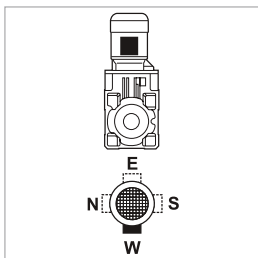
_S



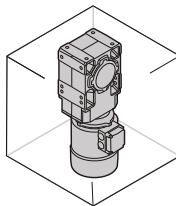
_P(IEC) _SK / _SC



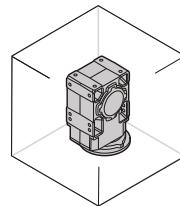
_HS



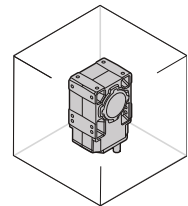
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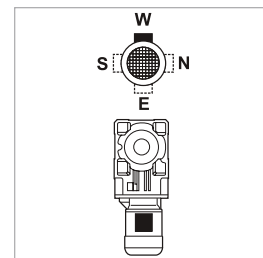
_S

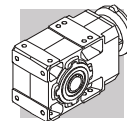


_P(IEC) _SK / _SC



_HS





35 OVERHUNG LOADS

External transmissions keyed onto input and/or output shaft generate loads that act radially onto same shaft.

Resulting shaft loading must be compatible with both the bearing and the shaft capacity. Namely shaft loading (R_{c1} for input shaft, R_{c2} for output shaft), must be equal or lower than admissible overhung load capacity for shaft under study (R_{n1} for input shaft, R_{n2} for output shaft). OHL capability listed in the rating chart section.

In the formulas given below, index (1) applies to parameters relating to input shaft, whereas index (2) refers to output shaft.

The load generated by an external transmission can be calculated with close approximation by the following equations:

$$R_{c1} [N] = \frac{2000 \cdot M_1 [Nm] \cdot K_r}{d [mm]} \quad ; \quad R_{c2} [N] = \frac{2000 \cdot M_2 [Nm] \cdot K_r}{d [mm]} \quad (26)$$

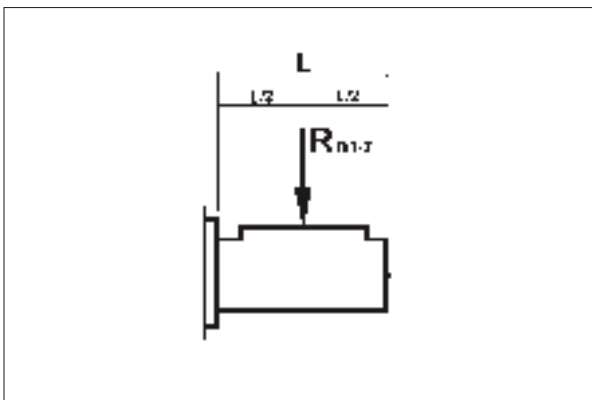
(C 35)

| | |
|------------|--|
| M_1 [Nm] | Torque applied to input shaft |
| M_2 [Nm] | Torque drawn at output shaft |
| d [mm] | Pitch diameter of element keyed onto shaft |
| $K_r = 1$ | Chain transmission |

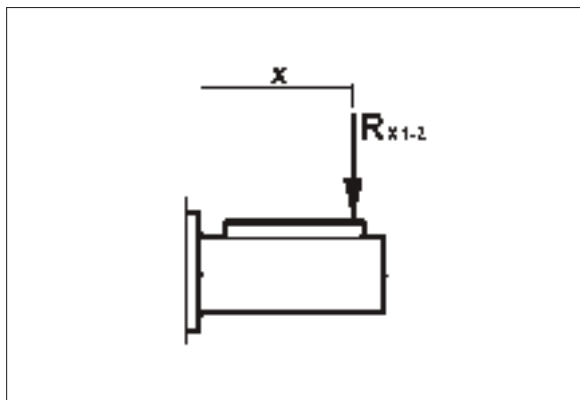
| | |
|--------------|------------------------|
| $K_r = 1,25$ | Gear transmission |
| $K_r = 1,5$ | V-belt transmission |
| $K_r = 2,0$ | Flat belt transmission |

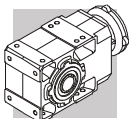
Verification of OHL capability varies depending on whether load applies at midpoint of shaft or it is shifted further out:

(C 36)



(C 37)





a) Load applied at midpoint of shaft, tab. (C36)

A comparison of shaft loading with catalogue OHL ratings should verify the following condition:

$$R_{c1} \leq R_{n1} \quad [\text{input shaft}]$$

or

$$R_{c2} \leq R_{n2} \quad [\text{output shaft}]$$

b) Load off the midpoint tab. (C37)

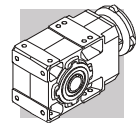
When load is shifted at an “x” distance from shaft shoulder, permissible load must be calculated for that distance.

Revised permissible overhung loads R_{x1} (input) and R_{x2} (output) are calculated respectively from original rated values R_{n1} and R_{n2} through factor:

$$\frac{a}{b+x} \quad (27)$$

(C 38)

| | Load location factors | | | | | |
|------------------------|-----------------------|-------|------|-------------|------|------|
| | Output shaft | | | Input shaft | | |
| | a | b | c | a | b | c |
| A 05 2 | 116 | 86 | 450 | — | — | — |
| A 10 2 | 123 | 101 | 600 | 21 | 1 | 300 |
| A 20 2 | 150 | 120 | 750 | 40 | 20 | 350 |
| A 20 3 | 150 | 120 | 750 | 21 | 1 | 300 |
| A 30 2 | 168 | 138 | 900 | 38.5 | 18.5 | 350 |
| A 30 3 | 168 | 138 | 900 | 21 | 1 | 300 |
| A 35 2 | 182.5 | 147.5 | 950 | 38.5 | 18.5 | 350 |
| A 35 3 | 182.5 | 147.5 | 950 | 21 | 1 | 300 |
| A 41 2 | 198 | 158 | 1050 | 49.5 | 24.5 | 450 |
| A 41 3 | 198 | 158 | 1050 | 40 | 20 | 350 |
| A 50 2 - A 50 3 | 242.5 | 201.5 | 1300 | 49.5 | 24.5 | 450 |
| A 50 4 | 242.5 | 201.5 | 1300 | 38.5 | 18.5 | 350 |
| A 55 2 - A 55 3 | 231.5 | 179 | 1300 | 49.5 | 24.5 | 450 |
| A 55 4 | 231.5 | 179 | 1300 | 38.5 | 18.5 | 350 |
| A 60 2 - A 60 3 | 242.5 | 190 | 1550 | 55.5 | 25.5 | 600 |
| A 60 4 | 242.5 | 190 | 1550 | 49.5 | 24.5 | 450 |
| A 70 3 | 295.5 | 230.5 | 1900 | 86 | 31 | 1000 |
| A 70 4 | 295.5 | 230.5 | 1900 | 49.5 | 24.5 | 450 |
| A 80 3 | 345 | 280 | 2400 | 86 | 31 | 1000 |
| A 80 4 | 345 | 280 | 2400 | 49.5 | 24.5 | 450 |
| A 90 3 | 432 | 327 | 3000 | 116 | 46 | 1400 |
| A 90 4 | 432 | 327 | 3000 | 49.5 | 24.5 | 450 |



Verification procedure is described here after.

INPUT SHAFT

1. Calculate:

$$R_{x1} = R_{n1} \cdot \frac{a}{b+x} \quad (28)$$

N.B. Subject to condition:

$$\frac{L}{2} \leq x \leq c \quad (29)$$

Finally, the following condition must be verified:

$$R_{c1} \leq R_{x1} \quad (30)$$

OUTPUT SHAFT

1. Calculate:

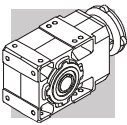
$$R_{x2} = R_{n2} \cdot \frac{a}{b+x} \quad (31)$$

N.B. Subject to condition:

$$\frac{L}{2} \leq x \leq c \quad (32)$$

Finally, the following condition must be verified:

$$R_{c2} \leq R_{x2} \quad (33)$$



36 THRUST LOADS, A_{n1} , A_{n2}

Permissible thrust loads on input [A_{n1}] and output [A_{n2}] shafts are obtained from the radial loading for the shaft under consideration [R_{n1}] and [R_{n2}] through the following equation:

$$\begin{aligned} A_{n1} &= R_{n1} \cdot 0.2 \\ A_{n2} &= R_{n2} \cdot 0.2 \end{aligned} \quad (34)$$

The thrust loads calculated through these formulas apply to thrust forces occurring at the same time as rated radial loads.

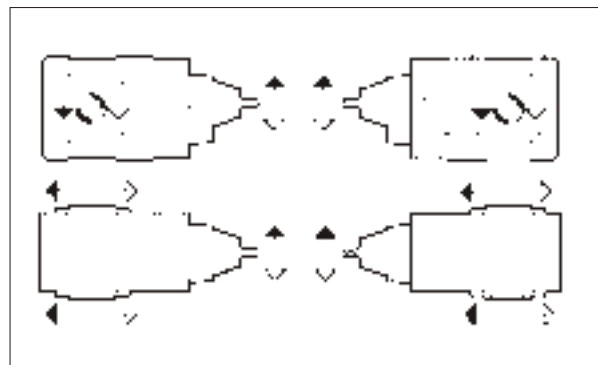
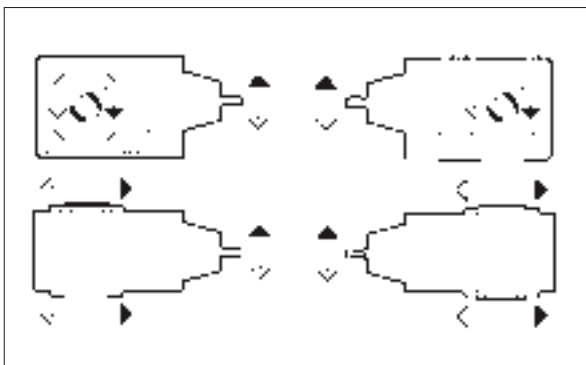
In the only case that no overhung load acts on the shaft the value of the admissible thrust load [A_n] amounts to 50% of rated OHL [R_n] on same shaft.

Where thrust loads exceed permissible value or largely prevail over radial loads, contact Bonfiglioli Riduttori for an in-depth analysis of the application.

37 SHAFTS ARRANGEMENT

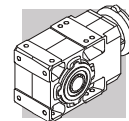
The following table shows standard directions of rotation for 2, 3 and 4 stage helical-bevel gearboxes.

(C 39)






| | | | | | | | | |
|----|------|------|------|------|------|------|------|------|
| 2x | A 05 | A 10 | A 20 | A 30 | A 35 | A 41 | A 50 | A 60 |
| 3x | A 60 | A 70 | A 80 | A 90 | | | | |
| 4x | A 50 | A 55 | | | | | | |

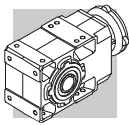
| | | | | | | | |
|----|------|------|------|------|------|------|--|
| 2x | A 55 | | | | | | |
| 3x | A 20 | A 30 | A 35 | A 41 | A 50 | A 55 | |
| 4x | A 60 | A 70 | A 80 | A 90 | | | |



38 GEARMOTOR RATING CHARTS

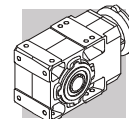
 The selection of motors takes into account the requirements of Regulation 2009/125/CE (see section M of this catalogue). When the motor rated power is below 0,12kW, **BN/M** motors can be provided. Starting from 1st July 2021 the regulation 2009/125/CE will apply also to motors equipped with brake, and 8 poles motors.

| 0.09 kW | | | | | | | | | |
|-------------------------------------|----------------------|------|-------|----------------------|----------------------|---|-----------------------|---|--|
| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE1 |  | IE1 |  | |
| 0.51 | 1492 | 3.4 | 1715 | 50000 | | | A704_1715 P63 BN63A6 | 335 | |
| 1.1 | 677 | 2.2 | 778.2 | 20000 | | | A504_778.2 P63 BN63A6 | 323 | |
| 1.2 | 616 | 2.4 | 707.9 | 20000 | | | A504_707.9 P63 BN63A6 | 323 | |
| 1.4 | 549 | 2.7 | 631.2 | 20000 | | | A504_631.2 P63 BN63A6 | 323 | |
| 1.5 | 499 | 3.0 | 574.2 | 20000 | | | A504_574.2 P63 BN63A6 | 323 | |
| 1.7 | 461 | 3.3 | 529.5 | 20000 | | | A504_529.5 P63 BN63A6 | 323 | |
| 2.2 | 356 | 1.0 | 400.8 | 9600 | A303_400.8 S05 M05A6 | 310 | A303_400.8 P63 BN63A6 | 311 | |
| 2.6 | 302 | 1.7 | 339.3 | 12000 | A353_339.3 S05 M05A6 | 314 | A353_339.3 P63 BN63A6 | 315 | |
| 3.0 | 259 | 3.3 | 291.7 | 15000 | A413_291.7 S05 M05A6 | 318 | A413_291.7 P63 BN63A6 | 319 | |
| 3.5 | 221 | 2.7 | 248.1 | 12000 | A353_248.1 S05 M05A6 | 314 | A353_248.1 P63 BN63A6 | 315 | |
| 4.1 | 193 | 2.1 | 216.6 | 9600 | A303_216.6 S05 M05A6 | 310 | A303_216.6 P63 BN63A6 | 311 | |
| 4.9 | 159 | 1.6 | 178.3 | 6200 | A203_178.3 S05 M05A6 | 306 | A203_178.3 P63 BN63A6 | 307 | |
| 5.8 | 134 | 2.8 | 150.7 | 9600 | A303_150.7 S05 M05A6 | 310 | A303_150.7 P63 BN63A6 | 311 | |
| 6.8 | 115 | 2.2 | 129.1 | 6200 | A203_129.1 S05 M05A6 | 306 | A203_129.1 P63 BN63A6 | 307 | |
| 8.1 | 97 | 2.5 | 109.2 | 6200 | A203_109.2 S05 M05A6 | 306 | A203_109.2 P63 BN63A6 | 307 | |
| 9.6 | 84 | 1.5 | 91.6 | 5500 | A102_91.6 S05 M05A6 | 302 | A102_91.6 P63 BN63A6 | 303 | |
| 11.5 | 70 | 2.1 | 76.4 | 5500 | A102_76.4 S05 M05A6 | 302 | A102_76.4 P63 BN63A6 | 303 | |
| 13.3 | 61 | 2.5 | 65.9 | 5500 | A102_65.9 S05 M05A6 | 302 | A102_65.9 P63 BN63A6 | 303 | |
| 15.0 | 54 | 2.8 | 58.6 | 5500 | A102_58.6 S05 M05A6 | 302 | A102_58.6 P63 BN63A6 | 303 | |
| 17.2 | 47 | 3.2 | 51.3 | 5500 | A102_51.3 S05 M05A6 | 302 | A102_51.3 P63 BN63A6 | 303 | |
| 19.4 | 42 | 2.4 | 45.4 | 4250 | A052_45.4 S05 M05A6 | 299 | A052_45.4 P63 BN63A6 | 299 | |
| 21.5 | 38 | 2.7 | 40.9 | 4120 | A052_40.9 S05 M05A6 | 299 | A052_40.9 P63 BN63A6 | 299 | |
| 25.1 | 32 | 3.1 | 35.1 | 3950 | A052_35.1 S05 M05A6 | 299 | A052_35.1 P63 BN63A6 | 299 | |
| 27.3 | 30 | 3.4 | 32.2 | 3850 | A052_32.2 S05 M05A6 | 299 | A052_32.2 P63 BN63A6 | 299 | |
| 31 | 26 | 3.8 | 28.6 | 3720 | A052_28.6 S05 M05A6 | 299 | A052_28.6 P63 BN63A6 | 299 | |
| 35 | 23 | 4.4 | 25.5 | 3590 | A052_25.5 S05 M05A6 | 299 | A052_25.5 P63 BN63A6 | 299 | |
| 37 | 22 | 4.6 | 23.8 | 3520 | A052_23.8 S05 M05A6 | 299 | A052_23.8 P63 BN63A6 | 299 | |
| 41 | 19.6 | 5.3 | 21.4 | 3410 | A052_21.4 S05 M05A6 | 299 | A052_21.4 P63 BN63A6 | 299 | |
| 47 | 17.1 | 5.9 | 18.6 | 3270 | A052_18.6 S05 M05A6 | 299 | A052_18.6 P63 BN63A6 | 299 | |
| 53 | 15.1 | 6.8 | 16.4 | 3150 | A052_16.4 S05 M05A6 | 299 | A052_16.4 P63 BN63A6 | 299 | |
| 63 | 12.8 | 7.8 | 13.9 | 2990 | A052_13.9 S05 M05A6 | 299 | A052_13.9 P63 BN63A6 | 299 | |
| 72 | 11.3 | 8.8 | 12.3 | 2880 | A052_12.3 S05 M05A6 | 299 | A052_12.3 P63 BN63A6 | 299 | |
| 83 | 9.7 | 10.3 | 10.6 | 2740 | A052_10.6 S05 M05A6 | 299 | A052_10.6 P63 BN63A6 | 299 | |
| 92 | 8.8 | 11.3 | 9.6 | 2670 | A052_9.6 S05 M05A6 | 299 | A052_9.6 P63 BN63A6 | 299 | |
| 103 | 7.8 | 13.2 | 8.5 | 2570 | A052_8.5 S05 M05A6 | 299 | A052_8.5 P63 BN63A6 | 299 | |
| 122 | 6.6 | 15.1 | 7.2 | 2440 | A052_7.2 S05 M05A6 | 299 | A052_7.2 P63 BN63A6 | 299 | |
| 139 | 5.8 | 17.8 | 6.3 | 2340 | A052_6.3 S05 M05A6 | 299 | A052_6.3 P63 BN63A6 | 299 | |
| 161 | 5.0 | 19.9 | 5.5 | 2230 | A052_5.5 S05 M05A6 | 299 | A052_5.5 P63 BN63A6 | 299 | |



0.12 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | iec | |
|-------------------------|----------------------|-----|-------|----------------------|----------------------|-----------------------|-----------------------|-----|
| | | | | | IE1 | IE2 | IE1 | IE2 |
| 0.51 | 2012 | 2.5 | 1715 | 50000 | | | A704_1715 P63 BN63B6 | 335 |
| 0.55 | 1857 | 2.7 | 1583 | 50000 | | | A704_1583 P63 BN63B6 | 335 |
| 0.65 | 1579 | 3.2 | 1346 | 50000 | | | A704_1346 P63 BN63B6 | 335 |
| 0.70 | 1457 | 3.4 | 1242 | 50000 | | | A704_1242 P63 BN63B6 | 335 |
| 1.1 | 913 | 1.6 | 778.2 | 20000 | | | A504_778.2 P63 BN63B6 | 323 |
| 1.2 | 818 | 3.4 | 697.3 | 30000 | | | A604_697.3 P63 BN63B6 | 331 |
| 1.4 | 740 | 2.0 | 631.2 | 20000 | | | A504_631.2 P63 BN63B6 | 323 |
| 1.6 | 621 | 2.4 | 529.5 | 20000 | | | A504_529.5 P63 BN63B6 | 323 |
| 1.7 | 588 | 2.5 | 778.2 | 20000 | | | A504_778.2 P63 BN63A4 | 323 |
| 1.9 | 535 | 2.8 | 707.9 | 20000 | | | A504_707.9 P63 BN63A4 | 323 |
| 2.1 | 477 | 3.1 | 631.2 | 20000 | | | A504_631.2 P63 BN63A4 | 323 |
| 2.4 | 434 | 3.5 | 574.2 | 20000 | | | A504_574.2 P63 BN63A4 | 323 |
| 3.4 | 310 | 1.2 | 400.8 | 9600 | A303_400.8 S05 M05A4 | A303_400.8 S05 ME05A4 | 310 | 311 |
| 3.4 | 304 | 1.5 | 393.2 | 12000 | A353_393.2 S05 M05A4 | A353_393.2 S05 ME05A4 | 314 | 315 |
| 3.6 | 291 | 2.9 | 376.8 | 15000 | A413_376.8 S05 M05A4 | A413_376.8 S05 ME05A4 | 318 | 319 |
| 3.8 | 275 | 1.3 | 356.3 | 9600 | A303_356.3 S05 M05A4 | A303_356.3 S05 ME05A4 | 310 | 311 |
| 4.0 | 262 | 2.0 | 339.3 | 12000 | A353_339.3 S05 M05A4 | A353_339.3 S05 ME05A4 | 314 | 315 |
| 4.1 | 255 | 1.0 | 329.4 | 6200 | A203_329.4 S05 M05A4 | A203_329.4 S05 ME05A4 | 306 | 307 |
| 4.2 | 251 | 3.4 | 324.2 | 15000 | A413_324.2 S05 M05A4 | A413_324.2 S05 ME05A4 | 318 | 319 |
| 4.3 | 243 | 1.6 | 314.5 | 9600 | A303_314.5 S05 M05A4 | A303_314.5 S05 ME05A4 | 310 | 311 |
| 4.4 | 236 | 2.5 | 305.4 | 12000 | A353_305.4 S05 M05A4 | A353_305.4 S05 ME05A4 | 314 | 315 |
| 4.6 | 226 | 1.1 | 292.8 | 6200 | A203_292.8 S05 M05A4 | A203_292.8 S05 ME05A4 | 306 | 307 |
| 5.0 | 210 | 1.8 | 271.5 | 9600 | A303_271.5 S05 M05A4 | A303_271.5 S05 ME05A4 | 310 | 311 |
| 5.0 | 209 | 2.9 | 270.7 | 12000 | A353_270.7 S05 M05A4 | A353_270.7 S05 ME05A4 | 314 | 315 |
| 5.2 | 201 | 1.2 | 260.5 | 6200 | A203_260.5 S05 M05A4 | A203_260.5 S05 ME05A4 | 306 | 307 |
| 5.4 | 192 | 3.1 | 248.1 | 12000 | A353_248.1 S05 M05A4 | A353_248.1 S05 ME05A4 | 314 | 315 |
| 5.5 | 189 | 2.0 | 244.3 | 9600 | A303_244.3 S05 M05A4 | A303_244.3 S05 ME05A4 | 310 | 311 |
| 6.0 | 172 | 3.5 | 223.2 | 12000 | A353_223.2 S05 M05A4 | A353_223.2 S05 ME05A4 | 314 | 315 |
| 6.1 | 171 | 1.5 | 221.3 | 6200 | A203_221.3 S05 M05A4 | A203_221.3 S05 ME05A4 | 306 | 307 |
| 6.2 | 167 | 2.2 | 216.6 | 9600 | A303_216.6 S05 M05A4 | A303_216.6 S05 ME05A4 | 310 | 311 |
| 6.8 | 154 | 1.6 | 199.2 | 6200 | A203_199.2 S05 M05A4 | A203_199.2 S05 ME05A4 | 306 | 307 |
| 6.8 | 153 | 2.3 | 198.5 | 9600 | A303_198.5 S05 M05A4 | A303_198.5 S05 ME05A4 | 310 | 311 |
| 7.6 | 138 | 2.5 | 178.5 | 9600 | A303_178.5 S05 M05A4 | A303_178.5 S05 ME05A4 | 310 | 311 |
| 7.6 | 138 | 1.8 | 178.3 | 6200 | A203_178.3 S05 M05A4 | A203_178.3 S05 ME05A4 | 306 | 307 |
| 8.3 | 126 | 1.9 | 163.4 | 6200 | A203_163.4 S05 M05A4 | A203_163.4 S05 ME05A4 | 306 | 307 |
| 8.4 | 125 | 2.7 | 161.4 | 9600 | A303_161.4 S05 M05A4 | A303_161.4 S05 ME05A4 | 310 | 311 |
| 9.0 | 116 | 2.8 | 150.7 | 9600 | A303_150.7 S05 M05A4 | A303_150.7 S05 ME05A4 | 310 | 311 |
| 9.2 | 113 | 2.0 | 146.1 | 6200 | A203_146.1 S05 M05A4 | A203_146.1 S05 ME05A4 | 306 | 307 |
| 9.8 | 106 | 3.0 | 137.4 | 9600 | A303_137.4 S05 M05A4 | A303_137.4 S05 ME05A4 | 310 | 311 |
| 10.5 | 100 | 2.2 | 129.1 | 6200 | A203_129.1 S05 M05A4 | A203_129.1 S05 ME05A4 | 306 | 307 |
| 11.2 | 93 | 2.3 | 120.5 | 6200 | A203_120.5 S05 M05A4 | A203_120.5 S05 ME05A4 | 306 | 307 |
| 11.2 | 93 | 3.2 | 120.5 | 9600 | A303_120.5 S05 M05A4 | A303_120.5 S05 ME05A4 | 310 | 311 |
| 12.4 | 84 | 2.4 | 109.2 | 6200 | A203_109.2 S05 M05A4 | A203_109.2 S05 ME05A4 | 306 | 307 |
| 14.6 | 74 | 2.7 | 92.3 | 6200 | A202_92.3 S05 M05A4 | A202_92.3 S05 ME05A4 | 306 | 307 |
| 14.7 | 73 | 1.4 | 91.6 | 4420 | A052_91.6 S05 M05A4 | A052_91.6 S05 ME05A4 | 299 | 299 |
| 14.7 | 73 | 1.8 | 91.6 | 5500 | A102_91.6 S05 M05A4 | A102_91.6 S05 ME05A4 | 302 | 303 |
| 16.9 | 64 | 3.3 | 79.9 | 6200 | A202_79.9 S05 M05A4 | A202_79.9 S05 ME05A4 | 306 | 307 |
| 17.7 | 61 | 1.6 | 76.4 | 4230 | A052_76.4 S05 M05A4 | A052_76.4 S05 ME05A4 | 299 | 299 |
| 17.7 | 61 | 2.5 | 76.4 | 5500 | A102_76.4 S05 M05A4 | A102_76.4 S05 ME05A4 | 302 | 303 |
| 20.5 | 53 | 1.9 | 65.9 | 4070 | A052_65.9 S05 M05A4 | A052_65.9 S05 ME05A4 | 299 | 299 |
| 20.5 | 53 | 2.8 | 65.9 | 5500 | A102_65.9 S05 M05A4 | A102_65.9 S05 ME05A4 | 302 | 303 |
| 23.0 | 47 | 2.1 | 58.6 | 3950 | A052_58.6 S05 M05A4 | A052_58.6 S05 ME05A4 | 299 | 299 |
| 23.0 | 47 | 3.2 | 58.6 | 5500 | A102_58.6 S05 M05A4 | A102_58.6 S05 ME05A4 | 302 | 303 |
| 26.3 | 41 | 2.4 | 51.3 | 3810 | A052_51.3 S05 M05A4 | A052_51.3 S05 ME05A4 | 299 | 299 |
| 29.7 | 36 | 2.8 | 45.4 | 3680 | A052_45.4 S05 M05A4 | A052_45.4 S05 ME05A4 | 299 | 299 |
| 33 | 33 | 3.1 | 40.9 | 3570 | A052_40.9 S05 M05A4 | A052_40.9 S05 ME05A4 | 299 | 299 |
| 38 | 28 | 3.6 | 35.1 | 3420 | A052_35.1 S05 M05A4 | A052_35.1 S05 ME05A4 | 299 | 299 |
| 42 | 26 | 3.9 | 32.2 | 3340 | A052_32.2 S05 M05A4 | A052_32.2 S05 ME05A4 | 299 | 299 |
| 47 | 23 | 4.4 | 28.6 | 3220 | A052_28.6 S05 M05A4 | A052_28.6 S05 ME05A4 | 299 | 299 |
| 53 | 20 | 4.9 | 25.5 | 3110 | A052_25.5 S05 M05A4 | A052_25.5 S05 ME05A4 | 299 | 299 |
| 57 | 19 | 5.3 | 23.8 | 3050 | A052_23.8 S05 M05A4 | A052_23.8 S05 ME05A4 | 299 | 299 |
| 62 | 17.3 | 5.8 | 13.9 | 2960 | A052_13.9 S05 M05B6 | A052_13.9 S05 ME05B6 | 299 | 299 |
| 63 | 17.1 | 5.9 | 21.4 | 2950 | A052_21.4 S05 M05A4 | A052_21.4 S05 ME05A4 | 299 | 299 |
| 73 | 14.8 | 6.7 | 18.6 | 2830 | A052_18.6 S05 M05A4 | A052_18.6 S05 ME05A4 | 299 | 299 |
| 82 | 13.1 | 7.6 | 16.4 | 2730 | A052_16.4 S05 M05A4 | A052_16.4 S05 ME05A4 | 299 | 299 |

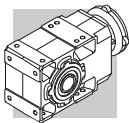


0.12 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE1 | | IE2 | IEC | | |
|-------------------------------------|----------------------|------|------|----------------------|---------------------|----------------------|-----|----------------------|----------------------|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | |
| 90 | 11.9 | 8.4 | 9.6 | 2640 | A052_9.6 S05 M05B6 | | 299 | A052_9.6 P63 BN63B6 | 299 | |
| 97 | 11.1 | 9.0 | 13.9 | 2590 | A052_13.9 S05 M05A4 | A052_13.9 S05 ME05A4 | 299 | A052_13.9 P63 BN63A4 | A052_13.9 P63 BE63A4 | 299 |
| 110 | 9.8 | 10.2 | 12.3 | 2500 | A052_12.3 S05 M05A4 | A052_12.3 S05 ME05A4 | 299 | A052_12.3 P63 BN63A4 | A052_12.3 P63 BE63A4 | 299 |
| 121 | 8.9 | 11.2 | 7.2 | 2420 | A052_7.2 S05 M05B6 | | 299 | A052_7.2 P63 BN63B6 | | 299 |
| 128 | 8.4 | 11.9 | 10.6 | 2380 | A052_10.6 S05 M05A4 | A052_10.6 S05 ME05A4 | 299 | A052_10.6 P63 BN63A4 | A052_10.6 P63 BE63A4 | 299 |
| 140 | 7.7 | 13.0 | 9.6 | 2310 | A052_9.6 S05 M05A4 | A052_9.6 S05 ME05A4 | 299 | A052_9.6 P63 BN63A4 | A052_9.6 P63 BE63A4 | 299 |
| 159 | 6.8 | 14.7 | 8.5 | 2220 | A052_8.5 S05 M05A4 | A052_8.5 S05 ME05A4 | 299 | A052_8.5 P63 BN63A4 | A052_8.5 P63 BE63A4 | 299 |
| 187 | 5.8 | 17.4 | 7.2 | 2110 | A052_7.2 S05 M05A4 | A052_7.2 S05 ME05A4 | 299 | A052_7.2 P63 BN63A4 | A052_7.2 P63 BE63A4 | 299 |
| 213 | 5.1 | 19.8 | 6.3 | 2020 | A052_6.3 S05 M05A4 | A052_6.3 S05 ME05A4 | 299 | A052_6.3 P63 BN63A4 | A052_6.3 P63 BE63A4 | 299 |
| 247 | 4.4 | 21.8 | 5.5 | 1930 | A052_5.5 S05 M05A4 | A052_5.5 S05 ME05A4 | 299 | A052_5.5 P63 BN63A4 | A052_5.5 P63 BE63A4 | 299 |

0.12 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE3 | | IEC | IE3 |
|-------------------------------------|----------------------|-----|-------|----------------------|-------------------------|-----|-------------------------|-----|
| | | | | | IE3 | IE3 | | |
| 0.51 | 2012 | 2.5 | 1715 | 50000 | | | | |
| 0.55 | 1857 | 2.7 | 1583 | 50000 | | | | |
| 0.65 | 1579 | 3.2 | 1346 | 50000 | | | | |
| 0.70 | 1457 | 3.4 | 1242 | 50000 | | | | |
| 1.1 | 913 | 1.6 | 778.2 | 20000 | | | | |
| 1.2 | 818 | 3.4 | 697.3 | 30000 | | | | |
| 1.4 | 740 | 2.0 | 631.2 | 20000 | | | | |
| 1.6 | 621 | 2.4 | 529.5 | 20000 | | | | |
| 1.7 | 588 | 2.5 | 778.2 | 20000 | | | A504_778.2 P63 BXN63MA4 | 323 |
| 1.9 | 535 | 2.8 | 707.9 | 20000 | | | A504_707.9 P63 BXN63MA4 | 323 |
| 2.1 | 477 | 3.1 | 631.2 | 20000 | | | A504_631.2 P63 BXN63MA4 | 323 |
| 2.4 | 434 | 3.5 | 574.2 | 20000 | | | A504_574.2 P63 BXN63MA4 | 323 |
| 3.4 | 310 | 1.2 | 400.8 | 9600 | A303_400.8 S05 MXN05MA4 | 310 | A303_400.8 P63 BXN63MA4 | 311 |
| 3.4 | 304 | 1.5 | 393.2 | 12000 | A353_393.2 S05 MXN05MA4 | 314 | A353_393.2 P63 BXN63MA4 | 315 |
| 3.6 | 291 | 2.9 | 376.8 | 15000 | A413_376.8 S05 MXN05MA4 | 318 | A413_376.8 P63 BXN63MA4 | 319 |
| 3.8 | 275 | 1.3 | 356.3 | 9600 | A303_356.3 S05 MXN05MA4 | 310 | A303_356.3 P63 BXN63MA4 | 311 |
| 4.0 | 262 | 2.0 | 339.3 | 12000 | A353_339.3 S05 MXN05MA4 | 314 | A353_339.3 P63 BXN63MA4 | 315 |
| 4.1 | 255 | 1.0 | 329.4 | 6200 | A203_329.4 S05 MXN05MA4 | 306 | A203_329.4 P63 BXN63MA4 | 307 |
| 4.2 | 251 | 3.4 | 324.2 | 15000 | A413_324.2 S05 MXN05MA4 | 318 | A413_324.2 P63 BXN63MA4 | 319 |
| 4.3 | 243 | 1.6 | 314.5 | 9600 | A303_314.5 S05 MXN05MA4 | 310 | A303_314.5 P63 BXN63MA4 | 311 |
| 4.4 | 236 | 2.5 | 305.4 | 12000 | A353_305.4 S05 MXN05MA4 | 314 | A353_305.4 P63 BXN63MA4 | 315 |
| 4.6 | 226 | 1.1 | 292.8 | 6200 | A203_292.8 S05 MXN05MA4 | 306 | A203_292.8 P63 BXN63MA4 | 307 |
| 5.0 | 210 | 1.8 | 271.5 | 9600 | A303_271.5 S05 MXN05MA4 | 310 | A303_271.5 P63 BXN63MA4 | 311 |
| 5.0 | 209 | 2.9 | 270.7 | 12000 | A353_270.7 S05 MXN05MA4 | 314 | A353_270.7 P63 BXN63MA4 | 315 |
| 5.2 | 201 | 1.2 | 260.5 | 6200 | A203_260.5 S05 MXN05MA4 | 306 | A203_260.5 P63 BXN63MA4 | 307 |
| 5.4 | 192 | 3.1 | 248.1 | 12000 | A353_248.1 S05 MXN05MA4 | 314 | A353_248.1 P63 BXN63MA4 | 315 |
| 5.5 | 189 | 2.0 | 244.3 | 9600 | A303_244.3 S05 MXN05MA4 | 310 | A303_244.3 P63 BXN63MA4 | 311 |
| 6.0 | 172 | 3.5 | 223.2 | 12000 | A353_223.2 S05 MXN05MA4 | 314 | A353_223.2 P63 BXN63MA4 | 315 |
| 6.1 | 171 | 1.5 | 221.3 | 6200 | A203_221.3 S05 MXN05MA4 | 306 | A203_221.3 P63 BXN63MA4 | 307 |
| 6.2 | 167 | 2.2 | 216.6 | 9600 | A303_216.6 S05 MXN05MA4 | 310 | A303_216.6 P63 BXN63MA4 | 311 |
| 6.8 | 154 | 1.6 | 199.2 | 6200 | A203_199.2 S05 MXN05MA4 | 306 | A203_199.2 P63 BXN63MA4 | 307 |
| 6.8 | 153 | 2.3 | 198.5 | 9600 | A303_198.5 S05 MXN05MA4 | 310 | A303_198.5 P63 BXN63MA4 | 311 |
| 7.6 | 138 | 2.5 | 178.5 | 9600 | A303_178.5 S05 MXN05MA4 | 310 | A303_178.5 P63 BXN63MA4 | 311 |
| 7.6 | 138 | 1.8 | 178.3 | 6200 | A203_178.3 S05 MXN05MA4 | 306 | A203_178.3 P63 BXN63MA4 | 307 |
| 8.3 | 126 | 1.9 | 163.4 | 6200 | A203_163.4 S05 MXN05MA4 | 306 | A203_163.4 P63 BXN63MA4 | 307 |
| 8.4 | 125 | 2.7 | 161.4 | 9600 | A303_161.4 S05 MXN05MA4 | 310 | A303_161.4 P63 BXN63MA4 | 311 |
| 9.0 | 116 | 2.8 | 150.7 | 9600 | A303_150.7 S05 MXN05MA4 | 310 | A303_150.7 P63 BXN63MA4 | 311 |
| 9.2 | 113 | 2.0 | 146.1 | 6200 | A203_146.1 S05 MXN05MA4 | 306 | A203_146.1 P63 BXN63MA4 | 307 |
| 9.8 | 106 | 3.0 | 137.4 | 9600 | A303_137.4 S05 MXN05MA4 | 310 | A303_137.4 P63 BXN63MA4 | 311 |
| 10.5 | 100 | 2.2 | 129.1 | 6200 | A203_129.1 S05 MXN05MA4 | 306 | A203_129.1 P63 BXN63MA4 | 307 |
| 11.2 | 93 | 2.3 | 120.5 | 6200 | A203_120.5 S05 MXN05MA4 | 306 | A203_120.5 P63 BXN63MA4 | 307 |
| 11.2 | 93 | 3.2 | 120.5 | 9600 | A303_120.5 S05 MXN05MA4 | 310 | A303_120.5 P63 BXN63MA4 | 311 |
| 12.4 | 84 | 2.4 | 109.2 | 6200 | A203_109.2 S05 MXN05MA4 | 306 | A203_109.2 P63 BXN63MA4 | 307 |
| 14.6 | 74 | 2.7 | 92.3 | 6200 | A202_92.3 S05 MXN05MA4 | 306 | A202_92.3 P63 BXN63MA4 | 307 |
| 14.7 | 73 | 1.4 | 91.6 | 4420 | A052_91.6 S05 MXN05MA4 | 299 | A052_91.6 P63 BXN63MA4 | 299 |
| 14.7 | 73 | 1.8 | 91.6 | 5500 | A102_91.6 S05 MXN05MA4 | 302 | A102_91.6 P63 BXN63MA4 | 303 |
| 16.9 | 64 | 3.3 | 79.9 | 6200 | A202_79.9 S05 MXN05MA4 | 306 | A202_79.9 P63 BXN63MA4 | 307 |

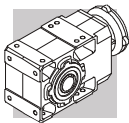


0.12 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IE3 | IEC | |
|-------------------------|----------------------|------|------|----------------------|------------------------|-----|------------------------|-----|
| | | | | | | | IE3 | IE3 |
| 17.7 | 61 | 1.6 | 76.4 | 4230 | A052_76.4 S05 MXN05MA4 | 299 | A052_76.4 P63 BXN63MA4 | 299 |
| 17.7 | 61 | 2.5 | 76.4 | 5500 | A102_76.4 S05 MXN05MA4 | 302 | A102_76.4 P63 BXN63MA4 | 303 |
| 20.5 | 53 | 1.9 | 65.9 | 4070 | A052_65.9 S05 MXN05MA4 | 299 | A052_65.9 P63 BXN63MA4 | 299 |
| 20.5 | 53 | 2.8 | 65.9 | 5500 | A102_65.9 S05 MXN05MA4 | 302 | A102_65.9 P63 BXN63MA4 | 303 |
| 23.0 | 47 | 2.1 | 58.6 | 3950 | A052_58.6 S05 MXN05MA4 | 299 | A052_58.6 P63 BXN63MA4 | 299 |
| 23.0 | 47 | 3.2 | 58.6 | 5500 | A102_58.6 S05 MXN05MA4 | 302 | A102_58.6 P63 BXN63MA4 | 303 |
| 26.3 | 41 | 2.4 | 51.3 | 3810 | A052_51.3 S05 MXN05MA4 | 299 | A052_51.3 P63 BXN63MA4 | 299 |
| 29.7 | 36 | 2.8 | 45.4 | 3680 | A052_45.4 S05 MXN05MA4 | 299 | A052_45.4 P63 BXN63MA4 | 299 |
| 33 | 33 | 3.1 | 40.9 | 3570 | A052_40.9 S05 MXN05MA4 | 299 | A052_40.9 P63 BXN63MA4 | 299 |
| 38 | 28 | 3.6 | 35.1 | 3420 | A052_35.1 S05 MXN05MA4 | 299 | A052_35.1 P63 BXN63MA4 | 299 |
| 42 | 26 | 3.9 | 32.2 | 3340 | A052_32.2 S05 MXN05MA4 | 299 | A052_32.2 P63 BXN63MA4 | 299 |
| 47 | 23 | 4.4 | 28.6 | 3220 | A052_28.6 S05 MXN05MA4 | 299 | A052_28.6 P63 BXN63MA4 | 299 |
| 53 | 20 | 4.9 | 25.5 | 3110 | A052_25.5 S05 MXN05MA4 | 299 | A052_25.5 P63 BXN63MA4 | 299 |
| 57 | 19 | 5.3 | 23.8 | 3050 | A052_23.8 S05 MXN05MA4 | 299 | A052_23.8 P63 BXN63MA4 | 299 |
| 62 | 17.3 | 5.8 | 13.9 | 2960 | | | | |
| 63 | 17.1 | 5.9 | 21.4 | 2950 | A052_21.4 S05 MXN05MA4 | 299 | A052_21.4 P63 BXN63MA4 | 299 |
| 73 | 14.8 | 6.7 | 18.6 | 2830 | A052_18.6 S05 MXN05MA4 | 299 | A052_18.6 P63 BXN63MA4 | 299 |
| 82 | 13.1 | 7.6 | 16.4 | 2730 | A052_16.4 S05 MXN05MA4 | 299 | A052_16.4 P63 BXN63MA4 | 299 |
| 90 | 11.9 | 8.4 | 9.6 | 2640 | | | | |
| 97 | 11.1 | 9.0 | 13.9 | 2590 | A052_13.9 S05 MXN05MA4 | 299 | A052_13.9 P63 BXN63MA4 | 299 |
| 110 | 9.8 | 10.2 | 12.3 | 2500 | A052_12.3 S05 MXN05MA4 | 299 | A052_12.3 P63 BXN63MA4 | 299 |
| 121 | 8.9 | 11.2 | 7.2 | 2420 | | | | |
| 128 | 8.4 | 11.9 | 10.6 | 2380 | A052_10.6 S05 MXN05MA4 | 299 | A052_10.6 P63 BXN63MA4 | 299 |
| 140 | 7.7 | 13.0 | 9.6 | 2310 | A052_9.6 S05 MXN05MA4 | 299 | A052_9.6 P63 BXN63MA4 | 299 |
| 159 | 6.8 | 14.7 | 8.5 | 2220 | A052_8.5 S05 MXN05MA4 | 299 | A052_8.5 P63 BXN63MA4 | 299 |
| 187 | 5.8 | 17.4 | 7.2 | 2110 | A052_7.2 S05 MXN05MA4 | 299 | A052_7.2 P63 BXN63MA4 | 299 |
| 213 | 5.1 | 19.8 | 6.3 | 2020 | A052_6.3 S05 MXN05MA4 | 299 | A052_6.3 P63 BXN63MA4 | 299 |
| 247 | 4.4 | 21.8 | 5.5 | 1930 | A052_5.5 S05 MXN05MA4 | 299 | A052_5.5 P63 BXN63MA4 | 299 |

0.18 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE1 | IE2 | IE1 | IEC | |
|-------------------------|----------------------|-----|-------|----------------------|----------------------|-----------------------|-----|-----------------------|-----|
| | | | | | | | | IE1 | IE2 |
| 0.52 | 2917 | 1.7 | 1715 | 50000 | A704_1715 S1 M1SC6 | | 334 | A704_1715 P71 BN71A6 | 335 |
| 0.58 | 2649 | 3.0 | 1558 | 65000 | A804_1558 S1 M1SC6 | | 337 | A804_1558 P71 BN71A6 | 338 |
| 0.67 | 2279 | 3.5 | 1340 | 65000 | A804_1340 S1 M1SC6 | | 337 | A804_1340 P71 BN71A6 | 338 |
| 0.77 | 1989 | 2.5 | 1715 | 50000 | | | | A704_1715 P63 BN63B4 | 335 |
| 0.83 | 1836 | 2.7 | 1583 | 50000 | | | | A704_1583 P63 BN63B4 | 335 |
| 0.98 | 1561 | 3.2 | 1346 | 50000 | | | | A704_1346 P63 BN63B4 | 335 |
| 1.1 | 1441 | 3.5 | 1242 | 50000 | | | | A704_1242 P63 BN63B4 | 335 |
| 1.3 | 1186 | 2.4 | 697.3 | 30000 | A604_697.3 S1 M1SC6 | | 330 | A604_697.3 P71 BN71A6 | 331 |
| 1.5 | 996 | 2.8 | 585.8 | 30000 | A604_585.8 S1 M1SC6 | | 330 | A604_585.8 P71 BN71A6 | 331 |
| 1.7 | 902 | 1.7 | 778.2 | 20000 | | | | A504_778.2 P63 BN63B4 | 323 |
| 1.7 | 876 | 3.2 | 755.4 | 30000 | | | | A604_755.4 P63 BN63B4 | 331 |
| 1.9 | 821 | 1.8 | 707.9 | 20000 | | | | A504_707.9 P63 BN63B4 | 323 |
| 1.9 | 809 | 3.5 | 697.3 | 30000 | | | | A604_697.3 P63 BN63B4 | 331 |
| 2.1 | 732 | 2.0 | 631.2 | 20000 | | | | A504_631.2 P63 BN63B4 | 323 |
| 2.3 | 666 | 2.3 | 574.2 | 20000 | | | | A504_574.2 P63 BN63B4 | 323 |
| 2.5 | 614 | 2.4 | 529.5 | 20000 | | | | A504_529.5 P63 BN63B4 | 323 |
| 2.7 | 559 | 2.7 | 481.6 | 20000 | | | | A504_481.6 P63 BN63B4 | 323 |
| 3.0 | 518 | 2.9 | 446.8 | 20000 | | | | A504_446.8 P63 BN63B4 | 323 |
| 3.2 | 471 | 3.2 | 406.4 | 20000 | | | | A504_406.4 P63 BN63B4 | 323 |
| 3.4 | 466 | 1.0 | 393.2 | 12000 | A353_393.2 S05 M05B4 | A353_393.2 S05 ME05B4 | 314 | A353_393.2 P63 BN63B4 | 315 |
| 3.5 | 447 | 1.9 | 376.8 | 15000 | A413_376.8 S05 M05B4 | A413_376.8 S05 ME05B4 | 318 | A413_376.8 P63 BN63B4 | 319 |
| 3.6 | 424 | 3.5 | 365.6 | 20000 | | | | A504_365.6 P63 BN63B4 | 323 |
| 3.7 | 422 | 0.9 | 356.3 | 9600 | A303_356.3 S05 M05B4 | A303_356.3 S05 ME05B4 | 310 | A303_356.3 P63 BN63B4 | 311 |
| 3.9 | 402 | 1.3 | 339.3 | 12000 | A353_339.3 S05 M05B4 | A353_339.3 S05 ME05B4 | 314 | A353_339.3 P63 BN63B4 | 315 |
| 4.1 | 384 | 2.2 | 324.2 | 15000 | A413_324.2 S05 M05B4 | A413_324.2 S05 ME05B4 | 318 | A413_324.2 P63 BN63B4 | 319 |
| 4.2 | 373 | 1.0 | 314.5 | 9600 | A303_314.5 S05 M05B4 | A303_314.5 S05 ME05B4 | 310 | A303_314.5 P63 BN63B4 | 311 |
| 4.3 | 362 | 1.7 | 305.4 | 12000 | A353_305.4 S05 M05B4 | A353_305.4 S05 ME05B4 | 314 | A353_305.4 P63 BN63B4 | 315 |
| 4.5 | 346 | 2.5 | 291.7 | 15000 | A413_291.7 S05 M05B4 | A413_291.7 S05 ME05B4 | 318 | A413_291.7 P63 BN63B4 | 319 |
| 4.9 | 322 | 1.2 | 271.5 | 9600 | A303_271.5 S05 M05B4 | A303_271.5 S05 ME05B4 | 310 | A303_271.5 P63 BN63B4 | 311 |

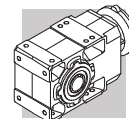


0.18 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | |
|-------------------------------------|----------------------|------|-----|----------------------|--------------------|-----|-----|---------------------|-----|
| | | | | | IE1 | IE2 | | | IE1 |
| 284 | 5.7 | 16.7 | 9.6 | 1830 | A052_9.6 S05 M05A2 | | 299 | A052_9.6 P63 BN63A2 | 299 |
| 321 | 5.0 | 17.8 | 8.5 | 1770 | A052_8.5 S05 M05A2 | | 299 | A052_8.5 P63 BN63A2 | 299 |
| 379 | 4.3 | 19.9 | 7.2 | 1670 | A052_7.2 S05 M05A2 | | 299 | A052_7.2 P63 BN63A2 | 299 |
| 431 | 3.8 | 21.3 | 6.3 | 1610 | A052_6.3 S05 M05A2 | | 299 | A052_6.3 P63 BN63A2 | 299 |
| 499 | 3.2 | 23.2 | 5.5 | 1530 | A052_5.5 S05 M05A2 | | 299 | A052_5.5 P63 BN63A2 | 299 |

0.18 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | |
|-------------------------------------|----------------------|-----|-------|----------------------|-------------------------|-----|-------------------------|-----|
| | | | | | IE3 | IE3 | | |
| 0.52 | 2917 | 1.7 | 1715 | 50000 | | | | |
| 0.58 | 2649 | 3.0 | 1558 | 65000 | | | | |
| 0.67 | 2279 | 3.5 | 1340 | 65000 | | | | |
| 0.77 | 1989 | 2.5 | 1715 | 50000 | | | A704_1715 P63 BXN63MB4 | 335 |
| 0.83 | 1836 | 2.7 | 1583 | 50000 | | | A704_1583 P63 BXN63MB4 | 335 |
| 0.98 | 1561 | 3.2 | 1346 | 50000 | | | A704_1346 P63 BXN63MB4 | 335 |
| 1.1 | 1441 | 3.5 | 1242 | 50000 | | | A704_1242 P63 BXN63MB4 | 335 |
| 1.3 | 1186 | 2.4 | 697.3 | 30000 | | | | |
| 1.5 | 996 | 2.8 | 585.8 | 30000 | | | | |
| 1.7 | 902 | 1.7 | 778.2 | 20000 | | | A504_778.2 P63 BXN63MB4 | 323 |
| 1.7 | 876 | 3.2 | 755.4 | 30000 | | | A604_755.4 P63 BXN63MB4 | 331 |
| 1.9 | 821 | 1.8 | 707.9 | 20000 | | | A504_707.9 P63 BXN63MB4 | 323 |
| 1.9 | 809 | 3.5 | 697.3 | 30000 | | | A604_697.3 P63 BXN63MB4 | 331 |
| 2.1 | 732 | 2.0 | 631.2 | 20000 | | | A504_631.2 P63 BXN63MB4 | 323 |
| 2.3 | 666 | 2.3 | 574.2 | 20000 | | | A504_574.2 P63 BXN63MB4 | 323 |
| 2.5 | 614 | 2.4 | 529.5 | 20000 | | | A504_529.5 P63 BXN63MB4 | 323 |
| 2.7 | 559 | 2.7 | 481.6 | 20000 | | | A504_481.6 P63 BXN63MB4 | 323 |
| 3.0 | 518 | 2.9 | 446.8 | 20000 | | | A504_446.8 P63 BXN63MB4 | 323 |
| 3.2 | 471 | 3.2 | 406.4 | 20000 | | | A504_406.4 P63 BXN63MB4 | 323 |
| 3.4 | 466 | 1.0 | 393.2 | 12000 | A353_393.2 S05 MXN05MB4 | 314 | A353_393.2 P63 BXN63MB4 | 315 |
| 3.5 | 447 | 1.9 | 376.8 | 15000 | A413_376.8 S05 MXN05MB4 | 318 | A413_376.8 P63 BXN63MB4 | 319 |
| 3.6 | 424 | 3.5 | 365.6 | 20000 | | | A504_365.6 P63 BXN63MB4 | 323 |
| 3.7 | 422 | 0.9 | 356.3 | 9600 | A303_356.3 S05 MXN05MB4 | 310 | A303_356.3 P63 BXN63MB4 | 311 |
| 3.9 | 402 | 1.3 | 339.3 | 12000 | A353_339.3 S05 MXN05MB4 | 314 | A353_339.3 P63 BXN63MB4 | 315 |
| 4.1 | 384 | 2.2 | 324.2 | 15000 | A413_324.2 S05 MXN05MB4 | 318 | A413_324.2 P63 BXN63MB4 | 319 |
| 4.2 | 373 | 1.0 | 314.5 | 9600 | A303_314.5 S05 MXN05MB4 | 310 | A303_314.5 P63 BXN63MB4 | 311 |
| 4.3 | 362 | 1.7 | 305.4 | 12000 | A353_305.4 S05 MXN05MB4 | 314 | A353_305.4 P63 BXN63MB4 | 315 |
| 4.5 | 346 | 2.5 | 291.7 | 15000 | A413_291.7 S05 MXN05MB4 | 318 | A413_291.7 P63 BXN63MB4 | 319 |
| 4.9 | 322 | 1.2 | 271.5 | 9600 | A303_271.5 S05 MXN05MB4 | 310 | A303_271.5 P63 BXN63MB4 | 311 |
| 4.9 | 321 | 1.9 | 270.7 | 12000 | A353_270.7 S05 MXN05MB4 | 314 | A353_270.7 P63 BXN63MB4 | 315 |
| 5.0 | 311 | 2.7 | 262.5 | 15000 | A413_262.5 S05 MXN05MB4 | 318 | A413_262.5 P63 BXN63MB4 | 319 |
| 5.3 | 294 | 2.0 | 248.1 | 12000 | A353_248.1 S05 MXN05MB4 | 314 | A353_248.1 P63 BXN63MB4 | 315 |
| 5.4 | 290 | 1.3 | 244.3 | 9600 | A303_244.3 S05 MXN05MB4 | 310 | A303_244.3 P63 BXN63MB4 | 311 |
| 5.5 | 285 | 3.0 | 240.6 | 15000 | A413_240.6 S05 MXN05MB4 | 318 | A413_240.6 P63 BXN63MB4 | 319 |
| 5.9 | 265 | 2.3 | 223.2 | 12000 | A353_223.2 S05 MXN05MB4 | 314 | A353_223.2 P63 BXN63MB4 | 315 |
| 6.0 | 262 | 1.0 | 221.3 | 6200 | A203_221.3 S05 MXN05MB4 | 306 | A203_221.3 P63 BXN63MB4 | 307 |
| 6.1 | 258 | 3.3 | 217.4 | 15000 | A413_217.4 S05 MXN05MB4 | 318 | A413_217.4 P63 BXN63MB4 | 319 |
| 6.1 | 257 | 1.4 | 216.6 | 9600 | A303_216.6 S05 MXN05MB4 | 310 | A303_216.6 P63 BXN63MB4 | 311 |
| 6.5 | 239 | 2.5 | 201.8 | 12000 | A353_201.8 S05 MXN05MB4 | 314 | A353_201.8 P63 BXN63MB4 | 315 |
| 6.6 | 236 | 1.1 | 199.2 | 6200 | A203_199.2 S05 MXN05MB4 | 306 | A203_199.2 P63 BXN63MB4 | 307 |
| 6.6 | 235 | 1.5 | 198.5 | 9600 | A303_198.5 S05 MXN05MB4 | 310 | A303_198.5 P63 BXN63MB4 | 311 |
| 7.0 | 223 | 2.7 | 188.3 | 12000 | A353_188.3 S05 MXN05MB4 | 314 | A353_188.3 P63 BXN63MB4 | 315 |
| 7.4 | 212 | 1.6 | 178.5 | 9600 | A303_178.5 S05 MXN05MB4 | 310 | A303_178.5 P63 BXN63MB4 | 311 |
| 7.4 | 211 | 1.2 | 178.3 | 6200 | A203_178.3 S05 MXN05MB4 | 306 | A203_178.3 P63 BXN63MB4 | 307 |
| 7.7 | 204 | 2.9 | 171.8 | 12000 | A353_171.8 S05 MXN05MB4 | 314 | A353_171.8 P63 BXN63MB4 | 315 |
| 8.1 | 194 | 1.2 | 163.4 | 6200 | A203_163.4 S05 MXN05MB4 | 306 | A203_163.4 P63 BXN63MB4 | 307 |
| 8.2 | 191 | 1.8 | 161.4 | 9600 | A303_161.4 S05 MXN05MB4 | 310 | A303_161.4 P63 BXN63MB4 | 311 |
| 8.8 | 179 | 1.8 | 150.7 | 9600 | A303_150.7 S05 MXN05MB4 | 310 | A303_150.7 P63 BXN63MB4 | 311 |
| 8.8 | 179 | 3.4 | 150.6 | 12000 | A353_150.6 S05 MXN05MB4 | 314 | A353_150.6 P63 BXN63MB4 | 315 |
| 9.0 | 173 | 1.3 | 146.1 | 6200 | A203_146.1 S05 MXN05MB4 | 306 | A203_146.1 P63 BXN63MB4 | 307 |
| 9.6 | 163 | 1.9 | 137.4 | 9600 | A303_137.4 S05 MXN05MB4 | 310 | A303_137.4 P63 BXN63MB4 | 311 |
| 10.2 | 153 | 1.4 | 129.1 | 6200 | A203_129.1 S05 MXN05MB4 | 306 | A203_129.1 P63 BXN63MB4 | 307 |

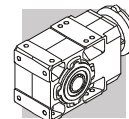


0.18 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{N2} N | IE3 | | IEC IE3 | |
|-------------------------|----------------------|------|-------|----------------------|-------------------------|-----|-------------------------|-----|
| | | | | | IE3 | IE3 | IE3 | IE3 |
| 11.0 | 143 | 1.5 | 120.5 | 6200 | A203_120.5 S05 MXN05MB4 | 306 | A203_120.5 P63 BXN63MB4 | 307 |
| 11.0 | 143 | 2.1 | 120.5 | 9600 | A303_120.5 S05 MXN05MB4 | 310 | A303_120.5 P63 BXN63MB4 | 311 |
| 12.1 | 129 | 1.6 | 109.2 | 6200 | A203_109.2 S05 MXN05MB4 | 306 | A203_109.2 P63 BXN63MB4 | 307 |
| 12.1 | 129 | 2.3 | 109.1 | 9600 | A303_109.1 S05 MXN05MB4 | 310 | A303_109.1 P63 BXN63MB4 | 311 |
| 13.5 | 119 | 2.5 | 97.5 | 9600 | | | A302_97.5 P63 BXN63MB4 | 311 |
| 14.3 | 113 | 1.8 | 92.3 | 6200 | A202_92.3 S05 MXN05MB4 | 306 | A202_92.3 P63 BXN63MB4 | 307 |
| 14.4 | 112 | 0.9 | 91.6 | 4120 | A052_91.6 S05 MXN05MB4 | 299 | A052_91.6 P63 BXN63MB4 | 299 |
| 14.4 | 112 | 1.2 | 91.6 | 5500 | A102_91.6 S05 MXN05MB4 | 302 | A102_91.6 P63 BXN63MB4 | 303 |
| 15.2 | 106 | 3.0 | 86.7 | 9600 | | | A302_86.7 P63 BXN63MB4 | 311 |
| 16.5 | 98 | 2.1 | 79.9 | 6200 | A202_79.9 S05 MXN05MB4 | 306 | A202_79.9 P63 BXN63MB4 | 307 |
| 17.3 | 94 | 1.1 | 76.4 | 3980 | A052_76.4 S05 MXN05MB4 | 299 | A052_76.4 P63 BXN63MB4 | 299 |
| 17.3 | 94 | 1.6 | 76.4 | 5500 | A102_76.4 S05 MXN05MB4 | 302 | A102_76.4 P63 BXN63MB4 | 303 |
| 18.6 | 87 | 2.4 | 71.0 | 6200 | A202_71.0 S05 MXN05MB4 | 306 | A202_71.0 P63 BXN63MB4 | 307 |
| 20.0 | 81 | 1.2 | 65.9 | 3860 | A052_65.9 S05 MXN05MB4 | 299 | A052_65.9 P63 BXN63MB4 | 299 |
| 20.0 | 81 | 1.9 | 65.9 | 5500 | A102_65.9 S05 MXN05MB4 | 302 | A102_65.9 P63 BXN63MB4 | 303 |
| 20.9 | 77 | 3.2 | 63.1 | 6200 | A202_63.1 S05 MXN05MB4 | 306 | A202_63.1 P63 BXN63MB4 | 307 |
| 22.5 | 72 | 1.4 | 58.6 | 3760 | A052_58.6 S05 MXN05MB4 | 299 | A052_58.6 P63 BXN63MB4 | 299 |
| 22.5 | 72 | 2.1 | 58.6 | 5500 | A102_58.6 S05 MXN05MB4 | 302 | A102_58.6 P63 BXN63MB4 | 303 |
| 25.8 | 63 | 1.6 | 51.3 | 3640 | A052_51.3 S05 MXN05MB4 | 299 | A052_51.3 P63 BXN63MB4 | 299 |
| 25.8 | 63 | 2.4 | 51.3 | 5500 | A102_51.3 S05 MXN05MB4 | 302 | A102_51.3 P63 BXN63MB4 | 303 |
| 29.1 | 56 | 1.8 | 45.4 | 3540 | A052_45.4 S05 MXN05MB4 | 299 | A052_45.4 P63 BXN63MB4 | 299 |
| 29.1 | 56 | 2.7 | 45.4 | 5500 | A102_45.4 S05 MXN05MB4 | 302 | A102_45.4 P63 BXN63MB4 | 303 |
| 32 | 50 | 2.0 | 40.9 | 3440 | A052_40.9 S05 MXN05MB4 | 299 | A052_40.9 P63 BXN63MB4 | 299 |
| 32 | 50 | 3.0 | 40.9 | 5500 | A102_40.9 S05 MXN05MB4 | 302 | A102_40.9 P63 BXN63MB4 | 303 |
| 38 | 43 | 2.3 | 35.1 | 3310 | A052_35.1 S05 MXN05MB4 | 299 | A052_35.1 P63 BXN63MB4 | 299 |
| 38 | 43 | 3.5 | 35.1 | 5380 | A102_35.1 S05 MXN05MB4 | 302 | A102_35.1 P63 BXN63MB4 | 303 |
| 41 | 39 | 2.5 | 32.2 | 3240 | A052_32.2 S05 MXN05MB4 | 299 | A052_32.2 P63 BXN63MB4 | 299 |
| 46 | 35 | 2.9 | 28.6 | 3130 | A052_28.6 S05 MXN05MB4 | 299 | A052_28.6 P63 BXN63MB4 | 299 |
| 52 | 31 | 3.2 | 25.5 | 3040 | A052_25.5 S05 MXN05MB4 | 299 | A052_25.5 P63 BXN63MB4 | 299 |
| 56 | 29 | 3.4 | 23.8 | 2980 | A052_23.8 S05 MXN05MB4 | 299 | A052_23.8 P63 BXN63MB4 | 299 |
| 62 | 26 | 3.8 | 21.4 | 2890 | A052_21.4 S05 MXN05MB4 | 299 | A052_21.4 P63 BXN63MB4 | 299 |
| 71 | 23 | 4.4 | 18.6 | 2780 | A052_18.6 S05 MXN05MB4 | 299 | A052_18.6 P63 BXN63MB4 | 299 |
| 80 | 20 | 5.0 | 16.4 | 2680 | A052_16.4 S05 MXN05MB4 | 299 | A052_16.4 P63 BXN63MB4 | 299 |
| 95 | 17.1 | 5.9 | 13.9 | 2550 | A052_13.9 S05 MXN05MB4 | 299 | A052_13.9 P63 BXN63MB4 | 299 |
| 107 | 15.1 | 6.6 | 12.3 | 2460 | A052_12.3 S05 MXN05MB4 | 299 | A052_12.3 P63 BXN63MB4 | 299 |
| 125 | 12.9 | 7.7 | 10.6 | 2350 | A052_10.6 S05 MXN05MB4 | 299 | A052_10.6 P63 BXN63MB4 | 299 |
| 137 | 11.8 | 8.5 | 9.6 | 2280 | A052_9.6 S05 MXN05MB4 | 299 | A052_9.6 P63 BXN63MB4 | 299 |
| 142 | 11.4 | 8.8 | 6.3 | 2300 | | | | |
| 155 | 10.4 | 9.6 | 8.5 | 2200 | A052_8.5 S05 MXN05MB4 | 299 | A052_8.5 P63 BXN63MB4 | 299 |
| 183 | 8.8 | 11.3 | 7.2 | 2090 | A052_7.2 S05 MXN05MB4 | 299 | A052_7.2 P63 BXN63MB4 | 299 |
| 208 | 7.8 | 12.9 | 6.3 | 2010 | A052_6.3 S05 MXN05MB4 | 299 | A052_6.3 P63 BXN63MB4 | 299 |
| 242 | 6.7 | 14.2 | 5.5 | 1920 | A052_5.5 S05 MXN05MB4 | 299 | A052_5.5 P63 BXN63MB4 | 299 |
| 284 | 5.7 | 16.7 | 9.6 | 1830 | | | | |
| 321 | 5.0 | 17.8 | 8.5 | 1770 | | | | |
| 379 | 4.3 | 19.9 | 7.2 | 1670 | | | | |
| 431 | 3.8 | 21.3 | 6.3 | 1610 | | | | |
| 499 | 3.2 | 23.2 | 5.5 | 1530 | | | | |

0.25 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{N2} N | IE1 | | IEC IE1 | | IE2 | |
|-------------------------|----------------------|-----|------|----------------------|--------------------|-----|------------|----------------------|----------------------|-----|
| | | | | | IE1 | IE2 | IE1 | IE2 | IE2 | IE2 |
| 0.52 | 4051 | 1.2 | 1715 | 50000 | A704_1715 S1 M1SD6 | | 334 | A704_1715 P71 BN71B6 | | 335 |
| 0.58 | 3680 | 2.2 | 1558 | 65000 | A804_1558 S1 M1SD6 | | 337 | A804_1558 P71 BN71B6 | | 338 |
| 0.67 | 3165 | 2.5 | 1340 | 65000 | A804_1340 S1 M1SD6 | | 337 | A804_1340 P71 BN71B6 | | 338 |
| 0.80 | 2642 | 1.9 | 1715 | 50000 | | | | A704_1715 P71 BE71A4 | | 335 |
| 0.87 | 2439 | 2.1 | 1583 | 50000 | | | | A704_1583 P71 BN71A4 | A704_1583 P71 BE71A4 | 335 |
| 0.89 | 2400 | 3.3 | 1558 | 65000 | | | | A804_1558 P71 BN71A4 | A804_1558 P71 BE71A4 | 338 |
| 1.0 | 2073 | 2.4 | 1346 | 50000 | | | | A704_1346 P71 BN71A4 | A704_1346 P71 BE71A4 | 335 |
| 1.1 | 1914 | 2.6 | 1242 | 50000 | | | | A704_1242 P71 BN71A4 | A704_1242 P71 BE71A4 | 335 |
| 1.2 | 1789 | 2.8 | 1161 | 50000 | | | | A704_1161 P71 BN71A4 | A704_1161 P71 BE71A4 | 335 |
| 1.3 | 1652 | 3.0 | 1072 | 50000 | | | | A704_1072 P71 BN71A4 | A704_1072 P71 BE71A4 | 335 |

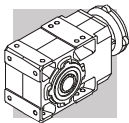


0.25 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------------------|----------------------|------|------|----------------------|---------------------|---------------------|-----|----------------------|----------------------|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | |
| 25.0 | 90 | 2.8 | 53.7 | 6200 | A202_53.7 S05 M05C4 | A202_53.7 S1 ME1SA4 | 306 | A202_53.7 P71 BN71A4 | A202_53.7 P71 BE71A4 | 307 |
| 26.1 | 86 | 1.2 | 51.3 | 3450 | A052_51.3 S05 M05C4 | A052_51.3 S1 ME1SA4 | 299 | A052_51.3 P71 BN71A4 | A052_51.3 P71 BE71A4 | 299 |
| 26.1 | 86 | 1.7 | 51.3 | 5500 | A102_51.3 S05 M05C4 | A102_51.3 S1 ME1SA4 | 302 | A102_51.3 P71 BN71A4 | A102_51.3 P71 BE71A4 | 303 |
| 28.6 | 79 | 3.2 | 48.3 | 6180 | A202_48.3 S05 M05C4 | A202_48.3 S1 ME1SA4 | 306 | A202_48.3 P71 BN71A4 | A202_48.3 P71 BE71A4 | 307 |
| 29.5 | 76 | 1.3 | 45.4 | 3370 | A052_45.4 S05 M05C4 | A052_45.4 S1 ME1SA4 | 299 | A052_45.4 P71 BN71A4 | A052_45.4 P71 BE71A4 | 299 |
| 29.5 | 76 | 2.0 | 45.4 | 5500 | A102_45.4 S05 M05C4 | A102_45.4 S1 ME1SA4 | 302 | A102_45.4 P71 BN71A4 | A102_45.4 P71 BE71A4 | 303 |
| 33 | 68 | 1.5 | 40.9 | 3290 | A052_40.9 S05 M05C4 | A052_40.9 S1 ME1SA4 | 299 | A052_40.9 P71 BN71A4 | A052_40.9 P71 BE71A4 | 299 |
| 34 | 66 | 2.3 | 40.9 | 5500 | A102_40.9 S05 M05C4 | A102_40.9 S1 ME1SA4 | 302 | A102_40.9 P71 BN71A4 | A102_40.9 P71 BE71A4 | 303 |
| 38 | 59 | 1.7 | 35.1 | 3180 | A052_35.1 S05 M05C4 | A052_35.1 S1 ME1SA4 | 299 | A052_35.1 P71 BN71A4 | A052_35.1 P71 BE71A4 | 299 |
| 38 | 59 | 2.5 | 35.1 | 5260 | A102_35.1 S05 M05C4 | A102_35.1 S1 ME1SA4 | 302 | A102_35.1 P71 BN71A4 | A102_35.1 P71 BE71A4 | 303 |
| 42 | 54 | 1.9 | 32.2 | 3120 | A052_32.2 S05 M05C4 | A052_32.2 S1 ME1SA4 | 299 | A052_32.2 P71 BN71A4 | A052_32.2 P71 BE71A4 | 299 |
| 43 | 52 | 2.9 | 32.2 | 5500 | A102_32.2 S05 M05C4 | A102_32.2 S1 ME1SA4 | 302 | A102_32.2 P71 BN71A4 | A102_32.2 P71 BE71A4 | 303 |
| 47 | 48 | 2.1 | 28.6 | 3030 | A052_28.6 S05 M05C4 | A052_28.6 S1 ME1SA4 | 299 | A052_28.6 P71 BN71A4 | A052_28.6 P71 BE71A4 | 299 |
| 47 | 48 | 3.1 | 28.6 | 4970 | A102_28.6 S05 M05C4 | A102_28.6 S1 ME1SA4 | 302 | A102_28.6 P71 BN71A4 | A102_28.6 P71 BE71A4 | 303 |
| 53 | 43 | 2.3 | 25.5 | 2940 | A052_25.5 S05 M05C4 | A052_25.5 S1 ME1SA4 | 299 | A052_25.5 P71 BN71A4 | A052_25.5 P71 BE71A4 | 299 |
| 56 | 40 | 2.5 | 23.8 | 2890 | A052_23.8 S05 M05C4 | A052_23.8 S1 ME1SA4 | 299 | A052_23.8 P71 BN71A4 | A052_23.8 P71 BE71A4 | 299 |
| 63 | 36 | 2.8 | 21.4 | 2810 | A052_21.4 S05 M05C4 | A052_21.4 S1 ME1SA4 | 299 | A052_21.4 P71 BN71A4 | A052_21.4 P71 BE71A4 | 299 |
| 72 | 31 | 3.2 | 18.6 | 2710 | A052_18.6 S05 M05C4 | A052_18.6 S1 ME1SA4 | 299 | A052_18.6 P71 BN71A4 | A052_18.6 P71 BE71A4 | 299 |
| 84 | 27 | 3.7 | 16.4 | 2620 | A052_16.4 S05 M05C4 | A052_16.4 S1 ME1SA4 | 299 | A052_16.4 P71 BN71A4 | A052_16.4 P71 BE71A4 | 299 |
| 99 | 23 | 4.4 | 13.9 | 2500 | A052_13.9 S05 M05C4 | A052_13.9 S1 ME1SA4 | 299 | A052_13.9 P71 BN71A4 | A052_13.9 P71 BE71A4 | 299 |
| 112 | 20 | 5.0 | 12.3 | 2420 | A052_12.3 S05 M05C4 | A052_12.3 S1 ME1SA4 | 299 | A052_12.3 P71 BN71A4 | A052_12.3 P71 BE71A4 | 299 |
| 131 | 17.2 | 5.8 | 10.6 | 2310 | A052_10.6 S05 M05C4 | A052_10.6 S1 ME1SA4 | 299 | A052_10.6 P71 BN71A4 | A052_10.6 P71 BE71A4 | 299 |
| 144 | 15.7 | 6.4 | 9.6 | 2260 | A052_9.6 S05 M05C4 | A052_9.6 S1 ME1SA4 | 299 | A052_9.6 P71 BN71A4 | A052_9.6 P71 BE71A4 | 299 |
| 162 | 13.9 | 7.2 | 8.5 | 2180 | A052_8.5 S05 M05C4 | A052_8.5 S1 ME1SA4 | 299 | A052_8.5 P71 BN71A4 | A052_8.5 P71 BE71A4 | 299 |
| 191 | 11.7 | 8.5 | 7.2 | 2070 | A052_7.2 S05 M05C4 | A052_7.2 S1 ME1SA4 | 299 | A052_7.2 P71 BN71A4 | A052_7.2 P71 BE71A4 | 299 |
| 218 | 10.3 | 9.7 | 6.3 | 1990 | A052_6.3 S05 M05C4 | A052_6.3 S1 ME1SA4 | 299 | A052_6.3 P71 BN71A4 | A052_6.3 P71 BE71A4 | 299 |
| 252 | 8.9 | 10.7 | 5.5 | 1900 | A052_5.5 S05 M05C4 | A052_5.5 S1 ME1SA4 | 299 | A052_5.5 P71 BN71A4 | A052_5.5 P71 BE71A4 | 299 |
| 285 | 7.9 | 12.1 | 9.6 | 1820 | A052_9.6 S05 M05B2 | | 299 | A052_9.6 P63 BN63B2 | | 299 |
| 322 | 7.0 | 12.9 | 8.5 | 1750 | A052_8.5 S05 M05B2 | | 299 | A052_8.5 P63 BN63B2 | | 299 |
| 380 | 5.9 | 14.4 | 7.2 | 1660 | A052_7.2 S05 M05B2 | | 299 | A052_7.2 P63 BN63B2 | | 299 |
| 433 | 5.2 | 15.4 | 6.3 | 1590 | A052_6.3 S05 M05B2 | | 299 | A052_6.3 P63 BN63B2 | | 299 |
| 501 | 4.5 | 16.7 | 5.5 | 1520 | A052_5.5 S05 M05B2 | | 299 | A052_5.5 P63 BN63B2 | | 299 |

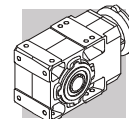
0.25 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | |
|-------------------------------------|----------------------|-----|-------|----------------------|-------------------------|-----|-------------------------|--|-----|
| | | | | | IE3 | IE3 | | | |
| 0.52 | 4051 | 1.2 | 1715 | 50000 | | | | | |
| 0.58 | 3680 | 2.2 | 1558 | 65000 | | | | | |
| 0.67 | 3165 | 2.5 | 1340 | 65000 | | | | | |
| 0.80 | 2642 | 1.9 | 1715 | 50000 | | | A704_1715 P71 BXN71MA4 | | 335 |
| 0.87 | 2439 | 2.1 | 1583 | 50000 | | | A704_1583 P71 BXN71MA4 | | 335 |
| 0.89 | 2400 | 3.3 | 1558 | 65000 | | | A804_1558 P71 BXN71MA4 | | 338 |
| 1.0 | 2073 | 2.4 | 1346 | 50000 | | | A704_1346 P71 BXN71MA4 | | 335 |
| 1.1 | 1914 | 2.6 | 1242 | 50000 | | | A704_1242 P71 BXN71MA4 | | 335 |
| 1.2 | 1789 | 2.8 | 1161 | 50000 | | | A704_1161 P71 BXN71MA4 | | 335 |
| 1.3 | 1652 | 3.0 | 1072 | 50000 | | | A704_1072 P71 BXN71MA4 | | 335 |
| 1.5 | 1427 | 3.5 | 926.5 | 50000 | | | A704_926.5 P71 BXN71MA4 | | 335 |
| 1.8 | 1199 | 1.3 | 778.2 | 20000 | | | A504_778.2 P71 BXN71MA4 | | 323 |
| 1.8 | 1164 | 2.4 | 755.4 | 30000 | | | A604_755.4 P71 BXN71MA4 | | 331 |
| 1.9 | 1091 | 1.4 | 707.9 | 20000 | | | A504_707.9 P71 BXN71MA4 | | 323 |
| 2.0 | 1074 | 2.6 | 697.3 | 30000 | | | A604_697.3 P71 BXN71MA4 | | 331 |
| 2.2 | 978 | 2.9 | 634.6 | 30000 | | | A604_634.6 P71 BXN71MA4 | | 331 |
| 2.2 | 972 | 1.5 | 631.2 | 20000 | | | A504_631.2 P71 BXN71MA4 | | 323 |
| 2.4 | 902 | 3.1 | 585.8 | 30000 | | | A604_585.8 P71 BXN71MA4 | | 331 |
| 2.4 | 885 | 1.7 | 574.2 | 20000 | | | A504_574.2 P71 BXN71MA4 | | 323 |
| 2.5 | 835 | 3.4 | 542.0 | 30000 | | | A604_542.0 P71 BXN71MA4 | | 331 |
| 2.6 | 816 | 1.8 | 529.5 | 20000 | | | A504_529.5 P71 BXN71MA4 | | 323 |
| 2.9 | 742 | 2.0 | 481.6 | 20000 | | | A504_481.6 P71 BXN71MA4 | | 323 |
| 3.1 | 688 | 2.2 | 446.8 | 20000 | | | A504_446.8 P71 BXN71MA4 | | 323 |
| 3.4 | 626 | 2.4 | 406.4 | 20000 | | | A504_406.4 P71 BXN71MA4 | | 323 |
| 3.6 | 611 | 1.4 | 376.8 | 15000 | A413_376.8 S10 MXN10MA4 | 318 | A413_376.8 P71 BXN71MA4 | | 319 |



0.25 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IEC IE3 | IEC IE3 | |
|-------------------------|----------------------|-----|-------|----------------------|-------------------------|------------|-------------------------|-----|
| | | | | | | | | IE3 |
| 3.8 | 563 | 2.7 | 365.6 | 20000 | | | A504_365.6 P71 BXN71MA4 | 323 |
| 3.9 | 550 | 0.9 | 339.3 | 12000 | A353_339.3 S10 MXN10MA4 | 314 | A353_339.3 P71 BXN71MA4 | 315 |
| 4.1 | 526 | 1.6 | 324.2 | 15000 | A413_324.2 S10 MXN10MA4 | 318 | A413_324.2 P71 BXN71MA4 | 319 |
| 4.1 | 512 | 2.9 | 332.6 | 20000 | | | A504_332.6 P71 BXN71MA4 | 323 |
| 4.4 | 495 | 1.2 | 305.4 | 12000 | A353_305.4 S10 MXN10MA4 | 314 | A353_305.4 P71 BXN71MA4 | 315 |
| 4.7 | 460 | 1.8 | 291.7 | 15000 | A413_291.7 S10 MXN10MA4 | 318 | A413_291.7 P71 BXN71MA4 | 319 |
| 4.8 | 442 | 3.4 | 286.8 | 20000 | | | A504_286.8 P71 BXN71MA4 | 323 |
| 4.9 | 440 | 0.9 | 271.5 | 9600 | A303_271.5 S10 MXN10MA4 | 310 | A303_271.5 P71 BXN71MA4 | 311 |
| 5.0 | 439 | 1.4 | 270.7 | 12000 | A353_270.7 S10 MXN10MA4 | 314 | A353_270.7 P71 BXN71MA4 | 315 |
| 5.1 | 426 | 2.0 | 262.5 | 15000 | A413_262.5 S10 MXN10MA4 | 318 | A413_262.5 P71 BXN71MA4 | 319 |
| 5.4 | 403 | 1.5 | 248.1 | 12000 | A353_248.1 S10 MXN10MA4 | 314 | A353_248.1 P71 BXN71MA4 | 315 |
| 5.6 | 385 | 1.0 | 244.3 | 9600 | A303_244.3 S10 MXN10MA4 | 310 | A303_244.3 P71 BXN71MA4 | 311 |
| 5.7 | 379 | 2.2 | 240.6 | 15000 | A413_240.6 S10 MXN10MA4 | 318 | A413_240.6 P71 BXN71MA4 | 319 |
| 6.0 | 362 | 1.7 | 223.2 | 12000 | A353_223.2 S10 MXN10MA4 | 314 | A353_223.2 P71 BXN71MA4 | 315 |
| 6.2 | 353 | 2.4 | 217.4 | 15000 | A413_217.4 S10 MXN10MA4 | 318 | A413_217.4 P71 BXN71MA4 | 319 |
| 6.2 | 351 | 1.0 | 216.6 | 9600 | A303_216.6 S10 MXN10MA4 | 310 | A303_216.6 P71 BXN71MA4 | 311 |
| 6.6 | 327 | 1.8 | 201.8 | 12000 | A353_201.8 S10 MXN10MA4 | 314 | A353_201.8 P71 BXN71MA4 | 315 |
| 7.0 | 313 | 1.1 | 198.5 | 9600 | A303_198.5 S10 MXN10MA4 | 310 | A303_198.5 P71 BXN71MA4 | 311 |
| 7.0 | 311 | 2.7 | 197.5 | 15000 | A413_197.5 S10 MXN10MA4 | 318 | A413_197.5 P71 BXN71MA4 | 319 |
| 7.1 | 306 | 2.0 | 188.3 | 12000 | A353_188.3 S10 MXN10MA4 | 314 | A353_188.3 P71 BXN71MA4 | 315 |
| 7.3 | 299 | 2.8 | 184.4 | 15000 | A413_184.4 S10 MXN10MA4 | 318 | A413_184.4 P71 BXN71MA4 | 319 |
| 7.5 | 290 | 1.2 | 178.5 | 9600 | A303_178.5 S10 MXN10MA4 | 310 | A303_178.5 P71 BXN71MA4 | 311 |
| 7.8 | 279 | 2.2 | 171.8 | 12000 | A353_171.8 S10 MXN10MA4 | 314 | A353_171.8 P71 BXN71MA4 | 315 |
| 8.4 | 257 | 0.9 | 163.4 | 6200 | A203_163.4 S10 MXN10MA4 | 306 | A203_163.4 P71 BXN71MA4 | 307 |
| 8.5 | 254 | 1.3 | 161.4 | 9600 | A303_161.4 S10 MXN10MA4 | 310 | A303_161.4 P71 BXN71MA4 | 311 |
| 8.9 | 244 | 1.4 | 150.7 | 9600 | A303_150.7 S10 MXN10MA4 | 310 | A303_150.7 P71 BXN71MA4 | 311 |
| 8.9 | 244 | 2.5 | 150.6 | 12000 | A353_150.6 S10 MXN10MA4 | 314 | A353_150.6 P71 BXN71MA4 | 315 |
| 9.2 | 237 | 1.0 | 146.1 | 6200 | A203_146.1 S10 MXN10MA4 | 306 | A203_146.1 P71 BXN71MA4 | 307 |
| 9.8 | 221 | 2.6 | 136.3 | 12000 | A353_136.3 S10 MXN10MA4 | 314 | A353_136.3 P71 BXN71MA4 | 315 |
| 10.0 | 216 | 1.5 | 137.4 | 9600 | A303_137.4 S10 MXN10MA4 | 310 | A303_137.4 P71 BXN71MA4 | 311 |
| 10.7 | 203 | 1.1 | 129.1 | 6200 | A203_129.1 S10 MXN10MA4 | 306 | A203_129.1 P71 BXN71MA4 | 307 |
| 11.1 | 196 | 1.1 | 120.5 | 6200 | A203_120.5 S10 MXN10MA4 | 306 | A203_120.5 P71 BXN71MA4 | 307 |
| 11.1 | 195 | 1.5 | 120.5 | 9600 | A303_120.5 S10 MXN10MA4 | 310 | A303_120.5 P71 BXN71MA4 | 311 |
| 11.5 | 190 | 3.0 | 116.9 | 12000 | A353_116.9 S10 MXN10MA4 | 314 | A353_116.9 P71 BXN71MA4 | 315 |
| 12.6 | 172 | 1.2 | 109.2 | 6200 | A203_109.2 S10 MXN10MA4 | 306 | A203_109.2 P71 BXN71MA4 | 307 |
| 12.7 | 172 | 1.7 | 109.1 | 9600 | A303_109.1 S10 MXN10MA4 | 310 | A303_109.1 P71 BXN71MA4 | 311 |
| 12.7 | 171 | 3.1 | 105.5 | 12000 | A353_105.5 S10 MXN10MA4 | 314 | A353_105.5 P71 BXN71MA4 | 315 |
| 14.2 | 159 | 1.9 | 97.5 | 9600 | | | A302_97.5 P71 BXN71MA4 | 311 |
| 14.4 | 156 | 3.5 | 95.6 | 12000 | | | A352_95.6 P71 BXN71MA4 | 315 |
| 14.5 | 155 | 1.3 | 92.3 | 6200 | A202_92.3 S10 MXN10MA4 | 306 | A202_92.3 P71 BXN71MA4 | 307 |
| 15.9 | 141 | 2.3 | 86.7 | 9600 | | | A302_86.7 P71 BXN71MA4 | 311 |
| 16.8 | 134 | 1.6 | 79.9 | 6200 | A202_79.9 S10 MXN10MA4 | 306 | A202_79.9 P71 BXN71MA4 | 307 |
| 17.5 | 128 | 1.2 | 76.4 | 5500 | A102_76.4 S10 MXN10MA4 | 302 | A102_76.4 P71 BXN71MA4 | 303 |
| 18.0 | 125 | 2.8 | 76.5 | 9600 | | | A302_76.5 P71 BXN71MA4 | 311 |
| 19.4 | 116 | 1.8 | 71.0 | 6200 | A202_71.0 S10 MXN10MA4 | 306 | A202_71.0 P71 BXN71MA4 | 307 |
| 20.3 | 110 | 0.9 | 65.9 | 3610 | | | A052_65.9 P71 BXN71MA4 | 299 |
| 20.3 | 110 | 1.4 | 65.9 | 5500 | A102_65.9 S10 MXN10MA4 | 302 | A102_65.9 P71 BXN71MA4 | 303 |
| 21.2 | 106 | 2.3 | 63.1 | 6200 | A202_63.1 S10 MXN10MA4 | 306 | A202_63.1 P71 BXN71MA4 | 307 |
| 22.9 | 98 | 1.0 | 58.6 | 3540 | | | A052_58.6 P71 BXN71MA4 | 299 |
| 23.5 | 95 | 1.6 | 58.6 | 5500 | A102_58.6 S10 MXN10MA4 | 302 | A102_58.6 P71 BXN71MA4 | 303 |
| 25.0 | 90 | 2.8 | 53.7 | 6200 | A202_53.7 S10 MXN10MA4 | 306 | A202_53.7 P71 BXN71MA4 | 307 |
| 26.1 | 86 | 1.2 | 51.3 | 3450 | | | A052_51.3 P71 BXN71MA4 | 299 |
| 26.1 | 86 | 1.7 | 51.3 | 5500 | A102_51.3 S10 MXN10MA4 | 302 | A102_51.3 P71 BXN71MA4 | 303 |
| 28.6 | 79 | 3.2 | 48.3 | 6180 | A202_48.3 S10 MXN10MA4 | 306 | A202_48.3 P71 BXN71MA4 | 307 |
| 29.5 | 76 | 1.3 | 45.4 | 3370 | | | A052_45.4 P71 BXN71MA4 | 299 |
| 29.5 | 76 | 2.0 | 45.4 | 5500 | A102_45.4 S10 MXN10MA4 | 302 | A102_45.4 P71 BXN71MA4 | 303 |
| 33 | 68 | 1.5 | 40.9 | 3290 | A052_40.9 S10 MXN10MA4 | 299 | A052_40.9 P71 BXN71MA4 | 299 |
| 34 | 66 | 2.3 | 40.9 | 5500 | A102_40.9 S10 MXN10MA4 | 302 | A102_40.9 P71 BXN71MA4 | 303 |
| 38 | 59 | 1.7 | 35.1 | 3180 | | | A052_35.1 P71 BXN71MA4 | 299 |
| 38 | 59 | 2.5 | 35.1 | 5260 | A102_35.1 S10 MXN10MA4 | 302 | A102_35.1 P71 BXN71MA4 | 303 |
| 42 | 54 | 1.9 | 32.2 | 3120 | | | A052_32.2 P71 BXN71MA4 | 299 |
| 43 | 52 | 2.9 | 32.2 | 5500 | A102_32.2 S10 MXN10MA4 | 302 | A102_32.2 P71 BXN71MA4 | 303 |
| 47 | 48 | 2.1 | 28.6 | 3030 | | | A052_28.6 P71 BXN71MA4 | 299 |
| 47 | 48 | 3.1 | 28.6 | 4970 | A102_28.6 S10 MXN10MA4 | 302 | A102_28.6 P71 BXN71MA4 | 303 |
| 53 | 43 | 2.3 | 25.5 | 2940 | | | A052_25.5 P71 BXN71MA4 | 299 |

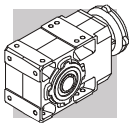


0.25 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE3 | | IEC IE3 | |
|-------------------------------------|----------------------|------|------|----------------------|-----|-----|------------------------|-----|
| | | | | | IE3 | IE3 | | |
| 56 | 40 | 2.5 | 23.8 | 2890 | | | A052_23.8 P71 BXN71MA4 | 299 |
| 63 | 36 | 2.8 | 21.4 | 2810 | | | A052_21.4 P71 BXN71MA4 | 299 |
| 72 | 31 | 3.2 | 18.6 | 2710 | | | A052_18.6 P71 BXN71MA4 | 299 |
| 84 | 27 | 3.7 | 16.4 | 2620 | | | A052_16.4 P71 BXN71MA4 | 299 |
| 99 | 23 | 4.4 | 13.9 | 2500 | | | A052_13.9 P71 BXN71MA4 | 299 |
| 112 | 20 | 5.0 | 12.3 | 2420 | | | A052_12.3 P71 BXN71MA4 | 299 |
| 131 | 17.2 | 5.8 | 10.6 | 2310 | | | A052_10.6 P71 BXN71MA4 | 299 |
| 144 | 15.7 | 6.4 | 9.6 | 2260 | | | A052_9.6 P71 BXN71MA4 | 299 |
| 162 | 13.9 | 7.2 | 8.5 | 2180 | | | A052_8.5 P71 BXN71MA4 | 299 |
| 191 | 11.7 | 8.5 | 7.2 | 2070 | | | A052_7.2 P71 BXN71MA4 | 299 |
| 218 | 10.3 | 9.7 | 6.3 | 1990 | | | A052_6.3 P71 BXN71MA4 | 299 |
| 252 | 8.9 | 10.7 | 5.5 | 1900 | | | A052_5.5 P71 BXN71MA4 | 299 |
| 285 | 7.9 | 12.1 | 9.6 | 1820 | | | | |
| 322 | 7.0 | 12.9 | 8.5 | 1750 | | | | |
| 380 | 5.9 | 14.4 | 7.2 | 1660 | | | | |
| 433 | 5.2 | 15.4 | 6.3 | 1590 | | | | |
| 501 | 4.5 | 16.7 | 5.5 | 1520 | | | | |

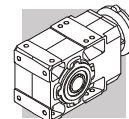
0.37 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE1 | | IE2 | IEC | | IE1 | IE2 |
|-------------------------------------|----------------------|-----|-------|----------------------|---------------------|----------------------|-----|-----------------------|-----------------------|-----|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | | |
| 0.56 | 5644 | 2.5 | 1632 | 75000 | A904_1632 S1 M1LA6 | | 340 | A904_1632 P80 BN80A6 | | 341 | |
| 0.63 | 4972 | 1.6 | 1438 | 65000 | A804_1438 S1 M1LA6 | | 337 | A804_1438 P80 BN80A6 | | 338 | |
| 0.74 | 4226 | 3.3 | 1222 | 75000 | A904_1222 S1 M1LA6 | | 340 | A904_1222 P80 BN80A6 | | 341 | |
| 0.80 | 3939 | 1.3 | 1715 | 50000 | A704_1715 S1 M1SD4 | A704_1715 S1 ME1SB4 | 334 | A704_1715 P71 BN71B4 | A704_1715 P71 BE71B4 | 335 | |
| 0.87 | 3636 | 1.4 | 1583 | 50000 | A704_1583 S1 M1SD4 | A704_1583 S1 ME1SB4 | 334 | A704_1583 P71 BN71B4 | A704_1583 P71 BE71B4 | 335 | |
| 0.88 | 3577 | 2.2 | 1558 | 65000 | A804_1558 S1 M1SD4 | A804_1558 S1 ME1SB4 | 337 | A804_1558 P71 BN71B4 | A804_1558 P71 BE71B4 | 338 | |
| 0.95 | 3302 | 2.4 | 1438 | 65000 | A804_1438 S1 M1SD4 | A804_1438 S1 ME1SB4 | 337 | A804_1438 P71 BN71B4 | A804_1438 P71 BE71B4 | 338 | |
| 1.0 | 3091 | 1.6 | 1346 | 50000 | A704_1346 S1 M1SD4 | A704_1346 S1 ME1SB4 | 334 | A704_1346 P71 BN71B4 | A704_1346 P71 BE71B4 | 335 | |
| 1.0 | 3077 | 2.6 | 1340 | 65000 | A804_1340 S1 M1SD4 | A804_1340 S1 ME1SB4 | 337 | A804_1340 P71 BN71B4 | A804_1340 P71 BE71B4 | 338 | |
| 1.1 | 2853 | 1.8 | 1242 | 50000 | A704_1242 S1 M1SD4 | A704_1242 S1 ME1SB4 | 334 | A704_1242 P71 BN71B4 | A704_1242 P71 BE71B4 | 335 | |
| 1.1 | 2841 | 2.8 | 1237 | 65000 | A804_1237 S1 M1SD4 | A804_1237 S1 ME1SB4 | 337 | A804_1237 P71 BN71B4 | A804_1237 P71 BE71B4 | 338 | |
| 1.2 | 2668 | 1.9 | 1161 | 50000 | A704_1161 S1 M1SD4 | A704_1161 S1 ME1SB4 | 334 | A704_1161 P71 BN71B4 | A704_1161 P71 BE71B4 | 335 | |
| 1.3 | 2492 | 3.2 | 1085 | 65000 | A804_1085 S1 M1SD4 | A804_1085 S1 ME1SB4 | 337 | A804_1085 P71 BN71B4 | A804_1085 P71 BE71B4 | 338 | |
| 1.3 | 2462 | 2.0 | 1072 | 50000 | A704_1072 S1 M1SD4 | A704_1072 S1 ME1SB4 | 334 | A704_1072 P71 BN71B4 | A704_1072 P71 BE71B4 | 335 | |
| 1.4 | 2300 | 3.5 | 1001 | 65000 | A804_1001 S1 M1SD4 | A804_1001 S1 ME1SB4 | 337 | A804_1001 P71 BN71B4 | A804_1001 P71 BE71B4 | 338 | |
| 1.5 | 2128 | 2.3 | 926.5 | 50000 | A704_926.5 S1 M1SD4 | A704_926.5 S1 ME1SB4 | 334 | A704_926.5 P71 BN71B4 | A704_926.5 P71 BE71B4 | 335 | |
| 1.6 | 1964 | 2.5 | 855.3 | 50000 | A704_855.3 S1 M1SD4 | A704_855.3 S1 ME1SB4 | 334 | A704_855.3 P71 BN71B4 | A704_855.3 P71 BE71B4 | 335 | |
| 1.8 | 1754 | 2.8 | 763.9 | 50000 | A704_763.9 S1 M1SD4 | A704_763.9 S1 ME1SB4 | 334 | A704_763.9 P71 BN71B4 | A704_763.9 P71 BE71B4 | 335 | |
| 1.8 | 1735 | 1.6 | 755.4 | 30000 | A604_755.4 S1 M1SD4 | A604_755.4 S1 ME1SB4 | 330 | A604_755.4 P71 BN71B4 | A604_755.4 P71 BE71B4 | 331 | |
| 1.9 | 1626 | 0.9 | 707.9 | 20000 | A504_707.9 S1 M1SD4 | A504_707.9 S1 ME1SB4 | 322 | A504_707.9 P71 BN71B4 | A504_707.9 P71 BE71B4 | 323 | |
| 1.9 | 1619 | 3.1 | 705.1 | 50000 | A704_705.1 S1 M1SD4 | A704_705.1 S1 ME1SB4 | 334 | A704_705.1 P71 BN71B4 | A704_705.1 P71 BE71B4 | 335 | |
| 2.0 | 1601 | 1.7 | 697.3 | 30000 | A604_697.3 S1 M1SD4 | A604_697.3 S1 ME1SB4 | 330 | A604_697.3 P71 BN71B4 | A604_697.3 P71 BE71B4 | 331 | |
| 2.1 | 1481 | 3.4 | 644.6 | 50000 | A704_644.6 S1 M1SD4 | A704_644.6 S1 ME1SB4 | 334 | A704_644.6 P71 BN71B4 | A704_644.6 P71 BE71B4 | 335 | |
| 2.2 | 1457 | 1.9 | 634.6 | 30000 | A604_634.6 S1 M1SD4 | A604_634.6 S1 ME1SB4 | 330 | A604_634.6 P71 BN71B4 | A604_634.6 P71 BE71B4 | 331 | |
| 2.2 | 1450 | 1.0 | 631.2 | 20000 | A504_631.2 S1 M1SD4 | A504_631.2 S1 ME1SB4 | 322 | A504_631.2 P71 BN71B4 | A504_631.2 P71 BE71B4 | 323 | |
| 2.3 | 1345 | 2.1 | 585.8 | 30000 | A604_585.8 S1 M1SD4 | A604_585.8 S1 ME1SB4 | 330 | A604_585.8 P71 BN71B4 | A604_585.8 P71 BE71B4 | 331 | |
| 2.4 | 1319 | 1.1 | 574.2 | 20000 | A504_574.2 S1 M1SD4 | A504_574.2 S1 ME1SB4 | 322 | A504_574.2 P71 BN71B4 | A504_574.2 P71 BE71B4 | 323 | |
| 2.5 | 1245 | 2.2 | 542.0 | 30000 | A604_542.0 S1 M1SD4 | A604_542.0 S1 ME1SB4 | 330 | A604_542.0 P71 BN71B4 | A604_542.0 P71 BE71B4 | 331 | |
| 2.6 | 1216 | 1.2 | 529.5 | 20000 | A504_529.5 S1 M1SD4 | A504_529.5 S1 ME1SB4 | 322 | A504_529.5 P71 BN71B4 | A504_529.5 P71 BE71B4 | 323 | |
| 2.7 | 1149 | 2.4 | 500.3 | 30000 | A604_500.3 S1 M1SD4 | A604_500.3 S1 ME1SB4 | 330 | A604_500.3 P71 BN71B4 | A604_500.3 P71 BE71B4 | 331 | |
| 2.8 | 1106 | 1.4 | 481.6 | 20000 | A504_481.6 S1 M1SD4 | A504_481.6 S1 ME1SB4 | 322 | A504_481.6 P71 BN71B4 | A504_481.6 P71 BE71B4 | 323 | |
| 3.1 | 1026 | 1.5 | 446.8 | 20000 | A504_446.8 S1 M1SD4 | A504_446.8 S1 ME1SB4 | 322 | A504_446.8 P71 BN71B4 | A504_446.8 P71 BE71B4 | 323 | |
| 3.1 | 1007 | 2.8 | 438.4 | 30000 | A604_438.4 S1 M1SD4 | A604_438.4 S1 ME1SB4 | 330 | A604_438.4 P71 BN71B4 | A604_438.4 P71 BE71B4 | 331 | |
| 3.4 | 933 | 1.6 | 406.4 | 20000 | A504_406.4 S1 M1SD4 | A504_406.4 S1 ME1SB4 | 322 | A504_406.4 P71 BN71B4 | A504_406.4 P71 BE71B4 | 323 | |
| 3.4 | 929 | 3.0 | 404.7 | 30000 | A604_404.7 S1 M1SD4 | A604_404.7 S1 ME1SB4 | 330 | A604_404.7 P71 BN71B4 | A604_404.7 P71 BE71B4 | 331 | |
| 3.6 | 885 | 1.0 | 376.8 | 15000 | A413_376.8 S1 M1SD4 | A413_376.8 S1 ME1SB4 | 318 | A413_376.8 P71 BN71B4 | A413_376.8 P71 BE71B4 | 319 | |
| 3.7 | 840 | 1.8 | 365.6 | 20000 | A504_365.6 S1 M1SD4 | A504_365.6 S1 ME1SB4 | 322 | A504_365.6 P71 BN71B4 | A504_365.6 P71 BE71B4 | 323 | |
| 3.9 | 807 | 3.5 | 351.2 | 30000 | A604_351.2 S1 M1SD4 | A604_351.2 S1 ME1SB4 | 330 | A604_351.2 P71 BN71B4 | A604_351.2 P71 BE71B4 | 331 | |
| 4.1 | 764 | 2.0 | 332.6 | 20000 | A504_332.6 S1 M1SD4 | A504_332.6 S1 ME1SB4 | 322 | A504_332.6 P71 BN71B4 | A504_332.6 P71 BE71B4 | 323 | |
| 4.2 | 761 | 1.1 | 324.2 | 15000 | A413_324.2 S1 M1SD4 | A413_324.2 S1 ME1SB4 | 318 | A413_324.2 P71 BN71B4 | A413_324.2 P71 BE71B4 | 319 | |



0.37 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------|----------------------|-----|-------|----------------------|---------------------|----------------------|-----|-----------------------|-----------------------|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | |
| 4.7 | 685 | 1.2 | 291.7 | 15000 | A413_291.7 S1 M1SD4 | A413_291.7 S1 ME1SB4 | 318 | A413_291.7 P71 BN71B4 | A413_291.7 P71 BE71B4 | 319 |
| 4.8 | 659 | 2.3 | 286.8 | 20000 | A504_286.8 S1 M1SD4 | A504_286.8 S1 ME1SB4 | 322 | A504_286.8 P71 BN71B4 | A504_286.8 P71 BE71B4 | 323 |
| 5.1 | 636 | 0.9 | 270.7 | 12000 | A353_270.7 S1 M1SD4 | A353_270.7 S1 ME1SB4 | 314 | A353_270.7 P71 BN71B4 | A353_270.7 P71 BE71B4 | 315 |
| 5.2 | 616 | 1.4 | 262.5 | 15000 | A413_262.5 S1 M1SD4 | A413_262.5 S1 ME1SB4 | 318 | A413_262.5 P71 BN71B4 | A413_262.5 P71 BE71B4 | 319 |
| 5.3 | 599 | 2.5 | 260.9 | 20000 | A504_260.9 S1 M1SD4 | A504_260.9 S1 ME1SB4 | 322 | A504_260.9 P71 BN71B4 | A504_260.9 P71 BE71B4 | 323 |
| 5.5 | 583 | 1.0 | 248.1 | 12000 | A353_248.1 S1 M1SD4 | A353_248.1 S1 ME1SB4 | 314 | A353_248.1 P71 BN71B4 | A353_248.1 P71 BE71B4 | 315 |
| 5.7 | 565 | 1.5 | 240.6 | 15000 | A413_240.6 S1 M1SD4 | A413_240.6 S1 ME1SB4 | 318 | A413_240.6 P71 BN71B4 | A413_240.6 P71 BE71B4 | 319 |
| 5.9 | 533 | 2.8 | 232.0 | 20000 | A504_232.0 S1 M1SD4 | A504_232.0 S1 ME1SB4 | 322 | A504_232.0 P71 BN71B4 | A504_232.0 P71 BE71B4 | 323 |
| 6.1 | 524 | 1.1 | 223.2 | 12000 | A353_223.2 S1 M1SD4 | A353_223.2 S1 ME1SB4 | 314 | A353_223.2 P71 BN71B4 | A353_223.2 P71 BE71B4 | 315 |
| 6.3 | 511 | 1.7 | 217.4 | 15000 | A413_217.4 S1 M1SD4 | A413_217.4 S1 ME1SB4 | 318 | A413_217.4 P71 BN71B4 | A413_217.4 P71 BE71B4 | 319 |
| 6.5 | 485 | 3.1 | 211.0 | 20000 | A504_211.0 S1 M1SD4 | A504_211.0 S1 ME1SB4 | 322 | A504_211.0 P71 BN71B4 | A504_211.0 P71 BE71B4 | 323 |
| 6.8 | 474 | 1.3 | 201.8 | 12000 | A353_201.8 S1 M1SD4 | A353_201.8 S1 ME1SB4 | 314 | A353_201.8 P71 BN71B4 | A353_201.8 P71 BE71B4 | 315 |
| 6.9 | 464 | 1.8 | 197.5 | 15000 | A413_197.5 S1 M1SD4 | A413_197.5 S1 ME1SB4 | 318 | A413_197.5 P71 BN71B4 | A413_197.5 P71 BE71B4 | 319 |
| 7.2 | 448 | 3.4 | 190.6 | 20000 | A503_190.6 S1 M1SD4 | A503_190.6 S1 ME1SB4 | 322 | A503_190.6 P71 BN71B4 | A503_190.6 P71 BE71B4 | 323 |
| 7.3 | 442 | 1.4 | 188.3 | 12000 | A353_188.3 S1 M1SD4 | A353_188.3 S1 ME1SB4 | 314 | A353_188.3 P71 BN71B4 | A353_188.3 P71 BE71B4 | 315 |
| 7.4 | 433 | 2.0 | 184.4 | 15000 | A413_184.4 S1 M1SD4 | A413_184.4 S1 ME1SB4 | 318 | A413_184.4 P71 BN71B4 | A413_184.4 P71 BE71B4 | 319 |
| 8.0 | 403 | 1.5 | 171.8 | 12000 | A353_171.8 S1 M1SD4 | A353_171.8 S1 ME1SB4 | 314 | A353_171.8 P71 BN71B4 | A353_171.8 P71 BE71B4 | 315 |
| 9.1 | 354 | 0.9 | 150.7 | 9600 | A303_150.7 S1 M1SD4 | A303_150.7 S1 ME1SB4 | 310 | A303_150.7 P71 BN71B4 | A303_150.7 P71 BE71B4 | 311 |
| 9.1 | 354 | 1.7 | 150.6 | 12000 | A353_150.6 S1 M1SD4 | A353_150.6 S1 ME1SB4 | 314 | A353_150.6 P71 BN71B4 | A353_150.6 P71 BE71B4 | 315 |
| 9.3 | 345 | 2.5 | 146.9 | 15000 | A413_146.9 S1 M1SD4 | A413_146.9 S1 ME1SB4 | 318 | A413_146.9 P71 BN71B4 | A413_146.9 P71 BE71B4 | 319 |
| 10.0 | 323 | 1.0 | 137.4 | 9600 | A303_137.4 S1 M1SD4 | A303_137.4 S1 ME1SB4 | 310 | A303_137.4 P71 BN71B4 | A303_137.4 P71 BE71B4 | 311 |
| 10.0 | 320 | 1.8 | 136.3 | 12000 | A353_136.3 S1 M1SD4 | A353_136.3 S1 ME1SB4 | 314 | A353_136.3 P71 BN71B4 | A353_136.3 P71 BE71B4 | 315 |
| 11.4 | 283 | 1.1 | 120.5 | 9600 | A303_120.5 S1 M1SD4 | A303_120.5 S1 ME1SB4 | 310 | A303_120.5 P71 BN71B4 | A303_120.5 P71 BE71B4 | 311 |
| 11.7 | 275 | 2.0 | 116.9 | 12000 | A353_116.9 S1 M1SD4 | A353_116.9 S1 ME1SB4 | 314 | A353_116.9 P71 BN71B4 | A353_116.9 P71 BE71B4 | 315 |
| 11.8 | 272 | 3.1 | 115.9 | 15000 | A413_115.9 S1 M1SD4 | A413_115.9 S1 ME1SB4 | 318 | A413_115.9 P71 BN71B4 | A413_115.9 P71 BE71B4 | 319 |
| 12.6 | 256 | 1.2 | 109.1 | 9600 | A303_109.1 S1 M1SD4 | A303_109.1 S1 ME1SB4 | 310 | A303_109.1 P71 BN71B4 | A303_109.1 P71 BE71B4 | 311 |
| 13.0 | 248 | 2.1 | 105.5 | 12000 | A353_105.5 S1 M1SD4 | A353_105.5 S1 ME1SB4 | 314 | A353_105.5 P71 BN71B4 | A353_105.5 P71 BE71B4 | 315 |
| 14.1 | 237 | 1.3 | 97.5 | 9600 | | | | A302_97.5 P71 BN71B4 | A302_97.5 P71 BE71B4 | 311 |
| 14.3 | 232 | 2.3 | 95.6 | 12000 | A352_95.6 S1 M1SD4 | A352_95.6 S1 ME1SB4 | 314 | A352_95.6 P71 BN71B4 | A352_95.6 P71 BE71B4 | 315 |
| 15.8 | 210 | 1.5 | 86.7 | 9600 | | | | A302_86.7 P71 BN71B4 | A302_86.7 P71 BE71B4 | 311 |
| 16.6 | 200 | 3.0 | 82.5 | 12000 | A352_82.5 S1 M1SD4 | A352_82.5 S1 ME1SB4 | 314 | A352_82.5 P71 BN71B4 | A352_82.5 P71 BE71B4 | 315 |
| 17.2 | 194 | 1.1 | 79.9 | 6200 | | | | A202_79.9 P71 BN71B4 | A202_79.9 P71 BE71B4 | 307 |
| 17.9 | 186 | 1.9 | 76.5 | 9600 | A302_76.5 S1 M1SD4 | A302_76.5 S1 ME1SB4 | 310 | A302_76.5 P71 BN71B4 | A302_76.5 P71 BE71B4 | 311 |
| 18.4 | 180 | 3.3 | 74.3 | 12000 | A352_74.3 S1 M1SD4 | A352_74.3 S1 ME1SB4 | 314 | A352_74.3 P71 BN71B4 | A352_74.3 P71 BE71B4 | 315 |
| 19.3 | 172 | 1.2 | 71.0 | 6200 | | | | A202_71.0 P71 BN71B4 | A202_71.0 P71 BE71B4 | 307 |
| 20.7 | 160 | 2.4 | 66.0 | 9350 | A302_66.0 S1 M1SD4 | A302_66.0 S1 ME1SB4 | 310 | A302_66.0 P71 BN71B4 | A302_66.0 P71 BE71B4 | 311 |
| 20.8 | 160 | 0.9 | 65.9 | 5500 | | | | A102_65.9 P71 BN71B4 | A102_65.9 P71 BE71B4 | 303 |
| 21.7 | 153 | 1.6 | 63.1 | 6200 | A202_63.1 S1 M1SD4 | A202_63.1 S1 ME1SB4 | 306 | A202_63.1 P71 BN71B4 | A202_63.1 P71 BE71B4 | 307 |
| 23.1 | 144 | 2.8 | 59.4 | 9080 | A302_59.4 S1 M1SD4 | A302_59.4 S1 ME1SB4 | 310 | A302_59.4 P71 BN71B4 | A302_59.4 P71 BE71B4 | 311 |
| 23.4 | 142 | 1.1 | 58.6 | 5500 | | | | A102_58.6 P71 BN71B4 | A102_58.6 P71 BE71B4 | 303 |
| 25.5 | 130 | 1.9 | 53.7 | 6090 | A202_53.7 S1 M1SD4 | A202_53.7 S1 ME1SB4 | 306 | A202_53.7 P71 BN71B4 | A202_53.7 P71 BE71B4 | 307 |
| 26.0 | 128 | 3.2 | 52.7 | 8790 | A302_52.7 S1 M1SD4 | A302_52.7 S1 ME1SB4 | 310 | A302_52.7 P71 BN71B4 | A302_52.7 P71 BE71B4 | 311 |
| 26.7 | 124 | 1.2 | 51.3 | 5490 | A102_51.3 S1 M1SD4 | A102_51.3 S1 ME1SB4 | 302 | A102_51.3 P71 BN71B4 | A102_51.3 P71 BE71B4 | 303 |
| 28.4 | 117 | 2.1 | 48.3 | 5940 | A202_48.3 S1 M1SD4 | A202_48.3 S1 ME1SB4 | 306 | A202_48.3 P71 BN71B4 | A202_48.3 P71 BE71B4 | 307 |
| 28.4 | 117 | 3.5 | 48.3 | 8580 | A302_48.3 S1 M1SD4 | A302_48.3 S1 ME1SB4 | 310 | A302_48.3 P71 BN71B4 | A302_48.3 P71 BE71B4 | 311 |
| 30 | 110 | 0.9 | 45.4 | 3060 | A052_45.4 S1 M1SD4 | A052_45.4 S1 ME1SB4 | 299 | A052_45.4 P71 BN71B4 | A052_45.4 P71 BE71B4 | 299 |
| 30 | 110 | 1.4 | 45.4 | 5350 | A102_45.4 S1 M1SD4 | A102_45.4 S1 ME1SB4 | 302 | A102_45.4 P71 BN71B4 | A102_45.4 P71 BE71B4 | 303 |
| 32 | 105 | 2.4 | 43.2 | 5780 | A202_43.2 S1 M1SD4 | A202_43.2 S1 ME1SB4 | 306 | A202_43.2 P71 BN71B4 | A202_43.2 P71 BE71B4 | 307 |
| 34 | 99 | 1.0 | 40.9 | 3020 | A052_40.9 S1 M1SD4 | A052_40.9 S1 ME1SB4 | 299 | A052_40.9 P71 BN71B4 | A052_40.9 P71 BE71B4 | 299 |
| 34 | 99 | 1.5 | 40.9 | 5500 | A102_40.9 S1 M1SD4 | A102_40.9 S1 ME1SB4 | 302 | A102_40.9 P71 BN71B4 | A102_40.9 P71 BE71B4 | 303 |
| 35 | 96 | 2.6 | 39.6 | 5650 | A202_39.6 S1 M1SD4 | A202_39.6 S1 ME1SB4 | 306 | A202_39.6 P71 BN71B4 | A202_39.6 P71 BE71B4 | 307 |
| 39 | 86 | 2.9 | 35.4 | 5480 | A202_35.4 S1 M1SD4 | A202_35.4 S1 ME1SB4 | 306 | A202_35.4 P71 BN71B4 | A202_35.4 P71 BE71B4 | 307 |
| 39 | 85 | 1.2 | 35.1 | 2950 | A052_35.1 S1 M1SD4 | A052_35.1 S1 ME1SB4 | 299 | A052_35.1 P71 BN71B4 | A052_35.1 P71 BE71B4 | 299 |
| 39 | 85 | 1.8 | 35.1 | 5040 | A102_35.1 S1 M1SD4 | A102_35.1 S1 ME1SB4 | 302 | A102_35.1 P71 BN71B4 | A102_35.1 P71 BE71B4 | 303 |
| 43 | 78 | 1.3 | 32.2 | 2900 | A052_32.2 S1 M1SD4 | A052_32.2 S1 ME1SB4 | 299 | A052_32.2 P71 BN71B4 | A052_32.2 P71 BE71B4 | 299 |
| 43 | 78 | 1.9 | 32.2 | 5500 | A102_32.2 S1 M1SD4 | A102_32.2 S1 ME1SB4 | 302 | A102_32.2 P71 BN71B4 | A102_32.2 P71 BE71B4 | 303 |
| 44 | 76 | 3.3 | 31.3 | 5310 | A202_31.3 S1 M1SD4 | A202_31.3 S1 ME1SB4 | 306 | A202_31.3 P71 BN71B4 | A202_31.3 P71 BE71B4 | 307 |
| 47 | 71 | 3.5 | 29.2 | 5210 | A202_29.2 S1 M1SD4 | A202_29.2 S1 ME1SB4 | 306 | A202_29.2 P71 BN71B4 | A202_29.2 P71 BE71B4 | 307 |
| 48 | 69 | 1.4 | 28.6 | 2840 | A052_28.6 S1 M1SD4 | A052_28.6 S1 ME1SB4 | 299 | A052_28.6 P71 BN71B4 | A052_28.6 P71 BE71B4 | 299 |
| 48 | 69 | 2.2 | 28.6 | 4790 | A102_28.6 S1 M1SD4 | A102_28.6 S1 ME1SB4 | 302 | A102_28.6 P71 BN71B4 | A102_28.6 P71 BE71B4 | 303 |
| 54 | 62 | 1.6 | 25.5 | 2770 | A052_25.5 S1 M1SD4 | A052_25.5 S1 ME1SB4 | 299 | A052_25.5 P71 BN71B4 | A052_25.5 P71 BE71B4 | 299 |
| 54 | 62 | 2.4 | 25.5 | 5500 | A102_25.5 S1 M1SD4 | A102_25.5 S1 ME1SB4 | 302 | A102_25.5 P71 BN71B4 | A102_25.5 P71 BE71B4 | 303 |
| 58 | 58 | 1.7 | 23.8 | 2730 | A052_23.8 S1 M1SD4 | A052_23.8 S1 ME1SB4 | 299 | A052_23.8 P71 BN71B4 | A052_23.8 P71 BE71B4 | 299 |
| 58 | 58 | 2.6 | 23.8 | 4570 | A102_23.8 S1 M1SD4 | A102_23.8 S1 ME1SB4 | 302 | A102_23.8 P71 BN71B4 | A102_23.8 P71 BE71B4 | 303 |
| 64 | 52 | 1.9 | 21.4 | 2670 | A052_21.4 S1 M1SD4 | A052_21.4 S1 ME1SB4 | 299 | A052_21.4 P71 BN71B4 | A052_21.4 P71 BE71B4 | 299 |

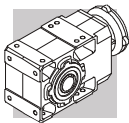


0.37 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------------------|----------------------|------|------|----------------------|---------------------|---------------------|-----|----------------------|----------------------|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | |
| 64 | 52 | 2.9 | 21.4 | 5270 | A102_21.4 S1 M1SD4 | A102_21.4 S1 ME1SB4 | 302 | A102_21.4 P71 BN71B4 | A102_21.4 P71 BE71B4 | 303 |
| 74 | 45 | 2.2 | 18.6 | 2590 | A052_18.6 S1 M1SD4 | A052_18.6 S1 ME1SB4 | 299 | A052_18.6 P71 BN71B4 | A052_18.6 P71 BE71B4 | 299 |
| 74 | 45 | 3.3 | 18.6 | 4270 | A102_18.6 S1 M1SD4 | A102_18.6 S1 ME1SB4 | 302 | A102_18.6 P71 BN71B4 | A102_18.6 P71 BE71B4 | 303 |
| 83 | 40 | 2.5 | 16.4 | 2510 | A052_16.4 S1 M1SD4 | A052_16.4 S1 ME1SB4 | 299 | A052_16.4 P71 BN71B4 | A052_16.4 P71 BE71B4 | 299 |
| 98 | 34 | 3.0 | 13.9 | 2410 | A052_13.9 S1 M1SD4 | A052_13.9 S1 ME1SB4 | 299 | A052_13.9 P71 BN71B4 | A052_13.9 P71 BE71B4 | 299 |
| 111 | 30 | 3.3 | 12.3 | 2350 | A052_12.3 S1 M1SD4 | A052_12.3 S1 ME1SB4 | 299 | A052_12.3 P71 BN71B4 | A052_12.3 P71 BE71B4 | 299 |
| 130 | 26 | 3.9 | 10.6 | 2240 | A052_10.6 S1 M1SD4 | A052_10.6 S1 ME1SB4 | 299 | A052_10.6 P71 BN71B4 | A052_10.6 P71 BE71B4 | 299 |
| 142 | 23 | 4.3 | 9.6 | 2190 | A052_9.6 S1 M1SD4 | A052_9.6 S1 ME1SB4 | 299 | A052_9.6 P71 BN71B4 | A052_9.6 P71 BE71B4 | 299 |
| 161 | 21 | 4.8 | 8.5 | 2120 | A052_8.5 S1 M1SD4 | A052_8.5 S1 ME1SB4 | 299 | A052_8.5 P71 BN71B4 | A052_8.5 P71 BE71B4 | 299 |
| 190 | 17.5 | 5.7 | 7.2 | 2030 | A052_7.2 S1 M1SD4 | A052_7.2 S1 ME1SB4 | 299 | A052_7.2 P71 BN71B4 | A052_7.2 P71 BE71B4 | 299 |
| 216 | 15.4 | 6.5 | 6.3 | 1950 | A052_6.3 S1 M1SD4 | A052_6.3 S1 ME1SB4 | 299 | A052_6.3 P71 BN71B4 | A052_6.3 P71 BE71B4 | 299 |
| 228 | 14.6 | 6.8 | 12.3 | 1920 | A052_12.3 S05 M05C2 | | 299 | A052_12.3 P71 BN71A2 | | 299 |
| 251 | 13.3 | 7.2 | 5.5 | 1870 | A052_5.5 S1 M1SD4 | A052_5.5 S1 ME1SB4 | 299 | A052_5.5 P71 BN71B4 | A052_5.5 P71 BE71B4 | 299 |
| 265 | 12.5 | 6.4 | 10.6 | 1830 | A052_10.6 S05 M05C2 | | 299 | A052_10.6 P71 BN71A2 | | 299 |
| 291 | 11.4 | 8.3 | 9.6 | 1790 | A052_9.6 S05 M05C2 | | 299 | A052_9.6 P71 BN71A2 | | 299 |
| 331 | 10.0 | 9.0 | 8.5 | 1720 | A052_8.5 S05 M05C2 | | 299 | A052_8.5 P71 BN71A2 | | 299 |
| 388 | 8.6 | 9.9 | 7.2 | 1640 | A052_7.2 S05 M05C2 | | 299 | A052_7.2 P71 BN71A2 | | 299 |
| 445 | 7.5 | 10.7 | 6.3 | 1570 | A052_6.3 S05 M05C2 | | 299 | A052_6.3 P71 BN71A2 | | 299 |
| 512 | 6.5 | 11.6 | 5.5 | 1500 | A052_5.5 S05 M05C2 | | 299 | | | 299 |

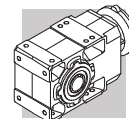
0.37 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | |
|-------------------------------------|----------------------|-----|-------|----------------------|-------------------------|-----|-------------------------|--|-----|
| | | | | | IE3 | IE3 | | | |
| 0.56 | 5644 | 2.5 | 1632 | 75000 | | | | | |
| 0.63 | 4972 | 1.6 | 1438 | 65000 | | | | | |
| 0.74 | 4226 | 3.3 | 1222 | 75000 | | | | | |
| 0.80 | 3939 | 1.3 | 1715 | 50000 | | | A704_1715 P71 BXN71MB4 | | 335 |
| 0.87 | 3636 | 1.4 | 1583 | 50000 | | | A704_1583 P71 BXN71MB4 | | 335 |
| 0.88 | 3577 | 2.2 | 1558 | 65000 | | | A804_1558 P71 BXN71MB4 | | 338 |
| 0.95 | 3302 | 2.4 | 1438 | 65000 | | | A804_1438 P71 BXN71MB4 | | 338 |
| 1.0 | 3091 | 1.6 | 1346 | 50000 | | | A704_1346 P71 BXN71MB4 | | 335 |
| 1.0 | 3077 | 2.6 | 1340 | 65000 | | | A804_1340 P71 BXN71MB4 | | 338 |
| 1.1 | 2853 | 1.8 | 1242 | 50000 | | | A704_1242 P71 BXN71MB4 | | 335 |
| 1.1 | 2841 | 2.8 | 1237 | 65000 | | | A804_1237 P71 BXN71MB4 | | 338 |
| 1.2 | 2668 | 1.9 | 1161 | 50000 | | | A704_1161 P71 BXN71MB4 | | 335 |
| 1.3 | 2492 | 3.2 | 1085 | 65000 | | | A804_1085 P71 BXN71MB4 | | 338 |
| 1.3 | 2462 | 2.0 | 1072 | 50000 | | | A704_1072 P71 BXN71MB4 | | 335 |
| 1.4 | 2300 | 3.5 | 1001 | 65000 | | | A804_1001 P71 BXN71MB4 | | 338 |
| 1.5 | 2128 | 2.3 | 926.5 | 50000 | | | A704_926.5 P71 BXN71MB4 | | 335 |
| 1.6 | 1964 | 2.5 | 855.3 | 50000 | | | A704_855.3 P71 BXN71MB4 | | 335 |
| 1.8 | 1754 | 2.8 | 763.9 | 50000 | | | A704_763.9 P71 BXN71MB4 | | 335 |
| 1.8 | 1735 | 1.6 | 755.4 | 30000 | | | A604_755.4 P71 BXN71MB4 | | 331 |
| 1.9 | 1626 | 0.9 | 707.9 | 20000 | A504_707.9 S10 MXN10MB4 | 322 | A504_707.9 P71 BXN71MB4 | | 323 |
| 1.9 | 1619 | 3.1 | 705.1 | 50000 | | | A704_705.1 P71 BXN71MB4 | | 335 |
| 2.0 | 1601 | 1.7 | 697.3 | 30000 | | | A604_697.3 P71 BXN71MB4 | | 331 |
| 2.1 | 1481 | 3.4 | 644.6 | 50000 | | | A704_644.6 P71 BXN71MB4 | | 335 |
| 2.2 | 1457 | 1.9 | 634.6 | 30000 | | | A604_634.6 P71 BXN71MB4 | | 331 |
| 2.2 | 1450 | 1.0 | 631.2 | 20000 | A504_631.2 S10 MXN10MB4 | 322 | A504_631.2 P71 BXN71MB4 | | 323 |
| 2.3 | 1345 | 2.1 | 585.8 | 30000 | | | A604_585.8 P71 BXN71MB4 | | 331 |
| 2.4 | 1319 | 1.1 | 574.2 | 20000 | A504_574.2 S10 MXN10MB4 | 322 | A504_574.2 P71 BXN71MB4 | | 323 |
| 2.5 | 1245 | 2.2 | 542.0 | 30000 | | | A604_542.0 P71 BXN71MB4 | | 331 |
| 2.6 | 1216 | 1.2 | 529.5 | 20000 | A504_529.5 S10 MXN10MB4 | 322 | A504_529.5 P71 BXN71MB4 | | 323 |
| 2.7 | 1149 | 2.4 | 500.3 | 30000 | | | A604_500.3 P71 BXN71MB4 | | 331 |
| 2.8 | 1106 | 1.4 | 481.6 | 20000 | A504_481.6 S10 MXN10MB4 | 322 | A504_481.6 P71 BXN71MB4 | | 323 |
| 3.1 | 1026 | 1.5 | 446.8 | 20000 | A504_446.8 S10 MXN10MB4 | 322 | A504_446.8 P71 BXN71MB4 | | 323 |
| 3.1 | 1007 | 2.8 | 438.4 | 30000 | | | A604_438.4 P71 BXN71MB4 | | 331 |
| 3.4 | 933 | 1.6 | 406.4 | 20000 | A504_406.4 S10 MXN10MB4 | 322 | A504_406.4 P71 BXN71MB4 | | 323 |
| 3.4 | 929 | 3.0 | 404.7 | 30000 | | | A604_404.7 P71 BXN71MB4 | | 331 |
| 3.6 | 885 | 1.0 | 376.8 | 15000 | A413_376.8 S10 MXN10MB4 | 318 | A413_376.8 P71 BXN71MB4 | | 319 |
| 3.7 | 840 | 1.8 | 365.6 | 20000 | A504_365.6 S10 MXN10MB4 | 322 | A504_365.6 P71 BXN71MB4 | | 323 |
| 3.9 | 807 | 3.5 | 351.2 | 30000 | | | A604_351.2 P71 BXN71MB4 | | 331 |



0.37 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IE3 | IEC | |
|-------------------------|----------------------|-----|-------|----------------------|-------------------------|-----|-------------------------|-----|
| | | | | | | | IE3 | IE3 |
| 4.1 | 764 | 2.0 | 332.6 | 20000 | A504_332.6 S10 MXN10MB4 | 322 | A504_332.6 P71 BXN71MB4 | 323 |
| 4.2 | 761 | 1.1 | 324.2 | 15000 | A413_324.2 S10 MXN10MB4 | 318 | A413_324.2 P71 BXN71MB4 | 319 |
| 4.7 | 685 | 1.2 | 291.7 | 15000 | A413_291.7 S10 MXN10MB4 | 318 | A413_291.7 P71 BXN71MB4 | 319 |
| 4.8 | 659 | 2.3 | 286.8 | 20000 | A504_286.8 S10 MXN10MB4 | 322 | A504_286.8 P71 BXN71MB4 | 323 |
| 5.1 | 636 | 0.9 | 270.7 | 12000 | A353_270.7 S10 MXN10MB4 | 314 | A353_270.7 P71 BXN71MB4 | 315 |
| 5.2 | 616 | 1.4 | 262.5 | 15000 | A413_262.5 S10 MXN10MB4 | 318 | A413_262.5 P71 BXN71MB4 | 319 |
| 5.3 | 599 | 2.5 | 260.9 | 20000 | A504_260.9 S10 MXN10MB4 | 322 | A504_260.9 P71 BXN71MB4 | 323 |
| 5.5 | 583 | 1.0 | 248.1 | 12000 | A353_248.1 S10 MXN10MB4 | 314 | A353_248.1 P71 BXN71MB4 | 315 |
| 5.7 | 565 | 1.5 | 240.6 | 15000 | A413_240.6 S10 MXN10MB4 | 318 | A413_240.6 P71 BXN71MB4 | 319 |
| 5.9 | 533 | 2.8 | 232.0 | 20000 | A504_232.0 S10 MXN10MB4 | 322 | A504_232.0 P71 BXN71MB4 | 323 |
| 6.1 | 524 | 1.1 | 223.2 | 12000 | A353_223.2 S10 MXN10MB4 | 314 | A353_223.2 P71 BXN71MB4 | 315 |
| 6.3 | 511 | 1.7 | 217.4 | 15000 | A413_217.4 S10 MXN10MB4 | 318 | A413_217.4 P71 BXN71MB4 | 319 |
| 6.5 | 485 | 3.1 | 211.0 | 20000 | A504_211.0 S10 MXN10MB4 | 322 | A504_211.0 P71 BXN71MB4 | 323 |
| 6.8 | 474 | 1.3 | 201.8 | 12000 | A353_201.8 S10 MXN10MB4 | 314 | A353_201.8 P71 BXN71MB4 | 315 |
| 6.9 | 464 | 1.8 | 197.5 | 15000 | A413_197.5 S10 MXN10MB4 | 318 | A413_197.5 P71 BXN71MB4 | 319 |
| 7.2 | 448 | 3.4 | 190.6 | 20000 | A503_190.6 S10 MXN10MB4 | 322 | A503_190.6 P71 BXN71MB4 | 323 |
| 7.3 | 442 | 1.4 | 188.3 | 12000 | A353_188.3 S10 MXN10MB4 | 314 | A353_188.3 P71 BXN71MB4 | 315 |
| 7.4 | 433 | 2.0 | 184.4 | 15000 | A413_184.4 S10 MXN10MB4 | 318 | A413_184.4 P71 BXN71MB4 | 319 |
| 8.0 | 403 | 1.5 | 171.8 | 12000 | A353_171.8 S10 MXN10MB4 | 314 | A353_171.8 P71 BXN71MB4 | 315 |
| 9.1 | 354 | 0.9 | 150.7 | 9600 | A303_150.7 S10 MXN10MB4 | 310 | A303_150.7 P71 BXN71MB4 | 311 |
| 9.1 | 354 | 1.7 | 150.6 | 12000 | A353_150.6 S10 MXN10MB4 | 314 | A353_150.6 P71 BXN71MB4 | 315 |
| 9.3 | 345 | 2.5 | 146.9 | 15000 | A413_146.9 S10 MXN10MB4 | 318 | A413_146.9 P71 BXN71MB4 | 319 |
| 10.0 | 323 | 1.0 | 137.4 | 9600 | A303_137.4 S10 MXN10MB4 | 310 | A303_137.4 P71 BXN71MB4 | 311 |
| 10.0 | 320 | 1.8 | 136.3 | 12000 | A353_136.3 S10 MXN10MB4 | 314 | A353_136.3 P71 BXN71MB4 | 315 |
| 11.4 | 283 | 1.1 | 120.5 | 9600 | A303_120.5 S10 MXN10MB4 | 310 | A303_120.5 P71 BXN71MB4 | 311 |
| 11.7 | 275 | 2.0 | 116.9 | 12000 | A353_116.9 S10 MXN10MB4 | 314 | A353_116.9 P71 BXN71MB4 | 315 |
| 11.8 | 272 | 3.1 | 115.9 | 15000 | A413_115.9 S10 MXN10MB4 | 318 | A413_115.9 P71 BXN71MB4 | 319 |
| 12.6 | 256 | 1.2 | 109.1 | 9600 | A303_109.1 S10 MXN10MB4 | 310 | A303_109.1 P71 BXN71MB4 | 311 |
| 13.0 | 248 | 2.1 | 105.5 | 12000 | A353_105.5 S10 MXN10MB4 | 314 | A353_105.5 P71 BXN71MB4 | 315 |
| 14.1 | 237 | 1.3 | 97.5 | 9600 | A302_97.5 S10 MXN10MB4 | 310 | A302_97.5 P71 BXN71MB4 | 311 |
| 14.3 | 232 | 2.3 | 95.6 | 12000 | A352_95.6 S10 MXN10MB4 | 314 | A352_95.6 P71 BXN71MB4 | 315 |
| 15.8 | 210 | 1.5 | 86.7 | 9600 | A302_86.7 S10 MXN10MB4 | 310 | A302_86.7 P71 BXN71MB4 | 311 |
| 16.6 | 200 | 3.0 | 82.5 | 12000 | A352_82.5 S10 MXN10MB4 | 314 | A352_82.5 P71 BXN71MB4 | 315 |
| 17.2 | 194 | 1.1 | 79.9 | 6200 | A202_79.9 S10 MXN10MB4 | 306 | A202_79.9 P71 BXN71MB4 | 307 |
| 17.9 | 186 | 1.9 | 76.5 | 9600 | A302_76.5 S10 MXN10MB4 | 310 | A302_76.5 P71 BXN71MB4 | 311 |
| 18.4 | 180 | 3.3 | 74.3 | 12000 | A352_74.3 S10 MXN10MB4 | 314 | A352_74.3 P71 BXN71MB4 | 315 |
| 19.3 | 172 | 1.2 | 71.0 | 6200 | A202_71.0 S10 MXN10MB4 | 306 | A202_71.0 P71 BXN71MB4 | 307 |
| 20.7 | 160 | 2.4 | 66.0 | 9350 | A302_66.0 S10 MXN10MB4 | 310 | A302_66.0 P71 BXN71MB4 | 311 |
| 20.8 | 160 | 0.9 | 65.9 | 5500 | A102_65.9 S10 MXN10MB4 | 302 | A102_65.9 P71 BXN71MB4 | 303 |
| 21.7 | 153 | 1.6 | 63.1 | 6200 | A202_63.1 S10 MXN10MB4 | 306 | A202_63.1 P71 BXN71MB4 | 307 |
| 23.1 | 144 | 2.8 | 59.4 | 9080 | A302_59.4 S10 MXN10MB4 | 310 | A302_59.4 P71 BXN71MB4 | 311 |
| 23.4 | 142 | 1.1 | 58.6 | 5500 | A102_58.6 S10 MXN10MB4 | 302 | A102_58.6 P71 BXN71MB4 | 303 |
| 25.5 | 130 | 1.9 | 53.7 | 6090 | A202_53.7 S10 MXN10MB4 | 306 | A202_53.7 P71 BXN71MB4 | 307 |
| 26.0 | 128 | 3.2 | 52.7 | 8790 | A302_52.7 S10 MXN10MB4 | 310 | A302_52.7 P71 BXN71MB4 | 311 |
| 26.7 | 124 | 1.2 | 51.3 | 5490 | A102_51.3 S10 MXN10MB4 | 302 | A102_51.3 P71 BXN71MB4 | 303 |
| 28.4 | 117 | 2.1 | 48.3 | 5940 | A202_48.3 S10 MXN10MB4 | 306 | A202_48.3 P71 BXN71MB4 | 307 |
| 28.4 | 117 | 3.5 | 48.3 | 8580 | A302_48.3 S10 MXN10MB4 | 310 | A302_48.3 P71 BXN71MB4 | 311 |
| 30 | 110 | 0.9 | 45.4 | 3060 | A102_45.4 S10 MXN10MB4 | 302 | A102_45.4 P71 BXN71MB4 | 299 |
| 30 | 110 | 1.4 | 45.4 | 5350 | A102_45.4 S10 MXN10MB4 | 302 | A102_45.4 P71 BXN71MB4 | 303 |
| 32 | 105 | 2.4 | 43.2 | 5780 | A202_43.2 S10 MXN10MB4 | 306 | A202_43.2 P71 BXN71MB4 | 307 |
| 34 | 99 | 1.0 | 40.9 | 3020 | A052_40.9 S10 MXN10MB4 | 302 | A052_40.9 P71 BXN71MB4 | 299 |
| 34 | 99 | 1.5 | 40.9 | 5500 | A102_40.9 S10 MXN10MB4 | 302 | A102_40.9 P71 BXN71MB4 | 303 |
| 35 | 96 | 2.6 | 39.6 | 5650 | A202_39.6 S10 MXN10MB4 | 306 | A202_39.6 P71 BXN71MB4 | 307 |
| 39 | 86 | 2.9 | 35.4 | 5480 | A202_35.4 S10 MXN10MB4 | 306 | A202_35.4 P71 BXN71MB4 | 307 |
| 39 | 85 | 1.2 | 35.1 | 2950 | A052_35.1 S10 MXN10MB4 | 302 | A052_35.1 P71 BXN71MB4 | 299 |
| 39 | 85 | 1.8 | 35.1 | 5040 | A102_35.1 S10 MXN10MB4 | 302 | A102_35.1 P71 BXN71MB4 | 303 |
| 43 | 78 | 1.3 | 32.2 | 2900 | A052_32.2 S10 MXN10MB4 | 302 | A052_32.2 P71 BXN71MB4 | 299 |
| 43 | 78 | 1.9 | 32.2 | 5500 | A102_32.2 S10 MXN10MB4 | 302 | A102_32.2 P71 BXN71MB4 | 303 |
| 44 | 76 | 3.3 | 31.3 | 5310 | A202_31.3 S10 MXN10MB4 | 306 | A202_31.3 P71 BXN71MB4 | 307 |
| 47 | 71 | 3.5 | 29.2 | 5210 | A202_29.2 S10 MXN10MB4 | 306 | A202_29.2 P71 BXN71MB4 | 307 |
| 48 | 69 | 1.4 | 28.6 | 2840 | A052_28.6 S10 MXN10MB4 | 302 | A052_28.6 P71 BXN71MB4 | 299 |
| 48 | 69 | 2.2 | 28.6 | 4790 | A102_28.6 S10 MXN10MB4 | 302 | A102_28.6 P71 BXN71MB4 | 303 |
| 54 | 62 | 1.6 | 25.5 | 2770 | A052_25.5 S10 MXN10MB4 | 302 | A052_25.5 P71 BXN71MB4 | 299 |
| 54 | 62 | 2.4 | 25.5 | 5500 | A102_25.5 S10 MXN10MB4 | 302 | A102_25.5 P71 BXN71MB4 | 303 |
| 58 | 58 | 1.7 | 23.8 | 2730 | A052_23.8 S10 MXN10MB4 | 299 | A052_23.8 P71 BXN71MB4 | 299 |

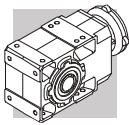


0.37 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IE3 | IEC | |
|-------------------------|----------------------|------|------|----------------------|------------------------|-----|------------------------|-----|
| | | | | | | | IE3 | IE3 |
| 58 | 58 | 2.6 | 23.8 | 4570 | A102_23.8 S10 MXN10MB4 | 302 | A102_23.8 P71 BXN71MB4 | 303 |
| 64 | 52 | 1.9 | 21.4 | 2670 | | | A052_21.4 P71 BXN71MB4 | 299 |
| 64 | 52 | 2.9 | 21.4 | 5270 | A102_21.4 S10 MXN10MB4 | 302 | A102_21.4 P71 BXN71MB4 | 303 |
| 74 | 45 | 2.2 | 18.6 | 2590 | | | A052_18.6 P71 BXN71MB4 | 299 |
| 74 | 45 | 3.3 | 18.6 | 4270 | A102_18.6 S10 MXN10MB4 | 302 | A102_18.6 P71 BXN71MB4 | 303 |
| 83 | 40 | 2.5 | 16.4 | 2510 | | | A052_16.4 P71 BXN71MB4 | 299 |
| 98 | 34 | 3.0 | 13.9 | 2410 | | | A052_13.9 P71 BXN71MB4 | 299 |
| 111 | 30 | 3.3 | 12.3 | 2350 | | | A052_12.3 P71 BXN71MB4 | 299 |
| 130 | 26 | 3.9 | 10.6 | 2240 | | | A052_10.6 P71 BXN71MB4 | 299 |
| 142 | 23 | 4.3 | 9.6 | 2190 | | | A052_9.6 P71 BXN71MB4 | 299 |
| 161 | 21 | 4.8 | 8.5 | 2120 | | | A052_8.5 P71 BXN71MB4 | 299 |
| 190 | 17.5 | 5.7 | 7.2 | 2030 | | | A052_7.2 P71 BXN71MB4 | 299 |
| 216 | 15.4 | 6.5 | 6.3 | 1950 | | | A052_6.3 P71 BXN71MB4 | 299 |
| 228 | 14.6 | 6.8 | 12.3 | 1920 | | | | |
| 251 | 13.3 | 7.2 | 5.5 | 1870 | | | A052_5.5 P71 BXN71MB4 | 299 |
| 265 | 12.5 | 6.4 | 10.6 | 1830 | | | | |
| 291 | 11.4 | 8.3 | 9.6 | 1790 | | | | |
| 331 | 10.0 | 9.0 | 8.5 | 1720 | | | | |
| 388 | 8.6 | 9.9 | 7.2 | 1640 | | | | |
| 445 | 7.5 | 10.7 | 6.3 | 1570 | | | A052_6.3 P71 BN71A2 | 299 |
| 512 | 6.5 | 11.6 | 5.5 | 1500 | | | | |

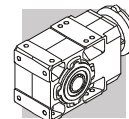
0.55 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE1 | | IE2 | IEC | | |
|-------------------------|----------------------|-----|-------|----------------------|---------------------|----------------------|-----|-----------------------|-----------------------|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | |
| 0.56 | 8299 | 1.7 | 1632 | 75000 | A904_1632 S2 M2SA6 | | 340 | A904_1632 P80 BN80B6 | 341 | |
| 0.64 | 7310 | 1.1 | 1438 | 65000 | A804_1438 S2 M2SA6 | | 337 | A804_1438 P80 BN80B6 | 338 | |
| 0.75 | 6213 | 2.3 | 1222 | 75000 | A904_1222 S2 M2SA6 | | 340 | A904_1222 P80 BN80B6 | 341 | |
| 0.80 | 5813 | 0.9 | 1715 | 50000 | A704_1715 S1 M1LA4 | A704_1715 S2 ME2SA4 | 334 | A704_1715 P80 BN80A4 | A704_1715 P80 BE80A4 | 335 |
| 0.85 | 5532 | 2.5 | 1632 | 75000 | A904_1632 S1 M1LA4 | A904_1632 S2 ME2SA4 | 340 | A904_1632 P80 BN80A4 | A904_1632 P80 BE80A4 | 341 |
| 0.87 | 5365 | 0.9 | 1583 | 50000 | A704_1583 S1 M1LA4 | A704_1583 S2 ME2SA4 | 334 | A704_1583 P80 BN80A4 | A704_1583 P80 BE80A4 | 335 |
| 0.89 | 5279 | 1.5 | 1558 | 65000 | A804_1558 S1 M1LA4 | A804_1558 S2 ME2SA4 | 337 | A804_1558 P80 BN80A4 | A804_1558 P80 BE80A4 | 338 |
| 0.92 | 5070 | 2.8 | 1507 | 75000 | A904_1507 S1 M1LA4 | A904_1507 S2 ME2SA4 | 340 | A904_1507 P80 BN80A4 | A904_1507 P80 BE80A4 | 341 |
| 0.96 | 4873 | 1.6 | 1438 | 65000 | A804_1438 S1 M1LA4 | A804_1438 S2 ME2SA4 | 337 | A804_1438 P80 BN80A4 | A804_1438 P80 BE80A4 | 338 |
| 1.0 | 4561 | 1.1 | 1346 | 50000 | A704_1346 S1 M1LA4 | A704_1346 S2 ME2SA4 | 334 | A704_1346 P80 BN80A4 | A704_1346 P80 BE80A4 | 335 |
| 1.0 | 4541 | 1.8 | 1340 | 65000 | A804_1340 S1 M1LA4 | A804_1340 S2 ME2SA4 | 337 | A804_1340 P80 BN80A4 | A804_1340 P80 BE80A4 | 338 |
| 1.0 | 4455 | 3.1 | 1324 | 75000 | A904_1324 S1 M1LA4 | A904_1324 S2 ME2SA4 | 340 | A904_1324 P80 BN80A4 | A904_1324 P80 BE80A4 | 341 |
| 1.1 | 4211 | 1.2 | 1242 | 50000 | A704_1242 S1 M1LA4 | A704_1242 S2 ME2SA4 | 334 | A704_1242 P80 BN80A4 | A704_1242 P80 BE80A4 | 335 |
| 1.1 | 4192 | 1.9 | 1237 | 65000 | A804_1237 S1 M1LA4 | A804_1237 S2 ME2SA4 | 337 | A804_1237 P80 BN80A4 | A804_1237 P80 BE80A4 | 338 |
| 1.1 | 4112 | 3.4 | 1222 | 75000 | A904_1222 S1 M1LA4 | A904_1222 S2 ME2SA4 | 340 | A904_1222 P80 BN80A4 | A904_1222 P80 BE80A4 | 341 |
| 1.2 | 3937 | 1.3 | 1161 | 50000 | A704_1161 S1 M1LA4 | A704_1161 S2 ME2SA4 | 334 | A704_1161 P80 BN80A4 | A704_1161 P80 BE80A4 | 335 |
| 1.3 | 3677 | 2.2 | 1085 | 65000 | A804_1085 S1 M1LA4 | A804_1085 S2 ME2SA4 | 337 | A804_1085 P80 BN80A4 | A804_1085 P80 BE80A4 | 338 |
| 1.3 | 3634 | 1.4 | 1072 | 50000 | A704_1072 S1 M1LA4 | A704_1072 S2 ME2SA4 | 334 | A704_1072 P80 BN80A4 | A704_1072 P80 BE80A4 | 335 |
| 1.4 | 3394 | 2.4 | 1001 | 65000 | A804_1001 S1 M1LA4 | A804_1001 S2 ME2SA4 | 337 | A804_1001 P80 BN80A4 | A804_1001 P80 BE80A4 | 338 |
| 1.5 | 3140 | 1.6 | 926.5 | 50000 | A704_926.5 S1 M1LA4 | A704_926.5 S2 ME2SA4 | 334 | A704_926.5 P80 BN80A4 | A704_926.5 P80 BE80A4 | 335 |
| 1.5 | 3046 | 2.6 | 898.7 | 65000 | A804_898.7 S1 M1LA4 | A804_898.7 S2 ME2SA4 | 337 | A804_898.7 P80 BN80A4 | A804_898.7 P80 BE80A4 | 338 |
| 1.6 | 2899 | 1.7 | 855.3 | 50000 | A704_855.3 S1 M1LA4 | A704_855.3 S2 ME2SA4 | 334 | A704_855.3 P80 BN80A4 | A704_855.3 P80 BE80A4 | 335 |
| 1.7 | 2811 | 2.8 | 829.5 | 65000 | A804_829.5 S1 M1LA4 | A804_829.5 S2 ME2SA4 | 337 | A804_829.5 P80 BN80A4 | A804_829.5 P80 BE80A4 | 338 |
| 1.8 | 2589 | 1.9 | 763.9 | 50000 | A704_763.9 S1 M1LA4 | A704_763.9 S2 ME2SA4 | 334 | A704_763.9 P80 BN80A4 | A704_763.9 P80 BE80A4 | 335 |
| 1.8 | 2583 | 3.1 | 762.1 | 65000 | A804_762.1 S1 M1LA4 | A804_762.1 S2 ME2SA4 | 337 | A804_762.1 P80 BN80A4 | A804_762.1 P80 BE80A4 | 338 |
| 1.8 | 2560 | 1.1 | 755.4 | 30000 | A604_755.4 S1 M1LA4 | A604_755.4 S2 ME2SA4 | 330 | A604_755.4 P80 BN80A4 | A604_755.4 P80 BE80A4 | 331 |
| 2.0 | 2390 | 2.1 | 705.1 | 50000 | A704_705.1 S1 M1LA4 | A704_705.1 S2 ME2SA4 | 334 | A704_705.1 P80 BN80A4 | A704_705.1 P80 BE80A4 | 335 |
| 2.0 | 2384 | 3.4 | 703.5 | 65000 | A804_703.5 S1 M1LA4 | A804_703.5 S2 ME2SA4 | 337 | A804_703.5 P80 BN80A4 | A804_703.5 P80 BE80A4 | 338 |
| 2.0 | 2363 | 1.2 | 697.3 | 30000 | A604_697.3 S1 M1LA4 | A604_697.3 S2 ME2SA4 | 330 | A604_697.3 P80 BN80A4 | A604_697.3 P80 BE80A4 | 331 |
| 2.1 | 2185 | 2.3 | 644.6 | 50000 | A704_644.6 S1 M1LA4 | A704_644.6 S2 ME2SA4 | 334 | A704_644.6 P80 BN80A4 | A704_644.6 P80 BE80A4 | 335 |
| 2.2 | 2151 | 1.3 | 634.6 | 30000 | A604_634.6 S1 M1LA4 | A604_634.6 S2 ME2SA4 | 330 | A604_634.6 P80 BN80A4 | A604_634.6 P80 BE80A4 | 331 |
| 2.3 | 2017 | 2.5 | 595.0 | 50000 | A704_595.0 S1 M1LA4 | A704_595.0 S2 ME2SA4 | 334 | A704_595.0 P80 BN80A4 | A704_595.0 P80 BE80A4 | 335 |
| 2.4 | 1985 | 1.4 | 585.8 | 30000 | A604_585.8 S1 M1LA4 | A604_585.8 S2 ME2SA4 | 330 | A604_585.8 P80 BN80A4 | A604_585.8 P80 BE80A4 | 331 |
| 2.5 | 1837 | 1.5 | 542.0 | 30000 | A604_542.0 S1 M1LA4 | A604_542.0 S2 ME2SA4 | 330 | A604_542.0 P80 BN80A4 | A604_542.0 P80 BE80A4 | 331 |
| 2.7 | 1747 | 2.9 | 515.4 | 50000 | A704_515.4 S1 M1LA4 | A704_515.4 S2 ME2SA4 | 334 | A704_515.4 P80 BN80A4 | A704_515.4 P80 BE80A4 | 335 |
| 2.8 | 1696 | 1.7 | 500.3 | 30000 | A604_500.3 S1 M1LA4 | A604_500.3 S2 ME2SA4 | 330 | A604_500.3 P80 BN80A4 | A604_500.3 P80 BE80A4 | 331 |



0.55 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------|----------------------|-----|-------|----------------------|---------------------|----------------------|-----|-----------------------|-----------------------|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | |
| 2.9 | 1632 | 0.9 | 481.6 | 20000 | A504_481.6 S1 M1LA4 | A504_481.6 S2 ME2SA4 | 322 | A504_481.6 P80 BN80A4 | A504_481.6 P80 BE80A4 | 323 |
| 2.9 | 1612 | 3.1 | 475.8 | 50000 | A704_475.8 S1 M1LA4 | A704_475.8 S2 ME2SA4 | 334 | A704_475.8 P80 BN80A4 | A704_475.8 P80 BE80A4 | 335 |
| 3.1 | 1514 | 1.0 | 446.8 | 20000 | A504_446.8 S1 M1LA4 | A504_446.8 S2 ME2SA4 | 322 | A504_446.8 P80 BN80A4 | A504_446.8 P80 BE80A4 | 323 |
| 3.1 | 1486 | 1.9 | 438.4 | 30000 | A604_438.4 S1 M1LA4 | A604_438.4 S2 ME2SA4 | 330 | A604_438.4 P80 BN80A4 | A604_438.4 P80 BE80A4 | 331 |
| 3.4 | 1378 | 1.1 | 406.4 | 20000 | A504_406.4 S1 M1LA4 | A504_406.4 S2 ME2SA4 | 322 | A504_406.4 P80 BN80A4 | A504_406.4 P80 BE80A4 | 323 |
| 3.4 | 1372 | 2.0 | 404.7 | 30000 | A604_404.7 S1 M1LA4 | A604_404.7 S2 ME2SA4 | 330 | A604_404.7 P80 BN80A4 | A604_404.7 P80 BE80A4 | 331 |
| 3.8 | 1239 | 1.2 | 365.6 | 20000 | A504_365.6 S1 M1LA4 | A504_365.6 S2 ME2SA4 | 322 | A504_365.6 P80 BN80A4 | A504_365.6 P80 BE80A4 | 323 |
| 3.9 | 1190 | 2.4 | 351.2 | 30000 | A604_351.2 S1 M1LA4 | A604_351.2 S2 ME2SA4 | 330 | A604_351.2 P80 BN80A4 | A604_351.2 P80 BE80A4 | 331 |
| 4.1 | 1127 | 1.3 | 332.6 | 20000 | A504_332.6 S1 M1LA4 | A504_332.6 S2 ME2SA4 | 322 | A504_332.6 P80 BN80A4 | A504_332.6 P80 BE80A4 | 323 |
| 4.3 | 1099 | 2.5 | 324.2 | 30000 | A604_324.2 S1 M1LA4 | A604_324.2 S2 ME2SA4 | 330 | A604_324.2 P80 BN80A4 | A604_324.2 P80 BE80A4 | 331 |
| 4.8 | 972 | 1.5 | 286.8 | 20000 | A504_286.8 S1 M1LA4 | A504_286.8 S2 ME2SA4 | 322 | A504_286.8 P80 BN80A4 | A504_286.8 P80 BE80A4 | 323 |
| 4.8 | 970 | 2.9 | 286.3 | 30000 | A604_286.3 S1 M1LA4 | A604_286.3 S2 ME2SA4 | 330 | A604_286.3 P80 BN80A4 | A604_286.3 P80 BE80A4 | 331 |
| 5.2 | 896 | 3.1 | 264.3 | 30000 | A604_264.3 S1 M1LA4 | A604_264.3 S2 ME2SA4 | 330 | A604_264.3 P80 BN80A4 | A604_264.3 P80 BE80A4 | 331 |
| 5.3 | 910 | 0.9 | 262.5 | 15000 | A413_262.5 S1 M1LA4 | A413_262.5 S2 ME2SA4 | 318 | A413_262.5 P80 BN80A4 | A413_262.5 P80 BE80A4 | 319 |
| 5.3 | 884 | 1.7 | 260.9 | 20000 | A504_260.9 S1 M1LA4 | A504_260.9 S2 ME2SA4 | 322 | A504_260.9 P80 BN80A4 | A504_260.9 P80 BE80A4 | 323 |
| 5.7 | 834 | 1.0 | 240.6 | 15000 | A413_240.6 S1 M1LA4 | A413_240.6 S2 ME2SA4 | 318 | A413_240.6 P80 BN80A4 | A413_240.6 P80 BE80A4 | 319 |
| 5.9 | 786 | 1.9 | 232.0 | 20000 | A504_232.0 S1 M1LA4 | A504_232.0 S2 ME2SA4 | 322 | A504_232.0 P80 BN80A4 | A504_232.0 P80 BE80A4 | 323 |
| 6.3 | 753 | 1.1 | 217.4 | 15000 | A413_217.4 S1 M1LA4 | A413_217.4 S2 ME2SA4 | 318 | A413_217.4 P80 BN80A4 | A413_217.4 P80 BE80A4 | 319 |
| 6.5 | 715 | 2.1 | 211.0 | 20000 | A504_211.0 S1 M1LA4 | A504_211.0 S2 ME2SA4 | 322 | A504_211.0 P80 BN80A4 | A504_211.0 P80 BE80A4 | 323 |
| 7.0 | 685 | 1.2 | 197.5 | 15000 | A413_197.5 S1 M1LA4 | A413_197.5 S2 ME2SA4 | 318 | A413_197.5 P80 BN80A4 | A413_197.5 P80 BE80A4 | 319 |
| 7.1 | 673 | 3.0 | 194.2 | 30000 | A553_194.2 S1 M1LA4 | A553_194.2 S2 ME2SA4 | 326 | A553_194.2 P80 BN80A4 | A553_194.2 P80 BE80A4 | 327 |
| 7.2 | 660 | 2.3 | 190.6 | 20000 | A503_190.6 S1 M1LA4 | A503_190.6 S2 ME2SA4 | 322 | A503_190.6 P80 BN80A4 | A503_190.6 P80 BE80A4 | 323 |
| 7.3 | 653 | 0.9 | 188.3 | 12000 | A353_188.3 S1 M1LA4 | A353_188.3 S2 ME2SA4 | 314 | A353_188.3 P80 BN80A4 | A353_188.3 P80 BE80A4 | 315 |
| 7.5 | 639 | 1.3 | 184.4 | 15000 | A413_184.4 S1 M1LA4 | A413_184.4 S2 ME2SA4 | 318 | A413_184.4 P80 BN80A4 | A413_184.4 P80 BE80A4 | 319 |
| 7.9 | 607 | 3.3 | 175.0 | 30000 | A553_175.0 S1 M1LA4 | A553_175.0 S2 ME2SA4 | 326 | A553_175.0 P80 BN80A4 | A553_175.0 P80 BE80A4 | 327 |
| 8.0 | 601 | 2.5 | 173.4 | 20000 | A503_173.4 S1 M1LA4 | A503_173.4 S2 ME2SA4 | 322 | A503_173.4 P80 BN80A4 | A503_173.4 P80 BE80A4 | 323 |
| 8.0 | 595 | 1.0 | 171.8 | 12000 | A353_171.8 S1 M1LA4 | A353_171.8 S2 ME2SA4 | 314 | A353_171.8 P80 BN80A4 | A353_171.8 P80 BE80A4 | 315 |
| 9.0 | 532 | 2.8 | 154.6 | 20000 | A503_154.6 S1 M1LA4 | A503_154.6 S2 ME2SA4 | 322 | A503_154.6 P80 BN80A4 | A503_154.6 P80 BE80A4 | 323 |
| 9.2 | 522 | 1.1 | 150.6 | 12000 | A353_150.6 S1 M1LA4 | A353_150.6 S2 ME2SA4 | 314 | A353_150.6 P80 BN80A4 | A353_150.6 P80 BE80A4 | 315 |
| 9.4 | 509 | 1.7 | 146.9 | 15000 | A413_146.9 S1 M1LA4 | A413_146.9 S2 ME2SA4 | 318 | A413_146.9 P80 BN80A4 | A413_146.9 P80 BE80A4 | 319 |
| 9.9 | 484 | 3.1 | 140.6 | 20000 | A503_140.6 S1 M1LA4 | A503_140.6 S2 ME2SA4 | 322 | A503_140.6 P80 BN80A4 | A503_140.6 P80 BE80A4 | 323 |
| 10.1 | 472 | 1.2 | 136.3 | 12000 | A353_136.3 S1 M1LA4 | A353_136.3 S2 ME2SA4 | 314 | A353_136.3 P80 BN80A4 | A353_136.3 P80 BE80A4 | 315 |
| 10.7 | 446 | 3.4 | 129.7 | 20000 | A503_129.7 S1 M1LA4 | A503_129.7 S2 ME2SA4 | 322 | A503_129.7 P80 BN80A4 | A503_129.7 P80 BE80A4 | 323 |
| 11.8 | 405 | 1.4 | 116.9 | 12000 | A353_116.9 S1 M1LA4 | A353_116.9 S2 ME2SA4 | 314 | A353_116.9 P80 BN80A4 | A353_116.9 P80 BE80A4 | 315 |
| 11.9 | 402 | 2.1 | 115.9 | 15000 | A413_115.9 S1 M1LA4 | A413_115.9 S2 ME2SA4 | 318 | A413_115.9 P80 BN80A4 | A413_115.9 P80 BE80A4 | 319 |
| 13.1 | 366 | 1.4 | 105.5 | 12000 | A353_105.5 S1 M1LA4 | A353_105.5 S2 ME2SA4 | 314 | A353_105.5 P80 BN80A4 | A353_105.5 P80 BE80A4 | 315 |
| 14.2 | 349 | 0.9 | 97.5 | 9600 | | | | A302_97.5 P80 BN80A4 | A302_97.5 P80 BE80A4 | 311 |
| 14.4 | 342 | 1.6 | 95.6 | 12000 | A352_95.6 S1 M1LA4 | A352_95.6 S2 ME2SA4 | 314 | A352_95.6 P80 BN80A4 | A352_95.6 P80 BE80A4 | 315 |
| 14.9 | 321 | 2.5 | 92.8 | 15000 | A413_92.8 S1 M1LA4 | A413_92.8 S2 ME2SA4 | 318 | A413_92.8 P80 BN80A4 | A413_92.8 P80 BE80A4 | 319 |
| 15.9 | 310 | 1.0 | 86.7 | 9420 | | | | A302_86.7 P80 BN80A4 | A302_86.7 P80 BE80A4 | 311 |
| 16.7 | 295 | 2.0 | 82.5 | 12000 | A352_82.5 S1 M1LA4 | A352_82.5 S2 ME2SA4 | 314 | A352_82.5 P80 BN80A4 | A352_82.5 P80 BE80A4 | 315 |
| 17.4 | 284 | 3.0 | 79.2 | 15000 | A412_79.2 S1 M1LA4 | A412_79.2 S2 ME2SA4 | 318 | A412_79.2 P80 BN80A4 | A412_79.2 P80 BE80A4 | 319 |
| 18.0 | 274 | 1.3 | 76.5 | 9180 | A302_76.5 S1 M1LA4 | A302_76.5 S2 ME2SA4 | 310 | A302_76.5 P80 BN80A4 | A302_76.5 P80 BE80A4 | 311 |
| 18.6 | 266 | 2.3 | 74.3 | 12000 | A352_74.3 S1 M1LA4 | A352_74.3 S2 ME2SA4 | 314 | A352_74.3 P80 BN80A4 | A352_74.3 P80 BE80A4 | 315 |
| 19.4 | 255 | 3.3 | 71.3 | 15000 | A412_71.3 S1 M1LA4 | A412_71.3 S2 ME2SA4 | 318 | A412_71.3 P80 BN80A4 | A412_71.3 P80 BE80A4 | 319 |
| 20.9 | 236 | 1.6 | 66.0 | 8880 | A302_66.0 S1 M1LA4 | A302_66.0 S2 ME2SA4 | 310 | A302_66.0 P80 BN80A4 | A302_66.0 P80 BE80A4 | 311 |
| 21.0 | 236 | 2.5 | 65.8 | 12000 | A352_65.8 S1 M1LA4 | A352_65.8 S2 ME2SA4 | 314 | A352_65.8 P80 BN80A4 | A352_65.8 P80 BE80A4 | 315 |
| 21.9 | 226 | 1.1 | 63.1 | 5840 | A202_63.1 S1 M1LA4 | A202_63.1 S2 ME2SA4 | 306 | A202_63.1 P80 BN80A4 | A202_63.1 P80 BE80A4 | 307 |
| 22.9 | 216 | 2.8 | 60.4 | 12000 | A352_60.4 S1 M1LA4 | A352_60.4 S2 ME2SA4 | 314 | A352_60.4 P80 BN80A4 | A352_60.4 P80 BE80A4 | 315 |
| 23.2 | 213 | 1.9 | 59.4 | 8660 | A302_59.4 S1 M1LA4 | A302_59.4 S2 ME2SA4 | 310 | A302_59.4 P80 BN80A4 | A302_59.4 P80 BE80A4 | 311 |
| 25.4 | 194 | 3.1 | 54.3 | 12000 | A352_54.3 S1 M1LA4 | A352_54.3 S2 ME2SA4 | 314 | A352_54.3 P80 BN80A4 | A352_54.3 P80 BE80A4 | 315 |
| 25.7 | 192 | 1.3 | 53.7 | 5670 | A202_53.7 S1 M1LA4 | A202_53.7 S2 ME2SA4 | 306 | A202_53.7 P80 BN80A4 | A202_53.7 P80 BE80A4 | 307 |
| 26.2 | 189 | 2.2 | 52.7 | 8410 | A302_52.7 S1 M1LA4 | A302_52.7 S2 ME2SA4 | 310 | A302_52.7 P80 BN80A4 | A302_52.7 P80 BE80A4 | 311 |
| 28.1 | 176 | 3.4 | 49.1 | 12000 | A352_49.1 S1 M1LA4 | A352_49.1 S2 ME2SA4 | 314 | A352_49.1 P80 BN80A4 | A352_49.1 P80 BE80A4 | 315 |
| 28.6 | 173 | 1.4 | 48.3 | 5560 | A202_48.3 S1 M1LA4 | A202_48.3 S2 ME2SA4 | 306 | A202_48.3 P80 BN80A4 | A202_48.3 P80 BE80A4 | 307 |
| 28.6 | 173 | 2.4 | 48.3 | 8230 | A302_48.3 S1 M1LA4 | A302_48.3 S2 ME2SA4 | 310 | A302_48.3 P80 BN80A4 | A302_48.3 P80 BE80A4 | 311 |
| 30 | 163 | 0.9 | 45.4 | 4910 | A102_45.4 S1 M1LA4 | A102_45.4 S2 ME2SA4 | 302 | A102_45.4 P80 BN80A4 | A102_45.4 P80 BE80A4 | 303 |
| 32 | 155 | 2.6 | 43.4 | 8010 | A302_43.4 S1 M1LA4 | A302_43.4 S2 ME2SA4 | 310 | A302_43.4 P80 BN80A4 | A302_43.4 P80 BE80A4 | 311 |
| 32 | 155 | 1.6 | 43.2 | 5440 | A202_43.2 S1 M1LA4 | A202_43.2 S2 ME2SA4 | 306 | A202_43.2 P80 BN80A4 | A202_43.2 P80 BE80A4 | 307 |
| 34 | 146 | 1.0 | 40.9 | 5500 | A102_40.9 S1 M1LA4 | A102_40.9 S2 ME2SA4 | 302 | A102_40.9 P80 BN80A4 | A102_40.9 P80 BE80A4 | 303 |
| 35 | 142 | 1.8 | 39.6 | 5340 | A202_39.6 S1 M1LA4 | A202_39.6 S2 ME2SA4 | 306 | A202_39.6 P80 BN80A4 | A202_39.6 P80 BE80A4 | 307 |
| 35 | 141 | 2.9 | 39.3 | 7800 | A302_39.3 S1 M1LA4 | A302_39.3 S2 ME2SA4 | 310 | A302_39.3 P80 BN80A4 | A302_39.3 P80 BE80A4 | 311 |
| 38 | 131 | 3.1 | 36.6 | 7660 | A302_36.6 S1 M1LA4 | A302_36.6 S2 ME2SA4 | 310 | A302_36.6 P80 BN80A4 | A302_36.6 P80 BE80A4 | 311 |
| 39 | 127 | 2.0 | 35.4 | 5200 | A202_35.4 S1 M1LA4 | A202_35.4 S2 ME2SA4 | 306 | A202_35.4 P80 BN80A4 | A202_35.4 P80 BE80A4 | 307 |
| 39 | 126 | 1.2 | 35.1 | 4700 | A102_35.1 S1 M1LA4 | A102_35.1 S2 ME2SA4 | 302 | A102_35.1 P80 BN80A4 | A102_35.1 P80 BE80A4 | 303 |

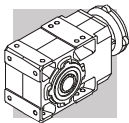


0.55 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------------------|----------------------|-----|------|----------------------|--------------------|---------------------|-----|----------------------|----------------------|-----|
| | | | | | IE1 | IE2 | | IE1 | IE2 | |
| 41 | 120 | 3.4 | 33.4 | 7480 | A302_33.4 S1 M1LA4 | A302_33.4 S2 ME2SA4 | 310 | A302_33.4 P80 BN80A4 | A302_33.4 P80 BE80A4 | 311 |
| 43 | 115 | 1.3 | 32.2 | 5490 | A102_32.2 S1 M1LA4 | A102_32.2 S2 ME2SA4 | 302 | A102_32.2 P80 BN80A4 | A102_32.2 P80 BE80A4 | 303 |
| 44 | 112 | 2.2 | 31.3 | 5060 | A202_31.3 S1 M1LA4 | A202_31.3 S2 ME2SA4 | 306 | A202_31.3 P80 BN80A4 | A202_31.3 P80 BE80A4 | 307 |
| 47 | 105 | 2.4 | 29.2 | 4970 | A202_29.2 S1 M1LA4 | A202_29.2 S2 ME2SA4 | 306 | A202_29.2 P80 BN80A4 | A202_29.2 P80 BE80A4 | 307 |
| 48 | 102 | 1.0 | 28.6 | 2550 | A052_28.6 S1 M1LA4 | A052_28.6 S2 ME2SA4 | 299 | A052_28.6 P80 BN80A4 | A052_28.6 P80 BE80A4 | 299 |
| 48 | 102 | 1.5 | 28.6 | 4510 | A102_28.6 S1 M1LA4 | A102_28.6 S2 ME2SA4 | 302 | A102_28.6 P80 BN80A4 | A102_28.6 P80 BE80A4 | 303 |
| 52 | 95 | 2.6 | 26.5 | 4850 | A202_26.5 S1 M1LA4 | A202_26.5 S2 ME2SA4 | 306 | A202_26.5 P80 BN80A4 | A202_26.5 P80 BE80A4 | 307 |
| 54 | 91 | 1.1 | 25.5 | 2510 | A052_25.5 S1 M1LA4 | A052_25.5 S2 ME2SA4 | 299 | A052_25.5 P80 BN80A4 | A052_25.5 P80 BE80A4 | 299 |
| 54 | 91 | 1.6 | 25.5 | 5230 | A102_25.5 S1 M1LA4 | A102_25.5 S2 ME2SA4 | 302 | A102_25.5 P80 BN80A4 | A102_25.5 P80 BE80A4 | 303 |
| 58 | 85 | 1.2 | 23.8 | 2490 | A052_23.8 S1 M1LA4 | A052_23.8 S2 ME2SA4 | 299 | A052_23.8 P80 BN80A4 | A052_23.8 P80 BE80A4 | 299 |
| 58 | 85 | 1.8 | 23.8 | 4330 | A102_23.8 S1 M1LA4 | A102_23.8 S2 ME2SA4 | 302 | A102_23.8 P80 BN80A4 | A102_23.8 P80 BE80A4 | 303 |
| 60 | 83 | 3.0 | 23.1 | 4690 | A202_23.1 S1 M1LA4 | A202_23.1 S2 ME2SA4 | 306 | A202_23.1 P80 BN80A4 | A202_23.1 P80 BE80A4 | 307 |
| 65 | 76 | 1.3 | 21.4 | 2450 | A052_21.4 S1 M1LA4 | A052_21.4 S2 ME2SA4 | 299 | A052_21.4 P80 BN80A4 | A052_21.4 P80 BE80A4 | 299 |
| 65 | 76 | 2.0 | 21.4 | 5020 | A102_21.4 S1 M1LA4 | A102_21.4 S2 ME2SA4 | 302 | A102_21.4 P80 BN80A4 | A102_21.4 P80 BE80A4 | 303 |
| 65 | 76 | 3.3 | 21.2 | 4590 | A202_21.2 S1 M1LA4 | A202_21.2 S2 ME2SA4 | 306 | A202_21.2 P80 BN80A4 | A202_21.2 P80 BE80A4 | 307 |
| 74 | 66 | 1.5 | 18.6 | 2400 | A052_18.6 S1 M1LA4 | A052_18.6 S2 ME2SA4 | 299 | A052_18.6 P80 BN80A4 | A052_18.6 P80 BE80A4 | 299 |
| 74 | 66 | 2.3 | 18.6 | 4090 | A102_18.6 S1 M1LA4 | A102_18.6 S2 ME2SA4 | 302 | A102_18.6 P80 BN80A4 | A102_18.6 P80 BE80A4 | 303 |
| 84 | 59 | 1.7 | 16.4 | 2340 | A052_16.4 S1 M1LA4 | A052_16.4 S2 ME2SA4 | 299 | A052_16.4 P80 BN80A4 | A052_16.4 P80 BE80A4 | 299 |
| 84 | 59 | 2.5 | 16.4 | 4710 | A102_16.4 S1 M1LA4 | A102_16.4 S2 ME2SA4 | 302 | A102_16.4 P80 BN80A4 | A102_16.4 P80 BE80A4 | 303 |
| 99 | 50 | 2.0 | 13.9 | 2270 | A052_13.9 S1 M1LA4 | A052_13.9 S2 ME2SA4 | 299 | A052_13.9 P80 BN80A4 | A052_13.9 P80 BE80A4 | 299 |
| 99 | 50 | 3.0 | 13.9 | 3800 | A102_13.9 S1 M1LA4 | A102_13.9 S2 ME2SA4 | 302 | A102_13.9 P80 BN80A4 | A102_13.9 P80 BE80A4 | 303 |
| 112 | 44 | 2.3 | 12.3 | 2220 | A052_12.3 S1 M1LA4 | A052_12.3 S2 ME2SA4 | 299 | A052_12.3 P80 BN80A4 | A052_12.3 P80 BE80A4 | 299 |
| 112 | 44 | 3.2 | 12.3 | 3670 | A102_12.3 S1 M1LA4 | A102_12.3 S2 ME2SA4 | 302 | A102_12.3 P80 BN80A4 | A102_12.3 P80 BE80A4 | 303 |
| 131 | 38 | 2.6 | 10.6 | 2130 | A052_10.6 S1 M1LA4 | A052_10.6 S2 ME2SA4 | 299 | A052_10.6 P80 BN80A4 | A052_10.6 P80 BE80A4 | 299 |
| 144 | 34 | 2.9 | 9.6 | 2100 | A052_9.6 S1 M1LA4 | A052_9.6 S2 ME2SA4 | 299 | A052_9.6 P80 BN80A4 | A052_9.6 P80 BE80A4 | 299 |
| 162 | 30 | 3.3 | 8.5 | 2030 | A052_8.5 S1 M1LA4 | A052_8.5 S2 ME2SA4 | 299 | A052_8.5 P80 BN80A4 | A052_8.5 P80 BE80A4 | 299 |
| 171 | 29 | 3.1 | 16.4 | 2000 | A052_16.4 S1 M1SD2 | | 299 | A052_16.4 P71 BN71B2 | | 299 |
| 191 | 26 | 3.9 | 7.2 | 1950 | A052_7.2 S1 M1LA4 | A052_7.2 S2 ME2SA4 | 299 | A052_7.2 P80 BN80A4 | A052_7.2 P80 BE80A4 | 299 |
| 218 | 23 | 4.4 | 6.3 | 1880 | A052_6.3 S1 M1LA4 | A052_6.3 S2 ME2SA4 | 299 | A052_6.3 P80 BN80A4 | A052_6.3 P80 BE80A4 | 299 |
| 229 | 22 | 4.6 | 12.3 | 1860 | A052_12.3 S1 M1SD2 | | 299 | A052_12.3 P71 BN71B2 | | 299 |
| 252 | 19.6 | 4.9 | 5.5 | 1810 | A052_5.5 S1 M1LA4 | A052_5.5 S2 ME2SA4 | 299 | A052_5.5 P80 BN80A4 | A052_5.5 P80 BE80A4 | 299 |
| 267 | 18.5 | 4.3 | 10.6 | 1780 | A052_10.6 S1 M1SD2 | | 299 | A052_10.6 P71 BN71B2 | | 299 |
| 293 | 16.8 | 5.6 | 9.6 | 1740 | A052_9.6 S1 M1SD2 | | 299 | A052_9.6 P71 BN71B2 | | 299 |
| 331 | 14.9 | 6.0 | 8.5 | 1680 | A052_8.5 S1 M1SD2 | | 299 | A052_8.5 P71 BN71B2 | | 299 |
| 391 | 12.6 | 6.7 | 7.2 | 1600 | A052_7.2 S1 M1SD2 | | 299 | A052_7.2 P71 BN71B2 | | 299 |
| 445 | 11.1 | 7.2 | 6.3 | 1540 | A052_6.3 S1 M1SD2 | | 299 | A052_6.3 P71 BN71B2 | | 299 |
| 516 | 9.6 | 7.8 | 5.5 | 1480 | A052_5.5 S1 M1SD2 | | 299 | A052_5.5 P71 BN71B2 | | 299 |

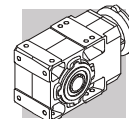
0.55 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | |
|-------------------------------------|----------------------|-----|-------|----------------------|-----|-----|-------------------------|--|-----|
| | | | | | IE3 | IE3 | | | |
| 0.56 | 8299 | 1.7 | 1632 | 75000 | | | | | |
| 0.64 | 7310 | 1.1 | 1438 | 65000 | | | | | |
| 0.75 | 6213 | 2.3 | 1222 | 75000 | | | | | |
| 0.80 | 5813 | 0.9 | 1715 | 50000 | | | A704_1715 P80 BXN80MA4 | | 335 |
| 0.85 | 5532 | 2.5 | 1632 | 75000 | | | A904_1632 P80 BXN80MA4 | | 341 |
| 0.87 | 5365 | 0.9 | 1583 | 50000 | | | A704_1583 P80 BXN80MA4 | | 335 |
| 0.89 | 5279 | 1.5 | 1558 | 65000 | | | A804_1558 P80 BXN80MA4 | | 338 |
| 0.92 | 5070 | 2.8 | 1507 | 75000 | | | A904_1507 P80 BXN80MA4 | | 341 |
| 0.96 | 4873 | 1.6 | 1438 | 65000 | | | A804_1438 P80 BXN80MA4 | | 338 |
| 1.0 | 4561 | 1.1 | 1346 | 50000 | | | A704_1346 P80 BXN80MA4 | | 335 |
| 1.0 | 4541 | 1.8 | 1340 | 65000 | | | A804_1340 P80 BXN80MA4 | | 338 |
| 1.0 | 4455 | 3.1 | 1324 | 75000 | | | A904_1324 P80 BXN80MA4 | | 341 |
| 1.1 | 4211 | 1.2 | 1242 | 50000 | | | A704_1242 P80 BXN80MA4 | | 335 |
| 1.1 | 4192 | 1.9 | 1237 | 65000 | | | A804_1237 P80 BXN80MA4 | | 338 |
| 1.1 | 4112 | 3.4 | 1222 | 75000 | | | A904_1222 P80 BXN80MA4 | | 341 |
| 1.2 | 3937 | 1.3 | 1161 | 50000 | | | A704_1161 P80 BXN80MA4 | | 335 |
| 1.3 | 3677 | 2.2 | 1085 | 65000 | | | A804_1085 P80 BXN80MA4 | | 338 |
| 1.3 | 3634 | 1.4 | 1072 | 50000 | | | A704_1072 P80 BXN80MA4 | | 335 |
| 1.4 | 3394 | 2.4 | 1001 | 65000 | | | A804_1001 P80 BXN80MA4 | | 338 |
| 1.5 | 3140 | 1.6 | 926.5 | 50000 | | | A704_926.5 P80 BXN80MA4 | | 335 |



0.55 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IEC | IE3 | |
|-------------------------|----------------------|-----|-------|----------------------|-------------------------|-----|-------------------------|-----|
| | | | | | | | | IE3 |
| 1.5 | 3046 | 2.6 | 898.7 | 65000 | | | A804_898.7 P80 BXN80MA4 | 338 |
| 1.6 | 2899 | 1.7 | 855.3 | 50000 | | | A704_855.3 P80 BXN80MA4 | 335 |
| 1.7 | 2811 | 2.8 | 829.5 | 65000 | | | A804_829.5 P80 BXN80MA4 | 338 |
| 1.8 | 2589 | 1.9 | 763.9 | 50000 | | | A704_763.9 P80 BXN80MA4 | 335 |
| 1.8 | 2583 | 3.1 | 762.1 | 65000 | | | A804_762.1 P80 BXN80MA4 | 338 |
| 1.8 | 2560 | 1.1 | 755.4 | 30000 | | | A604_755.4 P80 BXN80MA4 | 331 |
| 2.0 | 2390 | 2.1 | 705.1 | 50000 | | | A704_705.1 P80 BXN80MA4 | 335 |
| 2.0 | 2384 | 3.4 | 703.5 | 65000 | | | A804_703.5 P80 BXN80MA4 | 338 |
| 2.0 | 2363 | 1.2 | 697.3 | 30000 | | | A604_697.3 P80 BXN80MA4 | 331 |
| 2.1 | 2185 | 2.3 | 644.6 | 50000 | | | A704_644.6 P80 BXN80MA4 | 335 |
| 2.2 | 2151 | 1.3 | 634.6 | 30000 | | | A604_634.6 P80 BXN80MA4 | 331 |
| 2.3 | 2017 | 2.5 | 595.0 | 50000 | | | A704_595.0 P80 BXN80MA4 | 335 |
| 2.4 | 1985 | 1.4 | 585.8 | 30000 | | | A604_585.8 P80 BXN80MA4 | 331 |
| 2.5 | 1837 | 1.5 | 542.0 | 30000 | | | A604_542.0 P80 BXN80MA4 | 331 |
| 2.7 | 1747 | 2.9 | 515.4 | 50000 | | | A704_515.4 P80 BXN80MA4 | 335 |
| 2.8 | 1696 | 1.7 | 500.3 | 30000 | | | A604_500.3 P80 BXN80MA4 | 331 |
| 2.9 | 1632 | 0.9 | 481.6 | 20000 | | | A504_481.6 P80 BXN80MA4 | 323 |
| 2.9 | 1612 | 3.1 | 475.8 | 50000 | | | A704_475.8 P80 BXN80MA4 | 335 |
| 3.1 | 1514 | 1.0 | 446.8 | 20000 | | | A504_446.8 P80 BXN80MA4 | 323 |
| 3.1 | 1486 | 1.9 | 438.4 | 30000 | | | A604_438.4 P80 BXN80MA4 | 331 |
| 3.4 | 1378 | 1.1 | 406.4 | 20000 | | | A504_406.4 P80 BXN80MA4 | 323 |
| 3.4 | 1372 | 2.0 | 404.7 | 30000 | | | A604_404.7 P80 BXN80MA4 | 331 |
| 3.8 | 1239 | 1.2 | 365.6 | 20000 | | | A504_365.6 P80 BXN80MA4 | 323 |
| 3.9 | 1190 | 2.4 | 351.2 | 30000 | | | A604_351.2 P80 BXN80MA4 | 331 |
| 4.1 | 1127 | 1.3 | 332.6 | 20000 | | | A504_332.6 P80 BXN80MA4 | 323 |
| 4.3 | 1099 | 2.5 | 324.2 | 30000 | | | A604_324.2 P80 BXN80MA4 | 331 |
| 4.8 | 972 | 1.5 | 286.8 | 20000 | | | A504_286.8 P80 BXN80MA4 | 323 |
| 4.8 | 970 | 2.9 | 286.3 | 30000 | | | A604_286.3 P80 BXN80MA4 | 331 |
| 5.2 | 896 | 3.1 | 264.3 | 30000 | | | A604_264.3 P80 BXN80MA4 | 331 |
| 5.3 | 910 | 0.9 | 262.5 | 15000 | A413_262.5 S20 MXN20MA4 | 318 | A413_262.5 P80 BXN80MA4 | 319 |
| 5.3 | 884 | 1.7 | 260.9 | 20000 | | | A504_260.9 P80 BXN80MA4 | 323 |
| 5.7 | 834 | 1.0 | 240.6 | 15000 | A413_240.6 S20 MXN20MA4 | 318 | A413_240.6 P80 BXN80MA4 | 319 |
| 5.9 | 786 | 1.9 | 232.0 | 20000 | | | A504_232.0 P80 BXN80MA4 | 323 |
| 6.3 | 753 | 1.1 | 217.4 | 15000 | A413_217.4 S20 MXN20MA4 | 318 | A413_217.4 P80 BXN80MA4 | 319 |
| 6.5 | 715 | 2.1 | 211.0 | 20000 | | | A504_211.0 P80 BXN80MA4 | 323 |
| 7.0 | 685 | 1.2 | 197.5 | 15000 | A413_197.5 S20 MXN20MA4 | 318 | A413_197.5 P80 BXN80MA4 | 319 |
| 7.1 | 673 | 3.0 | 194.2 | 30000 | | | A553_194.2 P80 BXN80MA4 | 327 |
| 7.2 | 660 | 2.3 | 190.6 | 20000 | | | A503_190.6 P80 BXN80MA4 | 323 |
| 7.3 | 653 | 0.9 | 188.3 | 12000 | A353_188.3 S20 MXN20MA4 | 314 | A353_188.3 P80 BXN80MA4 | 315 |
| 7.5 | 639 | 1.3 | 184.4 | 15000 | A413_184.4 S20 MXN20MA4 | 318 | A413_184.4 P80 BXN80MA4 | 319 |
| 7.9 | 607 | 3.3 | 175.0 | 30000 | | | A553_175.0 P80 BXN80MA4 | 327 |
| 8.0 | 601 | 2.5 | 173.4 | 20000 | | | A503_173.4 P80 BXN80MA4 | 323 |
| 8.0 | 595 | 1.0 | 171.8 | 12000 | A353_171.8 S20 MXN20MA4 | 314 | A353_171.8 P80 BXN80MA4 | 315 |
| 9.0 | 532 | 2.8 | 154.6 | 20000 | | | A503_154.6 P80 BXN80MA4 | 323 |
| 9.2 | 522 | 1.1 | 150.6 | 12000 | A353_150.6 S20 MXN20MA4 | 314 | A353_150.6 P80 BXN80MA4 | 315 |
| 9.4 | 509 | 1.7 | 146.9 | 15000 | A413_146.9 S20 MXN20MA4 | 318 | A413_146.9 P80 BXN80MA4 | 319 |
| 9.9 | 484 | 3.1 | 140.6 | 20000 | | | A503_140.6 P80 BXN80MA4 | 323 |
| 10.1 | 472 | 1.2 | 136.3 | 12000 | A353_136.3 S20 MXN20MA4 | 314 | A353_136.3 P80 BXN80MA4 | 315 |
| 10.7 | 446 | 3.4 | 129.7 | 20000 | | | A503_129.7 P80 BXN80MA4 | 323 |
| 11.8 | 405 | 1.4 | 116.9 | 12000 | A353_116.9 S20 MXN20MA4 | 314 | A353_116.9 P80 BXN80MA4 | 315 |
| 11.9 | 402 | 2.1 | 115.9 | 15000 | A413_115.9 S20 MXN20MA4 | 318 | A413_115.9 P80 BXN80MA4 | 319 |
| 13.1 | 366 | 1.4 | 105.5 | 12000 | A353_105.5 S20 MXN20MA4 | 314 | A353_105.5 P80 BXN80MA4 | 315 |
| 14.2 | 349 | 0.9 | 97.5 | 9600 | | | A302_97.5 P80 BXN80MA4 | 311 |
| 14.4 | 342 | 1.6 | 95.6 | 12000 | | | A352_95.6 P80 BXN80MA4 | 315 |
| 14.9 | 321 | 2.5 | 92.8 | 15000 | A413_92.8 S20 MXN20MA4 | 318 | A413_92.8 P80 BXN80MA4 | 319 |
| 15.9 | 310 | 1.0 | 86.7 | 9420 | | | A302_86.7 P80 BXN80MA4 | 311 |
| 16.7 | 295 | 2.0 | 82.5 | 12000 | | | A352_82.5 P80 BXN80MA4 | 315 |
| 17.4 | 284 | 3.0 | 79.2 | 15000 | | | A412_79.2 P80 BXN80MA4 | 319 |
| 18.0 | 274 | 1.3 | 76.5 | 9180 | | | A302_76.5 P80 BXN80MA4 | 311 |
| 18.6 | 266 | 2.3 | 74.3 | 12000 | | | A352_74.3 P80 BXN80MA4 | 315 |
| 19.4 | 255 | 3.3 | 71.3 | 15000 | | | A412_71.3 P80 BXN80MA4 | 319 |
| 20.9 | 236 | 1.6 | 66.0 | 8880 | | | A302_66.0 P80 BXN80MA4 | 311 |
| 21.0 | 236 | 2.5 | 65.8 | 12000 | | | A352_65.8 P80 BXN80MA4 | 315 |
| 21.9 | 226 | 1.1 | 63.1 | 5840 | A202_63.1 S20 MXN20MA4 | 306 | A202_63.1 P80 BXN80MA4 | 307 |
| 22.9 | 216 | 2.8 | 60.4 | 12000 | | | A352_60.4 P80 BXN80MA4 | 315 |

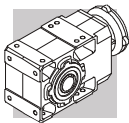


0.55 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IEC | | |
|-------------------------------------|----------------------|-----|------|----------------------|------------------------|------------------------|------------------------|
| | | | | | IE3 | IE3 | |
| 23.2 | 213 | 1.9 | 59.4 | 8660 | A202_53.7 S20 MXN20MA4 | A302_59.4 P80 BXN80MA4 | 311 |
| 25.4 | 194 | 3.1 | 54.3 | 12000 | | A352_54.3 P80 BXN80MA4 | 315 |
| 25.7 | 192 | 1.3 | 53.7 | 5670 | | A202_53.7 P80 BXN80MA4 | 307 |
| 26.2 | 189 | 2.2 | 52.7 | 8410 | | A302_52.7 P80 BXN80MA4 | 311 |
| 28.1 | 176 | 3.4 | 49.1 | 12000 | | A352_49.1 P80 BXN80MA4 | 315 |
| 28.6 | 173 | 1.4 | 48.3 | 5560 | A202_48.3 S20 MXN20MA4 | A202_48.3 P80 BXN80MA4 | 307 |
| 28.6 | 173 | 2.4 | 48.3 | 8230 | | A302_48.3 P80 BXN80MA4 | 311 |
| 30 | 163 | 0.9 | 45.4 | 4910 | A102_45.4 S20 MXN20MA4 | A102_45.4 P80 BXN80MA4 | 303 |
| 32 | 155 | 2.6 | 43.4 | 8010 | | A302_43.4 P80 BXN80MA4 | 311 |
| 32 | 155 | 1.6 | 43.2 | 5440 | A202_43.2 S20 MXN20MA4 | A202_43.2 P80 BXN80MA4 | 307 |
| 34 | 146 | 1.0 | 40.9 | 5500 | A102_40.9 S20 MXN20MA4 | A102_40.9 P80 BXN80MA4 | 303 |
| 35 | 142 | 1.8 | 39.6 | 5340 | | A202_39.6 S20 MXN20MA4 | A202_39.6 P80 BXN80MA4 |
| 35 | 141 | 2.9 | 39.3 | 7800 | A302_39.3 P80 BXN80MA4 | A302_39.3 P80 BXN80MA4 | 311 |
| 38 | 131 | 3.1 | 36.6 | 7660 | | A302_36.6 P80 BXN80MA4 | 311 |
| 39 | 127 | 2.0 | 35.4 | 5200 | A202_35.4 S20 MXN20MA4 | A202_35.4 P80 BXN80MA4 | 307 |
| 39 | 126 | 1.2 | 35.1 | 4700 | A102_35.1 S20 MXN20MA4 | A102_35.1 P80 BXN80MA4 | 303 |
| 41 | 120 | 3.4 | 33.4 | 7480 | | A302_33.4 P80 BXN80MA4 | 311 |
| 43 | 115 | 1.3 | 32.2 | 5490 | A102_32.2 S20 MXN20MA4 | A102_32.2 P80 BXN80MA4 | 303 |
| 44 | 112 | 2.2 | 31.3 | 5060 | A202_31.3 S20 MXN20MA4 | A202_31.3 P80 BXN80MA4 | 307 |
| 47 | 105 | 2.4 | 29.2 | 4970 | A202_29.2 S20 MXN20MA4 | A202_29.2 P80 BXN80MA4 | 307 |
| 48 | 102 | 1.0 | 28.6 | 2550 | A102_28.6 S20 MXN20MA4 | A052_28.6 P80 BXN80MA4 | 299 |
| 48 | 102 | 1.5 | 28.6 | 4510 | | A102_28.6 P80 BXN80MA4 | 303 |
| 52 | 95 | 2.6 | 26.5 | 4850 | A202_26.5 S20 MXN20MA4 | A202_26.5 P80 BXN80MA4 | 307 |
| 54 | 91 | 1.1 | 25.5 | 2510 | A102_25.5 S20 MXN20MA4 | A052_25.5 P80 BXN80MA4 | 299 |
| 54 | 91 | 1.6 | 25.5 | 5230 | | A102_25.5 P80 BXN80MA4 | 303 |
| 58 | 85 | 1.2 | 23.8 | 2490 | A102_23.8 S20 MXN20MA4 | A052_23.8 P80 BXN80MA4 | 299 |
| 58 | 85 | 1.8 | 23.8 | 4330 | | A102_23.8 P80 BXN80MA4 | 303 |
| 60 | 83 | 3.0 | 23.1 | 4690 | A202_23.1 S20 MXN20MA4 | A202_23.1 P80 BXN80MA4 | 307 |
| 65 | 76 | 1.3 | 21.4 | 2450 | A102_21.4 S20 MXN20MA4 | A052_21.4 P80 BXN80MA4 | 299 |
| 65 | 76 | 2.0 | 21.4 | 5020 | | A102_21.4 P80 BXN80MA4 | 303 |
| 65 | 76 | 3.3 | 21.2 | 4590 | A202_21.2 S20 MXN20MA4 | A202_21.2 P80 BXN80MA4 | 307 |
| 74 | 66 | 1.5 | 18.6 | 2400 | A102_18.6 S20 MXN20MA4 | A052_18.6 P80 BXN80MA4 | 299 |
| 74 | 66 | 2.3 | 18.6 | 4090 | | A102_18.6 P80 BXN80MA4 | 303 |
| 84 | 59 | 1.7 | 16.4 | 2340 | A102_16.4 S20 MXN20MA4 | A052_16.4 P80 BXN80MA4 | 299 |
| 84 | 59 | 2.5 | 16.4 | 4710 | | A102_16.4 P80 BXN80MA4 | 303 |
| 99 | 50 | 2.0 | 13.9 | 2270 | A102_13.9 S20 MXN20MA4 | A052_13.9 P80 BXN80MA4 | 299 |
| 99 | 50 | 3.0 | 13.9 | 3800 | | A102_13.9 P80 BXN80MA4 | 303 |
| 112 | 44 | 2.3 | 12.3 | 2220 | A102_12.3 S20 MXN20MA4 | A052_12.3 P80 BXN80MA4 | 299 |
| 112 | 44 | 3.2 | 12.3 | 3670 | | A102_12.3 P80 BXN80MA4 | 303 |
| 131 | 38 | 2.6 | 10.6 | 2130 | | A052_10.6 P80 BXN80MA4 | 299 |
| 144 | 34 | 2.9 | 9.6 | 2100 | A052_9.6 P80 BXN80MA4 | A052_9.6 P80 BXN80MA4 | 299 |
| 162 | 30 | 3.3 | 8.5 | 2030 | | A052_8.5 P80 BXN80MA4 | 299 |
| 171 | 29 | 3.1 | 16.4 | 2000 | A052_7.2 P80 BXN80MA4 | A052_7.2 P80 BXN80MA4 | 299 |
| 191 | 26 | 3.9 | 7.2 | 1950 | | A052_6.3 P80 BXN80MA4 | 299 |
| 218 | 23 | 4.4 | 6.3 | 1880 | | A052_6.3 P80 BXN80MA4 | 299 |
| 229 | 22 | 4.6 | 12.3 | 1860 | A052_5.5 P80 BXN80MA4 | A052_5.5 P80 BXN80MA4 | 299 |
| 252 | 19.6 | 4.9 | 5.5 | 1810 | | | |
| 267 | 18.5 | 4.3 | 10.6 | 1780 | | | |
| 293 | 16.8 | 5.6 | 9.6 | 1740 | | | |
| 331 | 14.9 | 6.0 | 8.5 | 1680 | | | |
| 391 | 12.6 | 6.7 | 7.2 | 1600 | | | |
| 445 | 11.1 | 7.2 | 6.3 | 1540 | | | |
| 516 | 9.6 | 7.8 | 5.5 | 1480 | | | |

0.75 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IEC | | | |
|-------------------------------------|----------------------|-----|------|----------------------|---------------------|-----|----------------------|-----|
| | | | | | IE2 | IE3 | | |
| 0.58 | 11068 | 1.3 | 1632 | 75000 | A904_1632 S3 ME3SA6 | 340 | A904_1632 P90 BE90S6 | 341 |
| 0.62 | 10220 | 1.4 | 1507 | 75000 | A904_1507 S3 ME3SA6 | 340 | A904_1507 P90 BE90S6 | 341 |
| 0.71 | 8979 | 1.6 | 1324 | 75000 | A904_1324 S3 ME3SA6 | 340 | A904_1324 P90 BE90S6 | 341 |
| 0.77 | 8287 | 1.7 | 1222 | 75000 | A904_1222 S3 ME3SA6 | 340 | A904_1222 P90 BE90S6 | 341 |

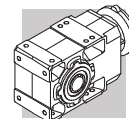


0.75 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|----------------------|----------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 103 | 65 | 1.5 | 13.9 | 2110 | A052_13.9 S2 ME2SB4 | A052_13.9 S2 MX2SB4 | 299 | A052_13.9 P80 BE80B4 | A052_13.9 P80 BX80B4 | 299 |
| 103 | 65 | 2.3 | 13.9 | 3640 | A102_13.9 S2 ME2SB4 | A102_13.9 S2 MX2SB4 | 302 | A102_13.9 P80 BE80B4 | A102_13.9 P80 BX80B4 | 303 |
| 116 | 58 | 1.7 | 12.3 | 2080 | A052_12.3 S2 ME2SB4 | A052_12.3 S2 MX2SB4 | 299 | A052_12.3 P80 BE80B4 | A052_12.3 P80 BX80B4 | 299 |
| 116 | 58 | 2.4 | 12.3 | 3530 | A102_12.3 S2 ME2SB4 | A102_12.3 S2 MX2SB4 | 302 | A102_12.3 P80 BE80B4 | A102_12.3 P80 BX80B4 | 303 |
| 135 | 50 | 2.0 | 10.6 | 2010 | A052_10.6 S2 ME2SB4 | A052_10.6 S2 MX2SB4 | 299 | A052_10.6 P80 BE80B4 | A052_10.6 P80 BX80B4 | 299 |
| 135 | 50 | 3.0 | 10.6 | 3400 | A102_10.6 S2 ME2SB4 | A102_10.6 S2 MX2SB4 | 302 | A102_10.6 P80 BE80B4 | A102_10.6 P80 BX80B4 | 303 |
| 149 | 45 | 2.2 | 9.6 | 1990 | A052_9.6 S2 ME2SB4 | A052_9.6 S2 MX2SB4 | 299 | A052_9.6 P80 BE80B4 | A052_9.6 P80 BX80B4 | 299 |
| 149 | 45 | 3.1 | 9.6 | 3320 | A102_9.6 S2 ME2SB4 | A102_9.6 S2 MX2SB4 | 302 | A102_9.6 P80 BE80B4 | A102_9.6 P80 BX80B4 | 303 |
| 168 | 40 | 2.5 | 8.5 | 1940 | A052_8.5 S2 ME2SB4 | A052_8.5 S2 MX2SB4 | 299 | A052_8.5 P80 BE80B4 | A052_8.5 P80 BX80B4 | 299 |
| 168 | 40 | 3.5 | 8.5 | 3820 | A102_8.5 S2 ME2SB4 | A102_8.5 S2 MX2SB4 | 302 | A102_8.5 P80 BE80B4 | A102_8.5 P80 BX80B4 | 303 |
| 198 | 34 | 3.0 | 7.2 | 1870 | A052_7.2 S2 ME2SB4 | A052_7.2 S2 MX2SB4 | 299 | A052_7.2 P80 BE80B4 | A052_7.2 P80 BX80B4 | 299 |
| 226 | 30 | 3.4 | 6.3 | 1810 | A052_6.3 S2 ME2SB4 | A052_6.3 S2 MX2SB4 | 299 | A052_6.3 P80 BE80B4 | A052_6.3 P80 BX80B4 | 299 |
| 262 | 26 | 3.7 | 5.5 | 1750 | A052_5.5 S2 ME2SB4 | A052_5.5 S2 MX2SB4 | 299 | A052_5.5 P80 BE80B4 | A052_5.5 P80 BX80B4 | 299 |
| 270 | 25 | 3.2 | 10.6 | 1720 | A052_10.6 S2 ME2SA2 | | 299 | A052_10.6 P80 BE80A2 | | 299 |
| 296 | 23 | 4.2 | 9.6 | 1690 | A052_9.6 S2 ME2SA2 | | 299 | A052_9.6 P80 BE80A2 | | 299 |
| 335 | 20 | 4.5 | 8.5 | 1640 | A052_8.5 S2 ME2SA2 | | 299 | A052_8.5 P80 BE80A2 | | 299 |
| 395 | 17.0 | 5.0 | 7.2 | 1570 | A052_7.2 S2 ME2SA2 | | 299 | A052_7.2 P80 BE80A2 | | 299 |
| 450 | 15.0 | 5.3 | 6.3 | 1510 | A052_6.3 S2 ME2SA2 | | 299 | A052_6.3 P80 BE80A2 | | 299 |
| 521 | 12.9 | 5.8 | 5.5 | 1450 | A052_5.5 S2 ME2SA2 | | 299 | A052_5.5 P80 BE80A2 | | 299 |

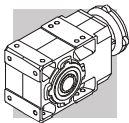
0.75 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | iec | | |
|-------------------------------------|----------------------|-----|-------|----------------------|-----|-----|-------------------------|-----|-----|
| | | | | | IE3 | IE3 | | IE3 | IE3 |
| 0.58 | 11068 | 1.3 | 1632 | 75000 | | | | | |
| 0.62 | 10220 | 1.4 | 1507 | 75000 | | | | | |
| 0.71 | 8979 | 1.6 | 1324 | 75000 | | | | | |
| 0.77 | 8287 | 1.7 | 1222 | 75000 | | | | | |
| 0.88 | 7264 | 1.9 | 1632 | 75000 | | | A904_1632 P80 BXN80MB4 | | 341 |
| 0.92 | 6932 | 1.2 | 1558 | 65000 | | | A804_1558 P80 BXN80MB4 | | 338 |
| 0.95 | 6705 | 2.1 | 1507 | 75000 | | | A904_1507 P80 BXN80MB4 | | 341 |
| 0.99 | 6398 | 1.3 | 1438 | 65000 | | | A804_1438 P80 BXN80MB4 | | 338 |
| 1.1 | 5963 | 1.3 | 1340 | 65000 | | | A804_1340 P80 BXN80MB4 | | 338 |
| 1.1 | 5892 | 2.4 | 1324 | 75000 | | | A904_1324 P80 BXN80MB4 | | 341 |
| 1.2 | 5528 | 0.9 | 1242 | 50000 | | | A704_1242 P80 BXN80MB4 | | 335 |
| 1.2 | 5504 | 1.5 | 1237 | 65000 | | | A804_1237 P80 BXN80MB4 | | 338 |
| 1.2 | 5439 | 2.6 | 1222 | 75000 | | | A904_1222 P80 BXN80MB4 | | 341 |
| 1.2 | 5169 | 1.0 | 1161 | 50000 | | | A704_1161 P80 BXN80MB4 | | 335 |
| 1.3 | 4942 | 2.8 | 1111 | 75000 | | | A904_1111 P80 BXN80MB4 | | 341 |
| 1.3 | 4828 | 1.7 | 1085 | 65000 | | | A804_1085 P80 BXN80MB4 | | 338 |
| 1.3 | 4771 | 1.0 | 1072 | 50000 | | | A704_1072 P80 BXN80MB4 | | 335 |
| 1.4 | 4562 | 3.1 | 1025 | 75000 | | | A904_1025 P80 BXN80MB4 | | 341 |
| 1.4 | 4456 | 1.8 | 1001 | 65000 | | | A804_1001 P80 BXN80MB4 | | 338 |
| 1.5 | 4170 | 3.4 | 937.2 | 75000 | | | A904_937.2 P80 BXN80MB4 | | 341 |
| 1.5 | 4123 | 1.2 | 926.5 | 50000 | | | A704_926.5 P80 BXN80MB4 | | 335 |
| 1.6 | 3999 | 2.0 | 898.7 | 65000 | | | A804_898.7 P80 BXN80MB4 | | 338 |
| 1.7 | 3806 | 1.3 | 855.3 | 50000 | | | A704_855.3 P80 BXN80MB4 | | 335 |
| 1.7 | 3691 | 2.2 | 829.5 | 65000 | | | A804_829.5 P80 BXN80MB4 | | 338 |
| 1.9 | 3399 | 1.5 | 763.9 | 50000 | | | A704_763.9 P80 BXN80MB4 | | 335 |
| 1.9 | 3391 | 2.4 | 762.1 | 65000 | | | A804_762.1 P80 BXN80MB4 | | 338 |
| 2.0 | 3138 | 1.6 | 705.1 | 50000 | | | A704_705.1 P80 BXN80MB4 | | 335 |
| 2.0 | 3130 | 2.6 | 703.5 | 65000 | | | A804_703.5 P80 BXN80MB4 | | 338 |
| 2.1 | 3103 | 0.9 | 697.3 | 30000 | | | A604_697.3 P80 BXN80MB4 | | 331 |
| 2.2 | 2869 | 1.7 | 644.6 | 50000 | | | A704_644.6 P80 BXN80MB4 | | 335 |
| 2.3 | 2824 | 1.0 | 634.6 | 30000 | | | A604_634.6 P80 BXN80MB4 | | 331 |
| 2.4 | 2702 | 3.0 | 607.2 | 65000 | | | A804_607.2 P80 BXN80MB4 | | 338 |
| 2.4 | 2648 | 1.9 | 595.0 | 50000 | | | A704_595.0 P80 BXN80MB4 | | 335 |
| 2.4 | 2607 | 1.1 | 585.8 | 30000 | | | A604_585.8 P80 BXN80MB4 | | 331 |
| 2.6 | 2494 | 3.2 | 560.5 | 65000 | | | A804_560.5 P80 BXN80MB4 | | 338 |
| 2.6 | 2412 | 1.2 | 542.0 | 30000 | | | A604_542.0 P80 BXN80MB4 | | 331 |
| 2.8 | 2294 | 2.2 | 515.4 | 50000 | | | A704_515.4 P80 BXN80MB4 | | 335 |
| 2.9 | 2226 | 1.3 | 500.3 | 30000 | | | A604_500.3 P80 BXN80MB4 | | 331 |



0.75 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE3 | IEC | IE3 | |
|-------------------------------------|----------------------|-----|-------|----------------------|-------------------------|-----|-------------------------|-----|
| | | | | | | | | IE3 |
| 3.0 | 2117 | 2.4 | 475.8 | 50000 | | | A704_475.8 P80 BXN80MB4 | 335 |
| 3.3 | 1951 | 1.4 | 438.4 | 30000 | | | A604_438.4 P80 BXN80MB4 | 331 |
| 3.5 | 1842 | 1.1 | 414.0 | 30000 | | | A554_414.0 P80 BXN80MB4 | 327 |
| 3.5 | 1801 | 1.6 | 404.7 | 30000 | | | A604_404.7 P80 BXN80MB4 | 331 |
| 3.6 | 1781 | 2.8 | 400.2 | 50000 | | | A704_400.2 P80 BXN80MB4 | 335 |
| 3.9 | 1644 | 3.0 | 369.4 | 50000 | | | A704_369.4 P80 BXN80MB4 | 335 |
| 3.9 | 1627 | 0.9 | 365.6 | 20000 | | | A504_365.6 P80 BXN80MB4 | 323 |
| 4.1 | 1563 | 1.8 | 351.2 | 30000 | | | A604_351.2 P80 BXN80MB4 | 331 |
| 4.3 | 1480 | 1.0 | 332.6 | 20000 | | | A504_332.6 P80 BXN80MB4 | 323 |
| 4.4 | 1445 | 1.4 | 324.7 | 30000 | | | A554_324.7 P80 BXN80MB4 | 327 |
| 4.4 | 1443 | 1.9 | 324.2 | 30000 | | | A604_324.2 P80 BXN80MB4 | 331 |
| 4.5 | 1408 | 3.6 | 316.4 | 50000 | | | A704_316.4 P80 BXN80MB4 | 335 |
| 5.0 | 1276 | 1.2 | 286.8 | 20000 | | | A504_286.8 P80 BXN80MB4 | 323 |
| 5.0 | 1274 | 2.2 | 286.3 | 30000 | | | A604_286.3 P80 BXN80MB4 | 331 |
| 5.4 | 1176 | 2.4 | 264.3 | 30000 | | | A604_264.3 P80 BXN80MB4 | 331 |
| 5.4 | 1169 | 1.7 | 262.6 | 30000 | | | A554_262.6 P80 BXN80MB4 | 327 |
| 5.5 | 1161 | 1.3 | 260.9 | 20000 | | | A504_260.9 P80 BXN80MB4 | 323 |
| 6.2 | 1032 | 1.5 | 232.0 | 20000 | | | A504_232.0 P80 BXN80MB4 | 323 |
| 6.3 | 1006 | 2.8 | 226.1 | 30000 | | | A604_226.1 P80 BXN80MB4 | 331 |
| 6.8 | 939 | 1.6 | 211.0 | 20000 | | | A504_211.0 P80 BXN80MB4 | 323 |
| 6.9 | 929 | 3.0 | 208.7 | 30000 | | | A604_208.7 P80 BXN80MB4 | 331 |
| 6.9 | 926 | 2.1 | 208.1 | 30000 | | | A554_208.1 P80 BXN80MB4 | 327 |
| 7.2 | 899 | 0.9 | 197.5 | 15000 | A413_197.5 S20 MXN20MB4 | 318 | A413_197.5 P80 BXN80MB4 | 319 |
| 7.4 | 884 | 2.3 | 194.2 | 30000 | | | A553_194.2 P80 BXN80MB4 | 327 |
| 7.5 | 867 | 1.7 | 190.6 | 20000 | | | A503_190.6 P80 BXN80MB4 | 323 |
| 7.7 | 845 | 3.3 | 185.8 | 30000 | | | A603_185.8 P80 BXN80MB4 | 331 |
| 7.8 | 839 | 1.0 | 184.4 | 15000 | A413_184.4 S20 MXN20MB4 | 318 | A413_184.4 P80 BXN80MB4 | 319 |
| 8.2 | 796 | 2.5 | 175.0 | 30000 | | | A553_175.0 P80 BXN80MB4 | 327 |
| 8.2 | 789 | 1.9 | 173.4 | 20000 | | | A503_173.4 P80 BXN80MB4 | 323 |
| 8.3 | 780 | 3.6 | 171.5 | 30000 | | | A603_171.5 P80 BXN80MB4 | 331 |
| 8.9 | 730 | 2.7 | 160.4 | 30000 | | | A553_160.4 P80 BXN80MB4 | 327 |
| 9.3 | 703 | 2.1 | 154.6 | 20000 | | | A503_154.6 P80 BXN80MB4 | 323 |
| 9.7 | 668 | 1.3 | 146.9 | 15000 | A413_146.9 S20 MXN20MB4 | 318 | A413_146.9 P80 BXN80MB4 | 319 |
| 9.7 | 668 | 3.0 | 146.8 | 30000 | | | A553_146.8 P80 BXN80MB4 | 327 |
| 10.2 | 640 | 2.3 | 140.6 | 20000 | | | A503_140.6 P80 BXN80MB4 | 323 |
| 10.5 | 620 | 0.9 | 136.3 | 12000 | A353_136.3 S20 MXN20MB4 | 314 | A353_136.3 P80 BXN80MB4 | 315 |
| 10.8 | 604 | 3.3 | 132.7 | 30000 | | | A553_132.7 P80 BXN80MB4 | 327 |
| 11.0 | 590 | 2.5 | 129.7 | 20000 | | | A503_129.7 P80 BXN80MB4 | 323 |
| 11.5 | 564 | 3.5 | 123.9 | 30000 | | | A553_123.9 P80 BXN80MB4 | 327 |
| 12.1 | 537 | 2.8 | 118.0 | 20000 | | | A503_118.0 P80 BXN80MB4 | 323 |
| 12.2 | 532 | 1.1 | 116.9 | 12000 | A353_116.9 S20 MXN20MB4 | 314 | A353_116.9 P80 BXN80MB4 | 315 |
| 12.3 | 527 | 1.6 | 115.9 | 15000 | A413_115.9 S20 MXN20MB4 | 318 | A413_115.9 P80 BXN80MB4 | 319 |
| 13.1 | 498 | 3.0 | 109.4 | 20000 | | | A503_109.4 P80 BXN80MB4 | 323 |
| 13.5 | 480 | 1.1 | 105.5 | 12000 | A353_105.5 S20 MXN20MB4 | 314 | A353_105.5 P80 BXN80MB4 | 315 |
| 14.4 | 453 | 3.3 | 99.5 | 20000 | | | A503_99.5 P80 BXN80MB4 | 323 |
| 15.0 | 450 | 1.2 | 95.6 | 12000 | | | A352_95.6 P80 BXN80MB4 | 315 |
| 15.4 | 422 | 1.9 | 92.8 | 15000 | A413_92.8 S20 MXN20MB4 | 318 | A413_92.8 P80 BXN80MB4 | 319 |
| 17.3 | 388 | 1.5 | 82.5 | 12000 | | | A352_82.5 P80 BXN80MB4 | 315 |
| 18.0 | 372 | 2.3 | 79.2 | 15000 | | | A412_79.2 P80 BXN80MB4 | 319 |
| 18.7 | 360 | 1.0 | 76.5 | 8580 | | | A302_76.5 P80 BXN80MB4 | 311 |
| 19.3 | 349 | 1.7 | 74.3 | 12000 | | | A352_74.3 P80 BXN80MB4 | 315 |
| 20.1 | 335 | 2.5 | 71.3 | 15000 | | | A412_71.3 P80 BXN80MB4 | 319 |
| 21.7 | 310 | 1.3 | 66.0 | 8360 | | | A302_66.0 P80 BXN80MB4 | 311 |
| 21.7 | 309 | 1.9 | 65.8 | 12000 | | | A352_65.8 P80 BXN80MB4 | 315 |
| 22.3 | 302 | 2.8 | 64.2 | 15000 | | | A412_64.2 P80 BXN80MB4 | 319 |
| 23.7 | 284 | 2.1 | 60.4 | 12000 | | | A352_60.4 P80 BXN80MB4 | 315 |
| 24.1 | 279 | 1.4 | 59.4 | 8190 | | | A302_59.4 P80 BXN80MB4 | 311 |
| 24.3 | 276 | 3.1 | 58.8 | 15000 | | | A412_58.8 P80 BXN80MB4 | 319 |
| 26.3 | 255 | 2.4 | 54.3 | 12000 | | | A352_54.3 P80 BXN80MB4 | 315 |
| 26.7 | 252 | 1.0 | 53.7 | 5210 | A202_53.7 S20 MXN20MB4 | 306 | A202_53.7 P80 BXN80MB4 | 307 |
| 26.9 | 250 | 3.4 | 53.1 | 15000 | | | A412_53.1 P80 BXN80MB4 | 319 |
| 27.1 | 248 | 1.7 | 52.7 | 7990 | | | A302_52.7 P80 BXN80MB4 | 311 |
| 29.1 | 231 | 2.6 | 49.1 | 12000 | | | A352_49.1 P80 BXN80MB4 | 315 |
| 29.6 | 227 | 1.1 | 48.3 | 5140 | A202_48.3 S20 MXN20MB4 | 306 | A202_48.3 P80 BXN80MB4 | 307 |
| 29.6 | 227 | 1.8 | 48.3 | 7840 | | | A302_48.3 P80 BXN80MB4 | 311 |

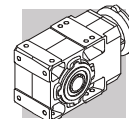


0.75 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | | IEC | IE3 |
|-------------------------|----------------------|-----|------|----------------------|------------------------|-----|------------------------|-----|
| | | | | | IE3 | IE3 | | |
| 31 | 215 | 2.8 | 45.8 | 12000 | | | A352_45.8 P80 BXN80MB4 | 315 |
| 33 | 204 | 2.0 | 43.4 | 7660 | | | A302_43.4 P80 BXN80MB4 | 311 |
| 33 | 203 | 1.2 | 43.2 | 5060 | A202_43.2 S20 MXN20MB4 | 306 | A202_43.2 P80 BXN80MB4 | 307 |
| 34 | 196 | 3.1 | 41.8 | 11900 | | | A352_41.8 P80 BXN80MB4 | 315 |
| 36 | 186 | 1.3 | 39.6 | 4990 | A202_39.6 S20 MXN20MB4 | 306 | A202_39.6 P80 BXN80MB4 | 307 |
| 36 | 185 | 2.2 | 39.3 | 7480 | | | A302_39.3 P80 BXN80MB4 | 311 |
| 39 | 172 | 2.4 | 36.6 | 7360 | | | A302_36.6 P80 BXN80MB4 | 311 |
| 39 | 172 | 3.5 | 36.6 | 11500 | | | A352_36.6 P80 BXN80MB4 | 315 |
| 40 | 167 | 1.5 | 35.4 | 4890 | A202_35.4 S20 MXN20MB4 | 306 | A202_35.4 P80 BXN80MB4 | 307 |
| 41 | 165 | 0.9 | 35.1 | 4320 | A102_35.1 S20 MXN20MB4 | 302 | A102_35.1 P80 BXN80MB4 | 303 |
| 43 | 157 | 2.6 | 33.4 | 7200 | | | A302_33.4 P80 BXN80MB4 | 311 |
| 44 | 151 | 1.0 | 32.2 | 5080 | A102_32.2 S20 MXN20MB4 | 302 | A102_32.2 P80 BXN80MB4 | 303 |
| 46 | 147 | 1.7 | 31.3 | 4780 | A202_31.3 S20 MXN20MB4 | 306 | A202_31.3 P80 BXN80MB4 | 307 |
| 49 | 138 | 3.0 | 29.3 | 6960 | | | A302_29.3 P80 BXN80MB4 | 311 |
| 49 | 137 | 1.8 | 29.2 | 4710 | A202_29.2 S20 MXN20MB4 | 306 | A202_29.2 P80 BXN80MB4 | 307 |
| 50 | 134 | 1.1 | 28.6 | 4200 | A102_28.6 S20 MXN20MB4 | 302 | A102_28.6 P80 BXN80MB4 | 303 |
| 54 | 125 | 3.3 | 26.5 | 6790 | | | A302_26.5 P80 BXN80MB4 | 311 |
| 54 | 124 | 2.0 | 26.5 | 4620 | A202_26.5 S20 MXN20MB4 | 306 | A202_26.5 P80 BXN80MB4 | 307 |
| 56 | 120 | 1.3 | 25.5 | 4900 | A102_25.5 S20 MXN20MB4 | 302 | A102_25.5 P80 BXN80MB4 | 303 |
| 60 | 112 | 0.9 | 23.8 | 2200 | | | A052_23.8 P80 BXN80MB4 | 299 |
| 60 | 112 | 1.3 | 23.8 | 4070 | A102_23.8 S20 MXN20MB4 | 302 | A102_23.8 P80 BXN80MB4 | 303 |
| 62 | 109 | 2.3 | 23.1 | 4480 | A202_23.1 S20 MXN20MB4 | 306 | A202_23.1 P80 BXN80MB4 | 307 |
| 67 | 100 | 1.0 | 21.4 | 2210 | | | A052_21.4 P80 BXN80MB4 | 299 |
| 67 | 100 | 1.5 | 21.4 | 4740 | A102_21.4 S20 MXN20MB4 | 302 | A102_21.4 P80 BXN80MB4 | 303 |
| 67 | 100 | 2.5 | 21.2 | 4390 | A202_21.2 S20 MXN20MB4 | 306 | A202_21.2 P80 BXN80MB4 | 307 |
| 77 | 87 | 1.1 | 18.6 | 2190 | | | A052_18.6 P80 BXN80MB4 | 299 |
| 77 | 87 | 1.7 | 18.6 | 3880 | A102_18.6 S20 MXN20MB4 | 302 | A102_18.6 P80 BXN80MB4 | 303 |
| 79 | 85 | 2.9 | 18.1 | 4230 | A202_18.1 S20 MXN20MB4 | 306 | A202_18.1 P80 BXN80MB4 | 307 |
| 87 | 77 | 1.3 | 16.4 | 2160 | | | A052_16.4 P80 BXN80MB4 | 299 |
| 87 | 77 | 1.9 | 16.4 | 4490 | A102_16.4 S20 MXN20MB4 | 302 | A102_16.4 P80 BXN80MB4 | 303 |
| 88 | 76 | 3.3 | 16.2 | 4110 | A202_16.2 S20 MXN20MB4 | 306 | A202_16.2 P80 BXN80MB4 | 307 |
| 103 | 65 | 1.5 | 13.9 | 2110 | | | A052_13.9 P80 BXN80MB4 | 299 |
| 103 | 65 | 2.3 | 13.9 | 3640 | A102_13.9 S20 MXN20MB4 | 302 | A102_13.9 P80 BXN80MB4 | 303 |
| 116 | 58 | 1.7 | 12.3 | 2080 | | | A052_12.3 P80 BXN80MB4 | 299 |
| 116 | 58 | 2.4 | 12.3 | 3530 | A102_12.3 S20 MXN20MB4 | 302 | A102_12.3 P80 BXN80MB4 | 303 |
| 135 | 50 | 2.0 | 10.6 | 2010 | | | A052_10.6 P80 BXN80MB4 | 299 |
| 135 | 50 | 3.0 | 10.6 | 3400 | A102_10.6 S20 MXN20MB4 | 302 | A102_10.6 P80 BXN80MB4 | 303 |
| 149 | 45 | 2.2 | 9.6 | 1990 | | | A052_9.6 P80 BXN80MB4 | 299 |
| 149 | 45 | 3.1 | 9.6 | 3320 | A102_9.6 S20 MXN20MB4 | 302 | A102_9.6 P80 BXN80MB4 | 303 |
| 168 | 40 | 2.5 | 8.5 | 1940 | | | A052_8.5 P80 BXN80MB4 | 299 |
| 168 | 40 | 3.5 | 8.5 | 3820 | A102_8.5 S20 MXN20MB4 | 302 | A102_8.5 P80 BXN80MB4 | 303 |
| 198 | 34 | 3.0 | 7.2 | 1870 | | | A052_7.2 P80 BXN80MB4 | 299 |
| 226 | 30 | 3.4 | 6.3 | 1810 | | | A052_6.3 P80 BXN80MB4 | 299 |
| 262 | 26 | 3.7 | 5.5 | 1750 | | | A052_5.5 P80 BXN80MB4 | 299 |
| 270 | 25 | 3.2 | 10.6 | 1720 | | | | |
| 296 | 23 | 4.2 | 9.6 | 1690 | | | | |
| 335 | 20 | 4.5 | 8.5 | 1640 | | | | |
| 395 | 17.0 | 5.0 | 7.2 | 1570 | | | | |
| 450 | 15.0 | 5.3 | 6.3 | 1510 | | | | |
| 521 | 12.9 | 5.8 | 5.5 | 1450 | | | | |

1.1 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE2 | | IE3 | IEC | | IE3 |
|-------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|------------------------|----------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 0.63 | 14914 | 0.9 | 1507 | 75000 | A904_1507 S3 ME3LA6 | | 340 | A904_1507 P100 BE100M6 | | 341 |
| 0.71 | 13103 | 1.1 | 1324 | 75000 | A904_1324 S3 ME3LA6 | | 340 | A904_1324 P100 BE100M6 | | 341 |
| 0.77 | 12094 | 1.2 | 1222 | 75000 | A904_1222 S3 ME3LA6 | | 340 | A904_1222 P100 BE100M6 | | 341 |
| 0.88 | 10751 | 1.3 | 1632 | 75000 | A904_1632 S3 ME3SA4 | A904_1632 S3 MX3SA4 | 340 | A904_1632 P90 BE90S4 | A904_1632 P90 BX90S4 | 341 |
| 0.95 | 9924 | 1.4 | 1507 | 75000 | A904_1507 S3 ME3SA4 | A904_1507 S3 MX3SA4 | 340 | A904_1507 P90 BE90S4 | A904_1507 P90 BX90S4 | 341 |
| 1.1 | 8825 | 0.9 | 1340 | 65000 | A804_1340 S3 ME3SA4 | A804_1340 S3 MX3SA4 | 337 | A804_1340 P90 BE90S4 | A804_1340 P90 BX90S4 | 338 |
| 1.1 | 8720 | 1.6 | 1324 | 75000 | A904_1324 S3 ME3SA4 | A904_1324 S3 MX3SA4 | 340 | A904_1324 P90 BE90S4 | A904_1324 P90 BX90S4 | 341 |

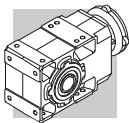


1.1 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | IEC | | | |
|-------------------------------------|----------------------|-----|------|----------------------|---------------------|--------------------|-----|----------------------|---------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 198 | 50 | 2.8 | 7.2 | 2940 | A102_7.2 S3 ME3SA4 | A102_7.2 S3 MX3SA4 | 302 | A102_7.2 P90 BE90S4 | A102_7.2 P90 BX90S4 | 303 |
| 226 | 44 | 3.2 | 6.3 | 3390 | A102_6.3 S3 ME3SA4 | A102_6.3 S3 MX3SA4 | 302 | A102_6.3 P90 BE90S4 | A102_6.3 P90 BX90S4 | 303 |
| 230 | 43 | 3.3 | 12.3 | 2830 | A102_12.3 S2 ME2SB2 | | 302 | A102_12.3 P80 BE80B2 | | 303 |
| 294 | 34 | 2.8 | 9.6 | 1600 | A052_9.6 S2 ME2SB2 | | 299 | A052_9.6 P80 BE80B2 | | 299 |
| 332 | 30 | 3.0 | 8.5 | 1560 | A052_8.5 S2 ME2SB2 | | 299 | A052_8.5 P80 BE80B2 | | 299 |
| 392 | 25 | 3.4 | 7.2 | 1500 | A052_7.2 S2 ME2SB2 | | 299 | A052_7.2 P80 BE80B2 | | 299 |
| 447 | 22 | 3.6 | 6.3 | 1450 | A052_6.3 S2 ME2SB2 | | 299 | A052_6.3 P80 BE80B2 | | 299 |
| 518 | 19.1 | 3.9 | 5.5 | 1400 | A052_5.5 S2 ME2SB2 | | 299 | A052_5.5 P80 BE80B2 | | 299 |

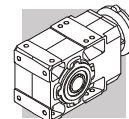
1.1 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | IEC | | |
|-------------------------------------|----------------------|-----|-------|----------------------|-----|-----|------------------------|-----|-----|
| | | | | | IE3 | IE3 | | IE3 | IE3 |
| 0.63 | 14914 | 0.9 | 1507 | 75000 | | | | | |
| 0.71 | 13103 | 1.1 | 1324 | 75000 | | | | | |
| 0.77 | 12094 | 1.2 | 1222 | 75000 | | | | | |
| 0.88 | 10751 | 1.3 | 1632 | 75000 | | | A904_1632 P90 BXN90S4 | | 341 |
| 0.95 | 9924 | 1.4 | 1507 | 75000 | | | A904_1507 P90 BXN90S4 | | 341 |
| 1.1 | 8825 | 0.9 | 1340 | 65000 | | | A804_1340 P90 BXN90S4 | | 338 |
| 1.1 | 8720 | 1.6 | 1324 | 75000 | | | A904_1324 P90 BXN90S4 | | 341 |
| 1.2 | 8146 | 1.0 | 1237 | 65000 | | | A804_1237 P90 BXN90S4 | | 338 |
| 1.2 | 8049 | 1.7 | 1222 | 75000 | | | A904_1222 P90 BXN90S4 | | 341 |
| 1.3 | 7314 | 1.9 | 1111 | 75000 | | | A904_1111 P90 BXN90S4 | | 341 |
| 1.3 | 7145 | 1.1 | 1085 | 65000 | | | A804_1085 P90 BXN90S4 | | 338 |
| 1.4 | 6752 | 2.1 | 1025 | 75000 | | | A904_1025 P90 BXN90S4 | | 341 |
| 1.4 | 6595 | 1.2 | 1001 | 65000 | | | A804_1001 P90 BXN90S4 | | 338 |
| 1.5 | 6172 | 2.3 | 937.2 | 75000 | | | A904_937.2 P90 BXN90S4 | | 341 |
| 1.6 | 5919 | 1.4 | 898.7 | 65000 | | | A804_898.7 P90 BXN90S4 | | 338 |
| 1.7 | 5697 | 2.5 | 865.1 | 75000 | | | A904_865.1 P90 BXN90S4 | | 341 |
| 1.7 | 5633 | 0.9 | 855.3 | 50000 | | | A704_855.3 P90 BXN90S4 | | 335 |
| 1.7 | 5463 | 1.5 | 829.5 | 65000 | | | A804_829.5 P90 BXN90S4 | | 338 |
| 1.9 | 5051 | 2.8 | 766.9 | 75000 | | | A904_766.9 P90 BXN90S4 | | 341 |
| 1.9 | 5031 | 1.0 | 763.9 | 50000 | | | A704_763.9 P90 BXN90S4 | | 335 |
| 1.9 | 5019 | 1.6 | 762.1 | 65000 | | | A804_762.1 P90 BXN90S4 | | 338 |
| 2.0 | 4662 | 3.0 | 707.9 | 75000 | | | A904_707.9 P90 BXN90S4 | | 341 |
| 2.0 | 4644 | 1.1 | 705.1 | 50000 | | | A704_705.1 P90 BXN90S4 | | 335 |
| 2.0 | 4633 | 1.7 | 703.5 | 65000 | | | A804_703.5 P90 BXN90S4 | | 338 |
| 2.2 | 4245 | 1.2 | 644.6 | 50000 | | | A704_644.6 P90 BXN90S4 | | 335 |
| 2.4 | 3999 | 2.0 | 607.2 | 65000 | | | A804_607.2 P90 BXN90S4 | | 338 |
| 2.4 | 3962 | 3.5 | 601.6 | 75000 | | | A904_601.6 P90 BXN90S4 | | 341 |
| 2.4 | 3919 | 1.3 | 595.0 | 50000 | | | A704_595.0 P90 BXN90S4 | | 335 |
| 2.6 | 3691 | 2.2 | 560.5 | 65000 | | | A804_560.5 P90 BXN90S4 | | 338 |
| 2.8 | 3394 | 1.5 | 515.4 | 50000 | | | A704_515.4 P90 BXN90S4 | | 335 |
| 3.0 | 3154 | 2.5 | 478.9 | 65000 | | | A804_478.9 P90 BXN90S4 | | 338 |
| 3.0 | 3133 | 1.6 | 475.8 | 50000 | | | A704_475.8 P90 BXN90S4 | | 335 |
| 3.2 | 2912 | 2.7 | 442.1 | 65000 | | | A804_442.1 P90 BXN90S4 | | 338 |
| 3.3 | 2887 | 1.0 | 438.4 | 30000 | | | A604_438.4 P90 BXN90S4 | | 331 |
| 3.5 | 2665 | 1.1 | 404.7 | 30000 | | | A604_404.7 P90 BXN90S4 | | 331 |
| 3.6 | 2635 | 1.9 | 400.2 | 50000 | | | A704_400.2 P90 BXN90S4 | | 335 |
| 3.7 | 2526 | 3.2 | 383.5 | 65000 | | | A804_383.5 P90 BXN90S4 | | 338 |
| 3.9 | 2433 | 2.1 | 369.4 | 50000 | | | A704_369.4 P90 BXN90S4 | | 335 |
| 4.0 | 2331 | 3.4 | 354.0 | 65000 | | | A804_354.0 P90 BXN90S4 | | 338 |
| 4.1 | 2313 | 1.2 | 351.2 | 30000 | | | A604_351.2 P90 BXN90S4 | | 331 |
| 4.4 | 2139 | 0.9 | 324.7 | 30000 | | | A554_324.7 P90 BXN90S4 | | 327 |
| 4.4 | 2135 | 1.3 | 324.2 | 30000 | | | A604_324.2 P90 BXN90S4 | | 331 |
| 4.5 | 2083 | 2.4 | 316.4 | 50000 | | | A704_316.4 P90 BXN90S4 | | 335 |
| 4.9 | 1923 | 2.6 | 292.0 | 50000 | | | A704_292.0 P90 BXN90S4 | | 335 |
| 5.0 | 1886 | 1.5 | 286.3 | 30000 | | | A604_286.3 P90 BXN90S4 | | 331 |
| 5.4 | 1741 | 1.6 | 264.3 | 30000 | | | A604_264.3 P90 BXN90S4 | | 331 |
| 5.4 | 1730 | 1.2 | 262.6 | 30000 | | | A554_262.6 P90 BXN90S4 | | 327 |
| 5.5 | 1718 | 0.9 | 260.9 | 20000 | | | A504_260.9 P90 BXN90S4 | | 323 |
| 6.0 | 1571 | 3.2 | 238.6 | 50000 | | | A704_238.6 P90 BXN90S4 | | 335 |



1.1 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IEC IE3 | |
|-------------------------|----------------------|-----|-------|----------------------|-----|------------------------|-----|
| | | | | | | | |
| 6.2 | 1528 | 1.0 | 232.0 | 20000 | | A504_232.0 P90 BXN90S4 | 323 |
| 6.3 | 1489 | 1.9 | 226.1 | 30000 | | A604_226.1 P90 BXN90S4 | 331 |
| 6.5 | 1451 | 3.4 | 220.3 | 50000 | | A704_220.3 P90 BXN90S4 | 335 |
| 6.8 | 1390 | 1.1 | 211.0 | 20000 | | A504_211.0 P90 BXN90S4 | 323 |
| 6.9 | 1375 | 2.0 | 208.7 | 30000 | | A604_208.7 P90 BXN90S4 | 331 |
| 6.9 | 1370 | 1.4 | 208.1 | 30000 | | A554_208.1 P90 BXN90S4 | 327 |
| 7.4 | 1308 | 1.5 | 194.2 | 30000 | | A553_194.2 P90 BXN90S4 | 327 |
| 7.5 | 1283 | 1.2 | 190.6 | 20000 | | A503_190.6 P90 BXN90S4 | 323 |
| 7.7 | 1251 | 2.2 | 185.8 | 30000 | | A603_185.8 P90 BXN90S4 | 331 |
| 8.2 | 1179 | 1.7 | 175.0 | 30000 | | A553_175.0 P90 BXN90S4 | 327 |
| 8.2 | 1167 | 1.3 | 173.4 | 20000 | | A503_173.4 P90 BXN90S4 | 323 |
| 8.3 | 1155 | 2.4 | 171.5 | 30000 | | A603_171.5 P90 BXN90S4 | 331 |
| 8.9 | 1080 | 1.9 | 160.4 | 30000 | | A553_160.4 P90 BXN90S4 | 327 |
| 9.2 | 1051 | 2.7 | 156.0 | 30000 | | A603_156.0 P90 BXN90S4 | 331 |
| 9.3 | 1041 | 1.4 | 154.6 | 20000 | | A503_154.6 P90 BXN90S4 | 323 |
| 9.7 | 989 | 2.0 | 146.8 | 30000 | | A553_146.8 P90 BXN90S4 | 327 |
| 9.9 | 970 | 2.9 | 144.0 | 30000 | | A603_144.0 P90 BXN90S4 | 331 |
| 10.2 | 947 | 1.6 | 140.6 | 20000 | | A503_140.6 P90 BXN90S4 | 323 |
| 10.7 | 898 | 3.1 | 133.3 | 30000 | | A603_133.3 P90 BXN90S4 | 331 |
| 10.8 | 894 | 2.2 | 132.7 | 30000 | | A553_132.7 P90 BXN90S4 | 327 |
| 11.0 | 873 | 1.7 | 129.7 | 20000 | | A503_129.7 P90 BXN90S4 | 323 |
| 11.5 | 834 | 2.4 | 123.9 | 30000 | | A553_123.9 P90 BXN90S4 | 327 |
| 11.6 | 828 | 3.4 | 123.0 | 30000 | | A603_123.0 P90 BXN90S4 | 331 |
| 12.1 | 794 | 1.9 | 118.0 | 20000 | | A503_118.0 P90 BXN90S4 | 323 |
| 12.3 | 780 | 1.1 | 115.9 | 15000 | | A413_115.9 P90 BXN90S4 | 319 |
| 13.1 | 737 | 2.0 | 109.4 | 20000 | | A503_109.4 P90 BXN90S4 | 323 |
| 14.1 | 683 | 2.9 | 101.4 | 30000 | | A553_101.4 P90 BXN90S4 | 327 |
| 14.4 | 670 | 2.2 | 99.5 | 20000 | | A503_99.5 P90 BXN90S4 | 323 |
| 15.4 | 625 | 1.3 | 92.8 | 15000 | | A413_92.8 P90 BXN90S4 | 319 |
| 16.0 | 603 | 2.5 | 89.5 | 20000 | | A503_89.5 P90 BXN90S4 | 323 |
| 17.3 | 574 | 1.0 | 82.5 | 12000 | | A352_82.5 P90 BXN90S4 | 315 |
| 17.6 | 548 | 2.7 | 81.5 | 20000 | | A503_81.5 P90 BXN90S4 | 323 |
| 18.0 | 551 | 1.5 | 79.2 | 15000 | | A412_79.2 P90 BXN90S4 | 319 |
| 19.3 | 517 | 1.2 | 74.3 | 12000 | | A352_74.3 P90 BXN90S4 | 315 |
| 20.1 | 496 | 1.7 | 71.3 | 15000 | | A412_71.3 P90 BXN90S4 | 319 |
| 20.4 | 473 | 3.2 | 70.2 | 20000 | | A503_70.2 P90 BXN90S4 | 323 |
| 21.7 | 458 | 1.3 | 65.8 | 12000 | | A352_65.8 P90 BXN90S4 | 315 |
| 22.3 | 446 | 1.9 | 64.2 | 15000 | | A412_64.2 P90 BXN90S4 | 319 |
| 22.4 | 430 | 3.5 | 63.9 | 20000 | | A503_63.9 P90 BXN90S4 | 323 |
| 23.7 | 420 | 1.4 | 60.4 | 12000 | | A352_60.4 P90 BXN90S4 | 315 |
| 24.1 | 413 | 1.0 | 59.4 | 7420 | | A302_59.4 P90 BXN90S4 | 311 |
| 24.3 | 409 | 2.1 | 58.8 | 15000 | | A412_58.8 P90 BXN90S4 | 319 |
| 26.3 | 378 | 1.6 | 54.3 | 12000 | | A352_54.3 P90 BXN90S4 | 315 |
| 26.9 | 370 | 2.3 | 53.1 | 15000 | | A412_53.1 P90 BXN90S4 | 319 |
| 27.1 | 366 | 1.1 | 52.7 | 7310 | | A302_52.7 P90 BXN90S4 | 311 |
| 29.1 | 341 | 1.8 | 49.1 | 11800 | | A352_49.1 P90 BXN90S4 | 315 |
| 29.6 | 336 | 1.2 | 48.3 | 7220 | | A302_48.3 P90 BXN90S4 | 311 |
| 29.6 | 336 | 2.5 | 48.3 | 15000 | | A412_48.3 P90 BXN90S4 | 319 |
| 31 | 319 | 1.9 | 45.8 | 11700 | | A352_45.8 P90 BXN90S4 | 315 |
| 32 | 313 | 2.6 | 45.1 | 15000 | | A412_45.1 P90 BXN90S4 | 319 |
| 33 | 302 | 1.4 | 43.4 | 7100 | | A302_43.4 P90 BXN90S4 | 311 |
| 34 | 291 | 2.1 | 41.8 | 11400 | | A352_41.8 P90 BXN90S4 | 315 |
| 36 | 276 | 0.9 | 39.6 | 4500 | | A202_39.6 P90 BXN90S4 | 307 |
| 36 | 273 | 1.5 | 39.3 | 6970 | | A302_39.3 P90 BXN90S4 | 311 |
| 39 | 255 | 1.6 | 36.6 | 6880 | | A302_36.6 P90 BXN90S4 | 311 |
| 39 | 255 | 2.4 | 36.6 | 11100 | | A352_36.6 P90 BXN90S4 | 315 |
| 40 | 250 | 3.1 | 35.9 | 14300 | | A412_35.9 P90 BXN90S4 | 319 |
| 40 | 246 | 1.0 | 35.4 | 4380 | | A202_35.4 P90 BXN90S4 | 307 |
| 43 | 233 | 1.8 | 33.4 | 6760 | | A302_33.4 P90 BXN90S4 | 311 |
| 43 | 231 | 2.6 | 33.2 | 10800 | | A352_33.2 P90 BXN90S4 | 315 |
| 46 | 218 | 1.1 | 31.3 | 4320 | | A202_31.3 P90 BXN90S4 | 307 |
| 49 | 204 | 2.0 | 29.3 | 6580 | | A302_29.3 P90 BXN90S4 | 311 |
| 49 | 203 | 1.2 | 29.2 | 4290 | | A202_29.2 P90 BXN90S4 | 307 |
| 50 | 198 | 3.0 | 28.4 | 10400 | | A352_28.4 P90 BXN90S4 | 315 |
| 54 | 185 | 2.2 | 26.5 | 6440 | | A302_26.5 P90 BXN90S4 | 311 |

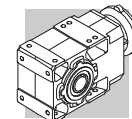


1.1 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | | IEC | |
|-------------------------|----------------------|-----|------|----------------------|-----|-----|-----------------------|-----|
| | | | | | IE3 | IE3 | IE3 | IE3 |
| 54 | 184 | 1.4 | 26.5 | 4230 | | | A202_26.5 P90 BXN90S4 | 307 |
| 56 | 179 | 3.4 | 25.7 | 10100 | | | A352_25.7 P90 BXN90S4 | 315 |
| 60 | 165 | 0.9 | 23.8 | 3640 | | | A102_23.8 P90 BXN90S4 | 303 |
| 62 | 161 | 1.6 | 23.1 | 4140 | | | A202_23.1 P90 BXN90S4 | 307 |
| 63 | 158 | 2.6 | 22.8 | 6220 | | | A302_22.8 P90 BXN90S4 | 311 |
| 67 | 149 | 1.0 | 21.4 | 4280 | | | A102_21.4 P90 BXN90S4 | 303 |
| 67 | 148 | 1.7 | 21.2 | 4080 | | | A202_21.2 P90 BXN90S4 | 307 |
| 70 | 143 | 2.9 | 20.5 | 6070 | | | A302_20.5 P90 BXN90S4 | 311 |
| 77 | 129 | 1.2 | 18.6 | 3540 | | | A102_18.6 P90 BXN90S4 | 303 |
| 79 | 126 | 2.0 | 18.1 | 3970 | | | A202_18.1 P90 BXN90S4 | 307 |
| 80 | 125 | 3.2 | 18.0 | 5880 | | | A302_18.0 P90 BXN90S4 | 311 |
| 87 | 114 | 1.3 | 16.4 | 4130 | | | A102_16.4 P90 BXN90S4 | 303 |
| 88 | 114 | 3.4 | 16.3 | 5740 | | | A302_16.3 P90 BXN90S4 | 311 |
| 88 | 112 | 2.2 | 16.2 | 3880 | | | A202_16.2 P90 BXN90S4 | 307 |
| 102 | 98 | 2.5 | 14.1 | 3770 | | | A202_14.1 P90 BXN90S4 | 307 |
| 103 | 97 | 1.5 | 13.9 | 3380 | | | A102_13.9 P90 BXN90S4 | 303 |
| 116 | 86 | 1.6 | 12.3 | 3300 | | | A102_12.3 P90 BXN90S4 | 303 |
| 120 | 83 | 2.5 | 12.0 | 3620 | | | A202_12.0 P90 BXN90S4 | 307 |
| 135 | 73 | 2.0 | 10.6 | 3210 | | | A102_10.6 P90 BXN90S4 | 303 |
| 138 | 72 | 3.1 | 10.3 | 3510 | | | A202_10.3 P90 BXN90S4 | 307 |
| 149 | 67 | 2.1 | 9.6 | 3140 | | | A102_9.6 P90 BXN90S4 | 303 |
| 153 | 65 | 3.2 | 9.4 | 3420 | | | A202_9.4 P90 BXN90S4 | 307 |
| 168 | 59 | 2.4 | 8.5 | 3630 | | | A102_8.5 P90 BXN90S4 | 303 |
| 198 | 50 | 2.8 | 7.2 | 2940 | | | A102_7.2 P90 BXN90S4 | 303 |
| 226 | 44 | 3.2 | 6.3 | 3390 | | | A102_6.3 P90 BXN90S4 | 303 |
| 230 | 43 | 3.3 | 12.3 | 2830 | | | | |
| 294 | 34 | 2.8 | 9.6 | 1600 | | | | |
| 332 | 30 | 3.0 | 8.5 | 1560 | | | | |
| 392 | 25 | 3.4 | 7.2 | 1500 | | | | |
| 447 | 22 | 3.6 | 6.3 | 1450 | | | | |
| 518 | 19.1 | 3.9 | 5.5 | 1400 | | | | |

1.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE2 | | IE3 | | IEC | |
|-------------------------|----------------------|-----|-------|----------------------|----------------------|----------------------|-----|------------------------|------------------------|-----|
| | | | | | IE2 | IE3 | IE2 | IE3 | IE2 | IE3 |
| 0.88 | 14528 | 1.0 | 1632 | 75000 | A904_1632 S3 ME3SB4 | A904_1632 S3 MX3SB4 | 340 | A904_1632 P90 BE90LA4 | A904_1632 P90 BX90LA4 | 341 |
| 0.95 | 13410 | 1.0 | 1507 | 75000 | A904_1507 S3 ME3SB4 | A904_1507 S3 MX3SB4 | 340 | A904_1507 P90 BE90LA4 | A904_1507 P90 BX90LA4 | 341 |
| 1.1 | 11784 | 1.2 | 1324 | 75000 | A904_1324 S3 ME3SB4 | A904_1324 S3 MX3SB4 | 340 | A904_1324 P90 BE90LA4 | A904_1324 P90 BX90LA4 | 341 |
| 1.2 | 10877 | 1.3 | 1222 | 75000 | A904_1222 S3 ME3SB4 | A904_1222 S3 MX3SB4 | 340 | A904_1222 P90 BE90LA4 | A904_1222 P90 BX90LA4 | 341 |
| 1.3 | 9884 | 1.4 | 1111 | 75000 | A904_1111 S3 ME3SB4 | A904_1111 S3 MX3SB4 | 340 | A904_1111 P90 BE90LA4 | A904_1111 P90 BX90LA4 | 341 |
| 1.4 | 9124 | 1.5 | 1025 | 75000 | A904_1025 S3 ME3SB4 | A904_1025 S3 MX3SB4 | 340 | A904_1025 P90 BE90LA4 | A904_1025 P90 BX90LA4 | 341 |
| 1.4 | 8913 | 0.9 | 1001 | 65000 | A804_1001 S3 ME3SB4 | A804_1001 S3 MX3SB4 | 337 | A804_1001 P90 BE90LA4 | A804_1001 P90 BX90LA4 | 338 |
| 1.5 | 8341 | 1.7 | 937.2 | 75000 | A904_937.2 S3 ME3SB4 | A904_937.2 S3 MX3SB4 | 340 | A904_937.2 P90 BE90LA4 | A904_937.2 P90 BX90LA4 | 341 |
| 1.6 | 7998 | 1.0 | 898.7 | 65000 | A804_898.7 S3 ME3SB4 | A804_898.7 S3 MX3SB4 | 337 | A804_898.7 P90 BE90LA4 | A804_898.7 P90 BX90LA4 | 338 |
| 1.7 | 7699 | 1.8 | 865.1 | 75000 | A904_865.1 S3 ME3SB4 | A904_865.1 S3 MX3SB4 | 340 | A904_865.1 P90 BE90LA4 | A904_865.1 P90 BX90LA4 | 341 |
| 1.7 | 7383 | 1.1 | 829.5 | 65000 | A804_829.5 S3 ME3SB4 | A804_829.5 S3 MX3SB4 | 337 | A804_829.5 P90 BE90LA4 | A804_829.5 P90 BX90LA4 | 338 |
| 1.9 | 6826 | 2.1 | 766.9 | 75000 | A904_766.9 S3 ME3SB4 | A904_766.9 S3 MX3SB4 | 340 | A904_766.9 P90 BE90LA4 | A904_766.9 P90 BX90LA4 | 341 |
| 1.9 | 6783 | 1.2 | 762.1 | 65000 | A804_762.1 S3 ME3SB4 | A804_762.1 S3 MX3SB4 | 337 | A804_762.1 P90 BE90LA4 | A804_762.1 P90 BX90LA4 | 338 |
| 2.0 | 6300 | 2.2 | 707.9 | 75000 | A904_707.9 S3 ME3SB4 | A904_707.9 S3 MX3SB4 | 340 | A904_707.9 P90 BE90LA4 | A904_707.9 P90 BX90LA4 | 341 |
| 2.0 | 6261 | 1.3 | 703.5 | 65000 | A804_703.5 S3 ME3SB4 | A804_703.5 S3 MX3SB4 | 337 | A804_703.5 P90 BE90LA4 | A804_703.5 P90 BX90LA4 | 338 |
| 2.2 | 5737 | 0.9 | 644.6 | 50000 | A704_644.6 S3 ME3SB4 | A704_644.6 S3 MX3SB4 | 334 | A704_644.6 P90 BE90LA4 | A704_644.6 P90 BX90LA4 | 335 |
| 2.4 | 5404 | 1.5 | 607.2 | 65000 | A804_607.2 S3 ME3SB4 | A804_607.2 S3 MX3SB4 | 337 | A804_607.2 P90 BE90LA4 | A804_607.2 P90 BX90LA4 | 338 |
| 2.4 | 5354 | 2.6 | 601.6 | 75000 | A904_601.6 S3 ME3SB4 | A904_601.6 S3 MX3SB4 | 340 | A904_601.6 P90 BE90LA4 | A904_601.6 P90 BX90LA4 | 341 |
| 2.4 | 5296 | 0.9 | 595.0 | 50000 | A704_595.0 S3 ME3SB4 | A704_595.0 S3 MX3SB4 | 334 | A704_595.0 P90 BE90LA4 | A704_595.0 P90 BX90LA4 | 335 |
| 2.6 | 4988 | 1.6 | 560.5 | 65000 | A804_560.5 S3 ME3SB4 | A804_560.5 S3 MX3SB4 | 337 | A804_560.5 P90 BE90LA4 | A804_560.5 P90 BX90LA4 | 338 |
| 2.6 | 4942 | 2.8 | 555.3 | 75000 | A904_555.3 S3 ME3SB4 | A904_555.3 S3 MX3SB4 | 340 | A904_555.3 P90 BE90LA4 | A904_555.3 P90 BX90LA4 | 341 |
| 2.8 | 4587 | 1.1 | 515.4 | 50000 | A704_515.4 S3 ME3SB4 | A704_515.4 S3 MX3SB4 | 334 | A704_515.4 P90 BE90LA4 | A704_515.4 P90 BX90LA4 | 335 |
| 2.9 | 4331 | 3.2 | 486.6 | 75000 | A904_486.6 S3 ME3SB4 | A904_486.6 S3 MX3SB4 | 340 | A904_486.6 P90 BE90LA4 | A904_486.6 P90 BX90LA4 | 341 |
| 3.0 | 4262 | 1.9 | 478.9 | 65000 | A804_478.9 S3 ME3SB4 | A804_478.9 S3 MX3SB4 | 337 | A804_478.9 P90 BE90LA4 | A804_478.9 P90 BX90LA4 | 338 |
| 3.0 | 4234 | 1.2 | 475.8 | 50000 | A704_475.8 S3 ME3SB4 | A704_475.8 S3 MX3SB4 | 334 | A704_475.8 P90 BE90LA4 | A704_475.8 P90 BX90LA4 | 335 |
| 3.2 | 3998 | 3.5 | 449.2 | 75000 | A904_449.2 S3 ME3SB4 | A904_449.2 S3 MX3SB4 | 340 | A904_449.2 P90 BE90LA4 | A904_449.2 P90 BX90LA4 | 341 |

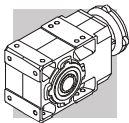


1.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{N2} N | | | iec | | | |
|-------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|-----------------------|-----------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 34 | 393 | 1.5 | 41.8 | 10800 | A352_41.8 S3 ME3SB4 | A352_41.8 S3 MX3SB4 | 314 | A352_41.8 P90 BE90LA4 | A352_41.8 P90 BX90LA4 | 315 |
| 36 | 369 | 1.1 | 39.3 | 6380 | A302_39.3 S3 ME3SB4 | A302_39.3 S3 MX3SB4 | 310 | A302_39.3 P90 BE90LA4 | A302_39.3 P90 BX90LA4 | 311 |
| 39 | 344 | 1.2 | 36.6 | 6330 | A302_36.6 S3 ME3SB4 | A302_36.6 S3 MX3SB4 | 310 | A302_36.6 P90 BE90LA4 | A302_36.6 P90 BX90LA4 | 311 |
| 39 | 344 | 1.7 | 36.6 | 10500 | A352_36.6 S3 ME3SB4 | A352_36.6 S3 MX3SB4 | 314 | A352_36.6 P90 BE90LA4 | A352_36.6 P90 BX90LA4 | 315 |
| 40 | 338 | 2.3 | 35.9 | 13800 | A412_35.9 S3 ME3SB4 | A412_35.9 S3 MX3SB4 | 318 | A412_35.9 P90 BE90LA4 | A412_35.9 P90 BX90LA4 | 319 |
| 43 | 314 | 1.3 | 33.4 | 6260 | A302_33.4 S3 ME3SB4 | A302_33.4 S3 MX3SB4 | 310 | A302_33.4 P90 BE90LA4 | A302_33.4 P90 BX90LA4 | 311 |
| 43 | 312 | 1.9 | 33.2 | 10300 | A352_33.2 S3 ME3SB4 | A352_33.2 S3 MX3SB4 | 314 | A352_33.2 P90 BE90LA4 | A352_33.2 P90 BX90LA4 | 315 |
| 49 | 275 | 1.5 | 29.3 | 6140 | A302_29.3 S3 ME3SB4 | A302_29.3 S3 MX3SB4 | 310 | A302_29.3 P90 BE90LA4 | A302_29.3 P90 BX90LA4 | 311 |
| 49 | 275 | 0.9 | 29.2 | 3820 | A202_29.2 S3 ME3SB4 | A202_29.2 S3 MX3SB4 | 306 | A202_29.2 P90 BE90LA4 | A202_29.2 P90 BX90LA4 | 307 |
| 50 | 267 | 2.2 | 28.4 | 9940 | A352_28.4 S3 ME3SB4 | A352_28.4 S3 MX3SB4 | 314 | A352_28.4 P90 BE90LA4 | A352_28.4 P90 BX90LA4 | 315 |
| 50 | 266 | 2.7 | 28.3 | 13000 | A412_28.3 S3 ME3SB4 | A412_28.3 S3 MX3SB4 | 318 | A412_28.3 P90 BE90LA4 | A412_28.3 P90 BX90LA4 | 319 |
| 54 | 249 | 1.6 | 26.5 | 6040 | A302_26.5 S3 ME3SB4 | A302_26.5 S3 MX3SB4 | 310 | A302_26.5 P90 BE90LA4 | A302_26.5 P90 BX90LA4 | 311 |
| 54 | 249 | 1.0 | 26.5 | 3790 | A202_26.5 S3 ME3SB4 | A202_26.5 S3 MX3SB4 | 306 | A202_26.5 P90 BE90LA4 | A202_26.5 P90 BX90LA4 | 307 |
| 56 | 241 | 2.5 | 25.7 | 9710 | A352_25.7 S3 ME3SB4 | A352_25.7 S3 MX3SB4 | 314 | A352_25.7 P90 BE90LA4 | A352_25.7 P90 BX90LA4 | 315 |
| 62 | 217 | 1.2 | 23.1 | 3760 | A202_23.1 S3 ME3SB4 | A202_23.1 S3 MX3SB4 | 306 | A202_23.1 P90 BE90LA4 | A202_23.1 P90 BX90LA4 | 307 |
| 63 | 214 | 1.9 | 22.8 | 5870 | A302_22.8 S3 ME3SB4 | A302_22.8 S3 MX3SB4 | 310 | A302_22.8 P90 BE90LA4 | A302_22.8 P90 BX90LA4 | 311 |
| 63 | 213 | 3.2 | 22.7 | 12200 | A412_22.7 S3 ME3SB4 | A412_22.7 S3 MX3SB4 | 318 | A412_22.7 P90 BE90LA4 | A412_22.7 P90 BX90LA4 | 319 |
| 64 | 211 | 2.8 | 22.5 | 9400 | A352_22.5 S3 ME3SB4 | A352_22.5 S3 MX3SB4 | 314 | A352_22.5 P90 BE90LA4 | A352_22.5 P90 BX90LA4 | 315 |
| 67 | 200 | 1.3 | 21.2 | 3730 | A202_21.2 S3 ME3SB4 | A202_21.2 S3 MX3SB4 | 306 | A202_21.2 P90 BE90LA4 | A202_21.2 P90 BX90LA4 | 307 |
| 70 | 193 | 2.1 | 20.5 | 5760 | A302_20.5 S3 ME3SB4 | A302_20.5 S3 MX3SB4 | 310 | A302_20.5 P90 BE90LA4 | A302_20.5 P90 BX90LA4 | 311 |
| 70 | 192 | 3.1 | 20.4 | 9170 | A352_20.4 S3 ME3SB4 | A352_20.4 S3 MX3SB4 | 314 | A352_20.4 P90 BE90LA4 | A352_20.4 P90 BX90LA4 | 315 |
| 79 | 170 | 1.5 | 18.1 | 3660 | A202_18.1 S3 ME3SB4 | A202_18.1 S3 MX3SB4 | 306 | A202_18.1 P90 BE90LA4 | A202_18.1 P90 BX90LA4 | 307 |
| 80 | 169 | 2.4 | 18.0 | 5600 | A302_18.0 S3 ME3SB4 | A302_18.0 S3 MX3SB4 | 310 | A302_18.0 P90 BE90LA4 | A302_18.0 P90 BX90LA4 | 311 |
| 87 | 155 | 1.0 | 16.4 | 3720 | A102_16.4 S3 ME3SB4 | A102_16.4 S3 MX3SB4 | 302 | A102_16.4 P90 BE90LA4 | A102_16.4 P90 BX90LA4 | 303 |
| 88 | 154 | 2.5 | 16.3 | 5480 | A302_16.3 S3 ME3SB4 | A302_16.3 S3 MX3SB4 | 310 | A302_16.3 P90 BE90LA4 | A302_16.3 P90 BX90LA4 | 311 |
| 88 | 152 | 1.6 | 16.2 | 3600 | A202_16.2 S3 ME3SB4 | A202_16.2 S3 MX3SB4 | 306 | A202_16.2 P90 BE90LA4 | A202_16.2 P90 BX90LA4 | 307 |
| 102 | 132 | 1.9 | 14.1 | 3530 | A202_14.1 S3 ME3SB4 | A202_14.1 S3 MX3SB4 | 306 | A202_14.1 P90 BE90LA4 | A202_14.1 P90 BX90LA4 | 307 |
| 103 | 131 | 1.1 | 13.9 | 3090 | A102_13.9 S3 ME3SB4 | A102_13.9 S3 MX3SB4 | 302 | A102_13.9 P90 BE90LA4 | A102_13.9 P90 BX90LA4 | 303 |
| 105 | 128 | 2.9 | 13.6 | 5250 | A302_13.6 S3 ME3SB4 | A302_13.6 S3 MX3SB4 | 310 | A302_13.6 P90 BE90LA4 | A302_13.6 P90 BX90LA4 | 311 |
| 116 | 116 | 1.2 | 12.3 | 3040 | A102_12.3 S3 ME3SB4 | A102_12.3 S3 MX3SB4 | 302 | A102_12.3 P90 BE90LA4 | A102_12.3 P90 BX90LA4 | 303 |
| 120 | 112 | 1.9 | 12.0 | 3420 | A202_12.0 S3 ME3SB4 | A202_12.0 S3 MX3SB4 | 306 | A202_12.0 P90 BE90LA4 | A202_12.0 P90 BX90LA4 | 307 |
| 121 | 111 | 2.7 | 11.8 | 5060 | A302_11.8 S3 ME3SB4 | A302_11.8 S3 MX3SB4 | 310 | A302_11.8 P90 BE90LA4 | A302_11.8 P90 BX90LA4 | 311 |
| 125 | 107 | 3.3 | 22.8 | 5040 | A302_22.8 S3 ME3SA2 | | 310 | A302_22.8 P90 BE90SA2 | | 311 |
| 135 | 99 | 1.5 | 10.6 | 2990 | A102_10.6 S3 ME3SB4 | A102_10.6 S3 MX3SB4 | 302 | A102_10.6 P90 BE90LA4 | A102_10.6 P90 BX90LA4 | 303 |
| 137 | 98 | 3.5 | 10.5 | 4930 | A302_10.5 S3 ME3SB4 | A302_10.5 S3 MX3SB4 | 310 | A302_10.5 P90 BE90LA4 | A302_10.5 P90 BX90LA4 | 311 |
| 138 | 97 | 2.3 | 10.3 | 3330 | A202_10.3 S3 ME3SB4 | A202_10.3 S3 MX3SB4 | 306 | A202_10.3 P90 BE90LA4 | A202_10.3 P90 BX90LA4 | 307 |
| 149 | 90 | 1.5 | 9.6 | 2940 | A102_9.6 S3 ME3SB4 | A102_9.6 S3 MX3SB4 | 302 | A102_9.6 P90 BE90LA4 | A102_9.6 P90 BX90LA4 | 303 |
| 153 | 88 | 2.4 | 9.4 | 3250 | A202_9.4 S3 ME3SB4 | A202_9.4 S3 MX3SB4 | 306 | A202_9.4 P90 BE90LA4 | A202_9.4 P90 BX90LA4 | 307 |
| 154 | 88 | 3.4 | 9.3 | 4770 | A302_9.3 S3 ME3SB4 | A302_9.3 S3 MX3SB4 | 310 | A302_9.3 P90 BE90LA4 | A302_9.3 P90 BX90LA4 | 311 |
| 168 | 80 | 1.7 | 8.5 | 3420 | A102_8.5 S3 ME3SB4 | A102_8.5 S3 MX3SB4 | 302 | A102_8.5 P90 BE90LA4 | A102_8.5 P90 BX90LA4 | 303 |
| 171 | 79 | 2.7 | 8.4 | 3180 | A202_8.4 S3 ME3SB4 | A202_8.4 S3 MX3SB4 | 306 | A202_8.4 P90 BE90LA4 | A202_8.4 P90 BX90LA4 | 307 |
| 196 | 69 | 3.1 | 7.3 | 3080 | A202_7.3 S3 ME3SB4 | A202_7.3 S3 MX3SB4 | 306 | A202_7.3 P90 BE90LA4 | A202_7.3 P90 BX90LA4 | 307 |
| 198 | 68 | 2.1 | 7.2 | 2790 | A102_7.2 S3 ME3SB4 | A102_7.2 S3 MX3SB4 | 302 | A102_7.2 P90 BE90LA4 | A102_7.2 P90 BX90LA4 | 303 |
| 219 | 61 | 3.4 | 6.5 | 3000 | A202_6.5 S3 ME3SB4 | A202_6.5 S3 MX3SB4 | 306 | A202_6.5 P90 BE90LA4 | A202_6.5 P90 BX90LA4 | 307 |
| 226 | 60 | 2.4 | 6.3 | 3220 | A102_6.3 S3 ME3SB4 | A102_6.3 S3 MX3SB4 | 302 | A102_6.3 P90 BE90LA4 | A102_6.3 P90 BX90LA4 | 303 |
| 262 | 51 | 2.7 | 5.5 | 2630 | A102_5.5 S3 ME3SB4 | A102_5.5 S3 MX3SB4 | 302 | A102_5.5 P90 BE90LA4 | A102_5.5 P90 BX90LA4 | 303 |
| 297 | 45 | 3.1 | 9.6 | 2560 | A102_9.6 S3 ME3SA2 | | 302 | A102_9.6 P90 BE90SA2 | | 303 |
| 335 | 40 | 3.5 | 8.5 | 2950 | A102_8.5 S3 ME3SA2 | | 302 | A102_8.5 P90 BE90SA2 | | 303 |

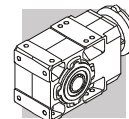
1.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{N2} N | | | iec | | |
|-------------------------|----------------------|-----|-------|----------------------|-----|-----|------------------------|--|-----|
| | | | | | IE3 | IE3 | | | |
| 0.88 | 14528 | 1.0 | 1632 | 75000 | | | A904_1632 P90 BXN90L4 | | 341 |
| 0.95 | 13410 | 1.0 | 1507 | 75000 | | | A904_1507 P90 BXN90L4 | | 341 |
| 1.1 | 11784 | 1.2 | 1324 | 75000 | | | A904_1324 P90 BXN90L4 | | 341 |
| 1.2 | 10877 | 1.3 | 1222 | 75000 | | | A904_1222 P90 BXN90L4 | | 341 |
| 1.3 | 9884 | 1.4 | 1111 | 75000 | | | A904_1111 P90 BXN90L4 | | 341 |
| 1.4 | 9124 | 1.5 | 1025 | 75000 | | | A904_1025 P90 BXN90L4 | | 341 |
| 1.4 | 8913 | 0.9 | 1001 | 65000 | | | A804_1001 P90 BXN90L4 | | 338 |
| 1.5 | 8341 | 1.7 | 937.2 | 75000 | | | A904_937.2 P90 BXN90L4 | | 341 |
| 1.6 | 7998 | 1.0 | 898.7 | 65000 | | | A804_898.7 P90 BXN90L4 | | 338 |
| 1.7 | 7699 | 1.8 | 865.1 | 75000 | | | A904_865.1 P90 BXN90L4 | | 341 |
| 1.7 | 7383 | 1.1 | 829.5 | 65000 | | | A804_829.5 P90 BXN90L4 | | 338 |



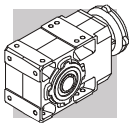
1.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IEC IE3 | |
|-------------------------|----------------------|-----|-------|----------------------|-----|------------------------|-----|
| | | | | | | | |
| 1.9 | 6826 | 2.1 | 766.9 | 75000 | | A904_766.9 P90 BXN90L4 | 341 |
| 1.9 | 6783 | 1.2 | 762.1 | 65000 | | A804_762.1 P90 BXN90L4 | 338 |
| 2.0 | 6300 | 2.2 | 707.9 | 75000 | | A904_707.9 P90 BXN90L4 | 341 |
| 2.0 | 6261 | 1.3 | 703.5 | 65000 | | A804_703.5 P90 BXN90L4 | 338 |
| 2.2 | 5737 | 0.9 | 644.6 | 50000 | | A704_644.6 P90 BXN90L4 | 335 |
| 2.4 | 5404 | 1.5 | 607.2 | 65000 | | A804_607.2 P90 BXN90L4 | 338 |
| 2.4 | 5354 | 2.6 | 601.6 | 75000 | | A904_601.6 P90 BXN90L4 | 341 |
| 2.4 | 5296 | 0.9 | 595.0 | 50000 | | A704_595.0 P90 BXN90L4 | 335 |
| 2.6 | 4988 | 1.6 | 560.5 | 65000 | | A804_560.5 P90 BXN90L4 | 338 |
| 2.6 | 4942 | 2.8 | 555.3 | 75000 | | A904_555.3 P90 BXN90L4 | 341 |
| 2.8 | 4587 | 1.1 | 515.4 | 50000 | | A704_515.4 P90 BXN90L4 | 335 |
| 2.9 | 4331 | 3.2 | 486.6 | 75000 | | A904_486.6 P90 BXN90L4 | 341 |
| 3.0 | 4262 | 1.9 | 478.9 | 65000 | | A804_478.9 P90 BXN90L4 | 338 |
| 3.0 | 4234 | 1.2 | 475.8 | 50000 | | A704_475.8 P90 BXN90L4 | 335 |
| 3.2 | 3998 | 3.5 | 449.2 | 75000 | | A904_449.2 P90 BXN90L4 | 341 |
| 3.2 | 3935 | 2.0 | 442.1 | 65000 | | A804_442.1 P90 BXN90L4 | 338 |
| 3.6 | 3561 | 1.4 | 400.2 | 50000 | | A704_400.2 P90 BXN90L4 | 335 |
| 3.7 | 3413 | 2.3 | 383.5 | 65000 | | A804_383.5 P90 BXN90L4 | 338 |
| 3.9 | 3288 | 1.5 | 369.4 | 50000 | | A704_369.4 P90 BXN90L4 | 335 |
| 4.0 | 3150 | 2.5 | 354.0 | 65000 | | A804_354.0 P90 BXN90L4 | 338 |
| 4.1 | 3126 | 0.9 | 351.2 | 30000 | | A604_351.2 P90 BXN90L4 | 331 |
| 4.4 | 2885 | 1.0 | 324.2 | 30000 | | A604_324.2 P90 BXN90L4 | 331 |
| 4.5 | 2816 | 1.8 | 316.4 | 50000 | | A704_316.4 P90 BXN90L4 | 335 |
| 4.8 | 2673 | 3.0 | 300.4 | 65000 | | A804_300.4 P90 BXN90L4 | 338 |
| 4.9 | 2599 | 1.9 | 292.0 | 50000 | | A704_292.0 P90 BXN90L4 | 335 |
| 5.0 | 2548 | 1.1 | 286.3 | 30000 | | A604_286.3 P90 BXN90L4 | 331 |
| 5.2 | 2468 | 3.2 | 277.3 | 65000 | | A804_277.3 P90 BXN90L4 | 338 |
| 5.4 | 2352 | 1.2 | 264.3 | 30000 | | A604_264.3 P90 BXN90L4 | 331 |
| 6.0 | 2124 | 2.4 | 238.6 | 50000 | | A704_238.6 P90 BXN90L4 | 335 |
| 6.3 | 2013 | 1.4 | 226.1 | 30000 | | A604_226.1 P90 BXN90L4 | 331 |
| 6.5 | 1960 | 2.6 | 220.3 | 50000 | | A704_220.3 P90 BXN90L4 | 335 |
| 6.9 | 1858 | 1.5 | 208.7 | 30000 | | A604_208.7 P90 BXN90L4 | 331 |
| 6.9 | 1852 | 1.1 | 208.1 | 30000 | | A554_208.1 P90 BXN90L4 | 327 |
| 7.4 | 1767 | 1.1 | 194.2 | 30000 | | A553_194.2 P90 BXN90L4 | 327 |
| 7.7 | 1690 | 1.7 | 185.8 | 30000 | | A603_185.8 P90 BXN90L4 | 331 |
| 7.8 | 1637 | 3.1 | 183.9 | 50000 | | A704_183.9 P90 BXN90L4 | 335 |
| 8.2 | 1593 | 1.3 | 175.0 | 30000 | | A553_175.0 P90 BXN90L4 | 327 |
| 8.2 | 1578 | 1.0 | 173.4 | 20000 | | A503_173.4 P90 BXN90L4 | 323 |
| 8.3 | 1560 | 1.8 | 171.5 | 30000 | | A603_171.5 P90 BXN90L4 | 331 |
| 8.4 | 1511 | 3.3 | 169.8 | 50000 | | A704_169.8 P90 BXN90L4 | 335 |
| 8.9 | 1460 | 1.4 | 160.4 | 30000 | | A553_160.4 P90 BXN90L4 | 327 |
| 9.2 | 1420 | 2.0 | 156.0 | 30000 | | A603_156.0 P90 BXN90L4 | 331 |
| 9.3 | 1407 | 1.1 | 154.6 | 20000 | | A503_154.6 P90 BXN90L4 | 323 |
| 9.3 | 1399 | 2.9 | 153.7 | 50000 | | A703_153.7 P90 BXN90L4 | 335 |
| 9.7 | 1336 | 1.5 | 146.8 | 30000 | | A553_146.8 P90 BXN90L4 | 327 |
| 9.9 | 1311 | 2.1 | 144.0 | 30000 | | A603_144.0 P90 BXN90L4 | 331 |
| 10.2 | 1280 | 1.2 | 140.6 | 20000 | | A503_140.6 P90 BXN90L4 | 323 |
| 10.7 | 1213 | 2.3 | 133.3 | 30000 | | A603_133.3 P90 BXN90L4 | 331 |
| 10.8 | 1208 | 1.7 | 132.7 | 30000 | | A553_132.7 P90 BXN90L4 | 327 |
| 11.0 | 1180 | 1.3 | 129.7 | 20000 | | A503_129.7 P90 BXN90L4 | 323 |
| 11.5 | 1127 | 1.8 | 123.9 | 30000 | | A553_123.9 P90 BXN90L4 | 327 |
| 11.6 | 1120 | 2.5 | 123.0 | 30000 | | A603_123.0 P90 BXN90L4 | 331 |
| 12.1 | 1073 | 1.4 | 118.0 | 20000 | | A503_118.0 P90 BXN90L4 | 323 |
| 13.1 | 996 | 1.5 | 109.4 | 20000 | | A503_109.4 P90 BXN90L4 | 323 |
| 13.3 | 981 | 2.9 | 107.8 | 30000 | | A603_107.8 P90 BXN90L4 | 331 |
| 14.1 | 923 | 2.2 | 101.4 | 30000 | | A553_101.4 P90 BXN90L4 | 327 |
| 14.4 | 906 | 1.7 | 99.5 | 20000 | | A503_99.5 P90 BXN90L4 | 323 |
| 14.4 | 906 | 3.1 | 99.5 | 30000 | | A603_99.5 P90 BXN90L4 | 331 |
| 15.4 | 844 | 0.9 | 92.8 | 15000 | | A413_92.8 P90 BXN90L4 | 319 |
| 16.0 | 815 | 1.8 | 89.5 | 20000 | | A503_89.5 P90 BXN90L4 | 323 |
| 16.6 | 786 | 3.6 | 86.4 | 30000 | | A603_86.4 P90 BXN90L4 | 331 |
| 17.6 | 741 | 2.0 | 81.5 | 20000 | | A503_81.5 P90 BXN90L4 | 323 |
| 18.0 | 724 | 2.8 | 79.5 | 30000 | | A553_79.5 P90 BXN90L4 | 327 |
| 18.0 | 745 | 1.1 | 79.2 | 15000 | | A412_79.2 P90 BXN90L4 | 319 |
| 20.1 | 670 | 1.3 | 71.3 | 15000 | | A412_71.3 P90 BXN90L4 | 319 |
| 20.4 | 639 | 2.3 | 70.2 | 20000 | | A503_70.2 P90 BXN90L4 | 323 |
| 21.7 | 619 | 1.0 | 65.8 | 11600 | | A352_65.8 P90 BXN90L4 | 315 |



1.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE3 | IE3 | IE3 | |
|-------------------------|----------------------|-----|------|----------------------|-----|-----|-----------------------|-----|
| | | | | | | | IE3 | IE3 |
| 22.2 | 585 | 3.4 | 64.3 | 30000 | | | A553_64.3 P90 BXN90L4 | 327 |
| 22.3 | 603 | 1.4 | 64.2 | 15000 | | | A412_64.2 P90 BXN90L4 | 319 |
| 22.4 | 581 | 2.6 | 63.9 | 20000 | | | A503_63.9 P90 BXN90L4 | 323 |
| 23.7 | 567 | 1.1 | 60.4 | 11500 | | | A352_60.4 P90 BXN90L4 | 315 |
| 24.3 | 553 | 1.5 | 58.8 | 15000 | | | A412_58.8 P90 BXN90L4 | 319 |
| 25.2 | 517 | 2.9 | 56.8 | 20000 | | | A503_56.8 P90 BXN90L4 | 323 |
| 26.3 | 510 | 1.2 | 54.3 | 11300 | | | A352_54.3 P90 BXN90L4 | 315 |
| 26.9 | 500 | 1.7 | 53.1 | 15000 | | | A412_53.1 P90 BXN90L4 | 319 |
| 27.7 | 470 | 3.2 | 51.7 | 19700 | | | A503_51.7 P90 BXN90L4 | 323 |
| 29.1 | 461 | 1.3 | 49.1 | 11100 | | | A352_49.1 P90 BXN90L4 | 315 |
| 29.6 | 454 | 0.9 | 48.3 | 6680 | | | A302_48.3 P90 BXN90L4 | 311 |
| 29.6 | 454 | 1.9 | 48.3 | 14900 | | | A412_48.3 P90 BXN90L4 | 319 |
| 31 | 431 | 1.4 | 45.8 | 11000 | | | A352_45.8 P90 BXN90L4 | 315 |
| 32 | 424 | 2.0 | 45.1 | 14600 | | | A412_45.1 P90 BXN90L4 | 319 |
| 33 | 408 | 1.0 | 43.4 | 6450 | | | A302_43.4 P90 BXN90L4 | 311 |
| 34 | 393 | 1.5 | 41.8 | 10800 | | | A352_41.8 P90 BXN90L4 | 315 |
| 36 | 369 | 1.1 | 39.3 | 6380 | | | A302_39.3 P90 BXN90L4 | 311 |
| 39 | 344 | 1.2 | 36.6 | 6330 | | | A302_36.6 P90 BXN90L4 | 311 |
| 39 | 344 | 1.7 | 36.6 | 10500 | | | A352_36.6 P90 BXN90L4 | 315 |
| 40 | 338 | 2.3 | 35.9 | 13800 | | | A412_35.9 P90 BXN90L4 | 319 |
| 43 | 314 | 1.3 | 33.4 | 6260 | | | A302_33.4 P90 BXN90L4 | 311 |
| 43 | 312 | 1.9 | 33.2 | 10300 | | | A352_33.2 P90 BXN90L4 | 315 |
| 49 | 275 | 1.5 | 29.3 | 6140 | | | A302_29.3 P90 BXN90L4 | 311 |
| 49 | 275 | 0.9 | 29.2 | 3820 | | | A202_29.2 P90 BXN90L4 | 307 |
| 50 | 267 | 2.2 | 28.4 | 9940 | | | A352_28.4 P90 BXN90L4 | 315 |
| 50 | 266 | 2.7 | 28.3 | 13000 | | | A412_28.3 P90 BXN90L4 | 319 |
| 54 | 249 | 1.6 | 26.5 | 6040 | | | A302_26.5 P90 BXN90L4 | 311 |
| 54 | 249 | 1.0 | 26.5 | 3790 | | | A202_26.5 P90 BXN90L4 | 307 |
| 56 | 241 | 2.5 | 25.7 | 9710 | | | A352_25.7 P90 BXN90L4 | 315 |
| 62 | 217 | 1.2 | 23.1 | 3760 | | | A202_23.1 P90 BXN90L4 | 307 |
| 63 | 214 | 1.9 | 22.8 | 5870 | | | A302_22.8 P90 BXN90L4 | 311 |
| 63 | 213 | 3.2 | 22.7 | 12200 | | | A412_22.7 P90 BXN90L4 | 319 |
| 64 | 211 | 2.8 | 22.5 | 9400 | | | A352_22.5 P90 BXN90L4 | 315 |
| 67 | 200 | 1.3 | 21.2 | 3730 | | | A202_21.2 P90 BXN90L4 | 307 |
| 70 | 193 | 2.1 | 20.5 | 5760 | | | A302_20.5 P90 BXN90L4 | 311 |
| 70 | 192 | 3.1 | 20.4 | 9170 | | | A352_20.4 P90 BXN90L4 | 315 |
| 79 | 170 | 1.5 | 18.1 | 3660 | | | A202_18.1 P90 BXN90L4 | 307 |
| 80 | 169 | 2.4 | 18.0 | 5600 | | | A302_18.0 P90 BXN90L4 | 311 |
| 87 | 155 | 1.0 | 16.4 | 3720 | | | A102_16.4 P90 BXN90L4 | 303 |
| 88 | 154 | 2.5 | 16.3 | 5480 | | | A302_16.3 P90 BXN90L4 | 311 |
| 88 | 152 | 1.6 | 16.2 | 3600 | | | A202_16.2 P90 BXN90L4 | 307 |
| 102 | 132 | 1.9 | 14.1 | 3530 | | | A202_14.1 P90 BXN90L4 | 307 |
| 103 | 131 | 1.1 | 13.9 | 3090 | | | A102_13.9 P90 BXN90L4 | 303 |
| 105 | 128 | 2.9 | 13.6 | 5250 | | | A302_13.6 P90 BXN90L4 | 311 |
| 116 | 116 | 1.2 | 12.3 | 3040 | | | A102_12.3 P90 BXN90L4 | 303 |
| 120 | 112 | 1.9 | 12.0 | 3420 | | | A202_12.0 P90 BXN90L4 | 307 |
| 121 | 111 | 2.7 | 11.8 | 5060 | | | A302_11.8 P90 BXN90L4 | 311 |
| 125 | 107 | 3.3 | 22.8 | 5040 | | | | |
| 135 | 99 | 1.5 | 10.6 | 2990 | | | A102_10.6 P90 BXN90L4 | 303 |
| 137 | 98 | 3.5 | 10.5 | 4930 | | | A302_10.5 P90 BXN90L4 | 311 |
| 138 | 97 | 2.3 | 10.3 | 3330 | | | A202_10.3 P90 BXN90L4 | 307 |
| 149 | 90 | 1.5 | 9.6 | 2940 | | | A102_9.6 P90 BXN90L4 | 303 |
| 153 | 88 | 2.4 | 9.4 | 3250 | | | A202_9.4 P90 BXN90L4 | 307 |
| 154 | 88 | 3.4 | 9.3 | 4770 | | | A302_9.3 P90 BXN90L4 | 311 |
| 168 | 80 | 1.7 | 8.5 | 3420 | | | A102_8.5 P90 BXN90L4 | 303 |
| 171 | 79 | 2.7 | 8.4 | 3180 | | | A202_8.4 P90 BXN90L4 | 307 |
| 196 | 69 | 3.1 | 7.3 | 3080 | | | A202_7.3 P90 BXN90L4 | 307 |
| 198 | 68 | 2.1 | 7.2 | 2790 | | | A102_7.2 P90 BXN90L4 | 303 |
| 219 | 61 | 3.4 | 6.5 | 3000 | | | A202_6.5 P90 BXN90L4 | 307 |
| 226 | 60 | 2.4 | 6.3 | 3220 | | | A102_6.3 P90 BXN90L4 | 303 |
| 262 | 51 | 2.7 | 5.5 | 2630 | | | A102_5.5 P90 BXN90L4 | 303 |
| 297 | 45 | 3.1 | 9.6 | 2560 | | | | |
| 335 | 40 | 3.5 | 8.5 | 2950 | | | | |

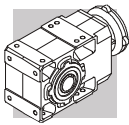


2.2 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | IEC | | | |
|-------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|-------------------------|-------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 135 | 146 | 1.0 | 10.6 | 2600 | A102_10.6 S3 ME3LA4 | A102_10.6 S3 MX3LA4 | 302 | A102_10.6 P100 BE100LA4 | A102_10.6 P100 BX100LA4 | 303 |
| 137 | 144 | 2.4 | 10.5 | 4660 | A302_10.5 S3 ME3LA4 | A302_10.5 S3 MX3LA4 | 310 | A302_10.5 P100 BE100LA4 | A302_10.5 P100 BX100LA4 | 311 |
| 138 | 143 | 1.6 | 10.3 | 3030 | A202_10.3 S3 ME3LA4 | A202_10.3 S3 MX3LA4 | 306 | A202_10.3 P100 BE100LA4 | A202_10.3 P100 BX100LA4 | 307 |
| 149 | 133 | 1.1 | 9.6 | 2580 | A102_9.6 S3 ME3LA4 | A102_9.6 S3 MX3LA4 | 302 | A102_9.6 P100 BE100LA4 | A102_9.6 P100 BX100LA4 | 303 |
| 153 | 130 | 1.6 | 9.4 | 2980 | A202_9.4 S3 ME3LA4 | A202_9.4 S3 MX3LA4 | 306 | A202_9.4 P100 BE100LA4 | A202_9.4 P100 BX100LA4 | 307 |
| 154 | 129 | 2.3 | 9.3 | 4530 | A302_9.3 S3 ME3LA4 | A302_9.3 S3 MX3LA4 | 310 | A302_9.3 P100 BE100LA4 | A302_9.3 P100 BX100LA4 | 311 |
| 154 | 129 | 3.1 | 9.3 | 7240 | A352_9.3 S3 ME3LA4 | A352_9.3 S3 MX3LA4 | 314 | A352_9.3 P100 BE100LA4 | A352_9.3 P100 BX100LA4 | 315 |
| 168 | 118 | 1.2 | 8.5 | 3050 | A102_8.5 S3 ME3LA4 | A102_8.5 S3 MX3LA4 | 302 | A102_8.5 P100 BE100LA4 | A102_8.5 P100 BX100LA4 | 303 |
| 169 | 117 | 2.6 | 8.5 | 4430 | A302_8.5 S3 ME3LA4 | A302_8.5 S3 MX3LA4 | 310 | A302_8.5 P100 BE100LA4 | A302_8.5 P100 BX100LA4 | 311 |
| 169 | 117 | 3.3 | 8.5 | 7060 | A352_8.5 S3 ME3LA4 | A352_8.5 S3 MX3LA4 | 314 | A352_8.5 P100 BE100LA4 | A352_8.5 P100 BX100LA4 | 315 |
| 171 | 116 | 1.8 | 8.4 | 2930 | A202_8.4 S3 ME3LA4 | A202_8.4 S3 MX3LA4 | 306 | A202_8.4 P100 BE100LA4 | A202_8.4 P100 BX100LA4 | 307 |
| 196 | 101 | 2.1 | 7.3 | 2860 | A202_7.3 S3 ME3LA4 | A202_7.3 S3 MX3LA4 | 306 | A202_7.3 P100 BE100LA4 | A202_7.3 P100 BX100LA4 | 307 |
| 198 | 100 | 1.4 | 7.2 | 2520 | A102_7.2 S3 ME3LA4 | A102_7.2 S3 MX3LA4 | 302 | A102_7.2 P100 BE100LA4 | A102_7.2 P100 BX100LA4 | 303 |
| 204 | 97 | 3.1 | 7.0 | 4240 | A302_7.0 S3 ME3LA4 | A302_7.0 S3 MX3LA4 | 310 | A302_7.0 P100 BE100LA4 | A302_7.0 P100 BX100LA4 | 311 |
| 219 | 90 | 2.3 | 6.5 | 2810 | A202_6.5 S3 ME3LA4 | A202_6.5 S3 MX3LA4 | 306 | A202_6.5 P100 BE100LA4 | A202_6.5 P100 BX100LA4 | 307 |
| 223 | 89 | 3.4 | 6.4 | 4150 | A302_6.4 S3 ME3LA4 | A302_6.4 S3 MX3LA4 | 310 | A302_6.4 P100 BE100LA4 | A302_6.4 P100 BX100LA4 | 311 |
| 226 | 88 | 1.6 | 6.3 | 2950 | A102_6.3 S3 ME3LA4 | A102_6.3 S3 MX3LA4 | 302 | A102_6.3 P100 BE100LA4 | A102_6.3 P100 BX100LA4 | 303 |
| 262 | 76 | 1.9 | 5.5 | 2430 | A102_5.5 S3 ME3LA4 | A102_5.5 S3 MX3LA4 | 302 | A102_5.5 P100 BE100LA4 | A102_5.5 P100 BX100LA4 | 303 |
| 267 | 74 | 2.8 | 5.4 | 2700 | A202_5.4 S3 ME3LA4 | A202_5.4 S3 MX3LA4 | 306 | A202_5.4 P100 BE100LA4 | A202_5.4 P100 BX100LA4 | 307 |
| 306 | 65 | 3.2 | 9.4 | 2620 | A202_9.4 S3 ME3LA2 | | 306 | A202_9.4 P90 BE90L2 | | 307 |

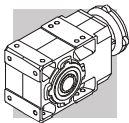
3 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | IEC | | | |
|-------------------------|----------------------|-----|-------|----------------------|----------------------|----------------------|-----|--------------------------|--------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 1.7 | 15399 | 0.9 | 865.1 | 75000 | A904_865.1 S3 ME3LB4 | A904_865.1 S3 MX3LB4 | 340 | A904_865.1 P100 BE100LB4 | A904_865.1 P100 BX100LB4 | 341 |
| 1.9 | 13651 | 1.0 | 766.9 | 75000 | A904_766.9 S3 ME3LB4 | A904_766.9 S3 MX3LB4 | 340 | A904_766.9 P100 BE100LB4 | A904_766.9 P100 BX100LB4 | 341 |
| 2.0 | 12601 | 1.1 | 707.9 | 75000 | A904_707.9 S3 ME3LB4 | A904_707.9 S3 MX3LB4 | 340 | A904_707.9 P100 BE100LB4 | A904_707.9 P100 BX100LB4 | 341 |
| 2.4 | 10708 | 1.3 | 601.6 | 75000 | A904_601.6 S3 ME3LB4 | A904_601.6 S3 MX3LB4 | 340 | A904_601.6 P100 BE100LB4 | A904_601.6 P100 BX100LB4 | 341 |
| 2.6 | 9884 | 1.4 | 555.3 | 75000 | A904_555.3 S3 ME3LB4 | A904_555.3 S3 MX3LB4 | 340 | A904_555.3 P100 BE100LB4 | A904_555.3 P100 BX100LB4 | 341 |
| 3.0 | 8661 | 1.6 | 486.6 | 75000 | A904_486.6 S3 ME3LB4 | A904_486.6 S3 MX3LB4 | 340 | A904_486.6 P100 BE100LB4 | A904_486.6 P100 BX100LB4 | 341 |
| 3.0 | 8525 | 0.9 | 478.9 | 65000 | A804_478.9 S3 ME3LB4 | A804_478.9 S3 MX3LB4 | 337 | A804_478.9 P100 BE100LB4 | A804_478.9 P100 BX100LB4 | 338 |
| 3.2 | 7995 | 1.8 | 449.2 | 75000 | A904_449.2 S3 ME3LB4 | A904_449.2 S3 MX3LB4 | 340 | A904_449.2 P100 BE100LB4 | A904_449.2 P100 BX100LB4 | 341 |
| 3.3 | 7869 | 1.0 | 442.1 | 65000 | A804_442.1 S3 ME3LB4 | A804_442.1 S3 MX3LB4 | 337 | A804_442.1 P100 BE100LB4 | A804_442.1 P100 BX100LB4 | 338 |
| 3.7 | 6861 | 2.0 | 385.4 | 75000 | A904_385.4 S3 ME3LB4 | A904_385.4 S3 MX3LB4 | 340 | A904_385.4 P100 BE100LB4 | A904_385.4 P100 BX100LB4 | 341 |
| 3.8 | 6826 | 1.2 | 383.5 | 65000 | A804_383.5 S3 ME3LB4 | A804_383.5 S3 MX3LB4 | 337 | A804_383.5 P100 BE100LB4 | A804_383.5 P100 BX100LB4 | 338 |
| 4.0 | 6333 | 2.2 | 355.8 | 75000 | A904_355.8 S3 ME3LB4 | A904_355.8 S3 MX3LB4 | 340 | A904_355.8 P100 BE100LB4 | A904_355.8 P100 BX100LB4 | 341 |
| 4.1 | 6301 | 1.3 | 354.0 | 65000 | A804_354.0 S3 ME3LB4 | A804_354.0 S3 MX3LB4 | 337 | A804_354.0 P100 BE100LB4 | A804_354.0 P100 BX100LB4 | 338 |
| 4.6 | 5631 | 0.9 | 316.4 | 50000 | A704_316.4 S3 ME3LB4 | A704_316.4 S3 MX3LB4 | 334 | A704_316.4 P100 BE100LB4 | A704_316.4 P100 BX100LB4 | 335 |
| 4.7 | 5427 | 2.6 | 304.9 | 75000 | A904_304.9 S3 ME3LB4 | A904_304.9 S3 MX3LB4 | 340 | A904_304.9 P100 BE100LB4 | A904_304.9 P100 BX100LB4 | 341 |
| 4.8 | 5347 | 1.5 | 300.4 | 65000 | A804_300.4 S3 ME3LB4 | A804_300.4 S3 MX3LB4 | 337 | A804_300.4 P100 BE100LB4 | A804_300.4 P100 BX100LB4 | 338 |
| 4.9 | 5198 | 1.0 | 292.0 | 50000 | A704_292.0 S3 ME3LB4 | A704_292.0 S3 MX3LB4 | 334 | A704_292.0 P100 BE100LB4 | A704_292.0 P100 BX100LB4 | 335 |
| 5.1 | 5010 | 2.8 | 281.4 | 75000 | A904_281.4 S3 ME3LB4 | A904_281.4 S3 MX3LB4 | 340 | A904_281.4 P100 BE100LB4 | A904_281.4 P100 BX100LB4 | 341 |
| 5.2 | 4936 | 1.6 | 277.3 | 65000 | A804_277.3 S3 ME3LB4 | A804_277.3 S3 MX3LB4 | 337 | A804_277.3 P100 BE100LB4 | A804_277.3 P100 BX100LB4 | 338 |
| 6.0 | 4247 | 1.2 | 238.6 | 50000 | A704_238.6 S3 ME3LB4 | A704_238.6 S3 MX3LB4 | 334 | A704_238.6 P100 BE100LB4 | A704_238.6 P100 BX100LB4 | 335 |
| 6.2 | 4141 | 1.9 | 232.6 | 65000 | A804_232.6 S3 ME3LB4 | A804_232.6 S3 MX3LB4 | 337 | A804_232.6 P100 BE100LB4 | A804_232.6 P100 BX100LB4 | 338 |
| 6.4 | 4030 | 3.5 | 226.4 | 75000 | A904_226.4 S3 ME3LB4 | A904_226.4 S3 MX3LB4 | 340 | A904_226.4 P100 BE100LB4 | A904_226.4 P100 BX100LB4 | 341 |
| 6.5 | 3921 | 1.3 | 220.3 | 50000 | A704_220.3 S3 ME3LB4 | A704_220.3 S3 MX3LB4 | 334 | A704_220.3 P100 BE100LB4 | A704_220.3 P100 BX100LB4 | 335 |
| 6.7 | 3822 | 2.1 | 214.7 | 65000 | A804_214.7 S3 ME3LB4 | A804_214.7 S3 MX3LB4 | 337 | A804_214.7 P100 BE100LB4 | A804_214.7 P100 BX100LB4 | 338 |
| 7.8 | 3273 | 1.5 | 183.9 | 50000 | A704_183.9 S3 ME3LB4 | A704_183.9 S3 MX3LB4 | 334 | A704_183.9 P100 BE100LB4 | A704_183.9 P100 BX100LB4 | 335 |
| 8.4 | 3121 | 0.9 | 171.5 | 30000 | A603_171.5 S3 ME3LB4 | A603_171.5 S3 MX3LB4 | 330 | A603_171.5 P100 BE100LB4 | A603_171.5 P100 BX100LB4 | 331 |
| 8.4 | 3049 | 2.6 | 171.3 | 65000 | A804_171.3 S3 ME3LB4 | A804_171.3 S3 MX3LB4 | 337 | A804_171.3 P100 BE100LB4 | A804_171.3 P100 BX100LB4 | 338 |
| 8.5 | 3022 | 1.7 | 169.8 | 50000 | A704_169.8 S3 ME3LB4 | A704_169.8 S3 MX3LB4 | 334 | A704_169.8 P100 BE100LB4 | A704_169.8 P100 BX100LB4 | 335 |



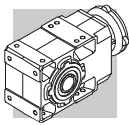
3 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | IEC | | | |
|-------------------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|-------------------------|-------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 70 | 384 | 1.6 | 20.4 | 8080 | A352_20.4 S3 ME3LB4 | A352_20.4 S3 MX3LB4 | 314 | A352_20.4 P100 BE100LB4 | A352_20.4 P100 BX100LB4 | 315 |
| 80 | 338 | 1.2 | 18.0 | 4600 | A302_18.0 S3 ME3LB4 | A302_18.0 S3 MX3LB4 | 310 | A302_18.0 P100 BE100LB4 | A302_18.0 P100 BX100LB4 | 311 |
| 81 | 334 | 1.9 | 17.8 | 10600 | A412_17.8 S3 ME3LB4 | A412_17.8 S3 MX3LB4 | 318 | A412_17.8 P100 BE100LB4 | A412_17.8 P100 BX100LB4 | 319 |
| 85 | 319 | 1.9 | 17.0 | 7830 | A352_17.0 S3 ME3LB4 | A352_17.0 S3 MX3LB4 | 314 | A352_17.0 P100 BE100LB4 | A352_17.0 P100 BX100LB4 | 315 |
| 88 | 307 | 1.3 | 16.3 | 4580 | A302_16.3 S3 ME3LB4 | A302_16.3 S3 MX3LB4 | 310 | A302_16.3 P100 BE100LB4 | A302_16.3 P100 BX100LB4 | 311 |
| 89 | 303 | 2.0 | 16.1 | 10400 | A412_16.1 S3 ME3LB4 | A412_16.1 S3 MX3LB4 | 318 | A412_16.1 P100 BE100LB4 | A412_16.1 P100 BX100LB4 | 319 |
| 93 | 291 | 2.1 | 15.5 | 7700 | A352_15.5 S3 ME3LB4 | A352_15.5 S3 MX3LB4 | 314 | A352_15.5 P100 BE100LB4 | A352_15.5 P100 BX100LB4 | 315 |
| 102 | 265 | 0.9 | 14.1 | 2650 | A202_14.1 S3 ME3LB4 | A202_14.1 S3 MX3LB4 | 306 | A202_14.1 P100 BE100LB4 | A202_14.1 P100 BX100LB4 | 307 |
| 105 | 259 | 2.3 | 13.8 | 9990 | A412_13.8 S3 ME3LB4 | A412_13.8 S3 MX3LB4 | 318 | A412_13.8 P100 BE100LB4 | A412_13.8 P100 BX100LB4 | 319 |
| 106 | 255 | 1.5 | 13.6 | 4500 | A302_13.6 S3 ME3LB4 | A302_13.6 S3 MX3LB4 | 310 | A302_13.6 P100 BE100LB4 | A302_13.6 P100 BX100LB4 | 311 |
| 110 | 246 | 2.4 | 13.1 | 7450 | A352_13.1 S3 ME3LB4 | A352_13.1 S3 MX3LB4 | 314 | A352_13.1 P100 BE100LB4 | A352_13.1 P100 BX100LB4 | 315 |
| 120 | 225 | 0.9 | 12.0 | 2670 | A202_12.0 S3 ME3LB4 | A202_12.0 S3 MX3LB4 | 306 | A202_12.0 P100 BE100LB4 | A202_12.0 P100 BX100LB4 | 307 |
| 122 | 221 | 1.4 | 11.8 | 4400 | A302_11.8 S3 ME3LB4 | A302_11.8 S3 MX3LB4 | 310 | A302_11.8 P100 BE100LB4 | A302_11.8 P100 BX100LB4 | 311 |
| 122 | 221 | 1.8 | 11.8 | 7410 | A352_11.8 S3 ME3LB4 | A352_11.8 S3 MX3LB4 | 314 | A352_11.8 P100 BE100LB4 | A352_11.8 P100 BX100LB4 | 315 |
| 123 | 221 | 2.5 | 11.7 | 9580 | A412_11.7 S3 ME3LB4 | A412_11.7 S3 MX3LB4 | 318 | A412_11.7 P100 BE100LB4 | A412_11.7 P100 BX100LB4 | 319 |
| 125 | 216 | 1.5 | 23.1 | 2690 | A202_23.1 S3 ME3LB2 | | 306 | A202_23.1 P100 BE100L2 | | 307 |
| 135 | 200 | 2.0 | 10.6 | 7230 | A352_10.6 S3 ME3LB4 | A352_10.6 S3 MX3LB4 | 314 | A352_10.6 P100 BE100LB4 | A352_10.6 P100 BX100LB4 | 315 |
| 138 | 197 | 1.7 | 10.5 | 4350 | A302_10.5 S3 ME3LB4 | A302_10.5 S3 MX3LB4 | 310 | A302_10.5 P100 BE100LB4 | A302_10.5 P100 BX100LB4 | 311 |
| 139 | 194 | 1.2 | 10.3 | 2690 | A202_10.3 S3 ME3LB4 | A202_10.3 S3 MX3LB4 | 306 | A202_10.3 P100 BE100LB4 | A202_10.3 P100 BX100LB4 | 307 |
| 142 | 190 | 2.8 | 10.1 | 9230 | A412_10.1 S3 ME3LB4 | A412_10.1 S3 MX3LB4 | 318 | A412_10.1 P100 BE100LB4 | A412_10.1 P100 BX100LB4 | 319 |
| 154 | 176 | 1.2 | 9.4 | 2670 | A202_9.4 S3 ME3LB4 | A202_9.4 S3 MX3LB4 | 306 | A202_9.4 P100 BE100LB4 | A202_9.4 P100 BX100LB4 | 307 |
| 155 | 175 | 1.7 | 9.3 | 4240 | A302_9.3 S3 ME3LB4 | A302_9.3 S3 MX3LB4 | 310 | A302_9.3 P100 BE100LB4 | A302_9.3 P100 BX100LB4 | 311 |
| 155 | 175 | 2.3 | 9.3 | 7000 | A352_9.3 S3 ME3LB4 | A352_9.3 S3 MX3LB4 | 314 | A352_9.3 P100 BE100LB4 | A352_9.3 P100 BX100LB4 | 315 |
| 157 | 173 | 3.2 | 9.2 | 8980 | A412_9.2 S3 ME3LB4 | A412_9.2 S3 MX3LB4 | 318 | A412_9.2 P100 BE100LB4 | A412_9.2 P100 BX100LB4 | 319 |
| 170 | 159 | 1.9 | 8.5 | 4170 | A302_8.5 S3 ME3LB4 | A302_8.5 S3 MX3LB4 | 310 | A302_8.5 P100 BE100LB4 | A302_8.5 P100 BX100LB4 | 311 |
| 170 | 159 | 2.4 | 8.5 | 6840 | A352_8.5 S3 ME3LB4 | A352_8.5 S3 MX3LB4 | 314 | A352_8.5 P100 BE100LB4 | A352_8.5 P100 BX100LB4 | 315 |
| 172 | 157 | 1.3 | 8.4 | 2650 | A202_8.4 S3 ME3LB4 | A202_8.4 S3 MX3LB4 | 306 | A202_8.4 P100 BE100LB4 | A202_8.4 P100 BX100LB4 | 307 |
| 173 | 157 | 3.5 | 8.3 | 8740 | A412_8.3 S3 ME3LB4 | A412_8.3 S3 MX3LB4 | 318 | A412_8.3 P100 BE100LB4 | A412_8.3 P100 BX100LB4 | 319 |
| 198 | 137 | 1.5 | 7.3 | 2620 | A202_7.3 S3 ME3LB4 | A202_7.3 S3 MX3LB4 | 306 | A202_7.3 P100 BE100LB4 | A202_7.3 P100 BX100LB4 | 307 |
| 200 | 136 | 1.0 | 7.2 | 2220 | A102_7.2 S3 ME3LB4 | A102_7.2 S3 MX3LB4 | 302 | A102_7.2 P100 BE100LB4 | A102_7.2 P100 BX100LB4 | 303 |
| 205 | 132 | 2.3 | 7.0 | 4030 | A302_7.0 S3 ME3LB4 | A302_7.0 S3 MX3LB4 | 310 | A302_7.0 P100 BE100LB4 | A302_7.0 P100 BX100LB4 | 311 |
| 205 | 132 | 2.8 | 7.0 | 6520 | A352_7.0 S3 ME3LB4 | A352_7.0 S3 MX3LB4 | 314 | A352_7.0 P100 BE100LB4 | A352_7.0 P100 BX100LB4 | 315 |
| 220 | 123 | 1.7 | 6.5 | 2590 | A202_6.5 S3 ME3LB4 | A202_6.5 S3 MX3LB4 | 306 | A202_6.5 P100 BE100LB4 | A202_6.5 P100 BX100LB4 | 307 |
| 225 | 121 | 2.5 | 6.4 | 3950 | A302_6.4 S3 ME3LB4 | A302_6.4 S3 MX3LB4 | 310 | A302_6.4 P100 BE100LB4 | A302_6.4 P100 BX100LB4 | 311 |
| 225 | 121 | 2.9 | 6.4 | 6360 | A352_6.4 S3 ME3LB4 | A352_6.4 S3 MX3LB4 | 314 | A352_6.4 P100 BE100LB4 | A352_6.4 P100 BX100LB4 | 315 |
| 227 | 119 | 1.2 | 6.3 | 2640 | A102_6.3 S3 ME3LB4 | A102_6.3 S3 MX3LB4 | 302 | A102_6.3 P100 BE100LB4 | A102_6.3 P100 BX100LB4 | 303 |
| 245 | 110 | 2.7 | 11.8 | 3870 | A302_11.8 S3 ME3LB2 | | 310 | A302_11.8 P100 BE100L2 | | 311 |
| 263 | 103 | 1.4 | 5.5 | 2200 | A102_5.5 S3 ME3LB4 | A102_5.5 S3 MX3LB4 | 302 | A102_5.5 P100 BE100LB4 | A102_5.5 P100 BX100LB4 | 303 |
| 266 | 102 | 2.9 | 5.4 | 3810 | A302_5.4 S3 ME3LB4 | A302_5.4 S3 MX3LB4 | 310 | A302_5.4 P100 BE100LB4 | A302_5.4 P100 BX100LB4 | 311 |
| 266 | 102 | 3.3 | 5.4 | 6070 | A352_5.4 S3 ME3LB4 | A352_5.4 S3 MX3LB4 | 314 | A352_5.4 P100 BE100LB4 | A352_5.4 P100 BX100LB4 | 315 |
| 269 | 101 | 2.1 | 5.4 | 2520 | A202_5.4 S3 ME3LB4 | A202_5.4 S3 MX3LB4 | 306 | A202_5.4 P100 BE100LB4 | A202_5.4 P100 BX100LB4 | 307 |
| 279 | 97 | 1.9 | 10.3 | 2500 | A202_10.3 S3 ME3LB2 | | 306 | A202_10.3 P100 BE100L2 | | 307 |
| 309 | 87 | 3.4 | 9.3 | 3670 | A302_9.3 S3 ME3LB2 | | 310 | A302_9.3 P100 BE100L2 | | 311 |
| 344 | 78 | 2.7 | 8.4 | 2410 | A202_8.4 S3 ME3LB2 | | 306 | A202_8.4 P100 BE100L2 | | 307 |
| 399 | 67 | 2.1 | 7.2 | 2090 | A102_7.2 S3 ME3LB2 | | 302 | A102_7.2 P100 BE100L2 | | 303 |
| 455 | 59 | 2.3 | 6.3 | 2430 | A102_6.3 S3 ME3LB2 | | 302 | A102_6.3 P100 BE100L2 | | 303 |
| 527 | 51 | 2.6 | 5.5 | 1990 | A102_5.5 S3 ME3LB2 | | 302 | A102_5.5 P100 BE100L2 | | 303 |



4 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|------------------------|------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 35 | 1006 | 1.5 | 40.9 | 14800 | A503_40.9 S4 ME4SA4 | A503_40.9 S4 MX4SA4 | 322 | A503_40.9 P112 BE112M4 | A503_40.9 P112 BX112M4 | 323 |
| 36 | 990 | 2.0 | 40.3 | 30000 | A553_40.3 S4 ME4SA4 | A553_40.3 S4 MX4SA4 | 326 | A553_40.3 P112 BE112M4 | A553_40.3 P112 BX112M4 | 327 |
| 40 | 875 | 1.7 | 35.6 | 14700 | A503_35.6 S4 ME4SA4 | A503_35.6 S4 MX4SA4 | 322 | A503_35.6 P112 BE112M4 | A503_35.6 P112 BX112M4 | 323 |
| 42 | 843 | 3.3 | 34.3 | 30000 | A603_34.3 S4 ME4SA4 | A603_34.3 S4 MX4SA4 | 330 | A603_34.3 P112 BE112M4 | A603_34.3 P112 BX112M4 | 331 |
| 44 | 796 | 1.9 | 32.4 | 14500 | A503_32.4 S4 ME4SA4 | A503_32.4 S4 MX4SA4 | 322 | A503_32.4 P112 BE112M4 | A503_32.4 P112 BX112M4 | 323 |
| 48 | 735 | 2.7 | 29.9 | 30000 | A553_29.9 S4 ME4SA4 | A553_29.9 S4 MX4SA4 | 326 | A553_29.9 P112 BE112M4 | A553_29.9 P112 BX112M4 | 327 |
| 51 | 719 | 1.0 | 28.3 | 10900 | A412_28.3 S4 ME4SA4 | A412_28.3 S4 MX4SA4 | 318 | A412_28.3 P112 BE112M4 | A412_28.3 P112 BX112M4 | 319 |
| 54 | 650 | 2.3 | 26.4 | 14100 | A503_26.4 S4 ME4SA4 | A503_26.4 S4 MX4SA4 | 322 | A503_26.4 P112 BE112M4 | A503_26.4 P112 BX112M4 | 323 |
| 56 | 652 | 0.9 | 25.7 | 7420 | | | | A352_25.7 P112 BE112M4 | A352_25.7 P112 BX112M4 | 315 |
| 60 | 591 | 2.5 | 24.0 | 13900 | A503_24.0 S4 ME4SA4 | A503_24.0 S4 MX4SA4 | 322 | A503_24.0 P112 BE112M4 | A503_24.0 P112 BX112M4 | 323 |
| 61 | 585 | 3.3 | 23.8 | 30000 | A553_23.8 S4 ME4SA4 | A553_23.8 S4 MX4SA4 | 326 | A553_23.8 P112 BE112M4 | A553_23.8 P112 BX112M4 | 327 |
| 64 | 576 | 1.2 | 22.7 | 10500 | A412_22.7 S4 ME4SA4 | A412_22.7 S4 MX4SA4 | 318 | A412_22.7 P112 BE112M4 | A412_22.7 P112 BX112M4 | 319 |
| 64 | 571 | 1.1 | 22.5 | 7400 | | | | A352_22.5 P112 BE112M4 | A352_22.5 P112 BX112M4 | 315 |
| 69 | 531 | 2.3 | 20.9 | 15100 | A502_20.9 S4 ME4SA4 | A502_20.9 S4 MX4SA4 | 322 | A502_20.9 P112 BE112M4 | A502_20.9 P112 BX112M4 | 323 |
| 70 | 518 | 1.2 | 20.4 | 7360 | | | | A352_20.4 P112 BE112M4 | A352_20.4 P112 BX112M4 | 315 |
| 80 | 456 | 0.9 | 18.0 | 3930 | | | | A302_18.0 P112 BE112M4 | A302_18.0 P112 BX112M4 | 311 |
| 81 | 451 | 1.4 | 17.8 | 10100 | A412_17.8 S4 ME4SA4 | A412_17.8 S4 MX4SA4 | 318 | A412_17.8 P112 BE112M4 | A412_17.8 P112 BX112M4 | 319 |
| 85 | 430 | 1.4 | 17.0 | 7240 | | | | A352_17.0 P112 BE112M4 | A352_17.0 P112 BX112M4 | 315 |
| 87 | 421 | 2.9 | 16.6 | 14200 | A502_16.6 S4 ME4SA4 | A502_16.6 S4 MX4SA4 | 322 | A502_16.6 P112 BE112M4 | A502_16.6 P112 BX112M4 | 323 |
| 88 | 415 | 0.9 | 16.3 | 3970 | | | | A302_16.3 P112 BE112M4 | A302_16.3 P112 BX112M4 | 311 |
| 89 | 408 | 1.5 | 16.1 | 9940 | A412_16.1 S4 ME4SA4 | A412_16.1 S4 MX4SA4 | 318 | A412_16.1 P112 BE112M4 | A412_16.1 P112 BX112M4 | 319 |
| 93 | 393 | 1.5 | 15.5 | 7160 | | | | A352_15.5 P112 BE112M4 | A352_15.5 P112 BX112M4 | 315 |
| 105 | 349 | 1.7 | 13.8 | 9610 | A412_13.8 S4 ME4SA4 | A412_13.8 S4 MX4SA4 | 318 | A412_13.8 P112 BE112M4 | A412_13.8 P112 BX112M4 | 319 |
| 106 | 344 | 1.1 | 13.6 | 4000 | | | | A302_13.6 P112 BE112M4 | A302_13.6 P112 BX112M4 | 311 |
| 110 | 333 | 3.3 | 13.1 | 13300 | A502_13.1 S4 ME4SA4 | A502_13.1 S4 MX4SA4 | 322 | A502_13.1 P112 BE112M4 | A502_13.1 P112 BX112M4 | 323 |
| 110 | 332 | 1.8 | 13.1 | 7000 | | | | A352_13.1 P112 BE112M4 | A352_13.1 P112 BX112M4 | 315 |
| 122 | 299 | 1.0 | 11.8 | 3960 | | | | A302_11.8 P112 BE112M4 | A302_11.8 P112 BX112M4 | 311 |
| 122 | 299 | 1.3 | 11.8 | 7050 | A352_11.8 S4 ME4SA4 | A352_11.8 S4 MX4SA4 | 314 | A352_11.8 P112 BE112M4 | A352_11.8 P112 BX112M4 | 315 |
| 123 | 298 | 1.8 | 11.7 | 9260 | A412_11.7 S4 ME4SA4 | A412_11.7 S4 MX4SA4 | 318 | A412_11.7 P112 BE112M4 | A412_11.7 P112 BX112M4 | 319 |
| 127 | 282 | 1.2 | 22.8 | 3980 | | | | A302_22.8 P112 BE112M2 | | 311 |
| 135 | 270 | 1.5 | 10.6 | 6910 | A352_10.6 S4 ME4SA4 | A352_10.6 S4 MX4SA4 | 314 | A352_10.6 P112 BE112M4 | A352_10.6 P112 BX112M4 | 315 |
| 138 | 265 | 1.3 | 10.5 | 3970 | | | | A302_10.5 P112 BE112M4 | A302_10.5 P112 BX112M4 | 311 |
| 142 | 257 | 2.1 | 10.1 | 8960 | A412_10.1 S4 ME4SA4 | A412_10.1 S4 MX4SA4 | 318 | A412_10.1 P112 BE112M4 | A412_10.1 P112 BX112M4 | 319 |
| 155 | 236 | 1.3 | 9.3 | 3900 | | | | A302_9.3 P112 BE112M4 | A302_9.3 P112 BX112M4 | 311 |
| 155 | 236 | 1.7 | 9.3 | 6730 | A352_9.3 S4 ME4SA4 | A352_9.3 S4 MX4SA4 | 314 | A352_9.3 P112 BE112M4 | A352_9.3 P112 BX112M4 | 315 |
| 157 | 233 | 2.4 | 9.2 | 8740 | A412_9.2 S4 ME4SA4 | A412_9.2 S4 MX4SA4 | 318 | A412_9.2 P112 BE112M4 | A412_9.2 P112 BX112M4 | 319 |
| 170 | 215 | 1.4 | 8.5 | 3860 | | | | A302_8.5 P112 BE112M4 | A302_8.5 P112 BX112M4 | 311 |
| 170 | 215 | 1.8 | 8.5 | 6590 | A352_8.5 S4 ME4SA4 | A352_8.5 S4 MX4SA4 | 314 | A352_8.5 P112 BE112M4 | A352_8.5 P112 BX112M4 | 315 |
| 172 | 212 | 1.0 | 8.4 | 2300 | | | | A202_8.4 P112 BE112M4 | A202_8.4 P112 BX112M4 | 307 |
| 173 | 211 | 2.6 | 8.3 | 8520 | A412_8.3 S4 ME4SA4 | A412_8.3 S4 MX4SA4 | 318 | A412_8.3 P112 BE112M4 | A412_8.3 P112 BX112M4 | 319 |
| 198 | 185 | 1.1 | 7.3 | 2310 | | | | A202_7.3 P112 BE112M4 | A202_7.3 P112 BX112M4 | 307 |
| 202 | 181 | 3.0 | 7.1 | 8180 | A412_7.1 S4 ME4SA4 | A412_7.1 S4 MX4SA4 | 318 | A412_7.1 P112 BE112M4 | A412_7.1 P112 BX112M4 | 319 |
| 205 | 178 | 1.7 | 7.0 | 3770 | | | | A302_7.0 P112 BE112M4 | A302_7.0 P112 BX112M4 | 311 |
| 205 | 178 | 2.1 | 7.0 | 6310 | A352_7.0 S4 ME4SA4 | A352_7.0 S4 MX4SA4 | 314 | A352_7.0 P112 BE112M4 | A352_7.0 P112 BX112M4 | 315 |
| 220 | 166 | 1.3 | 6.5 | 2310 | | | | A202_6.5 P112 BE112M4 | A202_6.5 P112 BX112M4 | 307 |
| 225 | 163 | 1.8 | 6.4 | 3720 | | | | A302_6.4 P112 BE112M4 | A302_6.4 P112 BX112M4 | 311 |
| 225 | 163 | 2.2 | 6.4 | 6180 | A352_6.4 S4 ME4SA4 | A352_6.4 S4 MX4SA4 | 314 | A352_6.4 P112 BE112M4 | A352_6.4 P112 BX112M4 | 315 |
| 263 | 139 | 1.0 | 5.5 | 1910 | A102_5.5 S4 ME4SA4 | A102_5.5 S4 MX4SA4 | 302 | A102_5.5 P112 BE112M4 | A102_5.5 P112 BX112M4 | 303 |
| 266 | 137 | 2.2 | 5.4 | 3610 | | | | A302_5.4 P112 BE112M4 | A302_5.4 P112 BX112M4 | 311 |
| 266 | 137 | 2.5 | 5.4 | 5920 | A352_5.4 S4 ME4SA4 | A352_5.4 S4 MX4SA4 | 314 | A352_5.4 P112 BE112M4 | A352_5.4 P112 BX112M4 | 315 |
| 269 | 136 | 1.5 | 5.4 | 2300 | | | | A202_5.4 P112 BE112M4 | A202_5.4 P112 BX112M4 | 307 |
| 273 | 132 | 3.0 | 10.6 | 5850 | A352_10.6 S4 ME4SA2 | | 314 | A352_10.6 P112 BE112M2 | | 315 |
| 311 | 115 | 3.5 | 9.3 | 5650 | A352_9.3 S4 ME4SA2 | | 314 | A352_9.3 P112 BE112M2 | | 315 |
| 346 | 104 | 2.1 | 8.4 | 2230 | | | | A202_8.4 P112 BE112M2 | | 307 |
| 413 | 87 | 3.4 | 7.0 | 3280 | | | | A302_7.0 P112 BE112M2 | | 311 |
| 458 | 78 | 1.8 | 6.3 | 2240 | | | | A102_6.3 P112 BE112M2 | | 303 |
| 542 | 66 | 2.9 | 5.4 | 2080 | | | | A202_5.4 P112 BE112M2 | | 307 |

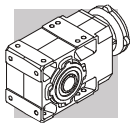


5.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | | IEC | | |
|-------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|-------------------------|-------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 49 | 981 | 2.0 | 29.9 | 30000 | A553_29.9 S4 ME4SB4 | A553_29.9 S4 MX4SB4 | 326 | A553_29.9 P132 BE132S4 | A553_29.9 P132 BX132SB4 | 327 |
| 52 | 912 | 3.1 | 27.9 | 30000 | A603_27.9 S4 ME4SB4 | A603_27.9 S4 MX4SB4 | 330 | A603_27.9 P132 BE132S4 | A603_27.9 P132 BX132SB4 | 331 |
| 55 | 866 | 1.7 | 26.4 | 12600 | A503_26.4 S4 ME4SB4 | A503_26.4 S4 MX4SB4 | 322 | A503_26.4 P132 BE132S4 | A503_26.4 P132 BX132SB4 | 323 |
| 57 | 842 | 3.3 | 25.7 | 30000 | A603_25.7 S4 ME4SB4 | A603_25.7 S4 MX4SB4 | 330 | A603_25.7 P132 BE132S4 | A603_25.7 P132 BX132SB4 | 331 |
| 61 | 788 | 1.9 | 24.0 | 12500 | A503_24.0 S4 ME4SB4 | A503_24.0 S4 MX4SB4 | 322 | A503_24.0 P132 BE132S4 | A503_24.0 P132 BX132SB4 | 323 |
| 61 | 779 | 2.5 | 23.8 | 29800 | A553_23.8 S4 ME4SB4 | A553_23.8 S4 MX4SB4 | 326 | A553_23.8 P132 BE132S4 | A553_23.8 P132 BX132SB4 | 327 |
| 70 | 708 | 1.7 | 20.9 | 14400 | A502_20.9 S4 ME4SB4 | A502_20.9 S4 MX4SB4 | 322 | A502_20.9 P132 BE132S4 | A502_20.9 P132 BX132SB4 | 323 |
| 71 | 697 | 2.9 | 20.6 | 30000 | A602_20.6 S4 ME4SB4 | A602_20.6 S4 MX4SB4 | 330 | A602_20.6 P132 BE132S4 | A602_20.6 P132 BX132SB4 | 331 |
| 76 | 651 | 2.8 | 19.2 | 29300 | A552_19.2 S4 ME4SB4 | A552_19.2 S4 MX4SB4 | 326 | A552_19.2 P132 BE132S4 | A552_19.2 P132 BX132SB4 | 327 |
| 82 | 601 | 1.0 | 17.8 | 9280 | A412_17.8 S4 ME4SB4 | A412_17.8 S4 MX4SB4 | 318 | A412_17.8 P132 BE132S4 | A412_17.8 P132 BX132SB4 | 319 |
| 87 | 566 | 3.5 | 16.7 | 30000 | A602_16.7 S4 ME4SB4 | A602_16.7 S4 MX4SB4 | 330 | A602_16.7 P132 BE132S4 | A602_16.7 P132 BX132SB4 | 331 |
| 88 | 561 | 2.1 | 16.6 | 13600 | A502_16.6 S4 ME4SB4 | A502_16.6 S4 MX4SB4 | 322 | A502_16.6 P132 BE132S4 | A502_16.6 P132 BX132SB4 | 323 |
| 91 | 545 | 1.1 | 16.1 | 9160 | A412_16.1 S4 ME4SB4 | A412_16.1 S4 MX4SB4 | 318 | A412_16.1 P132 BE132S4 | A412_16.1 P132 BX132SB4 | 319 |
| 93 | 531 | 3.4 | 15.7 | 27700 | A552_15.7 S4 ME4SB4 | A552_15.7 S4 MX4SB4 | 326 | A552_15.7 P132 BE132S4 | A552_15.7 P132 BX132SB4 | 327 |
| 106 | 466 | 1.3 | 13.8 | 8940 | A412_13.8 S4 ME4SB4 | A412_13.8 S4 MX4SB4 | 318 | A412_13.8 P132 BE132S4 | A412_13.8 P132 BX132SB4 | 319 |
| 111 | 444 | 2.5 | 13.1 | 12800 | A502_13.1 S4 ME4SB4 | A502_13.1 S4 MX4SB4 | 322 | A502_13.1 P132 BE132S4 | A502_13.1 P132 BX132SB4 | 323 |
| 124 | 397 | 1.4 | 11.7 | 8670 | A412_11.7 S4 ME4SB4 | A412_11.7 S4 MX4SB4 | 318 | A412_11.7 P132 BE132S4 | A412_11.7 P132 BX132SB4 | 319 |
| 124 | 399 | 1.0 | 11.8 | 6450 | A352_11.8 S4 ME4SB4 | A352_11.8 S4 MX4SB4 | 314 | A352_11.8 P132 BE132S4 | A352_11.8 P132 BX132SB4 | 315 |
| 138 | 360 | 1.1 | 10.6 | 6360 | A352_10.6 S4 ME4SB4 | A352_10.6 S4 MX4SB4 | 314 | A352_10.6 P132 BE132S4 | A352_10.6 P132 BX132SB4 | 315 |
| 144 | 343 | 1.6 | 10.1 | 8440 | A412_10.1 S4 ME4SB4 | A412_10.1 S4 MX4SB4 | 318 | A412_10.1 P132 BE132S4 | A412_10.1 P132 BX132SB4 | 319 |
| 150 | 329 | 3.0 | 9.7 | 11800 | A502_9.7 S4 ME4SB4 | A502_9.7 S4 MX4SB4 | 322 | A502_9.7 P132 BE132S4 | A502_9.7 P132 BX132SB4 | 323 |
| 157 | 315 | 1.3 | 9.3 | 6240 | A352_9.3 S4 ME4SB4 | A352_9.3 S4 MX4SB4 | 314 | A352_9.3 P132 BE132S4 | A352_9.3 P132 BX132SB4 | 315 |
| 159 | 311 | 1.8 | 9.2 | 8250 | A412_9.2 S4 ME4SB4 | A412_9.2 S4 MX4SB4 | 318 | A412_9.2 P132 BE132S4 | A412_9.2 P132 BX132SB4 | 319 |
| 173 | 286 | 1.3 | 8.5 | 6140 | A352_8.5 S4 ME4SB4 | A352_8.5 S4 MX4SB4 | 314 | A352_8.5 P132 BE132S4 | A352_8.5 P132 BX132SB4 | 315 |
| 175 | 282 | 2.0 | 8.3 | 8080 | A412_8.3 S4 ME4SB4 | A412_8.3 S4 MX4SB4 | 318 | A412_8.3 P132 BE132S4 | A412_8.3 P132 BX132SB4 | 319 |
| 205 | 241 | 2.3 | 7.1 | 7790 | A412_7.1 S4 ME4SB4 | A412_7.1 S4 MX4SB4 | 318 | A412_7.1 P132 BE132S4 | A412_7.1 P132 BX132SB4 | 319 |
| 208 | 238 | 1.6 | 7.0 | 5930 | A352_7.0 S4 ME4SB4 | A352_7.0 S4 MX4SB4 | 314 | A352_7.0 P132 BE132S4 | A352_7.0 P132 BX132SB4 | 315 |
| 228 | 217 | 1.6 | 6.4 | 5820 | A352_6.4 S4 ME4SB4 | A352_6.4 S4 MX4SB4 | 314 | A352_6.4 P132 BE132S4 | A352_6.4 P132 BX132SB4 | 315 |
| 249 | 198 | 2.8 | 11.7 | 7430 | A412_11.7 S4 ME4SB2 | | 318 | A412_11.7 P132 BE132SA2 | | 319 |
| 270 | 183 | 1.9 | 5.4 | 5610 | A352_5.4 S4 ME4SB4 | A352_5.4 S4 MX4SB4 | 314 | A352_5.4 P132 BE132S4 | A352_5.4 P132 BX132SB4 | 315 |
| 289 | 171 | 2.5 | 10.1 | 7170 | A412_10.1 S4 ME4SB2 | | 318 | A412_10.1 P132 BE132SA2 | | 319 |
| 416 | 119 | 3.1 | 7.0 | 5060 | A352_7.0 S4 ME4SB2 | | 314 | A352_7.0 P132 BE132SA2 | | 315 |

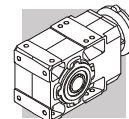
7.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | | IEC | | |
|-------------------------|----------------------|-----|-------|----------------------|----------------------|----------------------|-----|--------------------------|--------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 4.1 | 15516 | 0.9 | 355.8 | 75000 | A904_355.8 S4 ME4LA4 | A904_355.8 S4 MX4LA4 | 340 | A904_355.8 P132 BE132MA4 | A904_355.8 P132 BX132MA4 | 341 |
| 4.8 | 13296 | 1.1 | 304.9 | 75000 | A904_304.9 S4 ME4LA4 | A904_304.9 S4 MX4LA4 | 340 | A904_304.9 P132 BE132MA4 | A904_304.9 P132 BX132MA4 | 341 |
| 5.2 | 12273 | 1.1 | 281.4 | 75000 | A904_281.4 S4 ME4LA4 | A904_281.4 S4 MX4LA4 | 340 | A904_281.4 P132 BE132MA4 | A904_281.4 P132 BX132MA4 | 341 |
| 6.4 | 9875 | 1.4 | 226.4 | 75000 | A904_226.4 S4 ME4LA4 | A904_226.4 S4 MX4LA4 | 340 | A904_226.4 P132 BE132MA4 | A904_226.4 P132 BX132MA4 | 341 |
| 7.0 | 9115 | 1.5 | 209.0 | 75000 | A904_209.0 S4 ME4LA4 | A904_209.0 S4 MX4LA4 | 340 | A904_209.0 P132 BE132MA4 | A904_209.0 P132 BX132MA4 | 341 |
| 8.1 | 7849 | 1.8 | 180.0 | 75000 | A904_180.0 S4 ME4LA4 | A904_180.0 S4 MX4LA4 | 340 | A904_180.0 P132 BE132MA4 | A904_180.0 P132 BX132MA4 | 341 |
| 8.5 | 7470 | 1.1 | 171.3 | 65000 | A804_171.3 S4 ME4LA4 | A804_171.3 S4 MX4LA4 | 337 | A804_171.3 P132 BE132MA4 | A804_171.3 P132 BX132MA4 | 338 |
| 8.8 | 7245 | 1.9 | 166.1 | 75000 | A904_166.1 S4 ME4LA4 | A904_166.1 S4 MX4LA4 | 340 | A904_166.1 P132 BE132MA4 | A904_166.1 P132 BX132MA4 | 341 |
| 9.3 | 6992 | 1.1 | 156.8 | 65000 | A803_156.8 S4 ME4LA4 | A803_156.8 S4 MX4LA4 | 337 | A803_156.8 P132 BE132MA4 | A803_156.8 P132 BX132MA4 | 338 |
| 9.6 | 6733 | 2.0 | 151.0 | 75000 | A903_151.0 S4 ME4LA4 | A903_151.0 S4 MX4LA4 | 340 | A903_151.0 P132 BE132MA4 | A903_151.0 P132 BX132MA4 | 341 |
| 10.1 | 6454 | 1.2 | 144.7 | 65000 | A803_144.7 S4 ME4LA4 | A803_144.7 S4 MX4LA4 | 337 | A803_144.7 P132 BE132MA4 | A803_144.7 P132 BX132MA4 | 338 |
| 10.4 | 6216 | 2.1 | 139.4 | 75000 | A903_139.4 S4 ME4LA4 | A903_139.4 S4 MX4LA4 | 340 | A903_139.4 P132 BE132MA4 | A903_139.4 P132 BX132MA4 | 341 |
| 11.5 | 5647 | 2.3 | 126.6 | 75000 | A903_126.6 S4 ME4LA4 | A903_126.6 S4 MX4LA4 | 340 | A903_126.6 P132 BE132MA4 | A903_126.6 P132 BX132MA4 | 341 |
| 11.6 | 5601 | 1.4 | 125.6 | 65000 | A803_125.6 S4 ME4LA4 | A803_125.6 S4 MX4LA4 | 337 | A803_125.6 P132 BE132MA4 | A803_125.6 P132 BX132MA4 | 338 |
| 12.1 | 5378 | 0.9 | 120.6 | 50000 | A703_120.6 S4 ME4LA4 | A703_120.6 S4 MX4LA4 | 334 | A703_120.6 P132 BE132MA4 | A703_120.6 P132 BX132MA4 | 335 |
| 12.4 | 5213 | 2.7 | 116.9 | 75000 | A903_116.9 S4 ME4LA4 | A903_116.9 S4 MX4LA4 | 340 | A903_116.9 P132 BE132MA4 | A903_116.9 P132 BX132MA4 | 341 |
| 12.5 | 5170 | 1.5 | 116.0 | 65000 | A803_116.0 S4 ME4LA4 | A803_116.0 S4 MX4LA4 | 337 | A803_116.0 P132 BE132MA4 | A803_116.0 P132 BX132MA4 | 338 |
| 13.6 | 4763 | 2.9 | 106.8 | 75000 | A903_106.8 S4 ME4LA4 | A903_106.8 S4 MX4LA4 | 340 | A903_106.8 P132 BE132MA4 | A903_106.8 P132 BX132MA4 | 341 |



9.2 kW

Table with columns: n2 (min-1), M2 (Nm), S, i, Rn2 (N), IE2, IE3, IEC (IE2, IE3), and a final column for part numbers. Rows list various motor models like A904_281.4 S4 ME4LB4 and A903_156.8 S5 MX5SA4 with their respective specifications.

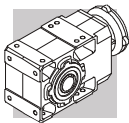


9.2 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | | IEC | | |
|-------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|-------------------------|-------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 87 | 960 | 2.1 | 16.7 | 30000 | A602_16.7 S4 ME4LB4 | A602_16.7 S5 MX5SA4 | 330 | A602_16.7 P132 BE132MB4 | A602_16.7 P160 BX160MA4 | 331 |
| 88 | 950 | 1.3 | 16.6 | 12500 | A502_16.6 S4 ME4LB4 | A502_16.6 S5 MX5SA4 | 322 | A502_16.6 P132 BE132MB4 | A502_16.6 P160 BX160MA4 | 323 |
| 92 | 899 | 2.0 | 15.7 | 27000 | A552_15.7 S4 ME4LB4 | A552_15.7 S5 MX5SA4 | 326 | A552_15.7 P132 BE132MB4 | A552_15.7 P160 BX160MA4 | 327 |
| 111 | 752 | 1.5 | 13.1 | 11900 | A502_13.1 S4 ME4LB4 | A502_13.1 S5 MX5SA4 | 322 | A502_13.1 P132 BE132MB4 | A502_13.1 P160 BX160MA4 | 323 |
| 111 | 750 | 2.4 | 13.1 | 25800 | A552_13.1 S4 ME4LB4 | A552_13.1 S5 MX5SA4 | 326 | A552_13.1 P132 BE132MB4 | A552_13.1 P160 BX160MA4 | 327 |
| 114 | 728 | 2.7 | 12.7 | 30000 | A602_12.7 S4 ME4LB4 | A602_12.7 S5 MX5SA4 | 330 | A602_12.7 P132 BE132MB4 | A602_12.7 P160 BX160MA4 | 331 |
| 123 | 651 | 2.5 | 23.8 | 24100 | A553_23.8 S4 ME4LB2 | A553_23.8 S5 ME4LB2 | 326 | A553_23.8 P132 BE132MB2 | A553_23.8 P160 BE132MB2 | 327 |
| 140 | 594 | 3.0 | 10.4 | 24200 | A552_10.4 S4 ME4LB4 | A552_10.4 S5 MX5SA4 | 326 | A552_10.4 P132 BE132MB4 | A552_10.4 P160 BX160MA4 | 327 |
| 141 | 592 | 3.4 | 10.3 | 30000 | A602_10.3 S4 ME4LB4 | A602_10.3 S5 MX5SA4 | 330 | A602_10.3 P132 BE132MB4 | A602_10.3 P160 BX160MA4 | 331 |
| 143 | 581 | 0.9 | 10.1 | 7340 | A412_10.1 S4 ME4LB4 | | 318 | A412_10.1 P132 BE132MB4 | | 319 |
| 149 | 558 | 1.8 | 9.7 | 11200 | A502_9.7 S4 ME4LB4 | A502_9.7 S5 MX5SA4 | 322 | A502_9.7 P132 BE132MB4 | A502_9.7 P160 BX160MA4 | 323 |
| 158 | 527 | 1.0 | 9.2 | 7250 | A412_9.2 S4 ME4LB4 | | 318 | A412_9.2 P132 BE132MB4 | | 319 |
| 174 | 478 | 1.2 | 8.3 | 7170 | A412_8.3 S4 ME4LB4 | | 318 | A412_8.3 P132 BE132MB4 | | 319 |
| 187 | 444 | 2.1 | 7.7 | 10600 | A502_7.7 S4 ME4LB4 | A502_7.7 S5 MX5SA4 | 322 | A502_7.7 P132 BE132MB4 | A502_7.7 P160 BX160MA4 | 323 |
| 204 | 408 | 1.3 | 7.1 | 7020 | A412_7.1 S4 ME4LB4 | | 318 | A412_7.1 P132 BE132MB4 | | 319 |
| 206 | 403 | 0.9 | 7.0 | 5110 | A352_7.0 S4 ME4LB4 | | 314 | A352_7.0 P132 BE132MB4 | | 315 |
| 226 | 368 | 1.0 | 6.4 | 5070 | A352_6.4 S4 ME4LB4 | | 314 | A352_6.4 P132 BE132MB4 | | 315 |
| 268 | 310 | 1.1 | 5.4 | 4980 | A352_5.4 S4 ME4LB4 | | 314 | A352_5.4 P132 BE132MB4 | | 315 |
| 276 | 301 | 1.8 | 5.2 | 6660 | A412_5.2 S4 ME4LB4 | | 318 | A412_5.2 P132 BE132MB4 | | 319 |
| 317 | 260 | 2.0 | 9.2 | 6480 | A412_9.2 S4 ME4LB2 | | 318 | A412_9.2 P132 BE132MB2 | | 319 |
| 377 | 219 | 3.4 | 7.7 | 8780 | A502_7.7 S4 ME4LB2 | | 322 | A502_7.7 P132 BE132MB2 | | 323 |
| 539 | 153 | 2.2 | 5.4 | 4410 | A352_5.4 S4 ME4LB2 | | 314 | A352_5.4 P132 BE132MB2 | | 315 |
| 557 | 148 | 3.0 | 5.2 | 5690 | A412_5.2 S4 ME4LB2 | | 318 | A412_5.2 P132 BE132MB2 | | 319 |

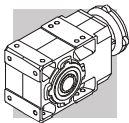
11 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | | IEC | | |
|-------------------------|----------------------|-----|-------|----------------------|----------------------|----------------------|-----|-------------------------|--------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 6.5 | 14510 | 1.0 | 226.4 | 75000 | A904_226.4 S5 ME5SA4 | A904_226.4 S5 MX5SB4 | 340 | A904_226.4 P160 BE160M4 | A904_226.4 P160 BX160MB4 | 341 |
| 7.0 | 13393 | 1.0 | 209.0 | 75000 | A904_209.0 S5 ME5SA4 | A904_209.0 S5 MX5SB4 | 340 | A904_209.0 P160 BE160M4 | A904_209.0 P160 BX160MB4 | 341 |
| 8.2 | 11533 | 1.2 | 180.0 | 75000 | A904_180.0 S5 ME5SA4 | A904_180.0 S5 MX5SB4 | 340 | A904_180.0 P160 BE160M4 | A904_180.0 P160 BX160MB4 | 341 |
| 8.8 | 10645 | 1.3 | 166.1 | 75000 | A904_166.1 S5 ME5SA4 | A904_166.1 S5 MX5SB4 | 340 | A904_166.1 P160 BE160M4 | A904_166.1 P160 BX160MB4 | 341 |
| 9.7 | 9894 | 1.4 | 151.0 | 75000 | A903_151.0 S5 ME5SA4 | A903_151.0 S5 MX5SB4 | 340 | A903_151.0 P160 BE160M4 | A903_151.0 P160 BX160MB4 | 341 |
| 10.5 | 9133 | 1.4 | 139.4 | 75000 | A903_139.4 S5 ME5SA4 | A903_139.4 S5 MX5SB4 | 340 | A903_139.4 P160 BE160M4 | A903_139.4 P160 BX160MB4 | 341 |
| 11.6 | 8298 | 1.6 | 126.6 | 75000 | A903_126.6 S5 ME5SA4 | A903_126.6 S5 MX5SB4 | 340 | A903_126.6 P160 BE160M4 | A903_126.6 P160 BX160MB4 | 341 |
| 11.7 | 8231 | 1.0 | 125.6 | 65000 | A803_125.6 S5 ME5SA4 | A803_125.6 S5 MX5SB4 | 337 | A803_125.6 P160 BE160M4 | A803_125.6 P160 BX160MB4 | 338 |
| 12.6 | 7660 | 1.8 | 116.9 | 75000 | A903_116.9 S5 ME5SA4 | A903_116.9 S5 MX5SB4 | 340 | A903_116.9 P160 BE160M4 | A903_116.9 P160 BX160MB4 | 341 |
| 12.7 | 7597 | 1.1 | 116.0 | 65000 | A803_116.0 S5 ME5SA4 | A803_116.0 S5 MX5SB4 | 337 | A803_116.0 P160 BE160M4 | A803_116.0 P160 BX160MB4 | 338 |
| 13.8 | 6999 | 2.0 | 106.8 | 75000 | A903_106.8 S5 ME5SA4 | A903_106.8 S5 MX5SB4 | 340 | A903_106.8 P160 BE160M4 | A903_106.8 P160 BX160MB4 | 341 |
| 14.1 | 6816 | 1.2 | 104.0 | 65000 | A803_104.0 S5 ME5SA4 | A803_104.0 S5 MX5SB4 | 337 | A803_104.0 P160 BE160M4 | A803_104.0 P160 BX160MB4 | 338 |
| 14.9 | 6460 | 2.2 | 98.6 | 75000 | A903_98.6 S5 ME5SA4 | A903_98.6 S5 MX5SB4 | 340 | A903_98.6 P160 BE160M4 | A903_98.6 P160 BX160MB4 | 341 |
| 15.3 | 6292 | 1.3 | 96.0 | 65000 | A803_96.0 S5 ME5SA4 | A803_96.0 S5 MX5SB4 | 337 | A803_96.0 P160 BE160M4 | A803_96.0 P160 BX160MB4 | 338 |
| 16.5 | 5843 | 1.4 | 89.2 | 65000 | A803_89.2 S5 ME5SA4 | A803_89.2 S5 MX5SB4 | 337 | A803_89.2 P160 BE160M4 | A803_89.2 P160 BX160MB4 | 338 |
| 16.9 | 5705 | 2.5 | 87.1 | 75000 | A903_87.1 S5 ME5SA4 | A903_87.1 S5 MX5SB4 | 340 | A903_87.1 P160 BE160M4 | A903_87.1 P160 BX160MB4 | 341 |
| 17.9 | 5394 | 1.5 | 82.3 | 64500 | A803_82.3 S5 ME5SA4 | A803_82.3 S5 MX5SB4 | 337 | A803_82.3 P160 BE160M4 | A803_82.3 P160 BX160MB4 | 338 |
| 18.3 | 5266 | 2.7 | 80.4 | 75000 | A903_80.4 S5 ME5SA4 | A903_80.4 S5 MX5SB4 | 340 | A903_80.4 P160 BE160M4 | A903_80.4 P160 BX160MB4 | 341 |
| 18.5 | 5198 | 1.0 | 79.3 | 50000 | A703_79.3 S5 ME5SA4 | A703_79.3 S5 MX5SB4 | 334 | A703_79.3 P160 BE160M4 | A703_79.3 P160 BX160MB4 | 335 |
| 19.7 | 4880 | 2.9 | 74.5 | 75000 | A903_74.5 S5 ME5SA4 | A903_74.5 S5 MX5SB4 | 340 | A903_74.5 P160 BE160M4 | A903_74.5 P160 BX160MB4 | 341 |
| 20.3 | 4752 | 1.1 | 72.5 | 50000 | A703_72.5 S5 ME5SA4 | A703_72.5 S5 MX5SB4 | 334 | A703_72.5 P160 BE160M4 | A703_72.5 P160 BX160MB4 | 335 |
| 20.3 | 4742 | 1.7 | 72.4 | 63200 | A803_72.4 S5 ME5SA4 | A803_72.4 S5 MX5SB4 | 337 | A803_72.4 P160 BE160M4 | A803_72.4 P160 BX160MB4 | 338 |
| 21.4 | 4505 | 3.1 | 68.8 | 75000 | A903_68.8 S5 ME5SA4 | A903_68.8 S5 MX5SB4 | 340 | A903_68.8 P160 BE160M4 | A903_68.8 P160 BX160MB4 | 341 |
| 22.0 | 4386 | 1.1 | 66.9 | 50000 | A703_66.9 S5 ME5SA4 | A703_66.9 S5 MX5SB4 | 334 | A703_66.9 P160 BE160M4 | A703_66.9 P160 BX160MB4 | 335 |



11 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | iec | | | |
|-------------------------|----------------------|-----|------|----------------------|---------------------|---------------------|-----|-------------------------|-------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 22.0 | 4377 | 1.8 | 66.8 | 62200 | A803_66.8 S5 ME5SA4 | A803_66.8 S5 MX5SB4 | 337 | A803_66.8 P160 BE160M4 | A803_66.8 P160 BX160MB4 | 338 |
| 24.6 | 3917 | 2.0 | 59.8 | 60900 | A803_59.8 S5 ME5SA4 | A803_59.8 S5 MX5SB4 | 337 | A803_59.8 P160 BE160M4 | A803_59.8 P160 BX160MB4 | 338 |
| 24.7 | 3906 | 3.6 | 59.6 | 75000 | A903_59.6 S5 ME5SA4 | A903_59.6 S5 MX5SB4 | 340 | A903_59.6 P160 BE160M4 | A903_59.6 P160 BX160MB4 | 341 |
| 25.5 | 3778 | 1.3 | 57.7 | 50000 | A703_57.7 S5 ME5SA4 | A703_57.7 S5 MX5SB4 | 334 | A703_57.7 P160 BE160M4 | A703_57.7 P160 BX160MB4 | 335 |
| 26.6 | 3615 | 2.2 | 55.2 | 59900 | A803_55.2 S5 ME5SA4 | A803_55.2 S5 MX5SB4 | 337 | A803_55.2 P160 BE160M4 | A803_55.2 P160 BX160MB4 | 338 |
| 27.6 | 3488 | 1.4 | 53.2 | 50000 | A703_53.2 S5 ME5SA4 | A703_53.2 S5 MX5SB4 | 334 | A703_53.2 P160 BE160M4 | A703_53.2 P160 BX160MB4 | 335 |
| 30 | 3210 | 1.6 | 49.0 | 50000 | A703_49.0 S5 ME5SA4 | A703_49.0 S5 MX5SB4 | 334 | A703_49.0 P160 BE160M4 | A703_49.0 P160 BX160MB4 | 335 |
| 31 | 3157 | 2.5 | 48.2 | 58300 | A803_48.2 S5 ME5SA4 | A803_48.2 S5 MX5SB4 | 337 | A803_48.2 P160 BE160M4 | A803_48.2 P160 BX160MB4 | 338 |
| 33 | 2964 | 1.6 | 45.2 | 50000 | A703_45.2 S5 ME5SA4 | A703_45.2 S5 MX5SB4 | 334 | A703_45.2 P160 BE160M4 | A703_45.2 P160 BX160MB4 | 335 |
| 33 | 2961 | 0.9 | 45.2 | 30000 | A603_45.2 S5 ME5SA4 | A603_45.2 S5 MX5SB4 | 330 | A603_45.2 P160 BE160M4 | A603_45.2 P160 BX160MB4 | 331 |
| 33 | 2914 | 2.6 | 44.5 | 57300 | A803_44.5 S5 ME5SA4 | A803_44.5 S5 MX5SB4 | 337 | A803_44.5 P160 BE160M4 | A803_44.5 P160 BX160MB4 | 338 |
| 35 | 2733 | 1.0 | 41.7 | 30000 | A603_41.7 S5 ME5SA4 | A603_41.7 S5 MX5SB4 | 330 | A603_41.7 P160 BE160M4 | A603_41.7 P160 BX160MB4 | 331 |
| 38 | 2523 | 3.0 | 38.5 | 55500 | | | | A803_38.5 P160 BE160M4 | A803_38.5 P160 BX160MB4 | 338 |
| 38 | 2515 | 1.9 | 38.4 | 50000 | A703_38.4 S5 ME5SA4 | A703_38.4 S5 MX5SB4 | 334 | A703_38.4 P160 BE160M4 | A703_38.4 P160 BX160MB4 | 335 |
| 41 | 2328 | 3.0 | 35.5 | 54500 | | | | A803_35.5 P160 BE160M4 | A803_35.5 P160 BX160MB4 | 338 |
| 41 | 2321 | 1.9 | 35.4 | 50000 | A703_35.4 S5 ME5SA4 | A703_35.4 S5 MX5SB4 | 334 | A703_35.4 P160 BE160M4 | A703_35.4 P160 BX160MB4 | 335 |
| 43 | 2247 | 1.2 | 34.3 | 30000 | A603_34.3 S5 ME5SA4 | A603_34.3 S5 MX5SB4 | 330 | A603_34.3 P160 BE160M4 | A603_34.3 P160 BX160MB4 | 331 |
| 46 | 2074 | 1.3 | 31.7 | 30000 | A603_31.7 S5 ME5SA4 | A603_31.7 S5 MX5SB4 | 330 | A603_31.7 P160 BE160M4 | A603_31.7 P160 BX160MB4 | 331 |
| 48 | 2003 | 3.2 | 30.6 | 52600 | | | | A803_30.6 P160 BE160M4 | A803_30.6 P160 BX160MB4 | 338 |
| 49 | 1972 | 2.3 | 30.1 | 49400 | | | | A703_30.1 P160 BE160M4 | A703_30.1 P160 BX160MB4 | 335 |
| 49 | 1961 | 1.0 | 29.9 | 28200 | A553_29.9 S5 ME5SA4 | A553_29.9 S5 MX5SB4 | 326 | A553_29.9 P160 BE160M4 | A553_29.9 P160 BX160MB4 | 327 |
| 52 | 1849 | 3.6 | 28.2 | 51600 | | | | A803_28.2 P160 BE160M4 | A803_28.2 P160 BX160MB4 | 338 |
| 53 | 1825 | 1.5 | 27.9 | 30000 | A603_27.9 S5 ME5SA4 | A603_27.9 S5 MX5SB4 | 330 | A603_27.9 P160 BE160M4 | A603_27.9 P160 BX160MB4 | 331 |
| 53 | 1820 | 2.3 | 27.8 | 48500 | | | | A703_27.8 P160 BE160M4 | A703_27.8 P160 BX160MB4 | 335 |
| 57 | 1685 | 1.7 | 25.7 | 30000 | A603_25.7 S5 ME5SA4 | A603_25.7 S5 MX5SB4 | 330 | A603_25.7 P160 BE160M4 | A603_25.7 P160 BX160MB4 | 331 |
| 61 | 1576 | 1.0 | 24.0 | 7800 | A503_24.0 S5 ME5SA4 | A503_24.0 S5 MX5SB4 | 322 | A503_24.0 P160 BE160M4 | A503_24.0 P160 BX160MB4 | 323 |
| 62 | 1559 | 1.3 | 23.8 | 26000 | A553_23.8 S5 ME5SA4 | A553_23.8 S5 MX5SB4 | 326 | A553_23.8 P160 BE160M4 | A553_23.8 P160 BX160MB4 | 327 |
| 63 | 1541 | 2.8 | 23.5 | 46600 | | | | A703_23.5 P160 BE160M4 | A703_23.5 P160 BX160MB4 | 335 |
| 69 | 1396 | 2.9 | 21.3 | 45500 | A703_21.3 S5 ME5SA4 | A703_21.3 S5 MX5SB4 | 334 | A703_21.3 P160 BE160M4 | A703_21.3 P160 BX160MB4 | 335 |
| 70 | 1416 | 0.8 | 20.9 | | A502_20.9 S5 ME5SA4 | A502_20.9 S5 MX5SB4 | 322 | A502_20.9 P160 BE160M4 | A502_20.9 P160 BX160MB4 | 323 |
| 71 | 1394 | 1.4 | 20.6 | 30000 | A602_20.6 S5 ME5SA4 | A602_20.6 S5 MX5SB4 | 330 | A602_20.6 P160 BE160M4 | A602_20.6 P160 BX160MB4 | 331 |
| 75 | 1288 | 2.9 | 19.7 | 44500 | A703_19.7 S5 ME5SA4 | A703_19.7 S5 MX5SB4 | 334 | A703_19.7 P160 BE160M4 | A703_19.7 P160 BX160MB4 | 335 |
| 76 | 1302 | 1.4 | 19.2 | 27900 | A552_19.2 S5 ME5SA4 | A552_19.2 S5 MX5SB4 | 326 | A552_19.2 P160 BE160M4 | A552_19.2 P160 BX160MB4 | 327 |
| 88 | 1133 | 1.8 | 16.7 | 30000 | A602_16.7 S5 ME5SA4 | A602_16.7 S5 MX5SB4 | 330 | A602_16.7 P160 BE160M4 | A602_16.7 P160 BX160MB4 | 331 |
| 89 | 1121 | 1.1 | 16.6 | 12000 | A502_16.6 S5 ME5SA4 | A502_16.6 S5 MX5SB4 | 322 | A502_16.6 P160 BE160M4 | A502_16.6 P160 BX160MB4 | 323 |
| 94 | 1061 | 1.7 | 15.7 | 26600 | A552_15.7 S5 ME5SA4 | A552_15.7 S5 MX5SB4 | 326 | A552_15.7 P160 BE160M4 | A552_15.7 P160 BX160MB4 | 327 |
| 112 | 887 | 1.2 | 13.1 | 11500 | A502_13.1 S5 ME5SA4 | A502_13.1 S5 MX5SB4 | 322 | A502_13.1 P160 BE160M4 | A502_13.1 P160 BX160MB4 | 323 |
| 112 | 885 | 2.0 | 13.1 | 25400 | A552_13.1 S5 ME5SA4 | A552_13.1 S5 MX5SB4 | 326 | A552_13.1 P160 BE160M4 | A552_13.1 P160 BX160MB4 | 327 |
| 116 | 860 | 2.3 | 12.7 | 30000 | A602_12.7 S5 ME5SA4 | A602_12.7 S5 MX5SB4 | 330 | A602_12.7 P160 BE160M4 | A602_12.7 P160 BX160MB4 | 331 |
| 124 | 773 | 2.1 | 23.8 | 23600 | A553_23.8 S5 ME5SA2 | | 326 | A553_23.8 P160 BE160MA2 | | 327 |
| 142 | 701 | 2.6 | 10.4 | 24000 | A552_10.4 S5 ME5SA4 | A552_10.4 S5 MX5SB4 | 326 | A552_10.4 P160 BE160M4 | A552_10.4 P160 BX160MB4 | 327 |
| 143 | 698 | 2.9 | 10.3 | 30000 | A602_10.3 S5 ME5SA4 | A602_10.3 S5 MX5SB4 | 330 | A602_10.3 P160 BE160M4 | A602_10.3 P160 BX160MB4 | 331 |
| 151 | 659 | 1.5 | 9.7 | 10800 | A502_9.7 S5 ME5SA4 | A502_9.7 S5 MX5SB4 | 322 | A502_9.7 P160 BE160M4 | A502_9.7 P160 BX160MB4 | 323 |
| 174 | 573 | 3.1 | 8.5 | 22800 | A552_8.5 S5 ME5SA4 | A552_8.5 S5 MX5SB4 | 326 | A552_8.5 P160 BE160M4 | A552_8.5 P160 BX160MB4 | 327 |
| 190 | 524 | 1.8 | 7.7 | 10300 | A502_7.7 S5 ME5SA4 | A502_7.7 S5 MX5SB4 | 322 | A502_7.7 P160 BE160M4 | A502_7.7 P160 BX160MB4 | 323 |
| 224 | 440 | 2.0 | 13.1 | 9920 | A502_13.1 S5 ME5SA2 | | 322 | A502_13.1 P160 BE160MA2 | | 323 |
| 380 | 260 | 2.8 | 7.7 | 8650 | A502_7.7 S5 ME5SA2 | | 322 | A502_7.7 P160 BE160MA2 | | 323 |

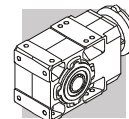


15 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | | IEC | | |
|-------------------------------------|----------------------|-----|-----|----------------------|--------------------|--------------------|-----|------------------------|-----------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 190 | 713 | 1.3 | 7.7 | 9750 | A502_7.7 S5 ME5LA4 | A502_7.7 S5 MX5LA4 | 322 | A502_7.7 P160 BE160L4 | A502_7.7 P160 BX160L4 | 323 |
| 229 | 591 | 2.9 | 6.4 | 20700 | A552_6.4 S5 ME5LA4 | A552_6.4 S5 MX5LA4 | 326 | A552_6.4 P160 BE160L4 | A552_6.4 P160 BX160L4 | 327 |
| 297 | 456 | 3.5 | 4.9 | 19400 | A552_4.9 S5 ME5LA4 | A552_4.9 S5 MX5LA4 | 326 | A552_4.9 P160 BE160L4 | A552_4.9 P160 BX160L4 | 327 |
| 302 | 446 | 1.8 | 9.7 | 8830 | A502_9.7 S5 ME5SB2 | | 322 | A502_9.7 P160 BE160MB2 | | 323 |
| 380 | 354 | 2.1 | 7.7 | 8350 | A502_7.7 S5 ME5SB2 | | 322 | A502_7.7 P160 BE160MB2 | | 323 |

18.5 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | | | | IEC | | |
|-------------------------------------|----------------------|-----|-------|----------------------|-----|-----|--|-------------------------|-------------------------|-----|
| | | | | | IE2 | IE3 | | IE2 | IE3 | |
| 11.6 | 13830 | 1.0 | 126.6 | 75000 | | | | A903_126.6 P180 BE180M4 | A903_126.6 P180 BX180M4 | 341 |
| 12.6 | 12766 | 1.1 | 116.9 | 75000 | | | | A903_116.9 P180 BE180M4 | A903_116.9 P180 BX180M4 | 341 |
| 13.8 | 11665 | 1.2 | 106.8 | 75000 | | | | A903_106.8 P180 BE180M4 | A903_106.8 P180 BX180M4 | 341 |
| 14.9 | 10767 | 1.3 | 98.6 | 75000 | | | | A903_98.6 P180 BE180M4 | A903_98.6 P180 BX180M4 | 341 |
| 16.9 | 9508 | 1.5 | 87.1 | 75000 | | | | A903_87.1 P180 BE180M4 | A903_87.1 P180 BX180M4 | 341 |
| 18.3 | 8777 | 1.6 | 80.4 | 75000 | | | | A903_80.4 P180 BE180M4 | A903_80.4 P180 BX180M4 | 341 |
| 19.7 | 8133 | 1.7 | 74.5 | 75000 | | | | A903_74.5 P180 BE180M4 | A903_74.5 P180 BX180M4 | 341 |
| 20.3 | 7903 | 1.0 | 72.4 | 55600 | | | | A803_72.4 P180 BE180M4 | A803_72.4 P180 BX180M4 | 338 |
| 21.4 | 7508 | 1.9 | 68.8 | 75000 | | | | A903_68.8 P180 BE180M4 | A903_68.8 P180 BX180M4 | 341 |
| 22.0 | 7295 | 1.1 | 66.8 | 55100 | | | | A803_66.8 P180 BE180M4 | A803_66.8 P180 BX180M4 | 338 |
| 24.6 | 6528 | 1.2 | 59.8 | 54700 | | | | A803_59.8 P180 BE180M4 | A803_59.8 P180 BX180M4 | 338 |
| 24.7 | 6510 | 2.2 | 59.6 | 75000 | | | | A903_59.6 P180 BE180M4 | A903_59.6 P180 BX180M4 | 341 |
| 26.6 | 6026 | 1.3 | 55.2 | 54100 | | | | A803_55.2 P180 BE180M4 | A803_55.2 P180 BX180M4 | 338 |
| 26.7 | 6009 | 2.3 | 55.0 | 74900 | | | | A903_55.0 P180 BE180M4 | A903_55.0 P180 BX180M4 | 341 |
| 30 | 5351 | 0.9 | 49.0 | 49600 | | | | A703_49.0 P180 BE180M4 | A703_49.0 P180 BX180M4 | 335 |
| 30 | 5274 | 2.7 | 48.3 | 73100 | | | | A903_48.3 P180 BE180M4 | A903_48.3 P180 BX180M4 | 341 |
| 31 | 5262 | 1.5 | 48.2 | 53200 | | | | A803_48.2 P180 BE180M4 | A803_48.2 P180 BX180M4 | 338 |
| 33 | 4939 | 1.0 | 45.2 | 49000 | | | | A703_45.2 P180 BE180M4 | A703_45.2 P180 BX180M4 | 335 |
| 33 | 4869 | 2.9 | 44.6 | 71800 | | | | A903_44.6 P180 BE180M4 | A903_44.6 P180 BX180M4 | 341 |
| 33 | 4857 | 1.5 | 44.5 | 52500 | | | | A803_44.5 P180 BE180M4 | A803_44.5 P180 BX180M4 | 338 |
| 38 | 4238 | 3.3 | 38.8 | 69700 | | | | A903_38.8 P180 BE180M4 | A903_38.8 P180 BX180M4 | 341 |
| 38 | 4204 | 1.8 | 38.5 | 51400 | | | | A803_38.5 P180 BE180M4 | A803_38.5 P180 BX180M4 | 338 |
| 38 | 4191 | 1.2 | 38.4 | 48000 | | | | A703_38.4 P180 BE180M4 | A703_38.4 P180 BX180M4 | 335 |
| 41 | 3912 | 3.5 | 35.8 | 68500 | | | | A903_35.8 P180 BE180M4 | A903_35.8 P180 BX180M4 | 341 |
| 41 | 3881 | 1.8 | 35.5 | 50600 | | | | A803_35.5 P180 BE180M4 | A803_35.5 P180 BX180M4 | 338 |
| 41 | 3869 | 1.2 | 35.4 | 47300 | | | | A703_35.4 P180 BE180M4 | A703_35.4 P180 BX180M4 | 335 |
| 48 | 3339 | 1.9 | 30.6 | 49300 | | | | A803_30.6 P180 BE180M4 | A803_30.6 P180 BX180M4 | 338 |
| 49 | 3287 | 1.4 | 30.1 | 46100 | | | | A703_30.1 P180 BE180M4 | A703_30.1 P180 BX180M4 | 335 |
| 52 | 3082 | 2.1 | 28.2 | 48500 | | | | A803_28.2 P180 BE180M4 | A803_28.2 P180 BX180M4 | 338 |
| 53 | 3042 | 0.9 | 27.9 | 30000 | | | | A603_27.9 P180 BE180M4 | A603_27.9 P180 BX180M4 | 331 |
| 53 | 3034 | 1.4 | 27.8 | 45300 | | | | A703_27.8 P180 BE180M4 | A703_27.8 P180 BX180M4 | 335 |
| 57 | 2808 | 1.0 | 25.7 | 30000 | | | | A603_25.7 P180 BE180M4 | A603_25.7 P180 BX180M4 | 331 |
| 60 | 2675 | 2.5 | 24.5 | 47200 | | | | A803_24.5 P180 BE180M4 | A803_24.5 P180 BX180M4 | 338 |
| 63 | 2568 | 1.7 | 23.5 | 43900 | | | | A703_23.5 P180 BE180M4 | A703_23.5 P180 BX180M4 | 335 |
| 65 | 2470 | 2.5 | 22.6 | 46300 | | | | A803_22.6 P180 BE180M4 | A803_22.6 P180 BX180M4 | 338 |
| 69 | 2326 | 1.7 | 21.3 | 43000 | | | | A703_21.3 P180 BE180M4 | A703_21.3 P180 BX180M4 | 335 |
| 70 | 2288 | 2.9 | 20.9 | 45600 | | | | A803_20.9 P180 BE180M4 | A803_20.9 P180 BX180M4 | 338 |
| 71 | 2323 | 0.9 | 20.6 | 30000 | | | | A602_20.6 P180 BE180M4 | A602_20.6 P180 BX180M4 | 331 |
| 75 | 2147 | 1.7 | 19.7 | 42300 | | | | A703_19.7 P180 BE180M4 | A703_19.7 P180 BX180M4 | 335 |
| 76 | 2112 | 2.9 | 19.3 | 44800 | | | | A803_19.3 P180 BE180M4 | A803_19.3 P180 BX180M4 | 338 |
| 88 | 1888 | 1.1 | 16.7 | 30000 | | | | A602_16.7 P180 BE180M4 | A602_16.7 P180 BX180M4 | 331 |
| 88 | 1822 | 2.2 | 16.7 | 40800 | | | | A703_16.7 P180 BE180M4 | A703_16.7 P180 BX180M4 | 335 |
| 94 | 1769 | 1.0 | 15.7 | 25000 | | | | A552_15.7 P180 BE180M4 | A552_15.7 P180 BX180M4 | 327 |
| 95 | 1682 | 2.2 | 15.4 | 40100 | | | | A703_15.4 P180 BE180M4 | A703_15.4 P180 BX180M4 | 335 |

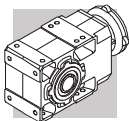


18.5 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | IEC | | |
|-------------------------|----------------------|-----|------|----------------------|-----------------------|-----------------------|------------------------|------------------------|-----|
| | | | | | IE2 | IE3 | IE2 | IE3 | |
| 112 | 1429 | 2.7 | 13.1 | 38600 | | | A703_13.1 P180 BE180M4 | A703_13.1 P180 BX180M4 | 335 |
| 112 | 1475 | 1.2 | 13.1 | 24100 | A553_23.8 S5 ME5LA2 | 326 | A552_13.1 P180 BE180M4 | A552_13.1 P180 BX180M4 | 327 |
| 116 | 1433 | 1.4 | 12.7 | 30000 | | | A602_12.7 P180 BE180M4 | A602_12.7 P180 BX180M4 | 331 |
| 122 | 1319 | 2.7 | 12.1 | 37800 | | | A703_12.1 P180 BE180M4 | A703_12.1 P180 BX180M4 | 335 |
| 124 | 1299 | 1.2 | 23.8 | 21600 | | | A553_23.8 P160 BE160L2 | | 327 |
| 142 | 1168 | 1.5 | 10.4 | 22900 | | | A552_10.4 P180 BE180M4 | A552_10.4 P180 BX180M4 | 327 |
| 143 | 1164 | 1.7 | 10.3 | 29900 | | | A602_10.3 P180 BE180M4 | A602_10.3 P180 BX180M4 | 331 |
| 144 | 1117 | 2.9 | 10.2 | 36300 | | | A703_10.2 P180 BE180M4 | A703_10.2 P180 BX180M4 | 335 |
| 151 | 1098 | 0.9 | 9.7 | 9530 | | | A502_9.7 P180 BE180M4 | A502_9.7 P180 BX180M4 | 323 |
| 156 | 1031 | 2.9 | 9.4 | 35600 | | | A703_9.4 P180 BE180M4 | A703_9.4 P180 BX180M4 | 335 |
| 174 | 954 | 1.9 | 8.5 | 21900 | | | A552_8.5 P180 BE180M4 | A552_8.5 P180 BX180M4 | 327 |
| 187 | 887 | 2.3 | 7.9 | 27900 | A602_7.9 P180 BE180M4 | A602_7.9 P180 BX180M4 | 331 | | |
| 190 | 873 | 1.1 | 7.7 | 9260 | A502_7.7 P180 BE180M4 | A502_7.7 P180 BX180M4 | 323 | | |
| 229 | 723 | 2.4 | 6.4 | 20400 | A552_6.4 P180 BE180M4 | A552_6.4 P180 BX180M4 | 327 | | |
| 297 | 558 | 2.9 | 4.9 | 19100 | A552_4.9 P180 BE180M4 | A552_4.9 P180 BX180M4 | 327 | | |
| 381 | 436 | 1.7 | 7.7 | 8100 | A502_7.7 S5 ME5LA2 | 322 | A502_7.7 P160 BE160L2 | | 323 |

22 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | IEC | | |
|-------------------------|----------------------|-----|-------|----------------------|-----|-----|-------------------------|-------------------------|-----|
| | | | | | IE2 | IE3 | IE2 | IE3 | |
| 12.6 | 15213 | 0.9 | 116.9 | 75000 | | | A903_116.9 P180 BE180L4 | A903_116.9 P180 BX180L4 | 341 |
| 13.8 | 13900 | 1.0 | 106.8 | 75000 | | | A903_106.8 P180 BE180L4 | A903_106.8 P180 BX180L4 | 341 |
| 14.9 | 12831 | 1.1 | 98.6 | 75000 | | | A903_98.6 P180 BE180L4 | A903_98.6 P180 BX180L4 | 341 |
| 16.9 | 11330 | 1.2 | 87.1 | 75000 | | | A903_87.1 P180 BE180L4 | A903_87.1 P180 BX180L4 | 341 |
| 18.3 | 10459 | 1.3 | 80.4 | 75000 | | | A903_80.4 P180 BE180L4 | A903_80.4 P180 BX180L4 | 341 |
| 19.7 | 9692 | 1.4 | 74.5 | 75000 | | | A903_74.5 P180 BE180L4 | A903_74.5 P180 BX180L4 | 341 |
| 21.4 | 8947 | 1.6 | 68.8 | 75000 | | | A903_68.8 P180 BE180L4 | A903_68.8 P180 BX180L4 | 341 |
| 22.0 | 8693 | 0.9 | 66.8 | 51900 | | | A803_66.8 P180 BE180L4 | A803_66.8 P180 BX180L4 | 338 |
| 24.6 | 7779 | 1.0 | 59.8 | 51800 | | | A803_59.8 P180 BE180L4 | A803_59.8 P180 BX180L4 | 338 |
| 24.7 | 7758 | 1.8 | 59.6 | 73800 | | | A903_59.6 P180 BE180L4 | A903_59.6 P180 BX180L4 | 341 |
| 26.6 | 7181 | 1.1 | 55.2 | 51400 | | | A803_55.2 P180 BE180L4 | A803_55.2 P180 BX180L4 | 338 |
| 26.7 | 7161 | 2.0 | 55.0 | 72700 | | | A903_55.0 P180 BE180L4 | A903_55.0 P180 BX180L4 | 341 |
| 30 | 6285 | 2.2 | 48.3 | 71100 | | | A903_48.3 P180 BE180L4 | A903_48.3 P180 BX180L4 | 341 |
| 31 | 6270 | 1.3 | 48.2 | 50900 | | | A803_48.2 P180 BE180L4 | A803_48.2 P180 BX180L4 | 338 |
| 33 | 5802 | 2.4 | 44.6 | 70000 | | | A903_44.6 P180 BE180L4 | A903_44.6 P180 BX180L4 | 341 |
| 33 | 5788 | 1.3 | 44.5 | 50300 | | | A803_44.5 P180 BE180L4 | A803_44.5 P180 BX180L4 | 338 |
| 38 | 5050 | 2.8 | 38.8 | 68100 | | | A903_38.8 P180 BE180L4 | A903_38.8 P180 BX180L4 | 341 |
| 38 | 5010 | 1.5 | 38.5 | 49500 | | | A803_38.5 P180 BE180L4 | A803_38.5 P180 BX180L4 | 338 |
| 38 | 4995 | 1.0 | 38.4 | 46000 | | | A703_38.4 P180 BE180L4 | A703_38.4 P180 BX180L4 | 335 |
| 41 | 4662 | 2.9 | 35.8 | 67000 | | | A903_35.8 P180 BE180L4 | A903_35.8 P180 BX180L4 | 341 |
| 41 | 4625 | 1.5 | 35.5 | 48900 | | | A803_35.5 P180 BE180L4 | A803_35.5 P180 BX180L4 | 338 |
| 41 | 4611 | 1.0 | 35.4 | 45500 | | | A703_35.4 P180 BE180L4 | A703_35.4 P180 BX180L4 | 335 |
| 47 | 4099 | 3.4 | 31.5 | 65200 | | | A903_31.5 P180 BE180L4 | A903_31.5 P180 BX180L4 | 341 |
| 48 | 3979 | 1.6 | 30.6 | 47800 | | | A803_30.6 P180 BE180L4 | A803_30.6 P180 BX180L4 | 338 |
| 49 | 3917 | 1.2 | 30.1 | 44500 | | | A703_30.1 P180 BE180L4 | A703_30.1 P180 BX180L4 | 335 |
| 51 | 3784 | 3.4 | 29.1 | 64000 | | | A903_29.1 P180 BE180L4 | A903_29.1 P180 BX180L4 | 341 |
| 52 | 3673 | 1.8 | 28.2 | 47100 | | | A803_28.2 P180 BE180L4 | A803_28.2 P180 BX180L4 | 338 |
| 53 | 3616 | 1.2 | 27.8 | 43900 | | | A703_27.8 P180 BE180L4 | A703_27.8 P180 BX180L4 | 335 |
| 60 | 3188 | 2.1 | 24.5 | 45900 | | | A803_24.5 P180 BE180L4 | A803_24.5 P180 BX180L4 | 338 |
| 63 | 3061 | 1.4 | 23.5 | 42700 | | | A703_23.5 P180 BE180L4 | A703_23.5 P180 BX180L4 | 335 |
| 65 | 2943 | 2.1 | 22.6 | 45200 | | | A803_22.6 P180 BE180L4 | A803_22.6 P180 BX180L4 | 338 |



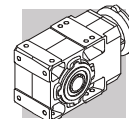
22 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | IEC | | |
|-------------------------|----------------------|-----|------|----------------------|-----|-----|------------------------|------------------------|-----|
| | | | | | IE2 | IE3 | IE2 | IE3 | |
| 69 | 2772 | 1.4 | 21.3 | 41900 | | | A703_21.3 P180 BE180L4 | A703_21.3 P180 BX180L4 | 335 |
| 70 | 2726 | 2.4 | 20.9 | 44600 | | | A803_20.9 P180 BE180L4 | A803_20.9 P180 BX180L4 | 338 |
| 75 | 2559 | 1.4 | 19.7 | 41200 | | | A703_19.7 P180 BE180L4 | A703_19.7 P180 BX180L4 | 335 |
| 76 | 2516 | 2.4 | 19.3 | 43800 | | | A803_19.3 P180 BE180L4 | A803_19.3 P180 BX180L4 | 338 |
| 88 | 2178 | 3.0 | 16.7 | 42500 | | | A803_16.7 P180 BE180L4 | A803_16.7 P180 BX180L4 | 338 |
| 88 | 2250 | 0.9 | 16.7 | 30000 | | | A602_16.7 P180 BE180L4 | A602_16.7 P180 BX180L4 | 331 |
| 88 | 2172 | 1.8 | 16.7 | 39900 | | | A703_16.7 P180 BE180L4 | A703_16.7 P180 BX180L4 | 335 |
| 95 | 2011 | 3.0 | 15.5 | 41700 | | | A803_15.5 P180 BE180L4 | A803_15.5 P180 BX180L4 | 338 |
| 95 | 2005 | 1.8 | 15.4 | 39200 | | | A703_15.4 P180 BE180L4 | A703_15.4 P180 BX180L4 | 335 |
| 112 | 1703 | 2.3 | 13.1 | 37900 | | | A703_13.1 P180 BE180L4 | A703_13.1 P180 BX180L4 | 335 |
| 112 | 1758 | 1.0 | 13.1 | 23500 | | | A552_13.1 P180 BE180L4 | A552_13.1 P180 BX180L4 | 327 |
| 116 | 1708 | 1.2 | 12.7 | 30000 | | | A602_12.7 P180 BE180L4 | A602_12.7 P180 BX180L4 | 331 |
| 122 | 1572 | 2.3 | 12.1 | 37200 | | | A703_12.1 P180 BE180L4 | A703_12.1 P180 BX180L4 | 335 |
| 142 | 1392 | 1.3 | 10.4 | 22400 | | | A552_10.4 P180 BE180L4 | A552_10.4 P180 BX180L4 | 327 |
| 143 | 1387 | 1.4 | 10.3 | 29300 | | | A602_10.3 P180 BE180L4 | A602_10.3 P180 BX180L4 | 331 |
| 144 | 1331 | 2.4 | 10.2 | 35800 | | | A703_10.2 P180 BE180L4 | A703_10.2 P180 BX180L4 | 335 |
| 156 | 1228 | 2.4 | 9.4 | 35100 | | | A703_9.4 P180 BE180L4 | A703_9.4 P180 BX180L4 | 335 |
| 174 | 1137 | 1.6 | 8.5 | 21400 | | | A552_8.5 P180 BE180L4 | A552_8.5 P180 BX180L4 | 327 |
| 187 | 1057 | 1.9 | 7.9 | 27500 | | | A602_7.9 P180 BE180L4 | A602_7.9 P180 BX180L4 | 331 |
| 190 | 1040 | 0.9 | 7.7 | 8760 | | | A502_7.7 P180 BE180L4 | A502_7.7 P180 BX180L4 | 323 |
| 229 | 862 | 2.0 | 6.4 | 20100 | | | A552_6.4 P180 BE180L4 | A552_6.4 P180 BX180L4 | 327 |
| 297 | 665 | 2.4 | 4.9 | 18900 | | | A552_4.9 P180 BE180L4 | A552_4.9 P180 BX180L4 | 327 |

30 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | | | IEC | | |
|-------------------------|----------------------|-----|------|----------------------|-------|------|-------------------------|-------------------------|-----|
| | | | | | IE... | IE2* | IE3 | | |
| 16.8 | 15556 | 0.9 | 87.1 | 70100 | | | A903_87.1 P200 IEC200L4 | A903_87.1 P200 BX200LA4 | 341 |
| 18.2 | 14360 | 1.0 | 80.4 | 70000 | | | A903_80.4 P200 IEC200L4 | A903_80.4 P200 BX200LA4 | 341 |
| 19.6 | 13307 | 1.1 | 74.5 | 69700 | | | A903_74.5 P200 IEC200L4 | A903_74.5 P200 BX200LA4 | 341 |
| 21.2 | 12283 | 1.1 | 68.8 | 69200 | | | A903_68.8 P200 IEC200L4 | A903_68.8 P200 BX200LA4 | 341 |
| 24.5 | 10651 | 1.3 | 59.6 | 68500 | | | A903_59.6 P200 IEC200L4 | A903_59.6 P200 BX200LA4 | 341 |
| 26.5 | 9832 | 1.4 | 55.0 | 67800 | | | A903_55.0 P200 IEC200L4 | A903_55.0 P200 BX200LA4 | 341 |
| 30.0 | 8630 | 1.6 | 48.3 | 66900 | | | A903_48.3 P200 IEC200L4 | A903_48.3 P200 BX200LA4 | 341 |
| 30 | 8609 | 0.9 | 48.2 | 45700 | | | A803_48.2 P200 IEC200L4 | A803_48.2 P200 BX200LA4 | 338 |
| 33 | 7966 | 1.8 | 44.6 | 66000 | | | A903_44.6 P200 IEC200L4 | A903_44.6 P200 BX200LA4 | 341 |
| 33 | 7946 | 0.9 | 44.5 | 45500 | | | A803_44.5 P200 IEC200L4 | A803_44.5 P200 BX200LA4 | 338 |
| 38 | 6934 | 2.0 | 38.8 | 64700 | | | A903_38.8 P200 IEC200L4 | A903_38.8 P200 BX200LA4 | 341 |
| 38 | 6879 | 1.1 | 38.5 | 45300 | | | A803_38.5 P200 IEC200L4 | A803_38.5 P200 BX200LA4 | 338 |
| 41 | 6400 | 2.1 | 35.8 | 63800 | | | A903_35.8 P200 IEC200L4 | A903_35.8 P200 BX200LA4 | 341 |
| 41 | 6349 | 1.1 | 35.5 | 45000 | | | A803_35.5 P200 IEC200L4 | A803_35.5 P200 BX200LA4 | 338 |
| 46 | 5628 | 2.5 | 31.5 | 62400 | | | A903_31.5 P200 IEC200L4 | A903_31.5 P200 BX200LA4 | 341 |
| 48 | 5463 | 1.2 | 30.6 | 44500 | | | A803_30.6 P200 IEC200L4 | A803_30.6 P200 BX200LA4 | 338 |
| 50 | 5195 | 2.5 | 29.1 | 61400 | | | A903_29.1 P200 IEC200L4 | A903_29.1 P200 BX200LA4 | 341 |
| 52 | 5043 | 1.3 | 28.2 | 44000 | | | A803_28.2 P200 IEC200L4 | A803_28.2 P200 BX200LA4 | 338 |
| 60 | 4377 | 1.5 | 24.5 | 43300 | | | A803_24.5 P200 IEC200L4 | A803_24.5 P200 BX200LA4 | 338 |
| 61 | 4307 | 3.1 | 24.1 | 59200 | | | A903_24.1 P200 IEC200L4 | A903_24.1 P200 BX200LA4 | 341 |
| 62 | 4202 | 1.0 | 23.5 | 40100 | | | A703_23.5 P200 IEC200L4 | A703_23.5 P200 BX200LA4 | 335 |
| 65 | 4041 | 1.5 | 22.6 | 42700 | | | A803_22.6 P200 IEC200L4 | A803_22.6 P200 BX200LA4 | 338 |
| 66 | 3976 | 3.1 | 22.3 | 58200 | | | A903_22.3 P200 IEC200L4 | A903_22.3 P200 BX200LA4 | 341 |
| 70 | 3752 | 3.3 | 21.0 | 57500 | | | A903_21.0 P200 IEC200L4 | A903_21.0 P200 BX200LA4 | 341 |
| 70 | 3743 | 1.7 | 20.9 | 42300 | | | A803_20.9 P200 IEC200L4 | A803_20.9 P200 BX200LA4 | 338 |

*The technical information shall be considered as indicative, the configurations should be matching the data provided by motors manufacturers on rated powers greater than 22 kW.



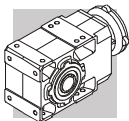
30 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE... | IEC | | |
|-------------------------|----------------------|-----|------|----------------------|-------|--------------------------|--------------------------|-----|
| | | | | | | IE2* | IE3 | |
| 75 | 3463 | 3.3 | 19.4 | 56500 | | A903_19.4 P200 IEC200L4 | A903_19.4 P200 BX200LA4 | 341 |
| 75 | 3455 | 1.8 | 19.3 | 41700 | | A803_19.3 P200 IEC200L4 | A803_19.3 P200 BX200LA4 | 338 |
| 87 | 2991 | 2.2 | 16.7 | 40700 | | A803_16.7 P200 IEC200L4 | A803_16.7 P200 BX200LA4 | 338 |
| 87 | 2982 | 1.3 | 16.7 | 38100 | | A703_16.7 P200 IEC200L4 | A703_16.7 P200 BX200LA4 | 335 |
| 94 | 2761 | 2.2 | 15.5 | 40000 | | A803_15.5 P200 IEC200L4 | A803_15.5 P200 BX200LA4 | 338 |
| 95 | 2752 | 1.3 | 15.4 | 37500 | | A703_15.4 P200 IEC200L4 | A703_15.4 P200 BX200LA4 | 335 |
| 110 | 2375 | 2.8 | 13.3 | 38900 | | A803_13.3 P200 IEC200L4 | A803_13.3 P200 BX200LA4 | 338 |
| 112 | 2338 | 1.6 | 13.1 | 36400 | | A703_13.1 P200 IEC200L4 | A703_13.1 P200 BX200LA4 | 335 |
| 119 | 2192 | 2.8 | 12.3 | 38200 | | A803_12.3 P200 IEC200L4 | A803_12.3 P200 BX200LA4 | 338 |
| 121 | 2158 | 1.6 | 12.1 | 35800 | | A703_12.1 P200 IEC200L4 | A703_12.1 P200 BX200LA4 | 335 |
| 125 | 2094 | 1.7 | 23.5 | 35600 | | A703_23.5 P200 IEC200LA2 | A703_23.5 P200 IEC200LA2 | 335 |
| 137 | 1903 | 3.4 | 10.7 | 37100 | | A803_10.7 P200 IEC200L4 | A803_10.7 P200 BX200LA4 | 338 |
| 143 | 1827 | 1.8 | 10.2 | 34600 | | A703_10.2 P200 IEC200L4 | A703_10.2 P200 BX200LA4 | 335 |
| 148 | 1757 | 3.4 | 9.8 | 36500 | | A803_9.8 P200 IEC200L4 | A803_9.8 P200 BX200LA4 | 338 |
| 155 | 1687 | 1.8 | 9.4 | 34000 | | A703_9.4 P200 IEC200L4 | A703_9.4 P200 BX200LA4 | 335 |
| 176 | 1486 | 2.3 | 16.7 | 33100 | | A703_16.7 P200 IEC200LA2 | A703_16.7 P200 IEC200LA2 | 335 |
| 190 | 1371 | 2.3 | 15.4 | 32500 | | A703_15.4 P200 IEC200LA2 | A703_15.4 P200 IEC200LA2 | 335 |
| 224 | 1165 | 2.7 | 13.1 | 31300 | | A703_13.1 P200 IEC200LA2 | A703_13.1 P200 IEC200LA2 | 335 |
| 243 | 1075 | 2.7 | 12.1 | 30600 | | A703_12.1 P200 IEC200LA2 | A703_12.1 P200 IEC200LA2 | 335 |
| 287 | 910 | 3.2 | 10.2 | 29400 | | A703_10.2 P200 IEC200LA2 | A703_10.2 P200 IEC200LA2 | 335 |
| 310 | 840 | 3.2 | 9.4 | 28800 | | A703_9.4 P200 IEC200LA2 | A703_9.4 P200 IEC200LA2 | 335 |

37 kW

| n ₂ min-1 | M ₂ Nm | S | i | R _{n2} N | IE... | IEC | | |
|-------------------------|----------------------|-----|------|----------------------|-------|-------------------------|-------------------------|-----|
| | | | | | | IE2* | IE3 | |
| 21.5 | 14945 | 0.9 | 68.8 | 63900 | | A903_68.8 P225 IEC225S4 | A903_68.8 P225 BX225SA4 | 341 |
| 24.8 | 12959 | 1.1 | 59.6 | 63900 | | A903_59.6 P225 IEC225S4 | A903_59.6 P225 BX225SA4 | 341 |
| 26.9 | 11962 | 1.2 | 55.0 | 63600 | | A903_55.0 P225 IEC225S4 | A903_55.0 P225 BX225SA4 | 341 |
| 31 | 10499 | 1.3 | 48.3 | 63100 | | A903_48.3 P225 IEC225S4 | A903_48.3 P225 BX225SA4 | 341 |
| 33 | 9692 | 1.4 | 44.6 | 62500 | | A903_44.6 P225 IEC225S4 | A903_44.6 P225 BX225SA4 | 341 |
| 38 | 8436 | 1.7 | 38.8 | 61700 | | A903_38.8 P225 IEC225S4 | A903_38.8 P225 BX225SA4 | 341 |
| 38 | 8369 | 0.9 | 38.5 | 41700 | | A803_38.5 P225 IEC225S4 | A803_38.5 P225 BX225SA4 | 338 |
| 41 | 7787 | 1.8 | 35.8 | 61000 | | A903_35.8 P225 IEC225S4 | A903_35.8 P225 BX225SA4 | 341 |
| 42 | 7725 | 0.9 | 35.5 | 41600 | | A803_35.5 P225 IEC225S4 | A803_35.5 P225 BX225SA4 | 338 |
| 47 | 6847 | 2.0 | 31.5 | 59900 | | A903_31.5 P225 IEC225S4 | A903_31.5 P225 BX225SA4 | 341 |
| 48 | 6647 | 1.0 | 30.6 | 41600 | | A803_30.6 P225 IEC225S4 | A803_30.6 P225 BX225SA4 | 338 |
| 51 | 6321 | 2.1 | 29.1 | 59100 | | A903_29.1 P225 IEC225S4 | A903_29.1 P225 BX225SA4 | 341 |
| 52 | 6135 | 1.1 | 28.2 | 41300 | | A803_28.2 P225 IEC225S4 | A803_28.2 P225 BX225SA4 | 338 |
| 60 | 5326 | 1.3 | 24.5 | 40900 | | A803_24.5 P225 IEC225S4 | A803_24.5 P225 BX225SA4 | 338 |
| 61 | 5241 | 2.5 | 24.1 | 57300 | | A903_24.1 P225 IEC225S4 | A903_24.1 P225 BX225SA4 | 341 |
| 65 | 4916 | 1.3 | 22.6 | 40500 | | A803_22.6 P225 IEC225S4 | A803_22.6 P225 BX225SA4 | 338 |
| 67 | 4837 | 2.5 | 22.3 | 56400 | | A903_22.3 P225 IEC225S4 | A903_22.3 P225 BX225SA4 | 341 |
| 70 | 4565 | 2.7 | 21.0 | 55900 | | A903_21.0 P225 IEC225S4 | A903_21.0 P225 BX225SA4 | 341 |
| 71 | 4554 | 1.4 | 20.9 | 40300 | | A803_20.9 P225 IEC225S4 | A803_20.9 P225 BX225SA4 | 338 |
| 76 | 4214 | 2.7 | 19.4 | 54900 | | A903_19.4 P225 IEC225S4 | A903_19.4 P225 BX225SA4 | 341 |
| 77 | 4204 | 1.4 | 19.3 | 39800 | | A803_19.3 P225 IEC225S4 | A803_19.3 P225 BX225SA4 | 338 |
| 88 | 3668 | 3.2 | 16.9 | 53400 | | A903_16.9 P225 IEC225S4 | A903_16.9 P225 BX225SA4 | 341 |
| 88 | 3639 | 1.8 | 16.7 | 39100 | | A803_16.7 P225 IEC225S4 | A803_16.7 P225 BX225SA4 | 338 |
| 95 | 3386 | 3.2 | 15.6 | 52500 | | A903_15.6 P225 IEC225S4 | A903_15.6 P225 BX225SA4 | 341 |
| 96 | 3359 | 1.8 | 15.5 | 38500 | | A803_15.5 P225 IEC225S4 | A803_15.5 P225 BX225SA4 | 338 |
| 111 | 2890 | 2.3 | 13.3 | 37600 | | A803_13.3 P225 IEC225S4 | A803_13.3 P225 BX225SA4 | 338 |
| 121 | 2667 | 2.3 | 12.3 | 37000 | | A803_12.3 P225 IEC225S4 | A803_12.3 P225 BX225SA4 | 338 |
| 139 | 2316 | 2.8 | 10.7 | 36100 | | A803_10.7 P225 IEC225S4 | A803_10.7 P225 BX225SA4 | 338 |
| 151 | 2137 | 2.8 | 9.8 | 35500 | | A803_9.8 P225 IEC225S4 | A803_9.8 P225 BX225SA4 | 338 |

*The technical information shall be considered as indicative, the configurations should be matching the data provided by motors manufacturers on rated powers greater than 22 kW.



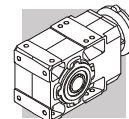
45 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE... | IEC | | |
|-------------------------------------|----------------------|-----|------|----------------------|-------|-------------------------|-------------------------|-----|
| | | | | | | IE2* | IE3 | |
| 26.9 | 14549 | 1.0 | 55.0 | 58700 | | A903_55.0 P225 IEC225M4 | A903_55.0 P225 BX225SB4 | 341 |
| 31 | 12769 | 1.1 | 48.3 | 58900 | | A903_48.3 P225 IEC225M4 | A903_48.3 P225 BX225SB4 | 341 |
| 33 | 11787 | 1.2 | 44.6 | 58600 | | A903_44.6 P225 IEC225M4 | A903_44.6 P225 BX225SB4 | 341 |
| 38 | 10260 | 1.4 | 38.8 | 58300 | | A903_38.8 P225 IEC225M4 | A903_38.8 P225 BX225SB4 | 341 |
| 41 | 9471 | 1.5 | 35.8 | 57800 | | A903_35.8 P225 IEC225M4 | A903_35.8 P225 BX225SB4 | 341 |
| 47 | 8328 | 1.7 | 31.5 | 57200 | | A903_31.5 P225 IEC225M4 | A903_31.5 P225 BX225SB4 | 341 |
| 51 | 7687 | 1.7 | 29.1 | 56600 | | A903_29.1 P225 IEC225M4 | A903_29.1 P225 BX225SB4 | 341 |
| 60 | 6477 | 1.0 | 24.5 | 38300 | | A803_24.5 P225 IEC225M4 | A803_24.5 P225 BX225SB4 | 338 |
| 61 | 6374 | 2.1 | 24.1 | 55200 | | A903_24.1 P225 IEC225M4 | A903_24.1 P225 BX225SB4 | 341 |
| 65 | 5979 | 1.0 | 22.6 | 38100 | | A803_22.6 P225 IEC225M4 | A803_22.6 P225 BX225SB4 | 338 |
| 67 | 5883 | 2.1 | 22.3 | 54500 | | A903_22.3 P225 IEC225M4 | A903_22.3 P225 BX225SB4 | 341 |
| 70 | 5552 | 2.2 | 21.0 | 54000 | | A903_21.0 P225 IEC225M4 | A903_21.0 P225 BX225SB4 | 341 |
| 71 | 5539 | 1.2 | 20.9 | 38000 | | A803_20.9 P225 IEC225M4 | A803_20.9 P225 BX225SB4 | 338 |
| 76 | 5125 | 2.3 | 19.4 | 53200 | | A903_19.4 P225 IEC225M4 | A903_19.4 P225 BX225SB4 | 341 |
| 77 | 5112 | 1.2 | 19.3 | 37700 | | A803_19.3 P225 IEC225M4 | A803_19.3 P225 BX225SB4 | 338 |
| 88 | 4461 | 2.7 | 16.9 | 52000 | | A903_16.9 P225 IEC225M4 | A903_16.9 P225 BX225SB4 | 341 |
| 88 | 4425 | 1.5 | 16.7 | 37300 | | A803_16.7 P225 IEC225M4 | A803_16.7 P225 BX225SB4 | 338 |
| 95 | 4118 | 2.7 | 15.6 | 51100 | | A903_15.6 P225 IEC225M4 | A903_15.6 P225 BX225SB4 | 341 |
| 96 | 4085 | 1.5 | 15.5 | 36900 | | A803_15.5 P225 IEC225M4 | A803_15.5 P225 BX225SB4 | 338 |
| 108 | 3621 | 3.1 | 13.7 | 49900 | | A903_13.7 P225 IEC225M4 | A903_13.7 P225 BX225SB4 | 341 |
| 111 | 3515 | 1.9 | 13.3 | 36200 | | A803_13.3 P225 IEC225M4 | A803_13.3 P225 BX225SB4 | 338 |
| 117 | 3342 | 3.1 | 12.6 | 49000 | | A903_12.6 P225 IEC225M4 | A903_12.6 P225 BX225SB4 | 341 |
| 121 | 3244 | 1.9 | 12.3 | 35700 | | A803_12.3 P225 IEC225M4 | A803_12.3 P225 BX225SB4 | 338 |
| 139 | 2816 | 2.3 | 10.7 | 34900 | | A803_10.7 P225 IEC225M4 | A803_10.7 P225 BX225SB4 | 338 |
| 141 | 2771 | 3.5 | 10.5 | 47100 | | A903_10.5 P225 IEC225M4 | A903_10.5 P225 BX225SB4 | 341 |
| 151 | 2600 | 2.3 | 9.8 | 34400 | | A803_9.8 P225 IEC225M4 | A803_9.8 P225 BX225SB4 | 338 |
| 153 | 2558 | 3.5 | 9.7 | 46200 | | A903_9.7 P225 IEC225M4 | A903_9.7 P225 BX225SB4 | 341 |

55 kW

| n ₂ min ⁻¹ | M ₂ Nm | S | i | R _{n2} N | IE... | IEC | | |
|-------------------------------------|----------------------|-----|------|----------------------|-------|-------------------------|-------------------------|-----|
| | | | | | | IE2* | IE3 | |
| 33 | 14406 | 1.0 | 44.6 | 53900 | | A903_44.6 P250 IEC250M4 | A903_44.6 P250 BX250MA4 | 341 |
| 38 | 12540 | 1.1 | 38.8 | 54100 | | A903_38.8 P250 IEC250M4 | A903_38.8 P250 BX250MA4 | 341 |
| 41 | 11575 | 1.2 | 35.8 | 54000 | | A903_35.8 P250 IEC250M4 | A903_35.8 P250 BX250MA4 | 341 |
| 47 | 10179 | 1.4 | 31.5 | 53800 | | A903_31.5 P250 IEC250M4 | A903_31.5 P250 BX250MA4 | 341 |
| 51 | 9396 | 1.4 | 29.1 | 53400 | | A903_29.1 P250 IEC250M4 | A903_29.1 P250 BX250MA4 | 341 |
| 61 | 7790 | 1.7 | 24.1 | 52600 | | A903_24.1 P250 IEC250M4 | A903_24.1 P250 BX250MA4 | 341 |
| 67 | 7191 | 1.7 | 22.3 | 52000 | | A903_22.3 P250 IEC250M4 | A903_22.3 P250 BX250MA4 | 341 |
| 70 | 6786 | 1.8 | 21.0 | 51700 | | A903_21.0 P250 IEC250M4 | A903_21.0 P250 BX250MA4 | 341 |
| 76 | 6264 | 1.8 | 19.4 | 51100 | | A903_19.4 P250 IEC250M4 | A903_19.4 P250 BX250MA4 | 341 |
| 88 | 5452 | 2.2 | 16.9 | 50100 | | A903_16.9 P250 IEC250M4 | A903_16.9 P250 BX250MA4 | 341 |
| 95 | 5033 | 2.2 | 15.6 | 49400 | | A903_15.6 P250 IEC250M4 | A903_15.6 P250 BX250MA4 | 341 |
| 108 | 4425 | 2.5 | 13.7 | 48400 | | A903_13.7 P250 IEC250M4 | A903_13.7 P250 BX250MA4 | 341 |
| 117 | 4085 | 2.6 | 12.6 | 47600 | | A903_12.6 P250 IEC250M4 | A903_12.6 P250 BX250MA4 | 341 |
| 141 | 3387 | 2.9 | 10.5 | 45900 | | A903_10.5 P250 IEC250M4 | A903_10.5 P250 BX250MA4 | 341 |
| 153 | 3126 | 2.9 | 9.7 | 45100 | | A903_9.7 P250 IEC250M4 | A903_9.7 P250 BX250MA4 | 341 |



***The technical information shall be considered as indicative, the configurations should be matching the data provided by motors manufacturers on rated powers greater than 22 kW.**



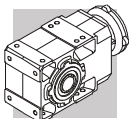
39 GEARBOX RATING CHARTS

A 10

150 Nm



|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 10 2_5.5 | 5.5 | 512 | 73 | 4.2 | — | 1830 | 256 | 73 | 2.1 | 960 | 2460 | 303 |
| A 10 2_6.3 | 6.3 | 442 | 80 | 3.9 | — | 1900 | 221 | 80 | 2.0 | 830 | 2560 | |
| A 10 2_7.2 | 7.2 | 388 | 92 | 4.0 | — | 1910 | 194 | 93 | 2.0 | 630 | 2600 | |
| A 10 2_8.5 | 8.5 | 329 | 92 | 3.4 | — | 2060 | 164 | 93 | 1.7 | 720 | 2790 | |
| A 10 2_9.6 | 9.6 | 291 | 102 | 3.3 | — | 2090 | 146 | 128 | 2.1 | — | 2650 | |
| A 10 2_10.6 | 10.6 | 265 | 125 | 3.7 | 540 | 2010 | 133 | 150 | 2.2 | 810 | 2590 | |
| A 10 2_12.3 | 12.3 | 228 | 110 | 2.8 | — | 2280 | 114 | 138 | 1.7 | — | 2880 | |
| A 10 2_13.9 | 13.9 | 201 | 135 | 3.0 | 620 | 2220 | 101 | 150 | 1.7 | 1080 | 2960 | |
| A 10 2_16.4 | 16.4 | 170 | 140 | 2.7 | 610 | 2370 | 85 | 150 | 1.4 | 1140 | 3200 | |
| A 10 2_18.6 | 18.6 | 151 | 147 | 2.5 | 650 | 2460 | 75 | 150 | 1.3 | 1180 | 3380 | |
| A 10 2_21.4 | 21.4 | 131 | 150 | 2.2 | 650 | 2610 | 66 | 150 | 1.1 | 1200 | 3600 | |
| A 10 2_23.8 | 23.8 | 118 | 150 | 2.0 | 750 | 2750 | 59 | 150 | 0.98 | 1220 | 3780 | |
| A 10 2_25.5 | 25.5 | 110 | 150 | 1.8 | 750 | 2840 | 55 | 150 | 0.92 | 1220 | 3900 | |
| A 10 2_28.6 | 28.6 | 98 | 150 | 1.6 | 830 | 3000 | 49 | 150 | 0.82 | 1250 | 4100 | |
| A 10 2_32.2 | 32.2 | 87 | 150 | 1.5 | 880 | 3170 | 43 | 150 | 0.73 | 1270 | 4310 | |
| A 10 2_35.1 | 35.1 | 80 | 150 | 1.3 | 880 | 3300 | 40 | 150 | 0.67 | 1270 | 4470 | |
| A 10 2_40.9 | 40.9 | 69 | 150 | 1.1 | 910 | 3530 | 34 | 150 | 0.57 | 1300 | 4770 | |
| A 10 2_45.4 | 45.4 | 62 | 150 | 1.0 | 910 | 3700 | 31 | 150 | 0.52 | 1300 | 4980 | |
| A 10 2_51.3 | 51.3 | 55 | 150 | 0.91 | 910 | 3910 | 27.3 | 150 | 0.46 | 1290 | 5240 | |
| A 10 2_58.6 | 58.6 | 48 | 150 | 0.80 | 920 | 4140 | 23.9 | 150 | 0.40 | 1300 | 5500 | |
| A 10 2_65.9 | 65.9 | 42 | 150 | 0.71 | 920 | 4360 | 21.2 | 150 | 0.35 | 1300 | 5500 | |
| A 10 2_76.4 | 76.4 | 37 | 150 | 0.61 | 930 | 4640 | 18.3 | 150 | 0.31 | 1300 | 5500 | |
| A 10 2_91.6 | 91.6 | 31 | 130 | 0.44 | 1020 | 5160 | 15.3 | 130 | 0.22 | 1300 | 5500 | |

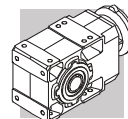
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



A 10

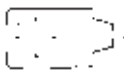

150 Nm

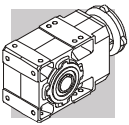
|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 10 2_5.5 | 5.5 | 165 | 73 | 1.3 | 1300 | 2950 | 91 | 73 | 0.74 | 1300 | 3720 | 303 |
| A 10 2_6.3 | 6.3 | 142 | 80 | 1.3 | 1300 | 3070 | 79 | 80 | 0.70 | 1300 | 4100 | |
| A 10 2_7.2 | 7.2 | 125 | 93 | 1.3 | 1160 | 3130 | 69 | 93 | 0.72 | 1300 | 3970 | |
| A 10 2_8.5 | 8.5 | 106 | 95 | 1.1 | 1200 | 3330 | 59 | 110 | 0.72 | 1300 | 4100 | |
| A 10 2_9.6 | 9.6 | 94 | 128 | 1.3 | 500 | 3230 | 52 | 128 | 0.74 | 1300 | 4160 | |
| A 10 2_10.6 | 10.6 | 85 | 150 | 1.4 | 1300 | 3200 | 47 | 150 | 0.79 | 1300 | 4160 | |
| A 10 2_12.3 | 12.3 | 73 | 150 | 1.2 | 180 | 3420 | 41 | 150 | 0.68 | 1030 | 4430 | |
| A 10 2_13.9 | 13.9 | 65 | 150 | 1.1 | 1300 | 3630 | 36 | 150 | 0.60 | 1300 | 4680 | |
| A 10 2_16.4 | 16.4 | 55 | 150 | 0.91 | 1300 | 3900 | 30 | 150 | 0.51 | 1300 | 5010 | |
| A 10 2_18.6 | 18.6 | 48 | 150 | 0.81 | 1300 | 4120 | 26.9 | 150 | 0.45 | 1300 | 5270 | |
| A 10 2_21.4 | 21.4 | 42 | 150 | 0.70 | 1300 | 4370 | 23.4 | 150 | 0.39 | 1300 | 5500 | |
| A 10 2_23.8 | 23.8 | 38 | 150 | 0.63 | 1300 | 4570 | 21.0 | 150 | 0.35 | 1300 | 5500 | |
| A 10 2_25.5 | 25.5 | 35 | 150 | 0.59 | 1300 | 4710 | 19.6 | 150 | 0.33 | 1300 | 5500 | |
| A 10 2_28.6 | 28.6 | 31 | 150 | 0.53 | 1300 | 4940 | 17.5 | 150 | 0.29 | 1300 | 5500 | |
| A 10 2_32.2 | 32.2 | 28.0 | 150 | 0.47 | 1300 | 5190 | 15.5 | 150 | 0.26 | 1300 | 5500 | |
| A 10 2_35.1 | 35.1 | 25.6 | 150 | 0.43 | 1300 | 5380 | 14.2 | 150 | 0.24 | 1300 | 5500 | |
| A 10 2_40.9 | 40.9 | 22.0 | 150 | 0.37 | 1300 | 5500 | 12.2 | 150 | 0.20 | 1300 | 5500 | |
| A 10 2_45.4 | 45.4 | 19.8 | 150 | 0.33 | 1300 | 5500 | 11.0 | 150 | 0.18 | 1300 | 5500 | |
| A 10 2_51.3 | 51.3 | 17.6 | 150 | 0.29 | 1300 | 5500 | 9.8 | 150 | 0.16 | 1300 | 5500 | |
| A 10 2_58.6 | 58.6 | 15.4 | 150 | 0.26 | 1300 | 5500 | 8.5 | 150 | 0.14 | 1300 | 5500 | |
| A 10 2_65.9 | 65.9 | 13.7 | 150 | 0.23 | 1300 | 5500 | 7.6 | 150 | 0.13 | 1300 | 5500 | |
| A 10 2_76.4 | 76.4 | 11.8 | 150 | 0.20 | 1300 | 5500 | 6.5 | 150 | 0.11 | 1300 | 5500 | |
| A 10 2_91.6 | 91.6 | 9.8 | 130 | 0.14 | 1300 | 5500 | 5.5 | 130 | 0.08 | 1300 | 5500 | |



A 20



250 Nm

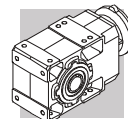
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 20 2_5.4 | 5.4 | 523 | 96 | 5.6 | 610 | 1910 | 262 | 121 | 3.5 | 770 | 2400 | 307 |
| A 20 2_6.5 | 6.5 | 428 | 107 | 5.1 | 490 | 2010 | 214 | 135 | 3.2 | 610 | 2530 | |
| A 20 2_7.3 | 7.3 | 384 | 113 | 4.8 | 510 | 2070 | 192 | 143 | 3.1 | 630 | 2600 | |
| A 20 2_8.4 | 8.4 | 334 | 116 | 4.3 | 510 | 2180 | 167 | 146 | 2.7 | 650 | 2750 | |
| A 20 2_9.4 | 9.4 | 299 | 122 | 4.1 | 530 | 2260 | 149 | 154 | 2.6 | 660 | 2840 | |
| A 20 2_10.3 | 10.3 | 271 | 183 | 5.5 | 650 | 1970 | 135 | 225 | 3.4 | 890 | 2520 | |
| A 20 2_12.0 | 12.0 | 234 | 128 | 3.3 | 550 | 2280 | 117 | 161 | 2.1 | 690 | 3120 | |
| A 20 2_14.1 | 14.1 | 199 | 199 | 4.4 | 750 | 2210 | 99 | 245 | 2.7 | 960 | 2820 | |
| A 20 2_16.2 | 16.2 | 173 | 209 | 4.0 | 700 | 2310 | 87 | 250 | 2.4 | 1040 | 2990 | |
| A 20 2_18.1 | 18.1 | 155 | 216 | 3.7 | 760 | 2400 | 77 | 250 | 2.2 | 1210 | 3170 | |
| A 20 2_21.2 | 21.2 | 132 | 226 | 3.3 | 710 | 2540 | 66 | 250 | 1.8 | 1290 | 3430 | |
| A 20 2_23.1 | 23.1 | 121 | 232 | 3.1 | 710 | 2620 | 61 | 250 | 1.7 | 1360 | 3580 | |
| A 20 2_26.5 | 26.5 | 106 | 241 | 2.8 | 660 | 2750 | 53 | 250 | 1.5 | 1410 | 3820 | |
| A 20 2_29.2 | 29.2 | 96 | 249 | 2.7 | 670 | 2850 | 48 | 250 | 1.3 | 1510 | 4000 | |
| A 20 2_31.3 | 31.3 | 89 | 250 | 2.5 | 660 | 2940 | 45 | 250 | 1.2 | 1510 | 4130 | |
| A 20 2_35.4 | 35.4 | 79 | 250 | 2.2 | 800 | 3140 | 40 | 250 | 1.1 | 1650 | 4380 | |
| A 20 2_39.6 | 39.6 | 71 | 250 | 2.0 | 880 | 3320 | 35 | 250 | 0.98 | 1710 | 4600 | |
| A 20 2_43.2 | 43.2 | 65 | 250 | 1.8 | 880 | 3460 | 32 | 250 | 0.90 | 1710 | 4790 | |
| A 20 2_48.3 | 48.3 | 58 | 250 | 1.6 | 920 | 3650 | 29.0 | 250 | 0.81 | 1720 | 5030 | |
| A 20 2_53.7 | 53.7 | 52 | 250 | 1.5 | 920 | 3840 | 26.1 | 250 | 0.73 | 1720 | 5270 | |
| A 20 2_63.1 | 63.1 | 44 | 245 | 1.2 | 1040 | 4180 | 22.2 | 245 | 0.61 | 1740 | 5680 | |
| A 20 2_71.0 | 71.0 | 39 | 210 | 0.92 | 1360 | 4640 | 19.7 | 210 | 0.46 | 1790 | 6200 | |
| A 20 2_79.9 | 79.9 | 35 | 210 | 0.82 | 1360 | 4880 | 17.5 | 210 | 0.41 | 1790 | 6200 | |
| A 20 2_92.3 | 92.3 | 30 | 200 | 0.68 | 1380 | 5250 | 15.2 | 200 | 0.34 | 1810 | 6200 | |
| A 20 3_109.2 | 109.2 | 25.6 | 165 | 0.49 | 1180 | 5900 | 12.8 | 205 | 0.30 | 1300 | 6200 | |
| A 20 3_120.5 | 120.5 | 23.2 | 168 | 0.45 | 1130 | 6110 | 11.6 | 210 | 0.28 | 1300 | 6200 | |
| A 20 3_129.1 | 129.1 | 21.7 | 175 | 0.44 | 1210 | 6200 | 10.8 | 215 | 0.27 | 1300 | 6200 | |
| A 20 3_146.1 | 146.1 | 19.2 | 183 | 0.40 | 1160 | 6200 | 9.6 | 230 | 0.25 | 1300 | 6200 | |
| A 20 3_163.4 | 163.4 | 17.1 | 190 | 0.37 | 1240 | 6200 | 8.6 | 235 | 0.23 | 1300 | 6200 | |
| A 20 3_178.3 | 178.3 | 15.7 | 195 | 0.35 | 1200 | 6200 | 7.9 | 245 | 0.22 | 1300 | 6200 | |
| A 20 3_199.2 | 199.2 | 14.1 | 200 | 0.32 | 1270 | 6200 | 7.0 | 250 | 0.20 | 1300 | 6200 | |
| A 20 3_221.3 | 221.3 | 12.7 | 203 | 0.30 | 1240 | 6200 | 6.3 | 250 | 0.18 | 1300 | 6200 | |
| A 20 3_260.5 | 260.5 | 10.8 | 214 | 0.26 | 1270 | 6200 | 5.4 | 250 | 0.15 | 1300 | 6200 | |
| A 20 3_292.8 | 292.8 | 9.6 | 218 | 0.24 | 1300 | 6200 | 4.8 | 250 | 0.14 | 1300 | 6200 | |
| A 20 3_329.4 | 329.4 | 8.5 | 221 | 0.22 | 1300 | 6200 | 4.3 | 250 | 0.12 | 1300 | 6200 | |
| A 20 3_380.9 | 380.9 | 7.4 | 226 | 0.19 | 1300 | 6200 | 3.7 | 250 | 0.11 | 1300 | 6200 | |



A 20



250 Nm

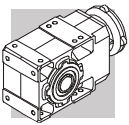
|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 20 2_5.4 | 5.4 | 168 | 140 | 2.6 | 900 | 2780 | 93 | 170 | 1.8 | 1100 | 3390 | 307 |
| A 20 2_6.5 | 6.5 | 138 | 156 | 2.4 | 720 | 2930 | 76 | 190 | 1.6 | 860 | 3570 | |
| A 20 2_7.3 | 7.3 | 123 | 165 | 2.3 | 740 | 3020 | 69 | 201 | 1.5 | 890 | 3670 | |
| A 20 2_8.4 | 8.4 | 108 | 170 | 2.0 | 730 | 3180 | 60 | 206 | 1.4 | 910 | 3870 | |
| A 20 2_9.4 | 9.4 | 96 | 179 | 1.9 | 760 | 3290 | 53 | 210 | 1.2 | 1090 | 4050 | |
| A 20 2_10.3 | 10.3 | 87 | 250 | 2.4 | 1190 | 2990 | 48 | 250 | 1.3 | 2200 | 3980 | |
| A 20 2_12.0 | 12.0 | 75 | 187 | 1.6 | 790 | 2990 | 42 | 210 | 0.98 | 1336 | 4510 | |
| A 20 2_14.1 | 14.1 | 64 | 250 | 1.8 | 1610 | 3490 | 36 | 250 | 0.99 | 2200 | 4590 | |
| A 20 2_16.2 | 16.2 | 56 | 250 | 1.6 | 1690 | 3730 | 31 | 250 | 0.86 | 2200 | 4880 | |
| A 20 2_18.1 | 18.1 | 50 | 250 | 1.4 | 1860 | 3930 | 27.6 | 250 | 0.77 | 2200 | 5140 | |
| A 20 2_21.2 | 21.2 | 42 | 250 | 1.2 | 1940 | 4230 | 23.6 | 250 | 0.66 | 2200 | 5500 | |
| A 20 2_23.1 | 23.1 | 39 | 250 | 1.1 | 1970 | 4400 | 21.6 | 250 | 0.60 | 2200 | 5710 | |
| A 20 2_26.5 | 26.5 | 34 | 250 | 0.95 | 1980 | 4680 | 18.9 | 250 | 0.53 | 2200 | 6050 | |
| A 20 2_29.2 | 29.2 | 31 | 250 | 0.86 | 2000 | 4890 | 17.1 | 250 | 0.48 | 2200 | 6200 | |
| A 20 2_31.3 | 31.3 | 28.7 | 250 | 0.80 | 2000 | 5040 | 16.0 | 250 | 0.44 | 2200 | 6200 | |
| A 20 2_35.4 | 35.4 | 25.4 | 250 | 0.71 | 2020 | 5330 | 14.1 | 250 | 0.39 | 2200 | 6200 | |
| A 20 2_39.6 | 39.6 | 22.7 | 250 | 0.63 | 2040 | 5590 | 12.6 | 250 | 0.35 | 2200 | 6200 | |
| A 20 2_43.2 | 43.2 | 20.8 | 250 | 0.58 | 2040 | 5800 | 11.6 | 250 | 0.32 | 2200 | 6200 | |
| A 20 2_48.3 | 48.3 | 18.6 | 250 | 0.52 | 2040 | 6080 | 10.4 | 250 | 0.29 | 2200 | 6200 | |
| A 20 2_53.7 | 53.7 | 16.8 | 250 | 0.47 | 2050 | 6200 | 9.3 | 250 | 0.26 | 2200 | 6200 | |
| A 20 2_63.1 | 63.1 | 14.3 | 245 | 0.39 | 2060 | 6200 | 7.9 | 245 | 0.22 | 2200 | 6200 | |
| A 20 2_71.0 | 71.0 | 12.7 | 210 | 0.30 | 2120 | 6200 | 7.0 | 210 | 0.16 | 2200 | 6200 | |
| A 20 2_79.9 | 79.9 | 11.3 | 210 | 0.26 | 2120 | 6200 | 6.3 | 210 | 0.15 | 2200 | 6200 | |
| A 20 2_92.3 | 92.3 | 9.7 | 200 | 0.22 | 2140 | 6200 | 5.4 | 200 | 0.12 | 2200 | 6200 | |
| A 20 3_109.2 | 109.2 | 8.2 | 240 | 0.23 | 1300 | 6200 | 4.6 | 250 | 0.13 | 1300 | 6200 | |
| A 20 3_120.5 | 120.5 | 7.5 | 245 | 0.21 | 1300 | 6200 | 4.1 | 250 | 0.12 | 1300 | 6200 | |
| A 20 3_129.1 | 129.1 | 7.0 | 250 | 0.20 | 1300 | 6200 | 3.9 | 250 | 0.11 | 1300 | 6200 | |
| A 20 3_146.1 | 146.1 | 6.2 | 250 | 0.18 | 1300 | 6200 | 3.4 | 250 | 0.10 | 1300 | 6200 | |
| A 20 3_163.4 | 163.4 | 5.5 | 250 | 0.16 | 1300 | 6200 | 3.1 | 250 | 0.09 | 1300 | 6200 | |
| A 20 3_178.3 | 178.3 | 5.0 | 250 | 0.15 | 1300 | 6200 | 2.8 | 250 | 0.08 | 1300 | 6200 | |
| A 20 3_199.2 | 199.2 | 4.5 | 250 | 0.13 | 1300 | 6200 | 2.5 | 250 | 0.07 | 1300 | 6200 | |
| A 20 3_221.3 | 221.3 | 4.1 | 250 | 0.12 | 1300 | 6200 | 2.3 | 250 | 0.06 | 1300 | 6200 | |
| A 20 3_260.5 | 260.5 | 3.5 | 250 | 0.10 | 1300 | 6200 | 1.9 | 250 | 0.06 | 1300 | 6200 | |
| A 20 3_292.8 | 292.8 | 3.1 | 250 | 0.09 | 1300 | 6200 | 1.7 | 250 | 0.05 | 1300 | 6200 | |
| A 20 3_329.4 | 329.4 | 2.7 | 250 | 0.08 | 1300 | 6200 | 1.5 | 250 | 0.04 | 1300 | 6200 | |
| A 20 3_380.9 | 380.9 | 2.4 | 250 | 0.07 | 1300 | 6200 | 1.3 | 250 | 0.04 | 1300 | 6200 | |



A 30



410 Nm

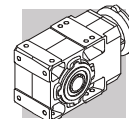
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 30 2_5.4 | 5.4 | 517 | 175 | 10.1 | 1130 | 2480 | 259 | 220 | 6.3 | 1430 | 3130 | 311 |
| A 30 2_6.4 | 6.4 | 437 | 185 | 9.0 | 1120 | 2630 | 218 | 230 | 5.6 | 1470 | 3330 | |
| A 30 2_7.0 | 7.0 | 399 | 194 | 8.6 | 1140 | 2690 | 199 | 245 | 5.4 | 1430 | 3380 | |
| A 30 2_8.5 | 8.5 | 331 | 200 | 7.4 | 1220 | 2900 | 165 | 250 | 4.6 | 1570 | 3660 | |
| A 30 2_9.3 | 9.3 | 301 | 214 | 7.2 | 1140 | 2950 | 150 | 270 | 4.5 | 1440 | 3710 | |
| A 30 2_10.5 | 10.5 | 268 | 278 | 8.3 | 1800 | 2770 | 134 | 340 | 5.1 | 2200 | 3550 | |
| A 30 2_11.8 | 11.8 | 238 | 230 | 6.1 | 1130 | 3200 | 119 | 290 | 3.8 | 1420 | 4030 | |
| A 30 2_13.6 | 13.6 | 206 | 301 | 6.9 | 1830 | 3030 | 103 | 370 | 4.3 | 2200 | 3870 | |
| A 30 2_16.3 | 16.3 | 171 | 318 | 6.1 | 1830 | 3240 | 86 | 385 | 3.7 | 2200 | 4170 | |
| A 30 2_18.0 | 18.0 | 156 | 327 | 5.7 | 1840 | 3350 | 78 | 400 | 3.5 | 2200 | 4290 | |
| A 30 2_20.5 | 20.5 | 136 | 340 | 5.2 | 1830 | 3510 | 68 | 410 | 3.1 | 2200 | 4530 | |
| A 30 2_22.8 | 22.8 | 123 | 351 | 4.8 | 1850 | 3640 | 62 | 410 | 2.8 | 2200 | 4770 | |
| A 30 2_26.5 | 26.5 | 106 | 367 | 4.3 | 1840 | 3850 | 53 | 410 | 2.4 | 2200 | 5150 | |
| A 30 2_29.3 | 29.3 | 96 | 378 | 4.0 | 1847 | 3980 | 48 | 410 | 2.2 | 2200 | 5400 | |
| A 30 2_33.4 | 33.4 | 84 | 393 | 3.7 | 1840 | 4170 | 42 | 410 | 1.9 | 2200 | 5750 | |
| A 30 2_36.6 | 36.6 | 76 | 404 | 3.4 | 1840 | 4310 | 38 | 410 | 1.7 | 2200 | 6010 | |
| A 30 2_39.3 | 39.3 | 71 | 410 | 3.3 | 1810 | 4430 | 36 | 410 | 1.6 | 2200 | 6200 | |
| A 30 2_43.4 | 43.4 | 64 | 410 | 2.9 | 1850 | 4660 | 32 | 410 | 1.5 | 2200 | 6490 | |
| A 30 2_48.3 | 48.3 | 58 | 410 | 2.6 | 1860 | 4920 | 29.0 | 410 | 1.3 | 2200 | 6810 | |
| A 30 2_52.7 | 52.7 | 53 | 410 | 2.4 | 1860 | 5130 | 26.6 | 410 | 1.2 | 2200 | 7080 | |
| A 30 2_59.4 | 59.4 | 47 | 400 | 2.1 | 1890 | 5500 | 23.6 | 400 | 1.0 | 2200 | 7530 | |
| A 30 2_66.0 | 66.0 | 42 | 390 | 1.8 | 1900 | 5840 | 21.2 | 390 | 0.92 | 2200 | 7940 | |
| A 30 2_76.5 | 76.5 | 37 | 350 | 1.4 | 1950 | 6480 | 18.3 | 350 | 0.71 | 2200 | 8690 | |
| A 30 2_86.7 | 86.7 | 32 | 320 | 1.2 | 2000 | 7010 | 16.2 | 320 | 0.58 | 2200 | 9310 | |
| A 30 2_97.5 | 97.5 | 28.7 | 300 | 0.96 | 2020 | 7480 | 14.4 | 300 | 0.48 | 2200 | 9600 | |
| A 30 3_109.1 | 109.1 | 25.7 | 240 | 0.71 | 1300 | 8240 | 12.8 | 300 | 0.44 | 1300 | 9600 | |
| A 30 3_120.5 | 120.5 | 23.2 | 243 | 0.65 | 1120 | 8540 | 11.6 | 300 | 0.40 | 1300 | 9600 | |
| A 30 3_137.4 | 137.4 | 20.4 | 250 | 0.59 | 1300 | 8950 | 10.2 | 315 | 0.37 | 1300 | 9600 | |
| A 30 3_150.7 | 150.7 | 18.6 | 261 | 0.56 | 1170 | 9210 | 9.3 | 330 | 0.35 | 1300 | 9600 | |
| A 30 3_161.4 | 161.4 | 17.3 | 270 | 0.54 | 1300 | 9410 | 8.7 | 340 | 0.34 | 1300 | 9600 | |
| A 30 3_178.5 | 178.5 | 15.7 | 274 | 0.49 | 1210 | 9600 | 7.8 | 345 | 0.31 | 1300 | 9600 | |
| A 30 3_198.5 | 198.5 | 14.1 | 280 | 0.45 | 1300 | 9600 | 7.1 | 350 | 0.28 | 1300 | 9600 | |
| A 30 3_216.6 | 216.6 | 12.9 | 287 | 0.43 | 1240 | 9600 | 6.5 | 360 | 0.27 | 1300 | 9600 | |
| A 30 3_244.3 | 244.3 | 11.5 | 295 | 0.39 | 1300 | 9600 | 5.7 | 370 | 0.24 | 1300 | 9600 | |
| A 30 3_271.5 | 271.5 | 10.3 | 301 | 0.36 | 1280 | 9600 | 5.2 | 380 | 0.23 | 1300 | 9600 | |
| A 30 3_314.5 | 314.5 | 8.9 | 309 | 0.32 | 1300 | 9600 | 4.5 | 390 | 0.20 | 1300 | 9600 | |
| A 30 3_356.3 | 356.3 | 7.9 | 320 | 0.29 | 1300 | 9600 | 3.9 | 370 | 0.17 | 1300 | 9600 | |
| A 30 3_400.8 | 400.8 | 7.0 | 320 | 0.26 | 1300 | 9600 | 3.5 | 360 | 0.14 | 1300 | 9600 | |



A 30

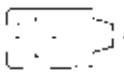

410 Nm

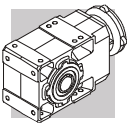
|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 30 2_5.4 | 5.4 | 166 | 255 | 4.7 | 1660 | 3630 | 92 | 300 | 3.1 | 2200 | 4470 | 311 |
| A 30 2_6.4 | 6.4 | 140 | 270 | 4.2 | 1630 | 3830 | 78 | 300 | 2.6 | 2200 | 4830 | |
| A 30 2_7.0 | 7.0 | 128 | 284 | 4.1 | 1650 | 3920 | 71 | 300 | 2.4 | 2200 | 5040 | |
| A 30 2_8.5 | 8.5 | 106 | 290 | 3.4 | 1810 | 4240 | 59 | 300 | 2.0 | 2200 | 5470 | |
| A 30 2_9.3 | 9.3 | 97 | 300 | 3.2 | 1900 | 4380 | 54 | 300 | 1.8 | 2200 | 5710 | |
| A 30 2_10.5 | 10.5 | 86 | 391 | 3.7 | 2200 | 4130 | 48 | 410 | 2.2 | 2200 | 5400 | |
| A 30 2_11.8 | 11.8 | 76 | 300 | 2.6 | 2200 | 4880 | 42 | 300 | 1.4 | 2200 | 6320 | |
| A 30 2_13.6 | 13.6 | 66 | 410 | 3.0 | 2200 | 4600 | 37 | 410 | 1.7 | 2200 | 6110 | |
| A 30 2_16.3 | 16.3 | 55 | 410 | 2.5 | 2200 | 5044 | 31 | 410 | 1.4 | 2200 | 6650 | |
| A 30 2_18.0 | 18.0 | 50 | 410 | 2.3 | 2200 | 5280 | 27.8 | 410 | 1.3 | 2200 | 6940 | |
| A 30 2_20.5 | 20.5 | 44 | 410 | 2.0 | 2200 | 5630 | 24.3 | 410 | 1.1 | 2200 | 7360 | |
| A 30 2_22.8 | 22.8 | 40 | 410 | 1.8 | 2200 | 5910 | 22.0 | 410 | 1.0 | 2200 | 7700 | |
| A 30 2_26.5 | 26.5 | 34 | 410 | 1.5 | 2200 | 6340 | 18.8 | 410 | 0.86 | 2200 | 8230 | |
| A 30 2_29.3 | 29.3 | 31 | 410 | 1.4 | 2200 | 6640 | 17.1 | 410 | 0.78 | 2200 | 8590 | |
| A 30 2_33.4 | 33.4 | 26.9 | 410 | 1.2 | 2200 | 7040 | 15.0 | 410 | 0.68 | 2200 | 9080 | |
| A 30 2_36.6 | 36.6 | 24.6 | 410 | 1.1 | 2200 | 7340 | 13.6 | 410 | 0.62 | 2200 | 9440 | |
| A 30 2_39.3 | 39.3 | 22.9 | 410 | 1.0 | 2200 | 7560 | 12.7 | 410 | 0.58 | 2200 | 9600 | |
| A 30 2_43.4 | 43.4 | 20.7 | 410 | 0.95 | 2200 | 7900 | 11.5 | 410 | 0.53 | 2200 | 9600 | |
| A 30 2_48.3 | 48.3 | 18.6 | 410 | 0.85 | 2200 | 8270 | 10.4 | 410 | 0.47 | 2200 | 9600 | |
| A 30 2_52.7 | 52.7 | 17.1 | 410 | 0.78 | 2200 | 8590 | 9.5 | 410 | 0.43 | 2200 | 9600 | |
| A 30 2_59.4 | 59.4 | 15.1 | 400 | 0.67 | 2200 | 9090 | 8.4 | 400 | 0.37 | 2200 | 9600 | |
| A 30 2_66.0 | 66.0 | 13.6 | 390 | 0.59 | 2200 | 9560 | 7.6 | 390 | 0.33 | 2200 | 9600 | |
| A 30 2_76.5 | 76.5 | 11.8 | 350 | 0.46 | 2200 | 9600 | 6.5 | 350 | 0.25 | 2200 | 9600 | |
| A 30 2_86.7 | 86.7 | 10.4 | 320 | 0.37 | 2200 | 9600 | 5.8 | 320 | 0.21 | 2200 | 9600 | |
| A 30 2_97.5 | 97.5 | 9.2 | 300 | 0.31 | 2200 | 9600 | 5.1 | 300 | 0.17 | 2200 | 9600 | |
| A 30 3_109.1 | 109.1 | 8.3 | 350 | 0.33 | 1300 | 9600 | 4.6 | 370 | 0.20 | 1300 | 9600 | |
| A 30 3_120.5 | 120.5 | 7.5 | 354 | 0.30 | 1300 | 9600 | 4.2 | 410 | 0.20 | 1300 | 9600 | |
| A 30 3_137.4 | 137.4 | 6.5 | 370 | 0.28 | 1300 | 9600 | 3.6 | 410 | 0.17 | 1300 | 9600 | |
| A 30 3_150.7 | 150.7 | 6.0 | 381 | 0.26 | 1300 | 9600 | 3.3 | 410 | 0.16 | 1300 | 9600 | |
| A 30 3_161.4 | 161.4 | 5.6 | 390 | 0.25 | 1300 | 9600 | 3.1 | 410 | 0.15 | 1300 | 9600 | |
| A 30 3_178.5 | 178.5 | 5.0 | 400 | 0.23 | 1300 | 9600 | 2.8 | 410 | 0.13 | 1300 | 9600 | |
| A 30 3_198.5 | 198.5 | 4.5 | 410 | 0.21 | 1300 | 9600 | 2.5 | 410 | 0.12 | 1300 | 9600 | |
| A 30 3_216.6 | 216.6 | 4.2 | 410 | 0.20 | 1300 | 9600 | 2.3 | 410 | 0.11 | 1300 | 9600 | |
| A 30 3_244.3 | 244.3 | 3.7 | 410 | 0.17 | 1300 | 9600 | 2.0 | 410 | 0.10 | 1300 | 9600 | |
| A 30 3_271.5 | 271.5 | 3.3 | 410 | 0.16 | 1300 | 9600 | 1.8 | 410 | 0.09 | 1300 | 9600 | |
| A 30 3_314.5 | 314.5 | 2.9 | 410 | 0.13 | 1300 | 9600 | 1.6 | 410 | 0.07 | 1300 | 9600 | |
| A 30 3_356.3 | 356.3 | 2.5 | 380 | 0.11 | 1300 | 9600 | 1.4 | 380 | 0.06 | 1300 | 9600 | |
| A 30 3_400.8 | 400.8 | 2.2 | 360 | 0.09 | 1300 | 9600 | 1.2 | 360 | 0.05 | 1300 | 9600 | |



A 35



600 Nm

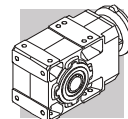
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 35 2_5.4 | 5.4 | 517 | 246 | 14.2 | 1420 | 4000 | 259 | 310 | 8.9 | 1790 | 5050 | 315 |
| A 35 2_6.4 | 6.4 | 437 | 262 | 12.7 | 1420 | 4230 | 218 | 330 | 8.0 | 1790 | 5330 | |
| A 35 2_7.0 | 7.0 | 399 | 278 | 12.3 | 1410 | 4320 | 199 | 350 | 7.8 | 1790 | 5440 | |
| A 35 2_8.5 | 8.5 | 331 | 286 | 10.5 | 1450 | 4650 | 165 | 360 | 6.6 | 1830 | 5850 | |
| A 35 2_9.3 | 9.3 | 301 | 302 | 10.1 | 1450 | 4760 | 150 | 380 | 6.4 | 1830 | 6000 | |
| A 35 2_10.6 | 10.6 | 263 | 310 | 9.1 | 1440 | 5010 | 132 | 390 | 5.7 | 1830 | 6310 | |
| A 35 2_11.8 | 11.8 | 238 | 317 | 8.4 | 1480 | 5200 | 119 | 400 | 5.3 | 1860 | 6550 | |
| A 35 2_13.1 | 13.1 | 214 | 400 | 10.9 | 1630 | 4470 | 107 | 550 | 6.6 | 2100 | 5780 | |
| A 35 2_15.5 | 15.5 | 181 | 430 | 10.0 | 1620 | 4670 | 90 | 570 | 5.7 | 2120 | 6190 | |
| A 35 2_17.0 | 17.0 | 165 | 465 | 9.7 | 1620 | 4730 | 83 | 600 | 5.5 | 2130 | 6310 | |
| A 35 2_20.4 | 20.4 | 137 | 500 | 8.4 | 1630 | 5080 | 69 | 600 | 4.6 | 2170 | 6930 | |
| A 35 2_22.5 | 22.5 | 125 | 540 | 7.8 | 1660 | 5290 | 62 | 600 | 4.2 | 2200 | 7260 | |
| A 35 2_25.7 | 25.7 | 109 | 585 | 7.1 | 1640 | 5540 | 55 | 600 | 3.6 | 2200 | 7740 | |
| A 35 2_28.4 | 28.4 | 98 | 600 | 6.6 | 1660 | 5760 | 49 | 600 | 3.3 | 2200 | 8130 | |
| A 35 2_33.2 | 33.2 | 84 | 600 | 5.6 | 910 | 6240 | 42 | 600 | 2.8 | 2200 | 8730 | |
| A 35 2_36.6 | 36.6 | 76 | 600 | 5.1 | 1080 | 6560 | 38 | 600 | 2.6 | 2200 | 9140 | |
| A 35 2_41.8 | 41.8 | 67 | 600 | 4.5 | 1140 | 7010 | 34 | 600 | 2.2 | 2200 | 9700 | |
| A 35 2_45.8 | 45.8 | 61 | 600 | 4.1 | 1260 | 7330 | 31 | 600 | 2.0 | 2200 | 10100 | |
| A 35 2_49.1 | 49.1 | 57 | 600 | 3.8 | 1260 | 7580 | 28.5 | 600 | 1.9 | 2200 | 10400 | |
| A 35 2_54.3 | 54.3 | 52 | 600 | 3.4 | 1360 | 7950 | 25.8 | 600 | 1.7 | 2200 | 10900 | |
| A 35 2_60.4 | 60.4 | 46 | 600 | 3.1 | 1470 | 8360 | 23.2 | 600 | 1.6 | 2200 | 11400 | |
| A 35 2_65.8 | 65.8 | 43 | 600 | 2.8 | 1470 | 8700 | 21.3 | 600 | 1.4 | 2200 | 11800 | |
| A 35 2_74.3 | 74.3 | 38 | 600 | 2.5 | 1560 | 9200 | 18.8 | 600 | 1.3 | 2200 | 12000 | |
| A 35 2_82.5 | 82.5 | 34 | 600 | 2.3 | 1560 | 9650 | 17.0 | 600 | 1.1 | 2200 | 12000 | |
| A 35 2_95.6 | 95.6 | 29.3 | 540 | 1.8 | 1860 | 10600 | 14.6 | 540 | 0.88 | 2200 | 12000 | |
| A 35 3_105.5 | 105.5 | 26.5 | 430 | 1.3 | 550 | 12000 | 13.3 | 525 | 0.80 | 780 | 12000 | |
| A 35 3_116.9 | 116.9 | 24.0 | 455 | 1.3 | 650 | 12000 | 12.0 | 560 | 0.77 | 870 | 12000 | |
| A 35 3_136.3 | 136.3 | 20.5 | 470 | 1.1 | 870 | 12000 | 10.3 | 575 | 0.68 | 1110 | 12000 | |
| A 35 3_150.6 | 150.6 | 18.6 | 495 | 1.1 | 900 | 12000 | 9.3 | 600 | 0.64 | 1160 | 12000 | |
| A 35 3_171.8 | 171.8 | 16.3 | 505 | 0.95 | 960 | 12000 | 8.1 | 600 | 0.56 | 1250 | 12000 | |
| A 35 3_188.3 | 188.3 | 14.9 | 525 | 0.90 | 990 | 12000 | 7.4 | 600 | 0.51 | 1300 | 12000 | |
| A 35 3_201.8 | 201.8 | 13.9 | 525 | 0.84 | 1020 | 12000 | 6.9 | 600 | 0.48 | 1300 | 12000 | |
| A 35 3_223.2 | 223.2 | 12.5 | 545 | 0.79 | 1050 | 12000 | 6.3 | 600 | 0.43 | 1300 | 12000 | |
| A 35 3_248.1 | 248.1 | 11.3 | 565 | 0.73 | 1080 | 12000 | 5.6 | 600 | 0.39 | 1300 | 12000 | |
| A 35 3_270.7 | 270.7 | 10.3 | 570 | 0.68 | 1110 | 12000 | 5.2 | 600 | 0.36 | 1300 | 12000 | |
| A 35 3_305.4 | 305.4 | 9.2 | 585 | 0.62 | 1140 | 12000 | 4.6 | 600 | 0.32 | 1300 | 12000 | |
| A 35 3_339.3 | 339.3 | 8.3 | 520 | 0.49 | 1210 | 12000 | 4.1 | 520 | 0.25 | 1300 | 12000 | |
| A 35 3_393.2 | 393.2 | 7.1 | 465 | 0.38 | 1260 | 12000 | 3.6 | 465 | 0.19 | 1300 | 12000 | |



A 35

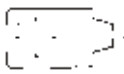

600 Nm

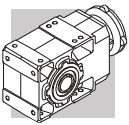
|  | i | $n_1 = 900 \text{ min}^{-1}$ | | | | | $n_1 = 500 \text{ min}^{-1}$ | | | | |  |
|---|-------|------------------------------|----------------|----------------|---------------|---------------|------------------------------|----------------|----------------|---------------|---------------|---|
| | | n_2 min ⁻¹ | M_{n2} Nm | P_{n1} kW | R_{n1} N | R_{n2} N | n_2 min ⁻¹ | M_{n2} Nm | P_{n1} kW | R_{n1} N | R_{n2} N | |
| A 35 2_5.4 | 5.4 | 166 | 340 | 6.3 | 2150 | 5940 | 92 | 340 | 3.5 | 2200 | 7600 | 315 |
| A 35 2_6.4 | 6.4 | 140 | 350 | 5.5 | 2190 | 6340 | 78 | 350 | 3.0 | 2200 | 8090 | |
| A 35 2_7.0 | 7.0 | 128 | 370 | 5.3 | 2200 | 6490 | 71 | 370 | 2.9 | 2200 | 8290 | |
| A 35 2_8.5 | 8.5 | 106 | 380 | 4.5 | 2200 | 6970 | 59 | 380 | 2.5 | 2200 | 8890 | |
| A 35 2_9.3 | 9.3 | 97 | 400 | 4.3 | 2200 | 7160 | 54 | 400 | 2.4 | 2200 | 9140 | |
| A 35 2_10.6 | 10.6 | 85 | 400 | 3.8 | 2200 | 7570 | 47 | 400 | 2.1 | 2200 | 9650 | |
| A 35 2_11.8 | 11.8 | 76 | 400 | 3.4 | 2200 | 7910 | 42 | 400 | 1.9 | 2200 | 10100 | |
| A 35 2_13.1 | 13.1 | 69 | 600 | 4.6 | 2200 | 6910 | 38 | 600 | 2.6 | 2200 | 9140 | |
| A 35 2_15.5 | 15.5 | 58 | 600 | 3.9 | 2090 | 7510 | 32 | 600 | 2.2 | 2200 | 9860 | |
| A 35 2_17.0 | 17.0 | 53 | 600 | 3.5 | 2200 | 7840 | 29.5 | 600 | 2.0 | 2200 | 10300 | |
| A 35 2_20.4 | 20.4 | 44 | 600 | 2.9 | 2200 | 8560 | 24.5 | 600 | 1.6 | 2200 | 11100 | |
| A 35 2_22.5 | 22.5 | 40 | 600 | 2.7 | 2200 | 8950 | 22.2 | 600 | 1.5 | 2200 | 11600 | |
| A 35 2_25.7 | 25.7 | 35 | 600 | 2.3 | 2200 | 9500 | 19.5 | 600 | 1.3 | 2200 | 12000 | |
| A 35 2_28.4 | 28.4 | 32 | 600 | 2.1 | 2200 | 9950 | 17.6 | 600 | 1.2 | 2200 | 12000 | |
| A 35 2_33.2 | 33.2 | 27.1 | 600 | 1.8 | 2200 | 10700 | 15.1 | 600 | 1.0 | 2200 | 12000 | |
| A 35 2_36.6 | 36.6 | 24.6 | 600 | 1.6 | 2200 | 11100 | 13.7 | 600 | 0.91 | 2200 | 12000 | |
| A 35 2_41.8 | 41.8 | 21.5 | 600 | 1.4 | 2200 | 11800 | 12.0 | 600 | 0.80 | 2200 | 12000 | |
| A 35 2_45.8 | 45.8 | 19.6 | 600 | 1.3 | 2200 | 12000 | 10.9 | 600 | 0.73 | 2200 | 12000 | |
| A 35 2_49.1 | 49.1 | 18.3 | 600 | 1.2 | 2200 | 12000 | 10.2 | 600 | 0.68 | 2200 | 12000 | |
| A 35 2_54.3 | 54.3 | 16.6 | 600 | 1.1 | 2200 | 12000 | 9.2 | 600 | 0.62 | 2200 | 12000 | |
| A 35 2_60.4 | 60.4 | 14.9 | 600 | 1.0 | 2200 | 12000 | 8.3 | 600 | 0.55 | 2200 | 12000 | |
| A 35 2_65.8 | 65.8 | 13.7 | 600 | 0.91 | 2200 | 12000 | 7.6 | 600 | 0.51 | 2200 | 12000 | |
| A 35 2_74.3 | 74.3 | 12.1 | 600 | 0.81 | 2200 | 12000 | 6.7 | 600 | 0.45 | 2200 | 12000 | |
| A 35 2_82.5 | 82.5 | 10.9 | 600 | 0.73 | 2200 | 12000 | 6.1 | 600 | 0.40 | 2200 | 12000 | |
| A 35 2_95.6 | 95.6 | 9.4 | 540 | 0.57 | 2200 | 12000 | 5.2 | 540 | 0.31 | 2200 | 12000 | |
| A 35 3_105.5 | 105.5 | 8.5 | 600 | 0.59 | 940 | 12000 | 4.7 | 600 | 0.33 | 1300 | 12000 | |
| A 35 3_116.9 | 116.9 | 7.7 | 600 | 0.53 | 1230 | 12000 | 4.3 | 600 | 0.30 | 1300 | 12000 | |
| A 35 3_136.3 | 136.3 | 6.6 | 600 | 0.46 | 1300 | 12000 | 3.7 | 600 | 0.25 | 1300 | 12000 | |
| A 35 3_150.6 | 150.6 | 6.0 | 600 | 0.41 | 1300 | 12000 | 3.3 | 600 | 0.23 | 1300 | 12000 | |
| A 35 3_171.8 | 171.8 | 5.2 | 600 | 0.36 | 1300 | 12000 | 2.9 | 600 | 0.20 | 1300 | 12000 | |
| A 35 3_188.3 | 188.3 | 4.8 | 600 | 0.33 | 1300 | 12000 | 2.7 | 600 | 0.18 | 1300 | 12000 | |
| A 35 3_201.8 | 201.8 | 4.5 | 600 | 0.31 | 1300 | 12000 | 2.5 | 600 | 0.17 | 1300 | 12000 | |
| A 35 3_223.2 | 223.2 | 4.0 | 600 | 0.28 | 1300 | 12000 | 2.2 | 600 | 0.15 | 1300 | 12000 | |
| A 35 3_248.1 | 248.1 | 3.6 | 600 | 0.25 | 1300 | 12000 | 2.0 | 600 | 0.14 | 1300 | 12000 | |
| A 35 3_270.7 | 270.7 | 3.3 | 600 | 0.23 | 1300 | 12000 | 1.8 | 600 | 0.13 | 1300 | 12000 | |
| A 35 3_305.4 | 305.4 | 2.9 | 600 | 0.20 | 1300 | 12000 | 1.6 | 600 | 0.11 | 1300 | 12000 | |
| A 35 3_339.3 | 339.3 | 2.7 | 520 | 0.16 | 1300 | 12000 | 1.5 | 520 | 0.09 | 1300 | 12000 | |
| A 35 3_393.2 | 393.2 | 2.3 | 465 | 0.12 | 1300 | 12000 | 1.3 | 465 | 0.07 | 1300 | 12000 | |



A 41



850 Nm

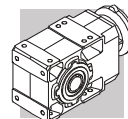
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 41 2_5.2 | 5.2 | 534 | 450 | 27 | 1790 | 4350 | 267 | 550 | 16.4 | 2450 | 5560 | 319 |
| A 41 2_7.1 | 7.1 | 393 | 490 | 22 | 1890 | 4850 | 197 | 550 | 12.0 | 2670 | 6430 | |
| A 41 2_8.3 | 8.3 | 336 | 510 | 19.1 | 1900 | 5140 | 168 | 550 | 10.3 | 2750 | 6920 | |
| A 41 2_9.2 | 9.2 | 304 | 530 | 18.0 | 1980 | 5300 | 152 | 550 | 9.3 | 2860 | 7240 | |
| A 41 2_10.1 | 10.1 | 276 | 435 | 13.4 | 2680 | 6030 | 138 | 535 | 8.2 | 3390 | 7650 | |
| A 41 2_11.7 | 11.7 | 238 | 550 | 14.6 | 2050 | 5870 | 119 | 550 | 7.3 | 2950 | 8070 | |
| A 41 2_13.8 | 13.8 | 204 | 480 | 10.9 | 2690 | 6680 | 102 | 585 | 6.6 | 3430 | 8510 | |
| A 41 2_16.1 | 16.1 | 174 | 500 | 9.7 | 2700 | 7070 | 87 | 610 | 5.9 | 3430 | 9000 | |
| A 41 2_17.8 | 17.8 | 158 | 515 | 9.0 | 2730 | 7310 | 79 | 630 | 5.5 | 3470 | 9300 | |
| A 41 2_22.7 | 22.7 | 123 | 550 | 7.6 | 2730 | 7970 | 62 | 680 | 4.7 | 3460 | 10100 | |
| A 41 2_28.3 | 28.3 | 99 | 595 | 6.6 | 2670 | 8570 | 49 | 730 | 4.0 | 3450 | 10900 | |
| A 41 2_35.9 | 35.9 | 78 | 635 | 5.5 | 2590 | 9320 | 39 | 780 | 3.4 | 3410 | 11800 | |
| A 41 2_45.1 | 45.1 | 62 | 680 | 4.7 | 2500 | 10100 | 31 | 830 | 2.9 | 3330 | 12800 | |
| A 41 2_48.3 | 48.3 | 58 | 690 | 4.5 | 2430 | 10300 | 29.0 | 850 | 2.7 | 3200 | 13100 | |
| A 41 2_53.1 | 53.1 | 53 | 700 | 4.1 | 2470 | 10700 | 26.3 | 850 | 2.5 | 3330 | 13700 | |
| A 41 2_58.8 | 58.8 | 48 | 730 | 3.9 | 2390 | 11100 | 23.8 | 850 | 2.3 | 3460 | 14300 | |
| A 41 2_64.2 | 64.2 | 44 | 740 | 3.6 | 2320 | 11500 | 21.8 | 850 | 2.1 | 3460 | 14800 | |
| A 41 2_71.3 | 71.3 | 39 | 780 | 3.4 | 2120 | 11800 | 19.6 | 850 | 1.9 | 3470 | 15000 | |
| A 41 2_79.2 | 79.2 | 35 | 800 | 3.1 | 1990 | 12300 | 17.7 | 800 | 1.6 | 3500 | 15000 | |
| A 41 3_92.8 | 92.8 | 30 | 650 | 2.3 | 270 | 14000 | 15.1 | 800 | 1.4 | 430 | 15000 | |
| A 41 3_115.9 | 115.9 | 24.2 | 800 | 2.2 | 310 | 14600 | 12.1 | 850 | 1.2 | 980 | 15000 | |
| A 41 3_146.9 | 146.9 | 19.1 | 850 | 1.9 | 790 | 15000 | 9.5 | 850 | 0.93 | 1640 | 15000 | |
| A 41 3_184.4 | 184.4 | 15.2 | 850 | 1.5 | 1290 | 15000 | 7.6 | 850 | 0.74 | 1770 | 15000 | |
| A 41 3_197.5 | 197.5 | 14.2 | 850 | 1.4 | 1360 | 15000 | 7.1 | 850 | 0.69 | 1790 | 15000 | |
| A 41 3_217.4 | 217.4 | 12.9 | 850 | 1.3 | 1390 | 15000 | 6.4 | 850 | 0.63 | 1820 | 15000 | |
| A 41 3_240.6 | 240.6 | 11.6 | 850 | 1.1 | 1410 | 15000 | 5.8 | 850 | 0.57 | 1840 | 15000 | |
| A 41 3_262.5 | 262.5 | 10.7 | 850 | 1.0 | 1430 | 15000 | 5.3 | 850 | 0.52 | 1860 | 15000 | |
| A 41 3_291.7 | 291.7 | 9.6 | 850 | 0.94 | 1450 | 15000 | 4.8 | 850 | 0.47 | 1880 | 15000 | |
| A 41 3_324.2 | 324.2 | 8.6 | 850 | 0.84 | 1470 | 15000 | 4.3 | 850 | 0.42 | 1900 | 15000 | |
| A 41 3_376.8 | 376.8 | 7.4 | 850 | 0.73 | 1500 | 15000 | 3.7 | 850 | 0.36 | 1930 | 15000 | |



A 41

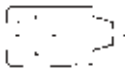

850 Nm

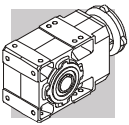
|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 41 2_5.2 | 5.2 | 172 | 550 | 10.5 | 3140 | 6850 | 95 | 550 | 5.8 | 3500 | 8900 | 319 |
| A 41 2_7.1 | 7.1 | 126 | 550 | 7.7 | 3360 | 7870 | 70 | 550 | 4.3 | 3500 | 10100 | |
| A 41 2_8.3 | 8.3 | 108 | 550 | 6.6 | 3440 | 8430 | 60 | 550 | 3.7 | 3500 | 10800 | |
| A 41 2_9.2 | 9.2 | 98 | 550 | 6.0 | 3500 | 8800 | 54 | 550 | 3.3 | 3500 | 11300 | |
| A 41 2_10.1 | 10.1 | 89 | 610 | 6.0 | 3500 | 8920 | 49 | 730 | 4.0 | 3500 | 10900 | |
| A 41 2_11.7 | 11.7 | 77 | 550 | 4.7 | 3500 | 9760 | 43 | 550 | 2.6 | 3500 | 12400 | |
| A 41 2_13.8 | 13.8 | 65 | 670 | 4.9 | 3500 | 9900 | 36 | 800 | 3.2 | 3500 | 12100 | |
| A 41 2_16.1 | 16.1 | 56 | 700 | 4.4 | 3500 | 10500 | 31 | 830 | 2.9 | 3500 | 12800 | |
| A 41 2_17.8 | 17.8 | 51 | 720 | 4.1 | 3500 | 10800 | 28.1 | 850 | 2.7 | 3500 | 13300 | |
| A 41 2_22.7 | 22.7 | 40 | 780 | 3.4 | 3500 | 11700 | 22.0 | 850 | 2.1 | 3500 | 14800 | |
| A 41 2_28.3 | 28.3 | 32 | 830 | 2.9 | 3500 | 12700 | 17.7 | 850 | 1.7 | 3500 | 15000 | |
| A 41 2_35.9 | 35.9 | 25.1 | 850 | 2.4 | 3500 | 14000 | 13.9 | 850 | 1.3 | 3500 | 15000 | |
| A 41 2_45.1 | 45.1 | 20.0 | 850 | 1.9 | 3500 | 15000 | 11.1 | 850 | 1.1 | 3500 | 15000 | |
| A 41 2_48.3 | 48.3 | 18.6 | 850 | 1.8 | 3500 | 15000 | 10.4 | 850 | 0.98 | 3500 | 15000 | |
| A 41 2_53.1 | 53.1 | 16.9 | 850 | 1.6 | 3500 | 15000 | 9.4 | 850 | 0.89 | 3500 | 15000 | |
| A 41 2_58.8 | 58.8 | 15.3 | 850 | 1.4 | 3500 | 15000 | 8.5 | 850 | 0.81 | 3500 | 15000 | |
| A 41 2_64.2 | 64.2 | 14.0 | 850 | 1.3 | 3300 | 15000 | 7.8 | 850 | 0.74 | 3500 | 15000 | |
| A 41 2_71.3 | 71.3 | 12.6 | 850 | 1.2 | 3500 | 15000 | 7.0 | 850 | 0.66 | 3500 | 15000 | |
| A 41 2_79.2 | 79.2 | 11.4 | 800 | 1.0 | 3500 | 15000 | 6.3 | 800 | 0.56 | 3500 | 15000 | |
| A 41 3_92.8 | 92.8 | 9.7 | 800 | 0.89 | 1080 | 15000 | 5.4 | 800 | 0.50 | 2110 | 15000 | |
| A 41 3_115.9 | 115.9 | 7.8 | 850 | 0.76 | 1630 | 15000 | 4.3 | 850 | 0.42 | 2200 | 15000 | |
| A 41 3_146.9 | 146.9 | 6.1 | 850 | 0.60 | 2020 | 15000 | 3.4 | 850 | 0.33 | 2200 | 15000 | |
| A 41 3_184.4 | 184.4 | 4.9 | 850 | 0.48 | 2100 | 15000 | 2.7 | 850 | 0.27 | 2200 | 15000 | |
| A 41 3_197.5 | 197.5 | 4.6 | 850 | 0.45 | 2120 | 15000 | 2.5 | 850 | 0.25 | 2200 | 15000 | |
| A 41 3_217.4 | 217.4 | 4.1 | 850 | 0.40 | 2150 | 15000 | 2.3 | 850 | 0.22 | 2200 | 15000 | |
| A 41 3_240.6 | 240.6 | 3.7 | 850 | 0.37 | 2170 | 15000 | 2.1 | 850 | 0.20 | 2200 | 15000 | |
| A 41 3_262.5 | 262.5 | 3.4 | 850 | 0.34 | 2190 | 15000 | 1.9 | 850 | 0.19 | 2200 | 15000 | |
| A 41 3_291.7 | 291.7 | 3.1 | 850 | 0.30 | 2200 | 15000 | 1.7 | 850 | 0.17 | 2200 | 15000 | |
| A 41 3_324.2 | 324.2 | 2.8 | 850 | 0.27 | 2200 | 15000 | 1.5 | 850 | 0.15 | 2200 | 15000 | |
| A 41 3_376.8 | 376.8 | 2.4 | 850 | 0.23 | 2200 | 15000 | 1.3 | 850 | 0.13 | 2200 | 15000 | |



A 50



1500 Nm

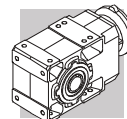
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 50 2_7.7 | 7.7 | 362 | 550 | 22 | 2300 | 7920 | 181 | 700 | 14.1 | 2890 | 9960 | 323 |
| A 50 2_9.7 | 9.7 | 288 | 600 | 19.2 | 2330 | 8530 | 144 | 750 | 12.0 | 2950 | 10800 | |
| A 50 2_13.1 | 13.1 | 214 | 600 | 14.3 | 2460 | 9600 | 107 | 750 | 8.9 | 3110 | 12100 | |
| A 50 2_16.6 | 16.6 | 169 | 640 | 12.0 | 2490 | 10400 | 84 | 800 | 7.5 | 3150 | 13100 | |
| A 50 2_20.9 | 20.9 | 134 | 640 | 9.5 | 2540 | 11400 | 67 | 800 | 6.0 | 3210 | 14400 | |
| A 50 3_24.0 | 24.0 | 116 | 1150 | 15.4 | 1850 | 7020 | 58 | 1500 | 10.0 | 2100 | 8540 | |
| A 50 3_26.4 | 26.4 | 106 | 1200 | 14.6 | 2100 | 7170 | 53 | 1500 | 9.1 | 2690 | 9100 | |
| A 50 3_32.4 | 32.4 | 86 | 1290 | 12.8 | 1800 | 4630 | 43 | 1500 | 7.5 | 2760 | 10400 | |
| A 50 3_35.6 | 35.6 | 79 | 1340 | 12.1 | 2080 | 7830 | 39 | 1500 | 6.8 | 3290 | 11000 | |
| A 50 3_40.9 | 40.9 | 68 | 1415 | 11.1 | 1740 | 8130 | 34 | 1500 | 5.9 | 3220 | 11900 | |
| A 50 3_45.0 | 45.0 | 62 | 1470 | 10.5 | 2030 | 8340 | 31 | 1500 | 5.4 | 3440 | 12600 | |
| A 50 3_51.7 | 51.7 | 54 | 1500 | 9.4 | 1680 | 8970 | 27.1 | 1500 | 4.7 | 3400 | 13600 | |
| A 50 3_56.8 | 56.8 | 49 | 1500 | 8.5 | 2150 | 9540 | 24.6 | 1500 | 4.3 | 3480 | 14400 | |
| A 50 3_63.9 | 63.9 | 44 | 1500 | 7.6 | 1900 | 10300 | 21.9 | 1500 | 3.8 | 3450 | 15300 | |
| A 50 3_70.2 | 70.2 | 40 | 1500 | 6.9 | 2350 | 10900 | 19.9 | 1500 | 3.4 | 3500 | 16100 | |
| A 50 3_81.5 | 81.5 | 34 | 1500 | 5.9 | 2170 | 11900 | 17.2 | 1500 | 3.0 | 3500 | 17300 | |
| A 50 3_89.5 | 89.5 | 31 | 1500 | 5.4 | 2590 | 12600 | 15.6 | 1500 | 2.7 | 3500 | 18200 | |
| A 50 3_99.5 | 99.5 | 28.1 | 1500 | 4.9 | 2260 | 13400 | 14.1 | 1500 | 2.4 | 3500 | 19200 | |
| A 50 3_109.4 | 109.4 | 25.6 | 1500 | 4.4 | 2680 | 14100 | 12.8 | 1500 | 2.2 | 3500 | 20000 | |
| A 50 3_118.0 | 118.0 | 23.7 | 1500 | 4.1 | 2390 | 14700 | 11.9 | 1500 | 2.0 | 3500 | 20000 | |
| A 50 3_129.7 | 129.7 | 21.6 | 1500 | 3.7 | 2720 | 15400 | 10.8 | 1500 | 1.9 | 3500 | 20000 | |
| A 50 3_140.6 | 140.6 | 19.9 | 1500 | 3.4 | 2440 | 16100 | 10.0 | 1500 | 1.7 | 3500 | 20000 | |
| A 50 3_154.6 | 154.6 | 18.1 | 1500 | 3.1 | 2730 | 16900 | 9.1 | 1500 | 1.6 | 3500 | 20000 | |
| A 50 3_173.4 | 173.4 | 16.2 | 1500 | 2.8 | 2480 | 17900 | 8.1 | 1500 | 1.4 | 3500 | 20000 | |
| A 50 3_190.6 | 190.6 | 14.7 | 1500 | 2.5 | 2740 | 18800 | 7.3 | 1500 | 1.3 | 3500 | 20000 | |
| A 50 4_211.0 | 211.0 | 13.3 | 1500 | 2.3 | 1930 | 20000 | 6.6 | 1500 | 1.2 | 2200 | 20000 | |
| A 50 4_232.0 | 232.0 | 12.1 | 1500 | 2.1 | 1970 | 20000 | 6.0 | 1500 | 1.1 | 2200 | 20000 | |
| A 50 4_260.9 | 260.9 | 10.7 | 1500 | 1.9 | 2010 | 20000 | 5.4 | 1500 | 0.95 | 2200 | 20000 | |
| A 50 4_286.8 | 286.8 | 9.8 | 1500 | 1.7 | 2040 | 20000 | 4.9 | 1500 | 0.86 | 2200 | 20000 | |
| A 50 4_332.6 | 332.6 | 8.4 | 1500 | 1.5 | 2080 | 20000 | 4.2 | 1500 | 0.74 | 2200 | 20000 | |
| A 50 4_365.6 | 365.6 | 7.7 | 1500 | 1.4 | 2100 | 20000 | 3.8 | 1500 | 0.68 | 2200 | 20000 | |
| A 50 4_406.4 | 406.4 | 6.9 | 1500 | 1.2 | 2130 | 20000 | 3.4 | 1500 | 0.61 | 2200 | 20000 | |
| A 50 4_446.8 | 446.8 | 6.3 | 1500 | 1.1 | 2140 | 20000 | 3.1 | 1500 | 0.55 | 2200 | 20000 | |
| A 50 4_481.6 | 481.6 | 5.8 | 1500 | 1.0 | 2160 | 20000 | 2.9 | 1500 | 0.51 | 2200 | 20000 | |
| A 50 4_529.5 | 529.5 | 5.3 | 1500 | 0.93 | 2170 | 20000 | 2.6 | 1500 | 0.47 | 2200 | 20000 | |
| A 50 4_574.2 | 574.2 | 4.9 | 1500 | 0.86 | 2190 | 20000 | 2.4 | 1500 | 0.43 | 2200 | 20000 | |
| A 50 4_631.2 | 631.2 | 4.4 | 1500 | 0.78 | 2200 | 20000 | 2.2 | 1500 | 0.39 | 2200 | 20000 | |
| A 50 4_707.9 | 707.9 | 4.0 | 1500 | 0.70 | 2200 | 20000 | 2.0 | 1500 | 0.35 | 2200 | 20000 | |
| A 50 4_778.2 | 778.2 | 3.6 | 1500 | 0.63 | 2200 | 20000 | 1.8 | 1500 | 0.32 | 2200 | 20000 | |



A 50

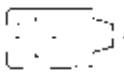

1500 Nm

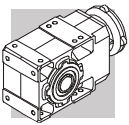
|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 50 2_7.7 | 7.7 | 116 | 770 | 10.0 | 3430 | 11700 | 65 | 900 | 6.5 | 3500 | 14300 | 323 |
| A 50 2_9.7 | 9.7 | 92 | 830 | 8.5 | 3490 | 12600 | 51 | 1000 | 5.7 | 3500 | 15300 | |
| A 50 2_13.1 | 13.1 | 69 | 830 | 6.3 | 3500 | 14200 | 38 | 1000 | 4.2 | 3500 | 17300 | |
| A 50 2_16.6 | 16.6 | 54 | 880 | 5.3 | 3500 | 15400 | 30 | 1000 | 3.4 | 3500 | 18900 | |
| A 50 2_20.9 | 20.9 | 43 | 880 | 4.2 | 3500 | 16800 | 23.9 | 1000 | 2.7 | 3500 | 20000 | |
| A 50 3_24.0 | 24.0 | 37 | 1500 | 6.5 | 3480 | 11300 | 20.8 | 1500 | 3.6 | 3500 | 15700 | |
| A 50 3_26.4 | 26.4 | 34 | 1500 | 5.9 | 3500 | 12000 | 18.9 | 1500 | 3.3 | 3500 | 16500 | |
| A 50 3_32.4 | 32.4 | 27.8 | 1500 | 4.8 | 3500 | 13400 | 15.4 | 1500 | 2.7 | 3500 | 18300 | |
| A 50 3_35.6 | 35.6 | 25.3 | 1500 | 4.4 | 3500 | 14200 | 14.0 | 1500 | 2.4 | 3500 | 19200 | |
| A 50 3_40.9 | 40.9 | 22.0 | 1500 | 3.8 | 3500 | 15300 | 12.2 | 1500 | 2.1 | 3500 | 20000 | |
| A 50 3_45.0 | 45.0 | 20.0 | 1500 | 3.5 | 3500 | 16000 | 11.1 | 1500 | 1.9 | 3500 | 20000 | |
| A 50 3_51.7 | 51.7 | 17.4 | 1500 | 3.0 | 3450 | 17200 | 9.7 | 1500 | 1.7 | 3500 | 20000 | |
| A 50 3_56.8 | 56.8 | 15.8 | 1500 | 2.7 | 3500 | 18100 | 8.8 | 1500 | 1.5 | 3500 | 20000 | |
| A 50 3_63.9 | 63.9 | 14.1 | 1500 | 2.4 | 3500 | 19200 | 7.8 | 1500 | 1.4 | 3500 | 20000 | |
| A 50 3_70.2 | 70.2 | 12.8 | 1500 | 2.2 | 3500 | 20000 | 7.1 | 1500 | 1.2 | 3500 | 20000 | |
| A 50 3_81.5 | 81.5 | 11.0 | 1500 | 1.9 | 3500 | 20000 | 6.1 | 1500 | 1.1 | 3500 | 20000 | |
| A 50 3_89.5 | 89.5 | 10.1 | 1500 | 1.7 | 3500 | 20000 | 5.6 | 1500 | 0.96 | 3500 | 20000 | |
| A 50 3_99.5 | 99.5 | 9.0 | 1500 | 1.6 | 3500 | 20000 | 5.0 | 1500 | 0.87 | 3500 | 20000 | |
| A 50 3_109.4 | 109.4 | 8.2 | 1500 | 1.4 | 3500 | 20000 | 4.6 | 1500 | 0.79 | 3500 | 20000 | |
| A 50 3_118.0 | 118.0 | 7.6 | 1500 | 1.3 | 3500 | 20000 | 4.2 | 1500 | 0.73 | 3500 | 20000 | |
| A 50 3_129.7 | 129.7 | 6.9 | 1500 | 1.2 | 3500 | 20000 | 3.9 | 1500 | 0.67 | 3500 | 20000 | |
| A 50 3_140.6 | 140.6 | 6.4 | 1500 | 1.1 | 3500 | 20000 | 3.6 | 1500 | 0.61 | 3500 | 20000 | |
| A 50 3_154.6 | 154.6 | 5.8 | 1500 | 1.0 | 3500 | 20000 | 3.2 | 1500 | 0.56 | 3500 | 20000 | |
| A 50 3_173.4 | 173.4 | 5.2 | 1500 | 0.90 | 3500 | 20000 | 2.9 | 1500 | 0.50 | 3500 | 20000 | |
| A 50 3_190.6 | 190.6 | 4.7 | 1500 | 0.82 | 3500 | 20000 | 2.6 | 1500 | 0.45 | 3500 | 20000 | |
| A 50 4_211.0 | 211.0 | 4.3 | 1500 | 0.75 | 2200 | 20000 | 2.4 | 1500 | 0.42 | 2200 | 20000 | |
| A 50 4_232.0 | 232.0 | 3.9 | 1500 | 0.68 | 2200 | 20000 | 2.2 | 1500 | 0.38 | 2200 | 20000 | |
| A 50 4_260.9 | 260.9 | 3.4 | 1500 | 0.61 | 2200 | 20000 | 1.9 | 1500 | 0.34 | 2200 | 20000 | |
| A 50 4_286.8 | 286.8 | 3.1 | 1500 | 0.55 | 2200 | 20000 | 1.7 | 1500 | 0.31 | 2200 | 20000 | |
| A 50 4_332.6 | 332.6 | 2.7 | 1500 | 0.48 | 2200 | 20000 | 1.5 | 1500 | 0.27 | 2200 | 20000 | |
| A 50 4_365.6 | 365.6 | 2.5 | 1500 | 0.43 | 2200 | 20000 | 1.4 | 1500 | 0.24 | 2200 | 20000 | |
| A 50 4_406.4 | 406.4 | 2.2 | 1500 | 0.39 | 2200 | 20000 | 1.2 | 1500 | 0.22 | 2200 | 20000 | |
| A 50 4_446.8 | 446.8 | 2.0 | 1500 | 0.36 | 2200 | 20000 | 1.1 | 1500 | 0.20 | 2200 | 20000 | |
| A 50 4_481.6 | 481.6 | 1.9 | 1500 | 0.33 | 2200 | 20000 | 1.0 | 1500 | 0.18 | 2200 | 20000 | |
| A 50 4_529.5 | 529.5 | 1.7 | 1500 | 0.30 | 2200 | 20000 | 0.94 | 1500 | 0.17 | 2200 | 20000 | |
| A 50 4_574.2 | 574.2 | 1.6 | 1500 | 0.28 | 2200 | 20000 | 0.87 | 1500 | 0.15 | 2200 | 20000 | |
| A 50 4_631.2 | 631.2 | 1.4 | 1500 | 0.25 | 2200 | 20000 | 0.79 | 1500 | 0.14 | 2200 | 20000 | |
| A 50 4_707.9 | 707.9 | 1.3 | 1500 | 0.22 | 2200 | 20000 | 0.71 | 1500 | 0.12 | 2200 | 20000 | |
| A 50 4_778.2 | 778.2 | 1.2 | 1500 | 0.20 | 2200 | 20000 | 0.64 | 1500 | 0.11 | 2200 | 20000 | |



A 55



2000 Nm

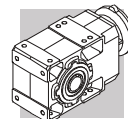
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 55 2_4.9 | 4.9 | 571 | 760 | 48 | 1320 | 15100 | 286 | 900 | 28 | 2150 | 18700 | 327 |
| A 55 2_6.4 | 6.4 | 438 | 800 | 39 | 1950 | 16400 | 219 | 950 | 23 | 2860 | 20300 | |
| A 55 2_8.5 | 8.5 | 329 | 800 | 30 | 2810 | 18000 | 165 | 950 | 17.5 | 3500 | 22200 | |
| A 55 2_10.4 | 10.4 | 269 | 840 | 25 | 2900 | 19100 | 135 | 1000 | 15.1 | 3500 | 23600 | |
| A 55 2_13.1 | 13.1 | 214 | 840 | 20 | 3230 | 20600 | 107 | 1000 | 11.9 | 3500 | 25500 | |
| A 55 2_15.7 | 15.7 | 178 | 840 | 16.7 | 3440 | 21900 | 89 | 1000 | 9.9 | 3500 | 27000 | |
| A 55 2_19.2 | 19.2 | 146 | 925 | 15.0 | 3160 | 23200 | 73 | 1100 | 8.9 | 3500 | 28600 | |
| A 55 3_23.8 | 23.8 | 118 | 1600 | 22 | 2050 | 21000 | 59 | 1950 | 13.2 | 2640 | 26000 | |
| A 55 3_29.9 | 29.9 | 94 | 1700 | 18.3 | 2110 | 22500 | 47 | 2000 | 10.8 | 2770 | 28200 | |
| A 55 3_40.3 | 40.3 | 69 | 1850 | 14.8 | 2150 | 24800 | 35 | 2000 | 8.0 | 2930 | 30000 | |
| A 55 3_51.0 | 51.0 | 55 | 2000 | 12.6 | 2170 | 26500 | 27.5 | 2000 | 6.3 | 3050 | 30000 | |
| A 55 3_64.3 | 64.3 | 44 | 2000 | 10.0 | 2230 | 29000 | 21.8 | 2000 | 5.0 | 3110 | 30000 | |
| A 55 3_79.5 | 79.5 | 35 | 2000 | 8.1 | 1040 | 30000 | 17.6 | 2000 | 4.1 | 2820 | 30000 | |
| A 55 3_101.4 | 101.4 | 27.6 | 2000 | 6.4 | 1340 | 30000 | 13.8 | 2000 | 3.2 | 3130 | 30000 | |
| A 55 3_123.9 | 123.9 | 22.6 | 2000 | 5.2 | 1450 | 30000 | 11.3 | 2000 | 2.6 | 3230 | 30000 | |
| A 55 3_132.7 | 132.7 | 21.1 | 2000 | 4.9 | 1450 | 30000 | 10.6 | 2000 | 2.4 | 3240 | 30000 | |
| A 55 3_146.8 | 146.8 | 19.1 | 2000 | 4.4 | 1610 | 30000 | 9.5 | 2000 | 2.2 | 3290 | 30000 | |
| A 55 3_160.4 | 160.4 | 17.5 | 2000 | 4.0 | 1660 | 30000 | 8.7 | 2000 | 2.0 | 3300 | 30000 | |
| A 55 3_175.0 | 175.0 | 16.0 | 2000 | 3.7 | 1660 | 30000 | 8.0 | 2000 | 1.8 | 3300 | 30000 | |
| A 55 3_194.2 | 194.2 | 14.4 | 2000 | 3.3 | 1710 | 30000 | 7.2 | 2000 | 1.7 | 3310 | 30000 | |
| A 55 4_208.1 | 208.1 | 13.5 | 1600 | 2.5 | 1890 | 30000 | 6.7 | 1950 | 1.5 | 2200 | 30000 | |
| A 55 4_262.6 | 262.6 | 10.7 | 1650 | 2.1 | 1980 | 30000 | 5.3 | 2000 | 1.3 | 2200 | 30000 | |
| A 55 4_324.7 | 324.7 | 8.6 | 1750 | 1.8 | 2030 | 30000 | 4.3 | 2000 | 1.0 | 2200 | 30000 | |
| A 55 4_414.0 | 414.0 | 6.8 | 1850 | 1.5 | 2080 | 30000 | 3.4 | 2000 | 0.80 | 2200 | 30000 | |
| A 55 4_505.9 | 505.9 | 5.5 | 1900 | 1.2 | 2120 | 30000 | 2.8 | 2000 | 0.65 | 2200 | 30000 | |
| A 55 4_542.0 | 542.0 | 5.2 | 1900 | 1.2 | 2140 | 30000 | 2.6 | 2000 | 0.61 | 2200 | 30000 | |
| A 55 4_599.5 | 599.5 | 4.7 | 1950 | 1.1 | 2150 | 30000 | 2.3 | 2000 | 0.55 | 2200 | 30000 | |
| A 55 4_655.1 | 655.1 | 4.3 | 1950 | 1.0 | 2180 | 30000 | 2.1 | 2000 | 0.50 | 2200 | 30000 | |
| A 55 4_714.7 | 714.7 | 3.9 | 1950 | 0.90 | 2200 | 30000 | 2.0 | 2000 | 0.46 | 2200 | 30000 | |
| A 55 4_793.0 | 793.0 | 3.5 | 2000 | 0.83 | 2200 | 30000 | 1.8 | 2000 | 0.42 | 2200 | 30000 | |



A 55

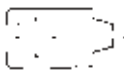

2000 Nm

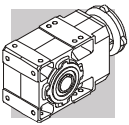
|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 55 2_4.9 | 4.9 | 184 | 1000 | 20 | 2850 | 21400 | 102 | 1160 | 13.1 | 3500 | 25600 | 327 |
| A 55 2_6.4 | 6.4 | 141 | 1060 | 16.6 | 3500 | 23200 | 78 | 1230 | 10.7 | 3500 | 27700 | |
| A 55 2_8.5 | 8.5 | 106 | 1060 | 12.6 | 3500 | 25400 | 59 | 1230 | 8.1 | 3500 | 30000 | |
| A 55 2_10.4 | 10.4 | 87 | 1120 | 10.8 | 3500 | 27000 | 48 | 1290 | 6.9 | 3500 | 30000 | |
| A 55 2_13.1 | 13.1 | 69 | 1120 | 8.6 | 3500 | 29100 | 38 | 1290 | 5.5 | 3500 | 30000 | |
| A 55 2_15.7 | 15.7 | 57 | 1120 | 7.2 | 3500 | 30000 | 32 | 1290 | 4.6 | 3500 | 30000 | |
| A 55 2_19.2 | 19.2 | 47 | 1230 | 6.4 | 3500 | 30000 | 26.0 | 1420 | 4.1 | 3500 | 30000 | |
| A 55 3_23.8 | 23.8 | 38 | 2000 | 8.7 | 3280 | 30000 | 21.0 | 2000 | 4.8 | 3500 | 30000 | |
| A 55 3_29.9 | 29.9 | 30 | 2000 | 6.9 | 3450 | 30000 | 16.7 | 2000 | 3.8 | 3500 | 30000 | |
| A 55 3_40.3 | 40.3 | 22.3 | 2000 | 5.1 | 3500 | 30000 | 12.4 | 2000 | 2.9 | 3500 | 30000 | |
| A 55 3_51.0 | 51.0 | 17.6 | 2000 | 4.1 | 3500 | 30000 | 9.8 | 2000 | 2.3 | 3500 | 30000 | |
| A 55 3_64.3 | 64.3 | 14.0 | 2000 | 3.2 | 3500 | 30000 | 7.8 | 2000 | 1.8 | 3500 | 30000 | |
| A 55 3_79.5 | 79.5 | 11.3 | 2000 | 2.6 | 3500 | 30000 | 6.3 | 2000 | 1.4 | 3500 | 30000 | |
| A 55 3_101.4 | 101.4 | 8.9 | 2000 | 2.0 | 3500 | 30000 | 4.9 | 2000 | 1.1 | 3500 | 30000 | |
| A 55 3_123.9 | 123.9 | 7.3 | 2000 | 1.7 | 3500 | 30000 | 4.0 | 2000 | 0.93 | 3500 | 30000 | |
| A 55 3_132.7 | 132.7 | 6.8 | 2000 | 1.6 | 3500 | 30000 | 3.8 | 2000 | 0.87 | 3500 | 30000 | |
| A 55 3_146.8 | 146.8 | 6.1 | 2000 | 1.4 | 3500 | 30000 | 3.4 | 2000 | 0.78 | 3500 | 30000 | |
| A 55 3_160.4 | 160.4 | 5.6 | 2000 | 1.3 | 3500 | 30000 | 3.1 | 2000 | 0.72 | 3500 | 30000 | |
| A 55 3_175.0 | 175.0 | 5.1 | 2000 | 1.2 | 3500 | 30000 | 2.9 | 2000 | 0.66 | 3500 | 30000 | |
| A 55 3_194.2 | 194.2 | 4.6 | 2000 | 1.1 | 3500 | 30000 | 2.6 | 2000 | 0.59 | 3500 | 30000 | |
| A 55 4_208.1 | 208.1 | 4.3 | 2000 | 1.0 | 2200 | 30000 | 2.4 | 2000 | 0.57 | 2200 | 30000 | |
| A 55 4_262.6 | 262.6 | 3.4 | 2000 | 0.81 | 2200 | 30000 | 1.9 | 2000 | 0.45 | 2200 | 30000 | |
| A 55 4_324.7 | 324.7 | 2.8 | 2000 | 0.65 | 2200 | 30000 | 1.5 | 2000 | 0.36 | 2200 | 30000 | |
| A 55 4_414.0 | 414.0 | 2.2 | 2000 | 0.51 | 2200 | 30000 | 1.2 | 2000 | 0.28 | 2200 | 30000 | |
| A 55 4_505.9 | 505.9 | 1.8 | 2000 | 0.42 | 2200 | 30000 | 1.0 | 2000 | 0.23 | 2200 | 30000 | |
| A 55 4_542.0 | 542.0 | 1.7 | 2000 | 0.39 | 2200 | 30000 | 0.92 | 2000 | 0.22 | 2200 | 30000 | |
| A 55 4_599.5 | 599.5 | 1.5 | 2000 | 0.35 | 2200 | 30000 | 0.83 | 2000 | 0.20 | 2200 | 30000 | |
| A 55 4_655.1 | 655.1 | 1.4 | 2000 | 0.32 | 2200 | 30000 | 0.76 | 2000 | 0.18 | 2200 | 30000 | |
| A 55 4_714.7 | 714.7 | 1.3 | 2000 | 0.30 | 2200 | 30000 | 0.70 | 2000 | 0.16 | 2200 | 30000 | |
| A 55 4_793.0 | 793.0 | 1.1 | 2000 | 0.27 | 2200 | 30000 | 0.63 | 2000 | 0.15 | 2200 | 30000 | |



A 60



2800 Nm

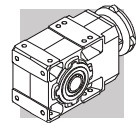
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 60 2_7.9 | 7.9 | 356 | 950 | 38 | 2770 | 22500 | 178 | 1200 | 24 | 3400 | 27700 | 331 |
| A 60 2_10.3 | 10.3 | 271 | 950 | 29 | 2970 | 24600 | 136 | 1200 | 18.1 | 3740 | 30000 | |
| A 60 2_12.7 | 12.7 | 220 | 1000 | 25 | 3020 | 26200 | 110 | 1250 | 15.3 | 3810 | 30000 | |
| A 60 2_16.7 | 16.7 | 167 | 1050 | 19.6 | 3080 | 28600 | 84 | 1300 | 12.1 | 3910 | 30000 | |
| A 60 2_20.6 | 20.6 | 136 | 1100 | 16.7 | 3100 | 30000 | 68 | 1400 | 10.6 | 3890 | 30000 | |
| A 60 3_25.7 | 25.7 | 109 | 2760 | 35 | 2380 | 26900 | 54 | 2800 | 17.5 | 3800 | 30000 | |
| A 60 3_27.9 | 27.9 | 101 | 2800 | 32 | 2780 | 27700 | 50 | 2800 | 16.2 | 3930 | 30000 | |
| A 60 3_31.7 | 31.7 | 88 | 2800 | 29 | 2790 | 29000 | 44 | 2800 | 14.2 | 3940 | 30000 | |
| A 60 3_34.3 | 34.3 | 82 | 2800 | 26 | 2920 | 30000 | 41 | 2800 | 13.2 | 4060 | 30000 | |
| A 60 3_41.7 | 41.7 | 67 | 2800 | 22 | 2940 | 30000 | 34 | 2800 | 10.8 | 4090 | 30000 | |
| A 60 3_45.2 | 45.2 | 62 | 2800 | 20 | 3060 | 30000 | 31 | 2800 | 10.0 | 4200 | 30000 | |
| A 60 3_51.3 | 51.3 | 55 | 2800 | 17.6 | 3030 | 30000 | 27.3 | 2800 | 8.8 | 4180 | 30000 | |
| A 60 3_55.6 | 55.6 | 50 | 2800 | 16.2 | 3140 | 30000 | 25.2 | 2800 | 8.1 | 4280 | 30000 | |
| A 60 3_65.0 | 65.0 | 43 | 2800 | 13.9 | 3110 | 30000 | 21.5 | 2800 | 6.9 | 4260 | 30000 | |
| A 60 3_70.4 | 70.4 | 40 | 2800 | 12.8 | 3210 | 30000 | 19.9 | 2800 | 6.4 | 4360 | 30000 | |
| A 60 3_79.7 | 79.7 | 35 | 2800 | 11.3 | 3160 | 30000 | 17.6 | 2800 | 5.7 | 4310 | 30000 | |
| A 60 3_86.4 | 86.4 | 32 | 2800 | 10.4 | 3260 | 30000 | 16.2 | 2800 | 5.2 | 4410 | 30000 | |
| A 60 3_99.5 | 99.5 | 28.1 | 2800 | 9.1 | 3210 | 30000 | 14.1 | 2800 | 4.5 | 4360 | 30000 | |
| A 60 3_107.8 | 107.8 | 26.0 | 2800 | 8.4 | 3300 | 30000 | 13.0 | 2800 | 4.2 | 4450 | 30000 | |
| A 60 3_123.0 | 123.0 | 22.8 | 2800 | 7.3 | 3250 | 30000 | 11.4 | 2800 | 3.7 | 4400 | 30000 | |
| A 60 3_133.3 | 133.3 | 21.0 | 2800 | 6.8 | 3340 | 30000 | 10.5 | 2800 | 3.4 | 4490 | 30000 | |
| A 60 3_144.0 | 144.0 | 19.4 | 2800 | 6.3 | 3280 | 30000 | 9.7 | 2800 | 3.1 | 4420 | 30000 | |
| A 60 3_156.0 | 156.0 | 17.9 | 2800 | 5.8 | 3360 | 30000 | 9.0 | 2800 | 2.9 | 4510 | 30000 | |
| A 60 3_171.5 | 171.5 | 16.3 | 2800 | 5.3 | 3290 | 30000 | 8.2 | 2800 | 2.6 | 4430 | 30000 | |
| A 60 3_185.8 | 185.8 | 15.1 | 2800 | 4.9 | 3370 | 30000 | 7.5 | 2800 | 2.4 | 4520 | 30000 | |
| A 60 4_208.7 | 208.7 | 13.4 | 2800 | 4.4 | 2720 | 30000 | 6.7 | 2800 | 2.2 | 3500 | 30000 | |
| A 60 4_226.1 | 226.1 | 12.4 | 2800 | 4.1 | 2770 | 30000 | 6.2 | 2800 | 2.0 | 3500 | 30000 | |
| A 60 4_264.3 | 264.3 | 10.6 | 2800 | 3.5 | 2860 | 30000 | 5.3 | 2800 | 1.7 | 3500 | 30000 | |
| A 60 4_286.3 | 286.3 | 9.8 | 2800 | 3.2 | 2900 | 30000 | 4.9 | 2800 | 1.6 | 3500 | 30000 | |
| A 60 4_324.2 | 324.2 | 8.6 | 2800 | 2.8 | 2960 | 30000 | 4.3 | 2800 | 1.4 | 3500 | 30000 | |
| A 60 4_351.2 | 351.2 | 8.0 | 2800 | 2.6 | 2990 | 30000 | 4.0 | 2800 | 1.3 | 3500 | 30000 | |
| A 60 4_404.7 | 404.7 | 6.9 | 2800 | 2.3 | 3050 | 30000 | 3.5 | 2800 | 1.1 | 3500 | 30000 | |
| A 60 4_438.4 | 438.4 | 6.4 | 2800 | 2.1 | 3070 | 30000 | 3.2 | 2800 | 1.1 | 3500 | 30000 | |
| A 60 4_500.3 | 500.3 | 5.6 | 2800 | 1.8 | 3110 | 30000 | 2.8 | 2800 | 0.92 | 3500 | 30000 | |
| A 60 4_542.0 | 542.0 | 5.2 | 2800 | 1.7 | 3140 | 30000 | 2.6 | 2800 | 0.85 | 3500 | 30000 | |
| A 60 4_585.8 | 585.8 | 4.8 | 2800 | 1.6 | 3150 | 30000 | 2.4 | 2800 | 0.79 | 3500 | 30000 | |
| A 60 4_634.6 | 634.6 | 4.4 | 2800 | 1.5 | 3170 | 30000 | 2.2 | 2800 | 0.73 | 3500 | 30000 | |
| A 60 4_697.3 | 697.3 | 4.0 | 2800 | 1.3 | 3190 | 30000 | 2.0 | 2800 | 0.66 | 3500 | 30000 | |
| A 60 4_755.4 | 755.4 | 3.7 | 2800 | 1.2 | 3210 | 30000 | 1.9 | 2800 | 0.61 | 3500 | 30000 | |



A 60



2800 Nm

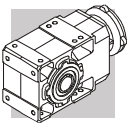
|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 60 2_7.9 | 7.9 | 114 | 1300 | 16.6 | 4190 | 30000 | 64 | 1550 | 11.0 | 4700 | 30000 | 331 |
| A 60 2_10.3 | 10.3 | 87 | 1300 | 12.6 | 4470 | 30000 | 48 | 1550 | 8.4 | 4700 | 30000 | |
| A 60 2_12.7 | 12.7 | 71 | 1400 | 11.0 | 4490 | 30000 | 39 | 1700 | 7.5 | 4700 | 30000 | |
| A 60 2_16.7 | 16.7 | 54 | 1450 | 8.7 | 4610 | 30000 | 29.9 | 1700 | 5.7 | 4700 | 30000 | |
| A 60 2_20.6 | 20.6 | 44 | 1550 | 7.5 | 4600 | 30000 | 24.3 | 1800 | 4.9 | 4700 | 30000 | |
| A 60 3_25.7 | 25.7 | 35 | 2800 | 11.3 | 4680 | 30000 | 19.4 | 2800 | 6.3 | 4700 | 30000 | |
| A 60 3_27.9 | 27.9 | 32 | 2800 | 10.4 | 4700 | 30000 | 18.0 | 2800 | 5.8 | 4700 | 30000 | |
| A 60 3_31.7 | 31.7 | 28.4 | 2800 | 9.2 | 4700 | 30000 | 15.8 | 2800 | 5.1 | 4700 | 30000 | |
| A 60 3_34.3 | 34.3 | 26.2 | 2800 | 8.5 | 4700 | 30000 | 14.6 | 2800 | 4.7 | 4700 | 30000 | |
| A 60 3_41.7 | 41.7 | 21.6 | 2800 | 7.0 | 4700 | 30000 | 12.0 | 2800 | 3.9 | 4700 | 30000 | |
| A 60 3_45.2 | 45.2 | 19.9 | 2800 | 6.4 | 4700 | 30000 | 11.1 | 2800 | 3.6 | 4700 | 30000 | |
| A 60 3_51.3 | 51.3 | 17.5 | 2800 | 5.6 | 4700 | 30000 | 9.7 | 2800 | 3.1 | 4700 | 30000 | |
| A 60 3_55.6 | 55.6 | 16.2 | 2800 | 5.2 | 4700 | 30000 | 9.0 | 2800 | 2.9 | 4700 | 30000 | |
| A 60 3_65.0 | 65.0 | 13.8 | 2800 | 4.5 | 4700 | 30000 | 7.7 | 2800 | 2.5 | 4700 | 30000 | |
| A 60 3_70.4 | 70.4 | 12.8 | 2800 | 4.1 | 4700 | 30000 | 7.1 | 2800 | 2.3 | 4700 | 30000 | |
| A 60 3_79.7 | 79.7 | 11.3 | 2800 | 3.6 | 4700 | 30000 | 6.3 | 2800 | 2.0 | 4700 | 30000 | |
| A 60 3_86.4 | 86.4 | 10.4 | 2800 | 3.4 | 4700 | 30000 | 5.8 | 2800 | 1.9 | 4700 | 30000 | |
| A 60 3_99.5 | 99.5 | 9.0 | 2800 | 2.9 | 4700 | 30000 | 5.0 | 2800 | 1.6 | 4700 | 30000 | |
| A 60 3_107.8 | 107.8 | 8.3 | 2800 | 2.7 | 4700 | 30000 | 4.6 | 2800 | 1.5 | 4700 | 30000 | |
| A 60 3_123.0 | 123.0 | 7.3 | 2800 | 2.4 | 4700 | 30000 | 4.1 | 2800 | 1.3 | 4700 | 30000 | |
| A 60 3_133.3 | 133.3 | 6.8 | 2800 | 2.2 | 4700 | 30000 | 3.8 | 2800 | 1.2 | 4700 | 30000 | |
| A 60 3_144.0 | 144.0 | 6.2 | 2800 | 2.0 | 4700 | 30000 | 3.5 | 2800 | 1.1 | 4700 | 30000 | |
| A 60 3_156.0 | 156.0 | 5.8 | 2800 | 1.9 | 4700 | 30000 | 3.2 | 2800 | 1.0 | 4700 | 30000 | |
| A 60 3_171.5 | 171.5 | 5.2 | 2800 | 1.7 | 4700 | 30000 | 2.9 | 2800 | 0.94 | 4700 | 30000 | |
| A 60 3_185.8 | 185.8 | 4.8 | 2800 | 1.6 | 4700 | 30000 | 2.7 | 2800 | 0.87 | 4700 | 30000 | |
| A 60 4_208.7 | 208.7 | 4.3 | 2800 | 1.4 | 3500 | 30000 | 2.4 | 2800 | 0.79 | 3500 | 30000 | |
| A 60 4_226.1 | 226.1 | 4.0 | 2800 | 1.3 | 3500 | 30000 | 2.2 | 2800 | 0.73 | 3500 | 30000 | |
| A 60 4_264.3 | 264.3 | 3.4 | 2800 | 1.1 | 3500 | 30000 | 1.9 | 2800 | 0.62 | 3500 | 30000 | |
| A 60 4_286.3 | 286.3 | 3.1 | 2800 | 1.0 | 3500 | 30000 | 1.7 | 2800 | 0.58 | 3500 | 30000 | |
| A 60 4_324.2 | 324.2 | 2.8 | 2800 | 0.91 | 3500 | 30000 | 1.5 | 2800 | 0.51 | 3500 | 30000 | |
| A 60 4_351.2 | 351.2 | 2.6 | 2800 | 0.84 | 3500 | 30000 | 1.4 | 2800 | 0.47 | 3500 | 30000 | |
| A 60 4_404.7 | 404.7 | 2.2 | 2800 | 0.73 | 3500 | 30000 | 1.2 | 2800 | 0.41 | 3500 | 30000 | |
| A 60 4_438.4 | 438.4 | 2.1 | 2800 | 0.68 | 3500 | 30000 | 1.1 | 2800 | 0.38 | 3500 | 30000 | |
| A 60 4_500.3 | 500.3 | 1.8 | 2800 | 0.59 | 3500 | 30000 | 1.0 | 2800 | 0.33 | 3500 | 30000 | |
| A 60 4_542.0 | 542.0 | 1.7 | 2800 | 0.55 | 3500 | 30000 | 0.92 | 2800 | 0.30 | 3500 | 30000 | |
| A 60 4_585.8 | 585.8 | 1.5 | 2800 | 0.51 | 3500 | 30000 | 0.85 | 2800 | 0.28 | 3500 | 30000 | |
| A 60 4_634.6 | 634.6 | 1.4 | 2800 | 0.47 | 3500 | 30000 | 0.79 | 2800 | 0.26 | 3500 | 30000 | |
| A 60 4_697.3 | 697.3 | 1.3 | 2800 | 0.43 | 3500 | 30000 | 0.72 | 2800 | 0.24 | 3500 | 30000 | |
| A 60 4_755.4 | 755.4 | 1.2 | 2800 | 0.39 | 3500 | 30000 | 0.66 | 2800 | 0.22 | 3500 | 30000 | |



A 70



5000 Nm

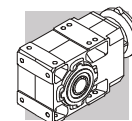
|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 70 3_9.4 | 9.4 | 297 | 2300 | 79 | 1900 | 25900 | 148 | 2800 | 48 | 2550 | 31900 | |
| A 70 3_10.2 | 10.2 | 274 | 2400 | 76 | 2480 | 26400 | 137 | 3200 | 50 | 1480 | 31900 | |
| A 70 3_12.1 | 12.1 | 232 | 2400 | 64 | 2420 | 28000 | 116 | 3200 | 43 | 1400 | 33900 | |
| A 70 3_13.1 | 13.1 | 214 | 2600 | 64 | 2420 | 28400 | 107 | 3350 | 41 | 2100 | 34600 | |
| A 70 3_15.4 | 15.4 | 182 | 2700 | 56 | 2100 | 29900 | 91 | 3350 | 35 | 2430 | 36700 | |
| A 70 3_16.7 | 16.7 | 168 | 2850 | 55 | 2500 | 30400 | 84 | 3600 | 35 | 2590 | 37200 | |
| A 70 3_19.7 | 19.7 | 142 | 2900 | 48 | 2030 | 32100 | 71 | 3700 | 30 | 1790 | 39300 | |
| A 70 3_21.3 | 21.3 | 131 | 3000 | 45 | 2750 | 32900 | 66 | 4000 | 30 | 1830 | 39800 | |
| A 70 3_23.5 | 23.5 | 119 | 3500 | 48 | 4930 | 32900 | 60 | 4300 | 30 | 6250 | 40500 | |
| A 70 3_27.8 | 27.8 | 101 | 3450 | 40 | 4960 | 35100 | 50 | 4200 | 24 | 6300 | 43300 | |
| A 70 3_30.1 | 30.1 | 93 | 3700 | 40 | 4970 | 35600 | 47 | 4550 | 24 | 6300 | 43900 | |
| A 70 3_35.4 | 35.4 | 79 | 3650 | 33 | 5040 | 37900 | 40 | 4500 | 21 | 6370 | 46600 | |
| A 70 3_38.4 | 38.4 | 73 | 3950 | 33 | 5040 | 38400 | 36 | 4850 | 20 | 6380 | 47300 | |
| A 70 3_45.2 | 45.2 | 62 | 3900 | 28 | 5050 | 40800 | 31 | 4800 | 17.1 | 6400 | 50000 | |
| A 70 3_49.0 | 49.0 | 57 | 4250 | 28 | 5050 | 41300 | 28.6 | 5000 | 16.4 | 6450 | 50000 | |
| A 70 3_53.2 | 53.2 | 53 | 4100 | 25 | 5030 | 42900 | 26.3 | 5000 | 15.1 | 6380 | 50000 | |
| A 70 3_57.7 | 57.7 | 49 | 4450 | 25 | 5030 | 43400 | 24.3 | 5000 | 14.0 | 6490 | 50000 | |
| A 70 3_66.9 | 66.9 | 42 | 4350 | 21 | 5050 | 46000 | 20.9 | 5000 | 12.0 | 6480 | 50000 | |
| A 70 3_72.5 | 72.5 | 39 | 4750 | 21 | 5040 | 46500 | 19.3 | 5000 | 11.1 | 6580 | 50000 | |
| A 70 3_79.3 | 79.3 | 35 | 4600 | 18.7 | 5020 | 48400 | 17.6 | 5000 | 10.2 | 6520 | 50000 | |
| A 70 3_85.9 | 85.9 | 33 | 4950 | 18.6 | 5030 | 49100 | 16.3 | 5000 | 9.4 | 6620 | 50000 | |
| A 70 3_96.2 | 96.2 | 29.1 | 4850 | 16.2 | 5000 | 50000 | 14.6 | 5000 | 8.4 | 6570 | 50000 | |
| A 70 3_104.2 | 104.2 | 26.9 | 5000 | 15.5 | 5060 | 50000 | 13.4 | 5000 | 7.7 | 6660 | 50000 | |
| A 70 3_120.6 | 120.6 | 23.2 | 5000 | 13.4 | 5010 | 50000 | 11.6 | 5000 | 6.7 | 6610 | 50000 | |
| A 70 3_130.7 | 130.7 | 21.4 | 5000 | 12.3 | 5100 | 50000 | 10.7 | 5000 | 6.2 | 6690 | 50000 | |
| A 70 3_141.9 | 141.9 | 19.7 | 5000 | 11.4 | 5040 | 50000 | 9.9 | 5000 | 5.7 | 6640 | 50000 | |
| A 70 3_153.7 | 153.7 | 18.2 | 3300 | 6.9 | 5410 | 50000 | 9.1 | 4050 | 4.2 | 6920 | 50000 | |
| A 70 4_169.8 | 169.8 | 16.5 | 5000 | 9.7 | 1130 | 50000 | 8.2 | 5000 | 4.9 | 2520 | 50000 | |
| A 70 4_183.9 | 183.9 | 15.2 | 5000 | 9.0 | 1450 | 50000 | 7.6 | 5000 | 4.5 | 2670 | 50000 | |
| A 70 4_220.3 | 220.3 | 12.7 | 5000 | 7.5 | 1560 | 50000 | 6.4 | 5000 | 3.7 | 2710 | 50000 | |
| A 70 4_238.6 | 238.6 | 11.7 | 5000 | 6.9 | 1860 | 50000 | 5.9 | 5000 | 3.5 | 2770 | 50000 | |
| A 70 4_292.0 | 292.0 | 9.6 | 5000 | 5.6 | 1900 | 50000 | 4.8 | 5000 | 2.8 | 2790 | 50000 | |
| A 70 4_316.4 | 316.4 | 8.9 | 5000 | 5.2 | 2110 | 50000 | 4.4 | 5000 | 2.6 | 2850 | 50000 | |
| A 70 4_369.4 | 369.4 | 7.6 | 5000 | 4.5 | 2110 | 50000 | 3.8 | 5000 | 2.2 | 2840 | 50000 | |
| A 70 4_400.2 | 400.2 | 7.0 | 5000 | 4.1 | 2160 | 50000 | 3.5 | 5000 | 2.1 | 2900 | 50000 | |
| A 70 4_475.8 | 475.8 | 5.9 | 5000 | 3.5 | 2150 | 50000 | 2.9 | 5000 | 1.7 | 2890 | 50000 | |
| A 70 4_515.4 | 515.4 | 5.4 | 5000 | 3.2 | 2200 | 50000 | 2.7 | 5000 | 1.6 | 2940 | 50000 | |
| A 70 4_595.0 | 595.0 | 4.7 | 5000 | 2.8 | 2190 | 50000 | 2.4 | 5000 | 1.4 | 2920 | 50000 | |
| A 70 4_644.6 | 644.6 | 4.3 | 5000 | 2.6 | 2230 | 50000 | 2.2 | 5000 | 1.3 | 2970 | 50000 | |
| A 70 4_705.1 | 705.1 | 4.0 | 5000 | 2.3 | 2200 | 50000 | 2.0 | 5000 | 1.2 | 2940 | 50000 | |
| A 70 4_763.9 | 763.9 | 3.7 | 5000 | 2.2 | 2250 | 50000 | 1.8 | 5000 | 1.1 | 2990 | 50000 | |
| A 70 4_855.3 | 855.3 | 3.3 | 5000 | 1.9 | 2220 | 50000 | 1.6 | 5000 | 0.96 | 2960 | 50000 | |
| A 70 4_926.5 | 926.5 | 3.0 | 5000 | 1.8 | 2270 | 50000 | 1.5 | 5000 | 0.89 | 3000 | 50000 | |
| A 70 4_1072 | 1072 | 2.6 | 5000 | 1.5 | 2240 | 50000 | 1.3 | 5000 | 0.77 | 2970 | 50000 | |
| A 70 4_1161 | 1161 | 2.4 | 5000 | 1.4 | 2280 | 50000 | 1.2 | 5000 | 0.71 | 3020 | 50000 | |
| A 70 4_1242 | 1242 | 2.3 | 5000 | 1.3 | 2250 | 50000 | 1.1 | 5000 | 0.66 | 2980 | 50000 | |
| A 70 4_1346 | 1346 | 2.1 | 5000 | 1.2 | 2290 | 50000 | 1.0 | 5000 | 0.61 | 3030 | 50000 | |
| A 70 4_1583 | 1583 | 1.8 | 5000 | 1.0 | 2260 | 50000 | 0.88 | 5000 | 0.52 | 2990 | 50000 | |
| A 70 4_1715 | 1715 | 1.6 | 5000 | 0.96 | 2300 | 50000 | 0.82 | 5000 | 0.48 | 3040 | 50000 | |



A 70



5000 Nm

|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 70 3_9.4 | 9.4 | 95 | 3000 | 33 | 4290 | 36900 | 53 | 3000 | 18.3 | 7000 | 45400 | 335 |
| A 70 3_10.2 | 10.2 | 88 | 3250 | 33 | 4290 | 37400 | 49 | 3250 | 18.3 | 7000 | 46100 | |
| A 70 3_12.1 | 12.1 | 75 | 3650 | 31 | 1620 | 38700 | 41 | 3650 | 17.4 | 6470 | 47900 | |
| A 70 3_13.1 | 13.1 | 69 | 3950 | 31 | 1650 | 39200 | 38 | 3950 | 17.4 | 6500 | 48600 | |
| A 70 3_15.4 | 15.4 | 58 | 3700 | 25 | 3510 | 42200 | 32 | 3700 | 13.8 | 7000 | 50000 | |
| A 70 3_16.7 | 16.7 | 54 | 4000 | 25 | 3560 | 42800 | 30 | 4000 | 13.8 | 7000 | 50000 | |
| A 70 3_19.7 | 19.7 | 46 | 3700 | 19.5 | 4910 | 46100 | 25.4 | 3700 | 10.8 | 7000 | 50000 | |
| A 70 3_21.3 | 21.3 | 42 | 4000 | 19.4 | 4950 | 46800 | 23.5 | 4000 | 10.8 | 7000 | 50000 | |
| A 70 3_23.5 | 23.5 | 38 | 4900 | 21.6 | 7000 | 46300 | 21.3 | 5000 | 12.2 | 7000 | 50000 | |
| A 70 3_27.8 | 27.8 | 32 | 4800 | 17.9 | 7000 | 49400 | 18.0 | 5000 | 10.4 | 7000 | 50000 | |
| A 70 3_30.1 | 30.1 | 29.9 | 5000 | 17.2 | 7000 | 50000 | 16.6 | 5000 | 9.6 | 7000 | 50000 | |
| A 70 3_35.4 | 35.4 | 25.4 | 5000 | 14.6 | 7000 | 50000 | 14.1 | 5000 | 8.1 | 7000 | 50000 | |
| A 70 3_38.4 | 38.4 | 23.4 | 5000 | 13.5 | 7000 | 50000 | 13.0 | 5000 | 7.5 | 7000 | 50000 | |
| A 70 3_45.2 | 45.2 | 19.9 | 5000 | 11.4 | 7000 | 50000 | 11.1 | 5000 | 6.4 | 7000 | 50000 | |
| A 70 3_49.0 | 49.0 | 18.4 | 5000 | 10.6 | 7000 | 50000 | 10.2 | 5000 | 5.9 | 7000 | 50000 | |
| A 70 3_53.2 | 53.2 | 16.9 | 5000 | 9.7 | 7000 | 50000 | 9.4 | 5000 | 5.4 | 7000 | 50000 | |
| A 70 3_57.7 | 57.7 | 15.6 | 5000 | 9.0 | 7000 | 50000 | 8.7 | 5000 | 5.0 | 7000 | 50000 | |
| A 70 3_66.9 | 66.9 | 13.4 | 5000 | 7.7 | 7000 | 50000 | 7.5 | 5000 | 4.3 | 7000 | 50000 | |
| A 70 3_72.5 | 72.5 | 12.4 | 5000 | 7.1 | 7000 | 50000 | 6.9 | 5000 | 4.0 | 7000 | 50000 | |
| A 70 3_79.3 | 79.3 | 11.3 | 5000 | 6.5 | 7000 | 50000 | 6.3 | 5000 | 3.6 | 7000 | 50000 | |
| A 70 3_85.9 | 85.9 | 10.5 | 5000 | 6.0 | 7000 | 50000 | 5.8 | 5000 | 3.3 | 7000 | 50000 | |
| A 70 3_96.2 | 96.2 | 9.4 | 5000 | 5.4 | 7000 | 50000 | 5.2 | 5000 | 3.0 | 7000 | 50000 | |
| A 70 3_104.2 | 104.2 | 8.6 | 5000 | 5.0 | 7000 | 50000 | 4.8 | 5000 | 2.8 | 7000 | 50000 | |
| A 70 3_120.6 | 120.6 | 7.5 | 5000 | 4.3 | 7000 | 50000 | 4.1 | 5000 | 2.4 | 7000 | 50000 | |
| A 70 3_130.7 | 130.7 | 6.9 | 5000 | 4.0 | 7000 | 50000 | 3.8 | 5000 | 2.2 | 7000 | 50000 | |
| A 70 3_141.9 | 141.9 | 6.3 | 5000 | 3.7 | 7000 | 50000 | 3.5 | 5000 | 2.0 | 7000 | 50000 | |
| A 70 3_153.7 | 153.7 | 5.9 | 4600 | 3.1 | 7000 | 50000 | 3.3 | 5000 | 1.9 | 7000 | 50000 | |
| A 70 4_169.8 | 169.8 | 5.3 | 5000 | 3.1 | 3170 | 50000 | 2.9 | 5000 | 1.7 | 3500 | 50000 | |
| A 70 4_183.9 | 183.9 | 4.9 | 5000 | 2.9 | 3240 | 50000 | 2.7 | 5000 | 1.6 | 3500 | 50000 | |
| A 70 4_220.3 | 220.3 | 4.1 | 5000 | 2.4 | 3270 | 50000 | 2.3 | 5000 | 1.3 | 3500 | 50000 | |
| A 70 4_238.6 | 238.6 | 3.8 | 5000 | 2.2 | 3340 | 50000 | 2.1 | 5000 | 1.2 | 3500 | 50000 | |
| A 70 4_292.0 | 292.0 | 3.1 | 5000 | 1.8 | 3350 | 50000 | 1.7 | 5000 | 1.0 | 3500 | 50000 | |
| A 70 4_316.4 | 316.4 | 2.8 | 5000 | 1.7 | 3410 | 50000 | 1.6 | 5000 | 0.93 | 3500 | 50000 | |
| A 70 4_369.4 | 369.4 | 2.4 | 5000 | 1.4 | 3410 | 50000 | 1.4 | 5000 | 0.80 | 3500 | 50000 | |
| A 70 4_400.2 | 400.2 | 2.2 | 5000 | 1.3 | 3460 | 50000 | 1.2 | 5000 | 0.74 | 3500 | 50000 | |
| A 70 4_475.8 | 475.8 | 1.9 | 5000 | 1.1 | 3450 | 50000 | 1.1 | 5000 | 0.62 | 3500 | 50000 | |
| A 70 4_515.4 | 515.4 | 1.7 | 5000 | 1.0 | 3500 | 50000 | 0.97 | 5000 | 0.57 | 3500 | 50000 | |
| A 70 4_595.0 | 595.0 | 1.5 | 5000 | 0.89 | 3480 | 50000 | 0.84 | 5000 | 0.49 | 3500 | 50000 | |
| A 70 4_644.6 | 644.6 | 1.4 | 5000 | 0.82 | 3500 | 50000 | 0.78 | 5000 | 0.46 | 3500 | 50000 | |
| A 70 4_705.1 | 705.1 | 1.3 | 5000 | 0.75 | 3500 | 50000 | 0.71 | 5000 | 0.42 | 3500 | 50000 | |
| A 70 4_763.9 | 763.9 | 1.2 | 5000 | 0.69 | 3500 | 50000 | 0.65 | 5000 | 0.39 | 3500 | 50000 | |
| A 70 4_855.3 | 855.3 | 1.1 | 5000 | 0.62 | 3500 | 50000 | 0.58 | 5000 | 0.34 | 3500 | 50000 | |
| A 70 4_926.5 | 926.5 | 0.97 | 5000 | 0.57 | 3500 | 50000 | 0.54 | 5000 | 0.32 | 3500 | 50000 | |
| A 70 4_1072 | 1072 | 0.84 | 5000 | 0.49 | 3500 | 50000 | 0.47 | 5000 | 0.27 | 3500 | 50000 | |
| A 70 4_1161 | 1161 | 0.77 | 5000 | 0.46 | 3500 | 50000 | 0.43 | 5000 | 0.25 | 3500 | 50000 | |
| A 70 4_1242 | 1242 | 0.72 | 5000 | 0.43 | 3500 | 50000 | 0.40 | 5000 | 0.24 | 3500 | 50000 | |
| A 70 4_1346 | 1346 | 0.67 | 5000 | 0.39 | 3500 | 50000 | 0.37 | 5000 | 0.22 | 3500 | 50000 | |
| A 70 4_1583 | 1583 | 0.57 | 5000 | 0.33 | 3500 | 50000 | 0.32 | 5000 | 0.19 | 3500 | 50000 | |
| A 70 4_1715 | 1715 | 0.52 | 5000 | 0.31 | 3500 | 50000 | 0.29 | 5000 | 0.17 | 3500 | 50000 | |

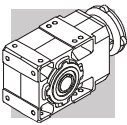


A 80

8000 Nm



|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 80 3_9.8 | 9.8 | 285 | 3100 | 102 | — | 26300 | 142 | 3900 | 64 | — | 32100 | 338 |
| A 80 3_10.7 | 10.7 | 263 | 3450 | 104 | — | 26300 | 131 | 4300 | 65 | — | 32300 | |
| A 80 3_12.3 | 12.3 | 228 | 3450 | 91 | — | 27700 | 114 | 4300 | 56 | — | 34000 | |
| A 80 3_13.3 | 13.3 | 211 | 3450 | 84 | 1150 | 28700 | 105 | 4300 | 52 | 1150 | 35200 | |
| A 80 3_15.5 | 15.5 | 181 | 3300 | 69 | 1560 | 30600 | 91 | 4100 | 43 | 1730 | 37600 | |
| A 80 3_16.7 | 16.7 | 167 | 3600 | 69 | 1440 | 30900 | 84 | 4500 | 43 | 1460 | 37900 | |
| A 80 3_19.3 | 19.3 | 145 | 3500 | 58 | 1870 | 32800 | 72 | 4400 | 37 | 1880 | 40200 | |
| A 80 3_20.9 | 20.9 | 134 | 3840 | 59 | 1670 | 33100 | 67 | 4800 | 37 | 1740 | 40600 | |
| A 80 3_22.6 | 22.6 | 124 | 5050 | 72 | 4500 | 31200 | 62 | 6250 | 45 | 5830 | 38400 | |
| A 80 3_24.5 | 24.5 | 114 | 5500 | 72 | 4470 | 31300 | 57 | 6750 | 44 | 5840 | 38600 | |
| A 80 3_28.2 | 28.2 | 99 | 5350 | 61 | 4700 | 33500 | 50 | 6600 | 38 | 5960 | 41200 | |
| A 80 3_30.6 | 30.6 | 92 | 5250 | 55 | 4840 | 34900 | 46 | 6450 | 34 | 6140 | 43000 | |
| A 80 3_35.5 | 35.5 | 79 | 5700 | 52 | 4700 | 36000 | 39 | 7000 | 32 | 6000 | 44300 | |
| A 80 3_38.5 | 38.5 | 73 | 6150 | 51 | 4720 | 36200 | 36 | 7600 | 32 | 6000 | 44500 | |
| A 80 3_44.5 | 44.5 | 63 | 6050 | 44 | 4790 | 38600 | 31 | 7450 | 27 | 6070 | 47500 | |
| A 80 3_48.2 | 48.2 | 58 | 6550 | 44 | 4790 | 38800 | 29.1 | 8000 | 27 | 6090 | 47900 | |
| A 80 3_55.2 | 55.2 | 51 | 6400 | 37 | 4710 | 41300 | 25.4 | 7900 | 23 | 6050 | 50800 | |
| A 80 3_59.8 | 59.8 | 47 | 6950 | 37 | 4690 | 41500 | 23.4 | 8000 | 22 | 6170 | 52300 | |
| A 80 3_66.8 | 66.8 | 42 | 6800 | 33 | 4670 | 43700 | 21.0 | 8000 | 19.3 | 6150 | 54600 | |
| A 80 3_72.4 | 72.4 | 39 | 7350 | 33 | 4680 | 44000 | 19.3 | 8000 | 17.8 | 6280 | 56500 | |
| A 80 3_82.3 | 82.3 | 34 | 7200 | 28 | 4570 | 46600 | 17.0 | 8000 | 15.7 | 6230 | 59300 | |
| A 80 3_89.2 | 89.2 | 31 | 7800 | 28 | 4570 | 46900 | 15.7 | 8000 | 14.5 | 6350 | 61400 | |
| A 80 3_96.0 | 96.0 | 29.2 | 7500 | 25 | 4410 | 48900 | 14.6 | 8000 | 13.4 | 6260 | 63000 | |
| A 80 3_104.0 | 104.0 | 26.9 | 8000 | 25 | 4500 | 49500 | 13.5 | 8000 | 12.4 | 6380 | 65000 | |
| A 80 3_116.0 | 116.0 | 24.1 | 7950 | 22 | 4230 | 51700 | 12.1 | 8000 | 11.1 | 6300 | 65000 | |
| A 80 3_125.6 | 125.6 | 22.3 | 8000 | 21 | 4630 | 53400 | 11.1 | 8000 | 10.3 | 6420 | 65000 | |
| A 80 3_144.7 | 144.7 | 19.3 | 8000 | 17.8 | 4320 | 56400 | 9.7 | 8000 | 8.9 | 6350 | 65000 | |
| A 80 3_156.8 | 156.8 | 17.9 | 8000 | 16.4 | 4750 | 58300 | 8.9 | 8000 | 8.2 | 6460 | 65000 | |
| A 80 4_171.3 | 171.3 | 16.3 | 8000 | 15.4 | — | 65000 | 8.2 | 8000 | 7.7 | 1230 | 65000 | |
| A 80 4_214.7 | 214.7 | 13.0 | 8000 | 12.3 | — | 65000 | 6.5 | 8000 | 6.1 | 1400 | 65000 | |
| A 80 4_232.6 | 232.6 | 12.0 | 8000 | 11.3 | — | 65000 | 6.0 | 8000 | 5.7 | 1810 | 65000 | |
| A 80 4_277.3 | 277.3 | 10.1 | 8000 | 9.5 | 540 | 65000 | 5.0 | 8000 | 4.8 | 1930 | 65000 | |
| A 80 4_300.4 | 300.4 | 9.3 | 8000 | 8.8 | 900 | 65000 | 4.7 | 8000 | 4.4 | 2290 | 65000 | |
| A 80 4_354.0 | 354.0 | 7.9 | 8000 | 7.4 | 800 | 65000 | 4.0 | 8000 | 3.7 | 2190 | 65000 | |
| A 80 4_383.5 | 383.5 | 7.3 | 8000 | 6.9 | 1140 | 65000 | 3.7 | 8000 | 3.4 | 2530 | 65000 | |
| A 80 4_442.1 | 442.1 | 6.3 | 8000 | 6.0 | 1040 | 65000 | 3.2 | 8000 | 3.0 | 2430 | 65000 | |
| A 80 4_478.9 | 478.9 | 5.8 | 8000 | 5.5 | 1370 | 65000 | 2.9 | 8000 | 2.8 | 2670 | 65000 | |
| A 80 4_560.5 | 560.5 | 5.0 | 8000 | 4.7 | 1240 | 65000 | 2.5 | 8000 | 2.4 | 2630 | 65000 | |
| A 80 4_607.2 | 607.2 | 4.6 | 8000 | 4.3 | 1550 | 65000 | 2.3 | 8000 | 2.2 | 2720 | 65000 | |
| A 80 4_703.5 | 703.5 | 4.0 | 8000 | 3.7 | 1440 | 65000 | 2.0 | 8000 | 1.9 | 2690 | 65000 | |
| A 80 4_762.1 | 762.1 | 3.7 | 8000 | 3.5 | 1730 | 65000 | 1.8 | 8000 | 1.7 | 2760 | 65000 | |
| A 80 4_829.5 | 829.5 | 3.4 | 8000 | 3.2 | 1530 | 65000 | 1.7 | 8000 | 1.6 | 2720 | 65000 | |
| A 80 4_898.7 | 898.7 | 3.1 | 8000 | 2.9 | 1820 | 65000 | 1.6 | 8000 | 1.5 | 2780 | 65000 | |
| A 80 4_1001 | 1001 | 2.8 | 8000 | 2.6 | 1620 | 65000 | 1.4 | 8000 | 1.3 | 2740 | 65000 | |
| A 80 4_1085 | 1085 | 2.6 | 8000 | 2.4 | 1900 | 65000 | 1.3 | 8000 | 1.2 | 2800 | 65000 | |
| A 80 4_1237 | 1237 | 2.3 | 8000 | 2.1 | 1660 | 65000 | 1.1 | 8000 | 1.1 | 2750 | 65000 | |
| A 80 4_1340 | 1340 | 2.1 | 8000 | 2.0 | 1940 | 65000 | 1.0 | 8000 | 0.98 | 2810 | 65000 | |
| A 80 4_1438 | 1438 | 1.9 | 8000 | 1.8 | 1730 | 65000 | 0.97 | 8000 | 0.92 | 2770 | 65000 | |
| A 80 4_1558 | 1558 | 1.8 | 8000 | 1.7 | 2000 | 65000 | 0.90 | 8000 | 0.85 | 2830 | 65000 | |

(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)

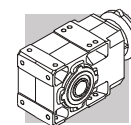


A 80

8000 Nm



|  | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | |  |
|---|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 80 3_9.8 | 9.8 | 92 | 4450 | 47 | — | 36700 | 51 | 5300 | 31 | — | 43800 | 338 |
| A 80 3_10.7 | 10.7 | 84 | 4900 | 48 | — | 36900 | 47 | 5850 | 32 | — | 44000 | |
| A 80 3_12.3 | 12.3 | 73 | 4900 | 41 | — | 38900 | 41 | 5850 | 27 | — | 46400 | |
| A 80 3_13.3 | 13.3 | 68 | 4900 | 38 | 1360 | 40200 | 38 | 5850 | 25 | 1600 | 47900 | |
| A 80 3_15.5 | 15.5 | 58 | 4650 | 31 | 2130 | 43000 | 32 | 5550 | 21 | 2530 | 51300 | |
| A 80 3_16.7 | 16.7 | 54 | 5100 | 32 | 1840 | 43400 | 29.9 | 6100 | 21 | 2120 | 51700 | |
| A 80 3_19.3 | 19.3 | 47 | 5000 | 27 | 2260 | 46000 | 25.9 | 6000 | 17.9 | 2530 | 54800 | |
| A 80 3_20.9 | 20.9 | 43 | 5470 | 27 | 2030 | 46400 | 23.9 | 6500 | 17.9 | 2530 | 55400 | |
| A 80 3_22.6 | 22.6 | 40 | 7100 | 33 | 6810 | 43900 | 22.1 | 8000 | 20.4 | 7000 | 53400 | |
| A 80 3_24.5 | 24.5 | 37 | 7700 | 33 | 6800 | 44100 | 20.4 | 8000 | 18.8 | 7000 | 55300 | |
| A 80 3_28.2 | 28.2 | 32 | 7550 | 28 | 6940 | 47000 | 17.7 | 8000 | 16.3 | 7000 | 58400 | |
| A 80 3_30.6 | 30.6 | 29.4 | 7400 | 25 | 7000 | 49000 | 16.4 | 8000 | 15.1 | 7000 | 60400 | |
| A 80 3_35.5 | 35.5 | 25.3 | 8000 | 23 | 6980 | 50600 | 14.1 | 8000 | 13.0 | 7000 | 63900 | |
| A 80 3_38.5 | 38.5 | 23.4 | 8000 | 22 | 7000 | 52400 | 13.0 | 8000 | 12.0 | 7000 | 65000 | |
| A 80 3_44.5 | 44.5 | 20.2 | 8000 | 18.6 | 7000 | 55400 | 11.2 | 8000 | 10.3 | 7000 | 65000 | |
| A 80 3_48.2 | 48.2 | 18.7 | 8000 | 17.2 | 7000 | 57300 | 10.4 | 8000 | 9.6 | 7000 | 65000 | |
| A 80 3_55.2 | 55.2 | 16.3 | 8000 | 15.0 | 7000 | 60300 | 9.1 | 8000 | 8.3 | 7000 | 65000 | |
| A 80 3_59.8 | 59.8 | 15.1 | 8000 | 13.9 | 7000 | 62300 | 8.4 | 8000 | 7.7 | 7000 | 65000 | |
| A 80 3_66.8 | 66.8 | 13.5 | 8000 | 12.4 | 7000 | 65000 | 7.5 | 8000 | 6.9 | 7000 | 65000 | |
| A 80 3_72.4 | 72.4 | 12.4 | 8000 | 11.4 | 7000 | 65000 | 6.9 | 8000 | 6.4 | 7000 | 65000 | |
| A 80 3_82.3 | 82.3 | 10.9 | 8000 | 10.1 | 7000 | 65000 | 6.1 | 8000 | 5.6 | 7000 | 65000 | |
| A 80 3_89.2 | 89.2 | 10.1 | 8000 | 9.3 | 7000 | 65000 | 5.6 | 8000 | 5.2 | 7000 | 65000 | |
| A 80 3_96.0 | 96.0 | 9.4 | 8000 | 8.6 | 7000 | 65000 | 5.2 | 8000 | 4.8 | 7000 | 65000 | |
| A 80 3_104.0 | 104.0 | 8.7 | 8000 | 8.0 | 7000 | 65000 | 4.8 | 8000 | 4.4 | 7000 | 65000 | |
| A 80 3_116.0 | 116.0 | 7.8 | 8000 | 7.1 | 7000 | 65000 | 4.3 | 8000 | 4.0 | 7000 | 65000 | |
| A 80 3_125.6 | 125.6 | 7.2 | 8000 | 6.6 | 7000 | 65000 | 4.0 | 8000 | 3.7 | 7000 | 65000 | |
| A 80 3_144.7 | 144.7 | 6.2 | 8000 | 5.7 | 7000 | 65000 | 3.5 | 8000 | 3.2 | 7000 | 65000 | |
| A 80 3_156.8 | 156.8 | 5.7 | 8000 | 5.3 | 7000 | 65000 | 3.2 | 8000 | 2.9 | 7000 | 65000 | |
| A 80 4_171.3 | 171.3 | 5.3 | 8000 | 4.9 | 2300 | 65000 | 2.9 | 8000 | 2.7 | 3500 | 65000 | |
| A 80 4_214.7 | 214.7 | 4.2 | 8000 | 3.9 | 2470 | 65000 | 2.3 | 8000 | 2.2 | 3500 | 65000 | |
| A 80 4_232.6 | 232.6 | 3.9 | 8000 | 3.6 | 2870 | 65000 | 2.1 | 8000 | 2.0 | 3500 | 65000 | |
| A 80 4_277.3 | 277.3 | 3.2 | 8000 | 3.1 | 3000 | 65000 | 1.8 | 8000 | 1.7 | 3500 | 65000 | |
| A 80 4_300.4 | 300.4 | 3.0 | 8000 | 2.8 | 3120 | 65000 | 1.7 | 8000 | 1.6 | 3500 | 65000 | |
| A 80 4_354.0 | 354.0 | 2.5 | 8000 | 2.4 | 3100 | 65000 | 1.4 | 8000 | 1.3 | 3500 | 65000 | |
| A 80 4_383.5 | 383.5 | 2.3 | 8000 | 2.2 | 3180 | 65000 | 1.3 | 8000 | 1.2 | 3500 | 65000 | |
| A 80 4_442.1 | 442.1 | 2.0 | 8000 | 1.9 | 3160 | 65000 | 1.1 | 8000 | 1.1 | 3500 | 65000 | |
| A 80 4_478.9 | 478.9 | 1.9 | 8000 | 1.8 | 3230 | 65000 | 1.0 | 8000 | 0.98 | 3500 | 65000 | |
| A 80 4_560.5 | 560.5 | 1.6 | 8000 | 1.5 | 3210 | 65000 | 0.89 | 8000 | 0.84 | 3500 | 65000 | |
| A 80 4_607.2 | 607.2 | 1.5 | 8000 | 1.4 | 3280 | 65000 | 0.82 | 8000 | 0.78 | 3500 | 65000 | |
| A 80 4_703.5 | 703.5 | 1.3 | 8000 | 1.2 | 3260 | 65000 | 0.71 | 8000 | 0.67 | 3500 | 65000 | |
| A 80 4_762.1 | 762.1 | 1.2 | 8000 | 1.1 | 3320 | 65000 | 0.66 | 8000 | 0.62 | 3500 | 65000 | |
| A 80 4_829.5 | 829.5 | 1.1 | 8000 | 1.0 | 3280 | 65000 | 0.60 | 8000 | 0.57 | 3500 | 65000 | |
| A 80 4_898.7 | 898.7 | 1.0 | 8000 | 0.94 | 3340 | 65000 | 0.56 | 8000 | 0.52 | 3500 | 65000 | |
| A 80 4_1001 | 1001 | 0.90 | 8000 | 0.85 | 3300 | 65000 | 0.50 | 8000 | 0.47 | 3500 | 65000 | |
| A 80 4_1085 | 1085 | 0.83 | 8000 | 0.78 | 3360 | 65000 | 0.46 | 8000 | 0.43 | 3500 | 65000 | |
| A 80 4_1237 | 1237 | 0.73 | 8000 | 0.68 | 3310 | 65000 | 0.40 | 8000 | 0.38 | 3500 | 65000 | |
| A 80 4_1340 | 1340 | 0.67 | 8000 | 0.63 | 3370 | 65000 | 0.37 | 8000 | 0.35 | 3500 | 65000 | |
| A 80 4_1438 | 1438 | 0.63 | 8000 | 0.59 | 3330 | 65000 | 0.35 | 8000 | 0.33 | 3500 | 65000 | |
| A 80 4_1558 | 1558 | 0.58 | 8000 | 0.54 | 3390 | 65000 | 0.32 | 8000 | 0.30 | 3500 | 65000 | |

(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)

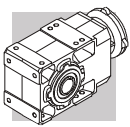


A 90

14000 Nm

|  | i | n ₁ = 2800 min ⁻¹ | | | | | n ₁ = 1400 min ⁻¹ | | | | |  |
|---|-------|---|-----------------------|-----------------------|----------------------|----------------------|---|-----------------------|-----------------------|----------------------|----------------------|---|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 90 3_9.7 | 9.7 | 289 | 7800 | 260 | 2440 | 27600 | 145 | 9050 | 151 | 5520 | 35000 | 341 |
| A 90 3_10.5 | 10.5 | 267 | 8350 | 257 | 2620 | 27700 | 134 | 9800 | 151 | 5530 | 34900 | |
| A 90 3_12.6 | 12.6 | 221 | 8500 | 217 | 2700 | 29800 | 111 | 10450 | 133 | 4790 | 36700 | |
| A 90 3_13.7 | 13.7 | 204 | 8050 | 189 | 4670 | 31800 | 102 | 11150 | 131 | 5060 | 36900 | |
| A 90 3_15.6 | 15.6 | 180 | 8900 | 184 | 3240 | 32000 | 90 | 10950 | 113 | 5410 | 39400 | |
| A 90 3_16.9 | 16.9 | 166 | 9650 | 184 | 3230 | 31900 | 83 | 11850 | 113 | 5440 | 39300 | |
| A 90 3_19.4 | 19.4 | 144 | 9400 | 156 | 3160 | 34300 | 72 | 11550 | 96 | 5350 | 42300 | |
| A 90 3_21.0 | 21.0 | 133 | 10150 | 156 | 3210 | 34300 | 67 | 12400 | 95 | 5510 | 42400 | |
| A 90 3_22.3 | 22.3 | 126 | 9850 | 143 | 9660 | 35700 | 63 | 12150 | 88 | 12200 | 43900 | |
| A 90 3_24.1 | 24.1 | 116 | 10700 | 143 | 9660 | 35500 | 58 | 13150 | 88 | 12200 | 43800 | |
| A 90 3_29.1 | 29.1 | 96 | 10550 | 117 | 9800 | 38900 | 48 | 13000 | 72 | 12400 | 47900 | |
| A 90 3_31.5 | 31.5 | 89 | 11450 | 117 | 9800 | 38800 | 44 | 14000 | 72 | 12400 | 47900 | |
| A 90 3_35.8 | 35.8 | 78 | 11150 | 100 | 9910 | 41600 | 39 | 13750 | 62 | 12500 | 51100 | |
| A 90 3_38.8 | 38.8 | 72 | 12100 | 100 | 9900 | 41500 | 36 | 14000 | 58 | 12700 | 52700 | |
| A 90 3_44.6 | 44.6 | 63 | 11800 | 85 | 9920 | 44600 | 31 | 14000 | 51 | 12700 | 56000 | |
| A 90 3_48.3 | 48.3 | 58 | 12800 | 85 | 9920 | 44500 | 29.0 | 14000 | 47 | 12800 | 58000 | |
| A 90 3_55.0 | 55.0 | 51 | 12550 | 73 | 9960 | 47500 | 25.4 | 14000 | 41 | 12800 | 61400 | |
| A 90 3_59.6 | 59.6 | 47 | 13550 | 73 | 9970 | 47500 | 23.5 | 14000 | 38 | 13000 | 63500 | |
| A 90 3_68.8 | 68.8 | 41 | 13350 | 63 | 9960 | 50900 | 20.4 | 14000 | 33 | 13000 | 67400 | |
| A 90 3_74.5 | 74.5 | 38 | 14000 | 61 | 10000 | 51700 | 18.8 | 14000 | 30 | 13100 | 69700 | |
| A 90 3_80.4 | 80.4 | 35 | 13900 | 56 | 9920 | 53500 | 17.4 | 14000 | 28 | 13000 | 71900 | |
| A 90 3_87.1 | 87.1 | 32 | 14000 | 52 | 10100 | 55500 | 16.1 | 14000 | 26 | 13200 | 74300 | |
| A 90 3_98.6 | 98.6 | 28.4 | 14000 | 46 | 9990 | 58500 | 14.2 | 14000 | 23 | 13100 | 75000 | |
| A 90 3_106.8 | 106.8 | 26.2 | 14000 | 42 | 10100 | 60600 | 13.1 | 14000 | 21 | 13300 | 75000 | |
| A 90 3_116.9 | 116.9 | 24.0 | 14000 | 39 | 10100 | 63000 | 12.0 | 14000 | 19.3 | 13200 | 75000 | |
| A 90 3_126.6 | 126.6 | 22.1 | 10650 | 27 | 10600 | 71400 | 11.1 | 13150 | 16.7 | 13400 | 75000 | |
| A 90 3_139.4 | 139.4 | 20.1 | 10350 | 24 | 10600 | 74500 | 10.0 | 12750 | 14.7 | 13400 | 75000 | |
| A 90 3_151.0 | 151.0 | 18.5 | 11200 | 24 | 10600 | 75000 | 9.3 | 13800 | 14.7 | 13400 | 75000 | |
| A 90 4_166.1 | 166.1 | 16.9 | 14000 | 28 | — | 75000 | 8.4 | 14000 | 13.9 | — | 75000 | |
| A 90 4_180.0 | 180.0 | 15.6 | 14000 | 26 | — | 75000 | 7.8 | 14000 | 12.8 | — | 75000 | |
| A 90 4_209.0 | 209.0 | 13.4 | 14000 | 22 | — | 75000 | 6.7 | 14000 | 11.0 | — | 75000 | |
| A 90 4_226.4 | 226.4 | 12.4 | 14000 | 20 | — | 75000 | 6.2 | 14000 | 10.2 | — | 75000 | |
| A 90 4_281.4 | 281.4 | 9.9 | 14000 | 16.4 | — | 75000 | 5.0 | 14000 | 8.2 | — | 75000 | |
| A 90 4_304.9 | 304.9 | 9.2 | 14000 | 15.1 | — | 75000 | 4.6 | 14000 | 7.6 | — | 75000 | |
| A 90 4_355.8 | 355.8 | 7.9 | 14000 | 13.0 | — | 75000 | 3.9 | 14000 | 6.5 | — | 75000 | |
| A 90 4_385.4 | 385.4 | 7.3 | 14000 | 12.0 | — | 75000 | 3.6 | 14000 | 6.0 | 680 | 75000 | |
| A 90 4_449.2 | 449.2 | 6.2 | 14000 | 10.3 | — | 75000 | 3.1 | 14000 | 5.1 | — | 75000 | |
| A 90 4_486.6 | 486.6 | 5.8 | 14000 | 9.5 | — | 75000 | 2.9 | 14000 | 4.7 | 950 | 75000 | |
| A 90 4_555.3 | 555.3 | 5.0 | 14000 | 8.3 | — | 75000 | 2.5 | 14000 | 4.2 | 740 | 75000 | |
| A 90 4_601.6 | 601.6 | 4.7 | 14000 | 7.7 | — | 75000 | 2.3 | 14000 | 3.8 | 1200 | 75000 | |
| A 90 4_707.9 | 707.9 | 4.0 | 14000 | 6.5 | — | 75000 | 2.0 | 14000 | 3.3 | 1050 | 75000 | |
| A 90 4_766.9 | 766.9 | 3.7 | 14000 | 6.0 | — | 75000 | 1.8 | 14000 | 3.0 | 1490 | 75000 | |
| A 90 4_865.1 | 865.1 | 3.2 | 14000 | 5.3 | — | 75000 | 1.6 | 14000 | 2.7 | 1170 | 75000 | |
| A 90 4_937.2 | 937.2 | 3.0 | 14000 | 4.9 | — | 75000 | 1.5 | 14000 | 2.5 | 1590 | 75000 | |
| A 90 4_1025 | 1025 | 2.7 | 14000 | 4.5 | — | 75000 | 1.4 | 14000 | 2.2 | 1330 | 75000 | |
| A 90 4_1111 | 1111 | 2.5 | 14000 | 4.2 | — | 75000 | 1.3 | 14000 | 2.1 | 1740 | 75000 | |
| A 90 4_1222 | 1222 | 2.3 | 14000 | 3.8 | — | 75000 | 1.1 | 14000 | 1.9 | 1380 | 75000 | |
| A 90 4_1324 | 1324 | 2.1 | 14000 | 3.5 | — | 75000 | 1.1 | 14000 | 1.7 | 1790 | 75000 | |
| A 90 4_1507 | 1507 | 1.9 | 14000 | 3.1 | — | 75000 | 0.93 | 14000 | 1.5 | 1440 | 75000 | |
| A 90 4_1632 | 1632 | 1.7 | 14000 | 2.8 | — | 75000 | 0.86 | 14000 | 1.4 | 1840 | 75000 | |

(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



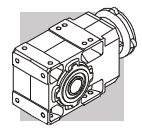
A 90

14000 Nm

| | i | n ₁ = 900 min ⁻¹ | | | | | n ₁ = 500 min ⁻¹ | | | | | |
|--------------|-------|--|-----------------------|-----------------------|----------------------|----------------------|--|-----------------------|-----------------------|----------------------|----------------------|--|
| | | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | n ₂ min ⁻¹ | M _{n2} Nm | P _{n1} kW | R _{n1} N | R _{n2} N | |
| A 90 3_9.7 | 9.7 | 93 | 9050 | 97 | 9800 | 42300 | 52 | 9050 | 54 | 15000 | 53700 | |
| A 90 3_10.5 | 10.5 | 86 | 9800 | 97 | 9810 | 42500 | 48 | 9800 | 54 | 15000 | 54200 | |
| A 90 3_12.6 | 12.6 | 71 | 11800 | 97 | 6720 | 42100 | 40 | 11800 | 54 | 13500 | 54500 | |
| A 90 3_13.7 | 13.7 | 66 | 12750 | 96 | 6770 | 42100 | 37 | 12800 | 54 | 13500 | 54600 | |
| A 90 3_15.6 | 15.6 | 58 | 11550 | 77 | 8730 | 46700 | 32 | 11550 | 43 | 15000 | 59900 | |
| A 90 3_16.9 | 16.9 | 53 | 12500 | 77 | 8750 | 46800 | 29.6 | 12500 | 43 | 15000 | 60300 | |
| A 90 3_19.4 | 19.4 | 46 | 11550 | 62 | 9630 | 51400 | 25.8 | 11550 | 34 | 15000 | 65400 | |
| A 90 3_21.0 | 21.0 | 43 | 12400 | 61 | 9790 | 51700 | 23.8 | 12400 | 34 | 15000 | 66100 | |
| A 90 3_22.3 | 22.3 | 40 | 13850 | 64 | 14200 | 50200 | 22.5 | 14000 | 36 | 15000 | 64700 | |
| A 90 3_24.1 | 24.1 | 37 | 14000 | 60 | 14400 | 51900 | 20.7 | 14000 | 33 | 15000 | 66900 | |
| A 90 3_29.1 | 29.1 | 31 | 14000 | 50 | 14600 | 56200 | 17.2 | 14000 | 28 | 15000 | 72100 | |
| A 90 3_31.5 | 31.5 | 28.6 | 14000 | 46 | 14800 | 58400 | 15.9 | 14000 | 26 | 15000 | 74700 | |
| A 90 3_35.8 | 35.8 | 25.1 | 14000 | 40 | 14900 | 61700 | 14.0 | 14000 | 23 | 15000 | 75000 | |
| A 90 3_38.8 | 38.8 | 23.2 | 14000 | 37 | 15000 | 63900 | 12.9 | 14000 | 21 | 15000 | 75000 | |
| A 90 3_44.6 | 44.6 | 20.2 | 14000 | 33 | 15000 | 67700 | 11.2 | 14000 | 18.1 | 15000 | 75000 | |
| A 90 3_48.3 | 48.3 | 18.6 | 14000 | 30 | 15000 | 70000 | 10.4 | 14000 | 16.7 | 15000 | 75000 | |
| A 90 3_55.0 | 55.0 | 16.4 | 14000 | 26 | 15000 | 73800 | 9.1 | 14000 | 14.6 | 15000 | 75000 | |
| A 90 3_59.6 | 59.6 | 15.1 | 14000 | 24 | 15000 | 75000 | 8.4 | 14000 | 13.5 | 15000 | 75000 | |
| A 90 3_68.8 | 68.8 | 13.1 | 14000 | 21 | 15000 | 75000 | 7.3 | 14000 | 11.7 | 15000 | 75000 | |
| A 90 3_74.5 | 74.5 | 12.1 | 14000 | 19.5 | 15000 | 75000 | 6.7 | 14000 | 10.8 | 15000 | 75000 | |
| A 90 3_80.4 | 80.4 | 11.2 | 14000 | 18.0 | 15000 | 75000 | 6.2 | 14000 | 10.0 | 15000 | 75000 | |
| A 90 3_87.1 | 87.1 | 10.3 | 14000 | 16.7 | 15000 | 75000 | 5.7 | 14000 | 9.3 | 15000 | 75000 | |
| A 90 3_98.6 | 98.6 | 9.1 | 14000 | 14.7 | 15000 | 75000 | 5.1 | 14000 | 8.2 | 15000 | 75000 | |
| A 90 3_106.8 | 106.8 | 8.4 | 14000 | 13.6 | 15000 | 75000 | 4.7 | 14000 | 7.5 | 15000 | 75000 | |
| A 90 3_116.9 | 116.9 | 7.7 | 14000 | 12.4 | 15000 | 75000 | 4.3 | 14000 | 6.9 | 15000 | 75000 | |
| A 90 3_126.6 | 126.6 | 7.1 | 14000 | 11.4 | 15000 | 75000 | 3.9 | 14000 | 6.4 | 15000 | 75000 | |
| A 90 3_139.4 | 139.4 | 6.5 | 14000 | 10.4 | 15000 | 75000 | 3.6 | 14000 | 5.8 | 15000 | 75000 | |
| A 90 3_151.0 | 151.0 | 6.0 | 14000 | 9.6 | 15000 | 75000 | 3.3 | 14000 | 5.3 | 15000 | 75000 | |
| A 90 4_166.1 | 166.1 | 5.4 | 14000 | 8.9 | — | 75000 | 3.0 | 14000 | 5.0 | 700 | 75000 | |
| A 90 4_180.0 | 180.0 | 5.0 | 14000 | 8.2 | — | 75000 | 2.8 | 14000 | 4.6 | 1400 | 75000 | |
| A 90 4_209.0 | 209.0 | 4.3 | 14000 | 7.1 | — | 75000 | 2.4 | 14000 | 3.9 | 1500 | 75000 | |
| A 90 4_226.4 | 226.4 | 4.0 | 14000 | 6.5 | 500 | 75000 | 2.2 | 14000 | 3.6 | 2100 | 75000 | |
| A 90 4_281.4 | 281.4 | 3.2 | 14000 | 5.3 | 690 | 75000 | 1.8 | 14000 | 2.9 | 2300 | 75000 | |
| A 90 4_304.9 | 304.9 | 3.0 | 14000 | 4.9 | 1230 | 75000 | 1.6 | 14000 | 2.7 | 2900 | 75000 | |
| A 90 4_355.8 | 355.8 | 2.5 | 14000 | 4.2 | 1240 | 75000 | 1.4 | 14000 | 2.3 | 2900 | 75000 | |
| A 90 4_385.4 | 385.4 | 2.3 | 14000 | 3.8 | 1750 | 75000 | 1.3 | 14000 | 2.1 | 3400 | 75000 | |
| A 90 4_449.2 | 449.2 | 2.0 | 14000 | 3.3 | 1540 | 75000 | 1.1 | 14000 | 1.8 | 3200 | 75000 | |
| A 90 4_486.6 | 486.6 | 1.8 | 14000 | 3.0 | 2020 | 75000 | 1.0 | 14000 | 1.7 | 3500 | 75000 | |
| A 90 4_555.3 | 555.3 | 1.6 | 14000 | 2.7 | 1810 | 75000 | 0.90 | 14000 | 1.5 | 3500 | 75000 | |
| A 90 4_601.6 | 601.6 | 1.5 | 14000 | 2.5 | 2270 | 75000 | 0.83 | 14000 | 1.4 | 3500 | 75000 | |
| A 90 4_707.9 | 707.9 | 1.3 | 14000 | 2.1 | 2120 | 75000 | 0.71 | 14000 | 1.2 | 3500 | 75000 | |
| A 90 4_766.9 | 766.9 | 1.2 | 14000 | 1.9 | 2560 | 75000 | 0.65 | 14000 | 1.1 | 3500 | 75000 | |
| A 90 4_865.1 | 865.1 | 1.0 | 14000 | 1.7 | 2240 | 75000 | 0.58 | 14000 | 0.95 | 3500 | 75000 | |
| A 90 4_937.2 | 937.2 | 0.96 | 14000 | 1.6 | 2660 | 75000 | 0.53 | 14000 | 0.88 | 3500 | 75000 | |
| A 90 4_1025 | 1025 | 0.88 | 14000 | 1.4 | 2400 | 75000 | 0.49 | 14000 | 0.80 | 3500 | 75000 | |
| A 90 4_1111 | 1111 | 0.81 | 14000 | 1.3 | 2810 | 75000 | 0.45 | 14000 | 0.74 | 3500 | 75000 | |
| A 90 4_1222 | 1222 | 0.74 | 14000 | 1.2 | 2450 | 75000 | 0.41 | 14000 | 0.67 | 3500 | 75000 | |
| A 90 4_1324 | 1324 | 0.68 | 14000 | 1.1 | 2860 | 75000 | 0.38 | 14000 | 0.62 | 3500 | 75000 | |
| A 90 4_1507 | 1507 | 0.60 | 14000 | 0.98 | 2410 | 75000 | 0.33 | 14000 | 0.55 | 3500 | 75000 | |
| A 90 4_1632 | 1632 | 0.55 | 14000 | 0.91 | 2910 | 75000 | 0.31 | 14000 | 0.50 | 3500 | 75000 | |

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(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)

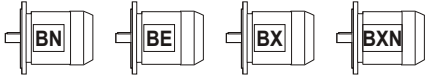


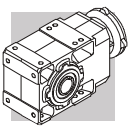
40 MOTOR AVAILABILITY

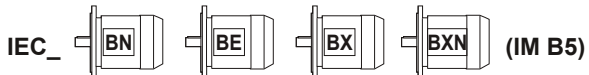
Please be aware that motor-gearbox combinations resulting from the following charts are purely based on geometrical compatibility.

When selecting a gearmotor, refer to procedure specified at paragraph 12 and observe particularly the condition $S \geq f_s$.

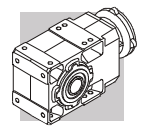
(C 40)

| | | IEC_  (IM B5) | | | | | | | | | | | | | | | | | | | |
|-----------------------------|------------|---|------|------------|--------------------------------|------|------------|-------------|------|------------|-------------|------|------------|-------------|-----|------------|-------------|----|-----|-----|----|
| | | BN | BE | BXN | BN | BE | BXN | BN | BE | BX | BXN | BN | BE | BX | BXN | BN | BE | BX | BN | BE | BX |
| P _{n1} (#) [kW] | 2p | 0.37 | — | — | 0.75 | — | — | 1.5 | 1.1 | — | — | 2.2 | 2.2 | — | — | 4 | 3 | — | 4 | 4 | — |
| | 4p | 0.25 | 0.18 | 0.18 | 0.55 | 0.37 | 0.37 | 1.1 | 0.75 | 0.75 | 0.75 | 1.85 | 1.5 | 1.5 | 1.5 | 3 | 3 | 3 | 4 | 4 | 4 |
| | 6p | 0.12 | — | — | 0.37 | — | — | 0.75 | — | — | — | 1.1 | 0.75 | — | — | 1.85 | 1.5 | — | 2.2 | 2.2 | — |
| | | P63 | | | P71 | | | P80 | | | P90 | | | P100 | | | P112 | | | | |
| A 05 2 | i = | 5.5_91.6 | | | 5.5_51.3 | | | 5.5_51.3 | | | | | | | | | | | | | |
| A 10 2 | | 5.5_91.6 | | | 5.5_91.6 | | | 5.5_65.9 | | | 5.5_65.9 | | | 5.5_65.9 | | | 5.5_65.9 | | | | |
| A 20 2 | | 7.3_92.3 ⊖(10.3) | | | 7.3_92.3 ⊖(10.3) | | | 5.4_79.9 | | | 5.4_79.9 | | | 5.4_79.9 | | | 5.4_79.9 | | | | |
| A 20 3 | | 109.2_380.9 | | | 109.2_380.9 | | | 109.2_380.9 | | | 109.2_380.9 | | | 109.2_380.9 | | | 109.2_380.9 | | | | |
| A 30 2 | | 9.3_97.5 ⊖(10.5; 13.6_16.3) | | | 9.3_97.5 ⊖(10.5; 13.6_16.3) | | | 5.4_97.5 | | | 5.4_97.5 | | | 5.4_97.5 | | | 5.4_97.5 | | | | |
| A 30 3 | | 109.1_400.8 | | | 109.1_400.8 | | | 109.1_400.8 | | | 109.1_400.8 | | | 109.1_400.8 | | | 109.1_400.8 | | | | |
| A 35 2 | | 9.3_95.6 ⊖(13.1_20.4) | | | 9.3_95.6 ⊖(13.1_20.4) | | | 5.4_95.6 | | | 5.4_95.6 | | | 5.4_95.6 | | | 5.4_95.6 | | | | |
| A 35 3 | | 105.5_393.2 | | | 105.5_393.2 | | | 105.5_393.2 | | | 105.5_393.2 | | | 105.5_393.2 | | | 105.5_393.2 | | | | |
| A 41 2 | | 11.7_79.2 ⊖(13.8_17.8) | | | 11.7_79.2 ⊖(13.8_17.8) | | | 5.2_79.2 | | | 5.2_79.2 | | | 5.2_79.2 | | | 5.2_79.2 | | | | |
| A 41 3 | | 92.8_376.8 | | | 92.8_376.8 | | | 92.8_376.8 | | | 92.8_376.8 | | | 92.8_376.8 | | | 92.8_376.8 | | | | |
| A 50 2 | | 20.9 | | | 20.9 | | | 7.7_20.9 | | | 7.7_20.9 | | | 7.7_20.9 | | | 7.7_20.9 | | | | |
| A 50 3 | | 51.7_190.6 | | | 51.7_190.6 | | | 24.0_190.6 | | | 24.0_190.6 | | | 24.0_190.6 | | | 24.0_190.6 | | | | |
| A 50 4 | | 211.0_778.2 | | | 211.0_778.2 | | | 211.0_778.2 | | | 211.0_778.2 | | | 211.0_778.2 | | | 211.0_778.2 | | | | |
| A 55 2 | | | | | | | | 13.1_19.2 | | | 13.1_19.2 | | | 13.1_19.2 | | | 13.1_19.2 | | | | |
| A 55 3 | | 64.3_194.2 | | | 64.3_194.2 | | | 23.8_194.2 | | | 23.8_194.2 | | | 23.8_194.2 | | | 23.8_194.2 | | | | |
| A 55 4 | | 208.1_793.0 | | | 208.1_793.0 | | | 208.1_793.0 | | | 208.1_793.0 | | | 208.1_793.0 | | | 208.1_793.0 | | | | |
| A 60 2 | | | | | | | | 10.3_20.6 | | | 10.3_20.6 | | | 10.3_20.6 | | | 10.3_20.6 | | | | |
| A 60 3 | | 65.0_185.8 | | | 65.0_185.8 | | | 25.7_185.8 | | | 25.7_185.8 | | | 25.7_185.8 | | | 25.7_185.8 | | | | |
| A 60 4 | | 208.7_755.4 | | | 208.7_755.4 | | | 208.7_755.4 | | | 208.7_755.4 | | | 208.7_755.4 | | | 208.7_755.4 | | | | |
| A 70 3 | | | | | | | | 66.9_153.7 | | | 66.9_153.7 | | | 66.9_153.7 | | | 66.9_153.7 | | | | |
| A 70 4 | 292.0_1715 | | | 292.0_1715 | | | 169.8_1715 | | | 169.8_1715 | | | 169.8_1715 | | | 169.8_1715 | | | | | |
| A 80 3 | | | | | | | 82.3_156.8 | | | 82.3_156.8 | | | 82.3_156.8 | | | 82.3_156.8 | | | | | |
| A 80 4 | 354.0_1558 | | | 354.0_1558 | | | 171.3_1558 | | | 171.3_1558 | | | 171.3_1558 | | | 171.3_1558 | | | | | |
| A 90 3 | | | | | | | 98.6_151.0 | | | 98.6_151.0 | | | 98.6_151.0 | | | 98.6_151.0 | | | | | |
| A 90 4 | 449.2_1632 | | | 449.2_1632 | | | 166.1_1632 | | | 166.1_1632 | | | 166.1_1632 | | | 166.1_1632 | | | | | |



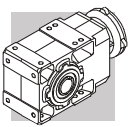
| | |  | | | | | | | | | | | | | | |
|-----------------------------|-----|--|-----|-----|----------------------------|------|----|-------------|----|----|--------------------------|----|-----------|-----|-----------|-----|
| | | BN | BE | BX | BN | BE | BX | BN | BE | BX | BN | BX | BX | IEC | BX | IEC |
| P _{n1} (#) [kW] | 2p | 9.2 | 9.2 | — | 18.5 | 18.5 | — | 22 | — | — | 30 | — | — | 45 | — | 55 |
| | 4p | 9.2 | 9.2 | 7.5 | 15 | 15 | 15 | 22 | 22 | 22 | 30 | 30 | 45 | 45 | 55 | 55 |
| | 6p | 5.5 | 4 | — | 11 | 7.5 | — | 15 | — | — | 18.5 | — | — | 30 | — | 37 |
| | | P132 | | | P160 | | | P180 | | | P200 | | P225 | | P250 | |
| A 05 2 | | | | | | | | | | | | | | | | |
| A 10 2 | | | | | | | | | | | | | | | | |
| A 20 2 | | | | | | | | | | | | | | | | |
| A 20 3 | | | | | | | | | | | | | | | | |
| A 30 2 | | | | | | | | | | | | | | | | |
| A 30 3 | | | | | | | | | | | | | | | | |
| A 35 2 | | 5.4_11.8 | | | | | | | | | | | | | | |
| A 35 3 | | | | | | | | | | | | | | | | |
| A 41 2 | | 5.2_45.1 | | | | | | | | | | | | | | |
| A 41 3 | | | | | | | | | | | | | | | | |
| A 50 2 | | 7.7_20.9 | | | 7.7_20.9 | | | 7.7_20.9 | | | | | | | | |
| A 50 3 | | 24.0_109.4 | | | 24.0_109.4 | | | 24.0_109.4 | | | | | | | | |
| A 50 4 | i = | | | | | | | | | | | | | | | |
| A 55 2 | | 4.9_19.2 | | | 4.9_19.2 | | | 4.9_19.2 | | | | | | | | |
| A 55 3 | | 23.8_123.9 | | | 23.8_123.9 | | | 23.8_123.9 | | | | | | | | |
| A 55 4 | | | | | | | | | | | | | | | | |
| A 60 2 | | 7.9_20.6 | | | 7.9_20.6 | | | 7.9_20.6 | | | | | | | | |
| A 60 3 | | 25.7_133.3 | | | 25.7_133.3 | | | 25.7_133.3 | | | | | | | | |
| A 60 4 | | | | | | | | | | | | | | | | |
| A 70 3 | | 15.4_153.7 ☉(23.5_30.1) | | | 9.4_153.7 | | | 9.4_153.7 | | | 9.4_38.4 ☉(19.7_21.3) | | | | | |
| A 70 4 | | 169.8_644.6 | | | | | | | | | | | | | | |
| A 80 3 | | 19.3_156.8 ☉(22.6_38.5) | | | 12.3_156.8 ☉(22.6_24.5) | | | 9.8_156.8 | | | 9.8_104.0 | | 9.8_104.0 | | | |
| A 80 4 | | 171.3_762.1 | | | | | | | | | | | | | | |
| A 90 3 | | 55.0_151.0 | | | 19.4_151.0 ☉(22.3_38.8) | | | 9.7_151.0 | | | 9.7_126.6 | | 9.7_126.6 | | 9.7_126.6 | |
| A 90 4 | | 166.1_937.2 | | | 166.1_937.2 | | | 166.1_937.2 | | | | | | | | |

(#) P_{n1} = maximum installable power on input P_{_}



(C 41)

| | | M05 - ME05 - MXN05 | M1 - ME1 - MXN10 | ME2 - MX2 - MXN20 | ME3 - MX4 | ME4 - MX4 | ME5 - MX5 |
|--------|-----|---------------------|--------------------------------|-------------------|-------------|----------------------------|----------------------------|
| A 05 2 | i = | 5.5_91.6 | 5.5_51.3 | 5.5_65.9 | | | |
| A 10 2 | | 5.5_91.6 | 5.5_51.3 | 5.5_65.9 | 5.5_65.9 | | |
| A 20 2 | | 7.3_92.3 ⊖(10.3) | 7.3_63.1 ⊖(10.3) | 5.4_79.9 | 5.4_79.9 | | |
| A 20 3 | | 109.2_380.9 | 109.2_380.9 | 109.2_380.9 | 109.2_380.9 | | |
| A 30 2 | | | 9.3_76.5 ⊖(10.5; 13.6_16.3) | 5.4_97.5 | 5.4_97.5 | | |
| A 30 3 | | 109.1_400.8 | 109.1_400.8 | 109.1_400.8 | 109.1_400.8 | | |
| A 35 2 | | | 9.3_95.6 ⊖(13.1_20.4) | 5.4_95.6 | 5.4_95.6 | 5.4_11.8 | |
| A 35 3 | | 105.5_393.2 | 105.5_393.2 | 105.5_393.2 | 105.5_393.2 | | |
| A 41 2 | | | 11.7_79.2 ⊖(13.8_17.8) | 5.2_79.2 | 5.2_79.2 | 5.2_45.1 | |
| A 41 3 | | 92.8_376.8 | 92.8_376.8 | 92.8_376.8 | 92.8_376.8 | | |
| A 50 2 | | | 20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 |
| A 50 3 | | | 51.7_190.6 | 24.0_190.6 | 24.0_190.6 | 24.0_109.4 | 24.0_109.4 |
| A 50 4 | | | 211.0_778.2 | 211.0_778.2 | 211.0_778.2 | | |
| A 55 2 | | | | 13.1_19.2 | 13.1_19.2 | 4.9_19.2 | 4.9_19.2 |
| A 55 3 | | | 64.3_194.2 | 23.8_194.2 | 23.8_194.2 | 23.8_123.9 | 23.8_123.9 |
| A 55 4 | | | 208.1_793.0 | 208.1_793.0 | 208.1_793.0 | | |
| A 60 2 | | | | 10.3_20.6 | 10.3_20.6 | 7.9_20.6 | 7.9_20.6 |
| A 60 3 | | | | 25.7_185.8 | 25.7_185.8 | 25.7_133.3 | 25.7_133.3 |
| A 60 4 | | | 208.7_755.4 | 208.7_755.4 | 208.7_755.4 | | |
| A 70 3 | | | | 66.9_153.7 | 66.9_153.7 | 15.4_153.7 ⊖(23.5_30.1) | 15.4_153.7 ⊖(23.5_30.1) |
| A 70 4 | | | 292.0_1715 | 169.8_1715 | 169.8_1715 | 169.8_644.6 | |
| A 80 3 | | | | | 82.3_156.8 | 19.3_156.8 ⊖(22.6_38.5) | 19.3_156.8 ⊖(22.6_38.5) |
| A 80 4 | | | 354.0_1558 | 171.3_1558 | 171.3_1558 | 171.3_762.1 | |
| A 90 3 | | | | | 98.6_151.0 | 55.0_151.0 | 55.0_151.0 |
| A 90 4 | | | 449.2_1632 | 166.1_1632 | 166.1_1632 | 166.1_937.2 | |



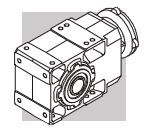
Motor adapters matching the most popular brands of servomotors are available for units size A05... A60. Dimensions of servomotor inputs are provided within the drawing section for each frame size. The code **SK** applies for inputs featuring a conventional keyway, while through the specification of the **SC** code the input shaft will feature a clamping device instead.

(C 42)

| | | SERVO INPUT | | | | | | | |
|--------|-----|-------------|---------------------------------|---------------------------------|---------------------------------|---------------------------|-------|-------------|--|
| | | SK40A | SK60A | SK60B | SK80A | SK80B | SK80C | | |
| | | SC40A | SC60A | SC60B | SC80A | SC80B | SC80C | | |
| A 05 2 | i = | 5.5_91.6 | 5.5_91.6 | 5.5_51.3 | 5.5_51.3 | | | | |
| A 10 2 | | | 5.5_91.6 | 5.5_51.3 | 5.5_51.3 | | | 5.5_65.9 | |
| A 20 2 | | | 7.3_92.3 ⌀(10.3) | 7.3_63.1 ⌀(10.3) | 7.3_63.1 ⌀(10.3) | | | 5.4_79.9 | |
| A 20 3 | | | 109.2_380.9 | 109.2_380.9 | 109.2_380.9 | | | 109.2_380.9 | |
| A 30 2 | | | 9.3_97.5 ⌀(10.5 ; 13.6_16.3) | 9.3_76.5 ⌀(10.5 ; 13.6_16.3) | 9.3_76.5 ⌀(10.5 ; 13.6_16.3) | | | 5.4_97.5 | |
| A 30 3 | | | 109.1_400.8 | 109.1_400.8 | 109.1_400.8 | | | 109.1_400.8 | |
| A 35 2 | | | 9.3_95.6 ⌀(13.1_20.4) | 9.3_95.6 ⌀(13.1_20.4) | 9.3_95.6 ⌀(13.1_20.4) | | | 5.4_95.6 | |
| A 35 3 | | | 105.5_393.2 | 105.5_393.2 | 105.5_393.2 | | | 105.5_393.2 | |
| A 41 2 | | | | | | 11.7_79.2 ⌀(13.8_17.8) | | 5.2_79.2 | |
| A 41 3 | | | 92.8_376.8 | 92.8_376.8 | 92.8_376.8 | | | 92.8_376.8 | |
| A 50 2 | | | | | | 20.9 | | 7.7_20.9 | |
| A 50 3 | | | | | | 51.7_190.6 | | 24.0_190.6 | |
| A 50 4 | | | | | | | | 211.0_778.2 | |
| A 55 2 | | | | | | | | 13.1_19.2 | |
| A 55 3 | | | | | | 64.3_194.2 | | 23.8_194.2 | |
| A 55 4 | | | | | | | | 208.1_793.0 | |
| A 60 2 | | | | | | | | 10.3_20.6 | |
| A 60 3 | | | | | | | | 25.7_185.8 | |
| A 60 4 | | | | | | 208.7_755.4 | | 208.7_755.4 | |

(C 43)

| | | SERVO INPUT | | | | | | | | | |
|--------|-----|---------------------------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|--|
| | | SK95A | SK95B | SK95C | SK110A | SK110B | SK130A | SK130B | SK180A | SK180B | |
| | | SC95A | SC95B | SC95C | SC110A | SC110B | SC130A | SC130B | SC180A | SC180B | |
| A 10 2 | i = | 5.5_51.3 | 5.5_65.9 | 5.5_65.9 | 5.5_65.9 | 5.5_65.9 | | | | | |
| A 20 2 | | 7.3_63.1 ⌀(10.3) | 5.4_79.9 | 5.4_79.9 | 5.4_79.9 | 5.4_79.9 | | | | | |
| A 20 3 | | 109.2_380.9 | 109.2_380.9 | 109.2_380.9 | 109.2_380.9 | 109.2_380.9 | | | | | |
| A 30 2 | | 9.3_76.5 ⌀(10.5 ; 13.6_16.3) | 5.4_97.5 | 5.4_97.5 | 5.4_97.5 | 5.4_97.5 | 5.4_97.5 | | | | |
| A 30 3 | | 109.1_400.8 | 109.1_400.8 | 109.1_400.8 | 109.1_400.8 | 109.1_400.8 | | | | | |
| A 35 2 | | 9.3_95.6 ⌀(13.1_20.4) | 5.4_95.6 | 5.4_95.6 | 5.4_95.6 | 5.4_95.6 | 5.4_95.6 | | | | |
| A 35 3 | | 105.5_393.2 | 105.5_393.2 | 105.5_393.2 | 105.5_393.2 | 105.5_393.2 | | | | | |
| A 41 2 | | 11.7_79.2 ⌀(13.8_17.8) | 5.2_79.2 | 5.2_79.2 | 5.2_79.2 | 5.2_79.2 | 5.2_79.2 | 5.2_45.1 | 5.2_45.1 | 5.2_45.1 | |
| A 41 3 | | 92.8_376.8 | 92.8_376.8 | 92.8_376.8 | 92.8_376.8 | 92.8_376.8 | | | | | |
| A 50 2 | | 20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 | 7.7_20.9 | |
| A 50 3 | | 51.7_190.6 | 24.0_190.6 | 24.0_190.6 | 24.0_190.6 | 24.0_190.6 | 24.0_190.6 | 24.0_109.4 | 24.0_109.4 | 24.0_109.4 | |
| A 50 4 | | 211.0_778.2 | 211.0_778.2 | 211.0_778.2 | 211.0_778.2 | 211.0_778.2 | 211.0_778.2 | | | | |
| A 55 2 | | | 13.1_19.2 | 13.1_19.2 | 13.1_19.2 | 13.1_19.2 | 13.1_19.2 | 4.9_19.2 | 4.9_19.2 | 4.9_19.2 | |
| A 55 3 | | 64.3_194.2 | 23.8_194.2 | 23.8_194.2 | 23.8_194.2 | 23.8_194.2 | 23.8_194.2 | 23.8_123.9 | 23.8_123.9 | 23.8_123.9 | |
| A 55 4 | | 208.1_793.0 | 208.1_793.0 | 208.1_793.0 | 208.1_793.0 | 208.1_793.0 | 208.1_793.0 | | | | |
| A 60 2 | | | 10.3_20.6 | 10.3_20.6 | 10.3_20.6 | 10.3_20.6 | 10.3_20.6 | 7.9_20.6 | 7.9_20.6 | 7.9_20.6 | |
| A 60 3 | | 65.0_185.8 | 25.7_185.8 | 25.7_185.8 | 25.7_185.8 | 25.7_185.8 | 25.7_185.8 | 25.7_133.3 | 25.7_133.3 | 25.7_133.3 | |
| A 60 4 | | 208.7_755.4 | 208.7_755.4 | 208.7_755.4 | 208.7_755.4 | 208.7_755.4 | 208.7_755.4 | | | | |



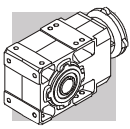
41 MOMENT OF INERTIA

The following charts indicate moment of inertia values J_r [kgm²] referred to the gear unit high speed shaft. A key to the symbols used follows:

| | |
|--|---|
| | <p>Values under this icon refer to compact gear units, without motor. To obtain the overall moment of inertia for the gearmotor just add the value of the inertia for the specific compact motor, given in the relevant rating chart.</p> |
| | <p>Values under this symbol refer to gearboxes with IEC motor adapter (IEC size...).</p> |
| | <p>This symbol refers to gearbox values.</p> |
| | <p>Values under this symbol refer to gear unit with servomotor input adapter.</p> |

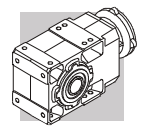
A 05

| | i | J (•10 ⁻⁴) [kgm ²] | | | | |
|-------------|------|--|------|------|------|---|
| | | | | 63 | 71 | |
| A 05 2_5.5 | 5.5 | 0.72 | 0.99 | 1.0 | 1.4 | — |
| A 05 2_6.3 | 6.3 | 0.56 | 0.83 | 0.86 | 1.2 | — |
| A 05 2_7.2 | 7.2 | 0.48 | 0.74 | 0.77 | 1.1 | — |
| A 05 2_8.5 | 8.5 | 0.36 | 0.63 | 0.65 | 1.0 | — |
| A 05 2_9.6 | 9.6 | 0.29 | 0.55 | 0.58 | 0.92 | — |
| A 05 2_10.6 | 10.6 | 0.50 | 0.77 | 0.80 | 1.1 | — |
| A 05 2_12.3 | 12.3 | 0.18 | 0.45 | 0.48 | 0.82 | — |
| A 05 2_13.9 | 13.9 | 0.35 | 0.62 | 0.65 | 0.99 | — |
| A 05 2_16.4 | 16.4 | 0.27 | 0.54 | 0.57 | 0.91 | — |
| A 05 2_18.6 | 18.6 | 0.22 | 0.49 | 0.51 | 0.86 | — |
| A 05 2_21.4 | 21.4 | 0.16 | 0.43 | 0.46 | 0.80 | — |
| A 05 2_23.8 | 23.8 | 0.14 | 0.41 | 0.43 | 0.78 | — |
| A 05 2_25.5 | 25.5 | 0.13 | 0.39 | 0.42 | 0.76 | — |
| A 05 2_28.6 | 28.6 | 0.11 | 0.38 | 0.40 | 0.75 | — |
| A 05 2_32.2 | 32.2 | 0.09 | 0.36 | 0.39 | 0.73 | — |
| A 05 2_35.1 | 35.1 | 0.08 | 0.35 | 0.37 | 0.72 | — |
| A 05 2_40.9 | 40.9 | 0.07 | 0.33 | 0.36 | 0.70 | — |
| A 05 2_45.4 | 45.4 | 0.05 | 0.32 | 0.35 | 0.69 | — |
| A 05 2_51.3 | 51.3 | 0.04 | 0.31 | 0.34 | 0.68 | — |
| A 05 2_58.6 | 58.6 | 0.04 | 0.31 | — | — | — |
| A 05 2_65.9 | 65.9 | 0.03 | 0.30 | — | — | — |
| A 05 2_76.4 | 76.4 | 0.02 | 0.29 | — | — | — |
| A 05 2_91.6 | 91.6 | 0.02 | 0.28 | — | — | — |



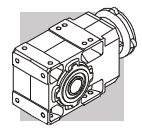
A 05

| | | J ($\cdot 10^{-4}$) [kgm ²] | | | | | |
|-------------|------|---|------|------|------|------------|------|
| | | SERVO | | | | | |
| i | | 40A | | 60A | | 60B 80A | |
| | | SK | SC | SK | SC | SK | SC |
| A 05 2_5.5 | 5.5 | 0.89 | 1.1 | 0.99 | 1.3 | 1.0 | 1.4 |
| A 05 2_6.3 | 6.3 | 0.73 | 0.89 | 0.83 | 1.1 | 0.86 | 1.3 |
| A 05 2_7.2 | 7.2 | 0.65 | 0.81 | 0.74 | 1.0 | 0.77 | 1.2 |
| A 05 2_8.5 | 8.5 | 0.53 | 0.69 | 0.63 | 0.89 | 0.65 | 1.1 |
| A 05 2_9.6 | 9.6 | 0.46 | 0.62 | 0.55 | 0.81 | 0.58 | 1.0 |
| A 05 2_10.6 | 10.6 | 0.67 | 0.83 | 0.77 | 1.0 | 0.80 | 1.2 |
| A 05 2_12.3 | 12.3 | 0.35 | 0.51 | 0.45 | 0.71 | 0.48 | 0.92 |
| A 05 2_13.9 | 13.9 | 0.52 | 0.68 | 0.62 | 0.88 | 0.65 | 1.1 |
| A 05 2_16.4 | 16.4 | 0.44 | 0.60 | 0.54 | 0.80 | 0.57 | 1.0 |
| A 05 2_18.6 | 18.6 | 0.39 | 0.55 | 0.49 | 0.75 | 0.51 | 0.95 |
| A 05 2_21.4 | 21.4 | 0.33 | 0.49 | 0.43 | 0.69 | 0.46 | 0.90 |
| A 05 2_23.8 | 23.8 | 0.31 | 0.47 | 0.41 | 0.67 | 0.43 | 0.87 |
| A 05 2_25.5 | 25.5 | 0.30 | 0.46 | 0.39 | 0.65 | 0.42 | 0.86 |
| A 05 2_28.6 | 28.6 | 0.28 | 0.44 | 0.38 | 0.64 | 0.40 | 0.84 |
| A 05 2_32.2 | 32.2 | 0.26 | 0.42 | 0.36 | 0.62 | 0.39 | 0.83 |
| A 05 2_35.1 | 35.1 | 0.25 | 0.41 | 0.35 | 0.61 | 0.37 | 0.81 |
| A 05 2_40.9 | 40.9 | 0.24 | 0.40 | 0.33 | 0.59 | 0.36 | 0.80 |
| A 05 2_45.4 | 45.4 | 0.22 | 0.38 | 0.32 | 0.58 | 0.35 | 0.79 |
| A 05 2_51.3 | 51.3 | 0.21 | 0.37 | 0.31 | 0.57 | 0.34 | 0.78 |
| A 05 2_58.6 | 58.6 | 0.21 | 0.37 | 0.31 | 0.57 | — | — |
| A 05 2_65.9 | 65.9 | 0.20 | 0.36 | 0.30 | 0.56 | — | — |
| A 05 2_76.4 | 76.4 | 0.19 | 0.35 | 0.29 | 0.55 | — | — |
| A 05 2_91.6 | 91.6 | 0.19 | 0.35 | 0.28 | 0.54 | — | — |



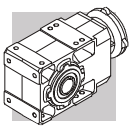
A 10

| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | IEC |
|-------------|------|---|-----|-----|-----|-----|-----|-----|------|
| | | 63 | 71 | 80 | 90 | 100 | 112 | | |
| A 10 2_5.5 | 5.5 | 1.0 | 2.5 | 2.5 | 3.9 | 3.8 | 5.1 | 5.1 | 1.8 |
| A 10 2_6.3 | 6.3 | 0.80 | 2.3 | 2.3 | 3.7 | 3.6 | 4.9 | 4.9 | 1.6 |
| A 10 2_7.2 | 7.2 | 0.60 | 2.1 | 2.1 | 3.5 | 3.4 | 4.7 | 4.7 | 1.5 |
| A 10 2_8.5 | 8.5 | 0.45 | 1.9 | 1.9 | 3.3 | 3.1 | 4.5 | 4.5 | 1.4 |
| A 10 2_9.6 | 9.6 | 0.30 | 1.8 | 1.8 | 3.2 | 3.1 | 4.4 | 4.4 | 1.3 |
| A 10 2_10.6 | 10.6 | 0.50 | 2.0 | 2.0 | 3.4 | 3.3 | 4.6 | 4.6 | 1.4 |
| A 10 2_12.3 | 12.3 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 1.1 |
| A 10 2_13.9 | 13.9 | 0.30 | 1.8 | 1.8 | 3.2 | 3.1 | 4.6 | 4.6 | 1.2 |
| A 10 2_16.4 | 16.4 | 0.25 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 1.1 |
| A 10 2_18.6 | 18.6 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 1.0 |
| A 10 2_21.4 | 21.4 | 0.15 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 1.0 |
| A 10 2_23.8 | 23.8 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 1.0 |
| A 10 2_25.5 | 25.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 1.0 |
| A 10 2_28.6 | 28.6 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 10 2_32.2 | 32.2 | 0.08 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 10 2_35.1 | 35.1 | 0.07 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 10 2_40.9 | 40.9 | 0.06 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 10 2_45.4 | 45.4 | 0.05 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 10 2_51.3 | 51.3 | 0.03 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 10 2_58.6 | 58.6 | 0.03 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 10 2_65.9 | 65.9 | 0.02 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 10 2_76.4 | 76.4 | 0.02 | 1.5 | 1.5 | — | — | — | — | 0.90 |
| A 10 2_91.6 | 91.6 | 0.01 | 1.5 | 1.5 | — | — | — | — | 0.90 |



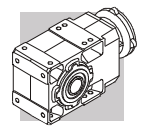
A 20

| | i | J (•10 ⁻⁴) [kgm ²] | | | | | | | IEC |
|--------------|-------|--|-----|-----|-----|-----|-----|-----|------|
| | | 63 | 71 | 80 | 90 | 100 | 112 | | |
| A 20 2_5.4 | 5.4 | 2.4 | — | — | 5.3 | 5.2 | 6.5 | 6.5 | 4.3 |
| A 20 2_6.5 | 6.5 | 1.9 | — | — | 4.8 | 4.7 | 6.0 | 6.0 | 3.8 |
| A 20 2_7.3 | 7.3 | 1.4 | 2.9 | 2.9 | 4.3 | 4.2 | 5.5 | 5.5 | 3.3 |
| A 20 2_8.4 | 8.4 | 1.1 | 2.6 | 2.6 | 4.0 | 3.9 | 5.2 | 5.2 | 3.0 |
| A 20 2_9.4 | 9.4 | 0.90 | 2.4 | 2.4 | 3.8 | 3.7 | 5.0 | 5.0 | 2.8 |
| A 20 2_10.3 | 10.3 | 1.2 | — | — | 4.1 | 4.0 | 5.3 | 5.3 | 3.0 |
| A 20 2_12.0 | 12.0 | 0.50 | 2.0 | 2.0 | 3.4 | 3.3 | 4.6 | 4.6 | 2.4 |
| A 20 2_14.1 | 14.1 | 0.70 | 2.2 | 2.2 | 3.6 | 3.5 | 4.8 | 4.8 | 2.6 |
| A 20 2_16.2 | 16.2 | 0.55 | 2.0 | 2.0 | 3.4 | 3.3 | 4.6 | 4.6 | 2.5 |
| A 20 2_18.1 | 18.1 | 0.40 | 1.9 | 1.9 | 3.3 | 3.2 | 4.5 | 4.5 | 2.4 |
| A 20 2_21.2 | 21.2 | 0.35 | 1.8 | 1.8 | 3.2 | 3.1 | 4.4 | 4.4 | 2.3 |
| A 20 2_23.1 | 23.1 | 0.30 | 1.8 | 1.8 | 3.2 | 3.1 | 4.4 | 4.4 | 2.2 |
| A 20 2_26.5 | 26.5 | 0.25 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.1 |
| A 20 2_29.2 | 29.2 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.1 |
| A 20 2_31.3 | 31.3 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.1 |
| A 20 2_35.4 | 35.4 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.1 |
| A 20 2_39.6 | 39.6 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.0 |
| A 20 2_43.2 | 43.2 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.0 |
| A 20 2_48.3 | 48.3 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.0 |
| A 20 2_53.7 | 53.7 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.0 |
| A 20 2_63.1 | 63.1 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.0 |
| A 20 2_71.0 | 71.0 | 0.05 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 2.0 |
| A 20 2_79.9 | 79.9 | 0.03 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 2.0 |
| A 20 2_92.3 | 92.3 | 0.02 | 1.5 | 1.5 | — | — | — | — | 2.0 |
| A 20 3_109.2 | 109.2 | 0.02 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_120.5 | 120.5 | 0.02 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_129.1 | 129.1 | 0.02 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_146.1 | 146.1 | 0.02 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_163.4 | 163.4 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_178.3 | 178.3 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_199.2 | 199.2 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_221.3 | 221.3 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_260.5 | 260.5 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_292.8 | 292.8 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_329.4 | 329.4 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |
| A 20 3_380.9 | 380.9 | 0.01 | 1.5 | 1.5 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |



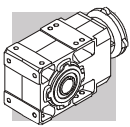
A 20

| | | J (•10 ⁻⁴) [kgm ²] | | | | | | | | | |
|--------------|-------|--|------|------------|------|-----|-----|--------------------|-----|-------------|-----|
| | | SERVO | | | | | | | | | |
| i | | 60A | | 60B 80A | | 95A | | 80C 95B 110A | | 95C 110B | |
| | | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC |
| A 20 2_5.4 | 5.4 | — | — | — | — | — | — | 5.3 | 5.8 | 5.2 | 6.2 |
| A 20 2_6.5 | 6.5 | — | — | — | — | — | — | 4.8 | 5.3 | 4.7 | 5.7 |
| A 20 2_7.3 | 7.3 | 1.7 | 1.9 | 1.7 | 2.1 | 4.2 | 4.7 | 4.3 | 4.8 | 4.2 | 5.2 |
| A 20 2_8.4 | 8.4 | 1.4 | 1.6 | 1.4 | 1.8 | 3.9 | 4.6 | 4.0 | 4.5 | 3.9 | 4.9 |
| A 20 2_9.4 | 9.4 | 1.2 | 1.4 | 1.2 | 1.6 | 3.7 | 4.2 | 3.8 | 4.3 | 3.7 | 4.7 |
| A 20 2_10.3 | 10.3 | — | — | — | — | — | — | 4.1 | 4.6 | 4.0 | 5.0 |
| A 20 2_12.0 | 12.0 | 0.77 | 1.0 | 0.79 | 1.2 | 3.3 | 3.8 | 3.4 | 3.9 | 3.3 | 4.3 |
| A 20 2_14.1 | 14.1 | 0.97 | 1.2 | 0.99 | 1.4 | 3.5 | 4.0 | 3.6 | 4.1 | 3.5 | 4.5 |
| A 20 2_16.2 | 16.2 | 0.82 | 1.1 | 0.84 | 1.3 | 3.4 | 3.8 | 3.4 | 3.9 | 3.3 | 4.3 |
| A 20 2_18.1 | 18.1 | 0.67 | 0.93 | 0.69 | 1.1 | 3.2 | 3.7 | 3.3 | 3.8 | 3.2 | 4.2 |
| A 20 2_21.2 | 21.2 | 0.62 | 0.88 | 0.64 | 1.1 | 3.2 | 3.6 | 3.2 | 3.7 | 3.1 | 4.1 |
| A 20 2_23.1 | 23.1 | 0.57 | 0.83 | 0.59 | 1.0 | 3.1 | 3.6 | 3.2 | 3.7 | 3.1 | 4.1 |
| A 20 2_26.5 | 26.5 | 0.52 | 0.78 | 0.54 | 0.98 | 3.1 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 |
| A 20 2_29.2 | 29.2 | 0.47 | 0.73 | 0.49 | 0.93 | 3.0 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 |
| A 20 2_31.3 | 31.3 | 0.47 | 0.73 | 0.49 | 0.93 | 3.0 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 |
| A 20 2_35.4 | 35.4 | 0.47 | 0.73 | 0.49 | 0.93 | 3.0 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 |
| A 20 2_39.6 | 39.6 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 |
| A 20 2_43.2 | 43.2 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 |
| A 20 2_48.3 | 48.3 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 |
| A 20 2_53.7 | 53.7 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 |
| A 20 2_63.1 | 63.1 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 |
| A 20 2_71.0 | 71.0 | 0.32 | 0.58 | — | — | — | — | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 2_79.9 | 79.9 | 0.30 | 0.56 | — | — | — | — | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 2_92.3 | 92.3 | 0.29 | 0.55 | — | — | — | — | — | — | — | — |
| A 20 3_109.2 | 109.2 | 0.29 | 0.55 | 0.31 | 0.75 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_120.5 | 120.5 | 0.29 | 0.55 | 0.31 | 0.75 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_129.1 | 129.1 | 0.29 | 0.55 | 0.31 | 0.75 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_146.1 | 146.1 | 0.29 | 0.55 | 0.31 | 0.75 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_163.4 | 163.4 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_178.3 | 178.3 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_199.2 | 199.2 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_221.3 | 221.3 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_260.5 | 260.5 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_292.8 | 292.8 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_329.4 | 329.4 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |
| A 20 3_380.9 | 380.9 | 0.28 | 0.54 | 0.30 | 0.74 | 2.8 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 |



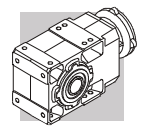
A 30

| | i | J (•10 ⁻⁴) [kgm ²] | | | | | | | IEC |
|--------------|-------|--|-----|-----|-----|-----|-----|-----|------|
| | | 63 | 71 | 80 | 90 | 100 | 112 | | |
| A 30 2_5.4 | 5.4 | 4.5 | — | — | 7.4 | 7.3 | 8.6 | 8.6 | 6.9 |
| A 30 2_6.4 | 6.4 | 3.4 | — | — | 6.6 | 6.6 | 7.8 | 7.8 | 6.0 |
| A 30 2_7.0 | 7.0 | 2.9 | — | — | 5.8 | 5.8 | 7.0 | 7.0 | 5.2 |
| A 30 2_8.5 | 8.5 | 2.2 | — | — | 5.1 | 5.1 | 6.3 | 6.3 | 4.6 |
| A 30 2_9.3 | 9.3 | 1.6 | 3.1 | 3.1 | 4.5 | 4.4 | 5.7 | 5.7 | 4.0 |
| A 30 2_10.5 | 10.5 | 2.3 | — | — | 5.2 | 5.1 | 6.4 | 6.4 | 4.6 |
| A 30 2_11.8 | 11.8 | 1.1 | 2.6 | 2.6 | 4.0 | 3.9 | 5.2 | 5.2 | 3.4 |
| A 30 2_13.6 | 13.6 | 1.5 | — | — | 4.4 | 4.3 | 5.6 | 5.6 | 3.9 |
| A 30 2_16.3 | 16.3 | 1.2 | — | — | 4.1 | 4.0 | 5.3 | 5.3 | 3.5 |
| A 30 2_18.0 | 18.0 | 0.90 | 2.4 | 2.4 | 3.8 | 3.7 | 5.0 | 5.0 | 3.2 |
| A 30 2_20.5 | 20.5 | 0.70 | 2.2 | 2.2 | 3.6 | 3.5 | 4.8 | 4.8 | 3.1 |
| A 30 2_22.8 | 22.8 | 0.60 | 2.1 | 2.1 | 3.5 | 3.4 | 4.7 | 4.7 | 3.0 |
| A 30 2_26.5 | 26.5 | 0.50 | 2.0 | 2.0 | 3.4 | 3.3 | 4.6 | 4.6 | 2.9 |
| A 30 2_29.3 | 29.3 | 0.40 | 1.9 | 1.9 | 3.3 | 3.2 | 4.5 | 4.5 | 2.8 |
| A 30 2_33.4 | 33.4 | 0.35 | 1.8 | 1.8 | 3.2 | 3.1 | 4.4 | 4.4 | 2.7 |
| A 30 2_36.6 | 36.6 | 0.30 | 1.8 | 1.8 | 3.2 | 3.1 | 4.4 | 4.4 | 2.7 |
| A 30 2_39.3 | 39.3 | 0.25 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.6 |
| A 30 2_43.4 | 43.4 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.6 |
| A 30 2_48.3 | 48.3 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.6 |
| A 30 2_52.7 | 52.7 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | 2.5 |
| A 30 2_59.4 | 59.4 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.5 |
| A 30 2_66.0 | 66.0 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.5 |
| A 30 2_76.5 | 76.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.5 |
| A 30 2_86.7 | 86.7 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.5 |
| A 30 2_97.5 | 97.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 2.4 |
| A 30 3_109.1 | 109.1 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_120.5 | 120.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_137.4 | 137.4 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_150.7 | 150.7 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_161.4 | 161.4 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_178.5 | 178.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_198.5 | 198.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_216.6 | 216.6 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_244.3 | 244.3 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_271.5 | 271.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_314.5 | 314.5 | 0.10 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_356.3 | 356.3 | 0.06 | 1.6 | 1.6 | 3.0 | 2.9 | 4.2 | 4.2 | 0.90 |
| A 30 3_400.8 | 400.8 | 0.04 | 1.5 | 1.6 | 2.9 | 2.8 | 4.1 | 4.1 | 0.90 |



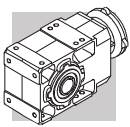
A 30

| | | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | | |
|--------------|-------|---|------|------------|------|-----|-----|--------------------|-----|-------------|-----|------|-----|
| | | SERVO | | | | | | | | | | | |
| i | | 60A | | 60B 80A | | 95A | | 80C 95B 110A | | 95C 110B | | 130A | |
| | | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC |
| A 30 2_5.4 | 5.4 | — | — | — | — | — | — | 7.4 | 7.9 | 7.3 | 8.3 | 7.3 | 8.3 |
| A 30 2_6.4 | 6.4 | — | — | — | — | — | — | 6.6 | 7.1 | 6.6 | 7.6 | 6.6 | 7.6 |
| A 30 2_7.0 | 7.0 | — | — | — | — | — | — | 5.8 | 6.3 | 5.8 | 6.8 | 5.8 | 6.8 |
| A 30 2_8.5 | 8.5 | — | — | — | — | — | — | 5.1 | 5.6 | 5.1 | 6.1 | 5.1 | 6.1 |
| A 30 2_9.3 | 9.3 | 1.9 | 2.1 | 1.9 | 2.3 | 4.4 | 4.9 | 4.5 | 5.0 | 4.4 | 5.4 | 4.4 | 5.4 |
| A 30 2_10.5 | 10.5 | — | — | — | — | — | — | 5.2 | 5.7 | 5.1 | 6.1 | 5.1 | 6.1 |
| A 30 2_11.8 | 11.8 | 1.4 | 1.6 | 1.4 | 1.8 | 3.9 | 4.4 | 4.0 | 4.5 | 3.9 | 4.9 | 3.9 | 4.9 |
| A 30 2_13.6 | 13.6 | — | — | — | — | — | — | 4.4 | 4.9 | 4.3 | 5.3 | 4.3 | 5.3 |
| A 30 2_16.3 | 16.3 | — | — | — | — | — | — | 4.1 | 4.6 | 4.0 | 5.0 | 4.0 | 5.0 |
| A 30 2_18.0 | 18.0 | 1.2 | 1.4 | 1.2 | 1.6 | 3.7 | 4.2 | 3.8 | 4.3 | 3.7 | 4.7 | 3.7 | 4.7 |
| A 30 2_20.5 | 20.5 | 0.97 | 1.2 | 0.99 | 1.4 | 3.5 | 4.0 | 3.6 | 4.1 | 3.5 | 4.5 | 3.5 | 4.5 |
| A 30 2_22.8 | 22.8 | 0.87 | 1.1 | 0.89 | 1.3 | 3.4 | 3.9 | 3.5 | 4.0 | 3.4 | 4.4 | 3.4 | 4.4 |
| A 30 2_26.5 | 26.5 | 0.77 | 1.0 | 0.79 | 1.2 | 3.3 | 3.8 | 3.4 | 3.9 | 3.3 | 4.3 | 3.3 | 4.3 |
| A 30 2_29.3 | 29.3 | 0.67 | 0.93 | 0.69 | 1.1 | 3.2 | 3.7 | 3.3 | 3.8 | 3.2 | 4.2 | 3.2 | 4.2 |
| A 30 2_33.4 | 33.4 | 0.62 | 0.88 | 0.64 | 1.1 | 3.2 | 3.6 | 3.2 | 3.7 | 3.1 | 4.1 | 3.1 | 4.1 |
| A 30 2_36.6 | 36.6 | 0.57 | 0.83 | 0.59 | 1.0 | 3.1 | 3.6 | 3.2 | 3.7 | 3.1 | 4.1 | 3.1 | 4.1 |
| A 30 2_39.3 | 39.3 | 0.52 | 0.78 | 0.54 | 0.98 | 3.1 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 | 3.0 | 4.0 |
| A 30 2_43.4 | 43.4 | 0.47 | 0.73 | 0.49 | 0.93 | 3.0 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 | 3.0 | 4.0 |
| A 30 2_48.3 | 48.3 | 0.47 | 0.73 | 0.49 | 0.93 | 3.0 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 | 3.0 | 4.0 |
| A 30 2_52.7 | 52.7 | 0.47 | 0.73 | 0.49 | 0.93 | 3.0 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 | 3.0 | 4.0 |
| A 30 2_59.4 | 59.4 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | 2.9 | 3.9 |
| A 30 2_66.0 | 66.0 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | 2.9 | 3.9 |
| A 30 2_76.5 | 76.5 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | 2.9 | 3.9 |
| A 30 2_86.7 | 86.7 | 0.37 | 0.63 | — | — | — | — | 3.0 | 3.5 | 2.9 | 3.9 | 2.9 | 3.9 |
| A 30 2_97.5 | 97.5 | 0.37 | 0.63 | — | — | — | — | 3.0 | 3.5 | 2.9 | 3.9 | 2.9 | 3.9 |
| A 30 3_109.1 | 109.1 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_120.5 | 120.5 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_137.4 | 137.4 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_150.7 | 150.7 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_161.4 | 161.4 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_178.5 | 178.5 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_198.5 | 198.5 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_216.6 | 216.6 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_244.3 | 244.3 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_271.5 | 271.5 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_314.5 | 314.5 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_356.3 | 356.3 | 0.33 | 0.59 | 0.35 | 0.79 | 2.9 | 3.3 | 3.0 | 3.5 | 2.9 | 3.9 | — | — |
| A 30 3_400.8 | 400.8 | 0.31 | 0.57 | 0.33 | 0.77 | 2.9 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 | — | — |



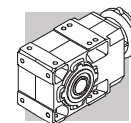
A 35

| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | |
|--------------|-------|---|------|------|-----|-----|-----|-----|-----|------|
| | | IEC | | | | | | | | |
| | | | 63 | 71 | 80 | 90 | 100 | 112 | 132 | |
| A 35 2_5.4 | 5.4 | 7.3 | — | — | 10 | 9.9 | 11 | 11 | 24 | 9.4 |
| A 35 2_6.4 | 6.4 | 5.4 | — | — | 8.1 | 8.0 | 9.2 | 9.2 | 22 | 7.4 |
| A 35 2_7.0 | 7.0 | 4.6 | — | — | 7.3 | 7.2 | 8.4 | 8.4 | 21 | 6.6 |
| A 35 2_8.5 | 8.5 | 3.3 | — | — | 6.1 | 5.9 | 7.1 | 7.1 | 20 | 5.4 |
| A 35 2_9.3 | 9.3 | 2.8 | 3.5 | 3.5 | 5.6 | 5.4 | 6.6 | 6.6 | 19 | 4.9 |
| A 35 2_10.6 | 10.6 | 2.1 | 2.9 | 2.9 | 4.9 | 4.8 | 6.0 | 6.0 | 19 | 4.2 |
| A 35 2_11.8 | 11.8 | 1.8 | 2.5 | 2.5 | 4.6 | 4.4 | 5.7 | 5.7 | 18 | 3.9 |
| A 35 2_13.1 | 13.1 | 3.0 | — | — | 5.7 | 5.6 | 6.8 | 6.8 | — | 5.0 |
| A 35 2_15.5 | 15.5 | 2.2 | — | — | 5.0 | 4.9 | 6.1 | 6.1 | — | 4.3 |
| A 35 2_17.0 | 17.0 | 2.0 | — | — | 4.7 | 4.6 | 5.8 | 5.8 | — | 4.0 |
| A 35 2_20.4 | 20.4 | 1.6 | — | — | 4.3 | 4.2 | 5.4 | 5.4 | — | 3.6 |
| A 35 2_22.5 | 22.5 | 1.3 | 2.0 | 2.0 | 4.1 | 3.9 | 5.1 | 5.1 | — | 3.4 |
| A 35 2_25.7 | 25.7 | 0.97 | 1.7 | 1.7 | 3.7 | 3.6 | 4.8 | 4.8 | — | 3.0 |
| A 35 2_28.4 | 28.4 | 0.86 | 1.6 | 1.6 | 3.6 | 3.5 | 4.7 | 4.7 | — | 2.9 |
| A 35 2_33.2 | 33.2 | 0.69 | 1.4 | 1.4 | 3.5 | 3.3 | 4.5 | 4.5 | — | 2.8 |
| A 35 2_36.6 | 36.6 | 0.58 | 1.3 | 1.3 | 3.3 | 3.2 | 4.4 | 4.4 | — | 2.6 |
| A 35 2_41.8 | 41.8 | 0.48 | 1.2 | 1.2 | 3.2 | 3.1 | 4.3 | 4.3 | — | 2.5 |
| A 35 2_45.8 | 45.8 | 0.42 | 1.1 | 1.1 | 3.2 | 3.1 | 4.3 | 4.3 | — | 2.5 |
| A 35 2_49.1 | 49.1 | 0.38 | 1.1 | 1.1 | 3.1 | 3.0 | 4.2 | 4.2 | — | 2.4 |
| A 35 2_54.3 | 54.3 | 0.33 | 1.1 | 1.0 | 3.1 | 3.0 | 4.2 | 4.2 | — | 2.4 |
| A 35 2_60.4 | 60.4 | 0.29 | 1.0 | 1.0 | 3.0 | 2.9 | 4.1 | 4.1 | — | 2.3 |
| A 35 2_65.8 | 65.8 | 0.25 | 1.0 | 1.0 | 3.0 | 2.9 | 4.1 | 4.1 | — | 2.3 |
| A 35 2_74.3 | 74.3 | 0.21 | 0.95 | 0.93 | 3.0 | 2.8 | 4.1 | 4.1 | — | 2.3 |
| A 35 2_82.5 | 82.5 | 0.18 | 0.92 | 0.90 | 2.9 | 2.8 | 4.0 | 4.0 | — | 2.2 |
| A 35 2_95.6 | 95.6 | 0.15 | 0.88 | 0.87 | 2.9 | 2.8 | 4.0 | 4.0 | — | 2.2 |
| A 35 3_105.5 | 105.5 | 0.11 | 0.89 | 0.87 | 2.9 | 2.8 | 4.0 | 4.0 | — | 0.80 |
| A 35 3_116.9 | 116.9 | 0.11 | 0.88 | 0.87 | 2.9 | 2.8 | 4.0 | 4.0 | — | 0.79 |
| A 35 3_136.3 | 136.3 | 0.10 | 0.87 | 0.86 | 2.9 | 2.8 | 4.0 | 4.0 | — | 0.78 |
| A 35 3_150.6 | 150.6 | 0.09 | 0.86 | 0.85 | 2.9 | 2.8 | 4.0 | 4.0 | — | 0.77 |
| A 35 3_171.8 | 171.8 | 0.08 | 0.86 | 0.84 | 2.9 | 2.8 | 4.0 | 4.0 | — | 0.77 |
| A 35 3_188.3 | 188.3 | 0.08 | 0.85 | 0.84 | 2.9 | 2.7 | 4.0 | 4.0 | — | 0.76 |
| A 35 3_201.8 | 201.8 | 0.08 | 0.85 | 0.84 | 2.9 | 2.7 | 4.0 | 4.0 | — | 0.76 |
| A 35 3_223.2 | 223.2 | 0.08 | 0.85 | 0.84 | 2.9 | 2.7 | 4.0 | 4.0 | — | 0.76 |
| A 35 3_248.1 | 248.1 | 0.07 | 0.85 | 0.83 | 2.9 | 2.7 | 4.0 | 4.0 | — | 0.76 |
| A 35 3_270.7 | 270.7 | 0.07 | 0.84 | 0.83 | 2.9 | 2.7 | 4.0 | 4.0 | — | 0.75 |
| A 35 3_305.4 | 305.4 | 0.07 | 0.84 | 0.83 | 2.9 | 2.7 | 4.0 | 4.0 | — | 0.75 |
| A 35 3_339.3 | 339.3 | 0.07 | 0.84 | 0.83 | 2.9 | 2.7 | 4.0 | 4.0 | — | 0.75 |
| A 35 3_393.2 | 393.2 | 0.07 | 0.84 | 0.83 | 2.9 | 2.7 | 3.9 | 3.9 | — | 0.75 |



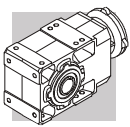
A 35

| | | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | | |
|--------------|-------|---|------|------------|------|-----|-----|--------------------|-----|-------------|------|------|-----|
| | | SERVO | | | | | | | | | | | |
| i | | 60A | | 60B 80A | | 95A | | 80C 95B 110A | | 95C 110B | | 130A | |
| | | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC |
| A 35 2_5.4 | 5.4 | — | — | — | — | — | — | 10 | 11 | 9.9 | 10.9 | 9.9 | 11 |
| A 35 2_6.4 | 6.4 | — | — | — | — | — | — | 8.1 | 8.6 | 8.0 | 9.0 | 8.0 | 9.0 |
| A 35 2_7.0 | 7.0 | — | — | — | — | — | — | 7.3 | 7.8 | 7.2 | 8.2 | 7.2 | 8.2 |
| A 35 2_8.5 | 8.5 | — | — | — | — | — | — | 6.1 | 6.6 | 5.9 | 6.9 | 5.9 | 6.9 |
| A 35 2_9.3 | 9.3 | 3.1 | 3.3 | 3.1 | 3.5 | 5.6 | 6.1 | 5.6 | 6.1 | 5.4 | 6.4 | 5.4 | 6.4 |
| A 35 2_10.6 | 10.6 | 2.4 | 2.6 | 2.4 | 2.8 | 4.9 | 5.4 | 4.9 | 5.4 | 4.8 | 5.8 | 4.8 | 5.8 |
| A 35 2_11.8 | 11.8 | 2.1 | 2.3 | 2.1 | 2.5 | 4.6 | 5.1 | 4.6 | 5.1 | 4.4 | 5.4 | 4.4 | 5.4 |
| A 35 2_13.1 | 13.1 | — | — | — | — | — | — | 5.7 | 6.2 | 5.6 | 6.6 | 5.6 | 6.6 |
| A 35 2_15.5 | 15.5 | — | — | — | — | — | — | 5.0 | 5.5 | 4.9 | 5.9 | 4.9 | 5.9 |
| A 35 2_17.0 | 17.0 | — | — | — | — | — | — | 4.7 | 5.2 | 4.6 | 5.6 | 4.6 | 5.6 |
| A 35 2_20.4 | 20.4 | — | — | — | — | — | — | 4.3 | 4.8 | 4.2 | 5.2 | 4.2 | 5.2 |
| A 35 2_22.5 | 22.5 | 1.6 | 1.8 | 1.6 | 2.0 | 4.1 | 4.6 | 4.1 | 4.6 | 3.9 | 4.9 | 3.9 | 4.9 |
| A 35 2_25.7 | 25.7 | 1.2 | 1.5 | 1.3 | 1.7 | 3.8 | 4.2 | 3.7 | 4.2 | 3.6 | 4.6 | 3.6 | 4.6 |
| A 35 2_28.4 | 28.4 | 1.1 | 1.4 | 1.2 | 1.6 | 3.7 | 4.1 | 3.6 | 4.1 | 3.5 | 4.5 | 3.5 | 4.5 |
| A 35 2_33.2 | 33.2 | 0.96 | 1.2 | 0.98 | 1.4 | 3.5 | 3.9 | 3.5 | 4.0 | 3.3 | 4.3 | 3.3 | 4.3 |
| A 35 2_36.6 | 36.6 | 0.85 | 1.1 | 0.87 | 1.3 | 3.4 | 3.8 | 3.3 | 3.8 | 3.2 | 4.2 | 3.2 | 4.2 |
| A 35 2_41.8 | 41.8 | 0.75 | 1.0 | 0.77 | 1.2 | 3.3 | 3.7 | 3.2 | 3.7 | 3.1 | 4.1 | 3.1 | 4.1 |
| A 35 2_45.8 | 45.8 | 0.69 | 0.95 | 0.71 | 1.1 | 3.2 | 3.7 | 3.2 | 3.7 | 3.1 | 4.1 | 3.1 | 4.1 |
| A 35 2_49.1 | 49.1 | 0.65 | 0.91 | 0.67 | 1.1 | 3.2 | 3.6 | 3.1 | 3.6 | 3.0 | 4.0 | 3.0 | 4.0 |
| A 35 2_54.3 | 54.3 | 0.60 | 0.86 | 0.62 | 1.1 | 3.2 | 3.6 | 3.1 | 3.6 | 3.0 | 4.0 | 3.0 | 4.0 |
| A 35 2_60.4 | 60.4 | 0.56 | 0.82 | 0.58 | 1.0 | 3.1 | 3.5 | 3.0 | 3.5 | 2.9 | 3.9 | 2.9 | 3.9 |
| A 35 2_65.8 | 65.8 | 0.52 | 0.78 | 0.54 | 0.98 | 3.1 | 3.5 | 3.0 | 3.5 | 2.9 | 3.9 | 2.9 | 3.9 |
| A 35 2_74.3 | 74.3 | 0.48 | 0.74 | 0.50 | 0.94 | 3.0 | 3.5 | 3.0 | 3.5 | 2.8 | 3.8 | 2.8 | 3.8 |
| A 35 2_82.5 | 82.5 | 0.45 | 0.71 | 0.47 | 0.91 | 3.0 | 3.4 | 2.9 | 3.4 | 2.8 | 3.8 | 2.8 | 3.8 |
| A 35 2_95.6 | 95.6 | 0.42 | 0.68 | 0.44 | 0.88 | 3.0 | 3.4 | 2.9 | 3.4 | 2.8 | 3.8 | 2.8 | 3.8 |
| A 35 3_105.5 | 105.5 | 0.38 | 0.64 | 0.40 | 0.84 | 2.9 | 3.4 | 2.9 | 3.4 | 2.8 | 3.8 | — | — |
| A 35 3_116.9 | 116.9 | 0.38 | 0.64 | 0.40 | 0.84 | 2.9 | 3.4 | 2.9 | 3.4 | 2.8 | 3.8 | — | — |
| A 35 3_136.3 | 136.3 | 0.37 | 0.63 | 0.39 | 0.83 | 2.9 | 3.4 | 2.9 | 3.4 | 2.8 | 3.8 | — | — |
| A 35 3_150.6 | 150.6 | 0.36 | 0.62 | 0.38 | 0.82 | 2.9 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 | — | — |
| A 35 3_171.8 | 171.8 | 0.35 | 0.61 | 0.37 | 0.81 | 2.9 | 3.3 | 2.9 | 3.4 | 2.8 | 3.8 | — | — |
| A 35 3_188.3 | 188.3 | 0.35 | 0.61 | 0.37 | 0.81 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |
| A 35 3_201.8 | 201.8 | 0.35 | 0.61 | 0.37 | 0.81 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |
| A 35 3_223.2 | 223.2 | 0.35 | 0.61 | 0.37 | 0.81 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |
| A 35 3_248.1 | 248.1 | 0.34 | 0.60 | 0.36 | 0.80 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |
| A 35 3_270.7 | 270.7 | 0.34 | 0.60 | 0.36 | 0.80 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |
| A 35 3_305.4 | 305.4 | 0.34 | 0.60 | 0.36 | 0.80 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |
| A 35 3_339.3 | 339.3 | 0.34 | 0.60 | 0.36 | 0.80 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |
| A 35 3_393.2 | 393.2 | 0.34 | 0.60 | 0.36 | 0.80 | 2.9 | 3.3 | 2.9 | 3.4 | 2.7 | 3.7 | — | — |



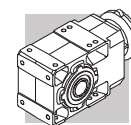
A 41

| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | |
|--------------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | IEC | | | | | | | |
| | | | 63 | 71 | 80 | 90 | 100 | 112 | 132 | |
| A 41 2_5.2 | 5.2 | 13 | — | — | 16 | 16 | 17 | 17 | 32 | 23 |
| A 41 2_7.1 | 7.1 | 7.3 | — | — | 10 | 10 | 11 | 11 | 26 | 18 |
| A 41 2_8.3 | 8.3 | 5.9 | — | — | 8.8 | 8.7 | 10 | 10 | 25 | 16 |
| A 41 2_9.2 | 9.2 | 4.5 | — | — | 7.4 | 7.3 | 8.6 | 8.6 | 23 | 15 |
| A 41 2_10.1 | 10.1 | 5.9 | — | — | 8.8 | 8.7 | 10 | 10 | 25 | 16 |
| A 41 2_11.7 | 11.7 | 2.9 | 4.4 | 4.4 | 5.8 | 5.7 | 7.0 | 7.0 | 22 | 13 |
| A 41 2_13.8 | 13.8 | 3.6 | — | — | 6.5 | 6.4 | 7.7 | 7.7 | 23 | 14 |
| A 41 2_16.1 | 16.1 | 2.9 | — | — | 5.8 | 5.7 | 7.0 | 7.0 | 22 | 13 |
| A 41 2_17.8 | 17.8 | 2.2 | — | — | 5.1 | 5.0 | 6.3 | 6.3 | 21 | 11 |
| A 41 2_22.7 | 22.7 | 1.5 | 3.0 | 3.0 | 4.4 | 4.3 | 5.6 | 5.6 | 20 | 11 |
| A 41 2_28.3 | 28.3 | 1.1 | 2.6 | 2.6 | 4.0 | 3.9 | 5.2 | 5.2 | 20 | 10 |
| A 41 2_35.9 | 35.9 | 1.7 | 3.2 | 3.2 | 4.6 | 4.5 | 5.8 | 5.8 | 20 | 9.8 |
| A 41 2_45.1 | 45.1 | 1.5 | 3.0 | 3.0 | 4.4 | 4.3 | 5.6 | 5.6 | 20 | 9.6 |
| A 41 2_48.3 | 48.3 | 1.4 | 2.9 | 2.9 | 4.3 | 4.2 | 5.5 | 5.5 | — | 9.5 |
| A 41 2_53.1 | 53.1 | 1.4 | 2.9 | 2.9 | 4.3 | 4.2 | 5.5 | 5.5 | — | 9.5 |
| A 41 2_58.8 | 58.8 | 1.3 | 2.8 | 2.8 | 4.2 | 4.1 | 5.4 | 5.4 | — | 9.4 |
| A 41 2_64.2 | 64.2 | 1.3 | 2.8 | 2.8 | 4.2 | 4.1 | 5.4 | 5.4 | — | 9.4 |
| A 41 2_71.3 | 71.3 | 1.2 | 2.7 | 2.7 | 4.1 | 4.0 | 5.3 | 5.3 | — | 9.3 |
| A 41 2_79.2 | 79.2 | 1.2 | 2.7 | 2.7 | 4.1 | 4.0 | 5.3 | 5.3 | — | 9.3 |
| A 41 3_92.8 | 92.8 | 1.1 | 2.6 | 2.6 | 4.0 | 3.9 | 5.2 | 5.2 | — | 9.2 |
| A 41 3_115.9 | 115.9 | 0.20 | 1.7 | 1.7 | 2.9 | 3.0 | 4.3 | 4.3 | — | 2.1 |
| A 41 3_146.9 | 146.9 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.1 |
| A 41 3_184.4 | 184.4 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.1 |
| A 41 3_197.5 | 197.5 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.0 |
| A 41 3_217.4 | 217.4 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.0 |
| A 41 3_240.6 | 240.6 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.0 |
| A 41 3_262.5 | 262.5 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.0 |
| A 41 3_291.7 | 291.7 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.0 |
| A 41 3_324.2 | 324.2 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.0 |
| A 41 3_376.8 | 376.8 | 0.10 | 1.6 | 1.6 | 2.8 | 2.9 | 4.2 | 4.2 | — | 2.0 |



A 41

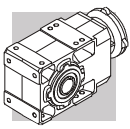
| | | J (•10 ⁻⁴) [kgm ²] | | | | | | | | | | | | | | | | | |
|--------------|-------|--|------|------------|------|-----|-----|-----|-----|--------------------|------|-------------|-----|------|-----|--------------|----|------|----|
| | | SERVO | | | | | | | | | | | | | | | | | |
| i | | 60A | | 60B 80A | | 80B | | 95A | | 80C 95B 110A | | 95C 110B | | 130A | | 130B 180A | | 180B | |
| | | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC |
| A 41 2_5.2 | 5.2 | — | — | — | — | — | — | — | — | 16 | 16.5 | 16 | 17 | 16 | 17 | 30 | 32 | 32 | 37 |
| A 41 2_7.1 | 7.1 | — | — | — | — | — | — | — | — | 10 | 10.5 | 10 | 11 | 10 | 11 | 24 | 27 | 26 | 31 |
| A 41 2_8.3 | 8.3 | — | — | — | — | — | — | — | — | 8.8 | 9.3 | 8.7 | 9.7 | 8.7 | 9.7 | 23 | 25 | 25 | 30 |
| A 41 2_9.2 | 9.2 | — | — | — | — | — | — | — | — | 7.4 | 7.9 | 7.3 | 8.3 | 7.3 | 8.3 | 21 | 24 | 23 | 28 |
| A 41 2_10.1 | 10.1 | — | — | — | — | — | — | — | — | 8.8 | 9.3 | 8.7 | 9.7 | 8.7 | 9.7 | 23 | 25 | 25 | 30 |
| A 41 2_11.7 | 11.7 | — | — | — | — | 5.7 | 6.2 | 5.7 | 6.2 | 5.8 | 6.3 | 5.7 | 6.7 | 5.7 | 6.7 | 20 | 22 | 22 | 27 |
| A 41 2_13.8 | 13.8 | — | — | — | — | — | — | — | — | 6.5 | 7.0 | 6.4 | 7.4 | 6.4 | 7.4 | 21 | 23 | 23 | 28 |
| A 41 2_16.1 | 16.1 | — | — | — | — | — | — | — | — | 5.8 | 6.3 | 5.7 | 6.7 | 5.7 | 6.7 | 20 | 22 | 22 | 27 |
| A 41 2_17.8 | 17.8 | — | — | — | — | — | — | — | — | 5.1 | 5.6 | 5.0 | 6.0 | 5.0 | 6.0 | 19 | 22 | 21 | 26 |
| A 41 2_22.7 | 22.7 | — | — | — | — | 4.3 | 4.8 | 4.3 | 4.8 | 4.4 | 4.9 | 4.3 | 5.3 | 4.3 | 5.3 | 18 | 21 | 20 | 25 |
| A 41 2_28.3 | 28.3 | — | — | — | — | 3.9 | 4.4 | 3.9 | 4.4 | 4.0 | 4.5 | 3.9 | 4.9 | 3.9 | 4.9 | 18 | 21 | 20 | 25 |
| A 41 2_35.9 | 35.9 | — | — | — | — | 4.5 | 5.0 | 4.5 | 5.0 | 4.6 | 5.1 | 4.5 | 5.5 | 4.5 | 5.5 | 19 | 21 | 20 | 25 |
| A 41 2_45.1 | 45.1 | — | — | — | — | 4.3 | 4.8 | 4.3 | 4.8 | 4.4 | 4.9 | 4.3 | 5.3 | 4.3 | 5.3 | 18 | 21 | 20 | 25 |
| A 41 2_48.3 | 48.3 | — | — | — | — | 4.2 | 4.7 | 4.2 | 4.7 | 4.3 | 4.8 | 4.2 | 5.2 | 4.2 | 5.2 | — | — | — | — |
| A 41 2_53.1 | 53.1 | — | — | — | — | 4.2 | 4.7 | 4.2 | 4.7 | 4.3 | 4.8 | 4.2 | 5.2 | 4.2 | 5.2 | — | — | — | — |
| A 41 2_58.8 | 58.8 | — | — | — | — | 4.1 | 4.6 | 4.1 | 4.6 | 4.2 | 4.7 | 4.1 | 5.1 | 4.1 | 5.1 | — | — | — | — |
| A 41 2_64.2 | 64.2 | — | — | — | — | 4.1 | 4.6 | 4.1 | 4.6 | 4.2 | 4.7 | 4.1 | 5.1 | 4.1 | 5.1 | — | — | — | — |
| A 41 2_71.3 | 71.3 | — | — | — | — | 4.0 | 4.5 | 4.0 | 4.5 | 4.1 | 4.6 | 4.0 | 5.0 | 4.0 | 5.0 | — | — | — | — |
| A 41 2_79.2 | 79.2 | — | — | — | — | 4.0 | 4.5 | 4.0 | 4.5 | 4.1 | 4.6 | 4.0 | 5.0 | 4.0 | 5.0 | — | — | — | — |
| A 41 3_92.8 | 92.8 | 1.4 | 1.6 | 1.4 | 1.8 | — | — | 3.9 | 4.4 | 4.0 | 4.5 | 3.9 | 4.9 | — | — | — | — | — | — |
| A 41 3_115.9 | 115.9 | 0.47 | 0.73 | 0.49 | 0.93 | — | — | 3.0 | 3.5 | 2.9 | 3.4 | 3.0 | 4.0 | — | — | — | — | — | — |
| A 41 3_146.9 | 146.9 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_184.4 | 184.4 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_197.5 | 197.5 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_217.4 | 217.4 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_240.6 | 240.6 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_262.5 | 262.5 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_291.7 | 291.7 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_324.2 | 324.2 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |
| A 41 3_376.8 | 376.8 | 0.37 | 0.63 | 0.39 | 0.83 | — | — | 2.9 | 3.4 | 2.8 | 3.3 | 2.9 | 3.9 | — | — | — | — | — | — |



A 50

| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | IEC |
|---------------------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|
| | | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | | |
| A 50 2_7.7 | 7.7 | 15 | — | — | 18 | 18 | 19 | 19 | 34 | 93 | 91 | 24 |
| A 50 2_9.7 | 9.7 | 10 | — | — | 13 | 13 | 14 | 14 | 29 | 89 | 86 | 19 |
| A 50 2_13.1 | 13.1 | 6.3 | — | — | 9.2 | 9.1 | 10 | 10 | 25 | 85 | 82 | 15 |
| A 50 2_16.6 | 16.6 | 4.2 | — | — | 7.0 | 7.0 | 8.2 | 8.2 | 23 | 82 | 80 | 13 |
| A 50 2_20.9 | 20.9 | 2.8 | 4.2 | 4.2 | 5.7 | 5.6 | 6.9 | 6.9 | 22 | 81 | 79 | 12 |
| A 50 3_24.0 | 24.0 | 6.0 | — | — | 8.9 | 8.8 | 10 | 10 | 25 | 84 | 82 | 15 |
| A 50 3_26.4 | 26.4 | 5.8 | — | — | 8.7 | 8.6 | 9.9 | 9.9 | 25 | 84 | 82 | 15 |
| A 50 3_32.4 | 32.4 | 4.0 | — | — | 6.8 | 6.8 | 8.1 | 8.1 | 23 | 82 | 80 | 13 |
| A 50 3_35.6 | 35.6 | 3.9 | — | — | 6.7 | 6.7 | 8.0 | 8.0 | 23 | 82 | 80 | 13 |
| A 50 3_40.9 | 40.9 | 2.7 | — | — | 5.6 | 5.5 | 6.8 | 6.8 | 22 | 81 | 79 | 12 |
| A 50 3_45.0 | 45.0 | 2.6 | — | — | 5.5 | 5.4 | 6.7 | 6.7 | 22 | 81 | 79 | 12 |
| A 50 3_51.7 | 51.7 | 1.9 | 3.4 | 3.4 | 4.7 | 4.7 | 6.0 | 6.0 | 21 | 80 | 78 | 11 |
| A 50 3_56.8 | 56.8 | 1.9 | 3.3 | 3.3 | 4.7 | 4.6 | 5.9 | 5.9 | 21 | 80 | 78 | 11 |
| A 50 3_63.9 | 63.9 | 1.4 | 2.9 | 2.8 | 4.2 | 4.2 | 5.5 | 5.5 | 20 | 80 | 77 | 11 |
| A 50 3_70.2 | 70.2 | 1.4 | 2.8 | 2.8 | 4.2 | 4.1 | 5.4 | 5.4 | 20 | 80 | 77 | 10 |
| A 50 3_81.5 | 81.5 | 0.90 | 2.4 | 2.4 | 3.8 | 3.7 | 5.0 | 5.0 | 20 | 79 | 77 | 10 |
| A 50 3_89.5 | 89.5 | 0.90 | 2.4 | 2.4 | 3.7 | 3.7 | 5.0 | 5.0 | 20 | 79 | 77 | 10 |
| A 50 3_99.5 | 99.5 | 0.60 | 2.1 | 2.1 | 3.5 | 3.4 | 4.7 | 4.7 | 20 | 79 | 77 | 9.7 |
| A 50 3_109.4 | 109.4 | 0.60 | 2.1 | 2.1 | 3.5 | 3.4 | 4.7 | 4.7 | 20 | 79 | 77 | 9.7 |
| A 50 3_118.0 | 118.0 | 0.50 | 2.0 | 2.0 | 3.4 | 3.3 | 4.6 | 4.6 | — | — | — | 9.6 |
| A 50 3_129.7 | 129.7 | 0.50 | 2.0 | 2.0 | 3.4 | 3.3 | 4.6 | 4.6 | — | — | — | 9.6 |
| A 50 3_140.6 | 140.6 | 0.40 | 1.8 | 1.8 | 3.2 | 3.2 | 4.4 | 4.4 | — | — | — | 9.4 |
| A 50 3_154.6 | 154.6 | 0.40 | 1.8 | 1.8 | 3.2 | 3.2 | 4.4 | 4.4 | — | — | — | 9.4 |
| A 50 3_173.4 | 173.4 | 0.30 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | — | — | — | 9.3 |
| A 50 3_190.6 | 190.6 | 0.20 | 1.7 | 1.7 | 3.1 | 3.0 | 4.3 | 4.3 | — | — | — | 9.3 |

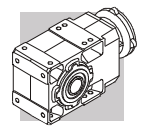
For the values of the moment of inertia of 4-stage gearboxes, please contact our Technical Service department.



A 50

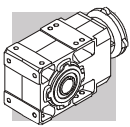
| | | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | |
|--------------|-------|---|-----|--------------------|-----|---------------------|-----|--------------|----|------|----|
| | | SERVO | | | | | | | | | |
| i | | 80B 95A | | 80C 95B 110A | | 95C 110B 130A | | 130B 180A | | 180B | |
| | | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC |
| A 50 2_7.7 | 7.7 | — | — | 18 | 19 | 18 | 19 | 32 | 34 | 34 | 39 |
| A 50 2_9.7 | 9.7 | — | — | 13 | 14 | 13 | 14 | 27 | 29 | 29 | 34 |
| A 50 2_13.1 | 13.1 | — | — | 9.2 | 9.7 | 9.1 | 10 | 23 | 26 | 25 | 30 |
| A 50 2_16.6 | 16.6 | — | — | 7.0 | 7.5 | 7.0 | 8.0 | 21 | 24 | 23 | 28 |
| A 50 2_20.9 | 20.9 | 5.6 | 6.1 | 5.7 | 6.2 | 5.6 | 6.6 | 20 | 22 | 22 | 27 |
| A 50 3_24.0 | 24.0 | — | — | 8.9 | 9.4 | 8.8 | 9.8 | 23 | 25 | 25 | 30 |
| A 50 3_26.4 | 26.4 | — | — | 8.7 | 9.2 | 8.6 | 9.6 | 23 | 25 | 25 | 30 |
| A 50 3_32.4 | 32.4 | — | — | 6.8 | 7.3 | 6.8 | 7.8 | 21 | 23 | 23 | 28 |
| A 50 3_35.6 | 35.6 | — | — | 6.7 | 7.2 | 6.7 | 7.7 | 21 | 23 | 23 | 28 |
| A 50 3_40.9 | 40.9 | — | — | 5.6 | 6.1 | 5.5 | 6.5 | 20 | 22 | 22 | 27 |
| A 50 3_45.0 | 45.0 | — | — | 5.5 | 6.0 | 5.4 | 6.4 | 20 | 22 | 22 | 27 |
| A 50 3_51.7 | 51.7 | 4.7 | 5.1 | 4.7 | 5.2 | 4.7 | 5.7 | 19 | 21 | 21 | 26 |
| A 50 3_56.8 | 56.8 | 4.7 | 5.1 | 4.7 | 5.2 | 4.6 | 5.6 | 19 | 21 | 21 | 26 |
| A 50 3_63.9 | 63.9 | 4.2 | 4.7 | 4.2 | 5.2 | 4.2 | 5.2 | 18 | 21 | 20 | 25 |
| A 50 3_70.2 | 70.2 | 4.2 | 4.7 | 4.2 | 5.2 | 4.1 | 5.1 | 18 | 21 | 20 | 25 |
| A 50 3_81.5 | 81.5 | 3.7 | 4.1 | 3.8 | 4.3 | 3.7 | 4.7 | 18 | 20 | 20 | 25 |
| A 50 3_89.5 | 89.5 | 3.7 | 4.1 | 3.7 | 4.2 | 3.7 | 4.7 | 18 | 20 | 20 | 25 |
| A 50 3_99.5 | 99.5 | 3.4 | 3.9 | 3.5 | 4.0 | 3.4 | 4.4 | 18 | 20 | 20 | 25 |
| A 50 3_109.4 | 109.4 | 3.4 | 3.9 | 3.5 | 4.0 | 3.4 | 4.4 | 18 | 20 | 20 | 25 |
| A 50 3_118.0 | 118.0 | 3.3 | 3.8 | 3.4 | 4.0 | 3.3 | 4.3 | — | — | — | — |
| A 50 3_129.7 | 129.7 | 3.3 | 3.8 | 3.4 | 4.0 | 3.3 | 4.3 | — | — | — | — |
| A 50 3_140.6 | 140.6 | 3.2 | 3.7 | 3.2 | 3.7 | 3.2 | 4.2 | — | — | — | — |
| A 50 3_154.6 | 154.6 | 3.2 | 3.7 | 3.2 | 3.7 | 3.2 | 4.2 | — | — | — | — |
| A 50 3_173.4 | 173.4 | 3.1 | 3.6 | 3.1 | 3.6 | 3.0 | 4.0 | — | — | — | — |
| A 50 3_190.6 | 190.6 | 3.0 | 3.5 | 3.1 | 3.6 | 3.0 | 4.0 | — | — | — | — |

For the values of the moment of inertia of 4-stage gearboxes, please contact our Technical Service department.



A 55

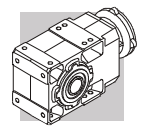
| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | |
|---------------------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | IEC | | | | | | | | | | |
| | | | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | |
| A 55 2_4.9 | 4.9 | 61 | — | — | — | — | — | — | 77 | 123 | 120 | 70 |
| A 55 2_6.4 | 6.4 | 41 | — | — | — | — | — | — | 57 | 103 | 100 | 50 |
| A 55 2_8.5 | 8.5 | 26 | — | — | — | — | — | — | 42 | 88 | 85 | 35 |
| A 55 2_10.4 | 10.4 | 19 | — | — | — | — | — | — | 35 | 81 | 78 | 28 |
| A 55 2_13.1 | 13.1 | 12 | — | — | 14 | 14 | 17 | 17 | 28 | 74 | 72 | 21 |
| A 55 2_15.7 | 15.7 | 8.9 | — | — | 11 | 11 | 14 | 14 | 25 | 71 | 68 | 18 |
| A 55 2_19.2 | 19.2 | 6.2 | — | — | 8.6 | 8.5 | 11 | 11 | 23 | 68 | 66 | 15 |
| A 55 3_23.8 | 23.8 | 11 | — | — | 13 | 13 | 16 | 16 | 27 | 73 | 70 | 20 |
| A 55 3_29.9 | 29.9 | 7.9 | — | — | 10 | 10 | 13 | 13 | 24 | 70 | 67 | 17 |
| A 55 3_40.3 | 40.3 | 5.3 | — | — | 7.8 | 7.6 | 10 | 10 | 22 | 68 | 65 | 14 |
| A 55 3_51.0 | 51.0 | 3.6 | — | — | 6.0 | 5.9 | 8.6 | 8.6 | 20 | 66 | 63 | 13 |
| A 55 3_64.3 | 64.3 | 2.6 | 3.1 | 3.0 | 5.1 | 5.0 | 7.7 | 7.7 | 19 | 65 | 62 | 12 |
| A 55 3_79.5 | 79.5 | 2.0 | 2.4 | 2.4 | 4.5 | 4.4 | 7.1 | 7.1 | 18 | 64 | 62 | 11 |
| A 55 3_101.4 | 101.4 | 1.3 | 1.8 | 1.8 | 3.8 | 3.7 | 6.5 | 6.5 | 18 | 64 | 61 | 10 |
| A 55 3_123.9 | 123.9 | 1.0 | 1.5 | 1.5 | 3.6 | 3.4 | 6.2 | 6.2 | 17 | 63 | 61 | 10 |
| A 55 3_132.7 | 132.7 | 0.71 | 1.4 | 1.4 | 3.5 | 3.3 | 6.1 | 6.1 | — | — | — | 9.5 |
| A 55 3_146.8 | 146.8 | 0.66 | 1.4 | 1.4 | 3.4 | 3.3 | 6.0 | 6.0 | — | — | — | 9.4 |
| A 55 3_160.4 | 160.4 | 0.58 | 1.3 | 1.3 | 3.3 | 3.2 | 6.0 | 6.0 | — | — | — | 9.4 |
| A 55 3_175.0 | 175.0 | 0.50 | 1.2 | 1.2 | 3.3 | 3.1 | 5.9 | 5.9 | — | — | — | 9.3 |
| A 55 3_194.2 | 194.2 | 0.43 | 1.2 | 1.2 | 3.2 | 3.1 | 5.8 | 5.8 | — | — | — | 9.2 |



A 55

| | | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | |
|--------------|-------|---|-----|--------------------|-----|---------------------|-----|--------------|----|------|----|
| | | SERVO | | | | | | | | | |
| i | | 80B 95A | | 80C 95B 110A | | 95C 110B 130A | | 130B 180A | | 180B | |
| | | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC |
| A 55 2_4.9 | 4.9 | — | — | — | — | — | — | 78 | 80 | 77 | 82 |
| A 55 2_6.4 | 6.4 | — | — | — | — | — | — | 58 | 60 | 57 | 62 |
| A 55 2_8.5 | 8.5 | — | — | — | — | — | — | 43 | 45 | 42 | 47 |
| A 55 2_10.4 | 10.4 | — | — | — | — | — | — | 36 | 38 | 35 | 40 |
| A 55 2_13.1 | 13.1 | — | — | 14 | 15 | 14 | 15 | 29 | 31 | 28 | 33 |
| A 55 2_15.7 | 15.7 | — | — | 11 | 12 | 11 | 12 | 26 | 28 | 25 | 30 |
| A 55 2_19.2 | 19.2 | — | — | 8.6 | 9.1 | 8.5 | 9.5 | 23 | 26 | 23 | 28 |
| A 55 3_23.8 | 23.8 | — | — | 13 | 14 | 13 | 14 | 28 | 30 | 27 | 32 |
| A 55 3_29.9 | 29.9 | — | — | 10 | 11 | 10 | 11 | 25 | 27 | 24 | 29 |
| A 55 3_40.3 | 40.3 | — | — | 7.8 | 8.3 | 7.6 | 8.6 | 22 | 25 | 22 | 27 |
| A 55 3_51.0 | 51.0 | — | — | 6.0 | 6.5 | 5.9 | 6.9 | 21 | 23 | 20 | 25 |
| A 55 3_64.3 | 64.3 | 5.4 | 5.9 | 5.1 | 5.6 | 5.0 | 6.0 | 20 | 22 | 19 | 24 |
| A 55 3_79.5 | 79.5 | 4.8 | 5.3 | 4.5 | 5.0 | 4.4 | 5.4 | 19 | 21 | 18 | 23 |
| A 55 3_101.4 | 101.4 | 4.1 | 4.6 | 3.8 | 4.3 | 3.7 | 4.7 | 18 | 21 | 18 | 23 |
| A 55 3_123.9 | 123.9 | 3.8 | 4.3 | 3.6 | 4.1 | 3.4 | 4.4 | 18 | 20 | 17 | 22 |
| A 55 3_132.7 | 132.7 | 3.5 | 4.0 | 3.5 | 4.0 | 3.3 | 4.3 | — | — | — | — |
| A 55 3_146.8 | 146.8 | 3.5 | 3.9 | 3.4 | 3.9 | 3.3 | 4.3 | — | — | — | — |
| A 55 3_160.4 | 160.4 | 3.4 | 3.8 | 3.3 | 3.8 | 3.2 | 4.2 | — | — | — | — |
| A 55 3_175.0 | 175.0 | 3.3 | 3.8 | 3.3 | 3.8 | 3.1 | 4.1 | — | — | — | — |
| A 55 3_194.2 | 194.2 | 3.3 | 3.7 | 3.2 | 3.7 | 3.1 | 4.1 | — | — | — | — |

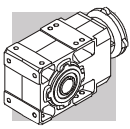
For the values of the moment of inertia of 4-stage gearboxes, please contact our Technical Service department.



A 60

| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | IEC |
|---------------------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | | |
| A 60 2_7.9 | 7.9 | 36 | — | — | — | — | — | — | 54 | 114 | 112 | 57 |
| A 60 2_10.3 | 10.3 | 23 | — | — | 25 | 25 | 27 | 27 | 41 | 101 | 99 | 44 |
| A 60 2_12.7 | 12.7 | 16 | — | — | 19 | 19 | 20 | 20 | 35 | 94 | 92 | 37 |
| A 60 2_16.7 | 16.7 | 9.4 | — | — | 12 | 12 | 14 | 14 | 28 | 88 | 85 | 30 |
| A 60 2_20.6 | 20.6 | 6.7 | — | — | 9.6 | 9.5 | 11 | 11 | 26 | 85 | 83 | 28 |
| A 60 3_25.7 | 25.7 | 14 | — | — | 17 | 17 | 18 | 18 | 33 | 92 | 90 | 35 |
| A 60 3_27.9 | 27.9 | 14 | — | — | 17 | 17 | 18 | 18 | 33 | 92 | 90 | 35 |
| A 60 3_31.7 | 31.7 | 10 | — | — | 13 | 13 | 15 | 15 | 29 | 89 | 86 | 31 |
| A 60 3_34.3 | 34.3 | 10 | — | — | 13 | 13 | 14 | 14 | 29 | 89 | 86 | 31 |
| A 60 3_41.7 | 41.7 | 6.1 | — | — | 9.0 | 8.9 | 10 | 10 | 25 | 84 | 82 | 27 |
| A 60 3_45.2 | 45.2 | 6.1 | — | — | 8.9 | 8.9 | 10 | 10 | 25 | 84 | 82 | 27 |
| A 60 3_51.3 | 51.3 | 5.0 | — | — | 7.4 | 7.4 | 8.7 | 8.7 | 24 | 83 | 81 | 26 |
| A 60 3_55.6 | 55.6 | 4.5 | — | — | 7.4 | 7.3 | 8.6 | 8.6 | 23 | 83 | 81 | 26 |
| A 60 3_65.0 | 65.0 | 3.2 | 4.7 | 4.6 | 6.1 | 6.0 | 7.3 | 7.3 | 22 | 82 | 79 | 24 |
| A 60 3_70.4 | 70.4 | 3.2 | 4.7 | 4.6 | 6.1 | 6.0 | 7.3 | 7.3 | 22 | 81 | 79 | 24 |
| A 60 3_79.7 | 79.7 | 2.1 | 3.6 | 3.5 | 5.0 | 4.9 | 6.2 | 6.2 | 21 | 80 | 78 | 23 |
| A 60 3_86.4 | 86.4 | 2.1 | 3.6 | 3.5 | 5.0 | 4.9 | 6.2 | 6.2 | 21 | 80 | 78 | 23 |
| A 60 3_99.5 | 99.5 | 2.0 | 3.5 | 3.4 | 4.3 | 4.3 | 5.6 | 5.6 | 20 | 80 | 78 | 23 |
| A 60 3_107.8 | 107.8 | 1.5 | 3.0 | 2.9 | 4.3 | 4.3 | 5.6 | 5.6 | 20 | 80 | 78 | 22 |
| A 60 3_123.0 | 123.0 | 1.1 | 2.6 | 2.5 | 4.0 | 3.9 | 5.2 | 5.2 | 20 | 79 | 77 | 22 |
| A 60 3_133.3 | 133.3 | 1.1 | 2.6 | 2.5 | 3.9 | 3.9 | 5.2 | 5.2 | 20 | 79 | 77 | 22 |
| A 60 3_144.0 | 144.0 | 0.80 | 2.3 | 2.2 | 3.7 | 3.6 | 5.0 | 5.0 | — | — | — | 22 |
| A 60 3_156.0 | 156.0 | 0.80 | 2.3 | 2.2 | 3.7 | 3.6 | 5.0 | 5.0 | — | — | — | 22 |
| A 60 3_171.5 | 171.5 | 0.60 | 2.1 | 2.0 | 3.5 | 3.4 | 4.7 | 4.7 | — | — | — | 22 |
| A 60 3_185.8 | 185.8 | 0.60 | 2.1 | 2.0 | 3.5 | 3.4 | 4.7 | 4.7 | — | — | — | 22 |

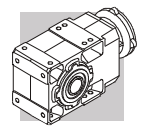
For the values of the moment of inertia of 4-stage gearboxes, please contact our Technical Service department.



A 60

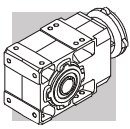
| | | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | |
|--------------|-------|---|-----|--------------------|-----|---------------------|-----|--------------|----|------|----|
| | | SERVO | | | | | | | | | |
| i | | 95A | | 80C 95B 110A | | 95C 110B 130A | | 130B 180A | | 180B | |
| | | SK | SC | SK | SC | SK | SC | SK | SC | SK | SC |
| A 60 2_7.9 | 7.9 | — | — | — | — | — | — | 53 | 55 | 54 | 59 |
| A 60 2_10.3 | 10.3 | — | — | 25 | 26 | 25 | 26 | 40 | 42 | 41 | 46 |
| A 60 2_12.7 | 12.7 | — | — | 19 | 20 | 19 | 20 | 33 | 35 | 35 | 40 |
| A 60 2_16.7 | 16.7 | — | — | 12 | 13 | 12 | 13 | 26 | 29 | 28 | 33 |
| A 60 2_20.6 | 20.6 | — | — | 9.6 | 10 | 9.5 | 10 | 24 | 26 | 26 | 31 |
| A 60 3_25.7 | 25.7 | — | — | 17 | 18 | 17 | 18 | 31 | 33 | 33 | 38 |
| A 60 3_27.9 | 27.9 | — | — | 17 | 18 | 17 | 18 | 31 | 33 | 33 | 38 |
| A 60 3_31.7 | 31.7 | — | — | 13 | 14 | 13 | 14 | 27 | 29 | 29 | 34 |
| A 60 3_34.3 | 34.3 | — | — | 13 | 14 | 13 | 14 | 27 | 29 | 29 | 34 |
| A 60 3_41.7 | 41.7 | — | — | 9.0 | 9.5 | 8.9 | 9.9 | 23 | 26 | 25 | 30 |
| A 60 3_45.2 | 45.2 | — | — | 8.9 | 9.4 | 8.9 | 9.9 | 23 | 26 | 25 | 30 |
| A 60 3_51.3 | 51.3 | — | — | 7.4 | 7.9 | 7.4 | 8.4 | 22 | 24 | 24 | 29 |
| A 60 3_55.6 | 55.6 | — | — | 7.4 | 7.9 | 7.3 | 8.3 | 21 | 24 | 23 | 28 |
| A 60 3_65.0 | 65.0 | 6.0 | 6.5 | 6.1 | 6.6 | 6.0 | 7.0 | 20 | 23 | 22 | 27 |
| A 60 3_70.4 | 70.4 | 6.0 | 6.5 | 6.1 | 6.6 | 6.0 | 7.0 | 20 | 23 | 22 | 27 |
| A 60 3_79.7 | 79.7 | 4.9 | 5.4 | 5.0 | 5.5 | 4.9 | 5.9 | 19 | 22 | 21 | 26 |
| A 60 3_86.4 | 86.4 | 4.9 | 5.4 | 5.0 | 5.5 | 4.9 | 5.9 | 19 | 22 | 21 | 26 |
| A 60 3_99.5 | 99.5 | 4.8 | 5.3 | 4.3 | 4.8 | 4.3 | 5.3 | 19 | 21 | 20 | 25 |
| A 60 3_107.8 | 107.8 | 4.3 | 4.8 | 4.3 | 4.8 | 4.3 | 5.3 | 18 | 21 | 20 | 25 |
| A 60 3_123.0 | 123.0 | 3.9 | 4.4 | 4.0 | 4.5 | 3.9 | 4.9 | 18 | 21 | 20 | 25 |
| A 60 3_133.3 | 133.3 | 3.9 | 4.4 | 3.9 | 4.4 | 3.9 | 4.9 | 18 | 21 | 20 | 25 |
| A 60 3_144.0 | 144.0 | 3.6 | 4.1 | 3.7 | 4.2 | 3.6 | 4.6 | — | — | — | — |
| A 60 3_156.0 | 156.0 | 3.6 | 4.1 | 3.7 | 4.2 | 3.6 | 4.6 | — | — | — | — |
| A 60 3_171.5 | 171.5 | 3.4 | 3.9 | 3.5 | 4.0 | 3.4 | 4.4 | — | — | — | — |
| A 60 3_185.8 | 185.8 | 3.4 | 3.9 | 3.5 | 4.0 | 3.4 | 4.4 | — | — | — | — |

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A 70

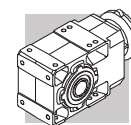
| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | |
|---------------------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | IEC | | | | | | | | | | |
| | | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 | |
| A 70 3_9.4 | 9.4 | — | — | — | — | — | 187 | 185 | 194 | — | — | 150 |
| A 70 3_10.2 | 10.2 | — | — | — | — | — | 183 | 180 | 190 | — | — | 146 |
| A 70 3_12.1 | 12.1 | — | — | — | — | — | 150 | 148 | 157 | — | — | 113 |
| A 70 3_13.1 | 13.1 | — | — | — | — | — | 147 | 145 | 154 | — | — | 111 |
| A 70 3_15.4 | 15.4 | 45 | — | — | — | 64 | 124 | 121 | 161 | — | — | 87 |
| A 70 3_16.7 | 16.7 | 44 | — | — | — | 63 | 122 | 120 | 129 | — | — | 85 |
| A 70 3_19.7 | 19.7 | 30 | — | — | — | 49 | 109 | 107 | — | — | — | 72 |
| A 70 3_21.3 | 21.3 | 29 | — | — | — | 48 | 108 | 106 | — | — | — | 71 |
| A 70 3_23.5 | 23.5 | — | — | — | — | — | 116 | 114 | 123 | — | — | 79 |
| A 70 3_27.8 | 27.8 | — | — | — | — | — | 118 | 116 | 125 | — | — | 81 |
| A 70 3_30.1 | 30.1 | — | — | — | — | — | 117 | 115 | 124 | — | — | 81 |
| A 70 3_35.4 | 35.4 | 26 | — | — | — | 45 | 104 | 102 | 111 | — | — | 67 |
| A 70 3_38.4 | 38.4 | 25 | — | — | — | 44 | 104 | 101 | 111 | — | — | 67 |
| A 70 3_45.2 | 45.2 | 18 | — | — | — | 37 | 97 | 94 | — | — | — | 59 |
| A 70 3_49.0 | 49.0 | 18 | — | — | — | 37 | 96 | 94 | — | — | — | 59 |
| A 70 3_53.2 | 53.2 | 15 | — | — | — | 34 | 93 | 91 | — | — | — | 56 |
| A 70 3_57.7 | 57.7 | 15 | — | — | — | 34 | 93 | 91 | — | — | — | 56 |
| A 70 3_66.9 | 66.9 | 9.7 | 12 | 12 | 13 | 13 | 29 | 88 | 86 | — | — | 51 |
| A 70 3_72.5 | 72.5 | 9.6 | 12 | 12 | 13 | 13 | 28 | 88 | 86 | — | — | 51 |
| A 70 3_79.3 | 79.3 | 6.8 | 9.4 | 9.3 | 11 | 11 | 26 | 85 | 83 | — | — | 48 |
| A 70 3_85.9 | 85.9 | 6.7 | 9.3 | 9.3 | 11 | 11 | 26 | 85 | 83 | — | — | 48 |
| A 70 3_96.2 | 96.2 | 5.4 | 8.2 | 8.2 | 9.4 | 9.4 | 24 | 84 | 82 | — | — | 47 |
| A 70 3_104.2 | 104.2 | 5.4 | 8.2 | 8.1 | 9.4 | 9.4 | 24 | 84 | 81 | — | — | 47 |
| A 70 3_120.6 | 120.6 | 3.4 | 6.2 | 6.2 | 7.5 | 7.5 | 22 | 82 | 79 | — | — | 45 |
| A 70 3_130.7 | 130.7 | 3.4 | 6.2 | 6.2 | 7.4 | 7.4 | 22 | 82 | 79 | — | — | 45 |
| A 70 3_141.9 | 141.9 | 2.4 | 5.3 | 5.2 | 6.5 | 6.5 | 21 | 81 | 78 | — | — | 44 |
| A 70 3_153.7 | 153.7 | 2.4 | 5.2 | 5.2 | 6.5 | 6.5 | 21 | 81 | 78 | — | — | 44 |



A 80

| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | |
|--------------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | IEC | | | | | | | | | | |
| | | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 | |
| A 80 3_9.8 | 9.8 | — | — | — | — | — | — | 320 | 333 | 611 | — | 286 |
| A 80 3_10.7 | 10.7 | — | — | — | — | — | — | 309 | 323 | 601 | — | 276 |
| A 80 3_12.3 | 12.3 | — | — | — | — | — | — | 239 | 239 | 253 | 531 | 205 |
| A 80 3_13.3 | 13.3 | — | — | — | — | — | — | 232 | 233 | 246 | 524 | 199 |
| A 80 3_15.5 | 15.5 | — | — | — | — | — | — | 187 | 185 | 194 | 478 | 150 |
| A 80 3_16.7 | 16.7 | — | — | — | — | — | — | 183 | 180 | 190 | 474 | 150 |
| A 80 3_19.3 | 19.3 | 69 | — | — | — | 88 | 147 | 145 | 154 | 440 | — | 111 |
| A 80 3_20.9 | 20.9 | 66 | — | — | — | 85 | 145 | 142 | 152 | 437 | — | 108 |
| A 80 3_22.6 | 22.6 | — | — | — | — | — | — | 205 | 219 | 496 | — | 171 |
| A 80 3_24.5 | 24.5 | — | — | — | — | — | — | 203 | 217 | 494 | — | 169 |
| A 80 3_28.2 | 28.2 | — | — | — | — | — | — | 165 | 166 | 179 | 457 | 132 |
| A 80 3_30.6 | 30.6 | — | — | — | — | — | — | 164 | 164 | 178 | 456 | 130 |
| A 80 3_35.5 | 35.5 | — | — | — | — | — | — | 140 | 138 | 147 | 432 | 104 |
| A 80 3_38.5 | 38.5 | — | — | — | — | — | — | 140 | 137 | 147 | 431 | 103 |
| A 80 3_44.5 | 44.5 | 39 | — | — | — | 58 | 118 | 115 | 125 | 410 | — | 81 |
| A 80 3_48.2 | 48.2 | 39 | — | — | — | 58 | 117 | 115 | 124 | 410 | — | 90 |
| A 80 3_55.2 | 55.2 | 29 | — | — | — | 48 | 108 | 105 | 136 | 399 | — | 70 |
| A 80 3_59.8 | 59.8 | 29 | — | — | — | 48 | 107 | 105 | 136 | 399 | — | 70 |
| A 80 3_66.8 | 66.8 | 22 | — | — | — | 41 | 101 | 98 | 128 | 391 | — | 63 |
| A 80 3_72.4 | 72.4 | 22 | — | — | — | 41 | 100 | 98 | 128 | 391 | — | 63 |
| A 80 3_82.3 | 82.3 | 15 | 17 | 17 | 18 | 18 | 34 | 94 | 91 | 120 | 384 | 56 |
| A 80 3_89.2 | 89.2 | 15 | 17 | 17 | 18 | 18 | 34 | 93 | 91 | 120 | 386 | 56 |
| A 80 3_96.0 | 96.0 | 14 | 16 | 16 | 17 | 17 | 32 | 92 | 90 | 119 | 382 | 55 |
| A 80 3_104.0 | 104.0 | 13 | 16 | 16 | 17 | 17 | 32 | 92 | 89 | 119 | 382 | 55 |
| A 80 3_116.0 | 116.0 | 9.1 | 12 | 12 | 13 | 13 | 28 | 87 | 85 | — | — | 50 |
| A 80 3_125.6 | 125.6 | 9.1 | 12 | 12 | 13 | 13 | 28 | 87 | 85 | — | — | 50 |
| A 80 3_144.7 | 144.7 | 5.4 | 8.3 | 8.2 | 10 | 10 | 24 | 84 | 82 | — | — | 47 |
| A 80 3_156.8 | 156.8 | 5.4 | 3.0 | 2.9 | 4.2 | 4.2 | 19 | 78 | 76 | — | — | 41 |

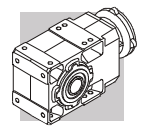
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A 90

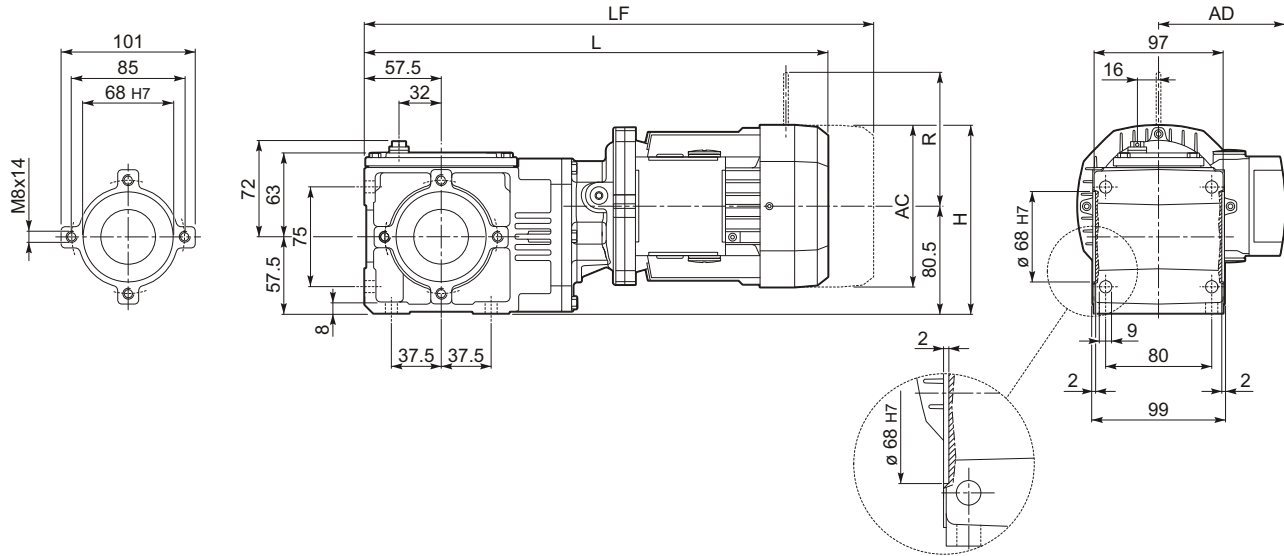
| | i | J ($\cdot 10^{-4}$) [kgm ²] | | | | | | | | | | | IEC |
|--------------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 | | |
| A 90 3_9.7 | 9.7 | — | — | — | — | — | — | — | 597 | 611 | 889 | 918 | 898 |
| A 90 3_10.5 | 10.5 | — | — | — | — | — | — | — | 575 | 589 | 867 | 896 | 876 |
| A 90 3_12.6 | 12.6 | — | — | — | — | — | — | — | 402 | 416 | 693 | 723 | 703 |
| A 90 3_13.7 | 13.7 | — | — | — | — | — | — | — | 389 | 403 | 681 | 710 | 690 |
| A 90 3_15.6 | 15.6 | — | — | — | — | — | — | — | 306 | 319 | 597 | 627 | 607 |
| A 90 3_16.9 | 16.9 | — | — | — | — | — | — | — | 297 | 311 | 589 | 618 | 598 |
| A 90 3_19.4 | 19.4 | — | — | — | — | — | — | 236 | 234 | 243 | 527 | 559 | 530 |
| A 90 3_21.0 | 21.0 | — | — | — | — | — | — | 231 | 228 | 238 | 522 | 553 | 524 |
| A 90 3_22.3 | 22.3 | — | — | — | — | — | — | — | 326 | 340 | 618 | 647 | 627 |
| A 90 3_24.1 | 24.1 | — | — | — | — | — | — | — | 322 | 336 | 614 | 643 | 623 |
| A 90 3_29.1 | 29.1 | — | — | — | — | — | — | — | 243 | 257 | 535 | 564 | 544 |
| A 90 3_31.5 | 31.5 | — | — | — | — | — | — | — | 241 | 254 | 532 | 562 | 542 |
| A 90 3_35.8 | 35.8 | — | — | — | — | — | — | — | 201 | 215 | 493 | 522 | 502 |
| A 90 3_38.8 | 38.8 | — | — | — | — | — | — | — | 200 | 213 | 491 | 521 | 500 |
| A 90 3_44.6 | 44.6 | — | — | — | — | — | — | 169 | 166 | 176 | 460 | 491 | 462 |
| A 90 3_48.3 | 48.3 | — | — | — | — | — | — | 168 | 165 | 175 | 459 | 490 | 461 |
| A 90 3_55.0 | 55.0 | 66 | — | — | — | — | 85 | 144 | 142 | 151 | 437 | 468 | 438 |
| A 90 3_59.6 | 59.6 | 66 | — | — | — | — | 84 | 144 | 141 | 151 | 436 | 468 | 437 |
| A 90 3_68.8 | 68.8 | 48 | — | — | — | — | 67 | 126 | 124 | 154 | 418 | 449 | 416 |
| A 90 3_74.5 | 74.5 | 47 | — | — | — | — | 66 | 126 | 123 | 154 | 417 | 449 | 416 |
| A 90 3_80.4 | 80.4 | 43 | — | — | — | — | 62 | 121 | 119 | 149 | 412 | 443 | 412 |
| A 90 3_87.1 | 87.1 | 43 | — | — | — | — | 62 | 121 | 119 | 148 | 412 | 443 | 412 |
| A 90 3_98.6 | 98.6 | 28 | 30 | 30 | 32 | 32 | 47 | 106 | 104 | 134 | 397 | 428 | 399 |
| A 90 3_106.8 | 106.8 | 28 | 30 | 30 | 31 | 31 | 47 | 106 | 104 | 133 | 397 | 428 | 399 |
| A 90 3_116.9 | 116.9 | 23 | 25 | 25 | 26 | 26 | 41 | 101 | 99 | 128 | 391 | 423 | 394 |
| A 90 3_126.6 | 126.6 | 22 | 25 | 25 | 26 | 26 | 41 | 101 | 98 | 128 | 391 | 422 | 394 |
| A 90 3_139.4 | 139.4 | 15 | 17 | 17 | 19 | 19 | 33 | 93 | 91 | — | — | — | 386 |
| A 90 3_151.0 | 151.0 | 14 | 3.0 | 3.0 | 4.3 | 4.3 | 19 | 79 | 76 | — | — | — | 372 |

For the values of the moment of inertia of 4-stage gearboxes, please contact our Technical Service department.



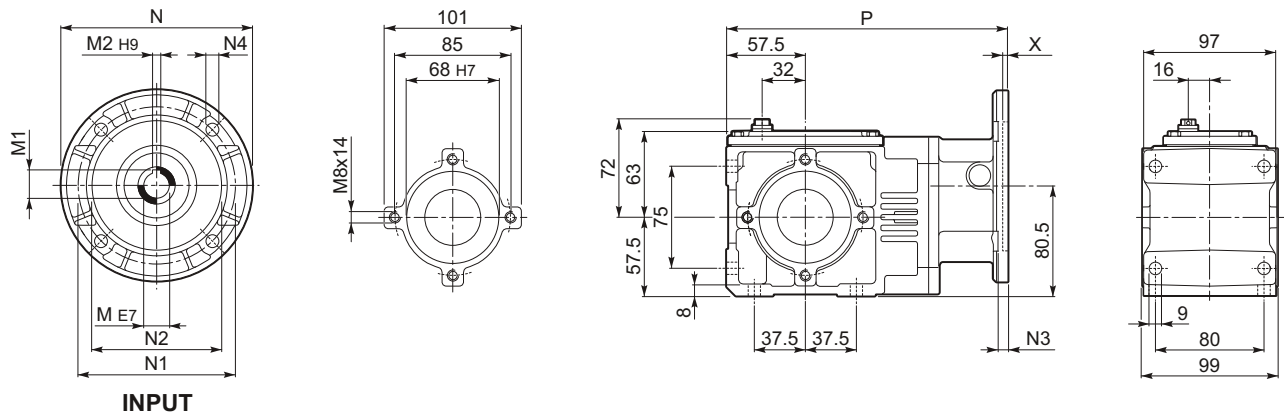
43 DIMENSIONS

A 05...M/ME/MX/MXN

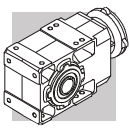


| | | | AC | H | L | AD | | M...FD M...FA | | M...FD | | M...FA | |
|--------|-----|-------|-----|-------|-------|-----|--|------------------|------|--------|-----|--------|-----|
| | | | | | | | | LF | | R | AD | R | AD |
| A 05 2 | S05 | M05 | 121 | 141 | 360.5 | 95 | | 426.5 | 9 | 96 | 122 | 116 | 95 |
| A 05 2 | S05 | ME05 | 121 | 141 | 360.5 | 95 | | 426.5 | 9 | 96 | 119 | 116 | 119 |
| A 05 2 | S05 | MXN05 | 123 | 142 | 407 | 136 | | 454 | 10.4 | 96 | 136 | 116 | 136 |
| A 05 2 | S1 | M1 | 138 | 149.5 | 389.5 | 108 | | 450.5 | 14 | 103 | 135 | 124 | 108 |
| A 05 2 | S1 | ME1 | 138 | 149.5 | 389.5 | 108 | | 450.5 | 14 | 103 | 135 | 124 | 135 |
| A 05 2 | S2 | ME2S | 156 | 158.5 | 418.5 | 119 | | 488.5 | 17.1 | 129 | 143 | 134 | 143 |
| A 05 2 | S2 | MX2S | 156 | 158.5 | 452.5 | 119 | | 524.5 | 24.4 | 129 | 143 | 134 | 143 |

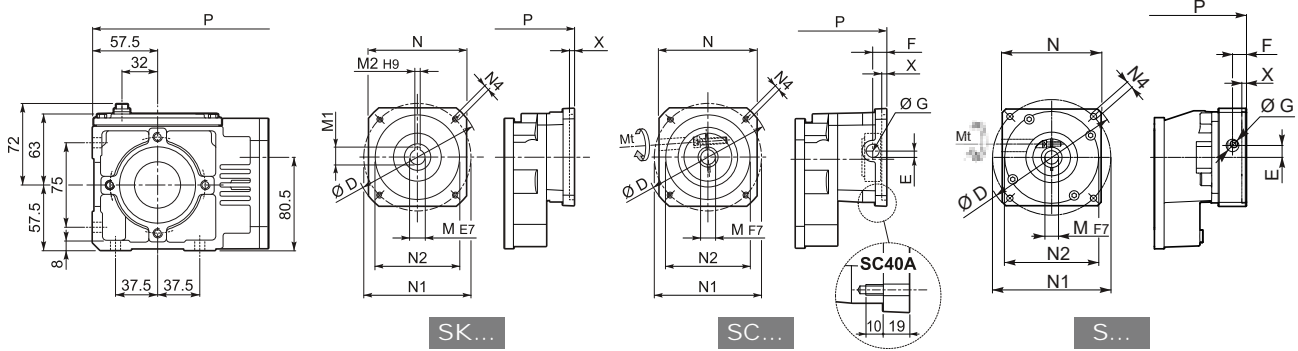
A 05...P(IEC)



| | | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P | |
|--------|-----|----|------|----|-----|-----|-----|----|------|-----|-----|-----|
| A 05 2 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | 7 | 9.5 | 3.5 | 206 | 5 |
| A 05 2 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | 7 | 9.5 | 4 | 213 | 5 |
| A 05 2 | P80 | 19 | 20.8 | 6 | 200 | 165 | 130 | 7 | 11.5 | 4 | 223 | 5.5 |



A 05...SK / SC / S

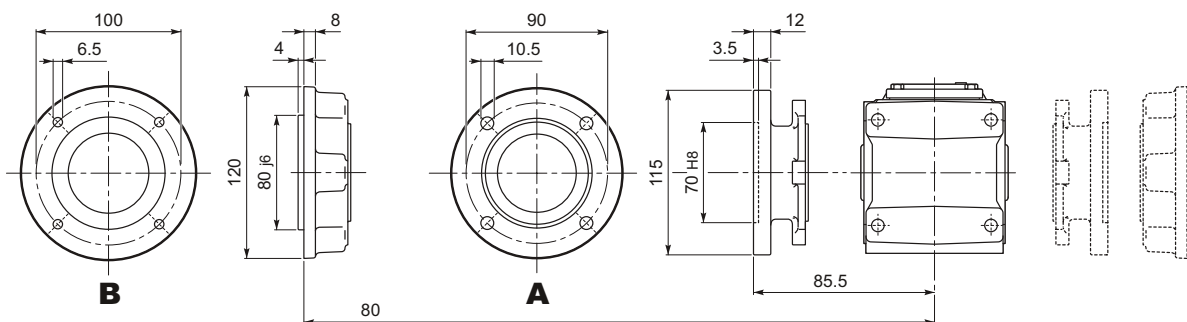


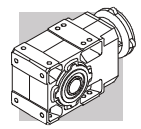
| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | |
|--------|-------|-----|----|------|----|----|-----|----|-------|-----|-------|---|
| A 05 2 | SK40A | 74 | 9 | 10.4 | 3 | 55 | 63 | 40 | M5x10 | 3 | 207.5 | 5 |
| A 05 2 | SK60A | 102 | 11 | 12.8 | 4 | 82 | 75 | 60 | M5x10 | 3.5 | 206 | 5 |
| A 05 2 | SK60B | 102 | 14 | 16.3 | 5 | 82 | 75 | 60 | M5x10 | 4 | 213 | 5 |
| A 05 2 | SK80A | 115 | 14 | 16.3 | 5 | 90 | 100 | 80 | M6x12 | 4 | 213 | 5 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | |
|--------|-------|----|---------|-----|------|------|------|----|----|-----|----|-------|---|-------|---|
| A 05 2 | SC40A | M5 | 15 | 74 | 10.5 | 9.5 | 12.5 | 9 | 55 | 63 | 40 | M5x10 | 3 | 226.5 | 6 |
| A 05 2 | SC60A | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 11 | 82 | 75 | 60 | M5x10 | 4 | 233 | 6 |
| A 05 2 | SC60B | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 14 | 82 | 75 | 60 | M5x10 | 4 | 233 | 6 |
| A 05 2 | SC80A | M6 | 15 | 115 | 6 | 12.5 | 12.5 | 14 | 90 | 100 | 80 | M6x12 | 4 | 233 | 6 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | |
|--------|----------|----|---------|-----|-------|-------|-------|----|----|-----|----|-------|---|-------|---|
| A 05 2 | 5S9F40B1 | M6 | 11 | 108 | 15.1 | 10.5 | 13.75 | 9 | 80 | 63 | 40 | M4x12 | 4 | 235.7 | 6 |
| A 05 2 | S11F40B1 | M6 | 11 | 108 | 15.1 | 10.5 | 13.75 | 11 | 80 | 63 | 40 | M4x12 | 4 | 235.7 | 6 |
| A 05 2 | S11F50C1 | M6 | 11 | 90 | 15.1 | 13.75 | 13.75 | 11 | 80 | 70 | 50 | M4x10 | 4 | 235.7 | 6 |
| A 05 2 | S14F40B1 | M6 | 11 | 108 | 15.1 | 10.5 | 13.75 | 14 | 80 | 63 | 40 | M4x12 | 4 | 235.7 | 6 |
| A 05 2 | S14F50C1 | M6 | 11 | 90 | 15.1 | 13.75 | 13.75 | 14 | 80 | 70 | 50 | M4x10 | 4 | 235.7 | 6 |
| A 05 2 | S11F60A2 | M6 | 11 | 108 | 15.1 | 13.75 | 13.75 | 11 | 80 | 75 | 60 | M5x16 | 4 | 235.7 | 6 |
| A 05 2 | S14F60A2 | M6 | 11 | 108 | 13.75 | 15.1 | 13.75 | 14 | 80 | 75 | 60 | M5x16 | 4 | 235.7 | 6 |
| A 05 2 | S14F80A1 | M6 | 11 | 120 | 13.75 | 15.1 | 13.75 | 14 | 90 | 100 | 80 | M6x16 | 4 | 235.7 | 6 |
| A 05 2 | S19F80A1 | M6 | 11 | 120 | 13.75 | 15.1 | 13.75 | 19 | 90 | 100 | 80 | M6x16 | 4 | 235.7 | 6 |

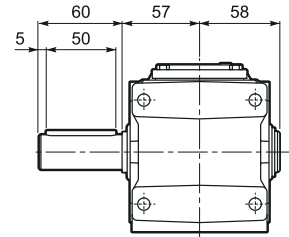
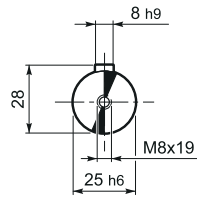
A 05...F...



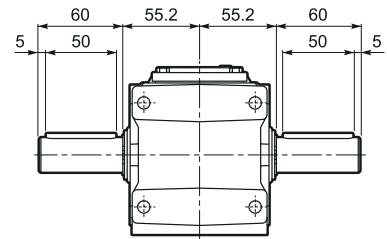
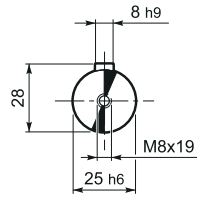


A 05

A 05...UR

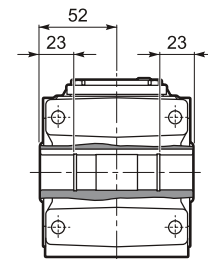
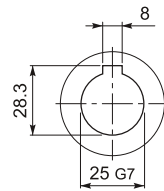


A 05...UD

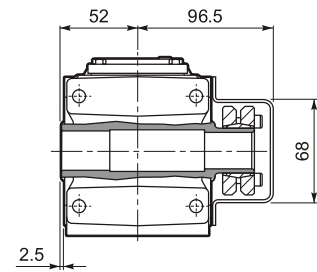
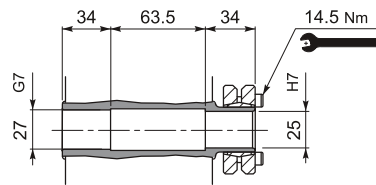


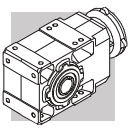
A 05...UH

H25

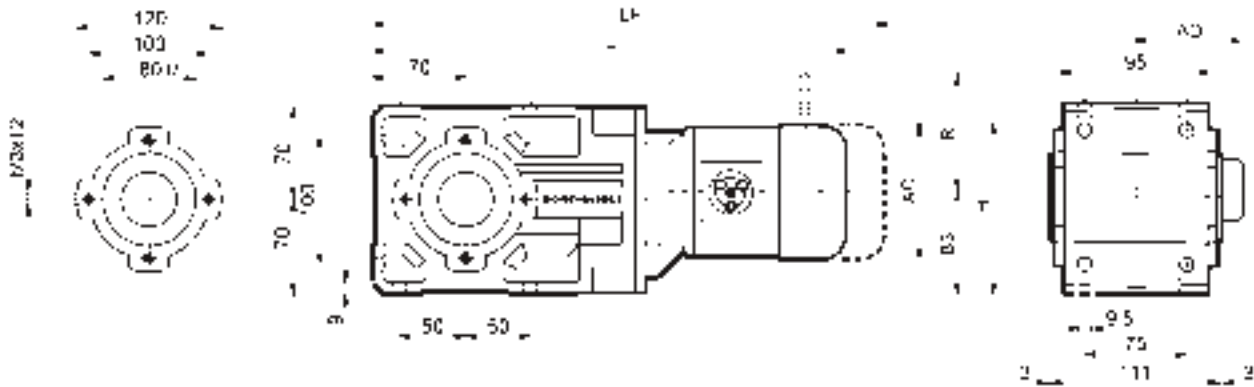


A 05...US

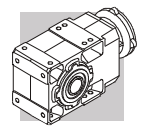




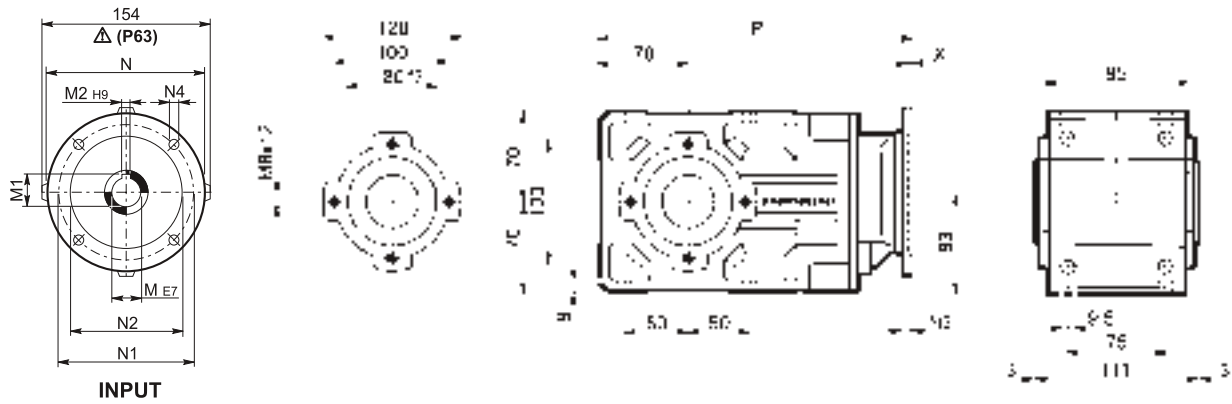
A 10...M/ME/MX/MXN



| | | | | | | | | M...FD M...FA | | M...FD | | M...FA | |
|--------|-----|-------|-----|-------|-------|-----|------|------------------|------|--------|-----|--------|-----|
| | | | AC | H | L | AD | | LF | | R | AD | R | AD |
| A 10 2 | S05 | M05 | 121 | 143.5 | 408.5 | 95 | 12 | 474.5 | 14 | 96 | 122 | 116 | 95 |
| A 10 2 | S05 | ME05 | 121 | 143.5 | 408.5 | 95 | 12 | 474.5 | 14 | 96 | 119 | 116 | 119 |
| A 10 2 | S05 | MXN05 | 123 | 144.5 | 455 | 136 | 13.8 | 502 | 14.9 | 96 | 136 | 116 | 136 |
| A 10 2 | S1 | M1 | 138 | 152 | 437.5 | 108 | 14 | 498.5 | 17 | 103 | 135 | 124 | 108 |
| A 10 2 | S1 | ME1 | 138 | 152 | 437.5 | 108 | 14 | 498.5 | 17 | 103 | 135 | 124 | 135 |
| A 10 2 | S10 | MXN10 | 138 | 152 | 466.5 | 137 | 16.4 | 525.5 | 18.8 | 103 | 138 | 121 | 138 |
| A 10 2 | S2 | ME2S | 156 | 161 | 466.5 | 119 | 18 | 536.5 | 20.1 | 129 | 143 | 134 | 143 |
| A 10 2 | S2 | MX2S | 156 | 161 | 510.5 | 119 | 23.1 | 568 | 27.3 | 129 | 143 | 134 | 143 |
| A 10 2 | S20 | MXN20 | 158 | 162 | 564 | 146 | 25.3 | 635 | 27.7 | 129 | 148 | 131 | 148 |
| A 10 2 | S3 | ME3S | 195 | 180.5 | 509.5 | 142 | 24.5 | 605.5 | 30.5 | 160 | 155 | 160 | 155 |
| A 10 2 | S3 | MX3S | 195 | 180.5 | 541.5 | 142 | 27.5 | 631.5 | 34.5 | 160 | 155 | 160 | 155 |
| A 10 2 | S3 | ME3L | 195 | 180.5 | 541.5 | 142 | 30 | 632.5 | 32.6 | 160 | 155 | 160 | 155 |
| A 10 2 | S3 | MX3L | 195 | 180.5 | 585.5 | 142 | 36 | 677.5 | 43.4 | 160 | 155 | 160 | 155 |

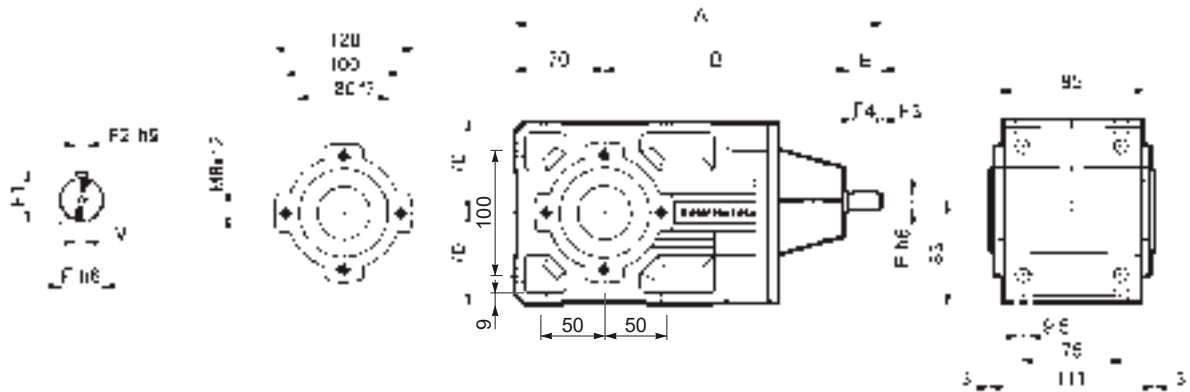


A 10...P(IEC)

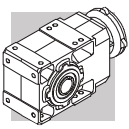


| | | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P | |
|--------|------|----|------|----|-----|-----|-----|----|----------|-----|-------|----|
| A 10 2 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x10 | 4 | 282.5 | 8 |
| A 10 2 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x10 | 4.5 | 282.5 | 9 |
| A 10 2 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 302 | 9 |
| A 10 2 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 302 | 9 |
| A 10 2 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 312 | 13 |
| A 10 2 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 312 | 13 |

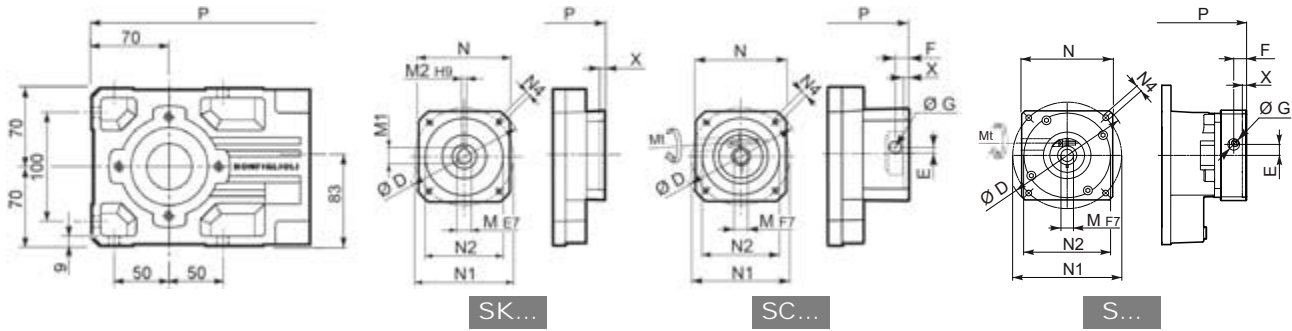
A 10...HS



| | | A | B | E | F | F1 | F2 | F3 | F4 | V | |
|--------|----|-------|-------|----|----|----|----|-----|----|-------|-----|
| A 10 2 | HS | 289.5 | 179.5 | 40 | 16 | 18 | 5 | 2.5 | 35 | M6x16 | 7.8 |



A 10...SK / SC / S

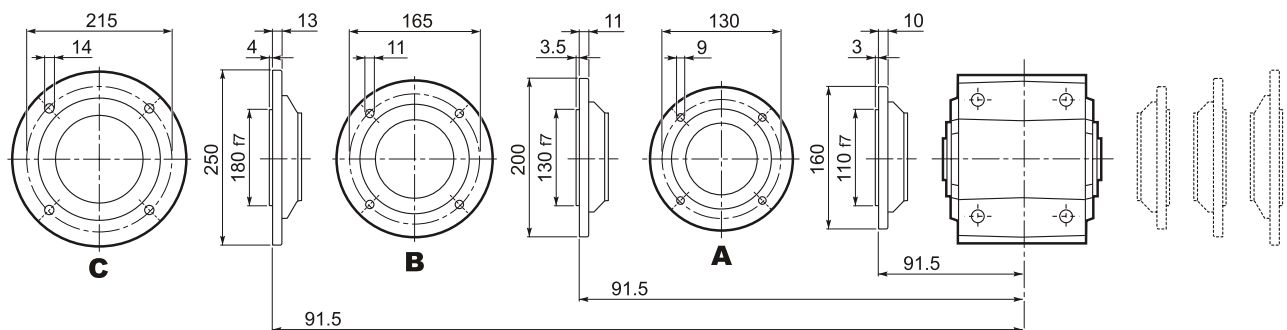


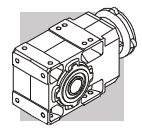
| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | |
|--------|--------|-----|----|------|----|-----|-----|-----|-------|-----|-----|---|
| A 10 2 | SK60A | 102 | 11 | 12.8 | 4 | 82 | 75 | 60 | M5x10 | 3.5 | 254 | 8 |
| A 10 2 | SK60B | 102 | 14 | 16.3 | 5 | 82 | 75 | 60 | M5x10 | 4 | 261 | 8 |
| A 10 2 | SK80A | 115 | 14 | 16.3 | 5 | 90 | 100 | 80 | M6x12 | 4 | 261 | 8 |
| A 10 2 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 302 | 9 |
| A 10 2 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 302 | 9 |
| A 10 2 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 302 | 9 |
| A 10 2 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 302 | 9 |
| A 10 2 | SK110A | 150 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 302 | 9 |
| A 10 2 | SK110B | 150 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 302 | 9 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | |
|--------|--------|----|---------|-----|------|------|-------|----|-----|-----|-----|-------|---|-------|----|
| A 10 2 | SC60A | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 11 | 82 | 75 | 60 | M5x10 | 4 | 281 | 9 |
| A 10 2 | SC60B | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 14 | 82 | 75 | 60 | M5x10 | 4 | 281 | 9 |
| A 10 2 | SC80A | M6 | 15 | 115 | 6 | 12.5 | 12.5 | 14 | 90 | 100 | 80 | M6x12 | 4 | 281 | 9 |
| A 10 2 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 325.5 | 10 |
| A 10 2 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 325.5 | 10 |
| A 10 2 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 325.5 | 10 |
| A 10 2 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 325.5 | 10 |
| A 10 2 | SC110A | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 325.5 | 12 |
| A 10 2 | SC110B | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 325.5 | 12 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | |
|--------|----------|----|---------|-----|------|------|-------|----|-----|-----|-----|-------|-----|-------|----|
| A 10 2 | S11F60A2 | M6 | 11 | 135 | 16.3 | 15.5 | 13.75 | 11 | 100 | 75 | 60 | M5x14 | 6.5 | 327.5 | 10 |
| A 10 2 | S14F60A2 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 75 | 60 | M5x14 | 6.5 | 327.5 | 10 |
| A 10 2 | S14F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | 327.5 | 10 |
| A 10 2 | S19F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 19 | 100 | 100 | 80 | M6x16 | 6.5 | 327.5 | 10 |
| A 10 2 | S16F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | 327.5 | 10 |
| A 10 2 | S19F70B1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 16 | 100 | 90 | 70 | M5x12 | 6.5 | 327.5 | 10 |
| A 10 2 | S19F95A | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 19 | 100 | 115 | 95 | M8x18 | 6.5 | 327.5 | 10 |
| A 10 2 | S24F110A | M6 | 14 | 155 | 15.5 | 16.3 | 17.75 | 19 | 115 | 130 | 110 | M8x18 | 6.5 | 327.5 | 10 |
| A 10 2 | S24F95A | M6 | 14 | 135 | 15.5 | 16.3 | 17.75 | 24 | 100 | 115 | 95 | M8x18 | 6.5 | 327.5 | 10 |

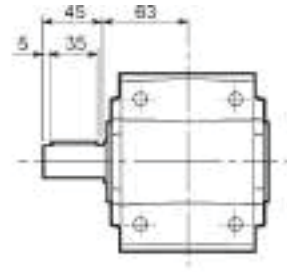
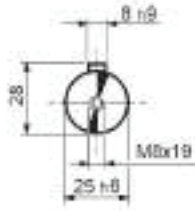
A 10...F...



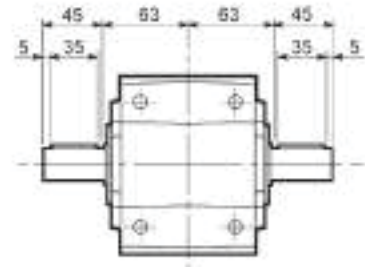
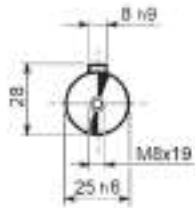


A 10

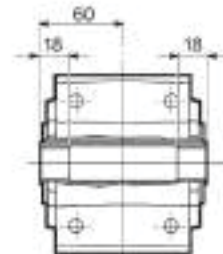
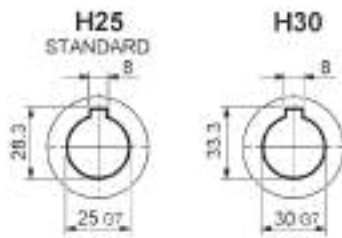
A 10...UR



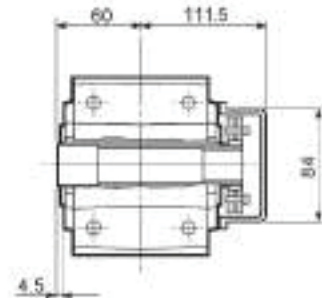
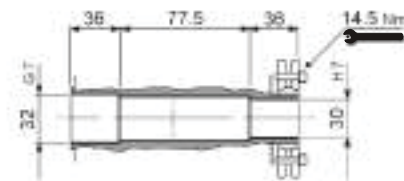
A 10...UD



A 10...UH

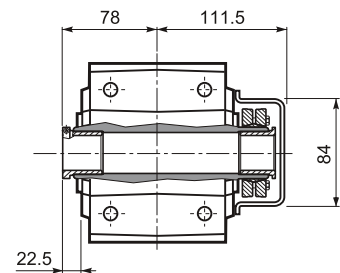
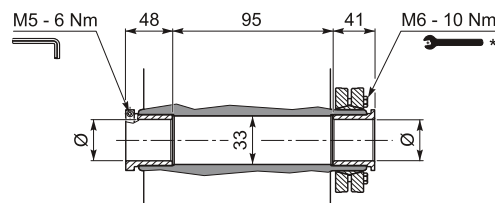


A 10...US

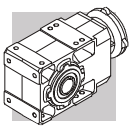


A10...QF

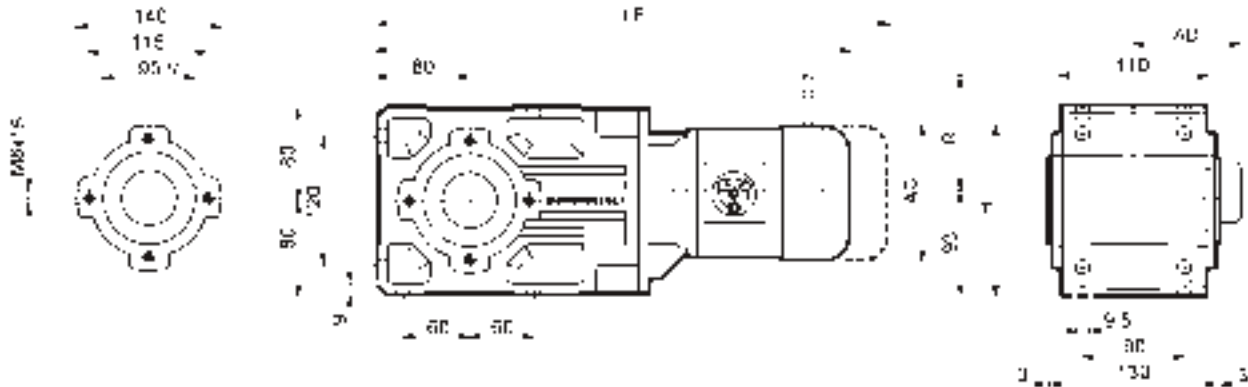
| | Ø |
|------|----|
| QF25 | 25 |
| QF30 | 30 |



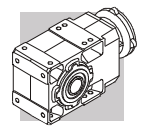
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



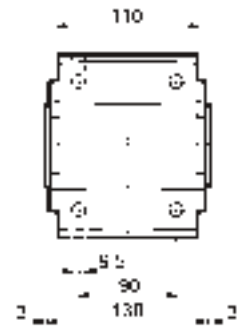
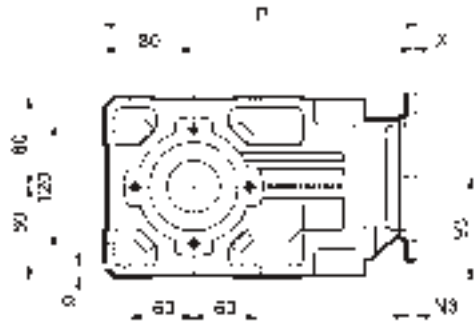
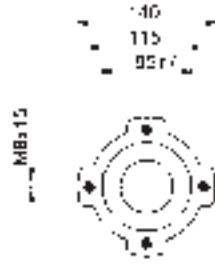
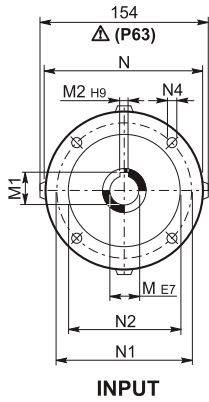
A 20...M/ME/MX/MXN



| A | S | M | AC | H | L | AD | IF | M...FD M...FA | | M...FD | | M...FA | |
|--------|-----|-------|-----|-------|-------|-----|------|------------------|------|--------|-----|--------|-----|
| | | | | | | | | LF | IF | R | AD | R | AD |
| A 20 2 | S05 | M05 | 121 | 143.5 | 432 | 95 | 16 | 498 | 18 | 96 | 122 | 116 | 95 |
| A 20 2 | S05 | ME05 | 121 | 143.5 | 432 | 95 | 16 | 498 | 18 | 96 | 119 | 116 | 119 |
| A 20 2 | S05 | MXN05 | 123 | 144.5 | 478.5 | 136 | 17.8 | 525.5 | 18.9 | 96 | 136 | 116 | 136 |
| A 20 2 | S1 | M1 | 138 | 152 | 461 | 108 | 18 | 522 | 21 | 103 | 135 | 124 | 108 |
| A 20 2 | S1 | ME1 | 138 | 152 | 461 | 108 | 18 | 522 | 21 | 103 | 135 | 124 | 135 |
| A 20 2 | S10 | MXN10 | 138 | 152 | 490 | 137 | 20.4 | 549 | 22.8 | 103 | 138 | 121 | 138 |
| A 20 2 | S2 | ME2S | 156 | 161 | 490 | 119 | 22 | 560 | 24.1 | 129 | 143 | 134 | 143 |
| A 20 2 | S2 | MX2S | 156 | 161 | 534 | 119 | 27.1 | 606 | 31.3 | 129 | 143 | 134 | 143 |
| A 20 2 | S20 | MXN20 | 158 | 162 | 487.5 | 146 | 29.3 | 558.5 | 31.5 | 129 | 148 | 131 | 148 |
| A 20 2 | S3 | ME3S | 195 | 180.5 | 533 | 142 | 28.5 | 629 | 34.5 | 160 | 155 | 160 | 155 |
| A 20 2 | S3 | MX3S | 195 | 180.5 | 565 | 142 | 31.5 | 655 | 38.5 | 160 | 155 | 160 | 155 |
| A 20 2 | S3 | ME3L | 195 | 180.5 | 565 | 142 | 34 | 656 | 40 | 160 | 155 | 160 | 155 |
| A 20 2 | S3 | MX3L | 195 | 180.5 | 609 | 142 | 40 | 701 | 47 | 160 | 155 | 160 | 155 |
| A 20 3 | S05 | M05 | 121 | 143.5 | 457.5 | 95 | 16 | 553.5 | 18 | 96 | 122 | 116 | 95 |
| A 20 3 | S05 | ME05 | 121 | 143.5 | 457.5 | 95 | 16 | 553.5 | 18 | 96 | 119 | 116 | 119 |
| A 20 3 | S05 | MXN05 | 123 | 144.5 | 504 | 136 | 17.8 | 551 | 18.9 | 96 | 136 | 116 | 136 |
| A 20 3 | S1 | M1 | 138 | 152 | 486.5 | 108 | 19 | 577.5 | 21 | 103 | 135 | 124 | 108 |
| A 20 3 | S1 | M1 | 138 | 152 | 486.5 | 108 | 19 | 577.5 | 21 | 103 | 135 | 124 | 135 |
| A 20 3 | S10 | MXN10 | 138 | 152 | 515.5 | 137 | 21.4 | 574.5 | 23.8 | 103 | 138 | 121 | 138 |
| A 20 3 | S2 | ME2S | 156 | 161 | 545.5 | 119 | 23 | 615.5 | 24.6 | 129 | 143 | 134 | 143 |
| A 20 3 | S2 | MX2S | 156 | 161 | 589.5 | 119 | 28.1 | 661.5 | 31.9 | 129 | 143 | 134 | 143 |
| A 20 3 | S20 | MXN20 | 158 | 162 | 643 | 146 | 30.3 | 714 | 32.5 | 129 | 148 | 131 | 148 |
| A 20 3 | S3 | ME3S | 195 | 180.5 | 588.5 | 142 | 29.5 | 684.5 | 35.5 | 160 | 155 | 160 | 155 |
| A 20 3 | S3 | MX3S | 195 | 180.5 | 620.5 | 142 | 32.5 | 710.5 | 39.5 | 160 | 155 | 160 | 155 |
| A 20 3 | S3 | ME3L | 195 | 180.5 | 620.5 | 142 | 35 | 711.5 | 41 | 160 | 155 | 160 | 155 |
| A 20 3 | S3 | MX3L | 195 | 180.5 | 664.5 | 142 | 41 | 756.5 | 48 | 160 | 155 | 160 | 155 |

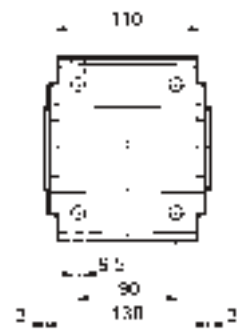
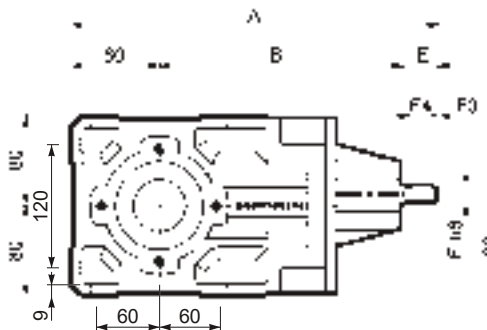
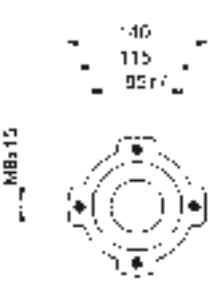
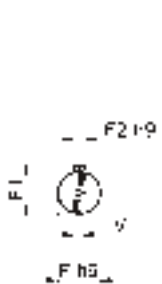


A 20...P(IEC)

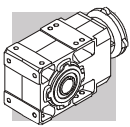


| | | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P | |
|--------|------|----|------|----|-----|-----|-----|----|----------|-----|-------|----|
| A 20 2 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 306 | 12 |
| A 20 2 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 306 | 12 |
| A 20 2 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 325.5 | 13 |
| A 20 2 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 325.5 | 13 |
| A 20 2 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 335.5 | 17 |
| A 20 2 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 335.5 | 17 |
| A 20 3 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 361.5 | 13 |
| A 20 3 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 361.5 | 13 |
| A 20 3 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 381 | 14 |
| A 20 3 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 381 | 14 |
| A 20 3 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 391 | 18 |
| A 20 3 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 391 | 18 |

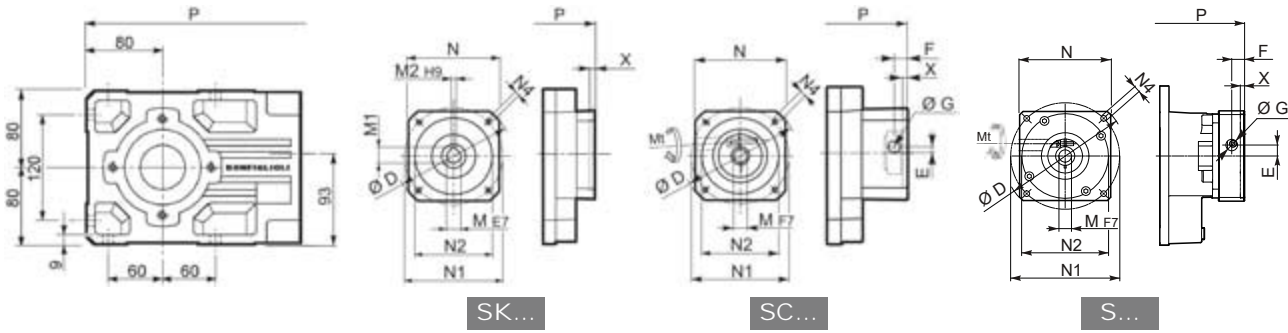
A 20...HS



| | | A | B | E | F | F1 | F2 | F3 | F4 | V | |
|--------|----|-------|-------|----|----|------|----|-----|----|-------|------|
| A 20 2 | HS | 356 | 236 | 40 | 19 | 21.5 | 6 | 2.5 | 35 | M6x16 | 11.9 |
| A 20 3 | | 368.5 | 248.5 | 40 | 16 | 18 | 5 | 2.5 | 35 | M6x16 | 12.2 |



A 20...SK / SC / S

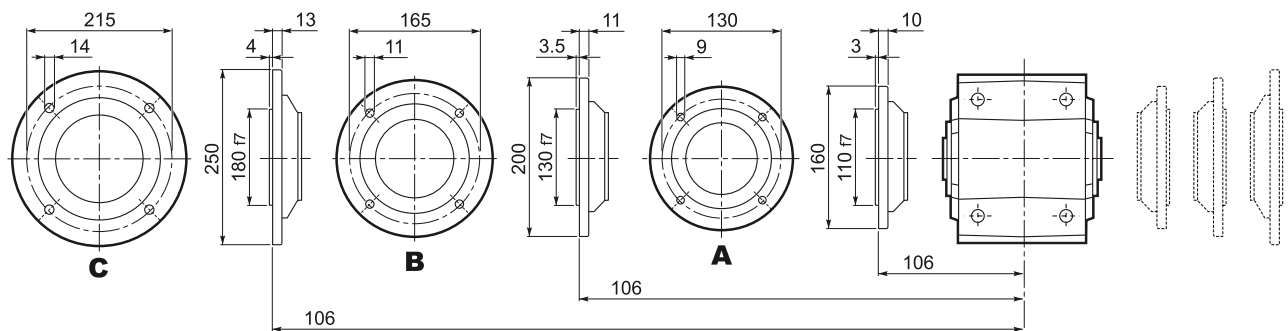


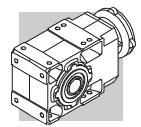
| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | | |
|----------|--------|-----|----|------|----|-----|-----|-----|-------|-----|-------|-----|-------|
| | | | | | | | | | | | 2x | 3x | |
| A 20 2/3 | SK60A | 102 | 11 | 12.8 | 4 | 82 | 75 | 60 | M5x10 | 3.5 | 277.5 | 333 | 11/12 |
| A 20 2/3 | SK60B | 102 | 14 | 16.3 | 5 | 82 | 75 | 60 | M5x10 | 4 | 284.5 | 340 | 12/13 |
| A 20 2/3 | SK80A | 115 | 14 | 16.3 | 5 | 90 | 100 | 80 | M6x12 | 4 | 284.5 | 340 | 12/13 |
| A 20 2/3 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 325.5 | 381 | 13/14 |
| A 20 2/3 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 325.5 | 381 | 13/14 |
| A 20 2/3 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 325.5 | 381 | 13/14 |
| A 20 2/3 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 325.5 | 381 | 13/14 |
| A 20 2/3 | SK110A | 150 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 325.5 | 381 | 13/14 |
| A 20 2/3 | SK110B | 150 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 325.5 | 381 | 13/14 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|----------|--------|----|---------|-----|------|------|-------|----|-----|-----|-----|-------|---|-------|-------|-------|
| | | | | | | | | | | | | | | 2x | 3x | |
| A 20 2/3 | SC60A | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 11 | 82 | 75 | 60 | M5x10 | 4 | 304.5 | 360 | 12/13 |
| A 20 2/3 | SC60B | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 14 | 82 | 75 | 60 | M5x10 | 4 | 304.5 | 360 | 13/14 |
| A 20 2/3 | SC80A | M6 | 15 | 115 | 6 | 12.5 | 12.5 | 14 | 90 | 100 | 80 | M6x12 | 4 | 304.5 | 360 | 13/14 |
| A 20 2/3 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 349 | 404.5 | 14/15 |
| A 20 2/3 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 349 | 404.5 | 14/15 |
| A 20 2/3 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 349 | 404.5 | 14/15 |
| A 20 2/3 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 349 | 404.5 | 14/15 |
| A 20 2/3 | SC110A | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 349 | 404.5 | 15/16 |
| A 20 2/3 | SC110B | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 349 | 404.5 | 15/16 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|----------|----------|----|---------|-----|------|------|-------|----|-----|-----|-----|-------|-----|-----|-------|-------|
| | | | | | | | | | | | | | | 2x | 3x | |
| A 20 2/3 | S11F60A2 | M6 | 11 | 135 | 16.3 | 15.5 | 13.75 | 11 | 100 | 75 | 60 | M5x14 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S14F60A2 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 75 | 60 | M5x14 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S14F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S19F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 19 | 100 | 100 | 80 | M6x16 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S16F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S19F70B1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 16 | 100 | 90 | 70 | M5x12 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S19F95A | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 19 | 100 | 115 | 95 | M8x18 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S24F110A | M6 | 14 | 155 | 15.5 | 16.3 | 17.75 | 19 | 115 | 130 | 110 | M8x18 | 6.5 | 351 | 406.5 | 14/15 |
| A 20 2/3 | S24F95A | M6 | 14 | 135 | 15.5 | 16.3 | 17.75 | 24 | 100 | 115 | 95 | M8x18 | 6.5 | 351 | 406.5 | 14/15 |

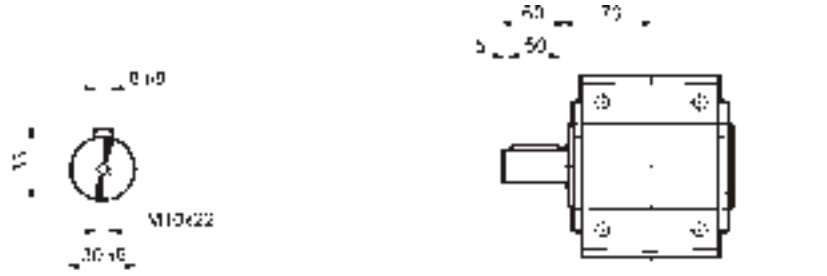
A 20...F...



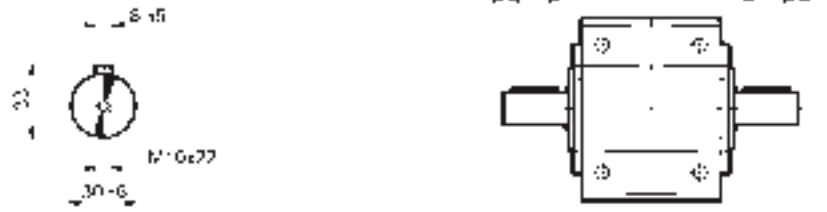


A 20

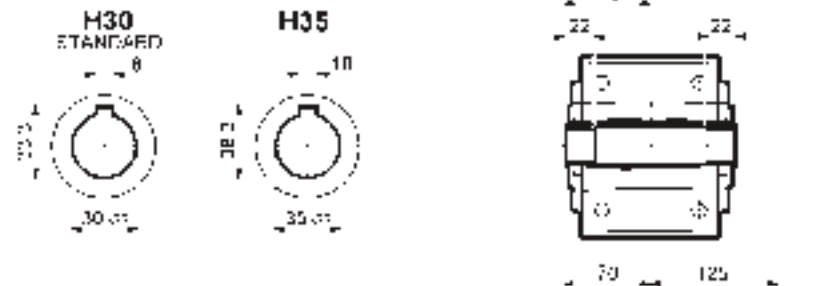
A 20...UR



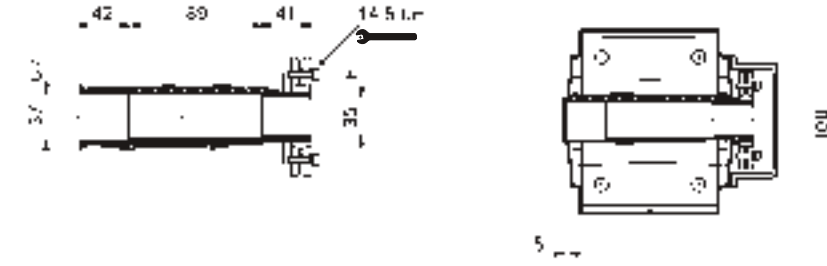
A 20...UD



A 20...UH

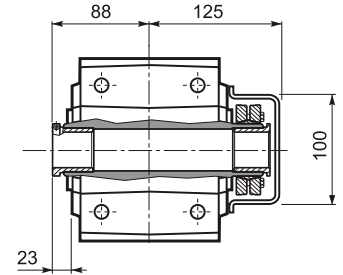
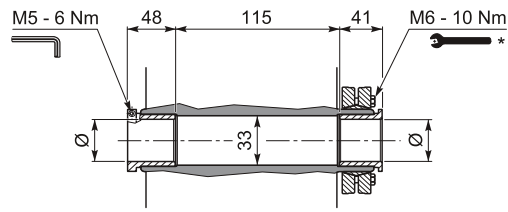


A 20...US

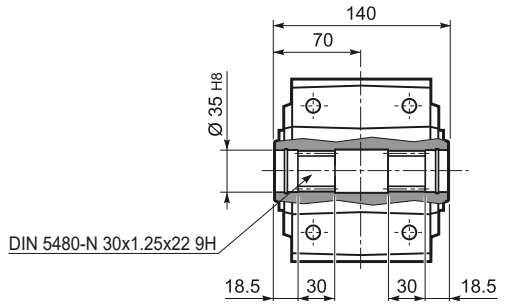


A 20...QF

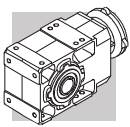
| | Ø |
|------|----|
| QF25 | 25 |
| QF30 | 30 |



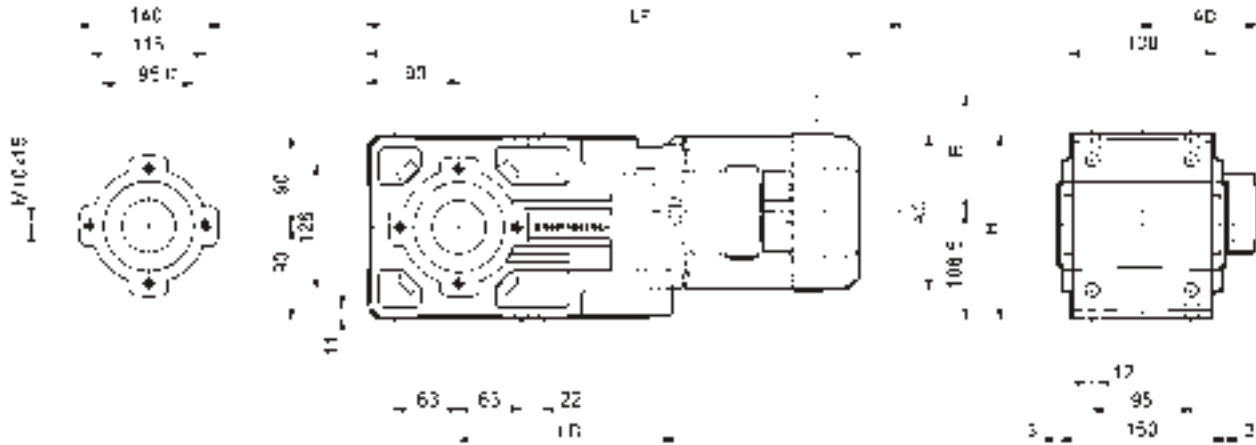
A 20...UV



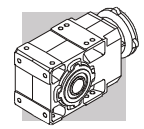
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



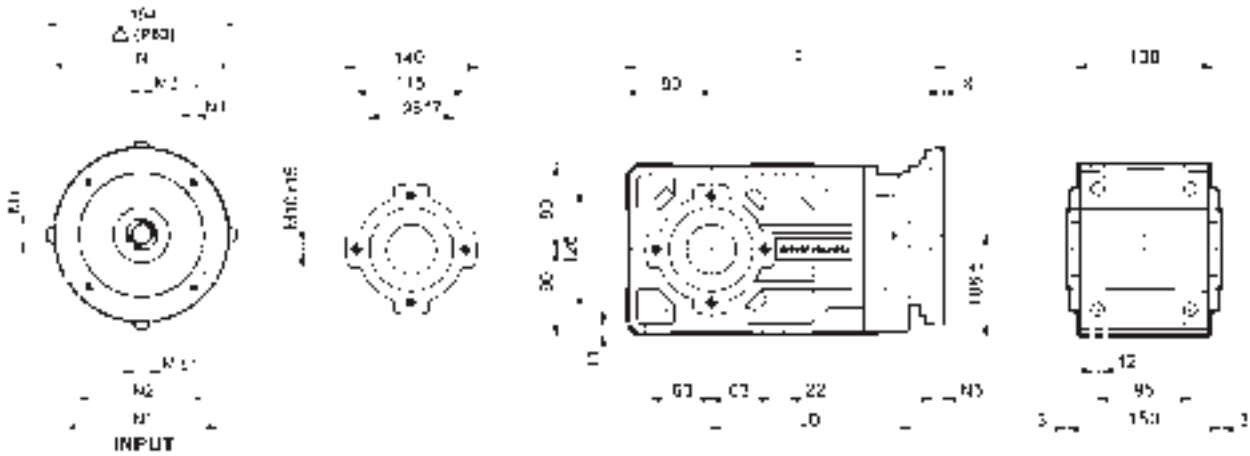
A 30...M/ME/MX/MXN



| | | | AC | H | L | LD | AD | | M...FD M...FA | | M...FD | | M...FA | |
|--------|-----|-------|-----|-------|-------|-----|-----|------|------------------|------|--------|-----|--------|-----|
| | | | | | | | | | LF | | R | AD | R | AD |
| A 30 2 | S1 | M1 | 138 | 177.5 | 488 | 201 | 108 | 22 | 549 | 24 | 103 | 135 | 124 | 108 |
| A 30 2 | S1 | ME1 | 138 | 177.5 | 488 | 201 | 108 | 22 | 549 | 24 | 103 | 135 | 124 | 135 |
| A 30 2 | S10 | MXN10 | 138 | 177.5 | 517 | 201 | 137 | 24.4 | 576 | 26.8 | 103 | 138 | 121 | 138 |
| A 30 2 | S2 | ME2S | 156 | 186.5 | 517 | 213 | 119 | 25 | 587 | 27.1 | 129 | 143 | 134 | 143 |
| A 30 2 | S2 | MX2S | 156 | 186.5 | 561 | 213 | 119 | 30.1 | 633 | 34.6 | 129 | 143 | 134 | 143 |
| A 30 2 | S3 | ME3S | 195 | 206 | 560 | 223 | 142 | 31.5 | 656 | 37.5 | 160 | 155 | 160 | 155 |
| A 30 2 | S3 | MX3S | 195 | 206 | 592 | 223 | 142 | 34.5 | 682 | 41.5 | 160 | 155 | 160 | 155 |
| A 30 2 | S3 | ME3L | 195 | 206 | 592 | 223 | 142 | 38 | 683 | 44 | 160 | 155 | 160 | 155 |
| A 30 2 | S3 | MX3L | 195 | 206 | 636 | 223 | 142 | 44 | 728 | 51 | 160 | 155 | 160 | 155 |
| A 30 3 | S05 | M05 | 121 | 169 | 516.5 | — | 95 | 21 | 582.5 | 22 | 96 | 122 | 116 | 95 |
| A 30 3 | S05 | ME05 | 121 | 169 | 516.5 | — | 95 | 21 | 582.5 | 22 | 96 | 119 | 116 | 119 |
| A 30 3 | S05 | MXN05 | 123 | 170 | 563 | — | 136 | 22.8 | 610 | 23.9 | 96 | 136 | 116 | 136 |
| A 30 3 | S1 | M1 | 138 | 177.5 | 545.5 | — | 108 | 23 | 606.5 | 26 | 103 | 135 | 124 | 108 |
| A 30 3 | S1 | ME1 | 138 | 177.5 | 545.5 | — | 108 | 23 | 606.5 | 26 | 103 | 135 | 124 | 135 |
| A 30 3 | S10 | MXN10 | 138 | 177.5 | 574.5 | — | 137 | 25.4 | 633.5 | 27.8 | 103 | 138 | 121 | 138 |
| A 30 3 | S2 | ME2S | 156 | 186.5 | 574.5 | — | 119 | 25 | 644.5 | 29.1 | 129 | 143 | 134 | 143 |
| A 30 3 | S2 | MX2S | 156 | 186.5 | 618.5 | — | 119 | 30.1 | 690.5 | 36.6 | 129 | 143 | 134 | 143 |
| A 30 3 | S20 | MXN20 | 158 | 187.5 | 672 | — | 146 | 32.3 | 743 | 34.5 | 129 | 148 | 131 | 148 |
| A 30 3 | S3 | ME3S | 195 | 206 | 617.5 | — | 142 | 31.5 | 713.5 | 38.4 | 160 | 155 | 160 | 155 |
| A 30 3 | S3 | MX3S | 195 | 206 | 649.5 | — | 142 | 34.5 | 739.5 | 41.5 | 160 | 155 | 160 | 155 |
| A 30 3 | S3 | ME3L | 195 | 206 | 649.5 | — | 142 | 38 | 740.5 | 44 | 160 | 155 | 160 | 155 |
| A 30 3 | S3 | MX3L | 195 | 206 | 693.5 | — | 142 | 44 | 785.5 | 51 | 160 | 155 | 160 | 155 |

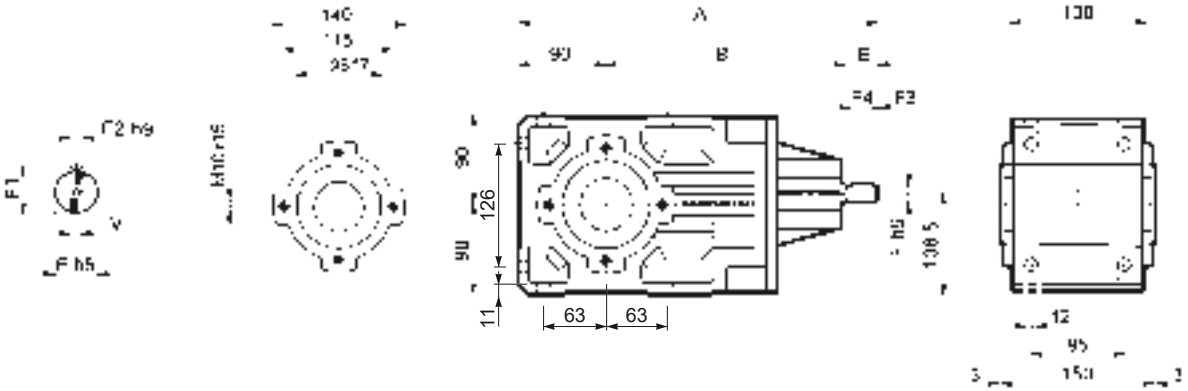


A 30...P(IEC)



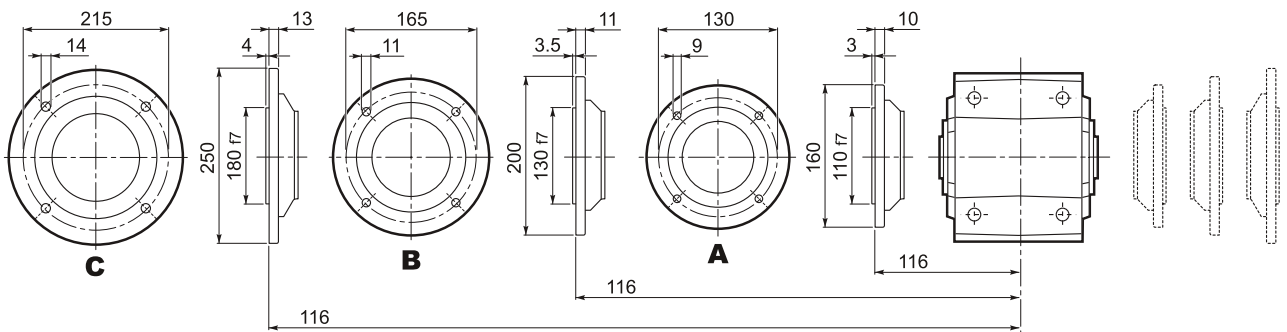
| | | LD | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P | |
|--------|------|-----|----|------|----|-----|-----|-----|----|----------|-----|-------|----|
| A 30 2 | P63 | 213 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 333 | 16 |
| A 30 2 | P71 | 213 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 333 | 16 |
| A 30 2 | P80 | 223 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 352.5 | 17 |
| A 30 2 | P90 | 223 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 352.5 | 17 |
| A 30 2 | P100 | 223 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 362.5 | 20 |
| A 30 2 | P112 | 223 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 362.5 | 20 |
| A 30 3 | P63 | — | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 390.5 | 17 |
| A 30 3 | P71 | — | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 390.5 | 17 |
| A 30 3 | P80 | — | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 410 | 18 |
| A 30 3 | P90 | — | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 410 | 18 |
| A 30 3 | P100 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 420 | 22 |
| A 30 3 | P112 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 420 | 22 |

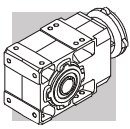
A 30...HS



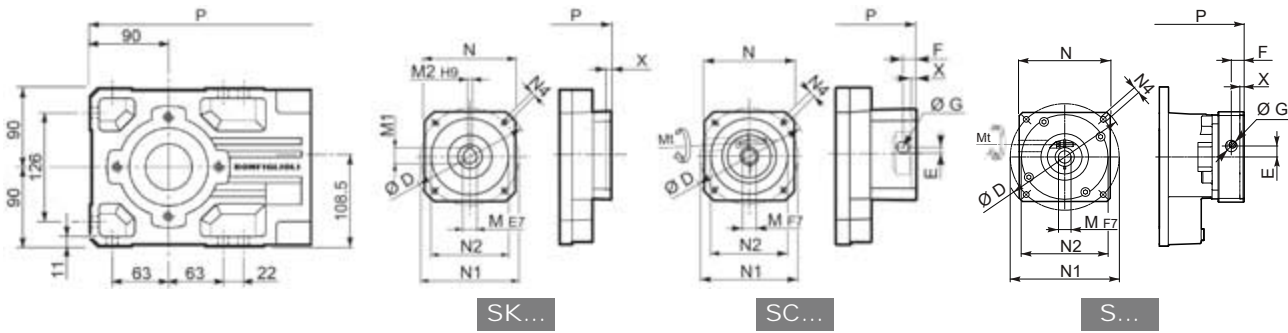
| | | A | B | E | F | F1 | F2 | F3 | F4 | V | |
|--------|----|-------|-------|----|----|------|----|-----|----|-------|------|
| A 30 2 | HS | 383 | 253 | 40 | 19 | 21.5 | 6 | 2.5 | 35 | M6x16 | 16.7 |
| A 30 3 | | 397.5 | 267.5 | 40 | 16 | 18 | 5 | 2.5 | 35 | M6x16 | 16.5 |

A 30...F...





A 30...SK / SC / S

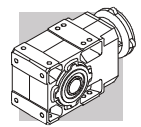


| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | | |
|----------|--------|-----|----|------|----|-----|-----|-----|--------|-----|-------|-----|-------|
| | | | | | | | | | | | 2x | 3x | |
| A 30 2/3 | SK60A | 102 | 11 | 12.8 | 4 | 82 | 75 | 60 | M5x10 | 3.5 | 304.5 | 362 | 15/16 |
| A 30 2/3 | SK60B | 102 | 14 | 16.3 | 5 | 82 | 75 | 60 | M5x10 | 4 | 311.5 | 369 | 16/17 |
| A 30 2/3 | SK80A | 115 | 14 | 16.3 | 5 | 90 | 100 | 80 | M6x12 | 4 | 311.5 | 369 | 16/17 |
| A 30 2/3 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 352.5 | 410 | 17/18 |
| A 30 2/3 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 352.5 | 410 | 17/18 |
| A 30 2/3 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 352.5 | 410 | 17/18 |
| A 30 2/3 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 352.5 | 410 | 17/18 |
| A 30 2/3 | SK110A | 150 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 352.5 | 410 | 17/18 |
| A 30 2/3 | SK110B | 150 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 352.5 | 410 | 17/18 |
| A 30 2 | SK130A | 188 | 24 | 27.3 | 8 | 142 | 165 | 130 | M10x20 | 5 | 352.5 | — | 18 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|----------|---------|----|---------|-----|------|------|-------|----|-----|-----|-----|--------|---|-------|-------|-------|
| | | | | | | | | | | | | | | 2x | 3x | |
| A 30 2/3 | SC60A | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 11 | 82 | 75 | 60 | M5x10 | 4 | 331.5 | 389 | 16/17 |
| A 30 2/3 | SC60B | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 14 | 82 | 75 | 60 | M5x10 | 4 | 331.5 | 389 | 17/18 |
| A 30 2/3 | SC80A | M6 | 15 | 115 | 6 | 12.5 | 12.5 | 14 | 90 | 100 | 80 | M6x12 | 4 | 331.5 | 389 | 17/18 |
| A 30 2/3 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 376 | 433.5 | 18/19 |
| A 30 2/3 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 376 | 433.5 | 18/19 |
| A 30 2/3 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 376 | 433.5 | 18/19 |
| A 30 2/3 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 376 | 433.5 | 18/19 |
| A 30 2/3 | SC 110A | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 376 | 433.5 | 19/20 |
| A 30 2/3 | SC 110B | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 376 | 433.5 | 19/20 |
| A 30 2 | SC 130A | M6 | 15 | 188 | 19 | 16 | 17.75 | 24 | 142 | 165 | 130 | M10x20 | 5 | 376 | — | 20 |

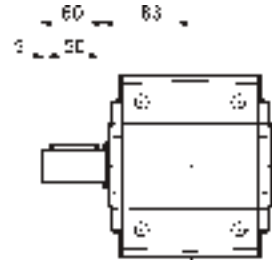
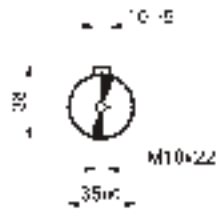
| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|--------|-----------|----|---------|-----|------|------|-------|----|-----|-----|-----|--------|-----|-----|----|----|
| | | | | | | | | | | | | | | 2x | 3x | |
| A 30 2 | S14F80A2 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 14 | 130 | 100 | 80 | M6x15 | 4 | 382 | — | 19 |
| A 30 2 | S16F80A2 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 16 | 130 | 100 | 80 | M6x15 | 4 | 382 | — | 19 |
| A 30 2 | S19F110B1 | M6 | 11 | 165 | 17 | 29.5 | 17.75 | 19 | 130 | 145 | 110 | M8x20 | 6.5 | 392 | — | 19 |
| A 30 2 | S22F110B1 | M6 | 14 | 165 | 17 | 29.5 | 17.75 | 22 | 130 | 145 | 110 | M8x20 | 6.5 | 392 | — | 19 |
| A 30 2 | S24F110B1 | M6 | 14 | 165 | 17 | 29.5 | 17.75 | 24 | 130 | 145 | 110 | M8x20 | 6.5 | 392 | — | 19 |
| A 30 2 | S19F80A2 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 19 | 130 | 100 | 80 | M6x15 | 4 | 382 | — | 19 |
| A 30 2 | S19F95A1 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 19 | 130 | 115 | 95 | M8x20 | 6.5 | 382 | — | 19 |
| A 30 2 | S24F110A1 | M6 | 14 | 165 | 17 | 19.5 | 17.75 | 24 | 130 | 130 | 110 | M8x20 | 4 | 382 | — | 19 |
| A 30 2 | S24F130A | M6 | 14 | 190 | 17 | 19.5 | 17.75 | 24 | 140 | 165 | 130 | M10x20 | 6.5 | 382 | — | 19 |
| A 30 2 | S24F95A1 | M6 | 14 | 165 | 17 | 19.5 | 17.75 | 24 | 130 | 115 | 95 | M8x20 | 6.5 | 382 | — | 19 |
| A 30 2 | S28F130A | M8 | 20 | 190 | 17 | 19.5 | 17.75 | 28 | 140 | 165 | 130 | M10x20 | 6.5 | 382 | — | 19 |
| A 30 2 | S28F180A | M8 | 20 | 205 | 21.5 | 29.5 | 17.75 | 28 | 190 | 215 | 180 | M14x25 | 5.5 | 392 | — | 19 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|--------|----------|----|---------|-----|------|------|-------|----|-----|-----|-----|-------|-----|----|-------|----|
| | | | | | | | | | | | | | | 2x | 3x | |
| A 30 3 | S11F60A2 | M6 | 11 | 135 | 16.3 | 15.5 | 13.75 | 11 | 100 | 75 | 60 | M5x14 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S14F60A2 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 75 | 60 | M5x14 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S14F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S19F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 19 | 100 | 100 | 80 | M6x16 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S16F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S19F70B1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 16 | 100 | 90 | 70 | M5x12 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S19F95A | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 19 | 100 | 115 | 95 | M8x18 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S24F110A | M6 | 14 | 155 | 15.5 | 16.3 | 17.75 | 19 | 115 | 130 | 110 | M8x18 | 6.5 | — | 435.5 | 19 |
| A 30 3 | S24F95A | M6 | 14 | 135 | 15.5 | 16.3 | 17.75 | 24 | 100 | 115 | 95 | M8x18 | 6.5 | — | 435.5 | 19 |

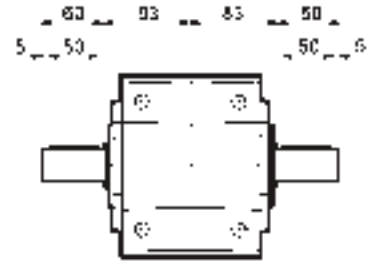


A 30

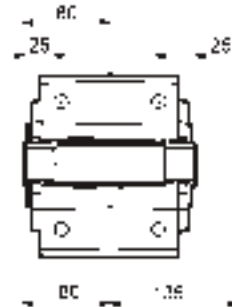
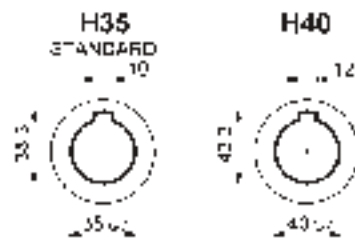
A 30...UR



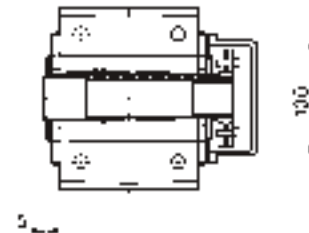
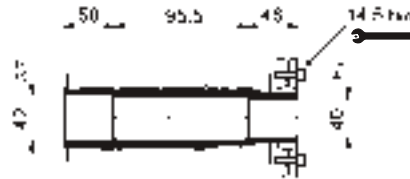
A 30...UD



A 30...UH

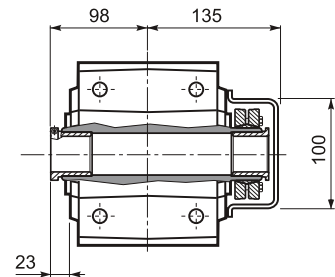
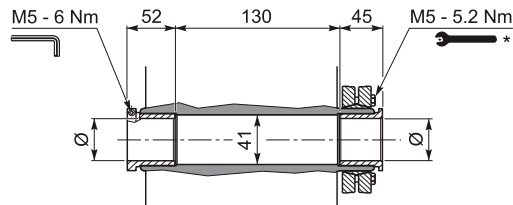


A 30...US

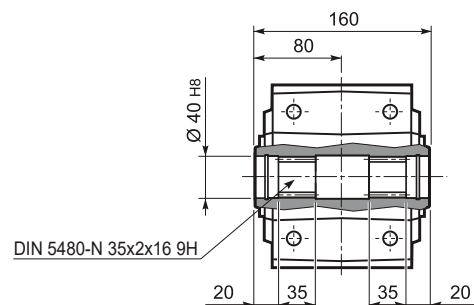


A 30...QF

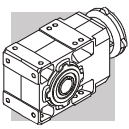
| | Ø |
|------|----|
| QF35 | 35 |
| QF40 | 40 |



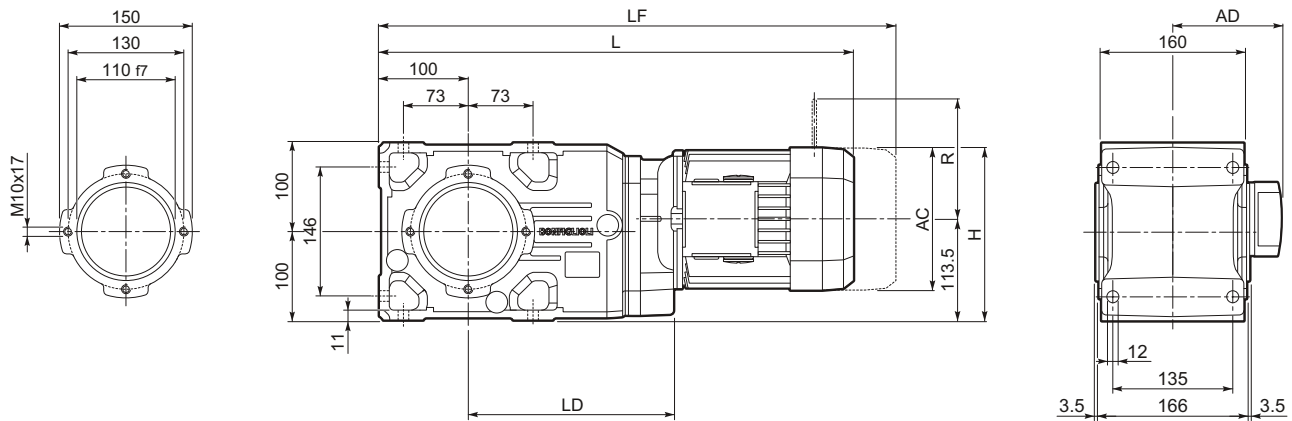
A 30...UV



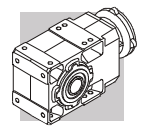
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



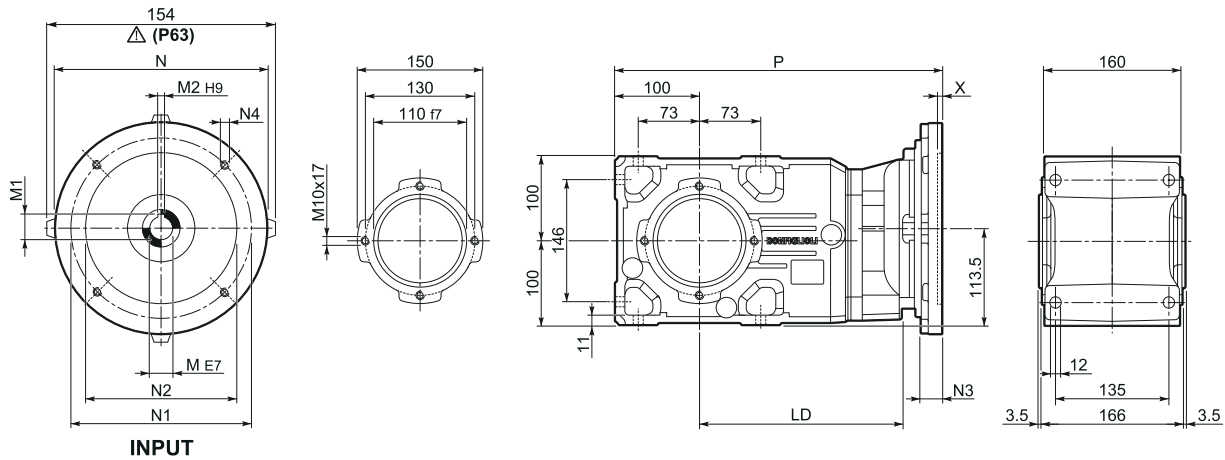
A 35...M/ME/MX/MXN




| | | | | AC | H | L | LD | AD | | M...FD M...FA | | M...FD | | M...FA | |
|--------|-----|-------|-------|-----|-------|-------|-------|-----|------|------------------|------|--------|-----|--------|-----|
| | | | | | | | | | | LF | | R | AD | R | AD |
| A 35 2 | S1 | M1 | | 138 | 182.5 | 514.5 | 217.5 | 108 | 34 | 575.5 | 36 | 103 | 135 | 124 | 108 |
| A 35 2 | S1 | ME1 | | 138 | 182.5 | 514.5 | 217.5 | 108 | 34 | 575.5 | 36 | 103 | 135 | 124 | 135 |
| A 35 2 | S10 | MXN10 | | 138 | 182.5 | 543.5 | 217.5 | 137 | 36.4 | 602.5 | 38.8 | 103 | 138 | 121 | 138 |
| A 35 2 | S2 | ME2S | | 156 | 191.5 | 543.5 | 229.5 | 119 | 37 | 613.5 | 39.1 | 129 | 143 | 134 | 143 |
| A 35 2 | S2 | MX2S | | 156 | 191.5 | 587.5 | 229.5 | 119 | 37 | 659.5 | 46.3 | 129 | 143 | 134 | 143 |
| A 35 2 | S3 | ME3S | | 195 | 211 | 586.5 | 239.5 | 142 | 43.5 | 682.5 | 49.5 | 160 | 155 | 160 | 155 |
| A 35 2 | S3 | MX3S | | 195 | 211 | 618.5 | 239.5 | 142 | 43.5 | 708.5 | 50.5 | 160 | 155 | 160 | 155 |
| A 35 2 | S3 | ME3L | | 195 | 211 | 618.5 | 239.5 | 142 | 50 | 709.5 | 56 | 160 | 155 | 160 | 155 |
| A 35 2 | S3 | MX3L | | 195 | 211 | 652.5 | 239.5 | 142 | 50 | 744.5 | 57 | 160 | 155 | 160 | 155 |
| A 35 2 | S4 | ME4 | MX4 | 258 | 242.5 | 726.5 | — | 193 | 89 | 835.5 | 102 | 204 | 210 | 200 | 210 |
| A 35 2 | S4 | ME4LB | MX4LA | 258 | 242.5 | 761.5 | — | 193 | 97 | 860.5 | 113 | 226 | 210 | 217 | 210 |
| A 35 3 | S05 | M05S | | 121 | 174 | 543 | — | 95 | 33 | 609 | 34 | 96 | 122 | 116 | 95 |
| A 35 3 | S05 | ME05S | | 121 | 174 | 543 | — | 95 | 33 | 609 | 34 | 96 | 119 | 116 | 119 |
| A 35 3 | S05 | MXN05 | | 123 | 175 | 589.5 | — | 136 | 34.8 | 636.5 | 35.9 | 96 | 136 | 116 | 136 |
| A 35 3 | S1 | M1 | | 138 | 182.5 | 572 | — | 108 | 35 | 633 | 38 | 103 | 135 | 124 | 108 |
| A 35 3 | S1 | ME1 | | 138 | 182.5 | 572 | — | 108 | 35 | 633 | 38 | 103 | 135 | 124 | 135 |
| A 35 3 | S10 | MXN10 | | 138 | 182.5 | 601 | — | 137 | 37.4 | 660 | 39.8 | 103 | 138 | 121 | 138 |
| A 35 3 | S2 | ME2S | | 156 | 191.5 | 601 | — | 119 | 37 | 671 | 41.1 | 129 | 143 | 134 | 143 |
| A 35 3 | S2 | MX2S | | 156 | 191.5 | 645 | — | 119 | 37 | 717 | 48.3 | 129 | 143 | 134 | 143 |
| A 35 3 | S20 | MXN20 | | 158 | 192.5 | 698.5 | — | 146 | 39.2 | 769.5 | 41.4 | 129 | 148 | 131 | 148 |
| A 35 3 | S3 | ME3S | | 195 | 211 | 644 | — | 142 | 43.5 | 740 | 50.4 | 160 | 155 | 160 | 155 |
| A 35 3 | S3 | MX3S | | 195 | 211 | 676 | — | 142 | 43.5 | 766 | 52.4 | 160 | 155 | 160 | 155 |
| A 35 3 | S3 | ME3L | | 195 | 211 | 676 | — | 142 | 50 | 767 | 53.6 | 160 | 155 | 160 | 155 |
| A 35 3 | S3 | MX3L | | 195 | 211 | 720 | — | 142 | 50 | 812 | 59.4 | 160 | 155 | 160 | 155 |



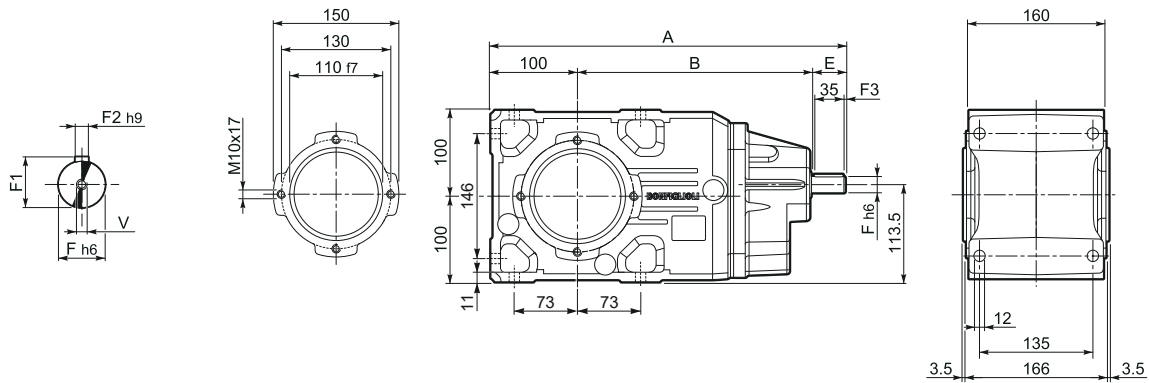
A 35...P(IEC)




INPUT

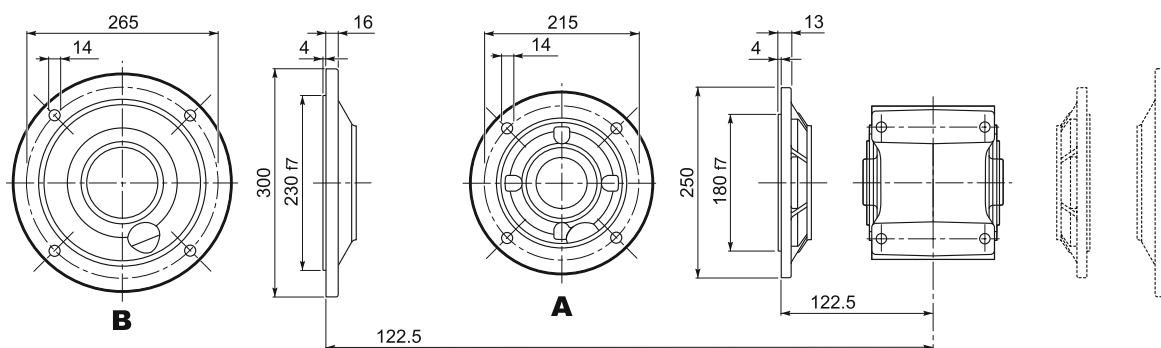
| | | LD | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P |  |
|--------|------|-------|----|------|----|-----|-----|-----|----|----------|-----|-------|---|
| A 35 2 | P63 | 229.5 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 359.5 | 28 |
| A 35 2 | P71 | 229.5 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 359.5 | 28 |
| A 35 2 | P80 | 239.5 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 379 | 29 |
| A 35 2 | P90 | 239.5 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 379 | 29 |
| A 35 2 | P100 | 239.5 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 389 | 32 |
| A 35 2 | P112 | 239.5 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 389 | 32 |
| A 35 2 | P132 | — | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 425.5 | 40 |
| A 35 3 | P63 | — | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 417 | 29 |
| A 35 3 | P71 | — | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 417 | 29 |
| A 35 3 | P80 | — | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 436.5 | 30 |
| A 35 3 | P90 | — | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 436.5 | 30 |
| A 35 3 | P100 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 446.5 | 34 |
| A 35 3 | P112 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 446.5 | 34 |

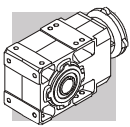
A 35...HS



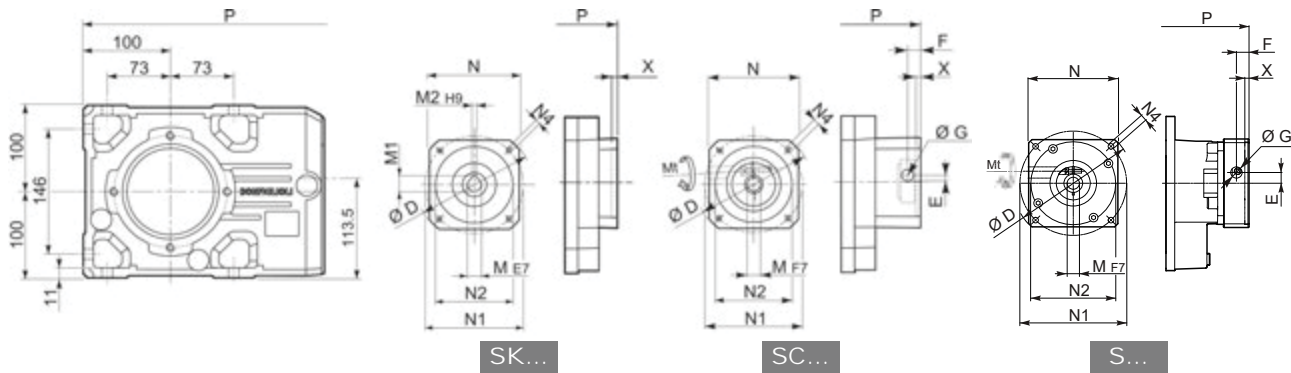
| | | A | B | E | F | F1 | F2 | F3 | F4 | V |  |
|--------|----|-------|-------|----|----|------|----|-----|----|-------|---|
| A 35 2 | HS | 409.5 | 269.5 | 40 | 19 | 21.5 | 6 | 2.5 | 35 | M6x16 | 29 |
| A 35 3 | HS | 424 | 284 | 40 | 16 | 18 | 5 | 2.5 | 35 | M6x16 | 29 |

A 35...F...





A 35...SK / SC / S

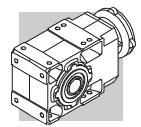


| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | | |
|----------|--------|-----|----|------|----|-----|-----|-----|--------|-----|-----|-------|-------|
| | | | | | | | | | | | | | |
| A 35 2/3 | SK60A | 102 | 11 | 12.8 | 4 | 82 | 75 | 60 | M5x10 | 3.5 | 331 | 388.5 | 27/28 |
| A 35 2/3 | SK60B | 102 | 14 | 16.3 | 5 | 82 | 75 | 60 | M5x10 | 4 | 338 | 395.5 | 28/29 |
| A 35 2/3 | SK80A | 115 | 14 | 16.3 | 5 | 90 | 100 | 80 | M6x12 | 4 | 338 | 395.5 | 28/29 |
| A 35 2/3 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 379 | 436.5 | 29/30 |
| A 35 2/3 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 379 | 436.5 | 29/30 |
| A 35 2/3 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 379 | 436.5 | 29/30 |
| A 35 2/3 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 379 | 436.5 | 29/30 |
| A 35 2/3 | SK110A | 150 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 379 | 436.5 | 29/30 |
| A 35 2/3 | SK110B | 150 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 379 | 436.5 | 29/30 |
| A 35 2 | SK130A | 188 | 24 | 27.3 | 8 | 142 | 165 | 130 | M10x20 | 5 | 379 | — | 30 |

| | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | | |
|----------|--------|---------|----|-----|------|------|-------|----|-----|-----|-----|--------|---|-------|-------|-------|
| | | | | | | | | | | | | | | | | |
| A 35 2/3 | SC60A | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 11 | 82 | 75 | 60 | M5x10 | 4 | 358 | 415.5 | 28/29 |
| A 35 2/3 | SC60B | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 14 | 82 | 75 | 60 | M5x10 | 4 | 358 | 415.5 | 29/30 |
| A 35 2/3 | SC80A | M6 | 15 | 115 | 6 | 12.5 | 12.5 | 14 | 90 | 100 | 80 | M6x12 | 4 | 358 | 415.5 | 29/30 |
| A 35 2/3 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 402.5 | 460 | 30/31 |
| A 35 2/3 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 402.5 | 460 | 30/31 |
| A 35 2/3 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 402.5 | 460 | 30/31 |
| A 35 2/3 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 402.5 | 460 | 30/31 |
| A 35 2/3 | SC110A | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 402.5 | 460 | 32/33 |
| A 35 2/3 | SC110B | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 402.5 | 460 | 32/33 |
| A 35 2 | SC130A | M6 | 15 | 188 | 19 | 16 | 17.75 | 24 | 142 | 165 | 130 | M10x20 | 5 | 402.5 | — | 33 |

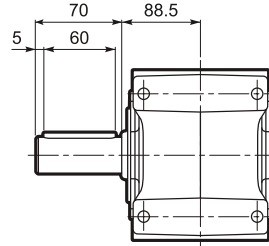
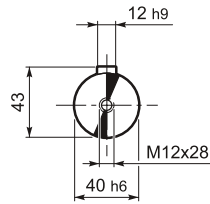
| | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | | |
|--------|-----------|---------|----|-----|------|------|-------|----|-----|-----|-----|--------|-----|-------|---|----|
| | | | | | | | | | | | | | | | | |
| A 35 2 | S14F80A2 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 14 | 130 | 100 | 80 | M6x15 | 4 | 408.5 | — | 31 |
| A 35 2 | S16F80A2 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 16 | 130 | 100 | 80 | M6x15 | 4 | 408.5 | — | 31 |
| A 35 2 | S19F110B1 | M6 | 11 | 165 | 17 | 29.5 | 17.75 | 19 | 130 | 145 | 110 | M8x20 | 6.5 | 408.5 | — | 31 |
| A 35 2 | S22F110B1 | M6 | 14 | 165 | 17 | 29.5 | 17.75 | 22 | 130 | 145 | 110 | M8x20 | 6.5 | 418.5 | — | 31 |
| A 35 2 | S24F110B1 | M6 | 14 | 165 | 17 | 29.5 | 17.75 | 24 | 130 | 145 | 110 | M8x20 | 6.5 | 418.5 | — | 31 |
| A 35 2 | S19F80A2 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 19 | 130 | 100 | 80 | M6x15 | 4 | 408.5 | — | 31 |
| A 35 2 | S19F95A1 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 19 | 130 | 115 | 95 | M8x20 | 6.5 | 408.5 | — | 31 |
| A 35 2 | S24F110A1 | M6 | 14 | 165 | 17 | 19.5 | 17.75 | 24 | 130 | 130 | 110 | M8x20 | 4 | 408.5 | — | 31 |
| A 35 2 | S24F130A | M6 | 14 | 190 | 17 | 19.5 | 17.75 | 24 | 140 | 165 | 130 | M10x20 | 6.5 | 408.5 | — | 31 |
| A 35 2 | S24F95A1 | M6 | 14 | 165 | 17 | 19.5 | 17.75 | 24 | 130 | 115 | 95 | M8x20 | 6.5 | 408.5 | — | 31 |
| A 35 2 | S28F130A | M8 | 20 | 190 | 17 | 19.5 | 17.75 | 28 | 140 | 165 | 130 | M10x20 | 6.5 | 408.5 | — | 31 |
| A 35 2 | S28F180A | M8 | 20 | 205 | 21.5 | 29.5 | 17.75 | 28 | 190 | 215 | 180 | M14x25 | 5.5 | 418.5 | — | 31 |

| | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | | |
|--------|----------|---------|----|-----|------|------|-------|----|-----|-----|-----|-------|-----|---|-----|----|
| | | | | | | | | | | | | | | | | |
| A 35 3 | S11F60A2 | M6 | 11 | 135 | 16.3 | 15.5 | 13.75 | 11 | 100 | 75 | 60 | M5x14 | 6.5 | — | 462 | 32 |
| A 35 3 | S14F60A2 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 75 | 60 | M5x14 | 6.5 | — | 462 | 32 |
| A 35 3 | S14F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | — | 462 | 32 |
| A 35 3 | S19F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 19 | 100 | 100 | 80 | M6x16 | 6.5 | — | 462 | 32 |
| A 35 3 | S16F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | — | 462 | 32 |
| A 35 3 | S19F70B1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 16 | 100 | 90 | 70 | M5x12 | 6.5 | — | 462 | 32 |
| A 35 3 | S19F95A | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 19 | 100 | 115 | 95 | M8x18 | 6.5 | — | 462 | 32 |
| A 35 3 | S24F110A | M6 | 14 | 155 | 15.5 | 16.3 | 17.75 | 19 | 115 | 130 | 110 | M8x18 | 6.5 | — | 462 | 32 |
| A 35 3 | S24F95A | M6 | 14 | 135 | 15.5 | 16.3 | 17.75 | 24 | 100 | 115 | 95 | M8x18 | 6.5 | — | 462 | 32 |

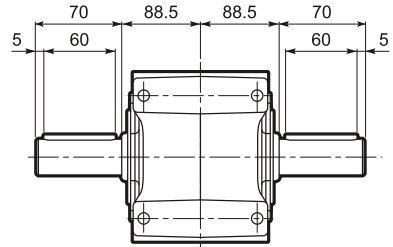
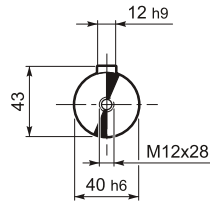


A 35

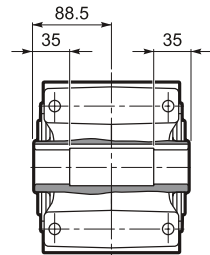
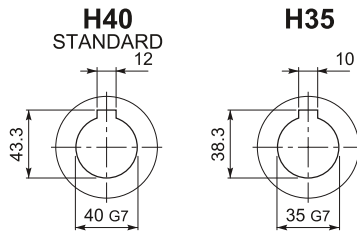
A 35...UR



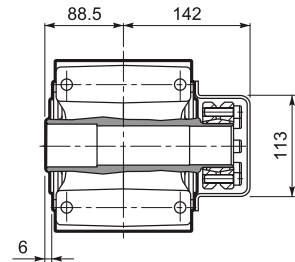
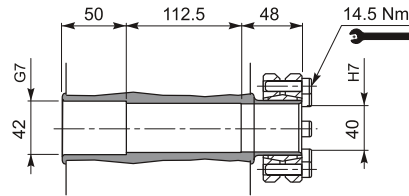
A 35...UD



A 35...UH



A 35...US

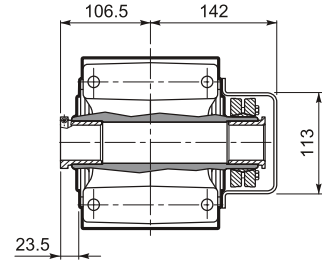
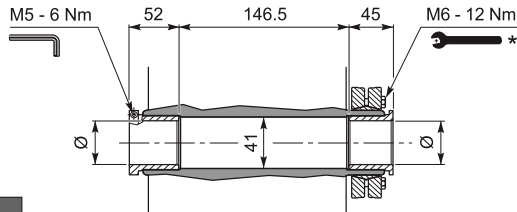


A 35...QF

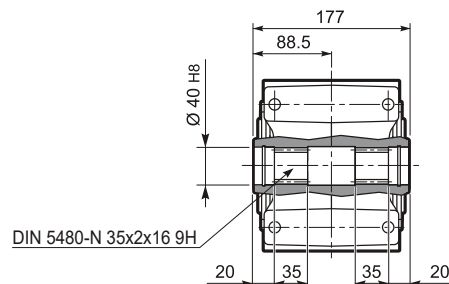
| | Ø |
|------|----|
| QF35 | 35 |
| QF40 | 40 |



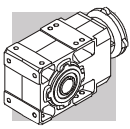
| | M _{n2 max} [Nm] |
|-----------|--------------------------|
| A 35 QF35 | 550 |



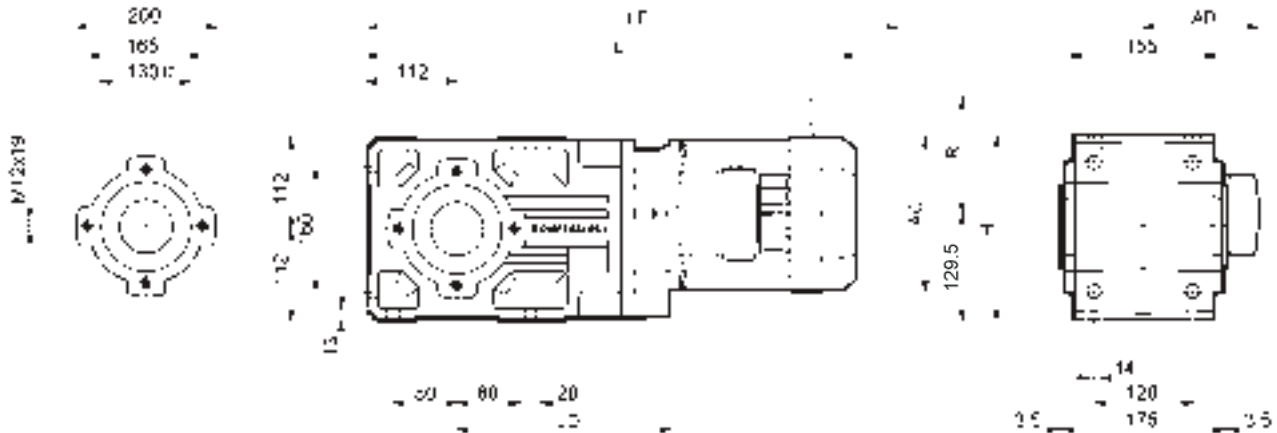
A 35...UV





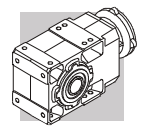
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



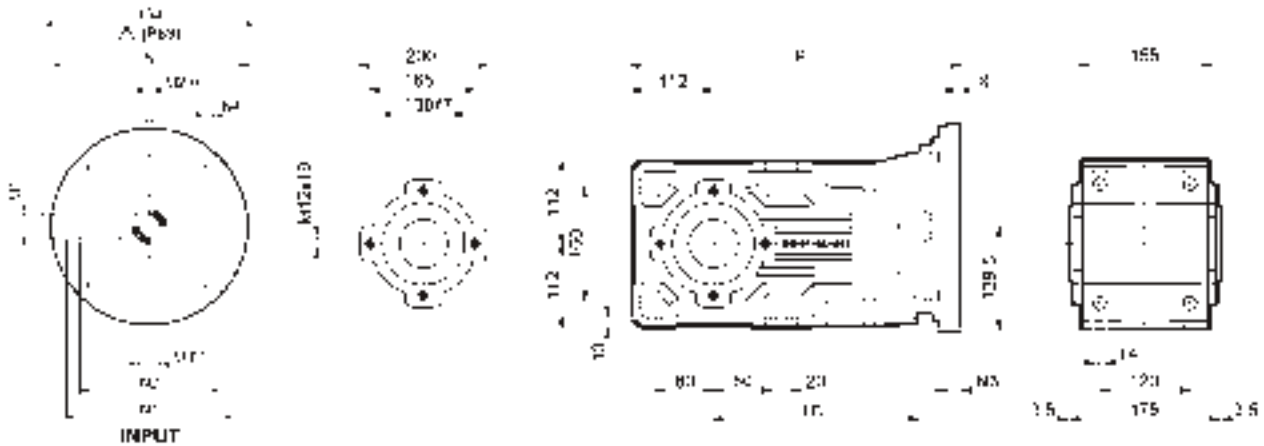
A 41...M/ME/MX/MXN



| | | | | | | | | | | | M...FD M...FA | | M...FD | | M...FA | |
|--------|-----|-------|-------|-----|-------|-------|-------|-----|---|-------|---|-----|--------|-----|--------|--|
| | | | | AC | H | L | LD | AD |  | LF |  | R | AD | R | AD | |
| A 41 2 | S1 | M1 | | 138 | 198.5 | 530 | 216.5 | 108 | 41 | 591 | 44 | 103 | 135 | 124 | 108 | |
| A 41 2 | S1 | ME1 | | 138 | 198.5 | 530 | 216.5 | 108 | 41 | 591 | 44 | 103 | 135 | 124 | 135 | |
| A 41 2 | S2 | ME2S | | 156 | 207.5 | 559 | 232 | 119 | 45 | 629 | 46.8 | 129 | 143 | 134 | 143 | |
| A 41 2 | S2 | MX2S | | 156 | 207.5 | 603 | 232 | 119 | 50.1 | 675 | 53.7 | 129 | 143 | 134 | 143 | |
| A 41 2 | S3 | ME3S | | 195 | 227 | 602 | 248 | 142 | 51.5 | 698 | 57.5 | 160 | 155 | 160 | 155 | |
| A 41 2 | S3 | MX3S | | 195 | 227 | 634 | 248 | 142 | 54.5 | 692 | 61.5 | 160 | 155 | 160 | 155 | |
| A 41 2 | S3 | ME3L | | 195 | 227 | 634 | 248 | 142 | 58 | 725 | 64.3 | 160 | 155 | 160 | 155 | |
| A 41 2 | S3 | MX3L | | 195 | 227 | 678 | 248 | 142 | 64 | 770 | 71 | 160 | 155 | 160 | 155 | |
| A 41 2 | S4 | ME4 | MX4 | 258 | 258.5 | 742 | — | 193 | 92 | 851 | 105 | 204 | 210 | 200 | 210 | |
| A 41 2 | S4 | ME4LB | MX4LA | 258 | 258.5 | 777 | — | 193 | 100 | 876 | 116 | 226 | 210 | 217 | 210 | |
| A 41 3 | S05 | M05 | | 121 | 245 | 562.5 | — | 95 | 44 | 628.5 | 46 | 96 | 122 | 116 | 95 | |
| A 41 3 | S05 | ME05 | | 121 | 245 | 562.5 | — | 95 | 44 | 628.5 | 46 | 96 | 119 | 116 | 119 | |
| A 41 3 | S05 | MXN05 | | 123 | 246 | 609 | — | 136 | 45.8 | 656 | 46.9 | 96 | 136 | 116 | 136 | |
| A 41 3 | S1 | M1 | | 138 | 198.5 | 591.5 | — | 108 | 46 | 652.5 | 49 | 103 | 135 | 124 | 108 | |
| A 41 3 | S1 | ME1 | | 138 | 198.5 | 591.5 | — | 108 | 46 | 652.5 | 49 | 103 | 135 | 124 | 135 | |
| A 41 3 | S10 | MXN10 | | 138 | 198.5 | 620.5 | — | 137 | 48.4 | 679.5 | 50.8 | 103 | 138 | 121 | 138 | |
| A 41 3 | S2 | ME2S | | 156 | 207.5 | 620.5 | — | 119 | 50 | 690.5 | 51.6 | 129 | 143 | 134 | 143 | |
| A 41 3 | S2 | MX2S | | 156 | 207.5 | 664.5 | — | 119 | 55.1 | 736.5 | 58.9 | 129 | 143 | 134 | 143 | |
| A 41 3 | S20 | MXN20 | | 158 | 208.5 | 718 | — | 146 | 57.3 | 789 | 59.5 | 129 | 148 | 131 | 148 | |
| A 41 3 | S3 | ME3S | | 195 | 227 | 663.5 | — | 142 | 56.5 | 759.5 | 62.5 | 160 | 155 | 160 | 155 | |
| A 41 3 | S3 | MX3S | | 195 | 227 | 695.5 | — | 142 | 59.5 | 785.5 | 66.5 | 160 | 155 | 160 | 155 | |
| A 41 3 | S3 | ME3L | | 195 | 227 | 695.5 | — | 142 | 61 | 786.5 | 67.3 | 160 | 155 | 160 | 155 | |
| A 41 3 | S3 | MX3L | | 195 | 227 | 739.5 | — | 142 | 67 | 831.5 | 74.8 | 160 | 155 | 160 | 155 | |

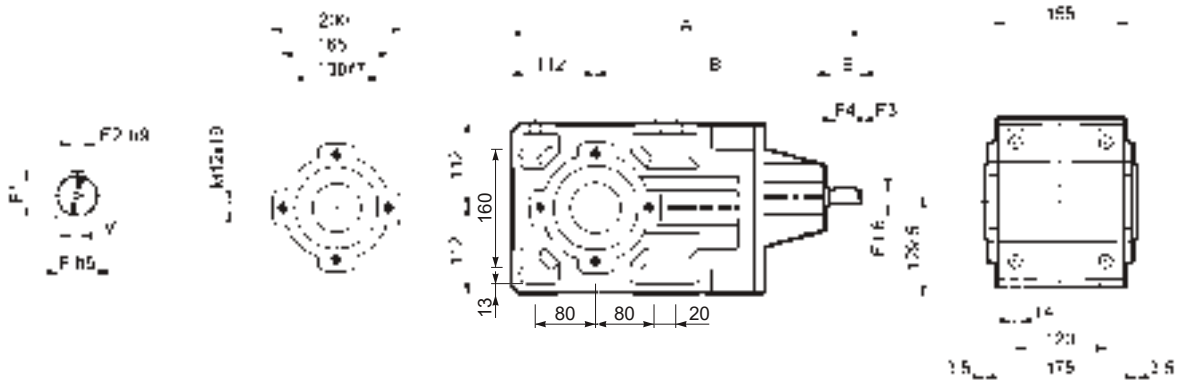


A 41...P(IEC)



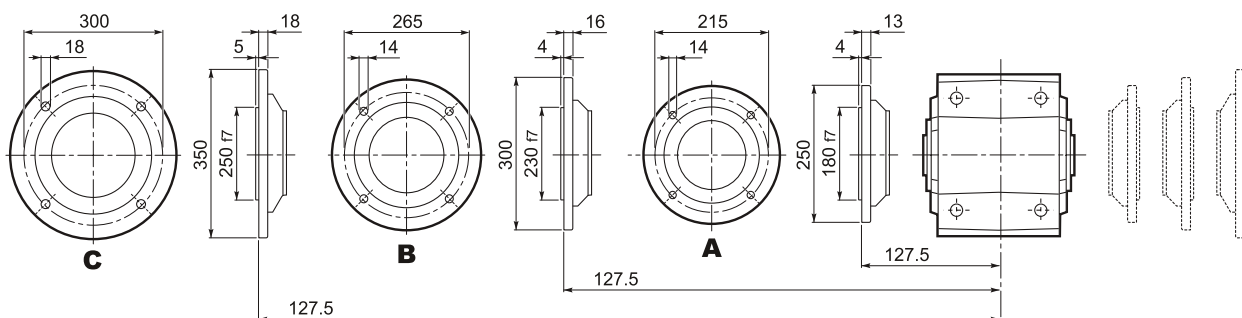
| | | LD | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P | |
|--------|------|-----|----|------|----|-----|-----|-----|----|----------|-----|-------|----|
| A 41 2 | P63 | 232 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 375 | 37 |
| A 41 2 | P71 | 232 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 375 | 38 |
| A 41 2 | P80 | 248 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 394.5 | 39 |
| A 41 2 | P90 | 248 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 394.5 | 39 |
| A 41 2 | P100 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 404.5 | 43 |
| A 41 2 | P112 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 404.5 | 43 |
| A 41 2 | P132 | — | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 441 | 46 |
| A 41 3 | P63 | — | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 436.5 | 39 |
| A 41 3 | P71 | — | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 436.5 | 39 |
| A 41 3 | P80 | — | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 456 | 40 |
| A 41 3 | P90 | — | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 456 | 40 |
| A 41 3 | P100 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 466 | 44 |
| A 41 3 | P112 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 466 | 44 |

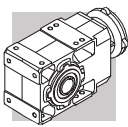
A 41...HS



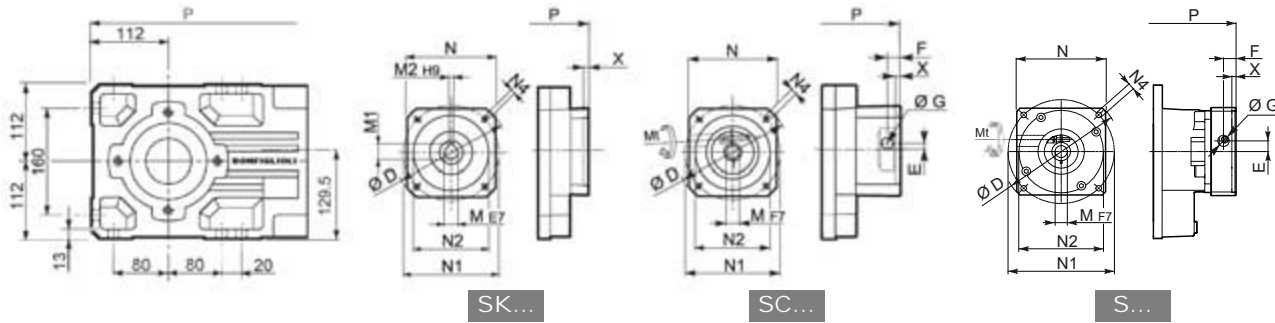
| | | A | B | E | F | F1 | F2 | F3 | F4 | V | |
|--------|----|-------|-------|----|----|------|----|-----|----|-------|------|
| A 41 2 | HS | 464 | 302.5 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 40.7 |
| A 41 3 | | 486.5 | 334.5 | 40 | 19 | 21.5 | 6 | 2.5 | 35 | M6x16 | 39.5 |

A 41...F...





A 41...SK / SC / S

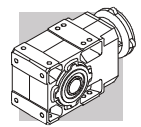


| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | | |
|---------|--------|-----|----|------|----|-----|-----|-----|--------|-----|-------|-----|-------|
| | | | | | | | | | | | | | |
| A41 3 | SK60A | 102 | 11 | 12.8 | 4 | 82 | 75 | 60 | M5x10 | 3.5 | — | 408 | 40 |
| A41 3 | SK60B | 102 | 14 | 16.3 | 5 | 82 | 75 | 60 | M5x10 | 4 | — | 415 | 40 |
| A41 3 | SK80A | 115 | 14 | 16.3 | 5 | 90 | 100 | 80 | M6x12 | 4 | — | 415 | 40 |
| A41 2 | SK80B | 120 | 14 | 16.3 | 5 | 96 | 100 | 80 | M6x12 | 4 | 394.5 | — | 39 |
| A41 2/3 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 394.5 | 456 | 39/40 |
| A41 2/3 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 394.5 | 456 | 39/40 |
| A41 2/3 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 394.5 | 456 | 39/41 |
| A41 2/3 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 394.5 | 456 | 39/44 |
| A41 2/3 | SK110A | 150 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 394.5 | 456 | 39/44 |
| A41 2/3 | SK110B | 150 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 394.5 | 456 | 39/44 |
| A41 2 | SK130A | 188 | 24 | 27.3 | 8 | 142 | 165 | 130 | M10x20 | 5 | 394.5 | — | 41 |
| A41 2 | SK130B | 189 | 32 | 35.3 | 10 | 160 | 165 | 130 | M10x20 | 5 | 441 | — | 43 |
| A41 2 | SK180A | 240 | 32 | 35.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 441 | — | 43 |
| A41 2 | SK180B | 240 | 38 | 41.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 441 | — | 43 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|---------|--------|----|---------|-----|------|------|-------|----|-----|-----|-----|--------|---|-----|-------|-------|
| | | | | | | | | | | | | | | | | |
| A41 3 | SC60A | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 11 | 82 | 75 | 60 | M5x10 | 4 | — | 435 | 41 |
| A41 3 | SC60B | M6 | 15 | 102 | 7 | 12.5 | 12.5 | 14 | 82 | 75 | 60 | M5x10 | 4 | — | 435 | 41 |
| A41 3 | SC80A | M6 | 15 | 115 | 6 | 12.5 | 12.5 | 14 | 90 | 100 | 80 | M6x12 | 4 | — | 435 | 41 |
| A41 2 | SC80B | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 14 | 96 | 100 | 80 | M6x12 | 4 | 418 | — | 40 |
| A41 2/3 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 418 | 479.5 | 40/41 |
| A41 2/3 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 418 | 479.5 | 40/42 |
| A41 2/3 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 418 | 479.5 | 40/42 |
| A41 2/3 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 418 | 479.5 | 40/43 |
| A41 2/3 | SC110A | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 418 | 479.5 | 41/47 |
| A41 2/3 | SC110B | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 418 | 479.5 | 41/47 |
| A41 2 | SC130A | M6 | 15 | 188 | 19 | 16 | 17.75 | 24 | 142 | 165 | 130 | M10x20 | 5 | 418 | — | 42 |
| A41 2 | SC130B | M8 | 36 | 189 | 20 | 17 | 17.75 | 32 | 160 | 165 | 130 | M10x20 | 5 | 464 | — | 46 |
| A41 2 | SC180A | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 32 | 192 | 215 | 180 | M12x24 | 5 | 468 | — | 46 |
| A41 2 | SC180B | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 38 | 192 | 215 | 180 | M12x24 | 5 | 468 | — | 46 |

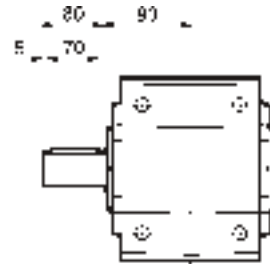
| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|--------|-----------|----|---------|-----|------|------|-------|----|-----|-----|-----|--------|-----|-------|---|----|
| | | | | | | | | | | | | | | | | |
| A 41 2 | S19F80A2 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 19 | 140 | 100 | 80 | M6x15 | 5 | 466.5 | — | 44 |
| A 41 2 | S19F95A1 | M6 | 11 | 165 | 17 | 19.5 | 17.75 | 19 | 140 | 115 | 95 | M8x20 | 6.5 | 466.5 | — | 44 |
| A 41 2 | S24F110A1 | M6 | 14 | 165 | 17 | 19.5 | 17.75 | 24 | 140 | 130 | 110 | M8x20 | 5 | 466.5 | — | 44 |
| A 41 2 | S24F130A | M6 | 14 | 190 | 17 | 19.5 | 17.75 | 24 | 140 | 165 | 130 | M10x20 | 6.5 | 466.5 | — | 44 |
| A 41 2 | S24F95A1 | M6 | 14 | 165 | 17 | 19.5 | 17.75 | 24 | 140 | 115 | 95 | M8x20 | 6.5 | 466.5 | — | 44 |
| A 41 2 | S28F130A | M8 | 20 | 190 | 17 | 19.5 | 17.75 | 28 | 140 | 165 | 130 | M10x20 | 6.5 | 466.5 | — | 44 |
| A 41 2 | S28F180A | M8 | 20 | 250 | 21.5 | 29.5 | 17.75 | 28 | 190 | 215 | 180 | M14x25 | 6.5 | 476.5 | — | 44 |
| A 41 2 | S32F130A | M8 | 20 | 190 | 17 | 19.5 | 17.75 | 32 | 140 | 165 | 130 | M10x20 | 6.5 | 466.5 | — | 44 |
| A 41 2 | S32F180A | M8 | 20 | 250 | 21.5 | 29.5 | 17.75 | 32 | 190 | 215 | 180 | M14x25 | 6.5 | 476.5 | — | 44 |
| A 41 2 | S38F180A1 | M8 | 25 | 250 | 29.5 | 44.5 | 17.75 | 38 | 190 | 215 | 180 | M14x25 | 6.5 | 496.5 | — | 44 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|--------|----------|----|---------|-----|------|------|-------|----|-----|-----|-----|-------|-----|---|-------|----|
| | | | | | | | | | | | | | | | | |
| A 41 3 | S11F60A2 | M6 | 11 | 135 | 16.3 | 15.5 | 13.75 | 11 | 100 | 75 | 60 | M5x14 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S14F60A2 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 75 | 60 | M5x14 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S14F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S19F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 13.75 | 19 | 100 | 100 | 80 | M6x16 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S16F80A1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 14 | 100 | 100 | 80 | M6x16 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S19F70B1 | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 16 | 100 | 90 | 70 | M5x12 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S19F95A | M6 | 11 | 135 | 15.5 | 16.3 | 17.75 | 19 | 100 | 115 | 95 | M8x18 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S24F110A | M6 | 14 | 155 | 15.5 | 16.3 | 17.75 | 19 | 115 | 130 | 110 | M8x18 | 6.5 | — | 481.5 | 43 |
| A 41 3 | S24F95A | M6 | 14 | 135 | 15.5 | 16.3 | 17.75 | 24 | 100 | 115 | 95 | M8x18 | 6.5 | — | 481.5 | 43 |

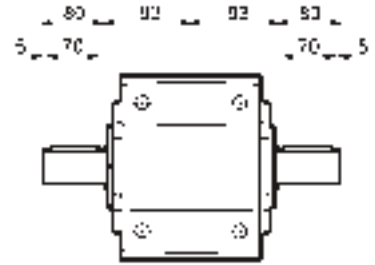
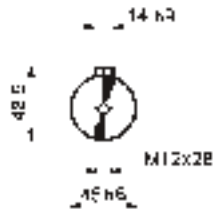


A 41

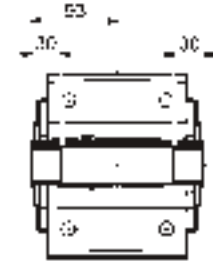
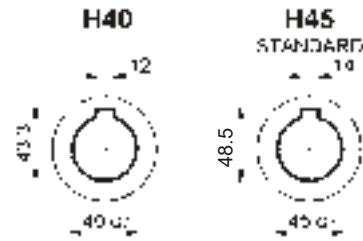
A 41...UR



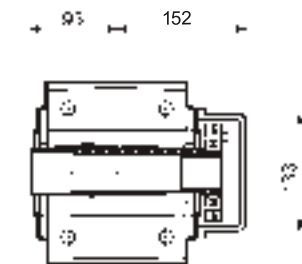
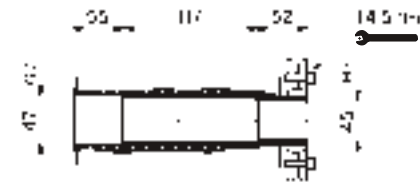
A 41...UD



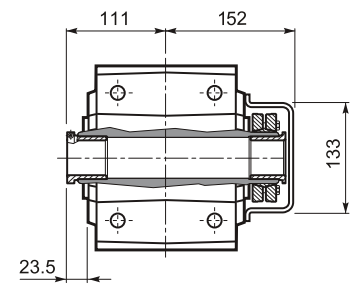
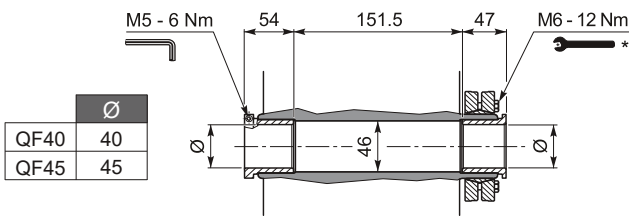
A 41...UH



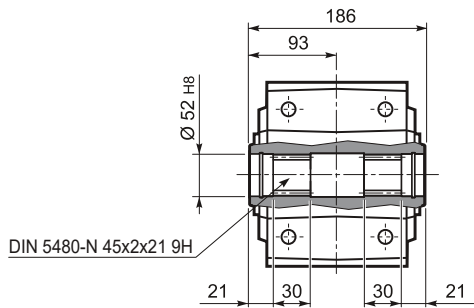
A 41...US



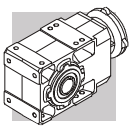
A 41...QF



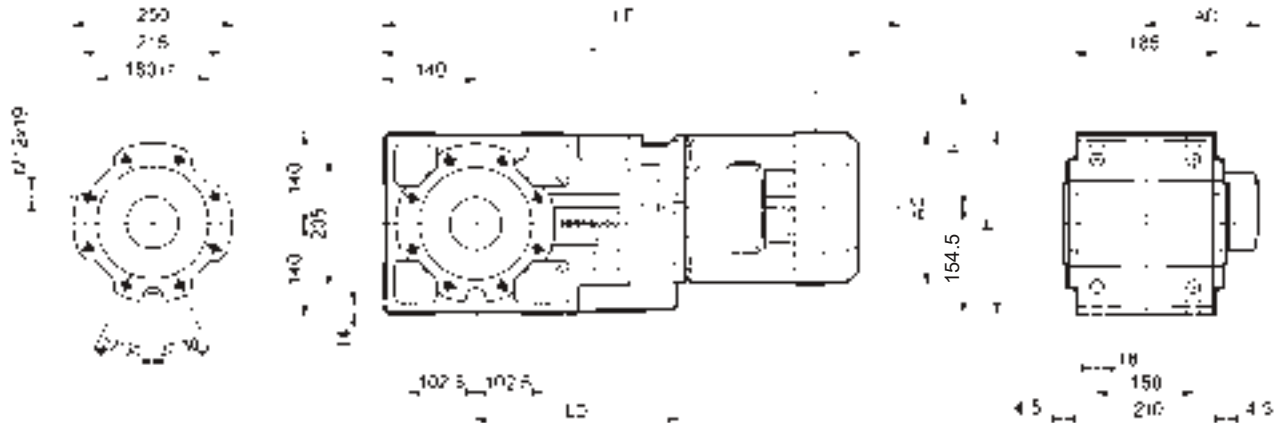
A 41...UV





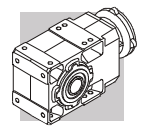
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



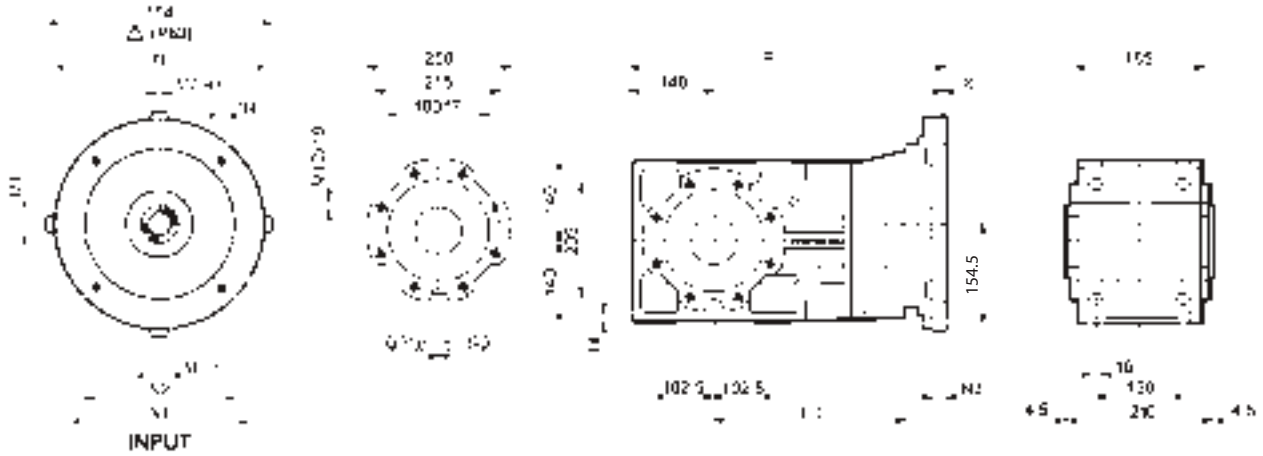
A 50...M/ME/MX/MXN




| | | | | | | | | | | | M...FD M...FA | | M...FD | | M...FA | |
|----------|-----|-------|-------|-----|-------|-------|-------|-----|---|--------|---|-----|--------|-----|--------|--|
| | | | | AC | H | L | LD | AD |  | LF |  | R | AD | R | AD | |
| A 50 2/3 | S1 | M1 | | 138 | 223 | 609.5 | — | 108 | 66 | 670.5 | 69 | 103 | 135 | 124 | 108 | |
| A 50 2/3 | S1 | ME1 | | 138 | 223 | 609.5 | — | 108 | 66 | 670.5 | 69 | 103 | 135 | 124 | 135 | |
| A 50 2/3 | S2 | ME2S | | 156 | 232 | 638.5 | 284.5 | 119 | 68 | 708.5 | 72.1 | 129 | 143 | 134 | 143 | |
| A 50 2/3 | S2 | MX2S | | 156 | 232 | 682.5 | 284.5 | 119 | 73.1 | 754.5 | 79.3 | 129 | 143 | 134 | 143 | |
| A 50 2/3 | S3 | ME3S | | 195 | 251.5 | 681.5 | 299.5 | 142 | 74.5 | 777.5 | 81.4 | 160 | 155 | 160 | 155 | |
| A 50 2/3 | S3 | MX3S | | 195 | 251.5 | 713.5 | 299.5 | 142 | 77.5 | 803.5 | 86.4 | 160 | 155 | 160 | 155 | |
| A 50 2/3 | S3 | ME3L | | 195 | 251.5 | 713.5 | 299.5 | 142 | 81 | 804.5 | 87.9 | 160 | 155 | 160 | 155 | |
| A 50 2/3 | S3 | MX3L | | 195 | 251.5 | 757.5 | 299.5 | 142 | 87 | 849.5 | 95.4 | 160 | 155 | 160 | 155 | |
| A 50 2/3 | S4 | ME4 | MX4 | 258 | 283 | 821.5 | 284.5 | 193 | 115 | 930.5 | 128 | 204 | 210 | 200 | 210 | |
| A 50 2/3 | S4 | ME4LB | MX4LA | 258 | 283 | 856.5 | 284.5 | 193 | 123 | 955.5 | 139.4 | 226 | 210 | 217 | 210 | |
| A 50 2/3 | S5 | ME5S | MX5S | 310 | 309 | 908 | — | 245 | 143 | 1048.5 | 184.4 | 266 | 245 | 247 | 245 | |
| A 50 2/3 | S5 | ME5L | MX5L | 310 | 309 | 952 | — | 245 | 159 | 1092.5 | 210.4 | 266 | 245 | 247 | 245 | |
| A 50 4 | S1 | M1 | | 138 | 223 | 681 | — | 108 | 67 | 742 | 70 | 103 | 135 | 124 | 108 | |
| A 50 4 | S1 | ME1 | | 138 | 223 | 681 | — | 108 | 67 | 742 | 70 | 103 | 135 | 124 | 135 | |
| A 50 4 | S10 | MXN10 | | 138 | 223 | 710 | — | 137 | 69.4 | 769 | 71.8 | 103 | 138 | 121 | 138 | |
| A 50 4 | S2 | ME2S | | 156 | 232 | 710 | — | 119 | 71 | 780 | 73.1 | 129 | 143 | 134 | 143 | |
| A 50 4 | S2 | MX2S | | 156 | 232 | 754 | — | 119 | 76.1 | 826 | 80.3 | 129 | 143 | 134 | 143 | |
| A 50 4 | S3 | ME3S | | 195 | 251.5 | 753 | — | 142 | 77.5 | 849 | 83.5 | 160 | 155 | 160 | 155 | |
| A 50 4 | S3 | MX3S | | 195 | 251.5 | 785 | — | 142 | 80.5 | 875 | 87.4 | 160 | 155 | 160 | 155 | |
| A 50 4 | S3 | ME3L | | 195 | 251.5 | 785 | — | 142 | 83 | 876 | 89 | 160 | 155 | 160 | 155 | |
| A 50 4 | S3 | MX3L | | 195 | 251.5 | 829 | — | 142 | 89 | 921 | 96.4 | 160 | 155 | 160 | 155 | |

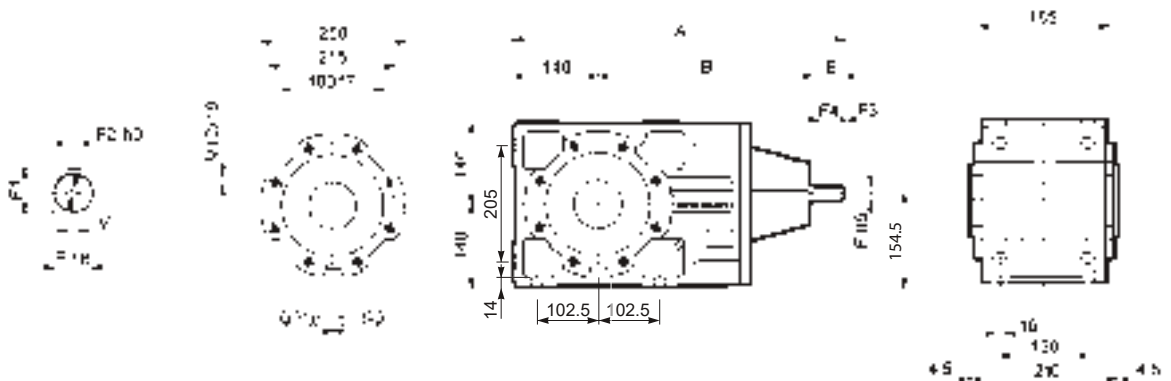



A 50...P(IEC)

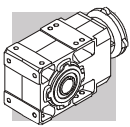


| | | LD | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P |  |
|----------|------|-------|----|------|----|-----|-----|-----|----|----------|-----|-------|---|
| A 50 2/3 | P63 | 284.5 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 454.5 | 60 |
| A 50 2/3 | P71 | 284.5 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 454.5 | 60 |
| A 50 2/3 | P80 | 299.5 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 474 | 61 |
| A 50 2/3 | P90 | 299.5 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 474 | 61 |
| A 50 2/3 | P100 | 284.5 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 484 | 65 |
| A 50 2/3 | P112 | 284.5 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 484 | 65 |
| A 50 2/3 | P132 | 284.5 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 520.5 | 68 |
| A 50 2/3 | P160 | — | 42 | 45.3 | 12 | 350 | 300 | 250 | 23 | 18 | 5.5 | 571 | 72 |
| A 50 2/3 | P180 | — | 48 | 51.8 | 14 | 350 | 300 | 250 | 23 | 18 | 5.5 | 571 | 72 |
| A 50 4 | P63 | — | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 526 | 62 |
| A 50 4 | P71 | — | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 526 | 62 |
| A 50 4 | P80 | — | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 545.5 | 63 |
| A 50 4 | P90 | — | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 545.5 | 63 |
| A 50 4 | P100 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 555.5 | 67 |
| A 50 4 | P112 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 555.5 | 67 |

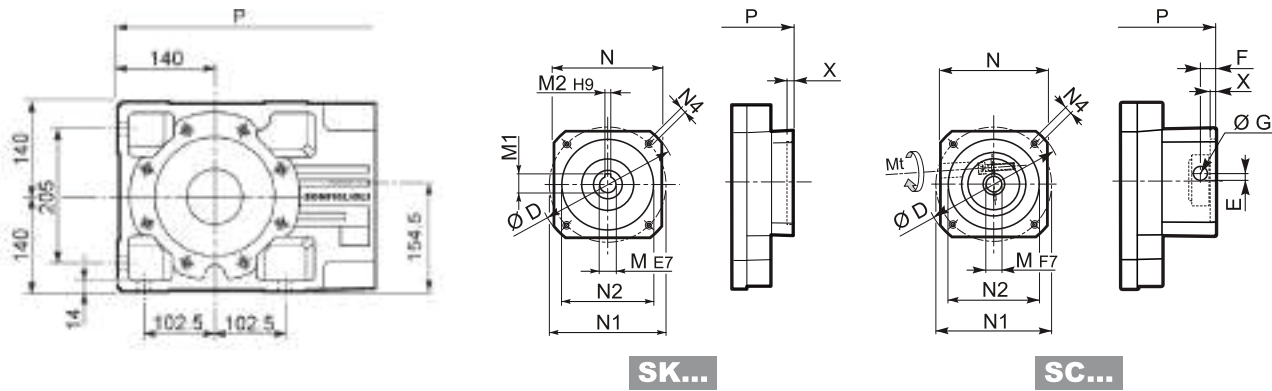
A 50...HS



| | | A | B | E | F | F1 | F2 | F3 | F4 | V |  |
|--------|----|-------|-------|----|----|------|----|-----|----|-------|---|
| A 50 2 | HS | 543.5 | 353.5 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 72 |
| A 50 3 | | 543.5 | 353.5 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 76 |
| A 50 4 | | 576 | 396 | 40 | 19 | 21.5 | 6 | 2.5 | 35 | M6x16 | 77 |



A 50...SK / SC



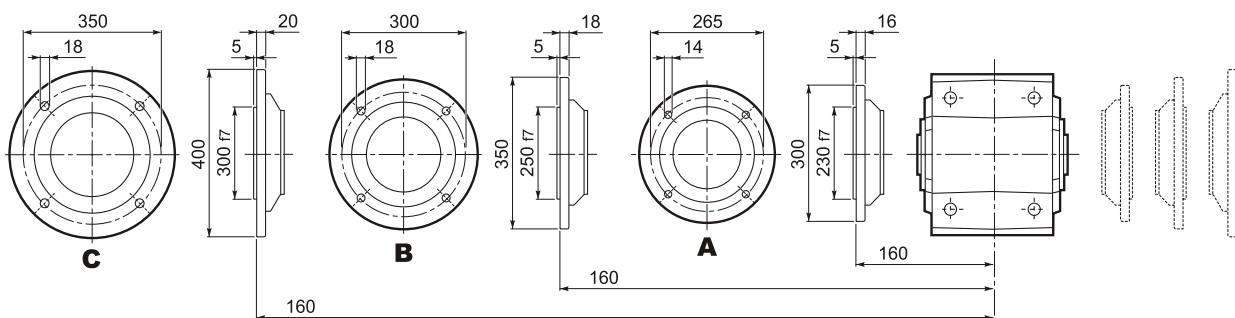
SK...

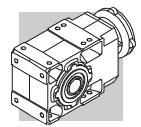
SC...

| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | | |
|------------|--------|-----|----|------|----|-----|-----|-----|--------|---|-------|-------|----------|
| | | | | | | | | | | | 2/3x | 4x | |
| A 50 2/3 | SK80B | 120 | 14 | 16.3 | 5 | 96 | 100 | 80 | M6x12 | 4 | 474 | — | 61/61 |
| A 50 2/3/4 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 474 | 545.5 | 61/61/63 |
| A 50 2/3/4 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 474 | 545.5 | 61/61/63 |
| A 50 2/3/4 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 474 | 545.5 | 61/61/63 |
| A 50 2/3/4 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 474 | 545.5 | 61/61/63 |
| A 50 2/3/4 | SK110A | 150 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 474 | 545.5 | 61/61/65 |
| A 50 2/3/4 | SK110B | 150 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 474 | 575 | 61/61/65 |
| A 50 2/3/4 | SK130A | 188 | 24 | 27.3 | 8 | 142 | 165 | 130 | M10x20 | 5 | 474 | 575 | 63/63/66 |
| A 50 2/3 | SK130B | 189 | 32 | 35.3 | 10 | 160 | 165 | 130 | M10x20 | 5 | 520.5 | — | 69/69 |
| A 50 2/3 | SK180A | 240 | 32 | 35.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 520.5 | — | 69/69 |
| A 50 2/3 | SK180B | 240 | 38 | 41.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 520.5 | — | 69/69 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|------------|--------|----|---------|-----|------|------|-------|----|-----|-----|-----|--------|---|-------|-----|----------|
| | | | | | | | | | | | | | | 2/3x | 3x | |
| A 50 2/3 | SC80B | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 14 | 96 | 100 | 80 | M6x12 | 4 | 497.5 | — | 62/62 |
| A 50 2/3/4 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 497.5 | 569 | 62/62/64 |
| A 50 2/3/4 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 497.5 | 569 | 62/62/64 |
| A 50 2/3/4 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 497.5 | 569 | 62/62/64 |
| A 50 2/3/4 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 497.5 | 569 | 62/62/64 |
| A 50 2/3/4 | SC110A | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 497.5 | 569 | 63/63/66 |
| A 50 2/3/4 | SC110B | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 497.5 | 569 | 63/63/66 |
| A 50 2/3/4 | SC130A | M6 | 15 | 188 | 19 | 16 | 17.75 | 24 | 142 | 165 | 130 | M10x20 | 5 | 497.5 | 569 | 64/64/67 |
| A 50 2/3 | SC130B | M8 | 36 | 189 | 20 | 17 | 17.75 | 32 | 160 | 165 | 130 | M10x20 | 5 | 543.5 | — | 68/68 |
| A 50 2/3 | SC180A | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 32 | 192 | 215 | 180 | M12x24 | 5 | 547.5 | — | 68/68 |
| A 50 2/3 | SC180B | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 38 | 192 | 215 | 180 | M12x24 | 5 | 547.5 | — | 68/68 |

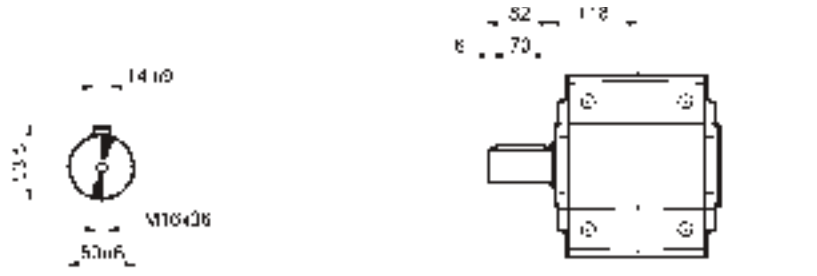
A 50...F...





A 50

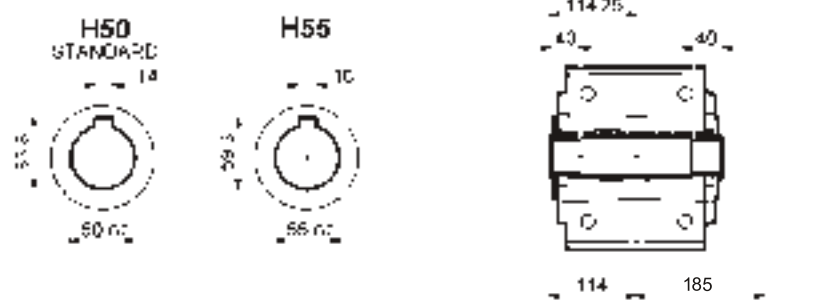
A 50...UR



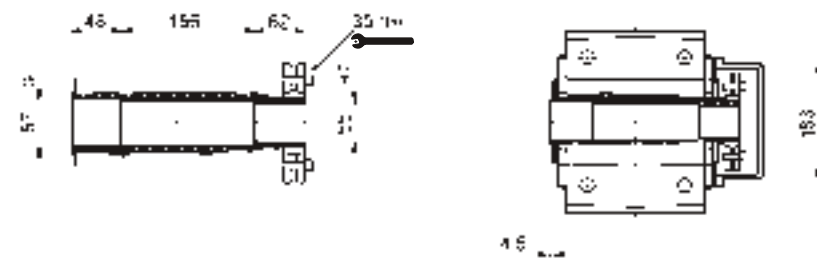
A 50...UD



A 50...UH

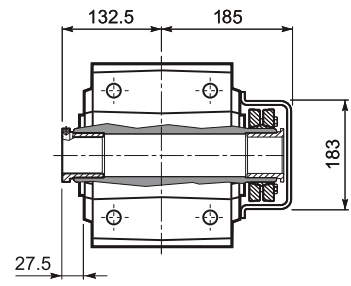
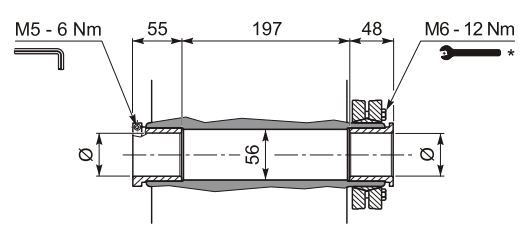


A 50...US

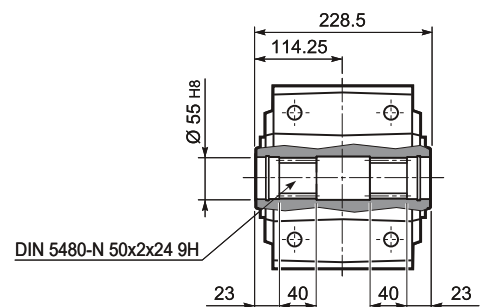


A 50...QF

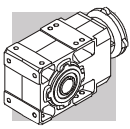
| | Ø |
|------|----|
| QF50 | 50 |
| QF55 | 55 |



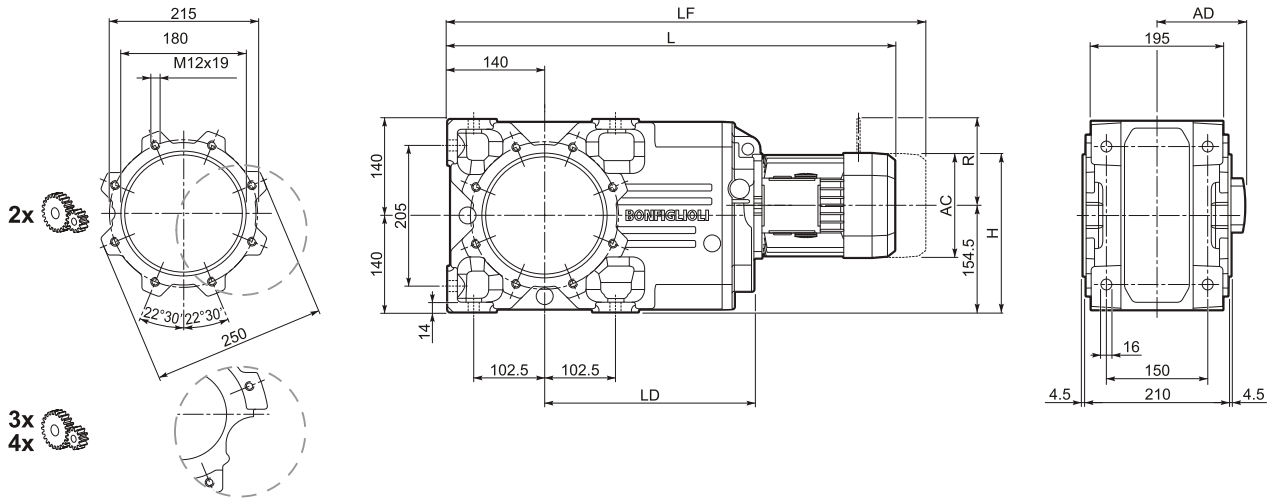
A 50...UV



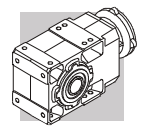
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



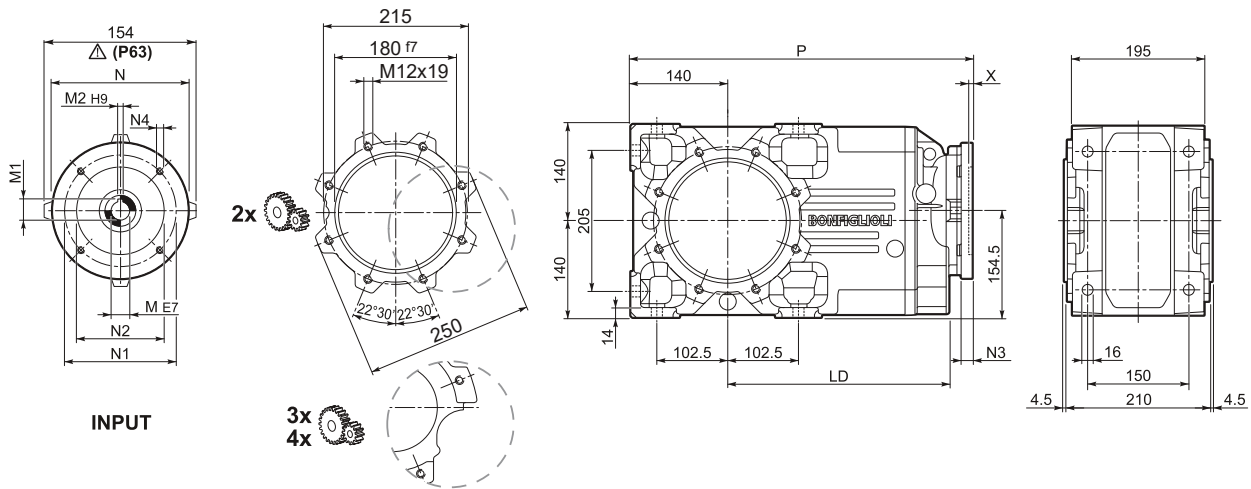
A 55...M/ME/MX/MXN




| | | | | | | | | | | M...FD M...FA | | M...FD | | M...FA | |
|----------|-----|-------|-------|-----|-------|-------|-------|-----|------|------------------|-------|--------|-----|--------|-----|
| | | | | AC | H | L | LD | AD | | LF | | R | AD | R | AD |
| A 55 3 | S1 | M1 | | 138 | 198.5 | 627.5 | — | 108 | 81 | 688.5 | 84 | 103 | 135 | 124 | 108 |
| A 55 3 | S1 | ME1 | | 138 | 198.5 | 627.5 | — | 108 | 81 | 688.5 | 84 | 103 | 135 | 124 | 135 |
| A 55 2/3 | S2 | ME2S | | 156 | 232 | 656.5 | 302.5 | 119 | 88 | 726.5 | 89.6 | 129 | 143 | 134 | 143 |
| A 55 2/3 | S2 | MX2S | | 156 | 232 | 700.5 | 302.5 | 119 | 93.1 | 787.5 | 96.9 | 129 | 143 | 134 | 143 |
| A 55 2/3 | S3 | ME3S | | 195 | 251 | 699.5 | 317.5 | 142 | 94.5 | 795.5 | 100.5 | 160 | 155 | 160 | 155 |
| A 55 2/3 | S3 | MX3S | | 195 | 251 | 731.5 | 317.5 | 142 | 97.5 | 823.5 | 104.5 | 160 | 155 | 160 | 155 |
| A 55 2/3 | S3 | ME3L | | 195 | 251 | 731.5 | 317.5 | 142 | 101 | 822.5 | 107 | 160 | 155 | 160 | 155 |
| A 55 2/3 | S3 | MX3L | | 195 | 251 | 775.5 | 317.5 | 142 | 107 | 867.5 | 114 | 160 | 155 | 160 | 155 |
| A 55 2/3 | S4 | ME4 | MX4 | 258 | 283 | 839.5 | 302.5 | 193 | 135 | 979.5 | 148 | 204 | 210 | 200 | 210 |
| A 55 2/3 | S4 | ME4LB | MX4LA | 258 | 283 | 874.5 | 302.5 | 193 | 143 | 973.5 | 156 | 226 | 210 | 217 | 210 |
| A 55 2/3 | S5 | ME5S | MX5S | 310 | 309.5 | 926 | — | 245 | 163 | 1066.5 | 275 | 266 | 245 | 247 | 245 |
| A 55 2/3 | S5 | ME5L | MX5L | 310 | 309.5 | 970 | — | 245 | 179 | 1110.5 | 275 | 266 | 245 | 247 | 245 |
| A 55 4 | S1 | M1 | | 138 | 223 | 699 | — | 108 | 82 | 760 | 85 | 103 | 135 | 124 | 108 |
| A 55 4 | S1 | ME1 | | 138 | 223 | 699 | — | 108 | 82 | 760 | 85 | 103 | 135 | 124 | 135 |
| A 55 4 | S10 | MXN10 | | 138 | 223 | 728 | — | 137 | 84.4 | 787 | 86.8 | 103 | 138 | 121 | 138 |
| A 55 4 | S2 | ME2S | | 156 | 232 | 728 | — | 119 | 86 | 798 | 88.1 | 129 | 143 | 134 | 143 |
| A 55 4 | S2 | MX2S | | 156 | 232 | 772 | — | 119 | 91.1 | 859 | 95.3 | 129 | 143 | 134 | 143 |
| A 55 4 | S3 | ME3S | | 195 | 251.5 | 771 | — | 142 | 92.5 | 867 | 98.5 | 160 | 155 | 160 | 155 |
| A 55 4 | S3 | MX3S | | 195 | 251.5 | 803 | — | 142 | 95.5 | 893 | 102.5 | 160 | 155 | 160 | 155 |
| A 55 4 | S3 | ME3L | | 195 | 251.5 | 803 | — | 142 | 98 | 894 | 104 | 160 | 155 | 160 | 155 |
| A 55 4 | S3 | MX3L | | 195 | 251.5 | 847 | — | 142 | 104 | 939 | 111.4 | 160 | 155 | 160 | 155 |

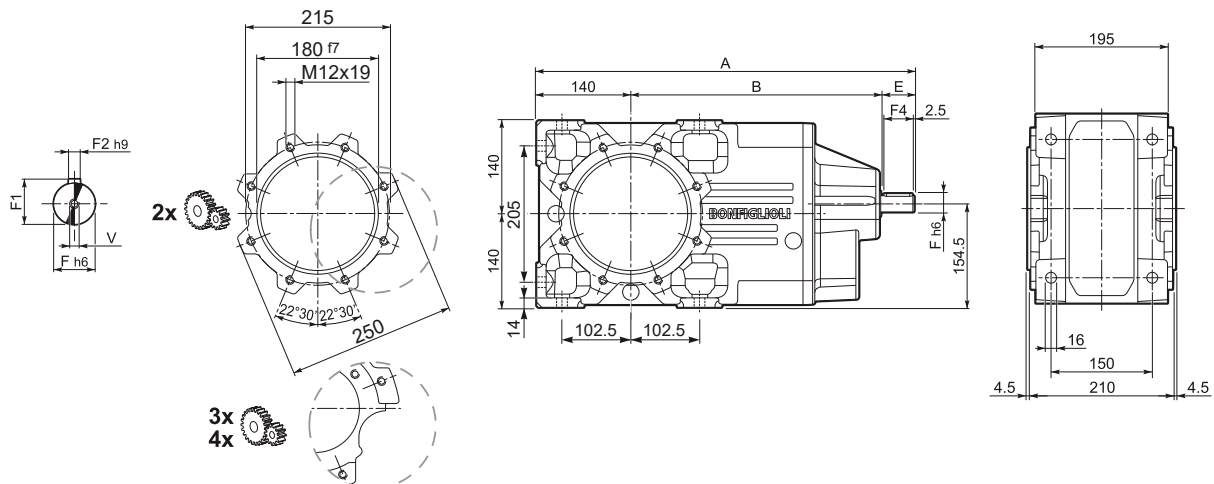



A 55...P(IEC)

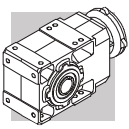


| | | LD | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P |  |
|----------|------|-------|----|------|----|-----|-----|-----|----|----------|-----|-------|---|
| A 55 3 | P63 | 302.5 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 472.5 | 75 |
| A 55 3 | P71 | 302.5 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 472.5 | 75 |
| A 55 2/3 | P80 | 317.5 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 492 | 81 |
| A 55 2/3 | P90 | 317.5 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 492 | 81 |
| A 55 2/3 | P100 | 302.5 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 502 | 85 |
| A 55 2/3 | P112 | 302.5 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 502 | 85 |
| A 55 2/3 | P132 | 302.5 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 538.5 | 93 |
| A 55 2/3 | P160 | — | 42 | 45.3 | 12 | 350 | 300 | 250 | 23 | 18 | 5.5 | 589 | 110 |
| A 55 2/3 | P180 | — | 48 | 51.8 | 14 | 350 | 300 | 250 | 23 | 18 | 5.5 | 589 | 110 |
| A 55 4 | P63 | — | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 544 | 77 |
| A 55 4 | P71 | — | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 544 | 77 |
| A 55 4 | P80 | — | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 563.5 | 78 |
| A 55 4 | P90 | — | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 563.5 | 78 |
| A 55 4 | P100 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 573.5 | 82 |
| A 55 4 | P112 | — | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 573.5 | 82 |

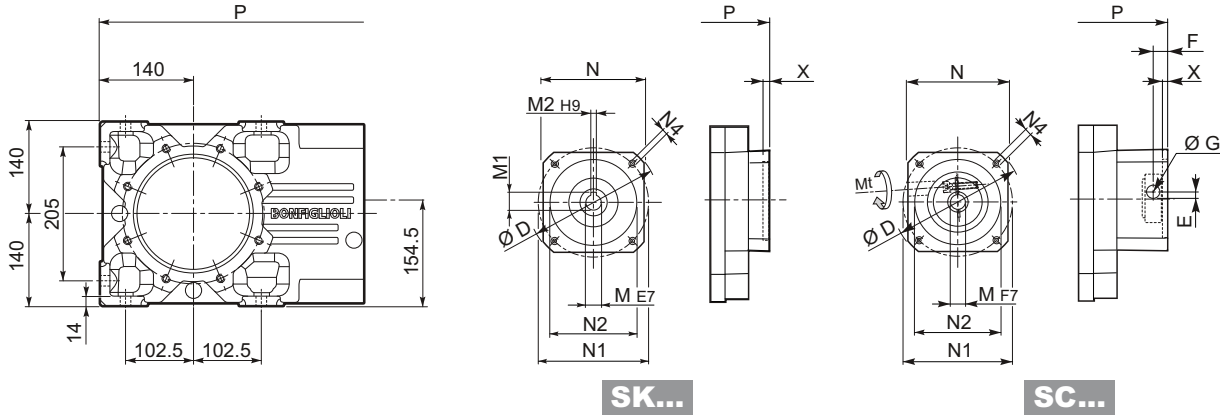
A 55...HS



| | | A | B | E | F | F1 | F2 | F3 | F4 | V |  |
|--------|----|-------|-------|----|----|------|----|-----|----|-------|---|
| A 55 2 | HS | 561.5 | 371.5 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 96 |
| A 55 3 | | 561.5 | 371.5 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 91 |
| A 55 4 | | 594 | 414 | 40 | 19 | 21.5 | 6 | 2.5 | 35 | M6x16 | 92 |



A 55...SK / SC



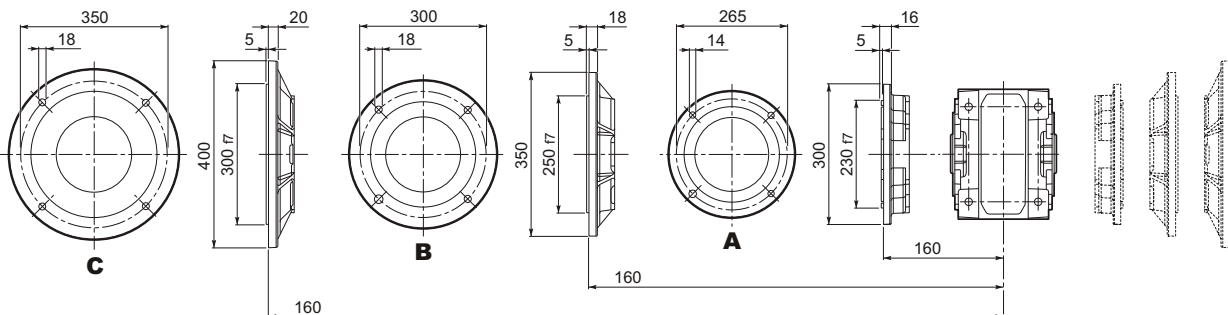
SK...

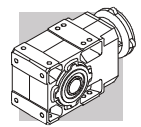
SC...

| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | | |
|------------|--------|-----|----|------|----|-----|-----|-----|--------|---|-------|-------|----------|
| | | | | | | | | | | | 2/3x | 4x | |
| A 55 3 | SK80B | 120 | 14 | 16.3 | 5 | 96 | 100 | 80 | M6x12 | 4 | 492 | — | 81 |
| A 55 2/3/4 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 492 | 563.5 | 81/81/77 |
| A 55 3/4 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 492 | 563.5 | 81/81/77 |
| A 55 2/3/4 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 492 | 563.5 | 81/81/77 |
| A 55 2/3/4 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 492 | 563.5 | 81/81/77 |
| A 55 2/3/4 | SK110A | 150 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 492 | 593 | 81/81/78 |
| A 55 2/3/4 | SK110B | 150 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 492 | 593 | 81/81/78 |
| A 55 2/3/4 | SK130A | 188 | 24 | 27.3 | 8 | 142 | 165 | 130 | M10x20 | 5 | 492 | 593 | 83/83/79 |
| A 55 2/3 | SK130B | 189 | 32 | 35.3 | 10 | 160 | 165 | 130 | M10x20 | 5 | 538.5 | — | 90/90 |
| A 55 2/3 | SK180A | 240 | 32 | 35.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 538.5 | — | 90/90 |
| A 55 2/3 | SK180B | 240 | 38 | 41.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 538.5 | — | 90/90 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|------------|--------|----|---------|-----|------|------|-------|----|-----|-----|-----|--------|---|-------|-----|----------|
| | | | | | | | | | | | | | | 2/3x | 3x | |
| A 55 3 | SC80B | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 14 | 96 | 100 | 80 | M6x12 | 4 | 515.5 | — | 82 |
| A 55 2/3/4 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 515.5 | 587 | 82/82/78 |
| A 55 3/4 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 515.5 | 587 | 82/82/78 |
| A 55 2/3/4 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 515.5 | 587 | 82/82/78 |
| A 55 2/3/4 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 515.5 | 587 | 82/82/78 |
| A 55 2/3/4 | SC110A | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 515.5 | 587 | 83/83/79 |
| A 55 2/3/4 | SC110B | M6 | 15 | 150 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 515.5 | 587 | 83/83/79 |
| A 55 2/3/4 | SC130A | M6 | 15 | 188 | 19 | 16 | 17.75 | 24 | 142 | 165 | 130 | M10x20 | 5 | 515.5 | 587 | 84/84/80 |
| A 55 2/3 | SC130B | M8 | 36 | 189 | 20 | 17 | 17.75 | 32 | 160 | 165 | 130 | M10x20 | 5 | 561.5 | — | 93/93 |
| A 55 2/3 | SC180A | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 32 | 192 | 215 | 180 | M12x24 | 5 | 565.5 | — | 93/93 |
| A 55 2/3 | SC180B | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 38 | 192 | 215 | 180 | M12x24 | 5 | 565.5 | — | 93/93 |

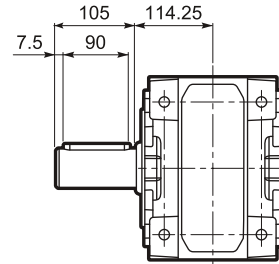
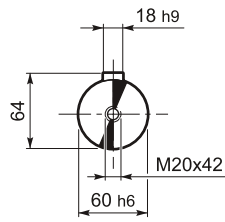
A 55...F...



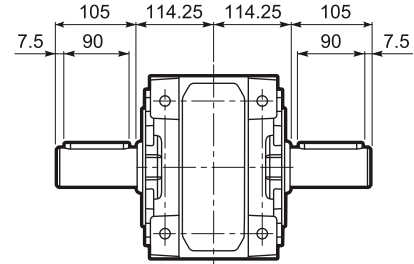
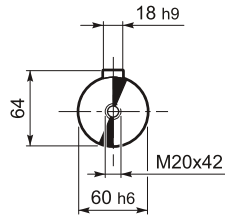


A 55

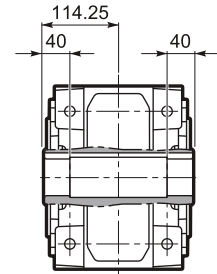
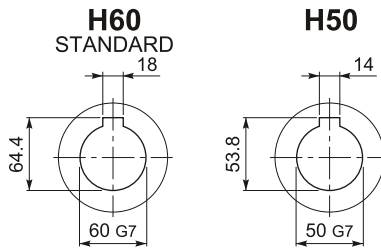
A 55...UR



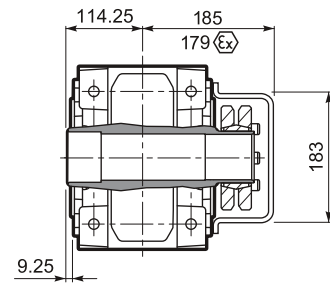
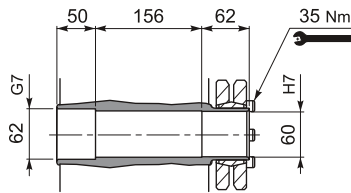
A 55...UD



A 55...UH

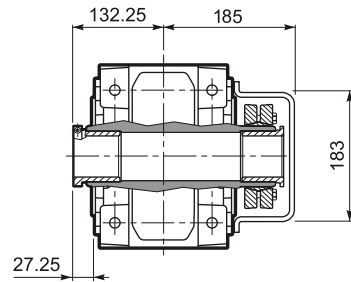
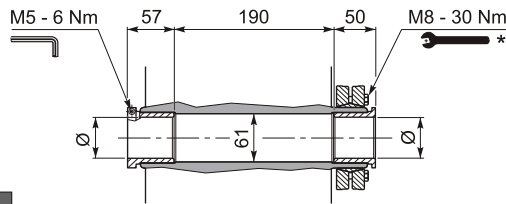


A 55...US



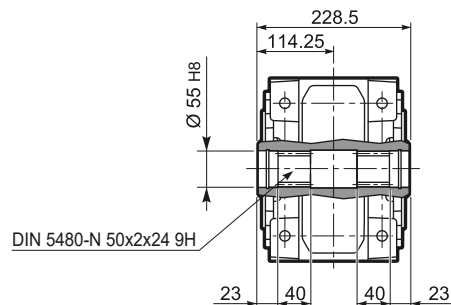
A 55...QF

| | Ø |
|-------------|----|
| QF55 | 55 |
| QF60 | 60 |

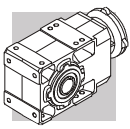


| | M _{n2} max [Nm] |
|------------------|--------------------------|
| A 55 QF55 | 1900 |

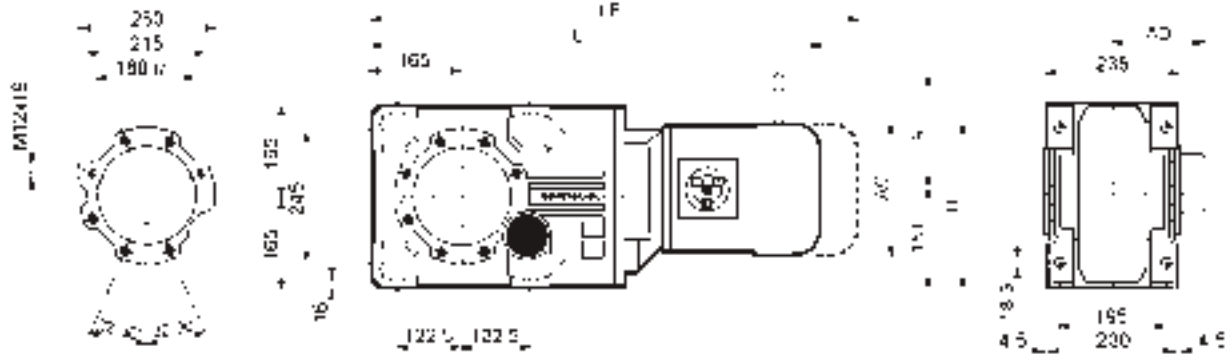
A 55...UV



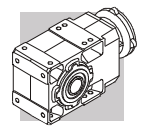
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



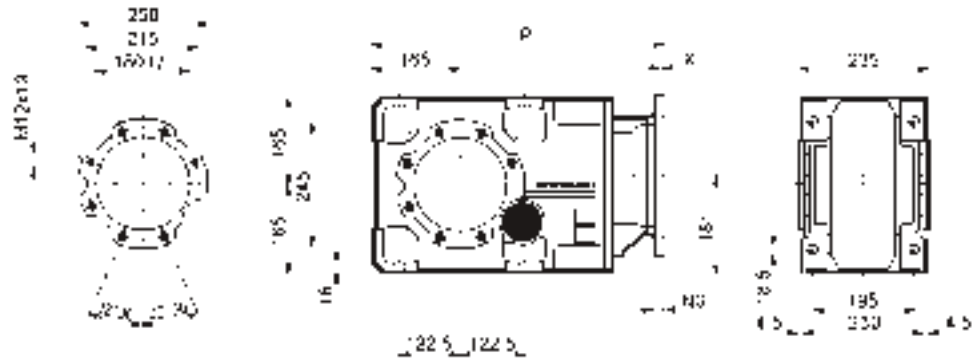
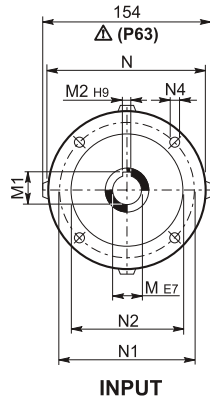
A 60...M/ME/MX



| | | | | AC | H | L | AD | | M...FD M...FA | | M...FD | | M...FA | |
|----------|----|-------|-------|-----|-------|-------|-----|-------|------------------|-------|--------|-----|--------|-----|
| | | | | | | | | | LF | | R | AD | R | AD |
| A 60 2/3 | S2 | ME2S | | 156 | 256.5 | 700.5 | 119 | 98 | 770.5 | 99.6 | 129 | 143 | 134 | 143 |
| A 60 2/3 | S2 | MX2S | | 156 | 256.5 | 744.5 | 119 | 103.1 | 816.5 | 106.9 | 129 | 143 | 134 | 143 |
| A 60 2/3 | S3 | ME3S | | 195 | 276 | 743.5 | 142 | 103 | 839.5 | 109 | 160 | 155 | 160 | 155 |
| A 60 2/3 | S3 | MX3S | | 195 | 276 | 775.5 | 142 | 106 | 865.5 | 113 | 160 | 155 | 160 | 155 |
| A 60 2/3 | S3 | ME3L | | 195 | 276 | 775.5 | 142 | 111 | 866.5 | 117 | 160 | 155 | 160 | 155 |
| A 60 2/3 | S3 | MX3L | | 195 | 276 | 819.5 | 142 | 117 | 911.5 | 124 | 160 | 155 | 160 | 155 |
| A 60 2/3 | S4 | ME4 | MX4 | 258 | 307.5 | 883.5 | 193 | 145 | 992.5 | 158 | 204 | 210 | 200 | 210 |
| A 60 2/3 | S4 | ME4LB | MX4LA | 258 | 307.5 | 918.5 | 193 | 153 | 1017.5 | 169 | 226 | 210 | 217 | 210 |
| A 60 2/3 | S5 | ME5S | MX5S | 310 | 333.5 | 970 | 245 | 173 | 1110.5 | 224.5 | 266 | 245 | 247 | 245 |
| A 60 2/3 | S5 | ME5L | MX5L | 310 | 333.5 | 1014 | 245 | 189 | 1154.5 | 235.5 | 266 | 245 | 247 | 245 |
| A 60 4 | S1 | M1 | | 138 | 247.5 | 742 | 108 | 100 | 803 | 103 | 103 | 135 | 124 | 108 |
| A 60 4 | S1 | ME1 | | 138 | 247.5 | 742 | 108 | 100 | 803 | 103 | 103 | 135 | 124 | 135 |
| A 60 4 | S2 | ME2S | | 156 | 256.5 | 771 | 119 | 104 | 841 | 107.5 | 129 | 143 | 134 | 143 |
| A 60 4 | S2 | MX2S | | 156 | 256.5 | 815 | 119 | 109.1 | 887 | 114.7 | 129 | 143 | 134 | 143 |
| A 60 4 | S3 | ME3S | | 195 | 276 | 814 | 142 | 109 | 910 | 116.8 | 160 | 155 | 160 | 155 |
| A 60 4 | S3 | MX3S | | 195 | 276 | 846 | 142 | 112 | 936 | 121.8 | 160 | 155 | 160 | 155 |
| A 60 4 | S3 | ME3L | | 195 | 276 | 846 | 142 | 117 | 937 | 123.3 | 160 | 155 | 160 | 155 |
| A 60 4 | S3 | MX3L | | 195 | 276 | 890 | 142 | 123 | 982 | 130.8 | 160 | 155 | 160 | 155 |

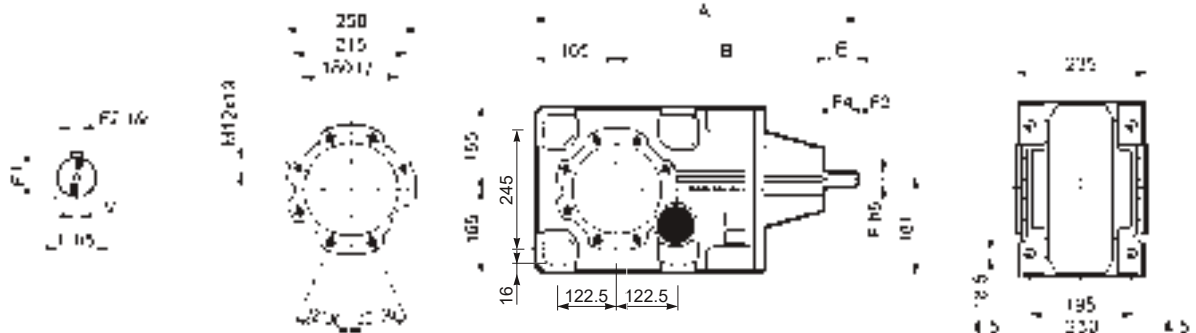


A 60...P(IEC)

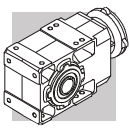


| | | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P | |
|----------|------|----|------|----|-----|-----|-----|----|----------|-----|-------|-----|
| A 60 3 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 516.5 | 90 |
| A 60 3 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 516.5 | 90 |
| A 60 2/3 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 536 | 91 |
| A 60 2/3 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 536 | 91 |
| A 60 2/3 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 546 | 95 |
| A 60 2/3 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 546 | 95 |
| A 60 2/3 | P132 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 582.5 | 104 |
| A 60 2/3 | P160 | 42 | 45.3 | 12 | 350 | 300 | 250 | 23 | 18 | 5.5 | 633 | 121 |
| A 60 2/3 | P180 | 48 | 51.8 | 14 | 350 | 300 | 250 | 23 | 18 | 5.5 | 633 | 121 |
| A 60 4 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 587 | 88 |
| A 60 4 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 587 | 88 |
| A 60 4 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 606.5 | 90 |
| A 60 4 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 606.5 | 90 |
| A 60 4 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 616.5 | 94 |
| A 60 4 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 616.5 | 94 |

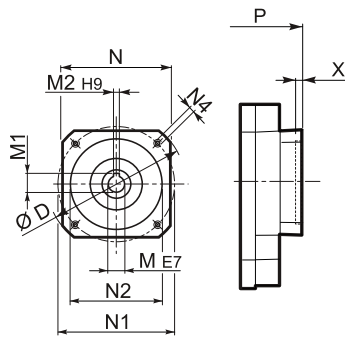
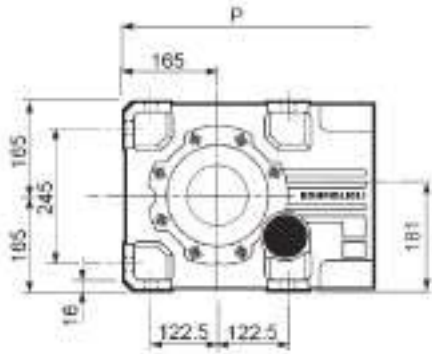
A 60...HS



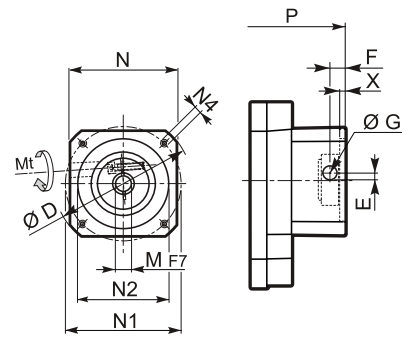
| | | A | B | E | F | F1 | F2 | F3 | F4 | V | |
|--------|----|-----|-----|----|----|----|----|-----|----|--------|-----|
| A 60 2 | HS | 633 | 408 | 60 | 28 | 31 | 8 | 5.0 | 50 | M10x22 | 106 |
| A 60 3 | | 633 | 408 | 60 | 28 | 31 | 8 | 5.0 | 50 | M10x22 | 106 |
| A 60 4 | | 676 | 461 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 112 |



A 60...SK / SC



SK...

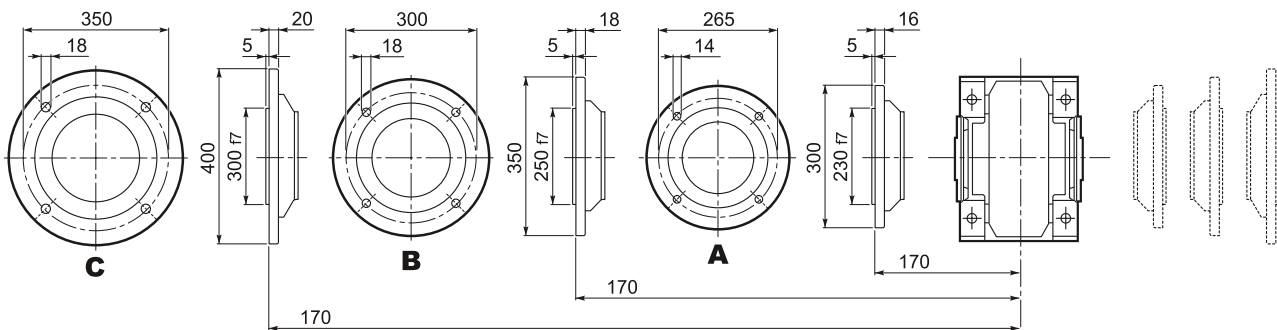


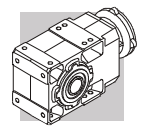
SC...

| | | D | M | M1 | M2 | N | N1 | N2 | N4 | X | P | | |
|------------|--------|-----|----|------|----|-----|-----|-----|--------|---|-------|-------|-----------|
| | | | | | | | | | | | 2/3x | 4x | |
| A 60 4 | SK80B | 120 | 14 | 16.3 | 5 | 96 | 100 | 80 | M6x12 | 4 | — | 606.5 | 89 |
| A 60 2/3/4 | SK80C | 120 | 19 | 21.8 | 6 | 96 | 100 | 80 | M6x12 | 4 | 536 | 606.5 | 93/93/92 |
| A 60 2/3/4 | SK95A | 130 | 14 | 16.3 | 5 | 102 | 115 | 95 | M8x12 | 4 | 536 | 606.5 | 93/93/92 |
| A 60 2/3/4 | SK95B | 130 | 19 | 21.8 | 6 | 102 | 115 | 95 | M8x12 | 4 | 536 | 606.5 | 93/93/92 |
| A 60 2/3/4 | SK95C | 130 | 24 | 27.3 | 8 | 102 | 115 | 95 | M8x12 | 4 | 536 | 606.5 | 93/93/92 |
| A 60 2/3/4 | SK110A | 140 | 19 | 21.8 | 6 | 120 | 130 | 110 | M8x12 | 5 | 536 | 606.5 | 93/93/92 |
| A 60 2/3/4 | SK110B | 140 | 24 | 27.3 | 8 | 120 | 130 | 110 | M8x12 | 5 | 536 | 606.5 | 93/93/92 |
| A 60 2/3/4 | SK130A | 188 | 24 | 27.3 | 8 | 142 | 165 | 130 | M10x20 | 5 | 536 | 606.5 | 97/97/103 |
| A 60 2/3 | SK130B | 189 | 32 | 35.3 | 10 | 160 | 165 | 130 | M10x20 | 5 | 582.5 | — | 102/102 |
| A 60 2/3 | SK180A | 240 | 32 | 35.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 582.5 | — | 102/102 |
| A 60 2/3 | SK180B | 240 | 38 | 41.3 | 10 | 192 | 215 | 180 | M12x19 | 5 | 582.5 | — | 102/102 |

| | | | Mt [Nm] | D | E | F | G | M | N | N1 | N2 | N4 | X | P | | |
|------------|--------|----|---------|-----|------|------|-------|----|-----|-----|-----|--------|---|-------|-----|-----------|
| | | | | | | | | | | | | | | 2/3x | 3x | |
| A 60 4 | SC80B | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 14 | 96 | 100 | 80 | M6x12 | 4 | — | 630 | 90 |
| A 60 2/3/4 | SC80C | M6 | 15 | 120 | 15.5 | 14.5 | 17.75 | 19 | 96 | 100 | 80 | M6x12 | 4 | 559.5 | 630 | 94/94/93 |
| A 60 2/3/4 | SC95A | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 14 | 102 | 115 | 95 | M8x16 | 4 | 559.5 | 630 | 94/94/93 |
| A 60 2/3/4 | SC95B | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 19 | 102 | 115 | 95 | M8x16 | 4 | 559.5 | 630 | 94/94/93 |
| A 60 2/3/4 | SC95C | M6 | 15 | 130 | 16.5 | 15 | 17.75 | 24 | 102 | 115 | 95 | M8x16 | 4 | 559.5 | 630 | 94/94/93 |
| A 60 2/3/4 | SC110A | M6 | 15 | 140 | 16.5 | 16 | 17.75 | 19 | 120 | 130 | 110 | M8x16 | 5 | 559.5 | 630 | 95/95/93 |
| A 60 2/3/4 | SC110B | M6 | 15 | 140 | 16.5 | 16 | 17.75 | 24 | 120 | 130 | 110 | M8x16 | 5 | 559.5 | 630 | 95/95/93 |
| A 60 2/3/4 | SC130A | M6 | 15 | 188 | 19 | 16 | 17.75 | 24 | 142 | 165 | 130 | M10x20 | 5 | 559.5 | 630 | 96/96/104 |
| A 60 2/3 | SC130B | M8 | 36 | 189 | 20 | 17 | 17.75 | 32 | 160 | 165 | 130 | M10x20 | 5 | 605.5 | — | 105/105 |
| A 60 2/3 | SC180A | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 32 | 192 | 215 | 180 | M12x24 | 5 | 609.5 | — | 105/105 |
| A 60 2/3 | SC180B | M8 | 36 | 240 | 20 | 17.5 | 17.75 | 38 | 192 | 215 | 180 | M12x24 | 5 | 609.5 | — | 105/105 |

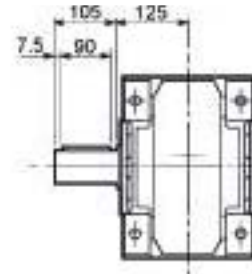
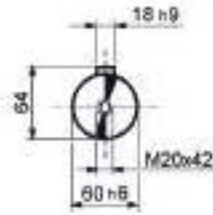
A 60...F...



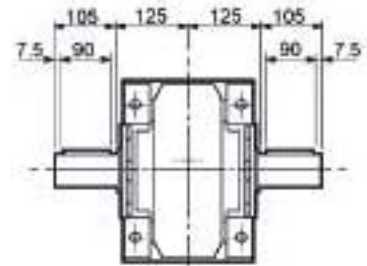
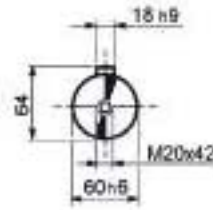


A 60

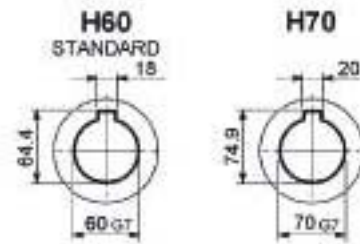
A 60...UR



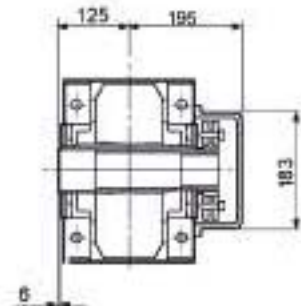
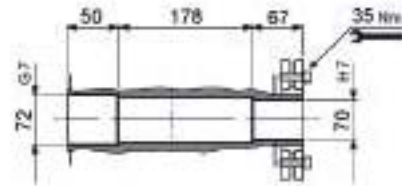
A 60...UD



A 60...UH

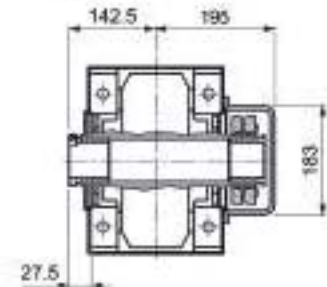
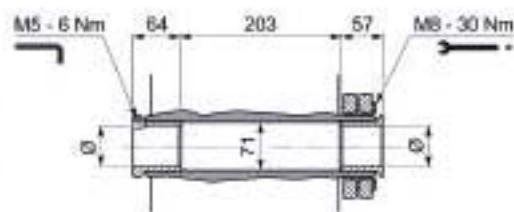


A 60...US



A 60...QF

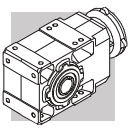
| | Q |
|------|----|
| QF60 | 60 |
| QF65 | 65 |
| QF70 | 70 |



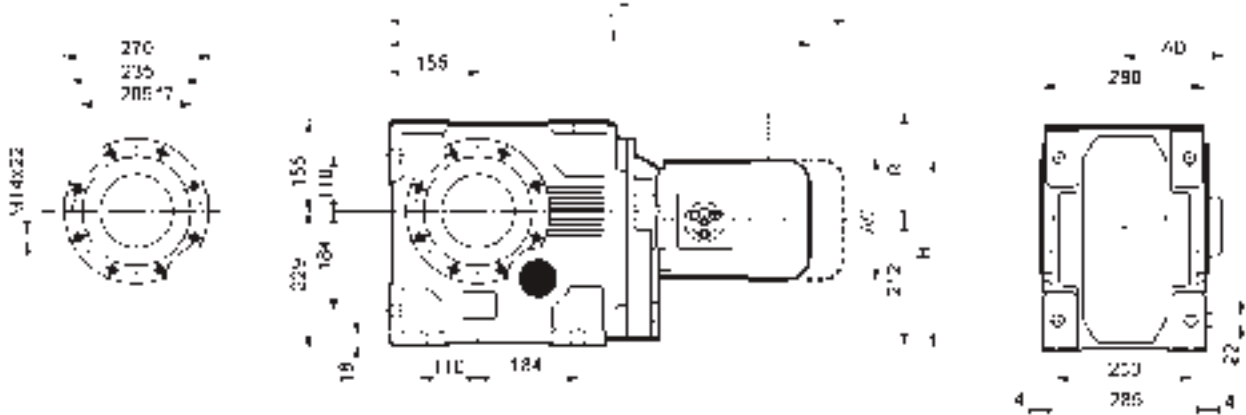
A 60...UV



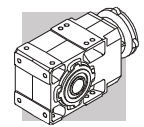
* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.



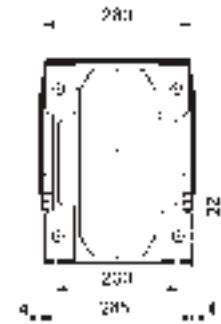
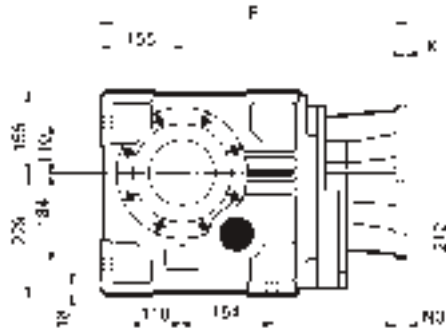
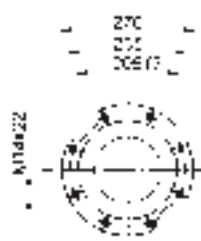
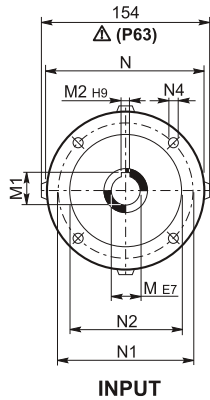
A 70...M/ME/MX




| | | | | | | | | | M...FD M...FA | | M...FD | | M...FA | |
|--------|----|-------|-------|-----|-------|-------|-----|-------|------------------|-------|--------|-----|--------|-----|
| | | | | AC | H | L | AD | | LF | | R | AD | R | AD |
| A 70 3 | S2 | ME2S | | 156 | 290 | 688.5 | 119 | 152 | 758.5 | 155.9 | 129 | 143 | 134 | 143 |
| A 70 3 | S2 | MX2S | | 156 | 290 | 732.5 | 119 | 157.1 | 804.5 | 163.1 | 129 | 143 | 134 | 143 |
| A 70 3 | S3 | ME3S | | 195 | 309.5 | 731.5 | 142 | 158.5 | 827.5 | 165.2 | 160 | 155 | 160 | 155 |
| A 70 3 | S3 | MX3S | | 195 | 309.5 | 763.5 | 142 | 161.5 | 853.5 | 170.2 | 160 | 155 | 160 | 155 |
| A 70 3 | S3 | ME3L | | 195 | 309.5 | 763.5 | 142 | 164 | 854.5 | 171.7 | 160 | 155 | 160 | 155 |
| A 70 3 | S3 | MX3L | | 195 | 309.5 | 807.5 | 142 | 170 | 899.5 | 179.2 | 160 | 155 | 160 | 155 |
| A 70 3 | S4 | ME4 | MX4 | 258 | 341 | 872.5 | 193 | 198 | 1012.5 | 211 | 204 | 210 | 200 | 210 |
| A 70 3 | S4 | ME4LB | MX4LA | 258 | 341 | 907.5 | 193 | 206 | 1006.5 | 223.2 | 226 | 210 | 217 | 210 |
| A 70 3 | S5 | ME5S | MX5S | 310 | 367 | 958 | 245 | 226 | 1098.5 | 283.2 | 266 | 245 | 247 | 245 |
| A 70 3 | S5 | ME5L | MX5L | 310 | 367 | 1002 | 245 | 242 | 1142.5 | 294.2 | 266 | 245 | 247 | 245 |
| A 70 4 | S1 | M1 | | 138 | 281 | 710.5 | 108 | 152 | 771.5 | 155 | 103 | 135 | 124 | 108 |
| A 70 4 | S1 | ME1 | | 138 | 281 | 710.5 | 108 | 152 | 771.5 | 155 | 103 | 135 | 124 | 135 |
| A 70 4 | S2 | ME2S | | 156 | 290 | 739.5 | 119 | 156 | 809.5 | 159.5 | 129 | 143 | 134 | 143 |
| A 70 4 | S2 | MX2S | | 156 | 290 | 783.5 | 119 | 161.1 | 855.5 | 166.7 | 129 | 143 | 134 | 143 |
| A 70 4 | S3 | ME3S | | 195 | 309.5 | 782.5 | 142 | 162.5 | 878.5 | 168.8 | 160 | 155 | 160 | 155 |
| A 70 4 | S3 | MX3S | | 195 | 309.5 | 814.5 | 142 | 165.5 | 904.5 | 173.8 | 160 | 155 | 160 | 155 |
| A 70 4 | S3 | ME3L | | 195 | 309.5 | 814.5 | 142 | 168 | 905.5 | 175.5 | 160 | 155 | 160 | 155 |
| A 70 4 | S3 | MX3L | | 195 | 309.5 | 858.5 | 142 | 174 | 950.5 | 182.8 | 160 | 155 | 160 | 155 |
| A 70 4 | S4 | ME4 | MX4 | 258 | 341 | 922.5 | 193 | 202 | 1031.5 | 215 | 204 | 210 | 200 | 210 |
| A 70 4 | S4 | ME4LB | MX4LA | 258 | 341 | 957.5 | 193 | 210 | 1056.5 | 226.8 | 226 | 210 | 217 | 210 |

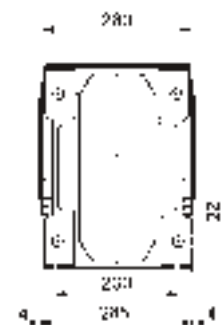
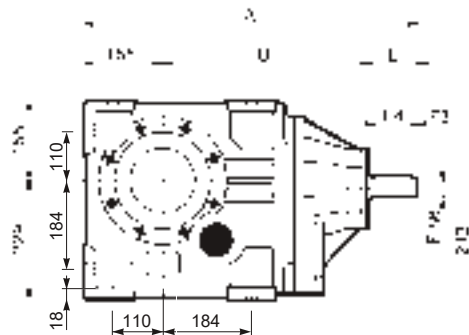
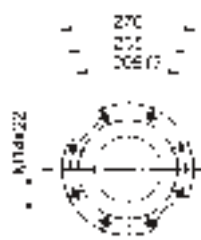
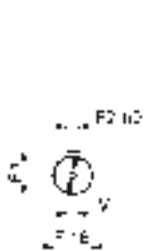



A 70...P (IEC)

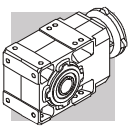


| | | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P |  |
|--------|------|----|------|----|-----|-----|-----|----|----------|-----|-------|---|
| A 70 3 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 524 | 144 |
| A 70 3 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 524 | 144 |
| A 70 3 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 534 | 146 |
| A 70 3 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 534 | 146 |
| A 70 3 | P132 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 570.5 | 154 |
| A 70 3 | P160 | 42 | 45.3 | 12 | 350 | 300 | 250 | 23 | 18 | 6 | 626 | 169 |
| A 70 3 | P180 | 48 | 51.8 | 14 | 350 | 300 | 250 | 23 | 18 | 6 | 626 | 169 |
| A 70 3 | P200 | 55 | 59.3 | 16 | 400 | 350 | 300 | — | M16x25 | 7 | 651 | 179 |
| A 70 4 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 555.5 | 146 |
| A 70 4 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 555.5 | 146 |
| A 70 4 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 575 | 147 |
| A 70 4 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 575 | 147 |
| A 70 4 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 585 | 148 |
| A 70 4 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 585 | 148 |
| A 70 4 | P132 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 618.5 | 157 |

A 70...HS

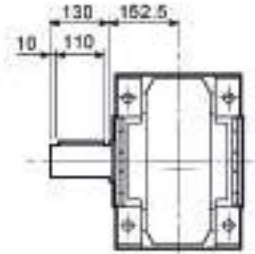


| | | A | B | E | F | F1 | F2 | F3 | F4 | V |  |
|--------|----|-------|-------|-----|----|----|----|-----|----|--------|---|
| A 70 3 | HS | 708.5 | 443.5 | 110 | 42 | 45 | 12 | 10 | 90 | M12x28 | 165 |
| A 70 4 | | 644.5 | 439.5 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 149 |

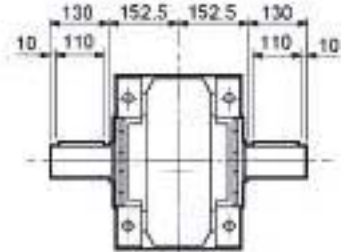
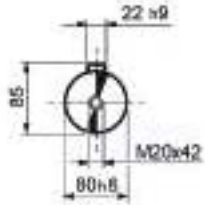


A 70

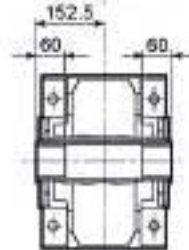
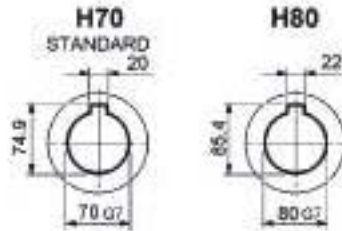
A 70...UR



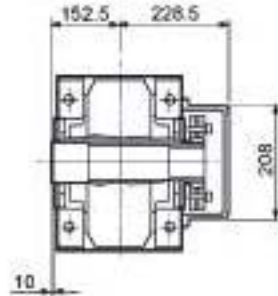
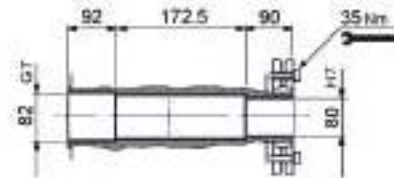
A 70...UD



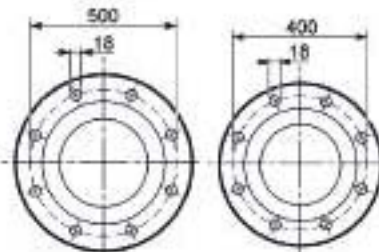
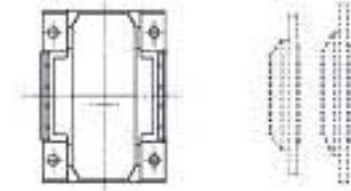
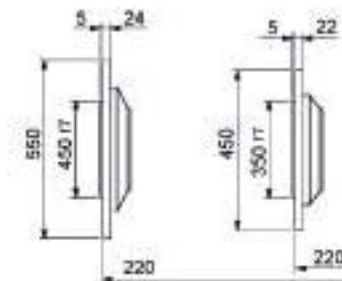
A 70...UH



A 70...US

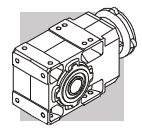


A 70...F...

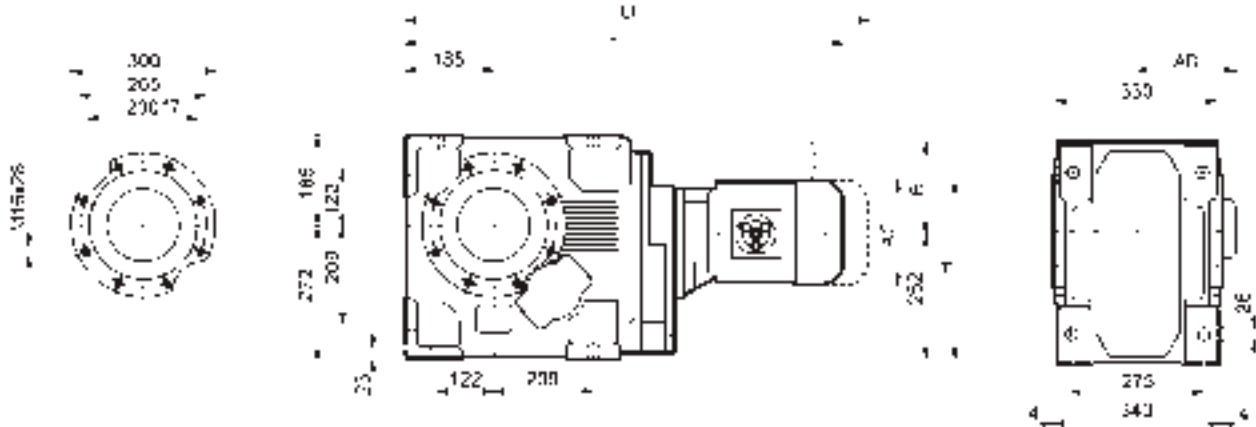


B

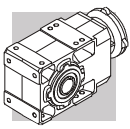
A



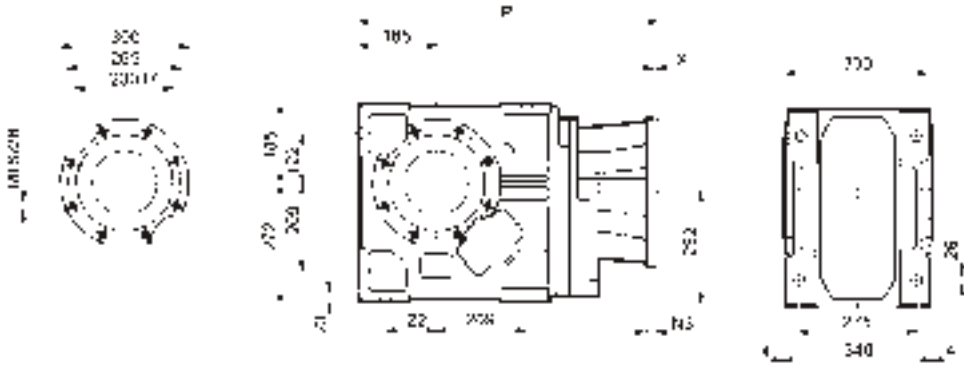
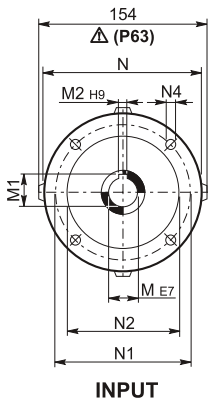
A 80...M/ME/MX




| | | | | | | | | | | M...FD M...FA | | M...FD | | M...FA | |
|--------|----|-------|-------|-----|-------|--------|-----|-------|--------|------------------|-----|--------|-----|--------|--|
| | | | | AC | H | L | AD | | LF | | R | AD | R | AD | |
| A 80 3 | S3 | ME3S | | 195 | 349.5 | 809.5 | 142 | 257.5 | 905.5 | 264 | 160 | 155 | 160 | 155 | |
| A 80 3 | S3 | MX3S | | 195 | 349.5 | 841.5 | 142 | 260.5 | 934.5 | 269 | 160 | 155 | 160 | 155 | |
| A 80 3 | S3 | ME3L | | 195 | 349.5 | 841.5 | 142 | 264 | 932.5 | 270.5 | 160 | 155 | 160 | 155 | |
| A 80 3 | S3 | MX3L | | 195 | 349.5 | 885.5 | 142 | 270 | 976.5 | 278 | 160 | 155 | 160 | 155 | |
| A 80 3 | S4 | ME4 | MX4 | 258 | 381 | 949.5 | 193 | 298 | 1058.5 | 311 | 204 | 210 | 200 | 210 | |
| A 80 3 | S4 | ME4LB | MX4LA | 258 | 381 | 984.5 | 193 | 306 | 1083.5 | 322 | 226 | 210 | 217 | 210 | |
| A 80 3 | S5 | ME5S | MX5S | 310 | 407 | 1036 | 245 | 326 | 1176.5 | 382 | 266 | 245 | 247 | 245 | |
| A 80 3 | S5 | ME5L | MX5L | 310 | 407 | 1080 | 245 | 342 | 1220.5 | 393 | 266 | 245 | 247 | 245= | |
| A 80 4 | S1 | M1 | | 138 | 321 | 800.5 | 108 | 246 | 861.5 | 249 | 103 | 135 | 124 | 108 | |
| A 80 4 | S1 | ME1 | | 138 | 321 | 800.5 | 108 | 246 | 851.5 | 249 | 103 | 135 | 124 | 135 | |
| A 80 4 | S2 | ME2S | | 156 | 330 | 829.5 | 119 | 250 | 946.5 | 253.7 | 129 | 143 | 134 | 143 | |
| A 80 4 | S2 | MX2S | | 156 | 330 | 873.5 | 119 | 255.1 | 992.5 | 260.9 | 129 | 143 | 134 | 143 | |
| A 80 4 | S3 | ME3S | | 195 | 349.5 | 872.5 | 142 | 256.5 | 1000.5 | 263 | 160 | 155 | 160 | 155 | |
| A 80 4 | S3 | MX3S | | 195 | 349.5 | 904.5 | 142 | 259.5 | 1029.5 | 268 | 160 | 155 | 160 | 155 | |
| A 80 4 | S3 | ME3L | | 195 | 349.5 | 904.5 | 142 | 262 | 1027.5 | 269.5 | 160 | 155 | 160 | 155 | |
| A 80 4 | S3 | MX3L | | 195 | 349.5 | 948.5 | 142 | 268 | 1071.5 | 277 | 160 | 155 | 160 | 155 | |
| A 80 4 | S4 | ME4 | MX4 | 258 | 381 | 1012.5 | 193 | 296 | 1144.5 | 309 | 204 | 210 | 200 | 210 | |
| A 80 4 | S4 | ME4LB | MX4LA | 258 | 381 | 1047.5 | 193 | 304 | 1169.5 | 321 | 226 | 210 | 217 | 210 | |

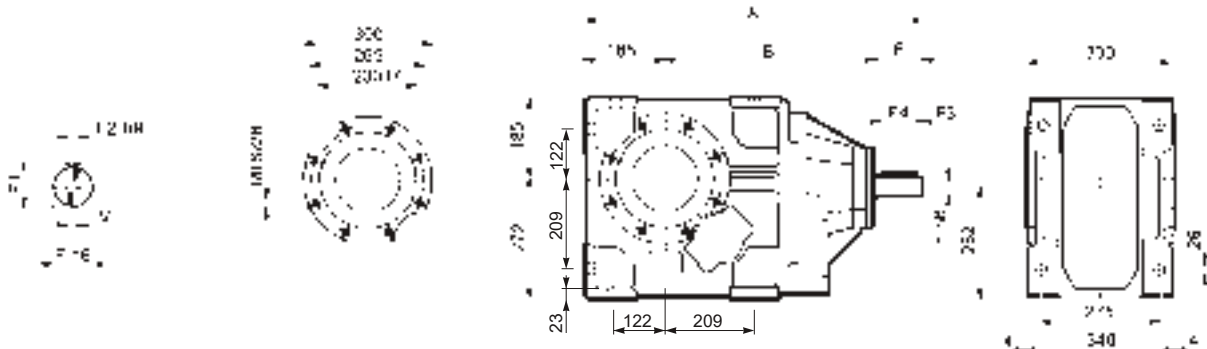



A 80...P(IEC)

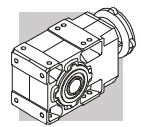


| | | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P |  |
|--------|------|----|------|----|-----|-----|-----|----|----------|-----|-------|---|
| A 80 3 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 602 | 243 |
| A 80 3 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 602 | 243 |
| A 80 3 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 612 | 245 |
| A 80 3 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 612 | 245 |
| A 80 3 | P132 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 648.5 | 253 |
| A 80 3 | P160 | 42 | 45.3 | 12 | 350 | 300 | 250 | 23 | 18 | 6 | 704 | 268 |
| A 80 3 | P180 | 48 | 51.8 | 14 | 350 | 300 | 250 | 23 | 18 | 6 | 704 | 268 |
| A 80 3 | P200 | 55 | 59.3 | 16 | 400 | 350 | 300 | — | M16x25 | 7 | 729 | 279 |
| A 80 3 | P225 | 60 | 64.4 | 18 | 450 | 400 | 350 | 25 | 18 | 6 | 774.5 | 298 |
| A 80 4 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 645.5 | 248 |
| A 80 4 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 645.5 | 248 |
| A 80 4 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 665 | 249 |
| A 80 4 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 665 | 249 |
| A 80 4 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 675 | 250 |
| A 80 4 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 675 | 250 |
| A 80 4 | P132 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | M12x16 | 5 | 711.5 | 259 |

A 80...HS

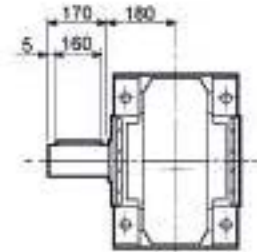
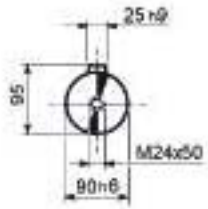


| | | A | B | E | F | F1 | F2 | F3 | F4 | V |  |
|--------|----|-------|-------|-----|----|----|----|-----|----|--------|---|
| A 80 3 | HS | 786.5 | 491.5 | 110 | 42 | 45 | 12 | 10 | 90 | M12x28 | 265 |
| A 80 4 | | 735 | 500 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 250 |

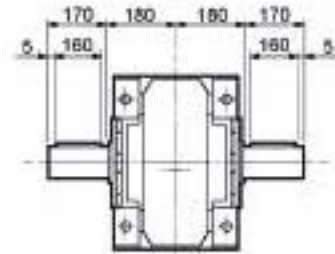


A 80

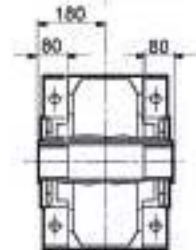
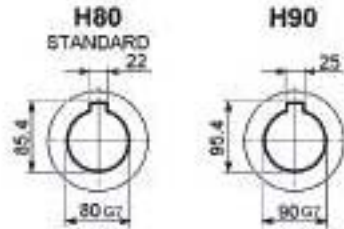
A 80...UR



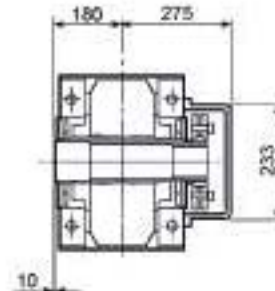
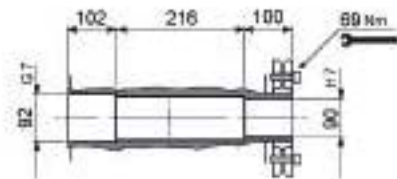
A 80...UD



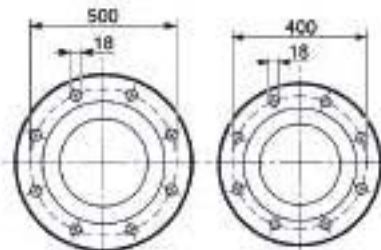
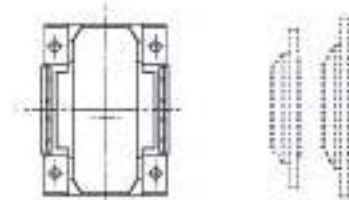
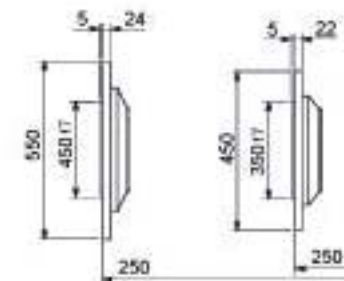
A 80...UH



A 80...US

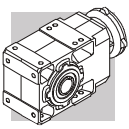


A 80...F...

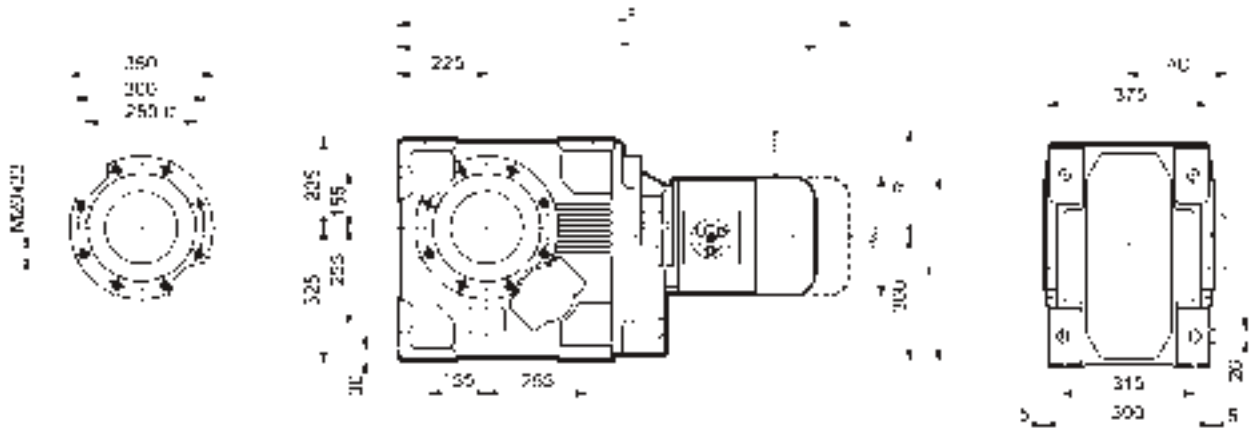


B

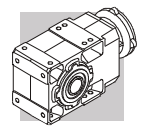
A



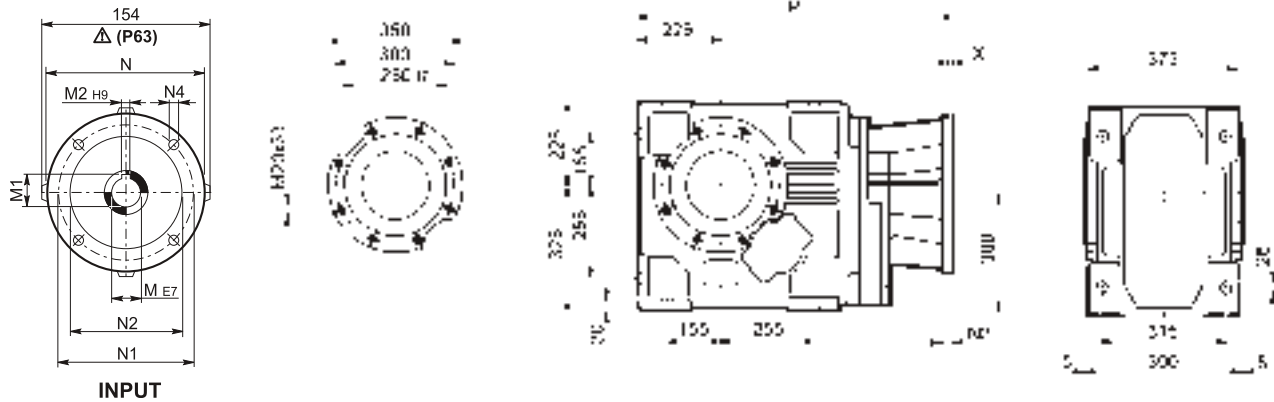
A 90...M/ME/MX




| | | | | AC | H | L | AD | | M...FD M...FA | | M...FD | | M...FA | |
|--------|----|-------|-------|-----|-------|--------|-----|-------|------------------|-------|--------|-----|--------|-----|
| | | | | | | | | | LF | | R | AD | R | AD |
| A 90 3 | S3 | ME3S | | 195 | 397.5 | 930.5 | 142 | 414.5 | 1026.5 | 420.5 | 160 | 155 | 160 | 155 |
| A 90 3 | S3 | MX3S | | 195 | 397.5 | 962.5 | 142 | 413.5 | 1055.5 | 420.5 | 160 | 155 | 160 | 155 |
| A 90 3 | S3 | ME3L | | 195 | 397.5 | 962.5 | 142 | 420 | 1053.5 | 426 | 160 | 155 | 160 | 155 |
| A 90 3 | S3 | MX3L | | 195 | 397.5 | 1006.5 | 142 | 426 | 1097.5 | 433 | 160 | 155 | 160 | 155 |
| A 90 3 | S4 | ME4 | MX4 | 258 | 429 | 1070.5 | 193 | 454 | 1179.5 | 467 | 204 | 210 | 200 | 210 |
| A 90 3 | S4 | ME4LB | MX4LA | 258 | 429 | 1105.5 | 193 | 462 | 1204.5 | 478 | 226 | 210 | 217 | 210 |
| A 90 3 | S5 | ME5S | MX5S | 310 | 455 | 1157 | 245 | 482 | 1297.5 | 532.5 | 266 | 245 | 247 | 245 |
| A 90 3 | S5 | ME5L | MX5L | 310 | 455 | 1201 | 245 | 498 | 1341.5 | 543.5 | 226 | 245 | 247 | 245 |
| A 90 4 | S1 | M1 | | 138 | 369 | 941.5 | 108 | 412 | 1002.5 | 414.7 | 103 | 135 | 124 | 108 |
| A 90 4 | S1 | ME1 | | 138 | 369 | 941.5 | 108 | 412 | 1002.5 | 414.7 | 103 | 135 | 124 | 135 |
| A 90 4 | S2 | ME2S | | 156 | 378 | 970.5 | 119 | 422 | 1055.5 | 423.6 | 129 | 143 | 134 | 143 |
| A 90 4 | S2 | MX2S | | 156 | 378 | 1014.5 | 119 | 427.1 | 1101.5 | 430.8 | 129 | 143 | 134 | 143 |
| A 90 4 | S3 | ME3S | | 195 | 397.5 | 1013.5 | 142 | 428.5 | 1109.5 | 434.5 | 160 | 155 | 160 | 155 |
| A 90 4 | S3 | MX3S | | 195 | 397.5 | 1045.5 | 142 | 431.5 | 1138.5 | 438.5 | 160 | 155 | 160 | 155 |
| A 90 4 | S3 | ME3L | | 195 | 397.5 | 1045.5 | 142 | 434 | 1136.5 | 440 | 160 | 155 | 160 | 155 |
| A 90 4 | S3 | MX3L | | 195 | 397.5 | 1089.5 | 142 | 440 | 1181.5 | 447 | 160 | 155 | 160 | 155 |
| A 90 4 | S4 | ME4 | MX4 | 258 | 429 | 1153.5 | 193 | 468 | 1262.5 | 481 | 204 | 210 | 200 | 210 |
| A 90 4 | S4 | ME4LB | MX4LA | 258 | 429 | 1188.5 | 193 | 476 | 1287.5 | 489 | 226 | 210 | 217 | 210 |

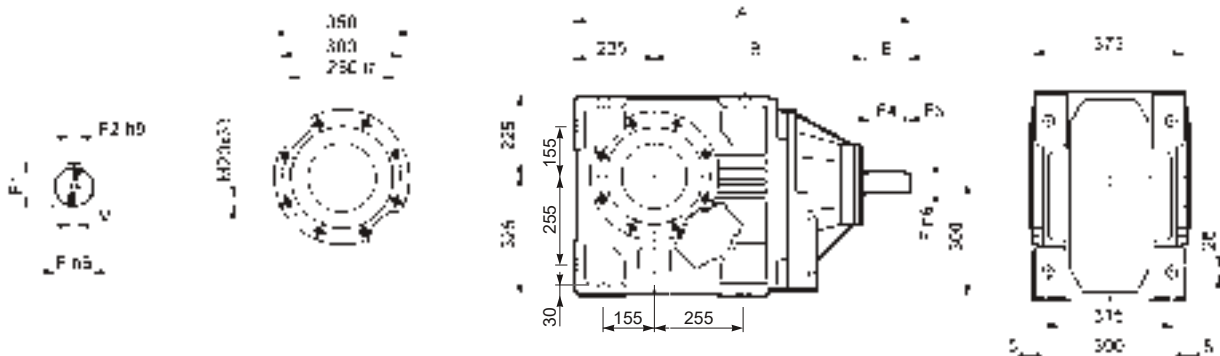



A 90...P (IEC)

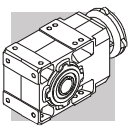


| | | M | M1 | M2 | N | N1 | N2 | N3 | N4 | X | P |  |
|--------|------|----|------|----|-----|-----|-----|----|----------|-----|-------|---|
| A 90 3 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 723 | 400 |
| A 90 3 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 723 | 400 |
| A 90 3 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 733 | 401 |
| A 90 3 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 733 | 401 |
| A 90 3 | P132 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 769.5 | 409 |
| A 90 3 | P160 | 42 | 45.3 | 12 | 350 | 300 | 250 | 23 | 18 | 6 | 825 | 428 |
| A 90 3 | P180 | 48 | 51.8 | 14 | 350 | 300 | 250 | 23 | 18 | 6 | 825 | 429 |
| A 90 3 | P200 | 55 | 59.3 | 16 | 400 | 350 | 300 | — | M16x25 | 7 | 850 | 436 |
| A 90 3 | P225 | 60 | 64.4 | 18 | 450 | 400 | 350 | 30 | 18 | 6 | 895.5 | 472 |
| A 90 3 | P250 | 65 | 69.4 | 18 | 550 | 500 | 450 | 30 | 18 | 6 | 925.5 | 475 |
| A 90 4 | P63 | 11 | 12.8 | 4 | 140 | 115 | 95 | — | M8x19 | 4 | 786.5 | 411 |
| A 90 4 | P71 | 14 | 16.3 | 5 | 160 | 130 | 110 | — | M8x16 | 4.5 | 786.5 | 412 |
| A 90 4 | P80 | 19 | 21.8 | 6 | 200 | 165 | 130 | — | M10x14.5 | 4 | 806 | 413 |
| A 90 4 | P90 | 24 | 27.3 | 8 | 200 | 165 | 130 | — | M10x14.5 | 4 | 806 | 413 |
| A 90 4 | P100 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 816 | 415 |
| A 90 4 | P112 | 28 | 31.3 | 8 | 250 | 215 | 180 | — | M12x16 | 4.5 | 816 | 415 |
| A 90 4 | P132 | 38 | 41.3 | 10 | 300 | 265 | 230 | 16 | 14 | 5 | 852.5 | 423 |
| A 90 4 | P160 | 42 | 45.3 | 12 | 350 | 300 | 250 | 23 | 18 | 5.5 | 903 | 434 |
| A 90 4 | P180 | 48 | 51.8 | 14 | 350 | 300 | 250 | 23 | 18 | 5.5 | 903 | 434 |

A 90...HS

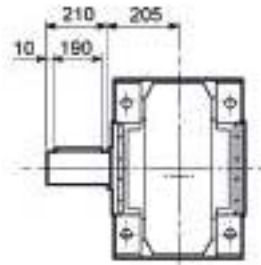
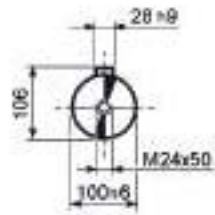


| | | A | B | E | F | F1 | F2 | F3 | F4 | V |  |
|--------|----|-------|-------|-----|----|----|----|-----|-----|--------|---|
| A 90 3 | HS | 1009 | 644 | 140 | 60 | 64 | 18 | 10 | 120 | M16x36 | 465 |
| A 90 4 | | 875.5 | 600.5 | 50 | 24 | 27 | 8 | 2.5 | 45 | M8x19 | 415 |

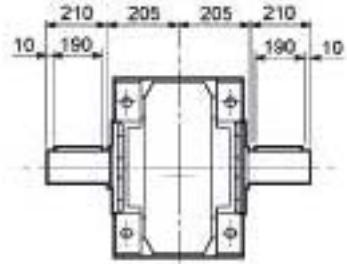
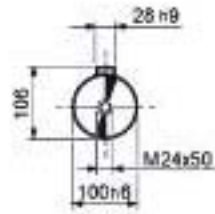


A 90

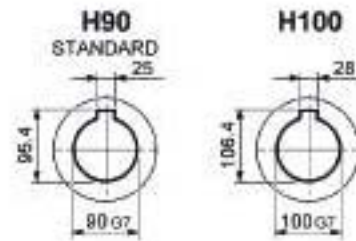
A 90...UR



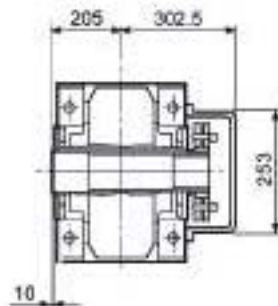
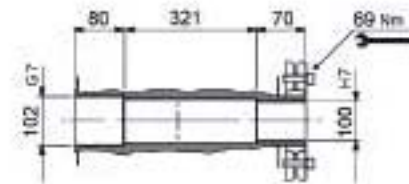
A 90...UD



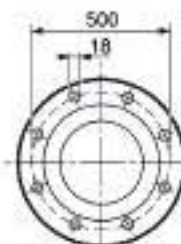
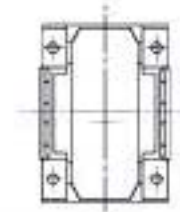
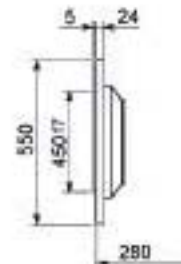
A 90...UH



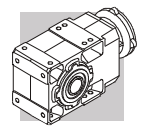
A 90...US



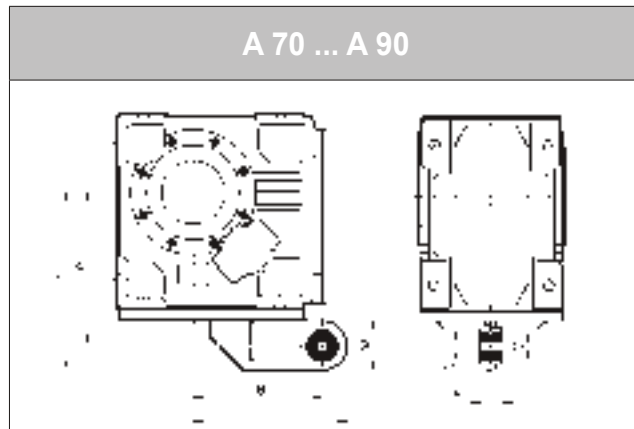
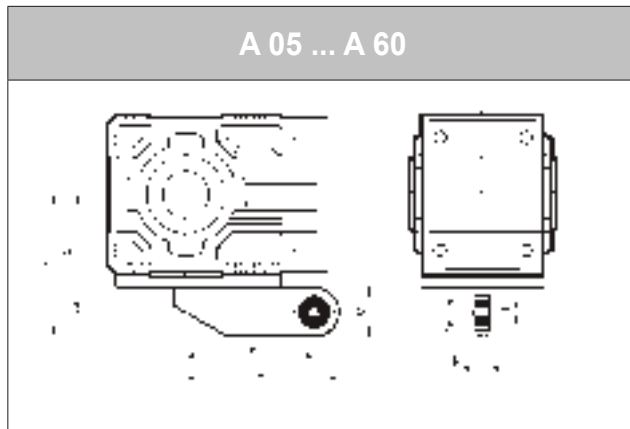
A 90...F...



A

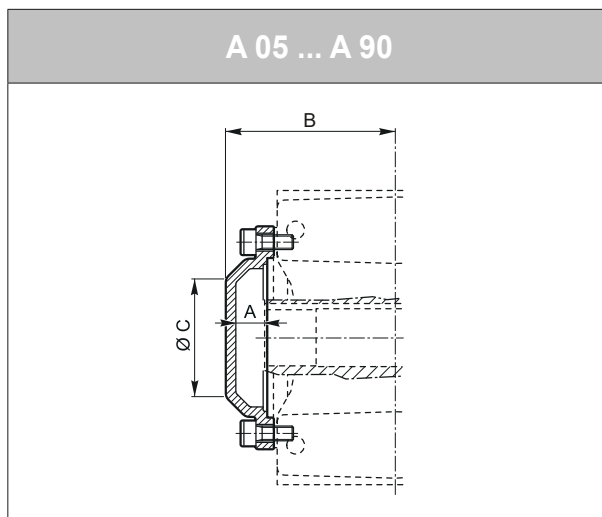


44 GEARBOXES DIMENSIONS WITH TORQUE ARM

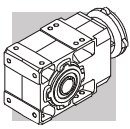


| | A | B | C | D | E | H | L | M |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|
| A05 | 90.5 | 80 | 10 | 30 | 20 | 115.5 | 105 | 50 |
| A10 | 108 | 118 | 10 | 30 | 20 | 138 | 148 | 60 |
| A20 | 118 | 137 | 10 | 30 | 20 | 148 | 167 | 60 |
| A30 | 135 | 150 | 20 | 40 | 25 | 170 | 185 | 70 |
| A35 | 145 | 165 | 20 | 40 | 25 | 180 | 200 | 70 |
| A41 | 157 | 200 | 20 | 40 | 25 | 192 | 235 | 70 |
| A50 | 200 | 250 | 32 | 56 | 40 | 245 | 295 | 90 |
| A55 | 200 | 250 | 32 | 56 | 40 | 245 | 295 | 90 |
| A60 | 225 | 300 | 32 | 56 | 40 | 270 | 345 | 90 |
| A70 | 289 | 250 | 32 | 56 | 40 | 334 | 295 | 90 |
| A80 | 357 | 300 | 42 | 78 | 60 | 422 | 365 | 130 |
| A90 | 410 | 350 | 42 | 78 | 60 | 475 | 415 | 130 |

45 GEARBOXES DIMENSIONS WITH PROTECTION CAP



| | A | Ø C | B |
|-------------|----------|------------|----------|
| A 05 | 17.5 | 36 | 73.5 |
| A 10 | 20.5 | 60 | 84.5 |
| A 20 | 20 | 75 | 94 |
| A 30 | 20 | 75 | 104 |
| A 35 | 19.5 | 80 | 114 |
| A 41 | 21 | 110 | 120 |
| A 50 | 26 | 100 | 148.5 |
| A 55 | 27 | 100 | 149 |
| A 60 | 25 | 100 | 158 |
| A 70 | 33.5 | 120 | 193.5 |
| A 80 | 38 | 140 | 228 |
| A 90 | 43 | 152 | 258 |

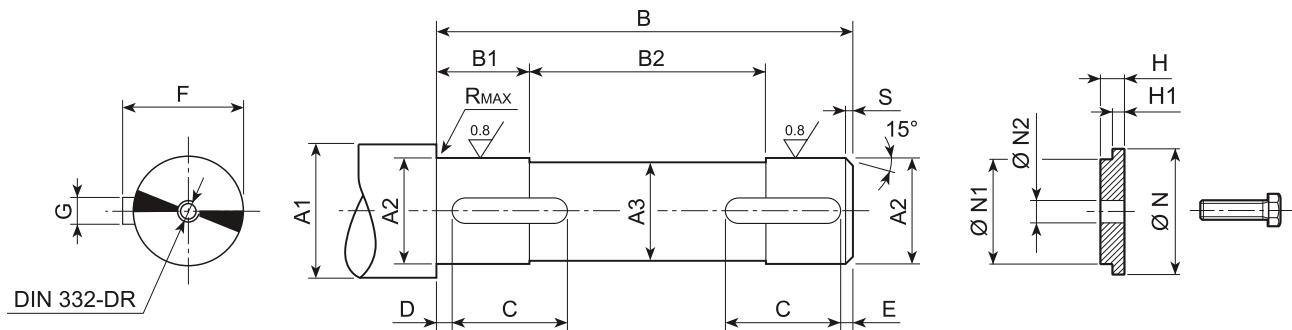


46 CUSTOMER' SHAFT

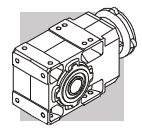
Make the driven shaft to be coupled to the gear unit's output shaft from a good quality steel, respecting the dimensions given in the table.

A device such as that illustrated below should also be installed to secure the shaft axially. Take care to verify and dimension the various components to suit the needs of the application.

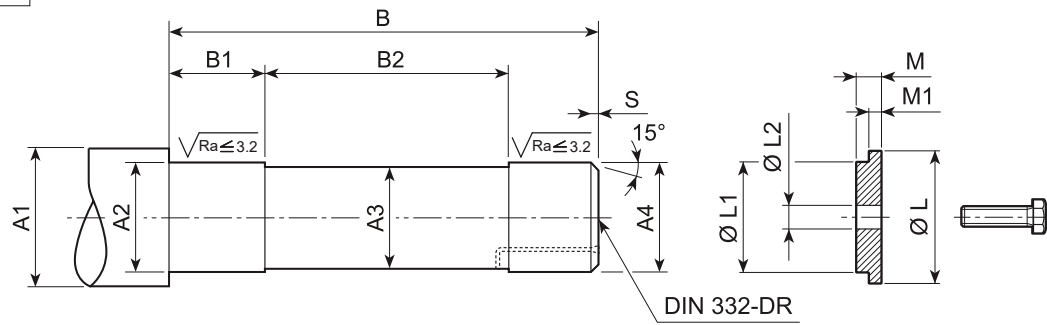
UH_




| | A1 | A2 | A3 | B | B1 | B2 | C | D | E | F | G | R | S | UNI 6604 | N | N1 | N2 | H | H1 | UNI 5739 |
|------------------|-------|--------|----|-----|------|-----|-----|-----|-----|------|-------|-----|-----|-------------|--------|--------|----|-----|------|----------|
| A05 UH25 | ≥ 30 | 25 h7 | 24 | 102 | 21 | 62 | 20 | 2 | 2 | 28 | 8 h9 | 0.5 | 1.5 | 8x7x20 A | 35 | 25 d9 | 9 | 7 | 5.5 | M8x25 |
| A10 UH30 | ≥ 35 | 30 h7 | 29 | 118 | 16 | 87 | 20 | 2 | 2 | 33 | 8 h9 | 0.5 | 1.5 | 8x7x20 A | 35 | 30 d9 | 11 | 8.5 | 7 | M10x30 |
| A10 UH25 | ≥ 30 | 25 h7 | 24 | 118 | 16 | 87 | 20 | 2 | 2 | 28 | 8 h9 | 0.5 | 1.5 | 8x7x20 A | 30+35 | 25 d9 | 9 | 7 | 5.5 | M8x25 |
| A20 UH35 | ≥ 42 | 35 h7 | 34 | 138 | 20 | 98 | 20 | 2 | 2 | 38 | 10 h9 | 0.5 | 1.5 | 10x8x20 A | 42 | 35 d9 | 11 | 8.5 | 7 | M10x30 |
| A20 UH30 | ≥ 35 | 30 h7 | 29 | 138 | 20 | 98 | 25 | 2 | 2 | 33 | 8 h9 | 0.5 | 1.5 | 8x7x25 A | 35+42 | 30 d9 | 11 | 8.5 | 7 | M10x30 |
| A30 UH40 | ≥ 47 | 40 h7 | 39 | 158 | 23 | 112 | 30 | 2 | 2 | 43 | 12 h9 | 0.5 | 1.5 | 12x8x30 A | 47 | 40 d9 | 14 | 8.5 | 7 | M12x35 |
| A30 UH35 | ≥ 42 | 35 h7 | 34 | 158 | 23 | 112 | 30 | 2 | 2 | 38 | 10 h9 | 0.5 | 1.5 | 10x8x30 A | 42+47 | 35 d9 | 11 | 8.5 | 7 | M10x30 |
| A35 UH40 | ≥ 47 | 40 h7 | 39 | 175 | 33 | 109 | 40 | 2 | 2 | 43 | 12 h9 | 1 | 1.5 | 12x8x40 A | 47 | 40 d9 | 14 | 8.5 | 7 | M12x35 |
| A35 UH35 | ≥ 42 | 35 h7 | 34 | 175 | 33 | 109 | 40 | 2 | 2 | 38 | 10 h9 | 1 | 1.5 | 10x8x40 A | 42+47 | 35 d9 | 11 | 8.5 | 7 | M10x30 |
| A41 UH45 | ≥ 52 | 45 h7 | 44 | 184 | 28 | 128 | 45 | 2.5 | 2.5 | 48.5 | 14 h9 | 1 | 2 | 14x9x45 A | 52 | 45 d9 | 14 | 8.5 | 7 | M12x35 |
| A41 UH40 | ≥ 47 | 40 h7 | 39 | 184 | 28 | 128 | 50 | 2.5 | 2.5 | 43 | 12 h9 | 1 | 2 | 12x8x50 A | 47+52 | 40 d9 | 14 | 8.5 | 7 | M12x35 |
| A50 UH55 | ≥ 63 | 55 h7 | 54 | 226 | 37.5 | 151 | 55 | 2.5 | 2.5 | 59 | 16 h9 | 1 | 2 | 16x10x55 A | 63 | 55 d9 | 22 | 10 | 8 | M20x50 |
| A50 UH50 | ≥ 57 | 50 h7 | 49 | 226 | 37.5 | 151 | 65 | 2.5 | 2.5 | 53.5 | 14 h9 | 1 | 2 | 14x9x65 A | 57+63 | 50 d9 | 18 | 10 | 8 | M16x45 |
| A55 UH60 | ≥ 70 | 60 h7 | 59 | 226 | 37.5 | 151 | 65 | 2.5 | 2.5 | 64 | 18 h9 | 2 | 2 | 18x11x65 A | 70 | 60 d9 | 22 | 10 | 8 | M20x50 |
| A55 UH50 | ≥ 60 | 50 h7 | 49 | 226 | 37.5 | 151 | 75 | 2.5 | 2.5 | 53.5 | 14 h9 | 2 | 2 | 14x9x75 A | 60+70 | 50 d9 | 18 | 10 | 8 | M16x45 |
| A60 UH70 | ≥ 78 | 70 h7 | 69 | 248 | 48 | 152 | 70 | 2.5 | 2.5 | 74.5 | 20 h9 | 2.5 | 2 | 20x12x70 A | 78 | 70 d9 | 22 | 10 | 8.5 | M20x50 |
| A60 UH60 | ≥ 68 | 60 h7 | 59 | 248 | 48 | 152 | 80 | 2.5 | 2.5 | 64 | 18 h9 | 2.5 | 2 | 18x11x80 A | 68+78 | 60 d9 | 22 | 10 | 8.5 | M20x50 |
| A70 UH80 | ≥ 89 | 80 h7 | 79 | 303 | 58 | 187 | 90 | 3 | 3 | 85 | 22 h9 | 2.5 | 2.5 | 22x14x90 A | 89 | 80 d9 | 22 | 10 | 8.5 | M20x50 |
| A70 UH70 | ≥ 78 | 70 h7 | 69 | 303 | 58 | 187 | 110 | 3 | 3 | 74.5 | 20 h9 | 2.5 | 2.5 | 20x12x110 A | 78+89 | 70 d9 | 22 | 10 | 8.5 | M20x50 |
| A80 UH90 | ≥ 99 | 90 h7 | 89 | 358 | 78 | 202 | 120 | 3 | 3 | 95 | 25 h9 | 2.5 | 2.5 | 25x14x120 A | 99 | 90 d9 | 26 | 22 | 20.5 | M24x70 |
| A80 UH80 | ≥ 89 | 80 h7 | 79 | 358 | 78 | 202 | 130 | 3 | 3 | 85 | 22 h9 | 2.5 | 2.5 | 22x14x130 A | 89+99 | 80 d9 | 22 | 10 | 8.5 | M20x50 |
| A90 UH100 | ≥ 111 | 100 h7 | 99 | 408 | 78 | 252 | 160 | 3 | 3 | 106 | 28 h9 | 2.5 | 2.5 | 28x16x160 A | 111 | 100 d9 | 26 | 22 | 20.5 | M24x70 |
| A90 UH90 | ≥ 99 | 90 h7 | 89 | 408 | 78 | 252 | 190 | 3 | 3 | 95 | 25 h9 | 2.5 | 2.5 | 25x14x190 A | 99+111 | 90 d9 | 26 | 22 | 20.5 | M24x70 |

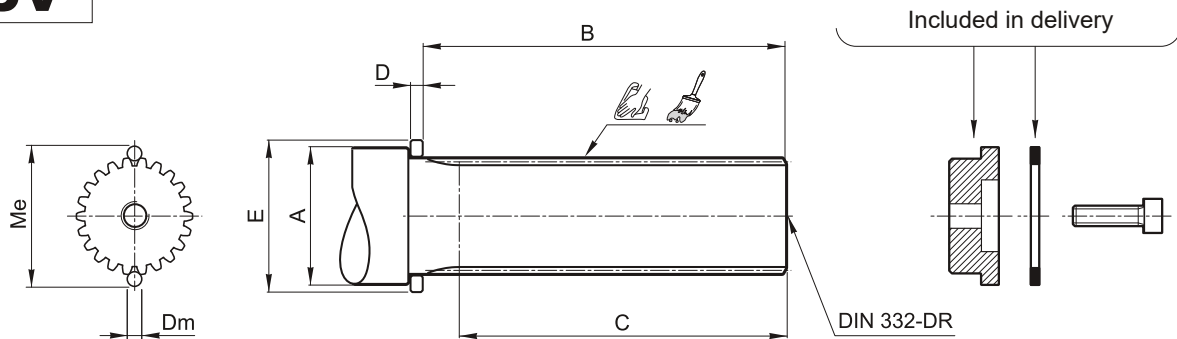




US

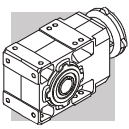


| | A1 | A2 | A3 | A4 | B | B1 | B2 | R | S | L | L1 | L2 | M | M1 |  UNI 5739 |
|-------------|-------|--------|----|--------|-------|-----|-------|-----|-----|------|--------|----|-----|------|---|
| A 05 | ≥ 35 | 27 h7 | 24 | 25 h6 | 129.5 | 32 | 63.5 | 0.5 | 1.5 | 29.5 | 25 d9 | 11 | 8.5 | 7 | M10x30 |
| A 10 | ≥ 42 | 32 h7 | 29 | 30 h6 | 147.5 | 34 | 77.5 | 0.5 | 1.5 | 35.5 | 30 d9 | 11 | 8.5 | 7 | M10x30 |
| A 20 | ≥ 48 | 37 h7 | 34 | 35 h6 | 170 | 40 | 89 | 0.5 | 1.5 | 43 | 35 d9 | 14 | 8.5 | 7 | M12x35 |
| A 30 | ≥ 54 | 42 h7 | 39 | 40 h6 | 191.5 | 48 | 95.5 | 0.5 | 1.5 | 49 | 40 d9 | 18 | 10 | 8.5 | M16x45 |
| A 35 | ≥ 54 | 42 h7 | 39 | 40 h6 | 208.5 | 48 | 112.5 | 0.5 | 1.5 | 49 | 40 d9 | 18 | 10 | 8.5 | M16x45 |
| A 41 | ≥ 60 | 47 h7 | 44 | 45 h6 | 222 | 53 | 117 | 1 | 2 | 54 | 45 d9 | 18 | 10 | 8.5 | M16x45 |
| A 50 | ≥ 72 | 57 h7 | 54 | 55 g6 | 264 | 46 | 156 | 1 | 2 | 72 | 55 d9 | 22 | 10 | 8.5 | M20x50 |
| A 55 | ≥ 72 | 62 h7 | 59 | 60 g6 | 266 | 46 | 158 | 2.5 | 2 | 72 | 60 d9 | 22 | 10 | 8.5 | M20x50 |
| A 60 | ≥ 90 | 72 h7 | 69 | 70 g6 | 293 | 48 | 178 | 2.5 | 2.5 | 85 | 70 d9 | 22 | 10 | 8.5 | M20x50 |
| A 70 | ≥ 104 | 82 h7 | 79 | 80 g6 | 352.5 | 90 | 172.5 | 2.5 | 2.5 | 95 | 80 d9 | 22 | 10 | 8.5 | M20x50 |
| A 80 | ≥ 114 | 92 h7 | 89 | 90 g6 | 416 | 100 | 216 | 2.5 | 2.5 | 105 | 90 d9 | 26 | 22 | 20.5 | M24x70 |
| A 90 | ≥ 126 | 102 h7 | 99 | 100 g6 | 469 | 78 | 321 | 2.5 | 2.5 | 120 | 100 d9 | 26 | 22 | 20.5 | M24x70 |

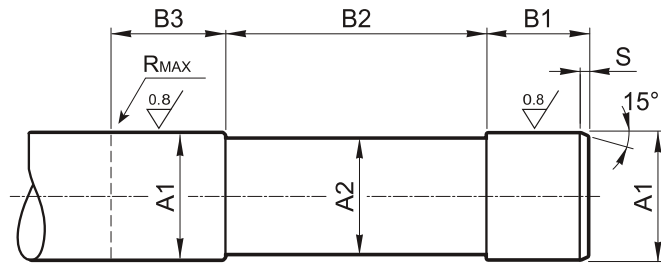
UV



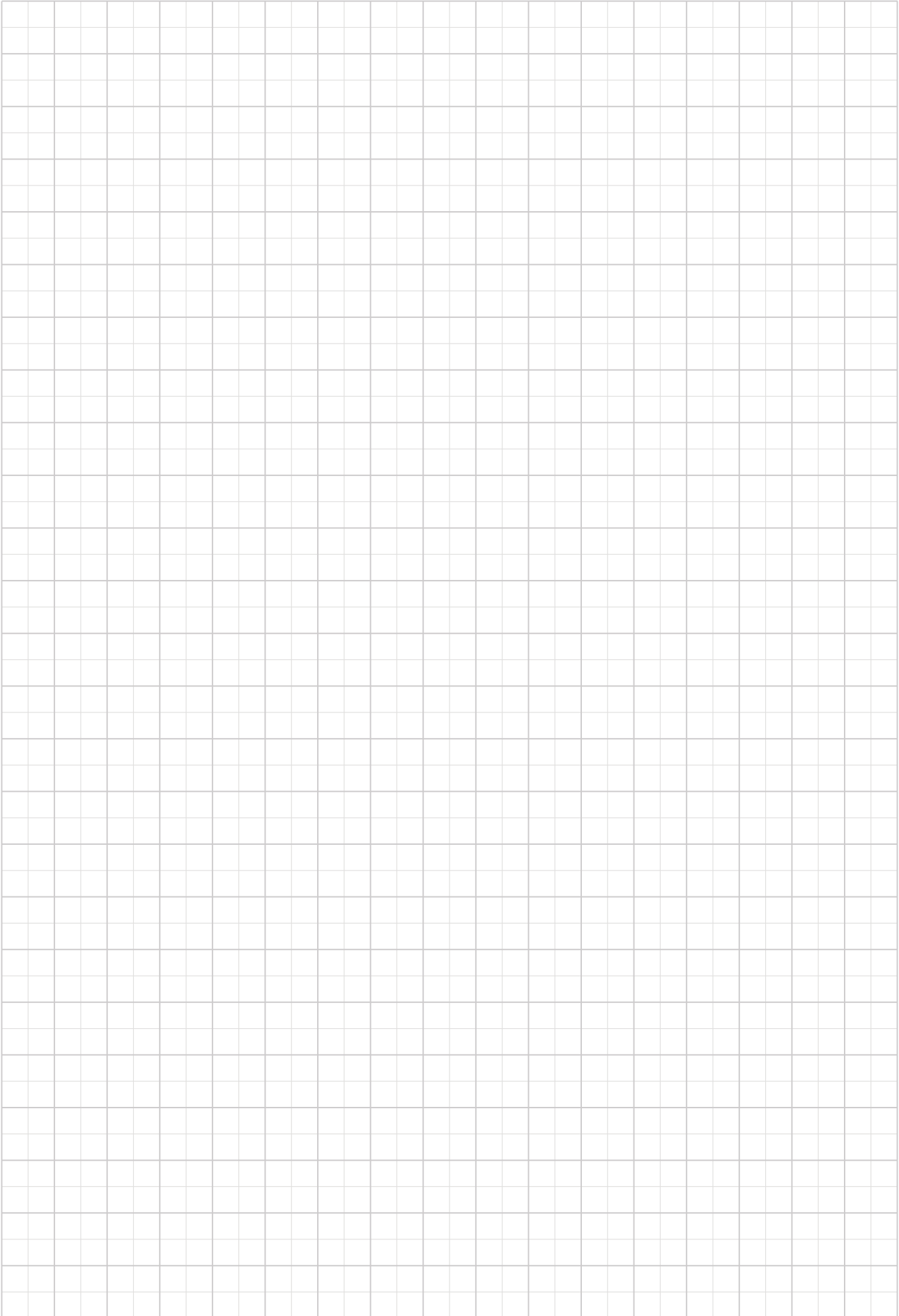
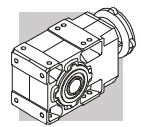
| |  DIN 5480 | Me | Dm | A | B | C | D | E |  ISO 4762 |
|-------------|---|-----------------|------|------|-------|-------|---|----|---|
| A 20 | 30x1.25x22 | 33.04 +0/-0.04 | 2.75 | ≥ 40 | 111.5 | ≥ 95 | 7 | 45 | M10x35 |
| A 30 | 35x2x16 | 38.93 +0/-0.04 | 4 | ≥ 45 | 130.5 | ≥ 112 | 7 | 50 | M12x40 |
| A 35 | 35x2x16 | 38.93 +0/-0.04 | 4 | ≥ 45 | 147.5 | ≥ 129 | 7 | 50 | M12x40 |
| A 41 | 45x2x21 | 48.86 +0/-0.04 | 4 | ≥ 55 | 155.5 | ≥ 136 | 7 | 60 | M16x45 |
| A 50 | 50x2x24 | 54.14 +0/-0.05 | 4 | ≥ 60 | 196 | ≥ 175 | 7 | 65 | M16x45 |
| A 55 | 50x2x24 | 54.14 +0/-0.05 | 4 | ≥ 60 | 196 | ≥ 175 | 7 | 65 | M16x45 |
| A 60 | 65x2x31 | 68.97 +0 /-0.05 | 4 | ≥ 75 | 213.5 | ≥ 191 | 7 | 80 | M20x55 |

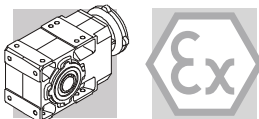


QF



| | | A1 | A2 | B1 | B2 | B3 | S |
|------|------|-------|----|----|-------|------|-----|
| A 10 | QF25 | 25 h6 | 24 | 41 | 95 | ≥ 50 | 1.5 |
| | QF30 | 30 h6 | 29 | | | | |
| A 20 | QF25 | 25 h6 | 24 | 41 | 115 | ≥ 50 | 1.5 |
| | QF30 | 30 h6 | 29 | | | | |
| A 30 | QF35 | 35 h6 | 34 | 45 | 130 | ≥ 54 | 1.5 |
| | QF40 | 40 h6 | 39 | | | | |
| A 35 | QF35 | 35 h6 | 34 | 45 | 146.5 | ≥ 54 | 1.5 |
| | QF40 | 40 h6 | 39 | | | | |
| A 41 | QF40 | 40 h6 | 39 | 47 | 151.5 | ≥ 56 | 2 |
| | QF45 | 45 h6 | 44 | | | | |
| A 50 | QF50 | 50 h6 | 49 | 48 | 197 | ≥ 57 | 2 |
| | QF55 | 55 h6 | 54 | | | | |
| A 55 | QF55 | 55 h6 | 54 | 50 | 190 | ≥ 59 | 2 |
| | QF60 | 60 h6 | 59 | | | | |
| A 60 | QF60 | 60 h6 | 59 | 57 | 203 | ≥ 66 | 2.5 |
| | QF65 | 65 h6 | 64 | | | | |
| | QF70 | 70 h6 | 69 | | | | |





HELICAL BEVEL GEAR UNITS SERIES A ATEX CONFIGURATION

47 INTRODUCTION TO THE ATEX DIRECTIVES

47.1 Explosive atmosphere

An **explosive atmosphere** for the purposes of Directive 2014/34/EU is defined as a mixture:

- a. of **flammable substances**, in the form of gases, vapours, mists or dusts;
- b. with **air**;
- c. under atmospheric conditions;
- d. in which, after ignition, the combustion spreads to the entire unburned mixture (it has to be noted that sometimes, mainly with dust, not always the whole quantity of the combustible material is consumed by the combustion).

An atmosphere, which could become explosive due to local and/or operational conditions is called a **potentially explosive atmosphere**.

It is only in this kind of potentially explosive atmosphere which products falling under the Directive 2014/34/EU are designed for.

47.2 European harmonised atex standards

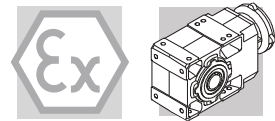
Directive 2014/34/EU stipulates the minimum safety requirements for products intended for use in explosion risk areas within the member countries of the European Union. The directive also assigns such equipment to **categories**, which are defined by the directive itself.

The following table describes the **zones** into which the user of a plant, in which an explosive atmosphere may occur, is required to divide the equipment application areas.

(C 1)

| Zones | | Formation frequency of a potentially xplosive atmosphere | Type of danger |
|-------------------------|-----------------------|---|----------------|
| Gaseous atmosphere G | Dusty atmosphere D | | |
| 0 | 20 | Present continuously or for long periods | Permanent |
| 1 | 21 | Likely to occur in normal operation occasionally | Potential |
| 2 | 22 | Not likely to occur in normal operation but if it does occur will persist for short period only | Minimal |

BONFIGLIOLI RIDUTTORI gear units selected from this catalog are marked for installation in zones 1, 21, highlighted in light gray in the above diagram and are also suitable for installation in areas with a lower level of protection (zones 2 and 22).



As from 20 April 2016 the ATEX directive 2014/34/EU come into force throughout the entire European Union, and replace existing conflicting national and European laws on explosive atmospheres and the previous directive 94/9/EC.

It should be emphasised that, for the first time, the directives also govern mechanical, hydraulic and pneumatic equipment, and not only electrical equipment as has been the case so far.

With regard to the Machinery Directive 2006/42/EC it should be noted that directive 2014/34/EU is a set of extremely specific requirements dedicated to the dangers deriving from potentially explosive atmospheres, whereas the Machinery Directive contains only very general explosion safety requirements (Annex I).

Consequently, as regards protection against explosion in potentially explosive atmospheres, Directive 2014/34/EU takes precedence over the Machinery Directive.

The requirements of the Machinery Directive apply to all other risks regarding machinery.

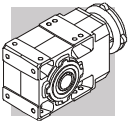
47.3 Levels of protection for the various categories of equipment

The various categories of equipment must be able to operate in conformity with the Manufacturer's operational specifications, at certain defined levels of protection.

The availability of BONFIGLIOLI RIDUTTORI products is highlighted in grey.

(C 2)

| Protection level | Category | | Type of protection | Operating conditions |
|------------------|----------|----------|--|---|
| | Group I | Group II | | |
| Very high | M1 | | Two independent means of protection or safety capable of operating even when two independent faults occur. | The equipment remains powered and operational even in the presence of an explosive atmosphere. |
| Very high | | 1 | Two independent means of protection or safety capable of operating even when two independent faults occur. | The equipment remains powered and operational in zones 0, 1, 2 (G) and/or zones 20, 21, 22 (D). |
| High | M2 | | Protection suitable for normal operation and heavy duty conditions. | Power to the equipment is shut off in the presence of a potentially explosive atmosphere. |
| High | | 2 | Protection suitable for normal operation and frequent faults or equipment in which malfunction is normal. | The equipment remains powered and operational in zones 1, 2 (G) and/or zones 21, 22 (D). |
| Normal | | 3 | Protection suitable for normal operation. | The equipment remains powered and operational in zones 2 (G) and/or zones 22 (D). |



47.4 Definition of groups

Group I Applies to equipment intended for use underground in parts of mines and those parts of surface installations of such mines, liable to be endangered by fire damp and/or combustible dust.

Group II Applies to equipment intended for use in other places liable to be endangered by explosive atmospheres.

BONFIGLIOLI RIDUTTORI products may not therefore be installed in mines, classified in **Group I** and in **Group II**, category 1.

To summarise, the classification of equipment in to groups, categories and zones is illustrated in the table below, where by the availability of BONFIGLIOLI RIDUTTORI products is highlighted in grey.

(C 3)

| Group | I | | II | | | | | |
|------------------------------|-----------------|----|---|----|---------|---------|---------|---------|
| | Mines, firedamp | | Other potentially explosive areas (gas, dust) | | | | | |
| Category | M1 | M2 | 1 | | 2 | | 3 | |
| Atmosphere ⁽¹⁾ | | | G | D | G | D | G | D |
| Zone | | | 0 | 20 | 1 | 21 | 2 | 22 |
| Type of protection gear unit | | | | | Ex h Gb | Ex h Db | Ex h Gc | Ex h Dc |

⁽¹⁾ G = gas D = dust

The products described here in conform to the minimum safety requirements of European Directive 2014/34/EU, which is part of the directives known as ATEX (ATmosphères EXplosibles).

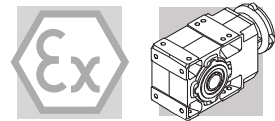
47.5 Declaration of conformity

The Declaration of Conformity, is the document which attests to the conformity of the product to Directive 2014/34/EU.

The validity of the Declaration is bound to observance of the instructions given in the User, Installation and Service Manual for safe use of the product throughout its service life.

This can be downloaded from www.bonfiglioli.com where the manual is available in PDF format in a number of languages.

The instructions regarding ambient conditions are of particular importance inasmuch as failure to observe them during operation of the product renders the certificate null and void. In case of doubt regarding the validity of the certificate of conformity, contact the BONFIGLIOLI RIDUTTORI technical department.



48 SELECTION

In order to perform a correct selection of a gearbox or gear unit with IEC motor interface in ATEX version, it is mandatory to check the gearbox with mechanical verification (adopting specific service factor named f_{ATEX}) and a thermal verification.

48.1 Mechanical Verification

Starting from the nominal output torque M_{n2} valid for input speed $n_1 = 1400 \text{ min}^{-1}$, apply the following service factor:

For HS configuration, refer to the nominal output torque M_{n2} valid for input speed $n_1 = 1400 \text{ min}^{-1}$ and apply $f_{ATEX} = 1.25$, except the configuration listed in the following table where $f_{ATEX} = 1.4$

| SIZE | N° of stage | Gear ratio |
|------|-------------|-------------------------|
| A 10 | 2 | $10.6 \leq i \leq 32.2$ |
| A 30 | 2 | $10.5 \leq i \leq 66$ |
| A 35 | 2 | $13.1 \leq i \leq 82.5$ |
| A 41 | 2 | $13.8 \leq i \leq 79.2$ |

As consequence, $M_2 ATEX = M_{n2} / f_{ATEX}$

For IEC configuration, select only gearmotor that has got service factor ≥ 1.4

In case of input speed higher than 1400 min^{-1} , please refer to Bonfiglioli Technical Service

Permissible radial load on input shaft: $R_1 ATEX = R_{n1} / 1.5$

Permissible radial load on output shaft: $R_2 ATEX = R_{n2}$

48.2 Thermal Verification (valid also for standard selection)

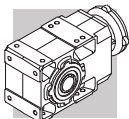
Total thermal power P_t can be calculated using the following formula:

$$P_t = P_{tB} \times f_{Ta} \times f_{ratio} \times f_{POS} \times f_{INT} \times f_{AIR}$$

Base thermal capacities values P_{tB} , are listed in the following table and valid in the following operating conditions:

- Mounting position B3
- Input speed 1400 min^{-1} and 2800 min^{-1}
- Ambient temperature 20°C
- Confined space (air velocity $\leq 1.4 \text{ m/s}$)
- Altitude $\leq 1000 \text{ m}$.

| $P_{tB} \text{ [kW] @ } T_a 20^\circ\text{C}$ | | |
|---|-------------------------------|-------------------------------|
| | $n_1 = 1400 \text{ min}^{-1}$ | $n_1 = 2800 \text{ min}^{-1}$ |
| A 05 | 2.0 | 1.5 |
| A 10 | 2.1 | 1.5 |
| A 20 | 6.0 | 5.4 |
| A 30 | 8.0 | 6.6 |
| A 35 | 9.5 | 8.2 |



| | | |
|-------------|------|-----|
| A 41 | 11.5 | 9.6 |
| A 50 | 20 | 18 |
| A 55 | 21 | 18 |
| A 60 | 27 | 23 |
| A 70 | 31 | 24 |
| A 80 | 44 | 33 |
| A 90 | 64 | 48 |

f_{Ta} = factor for ambient temperature

| T_{amb} | f_{Ta} |
|-----------|----------|
| 20 | 1.0 |
| 30 | 0.88 |
| 40 | 0.76 |

f_{ratio} = factor for gear ratio

| SIZE | f_{ratio} | |
|-----------|--------------------|--------------------|
| | A05 - A60 | 0.8 se $i \leq 17$ |
| A70 - A90 | 0.8 se $i \leq 13$ | 1 se $i > 13$ |

f_{pos} = factor for mounting position

| Mounting Position | f_{pos} |
|-------------------|-----------|
| B3 | 1.00 |
| B8 | 1.00 |
| B6 | 0.9 |
| B7 | 0.9 |
| VA | 0.8 |
| VB | 0.8 |

f_{INT} = factor for intermittent duty

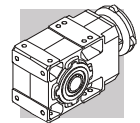
| Degree of duty % | f_{INT} |
|------------------|-----------|
| 100 | 1.00 |
| 80 | 1.05 |
| 70 | 1.15 |
| 40 | 1.35 |
| 20 | 1.80 |

f_{AIR} = factor for ambient type

| Ambient air velocity [m/s] | f_{AIR} |
|---|-----------|
| Air velocity ≤ 0.5 m/s, small indoor space | 0.75 |
| Air velocity ≤ 1.4 m/s, large indoor space | 1.00 |

Please refer to Bonfiglioli Technical Service for specific configuration or application data different from the standard.

The condition to be verified is: $Pr1 \leq Pt$



49 INSTALLATION, USE AND MAINTENANCE



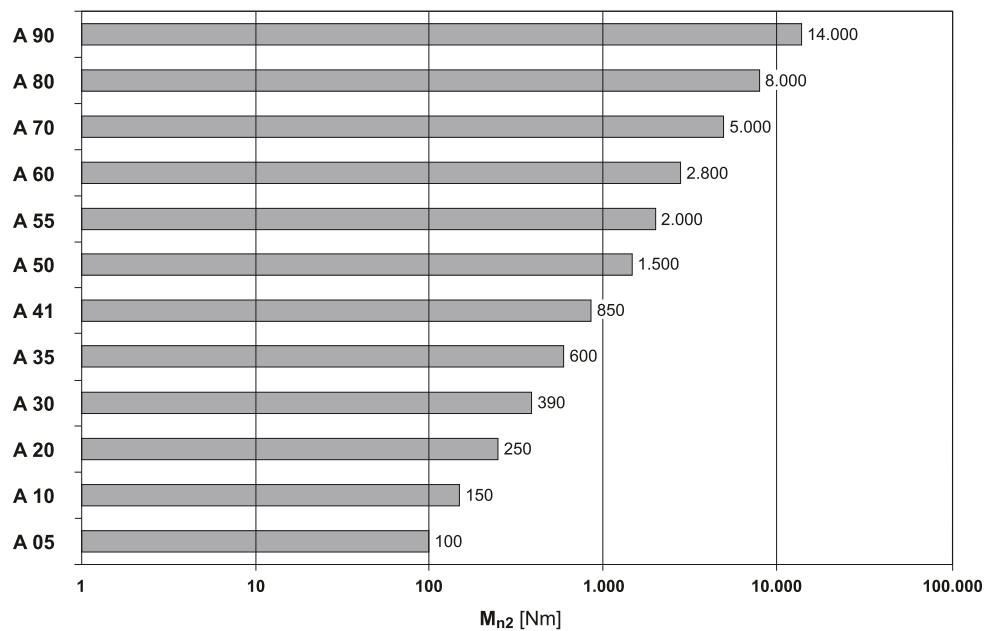
All the instructions for installation, use and maintenance of the product are given in the unit's Manual. This can be downloaded from www.bonfiglioli.com where the manual is available in PDF format in a number of languages.

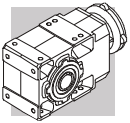
This document must be kept in a suitable place, in the vicinity of the installed gear unit, as a reference for all persons authorised to work with or on the product throughout its service life.

50 CONSTRUCTION OF ATEX-SPECIFIED EQUIPMENT

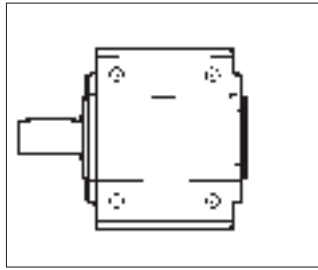
- Equipped with service plugs for periodic lubricant level checks.
- Equipped with vent caps with anti-intrusion valve.
- Factory-charged with lubricant (synthetic oil), depending on the mounting position specified in the order.
- Fluoro elastomer seal rings as standard.
- No plastic component parts..
- Nameplate indication of the product category and type of protection.
- Components operable at above the operating temperature.
- Temperature indicator supplied along with each unit.

(C 4)





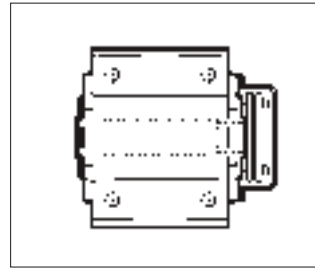
51 VERSIONS



UR

**Single extension
output shaft**

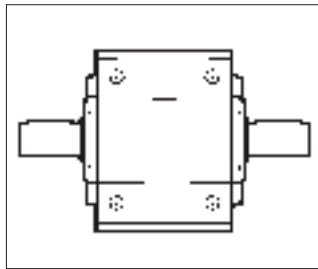
A 10 ... A 90



US

**Hollow output shaft
and shrink disc**

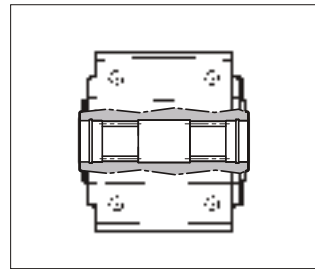
A 05 ... A 90



UD

**Double extended
output shaft**

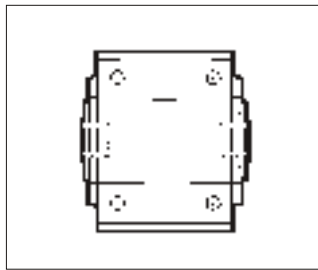
A 10 ... A 90



UV

**Splined hollow
shaft DIN 5480**

A 20 ... A 60



UH

**Hollow output shaft
and keyway**

A 05 ... A 90

Basic versions with bolted flange

The sketches show the applicable flanges to the basic versions and their positions, designated with either ① or ②.

UR F1...

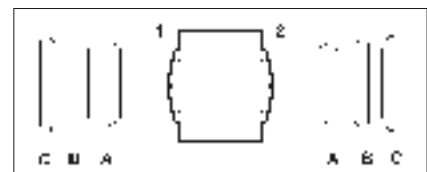
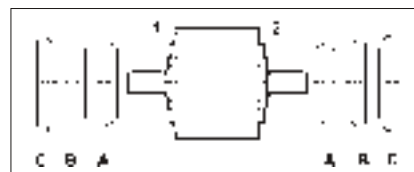
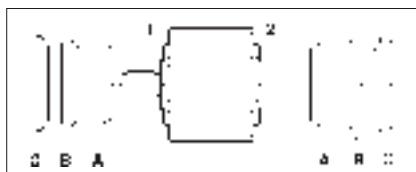
UR F2...

UD F1...

UD F2...

UH... F1...

UH... F2...

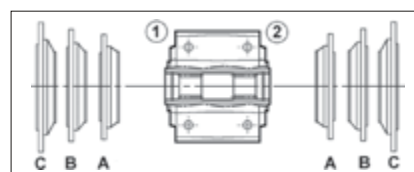
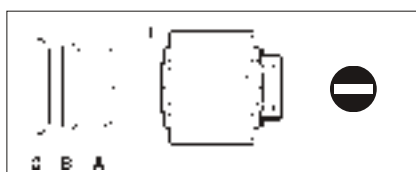


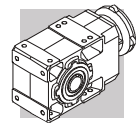
US F1...

US F2...

UV F1...

UV F2...





52 DESIGNATION

GEAR UNIT

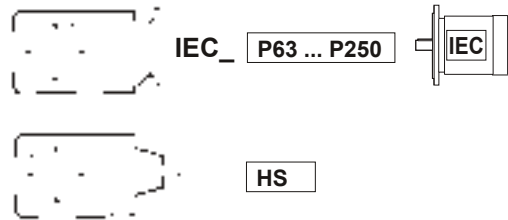
A 50 3 UH50 F1A 99.5 P90 B3 EX

OPTIONS

MOUNTING POSITION

B3 (Standard), **B6, B7, B8, VA, VB**

INPUT CONFIGURATION

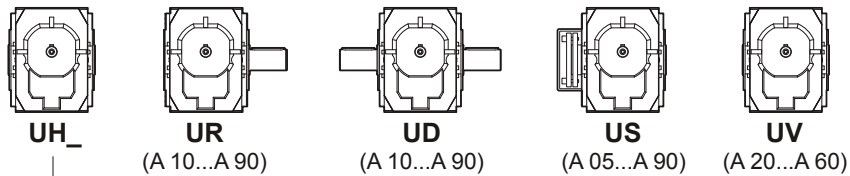


GEAR RATIO

OUTPUT FLANGE SIZE AND POSITION
(specify only if requested)

F = Flanged version
1, 2 = Flange position
A, B, C = Flange size

VERSION



| A 05 | A 10 | A 20 | A 30 | A 35 | A 41 | A 50 | A 55 | A 60 | A 70 | A 80 | A 90 |
|------|------|------|------|------|------|------|------|------|------|------|-------|
| UH25 | UH25 | UH30 | UH35 | UH40 | UH45 | UH50 | UH60 | UH60 | UH70 | UH80 | UH90 |
| — | UH30 | UH35 | UH40 | UH35 | UH40 | UH55 | UH50 | UH70 | UH80 | UH90 | UH100 |

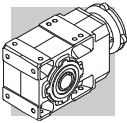
REDUCTIONS

2 (A 05...A 60), **3** (A 20...A 90), **4** (A 50...A 90)

GEAR FRAME SIZE

05, 10, 20, 30, 35, 41, 50, 55, 60, 70, 80, 90

TYPE: **A** = Helical bevel gear units



Gearbox options

EX

The gear unit can be installed in zones 1 and 21 (categories 2G and 2D).
The temperature class is T4 (max. 135 °C).

CERTIFICATES

AC - Certificate of compliance

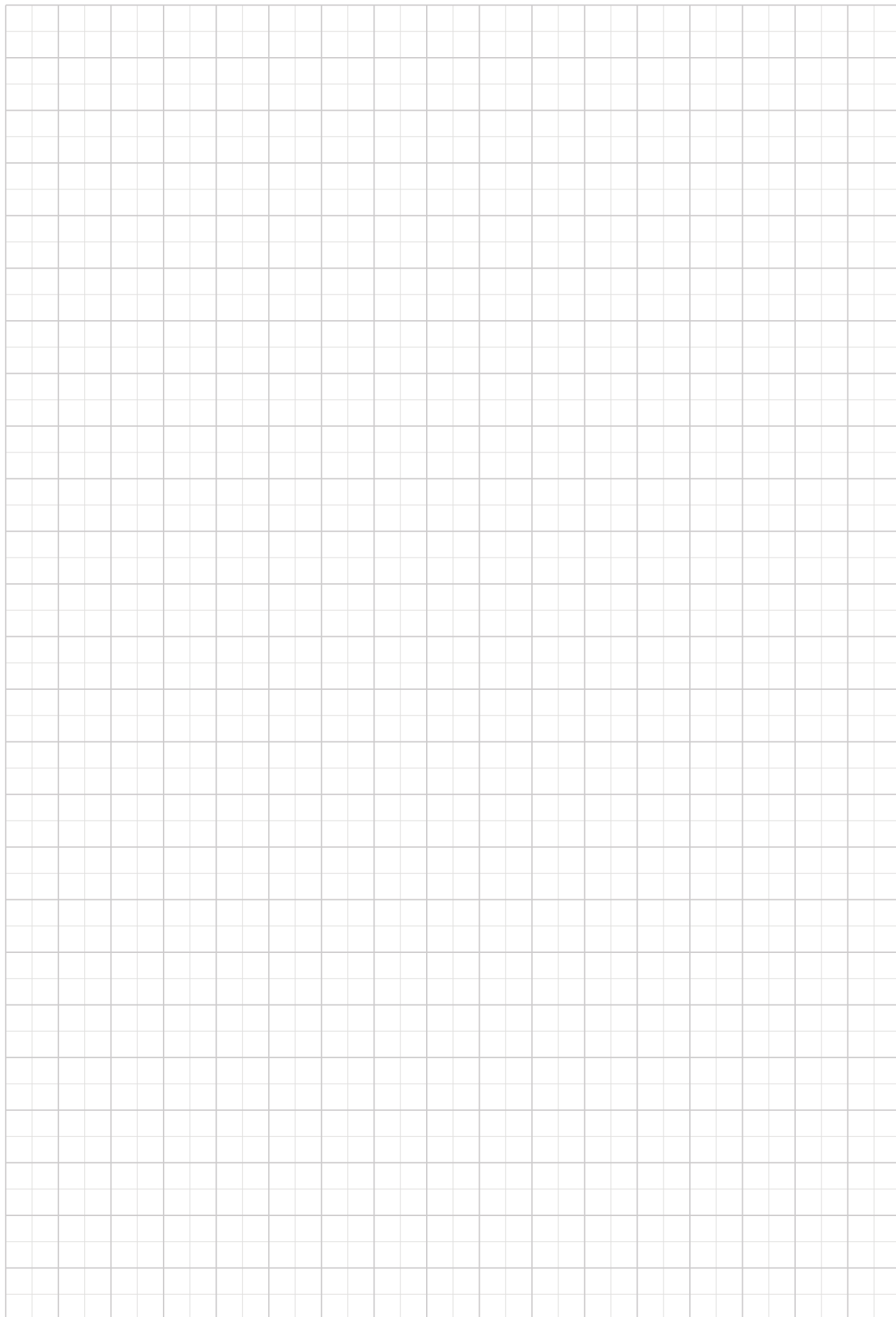
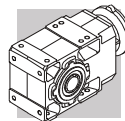
The document certifies the compliance of the product with the purchase order and the construction in conformity with the applicable procedures of the Bonfiglioli Quality System.

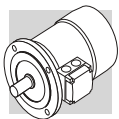
CC - Inspection certificate

The document entails checking on order compliance, the visual inspection of external conditions and of mating dimensions. Checking on main functional parameters in unloaded conditions is also performed along with oil seal proofing, both in static and in running conditions. Units inspected are sampled within the shipping batch and marked individually.

53 OTHERS INFORMATION ABOUT GEARBOX AND GEARMOTOR

Mounting positions, technical data, motor availability, moments of inertia and dimensions of **A-EX (Atex)** series don't change among equivalent **A** product series. All of these information can be obtained in the related chapters of this catalogue.

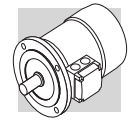




ELECTRIC MOTORS

M1 SYMBOLS AND UNITS OF MEASUREMENT

| Symbols | Units of Measure | Description | Symbols | Units of Measure | Description |
|---------------|---------------------|------------------------------------|------------|---------------------|---|
| $\cos\varphi$ | – | Power factor | n | $[\text{min}^{-1}]$ | Rated speed |
| η | – | Efficiency | P_B | [W] | Power drawn by the brake at 20°C |
| f_m | – | Power adjusting factor | P_n | [kW] | Motor rated power |
| l | – | Cyclic duration factor | P_r | [kW] | Required power |
| I_N | [A] | Rated current | t_1 | [ms] | Brake response time with one-way rectifier |
| I_s | [A] | Locked rotor current | t_{1s} | [ms] | Brake response time with electronic-controlled rectifier |
| J_C | [Kgm ²] | Load moment of inertia | t_2 | [ms] | Brake reaction time with a.c. disconnect |
| J_M | [Kgm ²] | Moment of inertia | t_{2c} | [ms] | Brake reaction time with a.c. and d.c. disconnect |
| K_C | – | Torque factor | t_a | [°C] | Ambient temperature |
| K_d | – | Load factor | t_f | [min] | Work time at constant load |
| K_J | – | Inertia factor | t_r | [min] | Rest time |
| M_A | [Nm] | Mean breakaway torque | W | [J] | Braking work between service interval |
| M_B | [Nm] | Brake torque | W_{\max} | [J] | Maximum brake work for each braking |
| M_N | [Nm] | Rated torque | Z | [1/h] | Permissible starting frequency, loaded |
| M_L | [Nm] | Counter-torque during acceleration | Z_0 | [1/h] | Max. permissible unloaded starting frequency ($l = 50\%$) |
| M_S | [Nm] | Starting torque | | | |



M2 INTRODUCTION

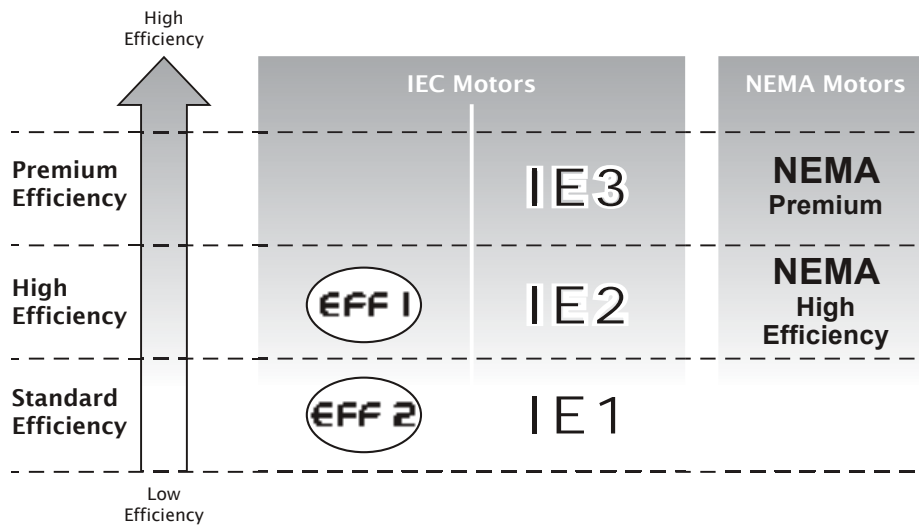
Efficiency classes and test methods

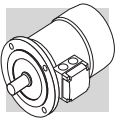
Efficiency classes characterise the efficiency with which an electric motor converts electrical energy into mechanical energy. In Europe, the energy efficiency of low voltage electric motors used to be classified using the voluntary Eff1/Eff2/Eff3 system. Outside Europe, other countries used to apply their own national systems, often very different to the European system. This uncertainty in standards led manufacturers to develop a harmonised international standard, and push for the issue of IEC (International Electrotechnical Commission) standard IEC 60034-30-1, "Efficiency classes of single-speed, three-phase, cage-induction motors (IE code)".

This new standard:

- defines new classes of efficiency
- **IE1** (standard efficiency)
- **IE2** (high efficiency)
- **IE3** (premium efficiency)
- provides a common, international reference system for the classification of electric motors
- and for national legislation
- introduces a new efficiency measurement method in conformity with standard IEC 60034-1-2:2007

The following table shows the correspondence among the main classes.





European Commission regulation 640/2009

IEC standard 60034-30-1 establishes technical guidelines for efficiency classification but does not impose any legal requirements for the adoption of any particular efficiency class. These are laid down by European Directives and national laws.

The EC Regulation applying Directive 2005/32/EC was adopted on the 22nd July 2009. This establishes the legal requirements and eco-compatible design criteria for electric motors, and imposes minimum efficiency limits according to the following schedule:

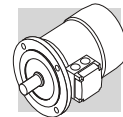
- **16/06/2011:** Electric motors must have a minimum efficiency level equivalent to class **IE2**
- **01/01/2015:** Electric motors with a rated power output between 7.5 kW and 375 kW must have a minimum efficiency level corresponding to **IE3**, or to **IE2** if controlled by an inverter.
- **01/01/2017:** Electric motors with a rated power output between 0.75 kW and 375 kW must have a minimum efficiency level corresponding to **IE3**, or to **IE2** if controlled by an inverter.

Scope and exclusions

EC Regulation 640/2009 applies to 2, 4, and 6 pole, single-speed, three-phase, 50 Hz or 60 Hz, cage-induction motors with rated outputs of 0.75 kW to 375 kW, and rated voltage up to 1000 V, designed for continuous duty (S1).

The regulation does not apply to:

- brakemotors
- motors designed to function immersed in liquid
- motors that are fully integrated in a product (like a gearbox, pump, fan), so that it is not possible to test the performance of the motor independently of that of the product.
- motors expressly designed to function:
 - at altitudes above 4000 metres a.s.l.;
 - in ambient temperatures above 60 °C;
 - at maximum operating temperatures above 400 °C;
 - in ambient temperatures below -30 °C (all motors) or below 0 °C (water-cooled motors);
 - with incoming liquid coolants at temperatures below 0 °C or above 32 °C;
 - in potentially explosive atmospheres as defined by Directive 2014/34/EU.



M3 GENERAL CHARACTERISTICS

M3.1 Production range

The asynchronous three-phase electric motors BXN, BX, BE, BN, MXN, MX, ME and M of BONFI-GLIOLI RIDOTTORI's production, are available in basic design IMB5 and derived versions. Motors are the enclosed type with outer fan and cage-type rotor for use in industrial environments. Standard versions of BX-BE/MX-ME motors are 230/400V Δ/Y (400/690V Δ/Y in sizes BX-BE 160 and BX- BE 180), 50 Hz motors, with a tolerance of $\pm 10\%$. Standard BN/M motors are designed to operate from a rated voltage 230/400V Δ/Y (400/690V Δ/Y for frame sizes BN 160 through BN 200) 50 Hz, with $\pm 10\%$ tolerance.

On the BXN/MXN motors, it is present a terminal box with 9 PIN connection + 12 wires winding that makes it easy to obtain the right voltage for most countries as standard. The Standard versions is identified as WD1 and makes it possible to obtain the following voltages/frequency (115/200/230/400V-50Hz and 132/230/265/460V-60Hz). For the BXN/MXN motors the voltage tolerance is reduced to $\pm 5\%$.

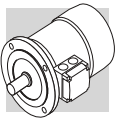
M3.2 Standards

The motors described in this catalogue are manufactured to the applicable standards shown in the following table.

| (F01) | Title | CEI | IEC |
|-------|---|-------------------|----------------|
| | General requirements for rotating electrical machines | CEI EN 60034-1 | IEC 60034-1 |
| | Terminal markings and direction of rotation of rotating machines | CEI 2-8 | IEC 60034-8 |
| | Methods of cooling for electrical machines | CEI EN 60034-6 | IEC 60034-6 |
| | Dimensions and output ratings for rotating electrical machines | EN 50347 | IEC 60072 |
| | Classification of degree of protection provided by enclosures for rotating machines | CEI EN 60034-5 | IEC 60034-5 |
| | Noise limits | CEI EN 60034-9 | IEC 60034-9 |
| | Classification of type of construction and mounting arrangements | CEI EN 60034-7 | IEC 60034-7 |
| | Rated voltage for low voltage mains power | CEI 8-6 | IEC 60038 |
| | Vibration level of electric machines | CEI EN 60034-14 | IEC 60034-14 |
| | Efficiency classes of single-speed, three-phase, cage-induction motors (IE code) | CEI EN 60034-30-1 | IEC 60034-30-1 |
| | Standard method for determining losses and efficiency from tests | CEI EN 60034-2-1 | IEC 60034-2-1 |

The motors also comply with foreign standards adapted to IEC 60034-1 as shown here below.

| (F02) | Standard | Country |
|-------|-----------------|---------------|
| | DIN VDE 0530 | Germany |
| | BS5000 / BS4999 | Great Britain |
| | AS 1359 | Australia |
| | NBNC 51 - 101 | Belgium |
| | NEK - IEC 34 | Norway |
| | NF C 51 | France |
| | OEVE M 10 | Austria |
| | SEV 3009 | Switzerland |
| | NEN 3173 | Netherlands |
| | SS 426 01 01 | Sweden |



M3.3 Directives 2006/95/EC (LVD) and 2004/108/EC (EMC)

BXN, BX, BE, BN, MXN, MX, ME and M motors meet the requirements of Directives 2014/35/UE (LVD - Low Voltage Directive), the 2014/30/UE (EMC - Electromagnetic Compatibility Directive), the 2009/125/CE (ERP - Energy Related Products Directive) and 2011/65/UE (RoHS – Restriction of Hazardous Substances) and their nameplates bear the CE mark.

As for the EMC Directive, construction is in accordance with standards CEI EN 60034-1 (Rotating electrical machines Part 1: Rating and performance), CEI EN 61000-6-2 (Generic standards - Immunity for industrial environments), CEI EN 61000-6-4 (Generic standards - Emission standard for industrial environments).

Motors with FD brakes, when fitted with the suitable capacitive filter at rectifier input (option **CF**), meet the emission limits required by Standards CEI EN 61000-6-3 and CEI EN 60204-1.

The responsibility for final product safety and compliance with applicable directives rests with the manufacturer or the assembler who incorporate the motors as component parts.

UKCA mark as standard

In UK, the CE mark will be replaced by the UKCA (United Kingdom Conformity Assessed mark) mark, due to Brexit, starting from 1st January 2022. All Bonfiglioli motors are already compliant with UKCA requirements.

M3.4 EU Directive 2012/19/EU - Information on disposal



This product should not be mixed with general household waste. Disposal has to be carried out in conformity with EU Directive 2012/19/EU where established, and in accordance to national regulations.

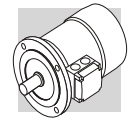
Fulfill disposal in accordance with any other legislation in force throughout the country.

M3.5 Tolerances

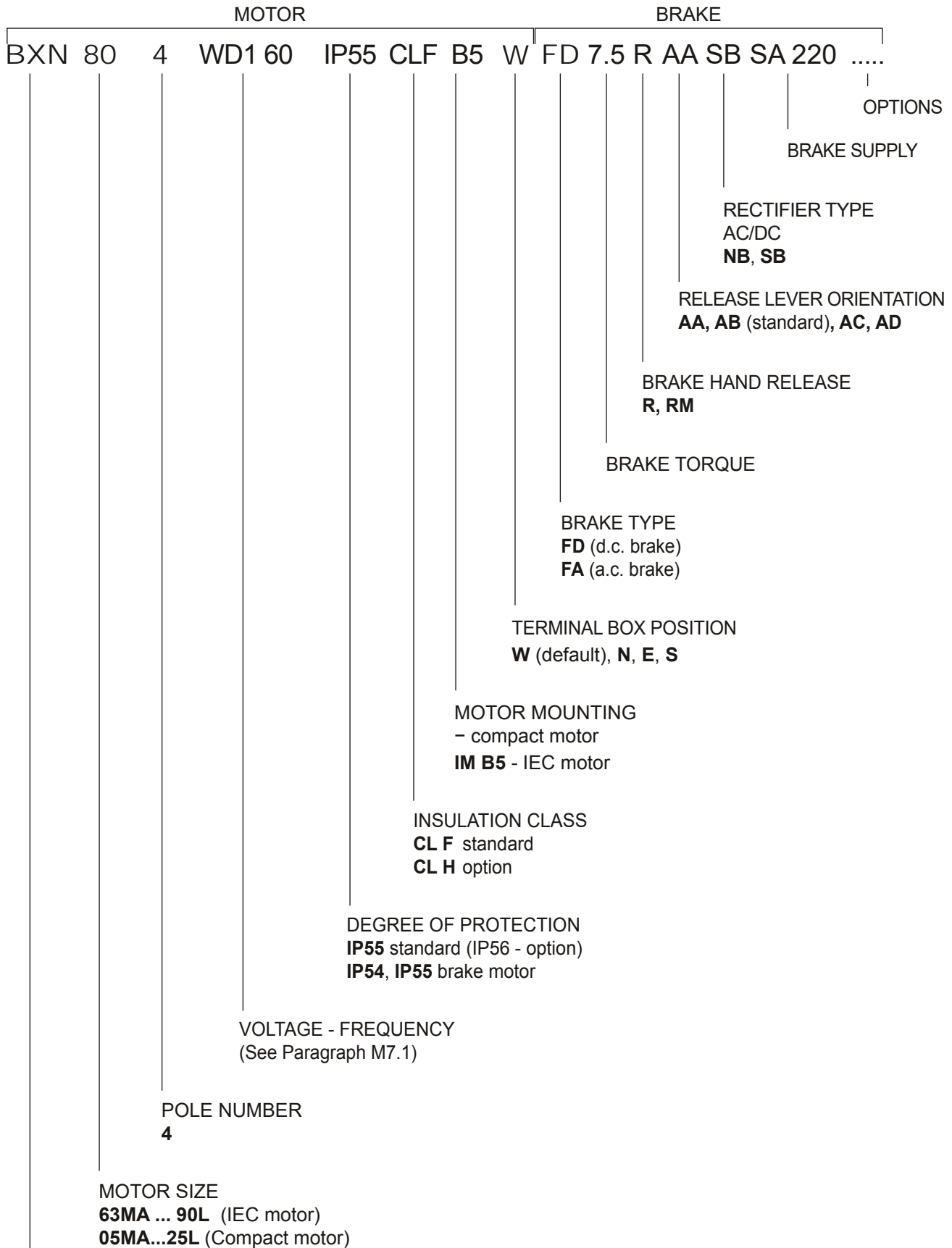
As per the Norms CEI EN 60034-1, applicable the tolerances here below apply to the following quantities.

| | | |
|-------|--|----------------------|
| (F03) | -0.15 (1 - η) P \leq 50kW | Efficiency |
| | -(1 - $\cos\phi$)/6 min 0.02 max 0.07 | Power factor |
| | $\pm 20\%$ * | Slip |
| | +20% | Locked rotor current |
| | -15% +25% | Locked rotor torque |
| | -10% | Max. torque |

(*) $\pm 30\%$ for motors with Pn < 1 kW

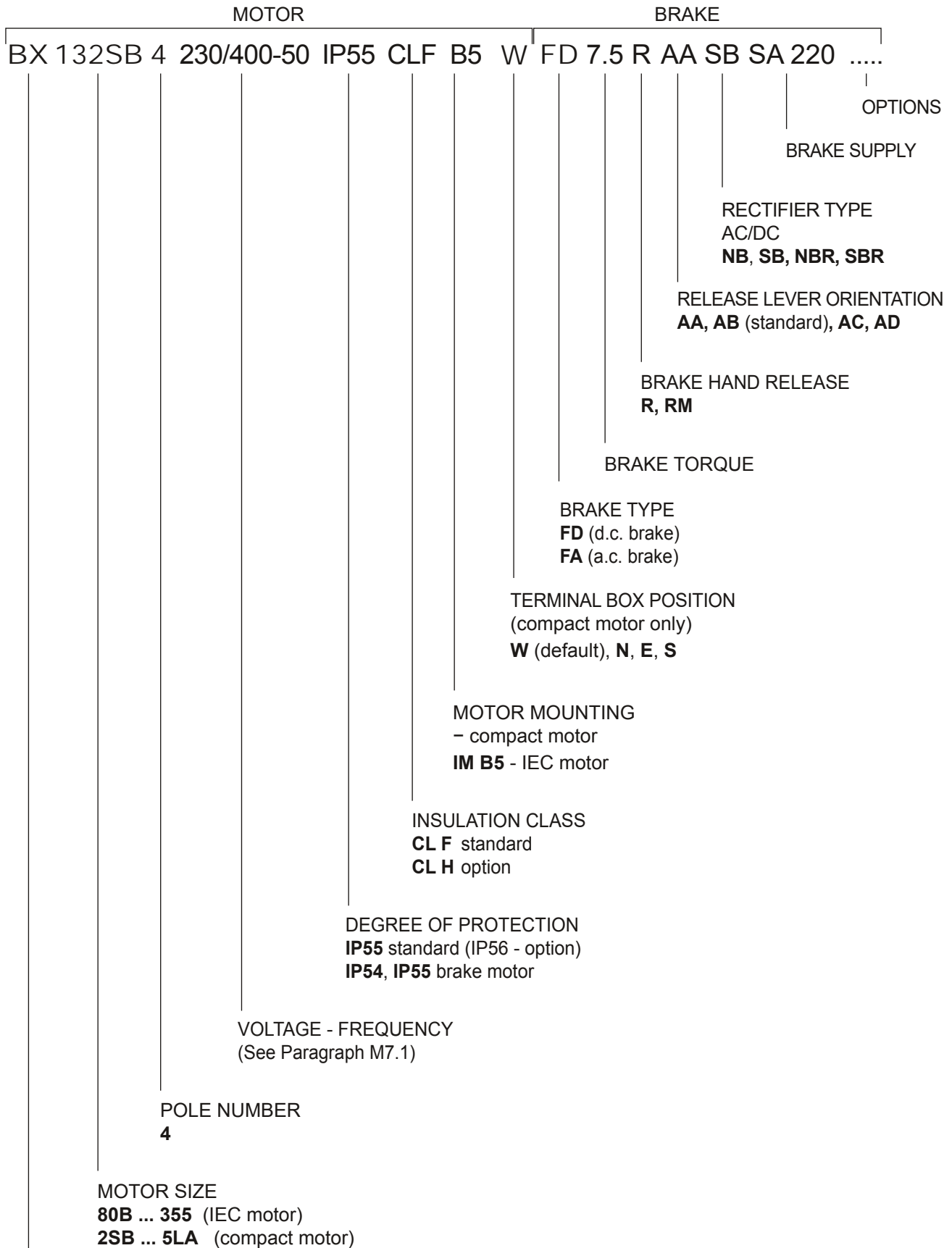
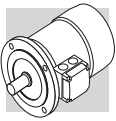


M4 MOTOR DESIGNATION



MOTOR TYPE

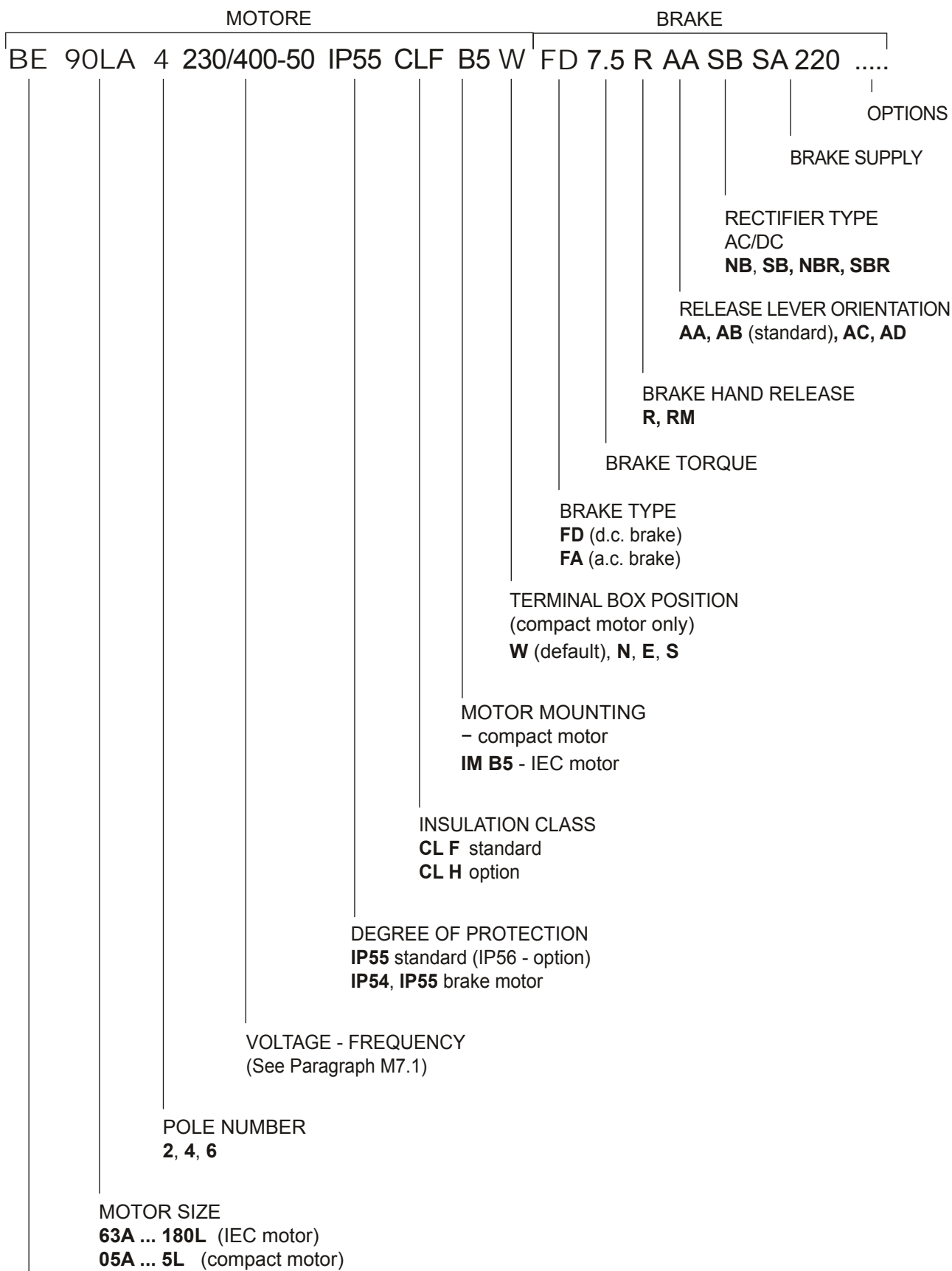
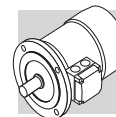
BXN = IEC 3-phase, class IE3 **MXN** = compact 3-phase, class IE3



MOTOR TYPE

BX = IEC 3-phase, class IE3

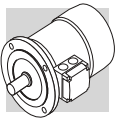
MX = compact 3-phase, class IE3



MOTOR TYPE

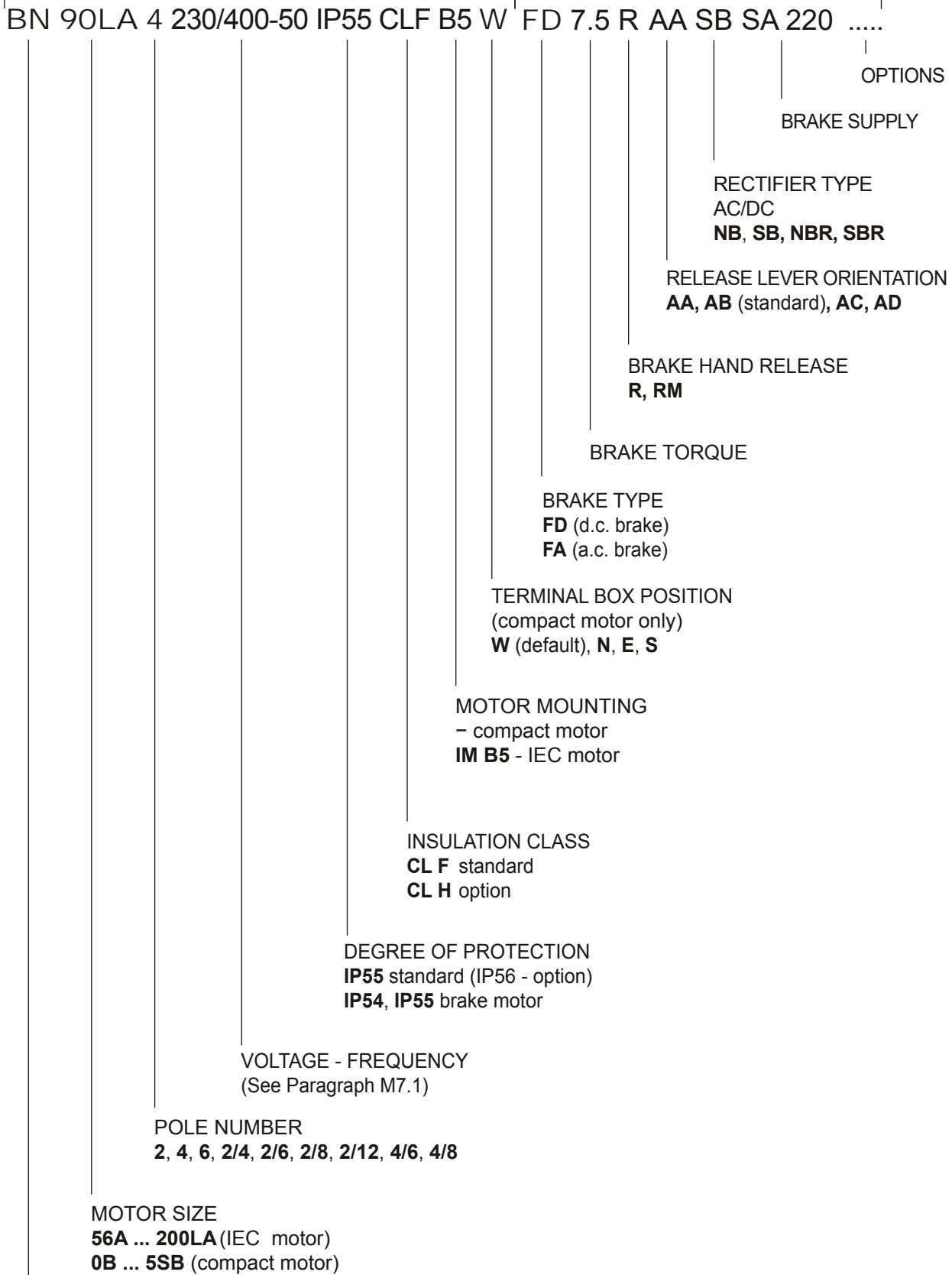
BE = IEC 3-phase, class IE2

ME = compact 3-phase, class IE2



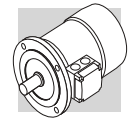
MOTOR

BRAKE



MOTOR TYPE

BN = IEC 3-phase **M** = IEC compact 3-phase



M5 VARIANTS AND OPTIONS

M5.1 Variants

(F04)

| Description | | Default | Option | Page |
|------------------------------|---|--------------------------|--------|-------|
| Voltage (BN - BE - BX) ≤ 132 | | 230/400/50 | | 576 |
| Voltage (BN - BE - BX) ≥ 160 | | 400/690/50 | | |
| Voltage (BXN) | | WD1 | | EVOX* |
| Protection class | BXN - BX - BE - BN - MXN - MX - ME - M | IP 55 | IP 56 | 572 |
| | BXN - BX - BE - BN/FA-FD MXN - MX - ME - M/FA-FD | IP 54 | IP 55 | |
| | BX_FD ≥ 200 | IP 55 | | |
| | BX...K - BX... K_FDK | IP 55 | IP 56 | |
| Insulation class | | CLF | CLH | 583 |
| Design version | BX - BE - BN | B5 B5 R | | 571 |
| | BXN | B5 | | EVOX* |

Default values.

* See EVOX specific catalogue

M5.2 Options

(F05)

| Description | Catalogue numbers | | | | | | | | Availability | Page |
|---|-------------------|-------|-------|---------|--------|--------|------|------|--|---------|
| | D3 | K1 | E3 | PT1000° | | | | | | |
| Thermal protective devices | D3 | K1 | E3 | PT1000° | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 602 |
| 50 Hz normalized power | PN | | | | | | | | BN - M | 579 |
| Feedback devices | EN1 | EN2 | EN3 | EN4 | EN5 | EN6 | EN7* | EN8* | BXN - BX - BE - BN - MX - ME - M | 610-612 |
| Anti-condensate heaters | H1 | NH1 | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 605 |
| Tropicalized windings | TP | | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 606 |
| Double-extended shaft | PS | | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 606 |
| Rotor balancing grade B | RV | | | | | | | | BX - BE - BN MX - ME - M | 607 |
| External mechanical protections | RC | TC*** | EC° | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 610 |
| Forced ventilation | U1 | U2** | | | | | | | BX - BE - BN MX - ME - M | 608 |
| Insulated Bearings | IB* | | | | | | | | BX - MX | 612 |
| Certification CSA/UL | CUS° | | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 580 |
| Bureau of Indian Standard Certification | BIS | | | | | | | | BE - ME | 581 |
| China Compulsory Certification | CCC | | | | | | | | BX - BE - BN MX - ME - M | 581 |
| China Energy Label | CEL | | | | | | | | BX - MX | 582 |
| NBR Certification | NBR | | | | | | | | BX - MX | 582 |
| EECA Ceertification | EECA | | | | | | | | BX - MX | 583 |
| Plug connector | CON | | | | | | | | BX - BE - BN MX - ME - M | 602 |
| Surface protection | C_ | | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 613 |
| Painting | RAL | | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 614 |
| Certificates | ACM | | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 614 |
| Inspection certificate | CC | | | | | | | | BXN - BX - BE - BN - MXN - MX - ME - M | 614 |
| Vertical Mounting | VM* | | | | | | | | BX - MX | 613 |
| Backstop device | AL | AR | | | | | | | MX - ME - M | 607 |
| Type of duty | S2 | S3 | S9 | | | | | | BN - M | 584 |
| | S2-10 | S2-30 | S2-60 | S3=25% | S3=40% | S3=70% | | | BXN - MXN | |

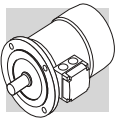
*Only for BX ≥ 280 and BX ≥ 280K

** Only for motors BN

*** Not for motors BX - MX

° Standard on BXN/MXN not an option

°° Only for motors BXN/MXN



M5.3 Brake-related options

| (F06) | Description | Catalogue numbers | | | | Availability | Page |
|-------|---|----------------------------------|--------------|--------------|-------------|---|---------|
| | Brake torque | Refer to the specific brake type | | | | | 593-596 |
| | Manual release lever | R | RM | | | BXN - BX - BE - BN MXN - MX - ME - M | 599 |
| | Release lever orientation | AB | AA | AC | AD | BXN - BX - BE - BN MXN - MX - ME - M | 600 |
| | DC brake rectifier | NB | NBR° | SB | SBR° | BXN - BX - BE - BN MXN - MX - ME - M | 591 |
| | Soft-start flywheel | F1 | | | | BE - BN ME - M | 601 |
| | Capacitive filter | CF | | | | BXN - BX - BE - BN MXN - MX - ME - M | 601 |
| | Brake separate power supply (*) | ...SA | ...SD | DIR°° | | BXN - BX - BE - BN MXN - MX - ME - M | 600 |
| | Brake functionality check | MSW | | | | BX - BE - BN MX - ME - M | 605 |
| | Additional cable entry for brake motors | IC | | | | BN M | 605 |

(*) Specify voltage. (°) Not for BXN/MXN (°°) Only for BXN/MXN - means "without separate power supply"

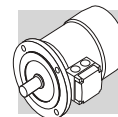
■ Default values.

M5.4 Example of identification nameplate for legacy motors (BX - BE - BN)

| | | | | | |
|---|----------------------|------------------------------------|-----------------|-------------------|--------|
| ① | IEC EN 60034 | Bonfiglioli Riduttori | | CE | ④ |
| | 3~Mot BE 90LA 4 | | Cod. 8U09030001 | | |
| ② | No 1003001 - 6954785 | S1 | IM B5 | 15,1 kg | ⑤ |
| | kW 1,5 | CL F | IP 55 | Amb 40 °C | |
| | Hz | V ± 10% | A | min ⁻¹ | cos φ |
| | 50 | 230/400 Δ/Y | 6.1/3.5 | 1430 | ○ 0.74 |
| ③ | 60 | 265/460 Δ/Y | 5.4/3.1 | 1730 | 0.73 |
| | 50Hz-IE2 | 83.5(100%) - 83.0(75%) - 80.0(50%) | | | ⑥ |
| | 60Hz-IE2 | 84.5(100%) - 83.9(75%) - 80.7(50%) | | | |

- ① BONFIGLIOLI Motor type
- ② Serial number
- ③ Rated voltage

- ④ Motor code
- ⑤ Type of duty: S1 Continuous duty
- ⑥ IE Class, Efficiency at: 4/4 - 3/4 - 2/4 load



M5.4.1 Example of identification nameplate for EVOX motors (BXN)

| | | | | |
|---|---|---------------|------------------------|-------------------------|
| 1 | | | | |
| 2 | 3~Mot BXN 90L 4 FD | | TEFC | IMB14 IP55 22,6 kg |
| | Cod. xxxxxxxxxxxx | | No xxxxxxxx - xxxxxxxx | |
| | kW 1,5 | HP 2 | Amb 40 °C | CLF S1 |
| 3 | Hz | V | A | min ⁻¹ cos φ |
| | 50 | 115/200 ΔΔ/YY | 11.9/6.88 | 1441 0.75 |
| | 50 | 230/400 Δ/Y | 5.96/3.44 | 1441 0.75 |
| 4 | 60 | 132/230 ΔΔ/YY | 10.1/5.84 | 1750 0.74 |
| | 60 | 265/460 Δ/Y | 5.6/2.92 | 1750 0.74 |
| 5 | 50Hz IE3 - 85.3 (100%) 84.3 (75%) 81.7 (50%) - KWA code J | | | |
| | 60Hz IE3 - 86.5 (100%) 86.5 (75%) 83.4 (50%) - KWA code L | | | |
| 6 | H1 1~ 230V ± 10% 10W | | | |
| 7 | VB = 230V MB = 26Nm NB SA | | | |
| 8 | | | | |
| | | | | |
| | Bonfiglioli Riduttori S.p.A. | | Made in Italy | |
| | | | 9 | 10 |

- ① Motor designation and general information
- ② Serial codes
- ③ Environment & application compliancy
- ④ Rated performances function of voltages/frequencies
- ⑤ Motor performances @ 50 Hz
- ⑥ Motor performances @ 60 Hz
- ⑦ Thermal protection and Servo ventilation information
- ⑧ Brake information
- ⑨ Certifications
- ⑩ Manufactory information

M6 MECHANICAL FEATURES

M6.1 Versions

EC-normalised BXN, BX, BE and BN motors are available in the design versions as indicated in the table below here after as per Standards EN 60034-7 (BX/BE), CEI EN 60034-14 (BN).

Mounting versions are:

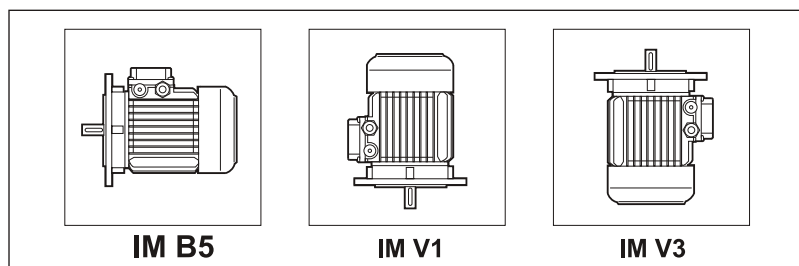
IM B5 (basic)

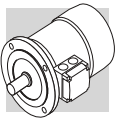
IM V1, IM V3 (derived)

IM B5 design motors can be installed in positions IM V1 and IM V3; in such cases, the basic design IM B5 is indicated on the motor name plate.

In design versions with a vertically located motor and shaft downwards, it is recommended to request the drip cover (always necessary for brake motors). This facility, included in the option list should be specified when ordering as it does not come as a standard device

(F07)





For Motor **BX≥200** and **BX≥200K** it is necessary to select VM options when vertically mounted.

If the motor will be mounted with DE facing downwards, selection of RC option is recommended. This has to be specified during the ordering phase because not present in standard motor version.

Flange output motors are also available with reduced coupling dimensions, as indicated in the table below - executions **B5R**. Their use in combination with gearboxes must be however coherent with the maximum installable power on gearboxes themselves (see chapters “Motors availability”). In case this condition is not met need to contact the Technical Service for the checking of the combination.

(F08)

| | | | | | | |
|--------------------------|-----------------|--------------------|--------------------|---------------------|---------------------|---------------------|
| | | | | | | |
| | BN/BE 71 | BX/BE/BN 80 | BX/BE/BN 90 | BX/BE/BN 100 | BX/BE/BN 112 | BX/BE/BN 132 |
| | DxE - Ø | | | | | |
| B5R⁽¹⁾ | 11x23 - 140 | 14x30 - 160 | 19x40 - 200 | 24x50 - 200 | 24x50 - 200 | 28x60 - 250 |

(1) flange with through holes

M6.2 Degree of protection

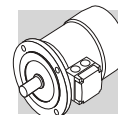
IP..

The following chart provides an overview of the degrees of protection available. In addition to the degree of protection specified when ordering, motors to be installed outdoors require protection against direct sunlight and also – when they are to be installed vertically down – a drip cover to prevent the ingress of water and solid particles (option **RC**).

(F09)

| | | IP 54 | IP 55 | IP 56 |
|---|-------------------------------|----------|----------------|----------------|
| BXN- BX-BE-BN | MXN-MX-ME-M | ⊘ | standard | on request |
| BXN-BX-BE-BN/ FD*-FA | MXN-MX-ME-M/ FD-FA | standard | on request | ⊘ |
| BX ≥ 200_FD BX ≥ 200K_FD | | ⊘ | standard | ⊘ |
| BX ≥ 280K_FD | | ⊘ | standard | on request |

(*) BX ≤ 180_FD



| IP | | | 5 | | | 5 | | |
|----------|----------------------------|---|----------|---|---|---|--|--|
| | | | | | | | | |
| 0 | | Not protected | 0 | | Not protected | | | |
| 1 | ∅ 50 mm | Protected against extraneous solid bodies having $\varnothing \geq 50$ mm | 1 | Protected against vertical water drips | | | | |
| 2 | ∅ 12 mm | Protected against extraneous solid bodies having $\varnothing \geq 12.5$ mm | 2 | 15° | Protected against vertical water drips inclined up to 15° | | | |
| 3 | ∅ 2,5 mm | Protected against extraneous solid bodies having $\varnothing \geq 2.5$ mm | 3 | 60° | Protected against rain | | | |
| 4 | ∅ 1 mm | Protected against extraneous solid bodies having $\varnothing \geq 1.0$ mm | 4 | Protected against water splashes | | | | |
| 5 | Protected against dust | | 5 | Protected against jets of water | | | | |
| 6 | No dust ingress | | 6 | Protected against powerful jets of water | | | | |
| | | | 7 | Protected against the effects of temporary immersion | | | | |
| | | | 8 | Protected against the effects of continuous immersion | | | | |

M6.3 Cooling

The motors are externally ventilated (IC 411 to CEI EN 60034-6) and are equipped with a plastic fan working in both directions.

The motors must be installed allowing sufficient space between fan cowl and the nearest wall to ensure free air intake and allow access for maintenance purposes on motor and brake, if supplied. Independent, forced air ventilation (IC 416) can be supplied on request (option **U1**).

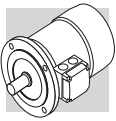
This solution enables to increase the motor duty factor when driven by an inverter and operating at reduced speed.

M6.4 Direction of rotation

Rotation is possible in both directions. If terminals U1, V1 and W1 are connected to line phases L1, L2 and L3, clockwise rotation (looking from drive end) is obtained. For counterclockwise rotation, switch two phases.

M6.5 Noise

Noise levels, measured using the method prescribed by ISO 1680 Standards, are within the maximum levels specified by Standards CEI EN 60034-9.



M6.6 Vibrations and balancing

Rotor shafts are balanced with half key fitted and fall within the vibration class N, as per Standard CEI EN 60034-14.

M6.7 Terminal box

Legacy motors (BN/M - BE/ME - BX/MX) terminal board features 6 studs for eyelet terminal connection while EVOX BXN and MXN motors have always 9 studs as standard. When a legacy motor have UL option active the terminal board features 9 studs execution (for US voltage “Dual Voltage”). A ground terminal is also supplied for earthing of the equipment. Terminals number and type are shown in the following table. For brake power supply, please read par. M9 (brake FD), M10 (brake FA). Brakemotors house the a.c./d.c. rectifier (factory pre-wired) inside the terminal box. Wiring instructions are provided either in the box or in the user manual.

(F10)

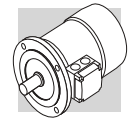
| | | No. of terminals | Terminal threads |
|--|---|------------------|------------------|
| BXN 63 ... BXN 90 | MXN05 ... MXN25 | 9 | M4 |
| BX 80, BX 90 BE 63 ... BE 90 BN 56 ... BN 90 | MX2, MX3 ME05 ... ME3 M05 ... M2 | 6 | M4 |
| BX 100 ... BX 132 BE 100 ... BE 132 BN 100 ... BN 160MR | MX3, MX4 ME3, ME4 M3 ... M4 | 6 | M5 |
| BX 160 - BE 160 ... BE 180M BN 160M ... BN 180M | ME5 MX5 - M5 | 6 | M6 |
| BX 180 - BE 180L BN 180L ... BN 200L | — | 6 | M8 |
| BX 200 ... BX 250 BX 200K ... BX 250K | — | 6 | M10 |
| BX 280 ... BX 355 BX 280K ... BX 355K | — | 6 | M12 |
| BX 80 ... BX 132 BE 71 ... BE 132 BN 63 ... BN 160MR | MX2 ... MX4 ME2 ... ME4 M05 ... M4 | 9 | M4 |
| BX 160 ... BX 180 BE 160 ... BE 180 BN 160M ... BN 200L | MX5 ME5 M5 | 9 | M6 |

M6.8 Cable entry

The holes used to bring cables to terminal boxes use metric threads in accordance with standard EN 50262 as indicated in the table here after.

(F11)

| | | Cable gland and dimensions | | Maximum cable diameter allowed [mm] |
|--|--------------------------------|----------------------------|-----------------------|-------------------------------------|
| BXN 63 | MXN 05 | 2 x M20 x 1.5 | 1+1 Hole on each side | 13 |
| | | 2 x M16 x 1.5 | | 11 |
| BXN 71 ... BXN 90 | MXN 10 ... MXN 25 | 2 x M25 x 1.5 | 1 Hole on each side | 17 |
| | | 2 x M16 x 1.5 | | 11 |
| BN 63 - BE 63 | M05 - ME05 | 2 x M20 x 1.5 | 1 Hole on each side | 13 |
| BN71 ... BN90, BE71 ... BE90, BX80 ... BX90 | M1 - M2, ME1 - ME2, MX2 | 2 x M25 x 1.5 | 1 Hole on each side | 17 |
| BN100 - BN112, BE100 - BE112, BX100 - BX112 | MX3, MX4 - ME3 M3 | 2 x M32 x 1.5 | 2 Holes on each side | 21 |
| | | 2 x M25 x 1.5 | | 17 |
| BN132 ... BN160MR, BE132, BX132 | M4, ME4, MX4 | 4 x M32 x 1.5 | 2 Holes on each side | 21 |
| BN160M ... BN200L, BE160 - BE180, BX160 - BX180 | M5, ME5, MX5 | 2 x M40 x 1.5 | Pivoting, 4 x 90° | 28 |
| BX 200 ... BX 355 BX 200K ... BX 355K | — | 2 x M63 x 1.5 | Pivoting, 4 x 90° | 45 |



M6.9 Bearings

Life lubricated preloaded radial ball bearings are used, types are shown in the chart here under. Calculated endurance lifetime L_{10h} , as per ISO 281, in unloaded condition, exceeds 40000 hrs.

DE = drive end

NDE = non drive end

(F12)

| | DE | NDE | |
|--------------------------------|------------|---------------|-------------|
| | | Without Brake | With Brake |
| MXN 05 - ME05 - M05 | 6004 2Z C3 | 6201 2Z C3 | 6201 2RS C3 |
| MXN 10 - ME1 - M1 | 6004 2Z C3 | 6202 2Z C3 | 6202 2RS C3 |
| MXN 20 - MX2 - ME2 - M2 | 6007 2Z C3 | 6204 2Z C3 | 6204 2RS C3 |
| MXN 25 - MX3 - ME3 - M3 | 6207 2Z C3 | 6206 2Z C3 | 6206 2RS C3 |
| MX4 - ME4 - M4 | 6309 2Z C3 | 6308 2Z C3 | 6308 2RS C3 |
| MX5 - ME5 - M5 | 6309 2Z C3 | 6309 2Z C3 | 6309 2RS C3 |

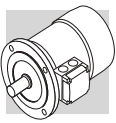
| | DE | NDE | |
|--|------------|---------------|-------------|
| | | Without Brake | With Brake |
| BN 56 | 6201 2Z C3 | 6201 2Z C3 | - |
| BXN 63 - BE 63 BN 63 | 6201 2Z C3 | 6201 2Z C3 | 6201 2RS C3 |
| BXN 71 - BE 71 BN 71 | 6202 2Z C3 | 6202 2Z C3 | 6202 2RS C3 |
| BXN 80 - BX 80 BE 80 - BN 80 | 6204 2Z C3 | 6204 2Z C3 | 6204 2RS C3 |
| BXN 90 - BX 90 BE 90 - BN 90 | 6205 2Z C3 | 6205 2Z C3 | 6305 2RS C3 |
| BX 100 - BE 100 - BN 100 | 6206 2Z C3 | 6206 2Z C3 | 6206 2RS C3 |
| BX 112 - BE 112 - BN 112 | 6306 2Z C3 | 6306 2Z C3 | 6306 2RS C3 |
| BX 132 - BE 132 - BN 132 | 6308 2Z C3 | 6308 2Z C3 | 6308 2RS C3 |
| BN 160MR | 6309 2Z C3 | 6308 2Z C3 | 6308 2RS C3 |
| BX 160M/L - BE 160M/L - BN 160M/L | 6309 2Z C3 | 6309 2Z C3 | 6309 2RS C3 |
| BN 180M | 6310 2Z C3 | 6309 2Z C3 | 6309 2RS C3 |
| BX 180M/L - BE 180M/L - BN 180L | 6310 2Z C3 | 6310 2Z C3 | 6310 2RS C3 |

| | DE | NDE | |
|-----------------------------------|-----------------------|------------------------|-------------|
| | | Without Brake | With Brake |
| BN 200L - BX 200 - BX 200K | 6312 2Z C3 6312/C3 | 6310 2Z C3 6210/C3* | 6310 2RS C3 |
| BX 225 - BX 225K | 6313/C3* | 6212/C3* | - |
| BX 250 - BX 250K | 6315/C3* | 6213/C3* | - |
| BX 280 - BX 280K | 6316/C3* | 6316/C3* | - |
| BX 315 - BX 315K | 6319/C3** | 6316/C3** | - |
| BX 355 - BX 355K | 6322/C3** | 6316/C3** | - |

*Regreasable bearings with M6x1 Greasing Device

**Regreasable bearings with M10x1 Greasing Device

Note: BX and BXN motors have high efficiency bearings



M7 ELECTRICAL CHARACTERISTICS

M7.1 Voltage

Single speed motors are provided in standard execution either for nominal voltage 230 / 400 V Δ/Y, 50 Hz, or 400 / 690 V Δ/Y, 50 Hz, with a voltage tolerance of ± 10%.

Note: Motor nominal voltage/frequency also depends on the selection of options related to energy certifications for specific markets. Table below, then, has to be intended only as a guideline, for more details on the available Voltages/Frequencies as a function of the selected certification, please refer to paragraph M7.5 - M7.10.

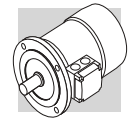
On all the motors, whose voltage / frequency configuration is not as indicated above, the voltage tolerance is reduced down to ± 5%.

For the operation out of the tolerance boundaries, the temperature may exceed by 10 K the limit provided by the adopted insulation class. The motors are suitable for operation on distribution European grid with voltage complying with the publication IEC 60038.

The table below shows the wiring options available.

(F13)

| BN - M motor power supply voltages (IE1) | | | | |
|--|--------|---------|-----|-----|
| Single speed motors at 50Hz | | | | |
| Motor power supply voltage | — (CE) | | CCC | CUS |
| | STD | FD / FA | | |
| 220/380 - 50 | ✗ | ✓ | ✗ | ✓ |
| 230/400 - 50 | ✓ | ✓ | ✓ | ✓ |
| 240/415 - 50 | ✗ | ✓ | ✗ | ✓ |
| 290/500 - 50 | ✓ | ✓ | ✗ | ✓ |
| 380/660 - 50 | ✗ | ✓ | ✗ | ✓ |
| 400/690 - 50 | ✓ | ✓ | ✗ | ✓ |
| 415/720 - 50 | ✗ | ✓ | ✗ | ✓ |
| 500/865 - 50 | ✓ | ✓ | ✗ | ✓ |
| Double speed motors at 50Hz | | | | |
| Motor power supply voltage | — (CE) | | CCC | CUS |
| | STD | FD / FA | | |
| 380 - 50 | ✓ | ✗ | ✗ | ✓ |
| 400 - 50 | ✓ | ✓ | ✓ | ✓ |
| 415 - 50 | ✓ | ✗ | ✗ | ✓ |
| 500 - 50 | ✓ | ✗ | ✗ | ✓ |
| Single speed motors at 60Hz | | | | |
| Motor power supply voltage | — (CE) | | CCC | CUS |
| | STD | FD / FA | | |
| 208/360 - 60 | ✓ | ✓ | ✗ | ✓ |
| 220/380 - 60 | ✓ | ✓ | ✗ | ✓ |
| 230/400 - 60 | ✓ | ✓ | ✗ | ✓ |
| 255/440 - 60 | ✗ | ✓ | ✗ | ✓ |
| 265/460 - 60 | ✗ | ✓ | ✓ | ✓ |
| 280/480 - 60 | ✗ | ✓ | ✗ | ✓ |
| 330/575 - 60 | ✓ | ✓ | ✗ | ✓ |
| 380/660 - 60 | ✓ | ✓ | ✗ | ✓ |
| 400/690 - 60 | ✓ | ✓ | ✗ | ✓ |
| 440/760 - 60 | ✗ | ✓ | ✗ | ✓ |
| 460/800 - 60 | ✗ | ✓ | ✗ | ✓ |
| 480/830 - 60 | ✗ | ✓ | ✗ | ✓ |
| 575/995 - 60 | ✓ | ✓ | ✗ | ✓ |
| 220/440 - 60 | ✓ | ✓ | ✗ | ✓ |
| 230/460 - 60 | ✓ | ✓ | ✗ | ✓ |
| 240/480 - 60 | ✓ | ✓ | ✗ | ✓ |
| Double speed motors at 60Hz | | | | |
| Motor power supply voltage | — (CE) | | CCC | CUS |
| | STD | FD / FA | | |
| 208 - 60 | ✓ | ✗ | ✗ | ✓ |
| 220 - 60 | ✓ | ✗ | ✗ | ✓ |
| 230 - 60 | ✓ | ✗ | ✗ | ✓ |
| 240 - 60 | ✓ | ✗ | ✗ | ✓ |
| 380 - 60 | ✓ | ✗ | ✗ | ✓ |
| 400 - 60 | ✓ | ✗ | ✗ | ✓ |
| 440 - 60 | ✓ | ✗ | ✗ | ✓ |
| 460 - 60 | ✓ | ✗ | ✗ | ✓ |
| 480 - 60 | ✓ | ✗ | ✗ | ✓ |
| 575 - 60 | ✓ | ✗ | ✗ | ✓ |



(F14)

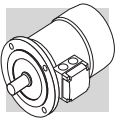
| BE - ME motor power supply voltages (IE2) | | | | | |
|---|--------|-----|-----|-----|--|
| Single speed motors at 50Hz | | | | | |
| Motor power supply voltage | — (CE) | CCC | BIS | CUS | |
| 220/380 - 50 | ✓ | ✗ | ✓ | ✓ | |
| 230/400 - 50 | ✓ | ✓ | ✓ | ✓ | |
| 240/415 - 50 | ✓ | ✗ | ✓ | ✓ | |
| 290/500 - 50 | ✓ | ✗ | ✓ | ✓ | |
| 380/660 - 50 | ✓ | ✗ | ✓ | ✓ | |
| 400/690 - 50 | ✓ | ✗ | ✓ | ✓ | |
| 415/720 - 50 | ✓ | ✗ | ✓ | ✓ | |
| 500/865 - 50 | ✓ | ✗ | ✓ | ✓ | |

| Single speed motors at 60Hz | | | | | |
|-----------------------------|--------|---------|-----|-----|-----|
| Motor power supply voltage | — (CE) | | CCC | BIS | CUS |
| | STD | FD / FA | | | |
| 208/360 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 220/380 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 230/400 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 255/440 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 265/460 - 60 | ✗ | ✓ | ✗ | ✗ | ✓ |
| 280/480 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 330/575 - 60 | ✗ | ✓ | ✗ | ✗ | ✓ |
| 380/660 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 400/690 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 440/760 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 460/800 - 60 | ✗ | ✓ | ✗ | ✗ | ✓ |
| 480/830 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 575/995 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 220/440 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 230/460 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 240/480 - 60 | ✓ | ✓ | ✗ | ✗ | ✓ |

| BX - MX motor power supply voltages (IE3) | | | | | | | |
|---|------------------|--|-----|----------------------|-----|-----|-----|
| Single speed motors at 50Hz | | | | | | | |
| Motor power supply voltage | — (CE) | | CCC | CEL | NBR | BIS | CUS |
| 230/400-50 | ✓ ⁽¹⁾ | | ✗ | ✓ ⁽⁶⁾ | ✗ | ✗ | ✗ |
| 290/500-50 | ✓ | | ✗ | ✗ | ✗ | ✗ | ✗ |
| 380/660-50 | ✗ | | ✗ | ✓ ⁽⁴⁾ | ✗ | ✗ | ✗ |
| 400/690-50 | ✓ ⁽²⁾ | | ✗ | ✓ ^{(2) (3)} | ✗ | ✗ | ✗ |

| Single speed motors at 60Hz | | | | | | | |
|-----------------------------|--------|----------------------|-----|-----|--------------------|-----|-----|
| Motor power supply voltage | — (CE) | | CCC | CEL | NBR ^(*) | BIS | CUS |
| | STD | FD / FA | | | | | |
| 220/380-60 | ✗ | ✗ | ✗ | ✗ | ✓ ⁽³⁾ | ✗ | ✓ |
| 265/460-60 | ✗ | ✓ ⁽¹⁾ | ✗ | ✗ | ✗ | ✗ | ✓ |
| 330/575-60 | ✗ | ✓ ⁽³⁾ | ✗ | ✗ | ✗ | ✗ | ✓ |
| 380/660-60 | ✗ | ✗ | ✗ | ✗ | ✓ ⁽⁵⁾ | ✗ | ✓ |
| 440/760-60 | ✗ | ✗ | ✗ | ✗ | ✓ ⁽⁴⁾ | ✗ | ✓ |
| 460/800-60 | ✗ | ✓ ^{(2) (3)} | ✗ | ✗ | ✗ | ✗ | ✓ |
| 220/440-60 | ✗ | ✗ | ✗ | ✗ | ✓ ⁽³⁾ | ✗ | ✓ |
| 230/460-60 | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✓ |

(1) only for motor size ≤132 (2) only for motor size ≥160 (3) only for motor size ≤180 (4) only for motor size ≥200 (5) only for motor size 180 (6) only for motor size ≥100



M7.2 Frequency

(F15)

| Number of poles | | | Winding connection |
|-----------------|--|---|---------------------------|
| 2 | BE 80 ... BE 160, BN 63 ... BN 200 | ME2 ... ME5, M05 ... M5 | $\Delta / Y^{(2)}$ |
| 4 | BXN 63 ... BXN 90, BX 80 ... BX 355 BX 200LAK ... BX 355MCK BE 63 ... BE 180, BN 56 ... BN 200 | MXN05 ... MXN25, MX2 ... MX5 — ME05 ... ME5, M05 ... M5 | |
| 6 | BE 90 ... BE 160, BN 63 ... BN 200 | ME3 ... ME5, M05 ... M5 | |
| 8 | BN 71 ... BN 132 | M1 ... M4 | |
| 2/4 | BN 63 ... BN 132 | M05 ... M4 | Δ / YY (Dahlander) |
| 2/6 | BN 71 ... BN 132 | M1 ... M4 | Y / Y (Two windings) |
| 2/8 | BN 71 ... BN 132 | M1 ... M4 | |
| 2/12 | BN 80 ... BN 132 | M2 ... M4 | |
| 4/6 | BN 71 ... BN 132 | M1 ... M4 | |
| 4/8 | BN 80 ... BN 132 | M2 ... M4 | Δ / YY (Dahlander) |

(²) Motors with voltage in ratio 2 (ex. 230/460 - 60) will be equipped with a 9 pin terminal box with winding connection either Δ / Δ or YY / Y (except 6 pole BN 63 Δ / Y)

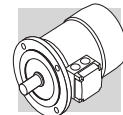
NOTE: For BXN and MXN motors refer to EVOX specific catalogue

Rated output power BN / M for 60 Hz operation is shown in the following diagram.

(F16)

| | | P _n [kW] | | | | | | P _n [kW] | | | |
|---------|-------|---------------------|------|------|--------|----------|---------|---------------------|------|------|--------|
| | | 2P | 4P | 6P | 8P (*) | | | 2P | 4P | 6P | 8P (*) |
| BN 56A | — | — | 0.07 | — | — | BN 100L | M3LA | 3.5 | — | — | — |
| BN 56B | M0B | — | 0.1 | — | — | BN 100LA | — | — | 2.5 | 1.8 | 0.9 |
| BN 63A | M05A | 0.21 | 0.14 | 0.1 | — | BN 100LB | M3LB | 4.7 | 3.5 | 2.2 | 1.3 |
| BN 63B | M05B | 0.3 | 0.21 | 0.14 | — | BN 112M | — | 4.7 | 4.7 | 2.5 | 1.8 |
| BN 63C | M05C | 0.45 | 0.3 | — | — | — | M3LC | — | 4.7 | 2.5 | — |
| BN 71A | — | 0.45 | 0.3 | 0.21 | 0.1 | BN 132S | M4SA | — | 6.5 | 3.5 | 2.5 |
| — | M1SC | — | — | 0.21 | — | BN 132SA | — | 6.5 | — | — | — |
| BN 71B | M05SD | 0.65 | 0.45 | 0.3 | 0.14 | BN 132SB | M4SB | 8.7 | — | — | — |
| BN 71C | M1LA | 0.9 | 0.65 | 0.45 | — | BN 132M | — | 11 | — | — | 3.5 |
| BN 80A | — | 0.9 | 0.65 | 0.45 | 0.21 | BN 132MA | M4LA | — | 8.7 | 4.7 | — |
| BN 80B | M2SA | 1.3 | 0.9 | 0.65 | 0.30 | BN 132MA | — | — | 8.7 | 4.7 | — |
| BN 80C | M2SB | 1.8 | 1.3 | 0.9 | — | BN 132MB | M4LB | — | 11 | 6.5 | — |
| BN 90S | — | — | 1.3 | 0.9 | 0.45 | BN 160MR | M4LC | 12.5 | 12.5 | — | — |
| BN 90SA | — | 1.8 | — | — | — | BN 160M | M5SA | — | — | 8.7 | — |
| BN 90SB | — | 2.2 | — | — | — | BN 160MB | — | 17.5 | — | — | — |
| BN 90L | M3SA | 2.5 | — | 1.3 | 0.65 | — | M5SB | 17.5 | 17.5 | — | — |
| BN 90LA | | — | — | 1.8 | — | — | BN 160L | — | 21.5 | 17.5 | 12.5 |
| BN 90LB | — | — | 2.2 | — | — | — | M5SC | 21.5 | — | — | — |
| | | | | | | BN 180M | M5LA | 24.5 | 21.5 | — | — |
| | | | | | | BN 180L | — | — | 25.3 | 17.5 | — |
| | | | | | | BN 200L | — | — | 34 | — | — |
| | | | | | | BN 200LA | — | 34 | — | 22 | — |

(*) Excluded M_— motors



BXN / BX / BE / MXN / MX / ME motors are available at 60 Hz on a 4 pole configuration only, and their power rating is the same as their 50 Hz counterpart. Double speed BN / M motors supplied at 60 Hz will have an increase of nominal power, referred to 50 Hz, equal to 15%, whereas double speed BXN / BX / BE / MXN / MX / ME motors are not available. If a nominal power rating, equal to the normalised nominal power rating at 50 Hz, was requested to be on a nameplate of a motor meant to be voltage supplied at 60 Hz, the PN option shall be specified on the motor designation. Motors normally designed for a 50 Hz frequency may be used on a 60 Hz operating grid, but the related data shall be updated according to the following table. Motors designated for 50 Hz operation show on the nameplate also the values for 60 Hz operation (excluding motors in CUS execution and brake motors). See the following table.

(F17)

| | 50 Hz | | 60 Hz | | |
|---------------------------------|-------------|---------------|------------------------|---|--------------------------------|
| | V - 50 Hz | V - 60 Hz | P _n - 60 Hz | M _n , M _a /M _n - 60 Hz | n [min ⁻¹] - 60 Hz |
| BXN / MXN BX / MX BE / ME | 230/400 Δ/Y | 265 - 460 Δ Y | 1 | 0.83 | 1.2 |
| | 400/690 Δ/Y | 460 Δ | | | |
| BN / M | 230/400 Δ/Y | 220 - 240 Δ | | | |
| | | 380 - 415 Y | | | |
| | 400/690 Δ/Y | 380 - 415 Δ | | | |
| BN / M | 230/400 Δ/Y | 265 - 280 Δ | | | |
| | | 440 - 480 Y | | | |
| | 400/690 Δ/Y | 440 - 480 Δ | | | |

NOTE: For BXN and MXN motors refer to EVOX specific catalogue

M7.3 Ambient temperature

Catalogue rating values are calculated for 50 Hz operation and for standard ambient conditions (temperature 40 °C; elevation ≤ 1000 m a.s.l.) as per the CEI EN 60034-1 Standards. The motors can be used within the 40 - 60 °C temperature range with rated power output adjusted by factors given in the table below.

(F18)

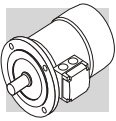
| Ambient temperature (°C) | 40° | 45° | 50° | 55° | 60° |
|---------------------------------------|------|-----|-----|-----|-----|
| Permitted power as a % of rated power | 100% | 95% | 90% | 85% | 80% |

Should a derating factor higher than 15% apply please consult factory.

M7.4 50 HZ normalized power

PN

With this option, motor name plate includes 50 Hz normalized power information even when motor is designated for operation with 60 Hz power mains. For 60 Hz supplies along with voltages 230/460V and 575V the PN option is applied by default.



M7.5 Motors for USA and Canada

CUS

CUS option is available in NEMA Design C execution for BN, BE, M, ME motors, and NEMA Design B for BX motors, with regards to the electrical features. The BXN and MXN motors are CUS certified as standard. Motors are certified in compliance with CSA (Canadian Standard) C22.2 N° 100 and UL (Underwriters Laboratory) UL 1004-1 standards, as stated on UL file E308649.

All powers BN-BE-M-ME and BXN-MXN with powers between 0,12 and 0,55kW included motors nameplates show the below marks:



BXN/MXN \geq 0,75kW and BX/MX \geq 0,75kW motors nameplates show the below marks and are certified in compliance with the energy efficiency standards in effect in the USA and Canada, respectively provided by DOE (10 CFR Part 431) and NRCAN (Energy Efficiency Regulations), tested according to CSA C390 standard.



BX 100 motors are available for the USA only and not for Canada, and the related marks reported on the nameplates are the following:



BX \geq 200K motors shows on nameplate the logo reported below and are compliant to energy efficiency regulations of USA and Canada, respectively established from DOE (10 CFR Part 431) and from NRCAN (Energy Efficiency Regulations), and tested in accordance to CSA C390.



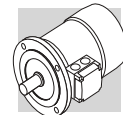
NOTES:

Starting from **June, 1st 2016**, CUS motors whose efficiency is below IE3 (i.e. “Premium Efficiency”) cannot be any longer sold in the USA and Canada, unless one or more of the following conditions apply:

- Double speed motors;
- Motors plated for a non - continuous duty (<80%);
- Motors intended to be operated through variable frequency drive only (properly equipped with “Inverter Duty Only” label, or similar).

CUS option is selectable in combination to U1 or U2 only for BX \geq 200K.

US power mains voltages and the corresponding rated voltages to be specified for the motor are indicated in the following table:




(F19)

| Frequency | Mains voltage | V_{mot} |
|-----------|---------------|--------------|
| 60 Hz | 208 V | 200 V |
| | 240 V | 230 V |
| | 480 V | 460 V |
| | 600 V | 575 V |

BX motor with CUS option are available with the following nominal Voltage/Frequency combinations:

(F20)

|  | V_{mot} |
|---|------------------------------------|
| BX ≤ 132 | 265/460 - 60 Hz |
| BX ≤ 180 | 230/460 - 60 Hz 330/575 - 60 Hz |
| BX ≥ 160 BX ≥ 200K | 460/800 - 60 Hz |

CUS option is applicable onto 50 Hz operating motors as well (motors BX, MX excluded).

M7.6 Motors certified for India

BIS

Low voltage motors $\geq 0.12\text{kW}$ manufactured or imported in India must be certified from Bureau of Indian Standard and provided with a mark certifying motor compliance to IS 12615 standard. BE - ME motors with power up to 3.7kW included, are available with the above mentioned certification and, when BIS option is selected, are provided with the nameplate reporting the following logo:



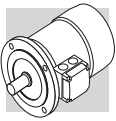
M7.7 China Compulsory Certification

CCC

Electric motors destined for sale in the People's Republic of China have to be certified under the CCC (China Compulsory Certification) system. BN/M and BE/ME motors of up to 7 Nm in rated torque are available with CCC certification and a special nameplate bearing the mark shown below:



CCC option is not currently available for IE3 motors and will be available starting from end 2021. CCC option is not currently available for servo - ventilated motors.



M7.8 Motor certified for China (China Energy Label)

CEL

Low voltage motors $\geq 0.75\text{kW}$ manufactured or imported in China must be certified and registered by the label office and provided with an energy label certifying they meet the energy efficiency levels as defined in GB18613-2012.

BX motors with power from 30 to 355kW included are available with the above mentioned certification and, when CEL option is selected, are provided with the following sticker applied to the motor:



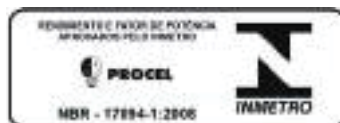
BX motors with CEL option are available with the following nominal Voltage/Frequency combinations:

| | | |
|-------|---------------|------------------|
| (F21) | | V_{mot} |
| | BX ≥ 200 | 380/660 - 50 Hz |

M7.9 Motors certified for Brazil

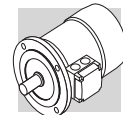
NBR

Brazilian laws regulamentates the manufacturing and importation of electric motor in the country. These have to be approved by NBR trough a declaration of the motor efficiency level at INMETRO. Motor compliant to NBR must report the declared efficiency value and have to be provided with a specific NBR nameplate and the additional mark shown in picture below.




The NBR option is available for motors:

- BX with powers from 0.75 to 22 kW included
- BX... K with powers from 30 to 355 kW included



BX motors with NBR option are available with the following nominal Voltage/Frequency combinations:

(F22)

|  | V_{mot} |
|---|---|
| BX90SR ... BX160 | 220/380 - 60 Hz 220/440 - 60 Hz |
| BX 180 | 220/380 - 60 Hz 220/440 - 60 Hz 380/660 - 60 Hz |
| BX \geq 200K | 440/760 - 60 HZ |

M7.10 Motors certified for Australia


EECA

Electric motor covered by Australian/New Zealand's energy regulation must be listed in the national database Energyratig. Motor with EECA option are registered in the previously mentioned database and can be sold in Australia and New Zealand.

EECA option is available for BX ... K motor with power from 30 to 355kW included.

BX motors with EECA option are available with the following nominal Voltage/Frequency combinations:

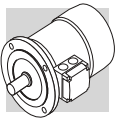
(F23)

|  | V_{mot} |
|---|-----------------|
| BX \geq 200K | 400/690 - 50 Hz |

M7.11 Insulation class

CL F

Bonfiglioli motors use class **F** insulating materials (enamelled wire, insulators, impregnation resins) as compare to the standard motor. In standard motors, stator windings over temperature normally stays below the 80 K limit corresponding to class B over temperature. A careful selection of insulating components makes the motors compatible with tropical climates and normal vibration. For applications involving the presence of aggressive chemicals or high humidity, contact Bonfiglioli Engineering for assistance with product selection.



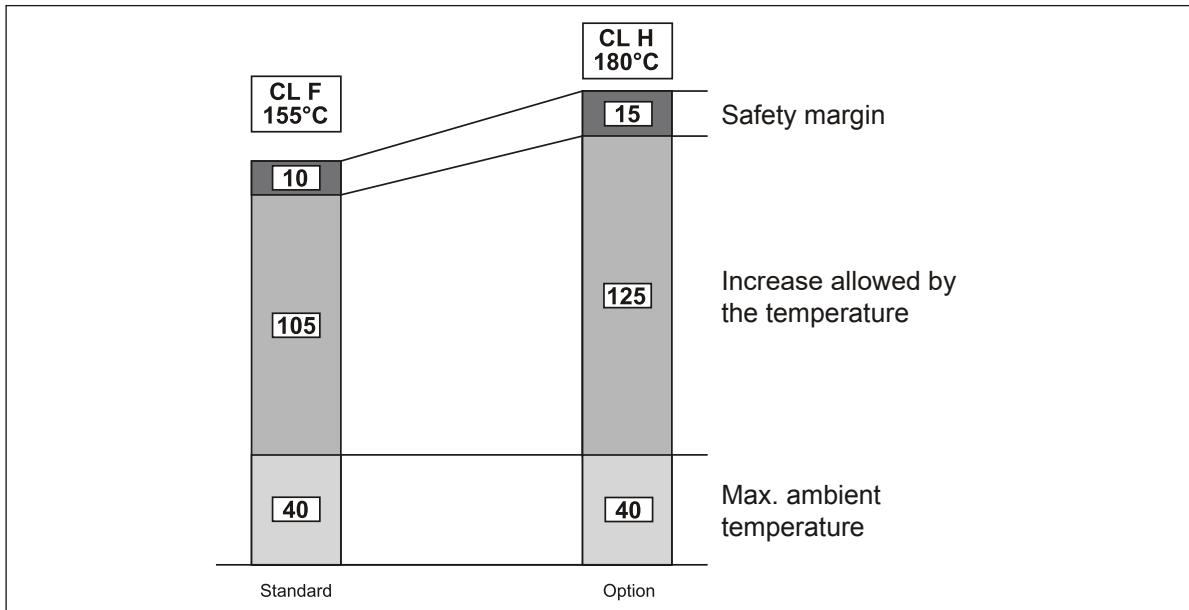
CL H

Motors manufactured in insulation class **H** are available at request.

This option can be selected for motors compliant with CSA and UL standards (CUS option), only for BX \geq 200 and BX \geq 200K.

CLH can't be selected on BXN motors because are CUS standard. If necessary contact technical office.

(F25)



M7.12 Type of duty

Unless otherwise specified, catalogue motor power refers to continuous duty S1. Any operating conditions other than S1 duty must be identified in accordance with duty cycle definitions laid down in standards CEI EN 60034-1. For duty cycles S2 and S3, the power increase co-efficient reported in the following table may be used. Please note that the table provided below applies to single-speed motors. As an alternative to S1 continuous duty, one of the following values can be specified at the product configuration stage (single speed motors only): S2, S3 or S9. The motor nameplate will be marked with an increased power rating to suit the type of duty, and with specific electrical data and a duty type of S2-30 min, S3-70% or S9 respectively. For further details, contact Bonfiglioli's Technical Service. Please contact Bonfiglioli Engineering for the power increase coefficients applicable to switch-pole motors.

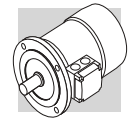
BN and M motors can be configured for operation at duty cycle S2(30min) and S3(70%) as standard option, Other requests which are different in terms of % or min are considered a speciality. BXN and MXN motors can be configured as standard at S2=10min, S2=30min, S2=60min or S3=25%, S3=40%, S3=70%.

(F24)

| | Type of duty | | | | | | S4 - S9 |
|-------|----------------|--------|------|-------------------|------|---------|------------|
| | S2 | | | S3 * | | | |
| | Duration (min) | | | Intermittence (I) | | | |
| | 10 | 30 (*) | 60 | 25% | 40% | 70% (*) | Contact us |
| f_m | 1.35 | 1.15 | 1.05 | 1.25 | 1.15 | 1.1 | |

* Cycle duration must, in any event, be equal to or less than 10 minutes; if this time is exceeded, please contact our Technical Service.

(*) Default values from options (tab. F05).



Cyclic duration factor:

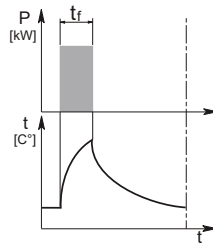
$$I = \frac{t_f}{t_f + t_r} \cdot 100 \quad (01)$$

t_f = work time under constant load

t_r = rest time

Limited duration duty S2

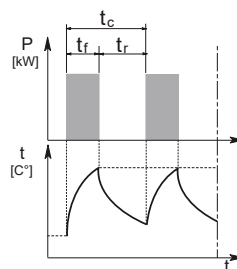
This type of duty is characterized by operation at constant load for a limited time, which is shorter than the time required to reach thermal equilibrium, followed by a rest period of sufficient duration to restore ambient temperature in the motor.



Periodical intermittent duty S3:

This type of duty is characterized by a sequence of identical operation cycles, each including a constant load operation period and a rest period.

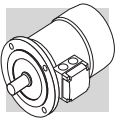
For this type of duty, the starting current does not significantly influence overtemperature.



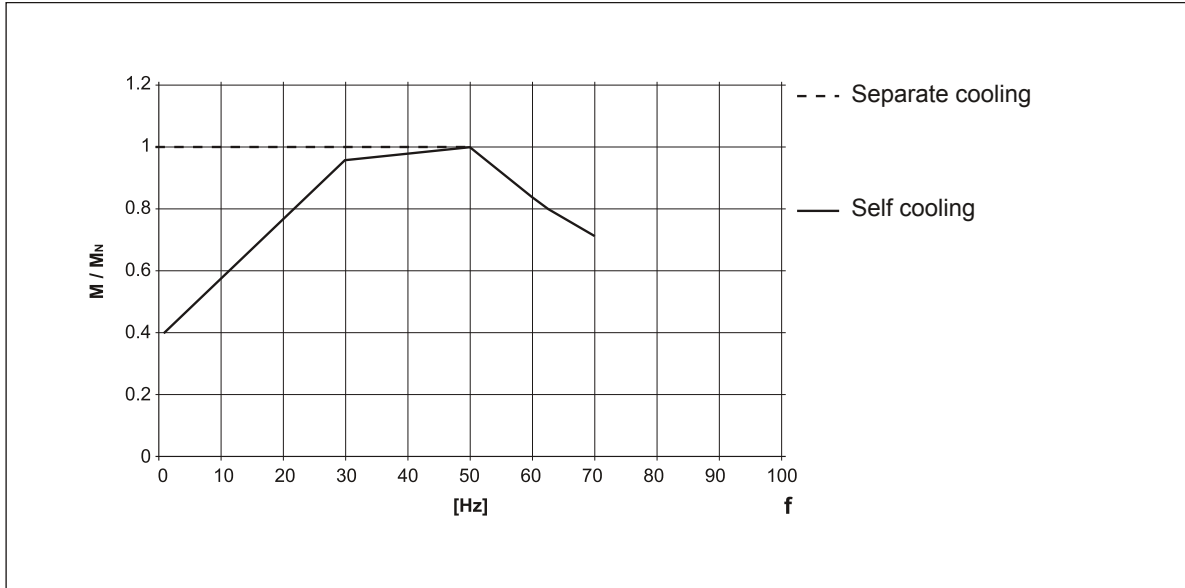
M7.13 Inverter-controlled motors

The electric motors Bonfiglioli may be used in combination with PWM inverters with rated voltage at transformer input up to 500 V. Standard motors use a phase insulating system with separators, class 2 enamelled wire and class H impregnation resins (1600V peak-to-peak voltage pulse capacity and rise edge $t_s > 0.1 \mu s$ at motor terminals). Typical torque/speed curves referred to S1 duty for motors with base frequency $f_b = 50$ Hz is reported in the table below. Because ventilation is somewhat impaired in operation at lower frequencies (about 30 Hz), standard motors with incorporated fan (IC411) require adequate torque derating or - alternately - the addition of a separate supply fan cooling.

Above base frequency, upon reaching the maximum output voltage of the inverter, the motor enters a steady-power field of operation, and shaft torque drops with ratio (f/f_b) . As motor maximum torque decreases with $(f/f_b)^2$, the allowed overloading must be reduced progressively.



(F26)



The following table reports the mechanical speed limit for motors operating above rated frequency:

(F27)

| | | n [min ⁻¹] | | |
|-------------------|------------------------|------------------------|------|------|
| | | 2p | 4p | 6p |
| ≤ BE 112 - BN 112 | ME2, ME3 M05 ... M3 | 5200 | 4000 | 3000 |
| ≥ BE 132 - BN 132 | ME4, ME5 M4, M5 | 4500 | 4000 | 3000 |
| BXN 63 ... BXN 90 | MXN 05 ... MXN 25 | | 4000 | |
| BX 80 ... BX 180 | MX2 ... MX5 | | 4000 | |

Above rated speed, motors generate increased mechanical vibration and fan noise. Class B rotor balancing is highly recommended in these applications. Installing a separate supply fan cooling may also be advisable. Remote-controlled fan and brake (if fitted) must always be connected direct to mains power supply.

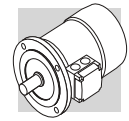
M7.14 Permissible starts per hour, Z

The rating charts of brakemotors lend the permitted number of starts Z_0 , based on 50% intermittence and for unloaded operation.

The catalogue value represents the maximum number of starts per hour for the motor without exceeding the rated temperature for the insulation class F.

To give a practical example for an application characterized by inertia J_c , drawing power P_r and requiring mean torque at start-up M_L the actual number of starts per hour for the motor can be calculated approximately through the following equation:

$$Z = \frac{Z_0 \cdot K_c \cdot K_d}{K_J} \quad (02)$$



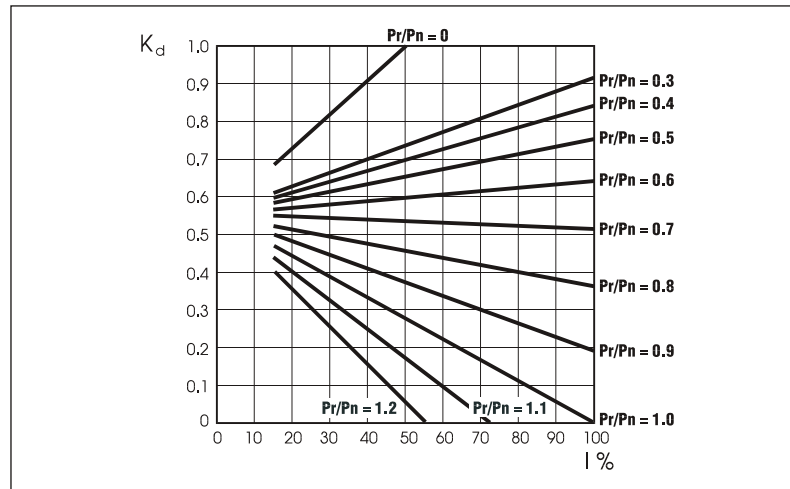
where:

$$K_J = \frac{J_m + J_c}{J_m} \quad \text{inertia factor}$$

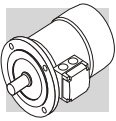
$$K_c = \frac{M_a - M_L}{M_a} \quad \text{torque factor}$$

$$K_d = \quad \text{load factor, see the following table}$$

(F28)



If actual starts per hour is within permitted value (Z) it may be worth checking that braking work is compatible with brake (thermal) capacity W_{max} also given in tables (F38), (F41) and dependent on the number of switches (c/h).

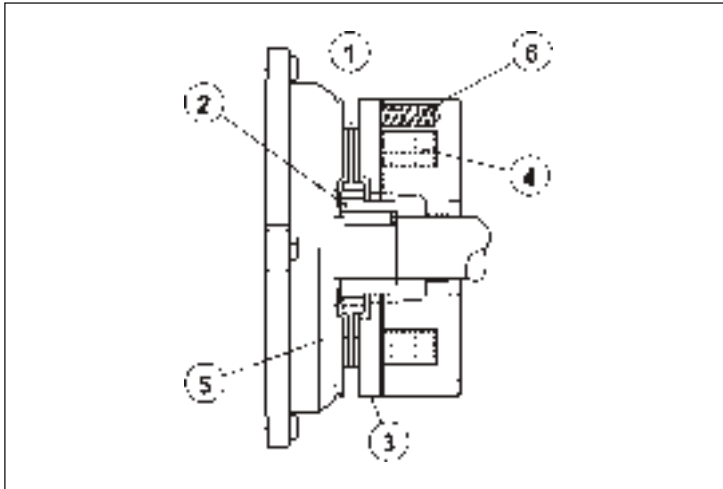


M8 ASYNCHRONOUS BRAKE MOTORS

M8.1 Operation

Versions with incorporated brake use spring-applied DC (FD option) or AC (FA options) brakes. All brakes are designed to provide fail-safe operation, meaning that they are applied by spring-action in the event of power failure.

(F29)



Key:

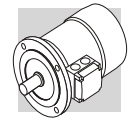
- ① brake disc
- ② disc carrier
- ③ pressure plate
- ④ brake coil
- ⑤ motor rear shield
- ⑥ brake springs

When voltage is interrupted, pressure springs push the armature plate against the brake disc. The disc becomes trapped between the armature plate and motor shield and stops the shaft from rotation.

When the coil is energized, a magnetic field strong enough to overcome spring action attracts the armature plate, so that the brake disc – which is integral with the motor shaft – is released.

M8.2 Most significant features

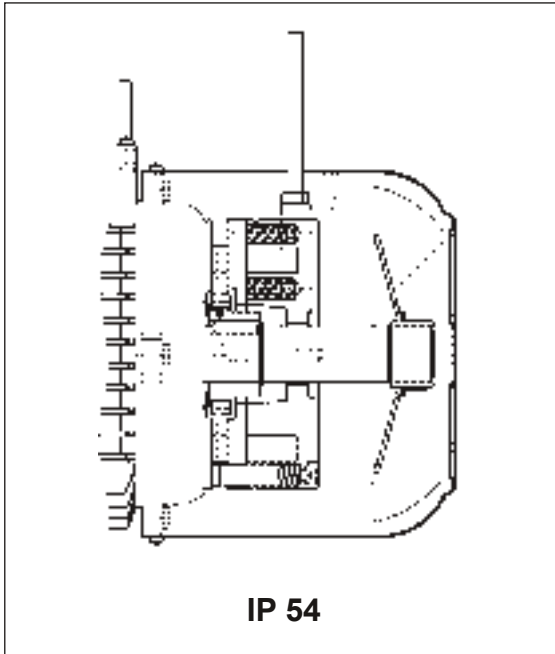
- High braking torques (normally $M_b \approx 2 M_n$), braking torque adjustment.
- Steel brake disc with double friction lining (low-wear, asbestos-free lining).
- Hexagonal seat on motor shaft fan end (N.D.E.) for manual rotation (not compatible with options PS, RC, TC, U1, U2, EN1, EN2, EN3, EN4, EN5, EN6).
- Manual release lever (options **R** and **RM** for FD; option **R** for FA).
- Corrosion-proof treatment on all brake surfaces.
- Insulation class F.



M9 DC BRAKE MOTORS TYPE BXN-BX-BE-BN_FD and MXN-MX-ME-M_FD

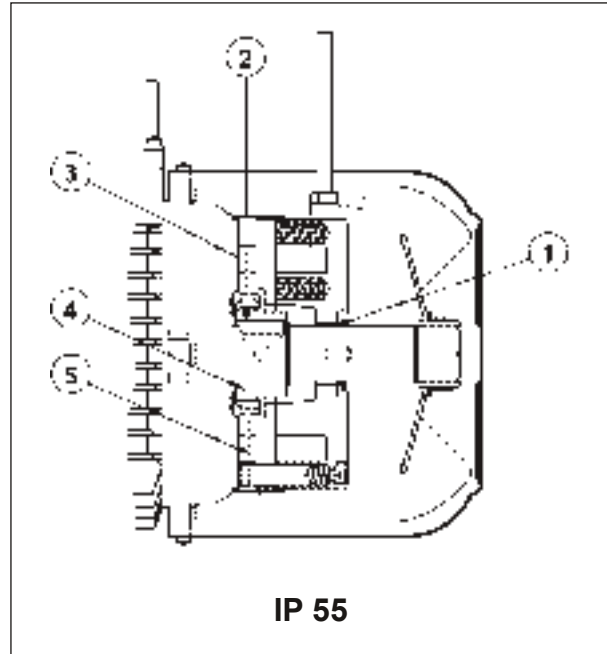
Frame sizes: BXN 63 ... BXN 90, BX 80 ... BX 355M, BX200LAK ... BX 355MCK - BE 63 ... BE 180L - BN 63 ... BN 200L / MXN 05 ... MXN 25 - MX2SB ... MX5LA - ME05 ... ME5 - M05 ... M5

(F30)



IP 54

(F31)



IP 55

Direct current toroidal-coil electromagnetic brake bolted onto motor shield. Preloading springs provide axial positioning of magnet body.

Brake disc slides axially on steel hub shrunk onto motor shaft with anti-vibration device.

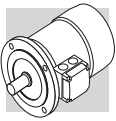
Brake torque factory setting is indicated in the corresponding motor rating charts. Braking torque may be modified by changing the type and/or number of springs.

At request, motors may be equipped with manual release lever with automatic return (**R**) or system for holding brake in the released position (**RM**).

See variant at paragraph "BRAKE RELEASE SYSTEMS" for available release lever locations.

FD brakes ensure excellent dynamic performance with low noise. DC brake operating characteristics may be optimized to meet application requirements by choosing from the various rectifier/power supply and wiring connection options available.

For applications involving lifting and/or high hourly energy dissipation, contact Bonfiglioli's Technical Service.



M9.1 Degree of protection

The standard protection degree for BN - M, BE - ME, BX≤180 - MX≤5 and BXN - MXN, while for BX≥200 and BX≥200K standard protection degree is IP55.

BN - M, BE - ME, BX≤180 - MX≤5 and BXN - MXN brakemotor with a standard protection degree IP54 can be requested with a protection degree IP55. If **IP55** is selected the following construction variants will be applied:

- ① V-ring at N.D.E. of motor shaft
- ② dust and water-proof rubber boot
- ③ stainless steel ring placed between motor shield and brake disc
- ④ stainless steel hub
- ⑤ stainless steel brake disc

M9.2 FD brake power supply

A rectifier accommodated inside the terminal box feeds the DC brake coil. Wiring connection across rectifier and brake coil is performed at the factory.

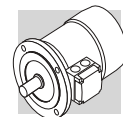
Brake power supply voltage V_B is as indicated in the following table, regardless of mains frequency:

(F32)

| Brake power supply voltage V | FD brake supply voltages | | |
|------------------------------|--|--------------------------------------|--------------------------------|
| | Power supply from the motor with rectifier | Separate power supply with rectifier | Power supply without rectifier |
| 24 | X | X | ✓ |
| 100 | X | X | ✓ |
| 110 | X | ✓ | X |
| 115 | X | ✓ | X |
| 120 | X | ✓ | X |
| 127 | X | ✓ | X |
| 180 | X | X | ✓ |
| 208 | ✓ | ✓ | X |
| 220 | ✓ | ✓ | X |
| 230 | ✓ | ✓ | ✓ |
| 240 | ✓ | ✓ | X |
| 255 | ✓ | X | X |
| 265 | ✓ | X | X |
| 280 | ✓ | X | X |
| 290 | ✓ | X | X |
| 330 | ✓ | X | X |
| 380 | ✓ | ✓ | X |
| 400 | ✓ | ✓ | X |
| 415 | ✓ | ✓ | X |
| 440 | ✓ | ✓ | X |
| 460 | ✓ | ✓ | X |
| 480 | ✓ | ✓ | X |
| 500 | ✓ | ✓ | X |


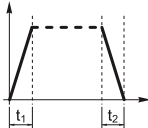
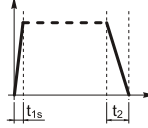
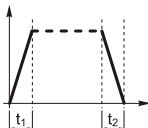
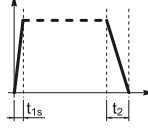
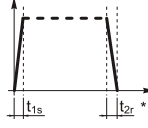
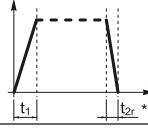
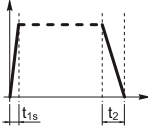
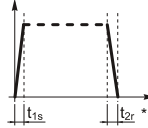
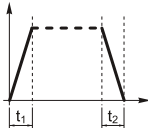


NOTE: For BXN and MXN motors refer to EVOX specific catalogue

For switch-pole motors the brake power supply is compulsorily from a separate line:



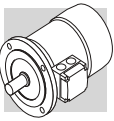
The diode half-wave rectifier ($V_{DC} \approx 0,45 \times V_{AC}$) is available in versions **NB**, **SB**, **NBR** e **SBR**, as detailed in the table below:

(F33)

| | | brake |  | | |
|--------------------------------------|----------------|-------------------------|---|---|--|
| | | | standard | on request | |
| BXN 63 | MXN05 | FD 02 | NB  | SB  | |
| BXN 71 | MXN10 | FD 53 | | | |
| BXN 80 | MXN20 | FD 04 | | | |
| BXN 90 | — | FD 05 | | | |
| BE 63 - BN 63 | ME05 - M05 | FD 02 | NB  | SB  | |
| BE 71 - BN 71 | ME1 - M1 | FD 03 FD 53 | | | |
| BX 80 - BE 80 - BN 80 | MX2 - ME2 - M2 | FD 04 | | SBR  | |
| BX 90S - BE 90S - BN 90S | — | FD 14 | | | |
| BX 90L - BE 90L - BN 90L | — | FD 05 | | | |
| BX 100 - BE 100 - BN 100 | MX3 - ME3 - M3 | FD 15 | | NBR  | |
| — | — | FD 55 | | | |
| BX 112 - BE 112 - BN 112 | — | FD 06S | | SB  | SBR  |
| BX 132 - BE 132 - BN 132 - BN 160MR | MX4 - ME4 - M4 | FD 56 FD 06 FD 07 | | | |
| BX 160 - BE 160L - BN 160L - BN 180M | MX5 - ME5 - M5 | FD 08 | | | |
| BX 180 - BE 180L - BN 180L - BN 200M | — | FD 09 | NB  |  | |
| BX 200LA | — | FD 20 | | | |
| BX 225SA | — | FD 25 | | | |
| BX 250M - BX 315SA | — | FD 30 | | | |
| BX 315SB - BX 315SC | — | FD 160 | | | |
| BX 315MA - BX 355MA | — | FD 250 | | | |
| BX 355MB - BX 355MC | — | FD 400 | | | |
| BX 200LAK | — | FD 8 | | | |
| BX 225SAK - BX 225SBK | — | FD 9 | | | |
| BX 250MAK | — | FD 10 | | | |
| BX 280SAK - BX 315SAK | — | FD 1000 | | | |
| BX 315SBK - BX 315SCK | — | FD 1600 | | | |
| BX 355SAK - BX 355MCK | — | FD 2500 | | |  |
| | | | | | |

(*) $t_{2c} < t_{2r} < t_2$

For BXN motors see the “Brake section” on the EVOX catalogue.



Rectifier **SB** with electronic energizing control over-energizes the electromagnet upon power-up to cut brake release response time and then switches to normal half-wave operation once the brake has been released.

Use of the **SB** rectifier is mandatory in the event of:

- high number of operations per hour
- reduced brake release response time
- brake is exposed to extreme thermal stress

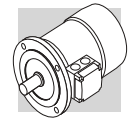
Rectifiers **NBR** or **SBR** are available for applications requiring quick brake intervention (braking condition reinstatement) response.

These rectifiers complement the **NB** and **SB** types as their electronic circuit incorporates a static switch that de-energizes the brake quickly in the event voltage is missing.

This arrangement ensures short brake release response time with no need for additional external wiring and contacts.

Optimum performance of rectifiers **NBR** and **SBR** is achieved with separate brake power supply.

Versions available: 230Vac $\pm 10\%$, 400Vac $\pm 10\%$, 50/60 Hz (with power supply); 100Vdc $\pm 10\%$, 180Vdc $\pm 10\%$ (with SD option).



M9.3 FD brake technical specifications

The table below reports the technical specifications of DC brakes FD.

(F34)

| Brake | Brake torque M_b [Nm] springs | | | Release | | Braking | | W_{max} per brake operation [J] | | | W | P |
|--------|------------------------------------|-----|------|---------|----------|---------|----------|--|---------|----------|------|-----|
| | 6 | 4 | 2 | t_1 | t_{1s} | t_2 | t_{2c} | 10 s/h | 100 s/h | 1000 s/h | [MJ] | [W] |
| | | | | [ms] | [ms] | [ms] | [ms] | | | | | |
| FD02 | – | 3.5 | 1.75 | 30 | 15 | 80 | 9 | 4500 | 1400 | 180 | 15 | 17 |
| FD03 | 5 | 3.5 | 1.75 | 50 | 20 | 100 | 12 | 7000 | 1900 | 230 | 25 | 24 |
| FD53 | 7.5 | 5 | 2.5 | 60 | 30 | 100 | 12 | | | | | |
| FD04 | 15 | 10 | 5 | 80 | 35 | 140 | 15 | 10000 | 3100 | 350 | 30 | 33 |
| FD14 | | | | | | | | | | | | |
| FD05 | 40 | 26 | 13 | 130 | 65 | 170 | 20 | 18000 | 4500 | 500 | 50 | 45 |
| FD15 | 40 | 26 | 13 | 130 | 65 | 170 | 20 | | | | | |
| FD06S | 60 | 40 | 20 | – | 80 | 220 | 25 | 20000 | 4800 | 550 | 70 | 55 |
| FD56 | – | 75 | 37 | – | 90 | 250 | 20 | 29000 | 7400 | 800 | 80 | 65 |
| FD06 | | 100 | 50 | | 100 | 250 | 20 | | | | | |
| FD07 | 150 | 100 | 50 | – | 120 | 200 | 25 | 40000 | 9300 | 1000 | 130 | 65 |
| FD08* | 250 | 200 | 170 | – | 140 | 350 | 30 | 60000 | 14000 | 1500 | 230 | 100 |
| FD09** | 400 | 300 | 200 | – | 200 | 450 | 40 | 70000 | 15000 | 1700 | 230 | 120 |
| FD20 | 260 | | | 100 | 170 | 340 | - | 80000 | 1700 | 1800 | - | 100 |
| FD25 | 400 | | | 120 | 195 | 390 | - | 120000 | 19000 | 2000 | - | 110 |
| FD30 | 1000 | | | 180 | 210 | 420 | - | 200000 | 28000 | 2900 | - | 200 |
| FD160 | 1600 | | | 360 | 245 | 490 | - | 240000 | 36000 | 2600 | - | 336 |
| FD250 | 2500 | | | 420 | 343 | 685 | - | 280000 | 47000 | 3700 | - | 400 |
| FD400 | 4000 | | | 530 | 455 | 910 | - | 325000 | 51000 | 4500 | - | 420 |
| FD8 | 400 | | | 176 | 78 | 236 | - | 65000 | 7000 | 650 | - | 85 |
| FD9 | 600 | | | 324 | 138 | 176 | - | 120000 | 12000 | 1200 | - | 100 |
| FD10 | 800 | | | 480 | 194 | 172 | - | 100000 | 16000 | 2000 | - | 150 |
| FD1000 | 1000 | | | 252 | - | 375 | - | 220000 | 27000 | 2700 | - | 300 |
| FD1600 | 1600 | | | 366 | - | 498 | - | 230000 | 35000 | 3500 | - | 340 |
| FD2500 | 2500 | | | 660 | - | 880 | - | 590000 | 61000 | 6100 | - | 530 |

* brake torque values obtained with 9, 7 and 6 springs, respectively

** brake torque values obtained with 12, 9 and 6 springs, respectively

t_1 = brake release time with half-wave rectifier
 t_{1s} = brake release time with over-energizing rectifier
 t_2 = brake engagement time with AC line interruption and separate power supply
 t_{2c} = brake engagement time with AC and DC line interruption – Values for t_1 , t_{1s} , t_2 , t_{2c} indicated in the tab. (F34) are referred to brake set at maximum torque, medium air gap and rated voltage
 W_{max} = max energy per brake operation
 W = braking energy between two successive air gap adjustments
 P_b = brake power absorption at 20 °C
 M_b = static braking torque ($\pm 15\%$)
s/h = starts per hour

The brake pad wear depends on the operating/ambient conditions (temperature, humidity, angular speed, specific pressure); Therefore the declared wear rate must be considered as indicative.

M9.4 FD brake connections

On standard single-pole motors, the rectifier is connected to the motor terminal board at the factory. For switch-pole motors and where a separate brake power supply is required, connection to rectifier must comply with brake voltage V_B stated in motor name plate.

Because the load is of the inductive type, brake control and DC line interruption must use contacts from the usage class AC-3 to IEC 60947-4-1.

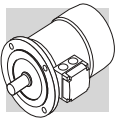


Table (F35+F39) – Brake coil with power supply from motor terminals (DIR) and AC line interruption. Delayed stop time t_2 and function of motor time constants.

Mandatory when soft-start/stops are required.

Table (F36+F40) – Brake coil with separate power supply (SA) and AC line interruption.

Normal stop time independent of motor.

Achieved stop times t_2 are indicated in the table (F34).

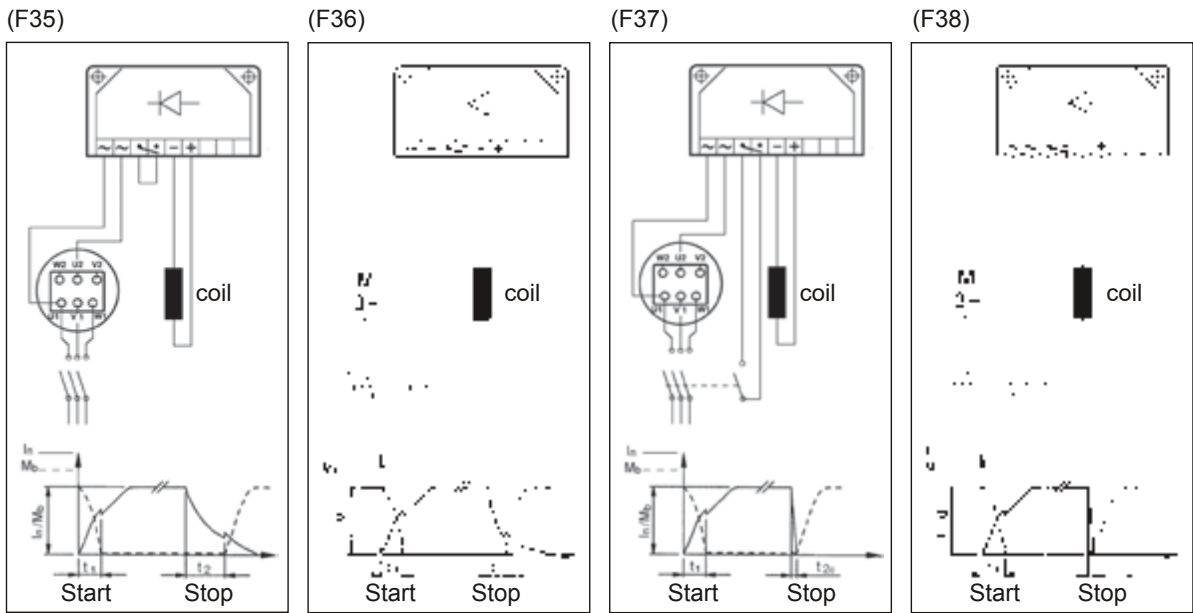
Table (F37+F41) – Brake coil with power supply from motor terminals (DIR) and AC/DC line interruption.

Quick stop with operation times t_{2c} as per table (F34).

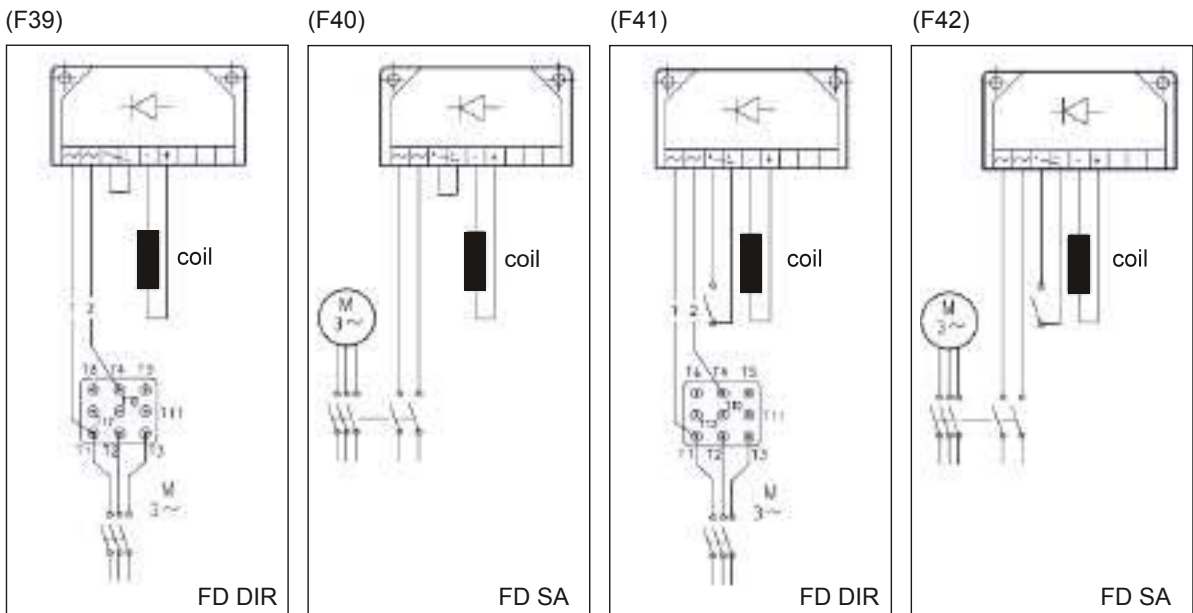
Table (F38+F42) – Brake coil with separate power supply (SA) and AC/DC line interruption.

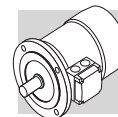
Stop time decreases by values t_{2c} indicated in the table (F34).

The brake may be voltage supplied directly from the motor terminal box (tab. F35-F39 and tab. F37-F41) only if the nominal voltage of the brake is the same as the smaller voltage of the motor.



For BXN and MXN motors the FD brake connection scheme is as follows:

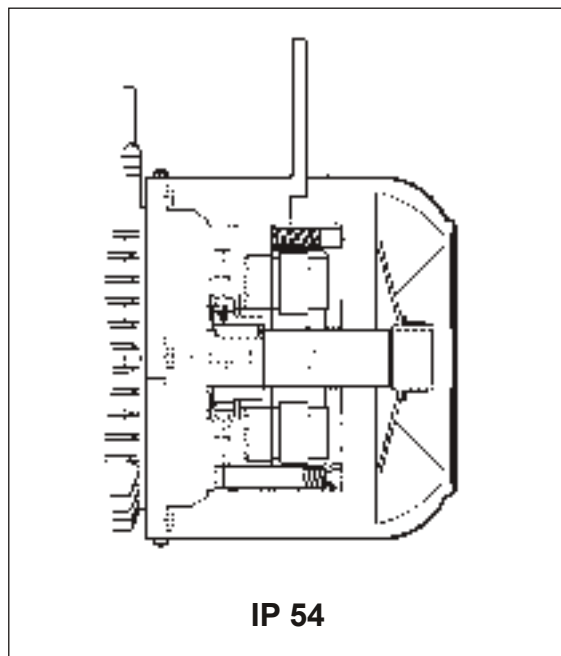




M10 AC BRAKE MOTORS TYPE BXN-BX-BE-BN_FA and MXN-MX-ME-M_FA

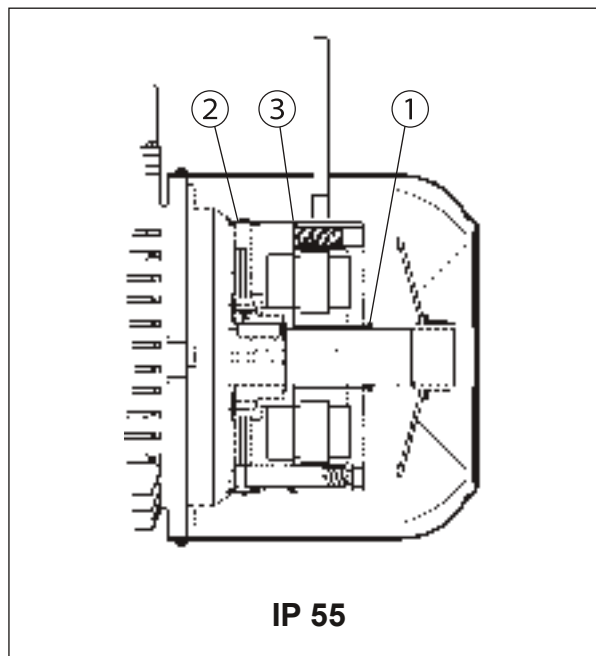
Frame sizes: BXN 63 ... BXN 90, BX 80 ... BX 160L - BE 63 ... BE 160L - BN 63 ... BN 180M /
MXN 05 ... MXN 25 - MX2SB ... MX5LA - ME05 ... ME5 - M05 ... M5

(F43)



IP 54

(F44)



IP 55

Electromagnetic brake operates from three-phase alternated current power supply and is bolted onto conveyor shield. Preloading springs provide axial positioning of magnet body.

Steel brake disc slides axially on steel hub shrunk onto motor shaft with anti-vibration device.

Brake torque factory setting is indicated in the corresponding motor rating charts.

Spring preloading screws provide stepless braking torque adjustment.

Torque adjustment range is $30\% M_{bMAX} < M_b < M_{bMAX}$ (where M_{bMAX} is maximum braking torque as shown in tab. (F45).

Thanks to their high dynamic characteristics, FA brakes are ideal for heavy-duty applications as well as applications requiring frequent stop/starts and very fast response time.

Motors may be equipped with manual release lever with automatic return (R) at request. See variant at paragraph "BRAKE RELEASE SYSTEMS" for available release lever locations.

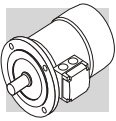
For applications involving lifting and/or high hourly energy dissipation, contact Bonfiglioli's Technical Service.

M10.1 Degree of protection

Standard protection class is IP54.

Brake motor FA is also available in protection class **IP55**, which mandates the following variants:

- ① V-ring at N.D.E. of motor shaft
- ② dust and water-proof rubber boot
- ③ O-ring



M10.2 FA brake power supply

In single speed motors, power supply may be brought to the brake coil direct from the motor terminal box. As a result, brake voltage and motor voltage are the same.

Switch-pole motors and motors with separate brake power supply feature an auxiliary terminal board with 6 terminals for connection to brake line. In all cases, brake voltage indication in the designation is mandatory. The following table reports standard AC brake power supply ratings for single- and switch-pole motors:

(F45)

| Brake power supply voltage V | FA brake | |
|------------------------------|----------------------------|----------------------------|
| | Motor power supply at 50Hz | Motor power supply at 60Hz |
| 208 | ✗ | ✓ |
| 220 | ✗ | ✓ |
| 230 | ✓ | ✓ |
| 240 | ✗ | ✓ |
| 380 | ✓ | ✓ |
| 400 | ✓ | ✓ |
| 415 | ✓ | ✗ |
| 440 | ✗ | ✓ |
| 460 | ✗ | ✓ |
| 480 | ✗ | ✓ |
| 500 | ✓ | ✗ |
| 575 | ✗ | ✓ |

NOTE: For BXN and MXN motors refer to EVOX specific catalogue

Special voltages are available at request.

M10.3 Technical specifications of FA brakes

(F46)

| Brake | Brake torque M_b [Nm] | Release t_1 [ms] | Braking t_2 [ms] | W_{max} [J] | | | W [MJ] | P [VA] |
|--------|-------------------------------|--------------------------|--------------------------|--------------------|---------|----------|-----------|-----------|
| | | | | 10 s/h | 100 s/h | 1000 s/h | | |
| FA 02 | 3.5 | 4 | 20 | 4500 | 1400 | 180 | 15 | 60 |
| FA 03 | 7.5 | 4 | 40 | 7000 | 1900 | 230 | 25 | 80 |
| FA 04 | 15 | 6 | 60 | 10000 | 3100 | 350 | 30 | 110 |
| FA 14 | | | | | | | | |
| FA 05 | 40 | 8 | 90 | 18000 | 4500 | 500 | 50 | 250 |
| FA 15 | | | | | | | | |
| FA 06S | 60 | 16 | 120 | 20000 | 4800 | 550 | 70 | 470 |
| FA 06 | 75 | 16 | 140 | 29000 | 7400 | 800 | 80 | 550 |
| FA 07 | 150 | 16 | 180 | 40000 | 9300 | 1000 | 130 | 600 |
| FA 08 | 250 | 20 | 200 | 60000 | 14000 | 1500 | 230 | 1200 |

M_b = max static braking torque ($\pm 15\%$)

t_1 = brake release time

t_2 = brake engagement time

W_{max} = max energy per brake operation (brake thermal capacity)

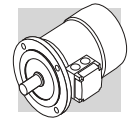
W = braking energy between two successive air gap adjustments

P_b = power drawn by brake at 20° (50 Hz)

s/h = starts per hour

NOTE

Values t_1 and t_2 in the table refer to a brake set at rated torque, medium air gap and rated voltage.

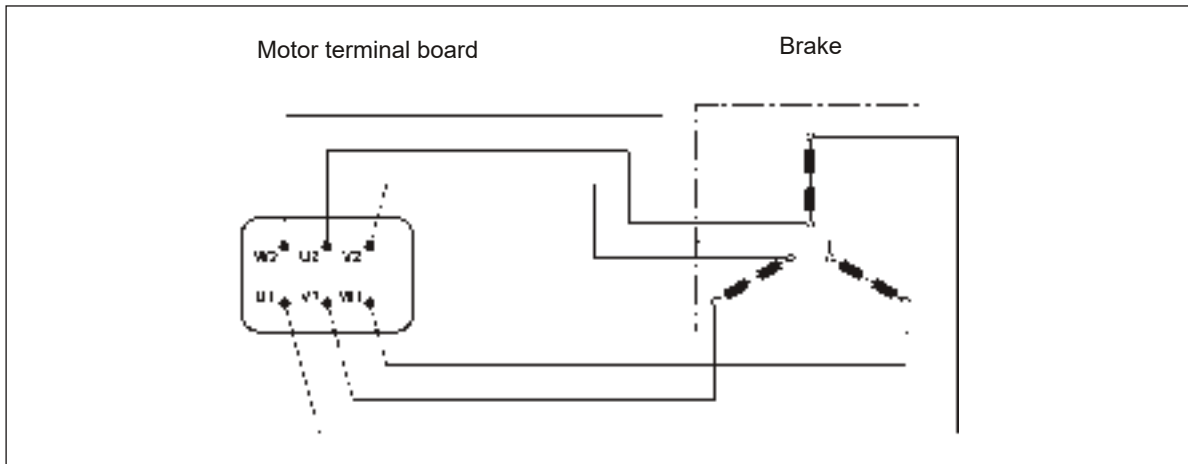


The brake pad wear depends on the operating/ambient conditions (temperature, humidity, angular speed, specific pressure); Therefore the declared wear rate must be considered as indicative.

M10.4 FA brake connections

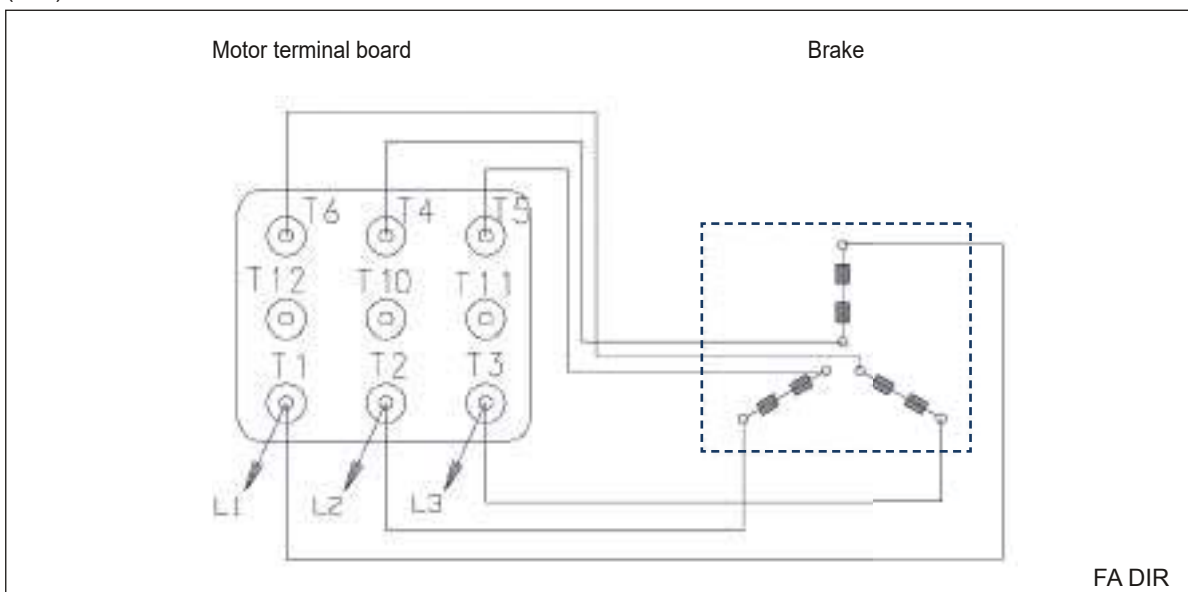
The diagram below shows the wiring when brake is connected directly to same power supply of the motor:

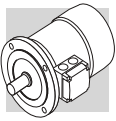
(F47)



For BXN and MXN motors the FA brake connection scheme is as follows:

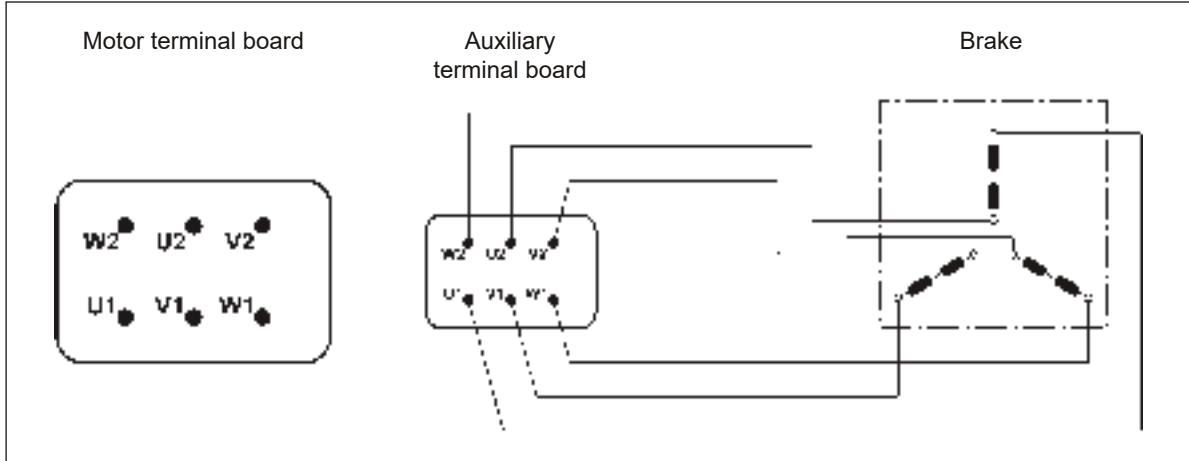
(F48)





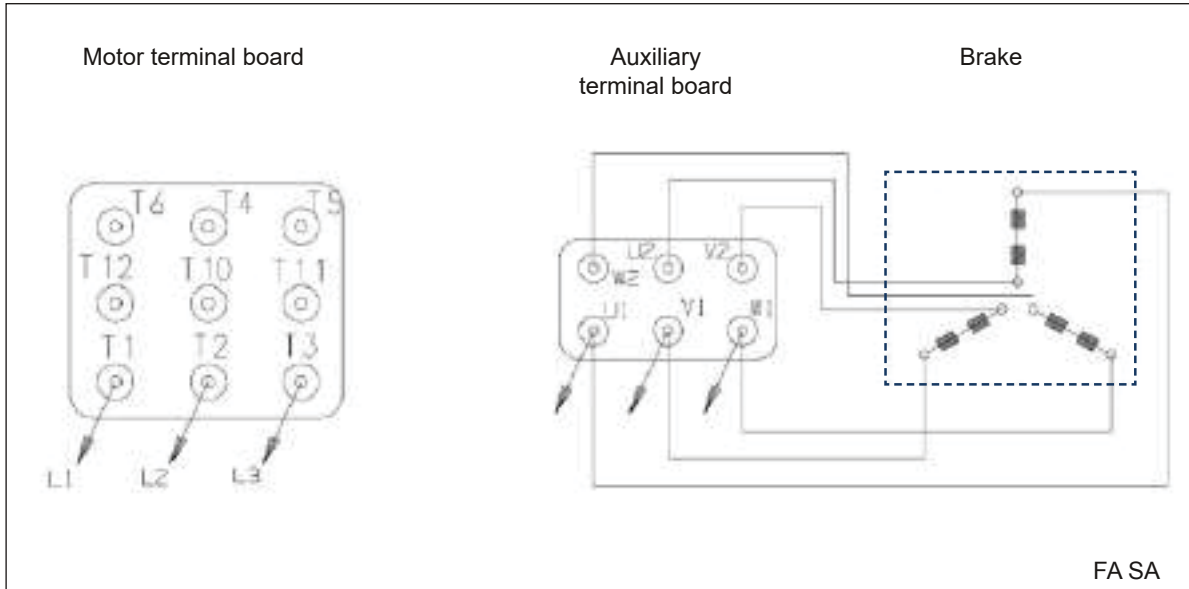
Switch-pole motors and, at request, single-pole motors with separate power supply are equipped with an auxiliary terminal board with 6 terminals for brake connection. In this version, motors feature a larger terminal box. See diagram below:

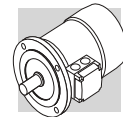
(F49)



For BXN and MXN motors the FA brake connection scheme is as follows:

(F50)



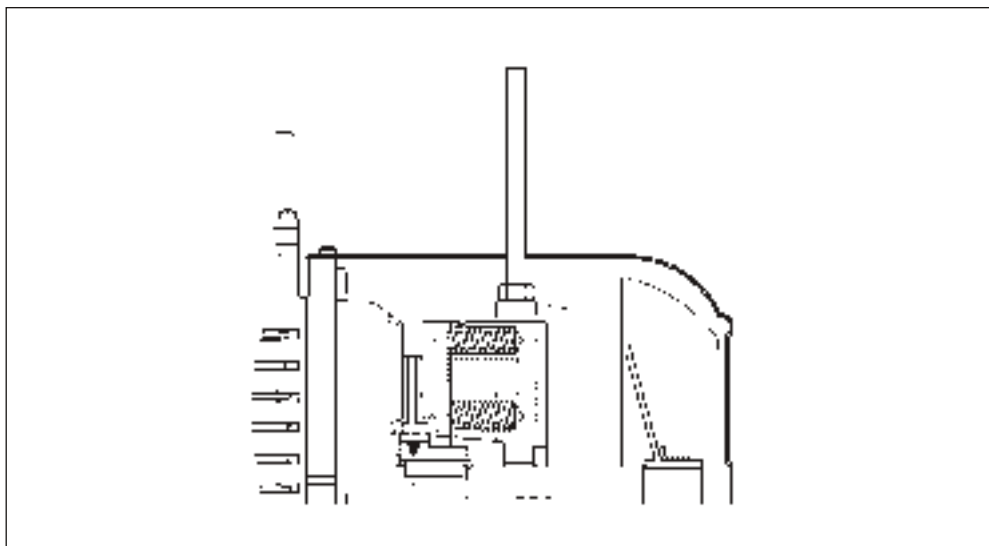


M11 BRAKE RELEASE SYSTEMS

Spring-applied brakes type FD and FA may be equipped with optional manual release devices. These are typically used for manually releasing the brake before servicing any machine or plant parts operated by the motor.

R

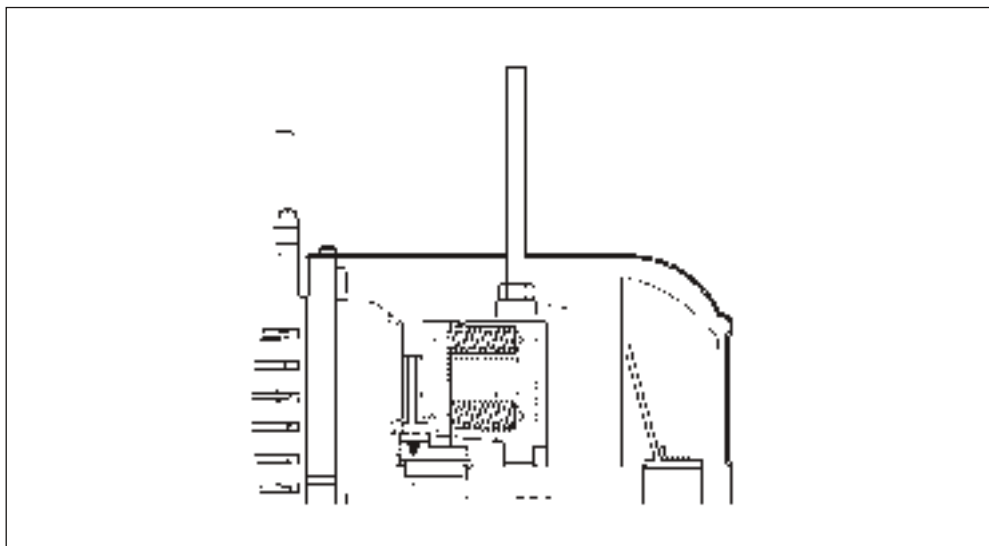
(F51)



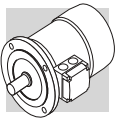
A return spring brings the release lever back in the original position.

RM

(F52)



On brake motors type FD, if the option RM is specified, the release device may be locked in the "release" position by tightening the lever until its end becomes engaged with a brake housing projection. The availability for the various disengagement devices is charted here below:



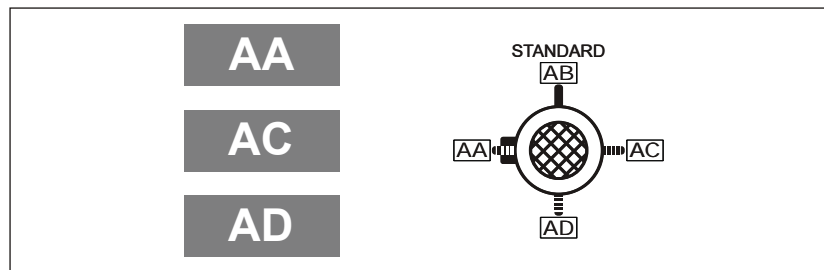
(F53)

| | R | RM |
|-----------------------------------|--|---|
| BXN_FD BX_FD BE_FD BN_FD | BXN 63 ... BXN 90 BX 80 ... BX 180 BX 200K ... BX 315K BE 63 ... BE 180 BN 63 ... BN 200 | BXN 63 ... BXN 90 BX 80 ... BX 132 BE 63 ... BE 132 BN 63 ... BN 132 FD07 |
| MXN_FD MX_FD ME_FD M_FD | MXN05 ... MXN20 MX2 ... MX5 ME05 ... ME5 M05 ... M5 | MXN05 ... MXN20 MX2 ... MX4 ME05 ... ME4 M05 ... M4LA |
| BXN_FA BX_FA BE_FA BN_FA | BXN 63 ... BXN 90 BX 80 ... BX 160 BE 63 ... BE 160L BN 63 ... BN 180M | ● |
| MXN_FA MX_FA ME_FA M_FA | MXN05 ... MXN20 MX2 ... MX5 ME05 ... ME5 M05 ... M5 | ● |

M11.1 Release lever orientation

Unless otherwise specified, the release lever is located 90° away from the terminal box – identified by letters [AB] in the diagram below – in a clockwise direction on both options **R** and **RM**. Alternative lever positions [AA], [AC] and [AD] are also possible when the corresponding option is specified:

(F54)



M11.2 Separate brake supply

DIR

Direct brake supply

The brake system is directly powered through the electric motor terminal board power supply. When a legacy motor is configured with a direct brake supply no option need to be selected, while for EVOX motors DIR option must be selected.

...SA

Separate AC brake supply

The brake coil is directly powered through an independent line, separated from the motor one.

FA-SA: the rated AC voltage must be specified. SA 230 (V AC). **FD-NB/SB-SA:** the rated AC voltage which power the rectifier must be specified. E.G. SA 400 (V AC).

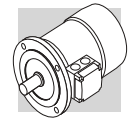
...SD

Separate DC brake supply

The brake coil is directly powered with a DC current and the rectifier is not present.

The rated coil voltage must be specified, E.G. SD 24 (V DC).

Note: for BX≥200 and BX≥200K it is not possible to directly feed the brake from the motor terminal box, it is then necessary to select option SA or SD.



M12 OPTIONS

M12.1 Soft-start / stop

F1

An optional flywheel - option F1 - is available for applications requiring soft starting or stopping. The flywheel's added inertia uses up kinetic energy during starting and returns it back during braking, thus catering for more progressive and gradual shock loads. The optional flywheel is available for brake motors type BN-BE_FD and M-ME_FD with specific characteristics as detailed in the table below:

(F55)

| Main data for flywheel of motore type: BN-BE_FD, M-ME_FD | | | |
|--|------------|--------------------------|--|
| | | Fly-wheel weight [Kg] | Fly-wheel inertia [Kgm ²] |
| BN 63 - BE 63 | M05 - ME05 | 0.69 | 0.00063 |
| BN 71 - BE 71 | M1 - ME1 | 1.13 | 0.00135 |
| BN 80 - BE 80 | M2 - ME2 | 1.67 | 0.00270 |
| BN 90 S - BN 90 L BE 90 S - BE 90 LA | - | 2.51 | 0.00530 |
| BN 100 - BE 100 | M3 - ME3 | 3.48 | 0.00840 |
| BN 112 - BE 112 | - | 4.82 | 0.01483 |
| BN 132 S - BN 132 M BE 132 S - BE 132 M | M4 - ME4 | 6.19 | 0.02580 |

M12.2 Capacitive filter

CF

An optional capacitive filter is available for brake motors type FD only. When the suitable capacitive filter is installed upstream of the rectifier (option CF), motors comply with the emission limits required by standard EN61000-6-3:2007 "Electromagnetic Compatibility – Generic Emission Standard – Part 6-3: Residential, commercial and light industrial environment".

BX≥200LA and BX≥200LAK motors comply with the emission limits required by standard EN 61000-6-3:2007 "Electromagnetic Compatibility - Generic Emission Standard - Part 6-3: residential, commercial and light industrial environment."

M12.3 Thermal protective devices

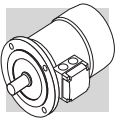
In addition to the standard protection provided by the magneto-thermal device, motors can be supplied with built-in thermal probes to protect the winding against overheating caused, by insufficient ventilation or by an intermittent duty.

This additional protection should always be specified for servoventilated motors (IC416).

M12.4 Thermistors

E3

These are semi-conductors having rapid resistance variation when they are close to the rated switch off temperature (150 °C). Variations of the $R = f(T)$ characteristic are specified under DIN 44081, IEC 34-11 Standards. Positive temperature coefficient thermistors are normally used (also known as PTC "cold conductor resistors"). Thermistors cannot control relays directly and must be connected to a suitable disconnect device. Thus protected, three PTCs connected in series are installed in the winding, the terminals of which are located on the auxiliary terminal-board.



K1

The design characteristics of this sub-group of PTC thermistors allow them to be used as positive temperature coefficient sensors with variable resistance.

Functioning temperature range: 0°C ... +260°C.

Thermistors cannot control relays directly and must be connected to a suitable disconnect device. Terminals (polarised) for 1 x KTY 84-130 are provided on an auxiliary terminal strip.

M12.5 Bimetallic thermostates

D3

These types of protective devices house a bimetal disk. When the rated switch off temperature (150 °C) is reached, the disk switches the contacts from their initial rest position.

As temperature falls, the disk and the contacts automatically return to rest position.

Three bimetallic thermostates connected in series are usually employed, with normally closed contacts. The terminals are located on an auxiliary terminal-board.

M12.6 Resistance thermometer

Pt1000

The resistance thermometer has a chip for a temperature sensor, the resistance of which changes in relation to temperature according to a series of reproducible basic values. The changes in resistance are transferred as changes in current.

At 0°C, the measurement resistances are adjusted to 1000 ohm for the Pt1000 and correspond to the accuracy class B (i.e. the relationship between resistance and temperature). The limit deviation is $\pm 0,3^{\circ}\text{C}$, and the admissible deviations are defined in EN 60751. The Pt1000 resistance thermometer will, in the future, gradually replace the KTY84-130 temperature available today. The relationship between the temperature and the electrical resistance of conductors is utilized in the Pt1000 to measure the temperature, just like with the additional resistance thermometers described above. Pure metals undergo larger changes in resistance than alloys and have a relatively constant temperature coefficient.

M12.7 Plug connector

CON

Three types of connectors (CON 1, CON 2, CON 3) are provided; they can be mounted in two different positions: right side of terminal box cover (C1D, C2D, C3D); left side of terminal box cover (C1S, C2S, C3S).

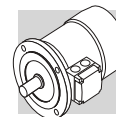
The option CON is applicable to single speed BN and M motors (2, 4, 6, 8 poles), and BX / BE and MX / ME motors on the sizes specified on the following table. All double speed motors are excluded. The connectors CON 1 / CON 2 are available for BX-BE/MX-ME and BN/M motors without brake and for brakemotors equipped with DC brake type FD, for the motor sizes listed below.

The male connector (with pins) is mounted on the motor, the female connector is not provided. With CON option, the winding connection is always Y.

With option U1 "forced ventilation", the fan unit supply is available inside the separate terminal box fixed to fan cover. With options EN1...EN6, the encoder connection is made by a cable not connected to the motor plug connector.

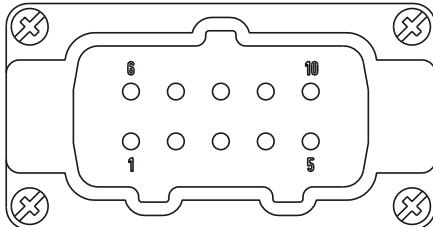
The CON option is not applicable to brakemotors equipped with AC brake type FA.

The CON option is not available when at least one of the next options are selected: the U2, CUS, IC.

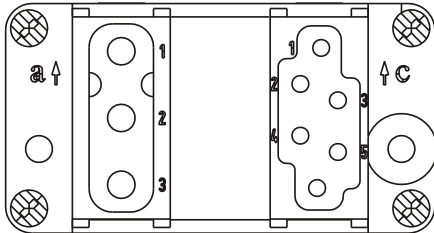


Specifications

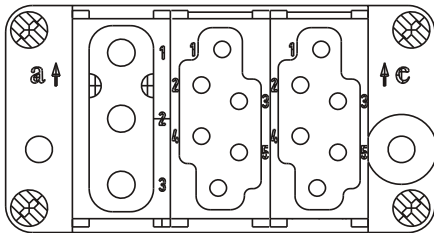
(F56)

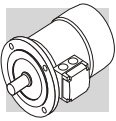
| Option | CON 1 |
|-----------------------------------|--|
| Motor size | BX 80 ... BX 112 / MX2, MX3 / BE 63 ... BE 112 / ME05 ... ME4 BN 63 ... BN 112 / M05 ... M3 |
| Connector view |  |
| Type of connector | Harting Han 10ES |
| Housing | Han EMC 10B with 2 levers |
| Numbers of pins - nominal current | 10 x 16A |
| Voltage | 500 Vac |
| Contact connection | Screw terminals |

(F57)

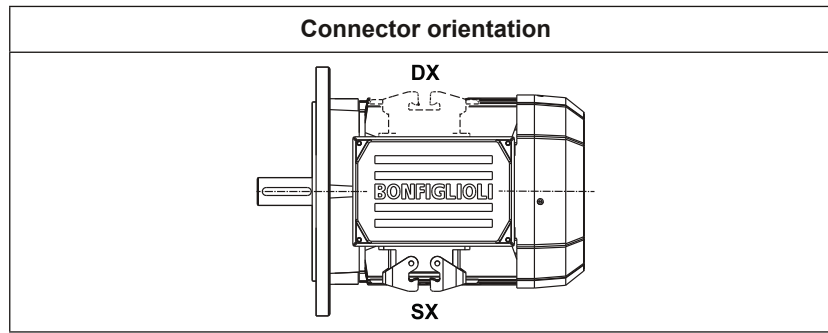
| Option | CON 2 |
|-----------------------------------|--|
| Motor size | BX 80 ... BX 132 / MX2, MX3 / BE 63 ... BE 132 / ME05 ... ME4 BN 63 ... BN 160MR / M05 ... M4 |
| Connector view |  |
| Type of connector | Harting Han Modular |
| Housing | Han EMC 10B with 2 levers |
| Module type | Module C + Module E + Module E |
| Numbers of pins - nominal current | 3 x 36A / 6 x 16A |
| Voltage | 500 Vac |
| Contact connection | Crimping contacts |

(F58)

| Option | CON 3 |
|-----------------------------------|---|
| Motor size | BX 80 ... BX 132M / MX2, MX3 / BE 63 ... BE 132 / ME05 ... ME4 / BN 63 ... BN 160MR / M05 ... M4 |
| Connector view |  |
| Type of connector | Harting Han Modular |
| Housing | Han EMC 10B with 2 levers |
| Module type | Module C + Module E + Module E |
| Numbers of pins - nominal current | 3 x 36A / 6 + 6 x 16A |
| Voltage | 500 Vac |
| Contact connection | Crimping contacts |



(F59)



(F60)

Motors without brake dimensions

| | | AD (mm) | AF (mm) | AH (mm) | LL (mm) | V ^(*) (mm) |
|--------------------------|----------------|---------|---------|---------|---------|-----------------------|
| BE 63 - BN 63 | ME05 - M05 | 136 | 110 | 45 | 165 | 4.5 |
| BE 71 - BN 71 | ME1 - M1 | 149 | 110 | 45 | 165 | 15.5 |
| BX 80 - BE 80 - BN 80 | MX2 - ME2 - M2 | 160 | 110 | 45 | 165 | 16.5 |
| BX 90 - BE 90 - BN 90 | MX3 | 162 | 110 | 45 | 165 | 31.5 |
| BX 100 - BE 100 - BN 100 | MX3 - ME3 - M3 | 171 | 110 | 45 | 165 | 37.5 |
| BX 112 - BE 112 - BN 112 | MX4 | 186 | 110 | 45 | 165 | 39 |
| BX 132 - BE 132 - BN 132 | MX4 - ME4 - M4 | 210 | 140 | 45 | 188 | 45.5 |
| BN 160MR | — | 210 | 140 | 45 | 188 | 161 |

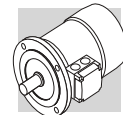
(*) Dimension valid only for motors BX, BE and BN.

(F61)

Motors with FD brake dimensions

| | | AD (mm) | AF (mm) | AH (mm) | LL (mm) | V ^(*) (mm) |
|--------------------------|----------------|---------|---------|---------|---------|-----------------------|
| BE 63 - BN 63 | ME05 - M05 | 136 | 110 | 45 | 165 | 4.5 |
| BE 71 - BN 71 | ME1 - M1 | 149 | 110 | 45 | 165 | 1.5 |
| BX 80 - BE 80 - BN 80 | MX2 - ME2 - M2 | 160 | 110 | 45 | 165 | 18.5 |
| BX 90 - BE 90 - BN 90 | — | 162 | 110 | 45 | 165 | 39.5 |
| BX 100 - BE 100 - BN 100 | MX3 - ME3 - M3 | 171 | 110 | 45 | 165 | 63.5 |
| BX 112 - BE 112 - BN 112 | — | 186 | 110 | 45 | 165 | 75 |
| BX 132 - BE 132 - BN 132 | MX4 - ME4 - M4 | 210 | 140 | 45 | 188 | 122 |
| BN 160MR | — | 210 | 140 | 45 | 188 | 161 |

(*) Dimension valid only for motors BN and BX



M12.8 Control of brake operation

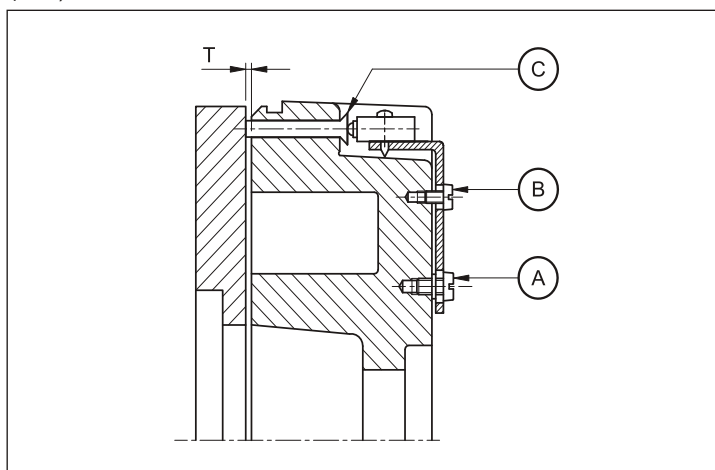
MSW

The microswitch can be set in order to obtain from it a signal related to the attraction/release of anchor plate, or it can be set in order to give feedback when the air gap reaches the maximum value.

MSW option is available for brakes FD03...FD09.

The microswitch is provided with three lead wires (NC, NO, COM). The next figure shown the main components of the brake equipped with microswitch.

(F62)



- A: Plate fixing screws
- B: Setting screws
- C: Actuator control pin

M12.9 Additional cable entry for brakemotors

IC

The terminal box cover of brakemotors BN 63 ... BN 160MR - M05 ... M4L is provided with two additional cable entry M16 x 1.5 (one cable entry per side).

The terminal box cover of brakemotors BN 160 ... BN 200 - M5 is provided with an additional cable entry M16 x 1.5 next to the cable entry used for the brake.

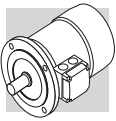
M12.10 Anti-condensation heaters

H1

NH1

Where an application involves high humidity or extreme temperature fluctuation, motors may be equipped with an anti-condensate heater.

A single-phase power supply is available in the auxiliary terminal board inside the main terminal box. Values for the absorbed power are listed here below:



(F63)

| | H1 | NH1 |
|---|------------------------|------------------------|
| | 1~ 230V ± 10% P [W] | 1~ 115V ± 10% P [W] |
| BXN 63 ... BXN 80 BX 80 BE 63 ... BE 80 BN 56 ... BN 80 | 10 | 10 |
| BXN 90 BX 90 ... BX 132 BE 90 ... BE 132MB BN 90 ... BN 160MR | 25 | 25 |
| BX 160...BX 250 BX 160 ... BX 250K BX 160, BX 180 BE 160, BE 180 BN 160, BN 200 | 50 | 50 |
| BX 280 BX 280K | 60 | 60 |
| BX 315 ... BX 355 BX 315K ... BX 355K | 120 | 120 |

Warning!

Always remove power supply to the anti-condensante heater before operating the motor.

M12.11 Tropicalization

TP

When option **TP** is specified, motor windings receive additional protection for operation in high humidity and temperature conditions.

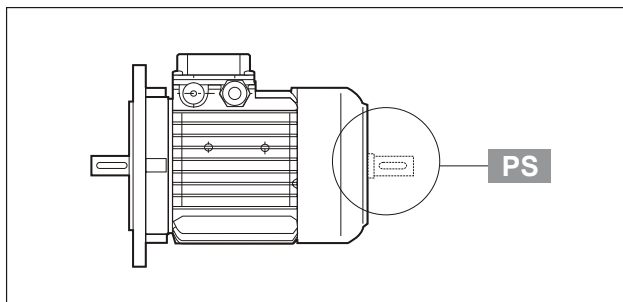
M12.12 Second shaft extension

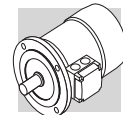
PS

This option is not compatible with variants RC, TC, U1, U2, EN1, EN2, EN3, EN4, EN5, EN6, EN7, EN8.

For shaft dimensions please see motor dimensions tables.

(F64)





M12.13 Backstop device

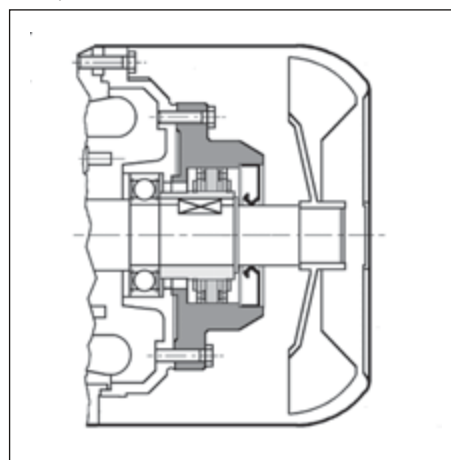
AL **AR**

For applications where backdriving must be avoided, motors equipped with an anti run-back device can be used (available for the MX/ME and M series only). While allowing rotation in the direction required, this device operates instantaneously in case of a power failure, preventing the shaft from running back. The anti run-back device is life lubricated with special grease for this specific application. When ordering, customers should indicate the required rotation direction, AL or AR. Never use the anti run-back device to prevent reverse rotation caused by faulty electrical connection. Table (F62) shows rated and maximum locking torques for the anti run-back devices. A diagram of the device can be seen in Table (F63). Overall dimensions are same as the corresponding brake motor. The direction of free rotation is described in the “MOTOR OPTIONS” section of specifically dedicated sections to gear units.

(F65)

| | Rated locking torque [Nm] | Max. locking torque [Nm] | Release speed [min ⁻¹] |
|-------------------------|------------------------------|-----------------------------|---------------------------------------|
| ME1 - M1 | 6 | 10 | 750 |
| MX2 - ME2 M2 | 16 | 27 | 650 |
| MX3 - ME3 M3 | 54 | 92 | 520 |
| MX4 - ME4 M4 | 110 | 205 | 430 |

(F66)



M12.14 Rotor balancing

RV

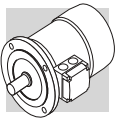
Where low noise is a priority requirement, the option RV ensures reduced vibration in accordance with vibration class B.

The table below reports effective velocity of vibration for normal (A) and B grade balancing.

(F67)

| Vibration level | Angular velocity n [min ⁻¹] | Limits of the vibration velocity (mm/s) BX 80 ≤ H ≤ BX 335M ≤ BX 355MK BE 63 ≤ H ≤ BE 180L BN 56 ≤ H ≤ BN 200 |
|-----------------|--|--|
| A | 600 < n < 3600 | 1.6 |
| B | 600 < n < 3600 | 0.70 |

Values are obtained from measurements on freely suspended motor during no-load operation; tolerance ±10%.



M12.15 Ventilation

Motors are cooled through outer air blow (IC 411 according to CEI EN 60034-6) and are equipped with a plastic radial fan, which operates in both directions.

Ensure that fan cover is installed at a suitable distance from the closest wall so to allow air circulation and servicing of motor and brake, if fitted.

Motor is cooled by an axial fan with independent power supply and fitted on the fan cover (IC 416 cooling system).

This version is used in case of motor driven by inverter so that steady torque operation is possible even at low speed or when high starting frequencies are needed.

Brake motors of motors with rear shaft projection (PS option) are excluded.

This variant has two different models, called **U1** and **U2**, having the same longitudinal size. Longer side of fan cover (**DL**) is specified for both models in the table below. Overall dimension can be reckoned from motor size table.

(F68)

| Extra length for servoventilated motors | | | |
|---|-----------------|--------------|--------------|
| | | ΔL_1 | ΔL_2 |
| BE 71 - BN 71 | ME1 - M1 | 93 | 32 |
| BX 80 | MX2 | 80 | 67 |
| BE 80 - BN 80 | ME2 - M2 | 125 | 55 |
| BX 90 | — | 133 | 85 |
| BE 90 - BN 90 | — | 133 | 49 |
| BX 100 | MX3 | 135 | 88 |
| BE 100 - BN 100 | ME3 - M3 | 119 | 30 |
| BX 112 | — | 136 | 90 |
| BE 112 - BN 112 | — | 130 | 33 |
| BX 132 | MX4 | 123 | 24 |
| BE 132 - BN 132 | ME4 - M4 | 160 | 51 |
| BX 160 - BX 180 | MX5 | 184 | 184 |
| BE 160 - BE 180 | ME5 | | |
| BN 160 - BN 180 - BN 200 | M5 | | |
| BX 200 | — | 260 | 260 |
| BX 225 - BX 250 | — | 320 | 320 |
| BX 280 - BX 315 | — | 430 | 430 |
| BX 355 | — | 640 | 640 |

ΔL_1 = extra length to LB value of corresponding standard motor.

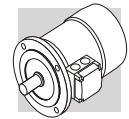
ΔL_2 = extra length to LB value of corresponding brake motor.

U1

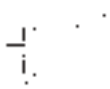
Fan wiring terminals are housed in a separate terminal box.

In brake motors of size BX 132 ... BX 160 - BE 71 ... BE 160 - BN 71 ... BN 160MR, MX4, MX5 - ME05 ... ME5 - M05 ... M5 with **U1** model, the release lever cannot be positioned to AA.

This option can be selected for motors compliant with CSA and UL standards (CUS option), only for BX \geq 200 and BX \geq 200K.



(F69)



| | | V a.c. ±10% | Hz | P [W] | I [A] |
|---|--------------------------------|-----------------|---------|----------|-------------|
| BN 71 - BE 71 | ME1 - M1 | 1 ~ 230 | 50 / 60 | 22 | 0.12 |
| BX 80 - BE 80 BN 80 | MX2 - ME2 M2 | | | 22 | 0.12 |
| BX 90 - BE 90 BN 90 | — | | | 40 | 0.30 |
| BX 100 - BE 100 BN 100 | MX3 - ME3 M3 | | | 50 | 0.25 |
| BX 112 - BE 112 BN 112 | — | 3 ~ 230Δ / 400Y | 50 | 50 | 0.26 / 0.15 |
| BX 132 - BE 132 BN 132 ... BN 160MR | MX4 - ME4 M4L | | | 110 | 0.38 / 0.22 |
| BX 160 - BE 160 BN 160M ... BN 180M | MX5 - ME5 M5 | | | 180 | 1.25 / 0.72 |
| BX 180 - BE 180 BN 180L ... BN 200L | — | 3 ~ 400Δ / 690Y | 50 | 250 | 1.51 / 0.87 |
| BX 200 ... BX 250 BX 200K ... BX 250K | — | | | 250 | 0.64 |
| BX 280 ... BX 315M BX 280K ... BX 315MK | — | | | 750 | 1.7 |
| BX 315 ... BX 355S BX 315LK ... BX 355SK | — | | | 1500 | 3.3 |
| BX 355M BX 355MK | — | | | 3000 | 6.1 |

U2

Fan terminals are wired in the motor terminal box.

The **U2** option does not apply to motors BX, BE, MX, ME and to motors with option CUS (compliant to norms CSA and UL).

(F70)



| | | V a.c. ±10% | Hz | P [W] | I [A] |
|----------------------------|------------|-----------------|---------|----------|-------------|
| BN 71 | M1 | 1 ~ 230 | 50 / 60 | 22 | 0.12 |
| BN 80 | M2 | | | 22 | 0.12 |
| BN 90 | — | | | 40 | 0.30 |
| BN 100 | M3 | 3 ~ 230Δ / 400Y | 50 | 40 | 0.26 / 0.09 |
| BN 112 | — | | | 50 | 0.26 / 0.15 |
| BN 132 ... BN 160MR | M4L | | | 110 | 0.38 / 0.22 |

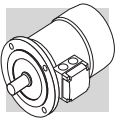
M12.16 Rain canopy

RC

The rain canopy protects the motor from dripping and avoids the ingress of solid bodies. It is recommended when motor is installed in a vertical position with the shaft downwards.

Relevant dimensions are indicated in the table below.

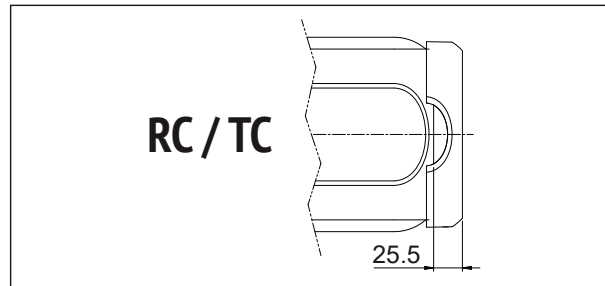
The drip cover is not compatible with variants PS, EN1, EN2, EN3, EN4, EN5, EN6.



(F71)

| | | AQ | ΔV | |
|--|-----------------|-----|------------|--|
| BE 63 - BN 63 | ME05 - M05 | 118 | 24 | |
| BN 71 - BE 71 | ME1 - M1 | 134 | 27 | |
| BX 80 - BE 80 BN 80 | MX2 - ME2 M2 | 152 | 25 | |
| BX 90 - BE 90 BN 90 | — | 168 | 30 | |
| BX 100 - BE 100 BN 100 | MX3 - ME3 M3 | 190 | 28 | |
| BX 112 - BE 112 BN 112 | — | 211 | 32 | |
| BX 132 - BE 132 BN 132 ... BN 160MR | MX4 - ME4 M4 | 254 | 32 | |
| BX 160 - BE 160 BN 160M ... BN 180M | MX5 - ME5 M5 | 302 | 36 | |
| BX 180 - BE 180 BN 180L ... BN 200L | — | 340 | 36 | |
| BX 200 | — | 423 | 55 | |
| BX 225 | — | 465 | 55 | |
| BX 250 | — | 514 | 55 | |
| BX 280 | — | 567 | 100 | |
| BX 315 | — | 645 | 100 | |
| BX 355 | — | 740 | 120 | |

For RC/TC on BXN/MXN motors see the scheme below.



M12.17 Textile canopy

TC

Option TC is a cover variant for textile industry environments, where lint may obstruct the fan grid and prevent a regular flow of cooling air.

This option is not compatible with variants EN1, EN2, EN3, EN4, EN5, EN6, PS, U1, U2.

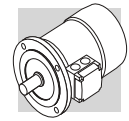
Overall dimensions are the same as drip cover type RC.

TC option is not available for BX motors.

M12.18 Feedback units

Motors may be combined with six different types of encoders to achieve feedback circuits.

Configurations with double-extended shaft (PS) and rain canopy (RC, TC) are not compatible with encoder installation.



EN1

Incremental encoder, $V_{IN} = 5$ V, line-driver output RS 422.

EN2

Incremental encoder, $V_{IN} = 10-30$ V, line-driver output RS 422.

EN3

Incremental encoder, $V_{IN} = 12-30$ V, push-pull output 12-30 V

EN4

Encoder sin/cos, $V_{IN} = 4.5-5.5$ V, output Sinus $0.5V_{PP}$.

EN5

Absolute encoder singleturn, HIPERFACE® interface, $V_{IN} = 7-12$ V.

EN6

Absolute encoder multiturn, HIPERFACE® interface, $V_{IN} = 7-12$ V.

EN7

Incremental encoder Heavy Duty, $V_{IN} = 12-30$ V, push-pull output 12-30 V.

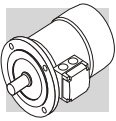
EN8

Incremental encoder Heavy Duty, $V_{IN} = 12-30$ V, push-pull output 9-30 V.

Note: EN7 and EN8 available only for $BX \geq 200$

(F72)

| | EN1 | EN2 | EN3 | EN4 | EN5 | EN6 | EN7 | EN8 | |
|---------------------------------|--|------------|---------------|-----------------------------------|------------|------------|---------------|---------------|--|
| Interface | TTL/RS 422 | TTL/RS 422 | HTL push-pull | Sinus 0.5 VPP | HIPERFACE® | HIPERFACE® | HTL push-pull | HTL push-pull | |
| Power supply voltage [V] | 4...6 | 10...30 | 12...30 | 4.4...5.5 | 7...12 | 7...12 | 9...30 | | |
| Output voltage [V] | 5 | 5 | 12...30 | — | — | — | 9...30 | | |
| No-load operating current [mA] | 120 | 100 | 100 | 40 | 80 | 80 | 80 | | |
| No. of pulses per revolution | 1024 | | | | | | | 2048 | |
| Steps per revolution | — | — | — | — | 15 bit | 15 bit | - | - | |
| Revolutions | — | — | — | — | — | 12 bit | - | - | |
| No. of signals | 6 (A, B, Z + inverted signals) | | | 6 (cos-, cos+, sin-, sin+, Z, Z̄) | — | — | 6 | 6 | |
| Max. output frequency [kHz] | 600 | | | 200 | | | 200 | | |
| Max. speed [min ⁻¹] | 6000 (9000 min ⁻¹ for 10 s) | | | | | | | 6000 | |
| Temperature range [°C] | -30 ... +100 | | | | | | | -20 ... +85 | |
| Protection class | IP 65 | | | | | | | IP67 | |



(F73)

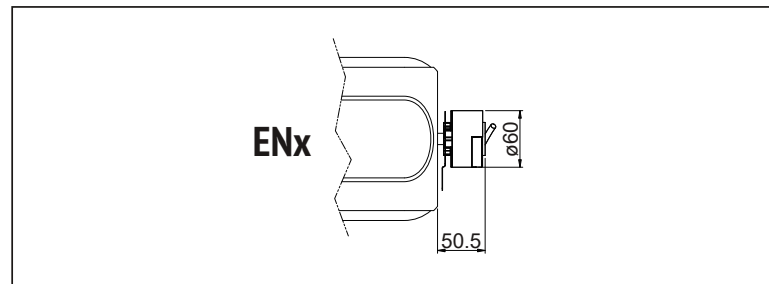
| EN1, EN2, EN3, EN4, EN5, EN6, EN7, EN8 | | |
|--|---------------|-----------|
| | | L4 |
| BN 63 ... BN 200 | M05 ... M5 | 65 |
| BE 63... BE180 | ME05 ... ME5L | 65 |
| BX 80 ... BX 180 | MX2 ... MX5L | 65 |
| BX 200 ... BX 280 | — | 100 |
| BX 315 ... BX 355 | — | 100 |

(F74)

| EN_ + U1 | | |
|--------------------------------------|-----------------|-----------|
| | | L3 |
| BX 160 - BE 160 BN 160M...BN 180M | MX5 - ME5 M5 | 72 |
| BX 160 - BE 180 BN 180L...BN 200L | — | 82 |
| BX 160_FD BN 160M_FD...BN 180M_FD | MX5_FD M5_FD | 35 |
| BX 180_FD BN 180L_FD...BN 200L_FD | — | 41 |
| BX 200 - BX 225 - BX 250 | — | 100 |
| BX 280 - BX 315 - BX 355 | — | 150 |

If the encoder device (option EN_) is specified on motors BX 80 ... BX 132 - MX2 ... MX4 - BE 63 ... BE 132 - ME05 ... ME4 - BN 71 ... BN 160MR - M1 ... M4, along with the independent fan cooling (options U1, U2), the extra length of motor is coincident with that of the correspondent U1 and U2 execution.

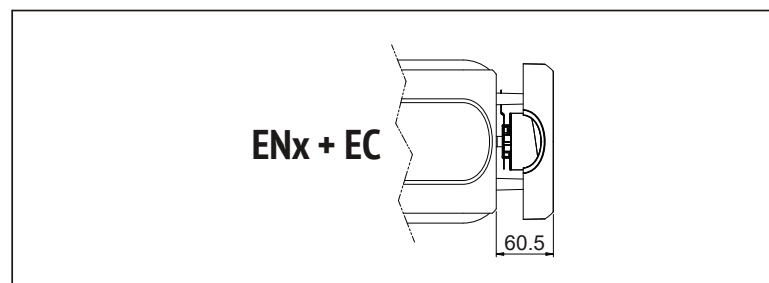
For EN on BXN/MXN motors see the scheme below.

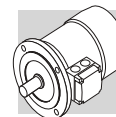


M12.19 EC - Encoder canopy

EC

Option EC is a cover variant specifically made for our encoders. It protects them from impacts and may help in prolonging their productive life.





M12.20 Insulated Bearings

IB

When IB option is selected the motor is equipped with insulated bearings at drive end. This prevent early bearings failures due to high frequency circulation currents.

NOTE: This option is available only for BX ≥ 280 and BX ≥ 280K, and it is mandatory when the motor is operated through a variable speed drive.

M12.21 Vertical Mounting

VM

NOTE: This option is mandatory for BX ≥ 200 and BX ≥ 200K, when vertically mounted.

When VM is selected the motor is delivered with specific arrangements.

Furthermore, the vertical mounting position will also be reported on motor nameplate.

M12.22 Surface protection

C_

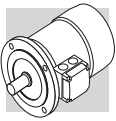
When no specific protection class is requested, the painted (ferrous) surfaces of motors are protected to at least corrosivity class C2 (UNI EN ISO 12944-2). For improved resistance to atmospheric corrosion, motors can be delivered with C3 and C4 surface protection.

(F75)

| SURFACE PROTECTION | Typical environments | Maximum surface temperature | Corrosivity class according to UNI EN ISO 12944-2 |
|---------------------------|---|-----------------------------|---|
| C3 | Urban and industrial environments with up to 100% relative humidity (medium air pollution) | 120°C | C3 |
| C4 | Industrial areas, coastal areas, chemical plant, with up to 100% relative humidity (high air pollution) | 120°C | C4 |
| C5M | Coast and offshore areas with high salt content. | 120°C | C5M |

Motors with optional protection to class C3 or C4 are available in a choice of colours. If no specific colour is requested (see the “PAINTING” option) motors are finished in RAL 7042 for BN/M, BE/ME and BX≤180/MX and in Munsell blue 8B 4.5/3.25 for BX≥200.

Motors can also be supplied with surface protection for corrosivity class C5 according to UNI EN ISO 12944-2. Contact our Technical Service for further details.



M12.23 Painting

RAL

Gearboxes with optional protection to class C3 or C4 are available in the colours listed in the following table.

(F76)

| PAINTING | Colour | RAL number |
|----------------------------------|-----------------|---------------------|
| RAL7042 | Traffic Grey A | 7042 |
| RAL5010 | Gentian Blue | 5010 |
| RAL9005 | Jet Black | 9005 |
| RAL9006 | White Aluminium | 9006 |
| RAL9010 | Pure White | 9010 |
| Munsell blue 8B* 4.5/3.25 | Blue | MUNSELL 8B 4.5/3.25 |
| RAL7035 | Light Grey | 7035 |
| RAL7001 | Silver Grey | 7001 |
| RAL5015 | Sky Blue | 5015 |
| RAL7037 | Dusty Grey | 7037 |
| RAL5024 | Pastel Blue | 5024 |

* BX \geq 200 and BX \geq 200K Motors are standardly supplied in this colour with C3 protection unless specified differently.

NOTE – “PAINTING” options can only be specified in conjunction with “SURFACE PROTECTION” options.

M12.24 Certificates

ACM

Certificate of compliance of motors

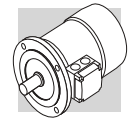
The document certifies the compliance of the product with the purchase order and the construction in conformity with the applicable procedures of the Bonfiglioli Quality System.

Note: Not available for BX \geq 200 and BX \geq 200K

CC

Inspection certificate

The document entails checking on order compliance, the visual inspection of external conditions and instrumental testing of the electrical characteristics in unloaded conditions. Units inspected are sampled within the shipping batch and marked individually.



M13 TABLES OF MOTORS CORRELATION

M13.1 50 Hz Motors

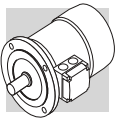
(F77)

| 2 pole | | | | | | | | |
|------------------|------------|------------|------------|-----|---------|----------|----------|--|
| Efficiency class | | IE1 | IE2 | IE3 | IE1 | IE2 | IE3 | |
| Pn [kW] | 0.06 | | | | | | | |
| | 0.09 | | | | | | | |
| | 0.12 | | | | | | | |
| | 0.18 | BN 63A 2 | | | | M 05A 2 | | |
| | 0.25 | BN 63B 2 | | | | M 05B 2 | | |
| | 0.37 | BN 71A 2 | | | | M 05C 2 | | |
| | 0.55 | BN 71B 2 | | | | M 1SD 2 | | |
| | 0.75 | BN 71C 2 | BE 80A 2 | | | M 1LA 2 | ME 2SA 2 | |
| | | BN 80A 2 | | | | | | |
| | 1.1 | BN 80B 2 | BE 80B 2 | | | M 2SA 2 | ME 2SB 2 | |
| | 1.5 | BN 90SA 2 | BE 90SA 2 | | | M 2SB 2 | | |
| | 1.85 | BN 90SB 2 | | | | | | |
| | 2.2 | BN 90L 2 | BE 90L 2 | | | M 3SA 2 | | |
| | 3 | BN 100L 2 | BE 100L 2 | | | M 3LA 2 | ME 3LB 2 | |
| | 4 | BN 112M 2 | BE 112M 2 | | | M 3LB 2 | | |
| | | BN 132SA 2 | BE 132SA 2 | | | M 4SA 2 | ME 4SA 2 | |
| | 5.5 | BN 132SB 2 | BE 132SB 2 | | | M 4SB 2 | ME 4LA 2 | |
| | 7.5 | BN 132M 2 | BE 132MB 2 | | | M 4LA 2 | ME 4LB 2 | |
| 9.2 | BN 160MR 2 | BE 160MA 2 | | | M 4LC 2 | ME 5SA 2 | | |
| | BN 160M 2 | | | | | | | |
| 15 | BN 160MB 2 | BE 160MB 2 | | | M 5SB 2 | ME 5SB 2 | | |
| 18.5 | BN 160L 2 | BE 160L 2 | | | M 5SC 2 | ME 5LA 2 | | |
| 22 | BN 180M 2 | | | | M 5LA 2 | | | |
| 30 | BN 200LA 2 | | | | | | | |

(F78)

| 4 pole | | | | | | | | | | |
|------------------|------|------------|-------------|-------------|-----------|------------|----------|----------|----------|------------|
| Efficiency class | | IE1 | IE2 | IE3 | | IE1 | IE2 | IE3 | | |
| Pn [kW] | 0.06 | BN 56A 4 | | | | | | | | |
| | 0.09 | BN 56B 4 | | | | M 0B 4 | | | | |
| | 0.12 | BN 63A 4 | BE 63A 4 | | | BXN 63MA 4 | M 05A 4 | ME 05A 4 | | MXN 05MA 4 |
| | | BN 63B 4 | BE 63B 4 | | | BXN 63MB 4 | M 05B 4 | ME 05B 4 | | MXN 05MB 4 |
| | 0.25 | BN 63C 4 | | | | | M 05C 4 | | | |
| | | BN 71A 4 | BE 71A 4 | | | BXN 71MA 4 | | ME 1SA 4 | | MXN 10MA 4 |
| | 0.37 | BN 71B 4 | BE 71B 4 | | | BXN 71MB 4 | M 1SD 4 | ME 1SB 4 | | MXN 10MB 4 |
| | | BN 71C 4 | | | | | M 1LA 4 | | | |
| | 0.55 | BN 80A 4 | BE 80A 4 | | | BXN 80MA 4 | | | | |
| | | 0.75 | BN 80B 4 | BE 80B 4 | BX 80B 4 | BXN 80MB 4 | M 2SA 4 | ME 2SB 4 | MX 2SB 4 | MXN 20MB 4 |
| | 1.1 | BN 80C 4 | BE 90S 4 | BX 90S 4 | | | M 2SB 4 | ME 3SA 4 | MX 3SA 4 | |
| | | BN 90S 4 | | | BXN 90S 4 | | | | | |
| | 1.5 | BN 90LA 4 | BE 90LA 4 | BX 90LA 4 | BXN 90L 4 | M 3SA 4 | ME 3SB 4 | MX 3SB 4 | | |
| | 1.85 | BN 90LB 4 | | | | | | | | |
| | 2.2 | BN 100LA 4 | BE 100LA 4 | BX 100LA 4 | | | M 3LA 4 | ME 3LA 4 | MX 3LA 4 | |
| | 3 | BN 100LB 4 | BE 100LB 4 | BX 100LB 4 | | | M 3LB 4 | ME 3LB 4 | MX 3LB 4 | |
| | 4 | BN 112M 4 | BE 112M 4 | BX 112M 4 | | | M 3LC 4 | ME 4SA 4 | MX 4SA 4 | |
| | 5.5 | BN 132S 4 | BE 132S 4 | BX 132SB 4 | | | M 4SA 4 | ME 4SB 4 | MX 4SB 4 | |
| | 7.5 | BN 132MA 4 | BE 132MA 4 | BX 132MA 4 | | | M 4LA 4 | ME 4LA 4 | MX 4LA 4 | |
| | 9.2 | BN 132MB 4 | BE 132MB 4 | BX 160MA 4 | | | M 4LB 4 | ME 4LB 4 | MX 5SA 4 | |
| | 11 | BN 160MR 4 | BE 160M 4 | BX 160MB 4 | | | M 4LC 4 | ME 5SA 4 | MX 5SB 4 | |
| | | BN 160M 4 | | | | | | | | |
| | 15 | BN 160L 4 | BE 160L 4 | BX 160L 4 | | | M 5SB 4 | ME 5LA 4 | MX 5LA 4 | |
| | 18.5 | BN 180M 4 | BE 180M 4 | BX 180M 4 | | | M 5LA 4 | | | |
| | 22 | BN 180L 4 | BE 180L 4 | BX 180L 4 | | | | | | |
| | 30 | BN 200L 4 | | BX 200LA 4* | | | | | | |
| | 37 | | | BX 225SA 4* | | | | | | |
| | 45 | | | BX 225SB 4* | | | | | | |
| | 55 | | | BX 250MA 4* | | | | | | |
| | 75 | | | BX 280SA 4* | | | | | | |
| 90 | | | BX 280SB 4* | | | | | | | |
| 110 | | | BX 315SA 4* | | | | | | | |
| 132 | | | BX 315SB 4* | | | | | | | |
| 160 | | | BX 315SC 4* | | | | | | | |
| 200 | | | BX 315MA 4* | | | | | | | |
| 250 | | | BX 355MA 4* | | | | | | | |
| 315 | | | BX 355MB 4* | | | | | | | |
| 355 | | | BX 355MC 4* | | | | | | | |

Note: For the Australian market these motor has to be selected in the BX ... K 4 Version



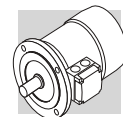
(F79)

| 6 pole | | | | | | | |
|------------------|------------|------------|------------|-----|---------|----------|--|
| Efficiency class | IE1 | IE2 | IE3 | IE1 | IE2 | IE3 | |
| Pn [kW] | 0.06 | | | | | | |
| | 0.09 | BN 63A 6 | | | M 05A 6 | | |
| | 0.12 | BN 63B 6 | | | M 05B 6 | | |
| | 0.18 | BN 71A 6 | | | M 1SC 6 | | |
| | 0.25 | BN 71B 6 | | | M 1SD 6 | | |
| | | BN 71C 6 | | | | | |
| | 0.37 | BN 80A 6 | | | M 1LA 6 | | |
| | 0.55 | BN 80B 6 | | | M 2SA 6 | | |
| | 0.75 | BN 80C 6 | BE 90S 6 | | M 2SB 6 | | |
| | | BN 90S 6 | | | | | |
| | 1.1 | BN 90L 6 | BE 100M 6 | | M 3SA 6 | ME 3LA 6 | |
| | 1.5 | BN 100LA 6 | BE 100LA 6 | | M 3LA 6 | ME 3LB 6 | |
| | 1.85 | BN 100LB 6 | | | M 3LB 6 | | |
| | 2.2 | BN 112M 6 | BE 112M 6 | | M 3LC 6 | | |
| | 3 | BN 132S 6 | BE 132S 6 | | M 4SA 6 | ME 4SB 6 | |
| | 4 | BN 132MA 6 | BE 132MA 6 | | M 4LA 6 | ME 4LA 6 | |
| | 5.5 | BN 132MB 6 | BE 160MA 6 | | M 4LB 6 | ME 5SA 6 | |
| | 7.5 | BN 160M 6 | BE 160MB 6 | | M 5SA 6 | ME 5SB 6 | |
| | 9.2 | | | | | | |
| | 11 | BN 160L 6 | | | M 5SB 6 | | |
| 15 | BN 180L 6 | | | | | | |
| 18.5 | BN 200LA 6 | | | | | | |
| 22 | | | | | | | |
| 30 | | | | | | | |



M13.2 60 Hz Motors

(F80)



| 2 pole | | | | | | | |
|------------------|------------|------------|-----|---------|---------|-----|--|
| Efficiency class | IE1 | IE2 | IE3 | IE1 | IE2 | IE3 | |
| Pn [kW] | 0.06 | | | | | | |
| | 0.09 | | | | | | |
| | 0.12 | | | | | | |
| | 0.18 | BN 63A 2 | | | M 05A 2 | | |
| | 0.25 | BN 63B 2 | | | M 05B 2 | | |
| | 0.37 | BN 71A 2 | | | M 05C 2 | | |
| | 0.55 | BN 71B 2 | | | M 1SD 2 | | |
| | 0.75 | BN 71C 2 | | | M 1LA 2 | | |
| | | BN 80A 2 | | | | | |
| | 1.1 | BN 80B 2 | | | M 2SA 2 | | |
| | 1.5 | BN 90SA 2 | | | M 2SB 2 | | |
| | 1.85 | BN 90SB 2 | | | | | |
| | 2.2 | BN 90L 2 | | | M 3SA 2 | | |
| | 3 | BN 100L 2 | | | M 3LA 2 | | |
| | 3.7 | BN 112M 2 | | | M 3LB 2 | | |
| | 5.5 | BN 132SA 2 | | | M 4SA 2 | | |
| | 7.5 | BN 132SB 2 | | | M 4SB 2 | | |
| | 9.2 | BN 132M 2 | | | M 4LA 2 | | |
| | 11 | BN 160MR 2 | | | M 4LC 2 | | |
| | | BN 160M 2 | | | | | |
| 15 | BN 160MB 2 | | | M 5SB 2 | | | |
| 18.5 | BN 160L 2 | | | M 5SC 2 | | | |
| 22 | BN 180M 2 | | | M 5LA 2 | | | |
| 30 | BN 200LA 2 | | | | | | |

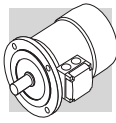


(F81)

| 4 pole | |  | | |  | | | |
|------------------|-----------|---|-------------|-------------|---|---------|------------|------------|
| Efficiency class | IE1 | IE2 | IE3 | IE1 | IE2 | IE3 | | |
| Pn [kW] | 0.06 | BN 56A 4 | | | | | | |
| | 0.09 | BN 56B 4 | | | M 0B 4 | | | |
| | 0.12 | BN 63A 4 | BE 63A 4 | | BXN 63MA 4 | M 05A 4 | MXN 05MA 4 | |
| | 0.18 | BN 63B 4 | BE 63B 4 | | BXN 63MB 4 | M 05B 4 | MXN 05MB 4 | |
| | 0.25 | BN 63C 4 | | | | M 05C 4 | | |
| | | BN 71A 4 | BE 71A 4 | | BXN 71MA 4 | | | MXN 10MA 4 |
| | 0.37 | BN 71B 4 | BE 71B 4 | | BXN 71MB 4 | M 1SD 4 | | MXN 10MB 4 |
| | | BN 71C 4 | | | | | | |
| | 0.55 | BN 80A 4 | BE 80A 4 | | BXN 80MA 4 | M 1LA 4 | | MXN 20MA 4 |
| | | BN 80B 4 | BE 80B 4 | BX 90SR 4 | BXN 80MB 4 | M 2SA 4 | ME 2SB 4 | MX 2SB 4 |
| | 1.1 | BN 80C 4 | BE 90S 4 | BX 90S 4 | BXN 90S 4 | M 2SB 4 | ME 3SA 4 | MX 3SA 4 |
| | | BN 90S 4 | | | | | | |
| | 1.5 | BN 90LA 4 | BE 90LA 4 | BX 90LA 4 | BXN 90L 4 | M 3SA 4 | ME 3SB 4 | MX 3SB 4 |
| | 1.85 | BN 90LB 4 | | | | | | |
| | 2.2 | BN 100LA 4 | BE 100LA 4 | BX 100LA 4 | | M 3LA 4 | ME 3LA 4 | MX 3LA 4 |
| | 3 | BN 100LB 4 | BE 100LB 4 | BX 100LB 4 | | M 3LB 4 | ME 3LB 4 | MX 3LB 4 |
| | 3.7 | BN 112M 4 | BE 112M 4 | BX 112M 4 | | M 3LC 4 | ME 4SA 4 | MX 4SA 4 |
| | 5.5 | BN 132S 4 | BE 132S 4 | BX 132SB 4 | | M 4SA 4 | ME 4SB 4 | MX 4SB 4 |
| | 7.5 | BN 132MA 4 | BE 132MA 4 | BX 132MA 4 | | M 4LA 4 | ME 4LA 4 | MX 4LA 4 |
| | 9.2 | BN 132MB 4 | BE 132MB 4 | BX 160MA 4 | | M 4LB 4 | ME 4LB 4 | MX 5SA 4 |
| | | BN 160MR 4 | BE 160M 4 | BX 160MB 4 | | M 4LC 4 | ME 5SA 4 | MX 5SB 4 |
| | BN 160M 4 | | | | | | | |
| | 15 | BN 160L 4 | BE 160L 4 | BX 160L 4 | | M 5SB 4 | ME 5LA 4 | MX 5LA 4 |
| | 18.5 | BN 180M 4 | BE 180M 4 | BX 180M 4 | | M 5LA 4 | | |
| | 22 | BN 180L 4 | BE 180L 4 | BX 180L 4 | | | | |
| | 30 | BN 200L 4 | | BX 200LAK 4 | | | | |
| | 37 | | | BX 225SAK 4 | | | | |
| | 45 | | | BX 225SBK 4 | | | | |
| | 55 | | | BX 280SAK 4 | | | | |
| | 75 | | | BX 280SBK 4 | | | | |
| 90 | | | BX 315SAK 4 | | | | | |
| 110 | | | BX 315SBK 4 | | | | | |
| 132 | | | BX 315SCK 4 | | | | | |
| 160 | | | BX 355SAK 4 | | | | | |
| 200 | | | BX 355SBK 4 | | | | | |
| 250 | | | BX 355SCK 4 | | | | | |
| 315 | | | BX 355MBK 4 | | | | | |
| 355 | | | BX 355MCK 4 | | | | | |

(F82)

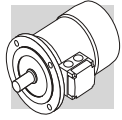
| 6 pole | |  | | |  | | |
|------------------|------------|---|-----|-----|---|-----|--|
| Efficiency class | IE1 | IE2 | IE3 | IE1 | IE2 | IE3 | |
| Pn [kW] | 0.06 | | | | | | |
| | 0.09 | BN 63A 6 | | | M 05A 6 | | |
| | 0.12 | BN 63B 6 | | | M 05B 6 | | |
| | 0.18 | BN 71A 6 | | | M 1SC 6 | | |
| | | BN 71B 6 | | | | | |
| | 0.25 | BN 71C 6 | | | M 1SD 6 | | |
| | | BN 80A 6 | | | M 1LA 6 | | |
| | 0.37 | BN 80B 6 | | | M 2SA 6 | | |
| | 0.55 | BN 80C 6 | | | M 2SB 6 | | |
| | | BN 90S 6 | | | | | |
| | 1.1 | BN 90L 6 | | | M 3SA 6 | | |
| | 1.5 | BN 100LA 6 | | | M 3LA 6 | | |
| | 1.85 | BN 100LB 6 | | | M 3LB 6 | | |
| | 2.2 | BN 112M 6 | | | M 3LC 6 | | |
| | 3 | BN 132S 6 | | | M 4SA 6 | | |
| | 3.7 | BN 132MA 6 | | | M 4LA 6 | | |
| | 5.5 | BN 132MB 6 | | | M 4LB 6 | | |
| | 7.5 | BN 160M 6 | | | M 5SA 6 | | |
| | 9.2 | | | | | | |
| | 11 | BN 160L 6 | | | M 5SB 6 | | |
| 15 | BN 180L 6 | | | | | | |
| 18.5 | BN 200LA 6 | | | | | | |
| 22 | | | | | | | |
| 30 | | | | | | | |



M14 MOTOR RATING CHARTS BXN-MXN

| 4 P | | 1500 min ⁻¹ - S1 | | | | | | | | | | | | | | | 50 Hz - IE3 | | | | | |
|----------------|------------|-----------------------------|---------|------|-------|--------------------------------|--------------------------------|--------------------------------|----------|--|-------|------|-------------------|--------------------|--|-------|-------------|-------------------|--------------------|--|-------|------|
| | | d.c. brake | | | | | | | | | | | | | | | a.c. brake | | | | | |
| | | FD | | | | | | | | | | | | | | | FA | | | | | |
| P _n | n | M _n | In 400V | η% | cos φ | I _s /I _n | M _s /M _n | M _a /M _n | KVA code | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | |
| 0.12 | BXN 63MA 4 | 1407 | 0.8 | 0.47 | 60.3 | 52.5 | 3.4 | 2.9 | 1.7 | H | 1.82 | 4.6 | FD 02 | 1.8 | 8900 | 11000 | 6.3 | FA 02 | 1.8 | 11000 | 2.4 | 6.1 |
| 0.18 | BXN 63MB 4 | 1373 | 1.3 | 0.61 | 68.8 | 63.3 | 3.5 | 3.1 | 1.8 | G | 2.92 | 5.7 | FD 02 | 3.5 | 7000 | 9000 | 7.4 | FA 02 | 3.5 | 9000 | 3.5 | 7.2 |
| 0.25 | BXN 71MA 4 | 1388 | 1.7 | 0.67 | 72.8 | 67.9 | 4.8 | 1.6 | 2.4 | H | 6.28 | 6.5 | FD 53 | 5 | 5700 | 8100 | 9.2 | FA 03 | 5 | 8100 | 7.4 | 8.9 |
| 0.37 | BXN 71MB 4 | 1429 | 2.5 | 1.05 | 76.0 | 70.8 | 6.3 | 2.6 | 2.5 | L | 9.70 | 8.3 | FD 53 | 5 | 6400 | 9900 | 11.0 | FA 03 | 5 | 9900 | 10.8 | 10.7 |
| 0.55 | BXN 80MA 4 | 1447 | 3.6 | 1.31 | 80.8 | 77.4 | 6.1 | 1.9 | 1.6 | J | 17.78 | 10.7 | FD 04 | 10 | 2500 | 5200 | 14.6 | FA 04 | 10 | 5200 | 19.8 | 14.5 |
| 0.75 | BXN 80MB 4 | 1451 | 4.9 | 1.63 | 82.5 | 82.5 | 7.4 | 2.4 | 2.0 | K | 28.89 | 14.4 | FD 04 | 15 | 2000 | 4100 | 18.3 | FA 04 | 15 | 4100 | 30.8 | 18.2 |
| 1.1 | BXN 90S 4 | 1448 | 7.3 | 2.38 | 84.1 | 83.5 | 7.3 | 2.4 | 3.4 | J | 31.76 | 15.6 | FD 05 | 26 | 2800 | 6600 | 21.6 | FA 05 | 26 | 6600 | 35.8 | 22.3 |
| 1.5 | BXN 90L 4 | 1441 | 9.9 | 3.44 | 85.3 | 81.7 | 6.7 | 2.6 | 2.4 | J | 34.96 | 16.6 | FD 05 | 26 | 1400 | 3100 | 22.6 | FA 05 | 26 | 3100 | 39.1 | 23.3 |

Note: for more details on the available energy certifications look at the catalog's dedicated section.

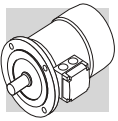


| | | |
|------------|-----------------------------------|--------------------|
| 4 P | 1500 min⁻¹ - S1 | 50 Hz - IE3 |
|------------|-----------------------------------|--------------------|



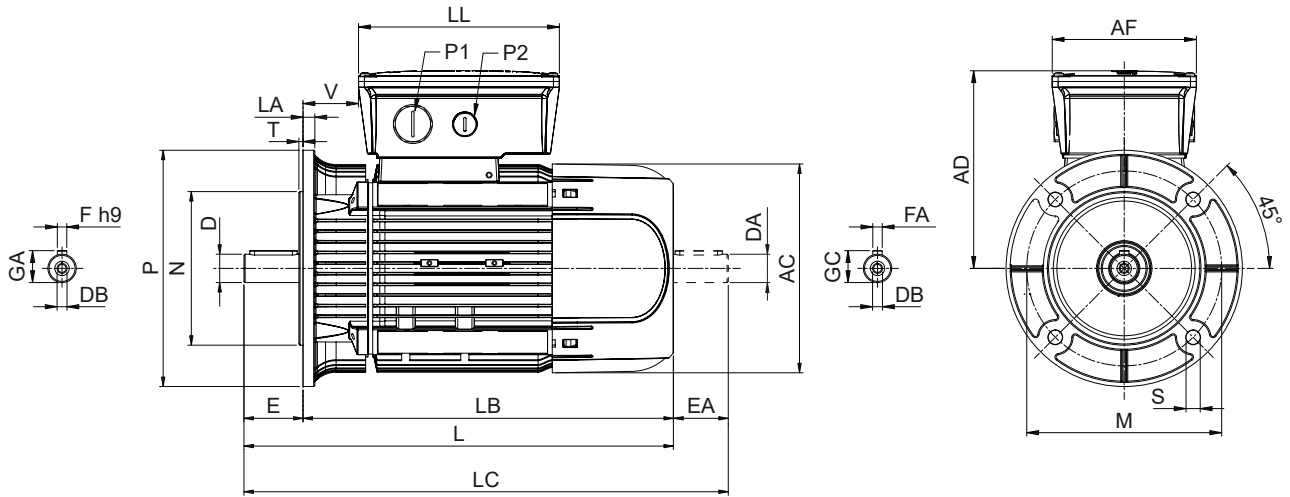
| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | I _s I _n | M _s M _n | M _a M _n | KVA code | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | | | a.c. brake | | | | | | | | | |
|----------------------|---------------------------|----------------------|-----------------------------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|-------------|--|-----------|----------------------|-----------------------|--|-----------|------|----------------------|-----------------------|--|-----------|------|----------------------|-----------------------|--|-----------|------|--|
| | | | | 100% | 75% | | | | | | | | FD | | | FA | | | | | | | | | | | | |
| | | | | 100% | 75% | | | | | | | | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | | |
| 0.12 | MXN 05MA 4 1407 | 0.8 | 0.47 | 64.8 | 60.3 | 0.58 | 3.4 | 2.9 | 1.7 | H | 1.82 | | FD 02 | 1.8 | 8900 | 11000 | 2.4 | 6.3 | FA 02 | 1.8 | 11000 | 2.4 | | FA 02 | 1.8 | 11000 | 2.4 | |
| 0.18 | MXN 05MB 4 1373 | 1.3 | 0.61 | 69.9 | 68.8 | 0.61 | 3.5 | 3.1 | 1.8 | G | 2.92 | | FD 02 | 3.5 | 7000 | 9000 | 3.5 | 7.4 | FA 02 | 3.5 | 9000 | 3.5 | | FA 02 | 3.5 | 9000 | 3.5 | |
| 0.25 | MXN 10MA 4 1388 | 1.7 | 0.67 | 73.5 | 72.8 | 0.74 | 4.8 | 1.6 | 2.4 | H | 6.28 | | FD 53 | 5 | 5700 | 8100 | 7.4 | 9.2 | FA 03 | 5 | 8100 | 7.4 | | FA 03 | 5 | 8100 | 7.4 | |
| 0.37 | MXN 10MB 4 1429 | 2.5 | 1.05 | 77.3 | 76.0 | 0.66 | 6.3 | 2.6 | 2.5 | L | 9.70 | | FD 53 | 5 | 6400 | 9900 | 10.8 | 11.0 | FA 03 | 5 | 9900 | 10.8 | | FA 03 | 5 | 9900 | 10.8 | |
| 0.55 | MXN 20MA 4 1447 | 3.6 | 1.31 | 80.8 | 80.9 | 0.75 | 6.1 | 1.9 | 1.6 | J | 17.78 | | FD 04 | 10 | 2500 | 5200 | 19.8 | 14.6 | FA 04 | 10 | 5200 | 19.8 | | FA 04 | 10 | 5200 | 19.8 | |
| 0.75 | MXN 20MB 4 1451 | 4.9 | 1.63 | 82.5 | 82.5 | 0.78 | 7.4 | 2.4 | 2.0 | K | 28.89 | | FD 04 | 15 | 2000 | 4100 | 30.8 | 18.3 | FA 04 | 15 | 4100 | 30.8 | | FA 04 | 15 | 4100 | 30.8 | |

Note: for more details on the available energy certifications look at the catalog's dedicated section.



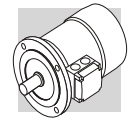
M15 MOTORS DIMENSIONS BXN-MXN

BXN - IM B5 - CE CUS/UKCA



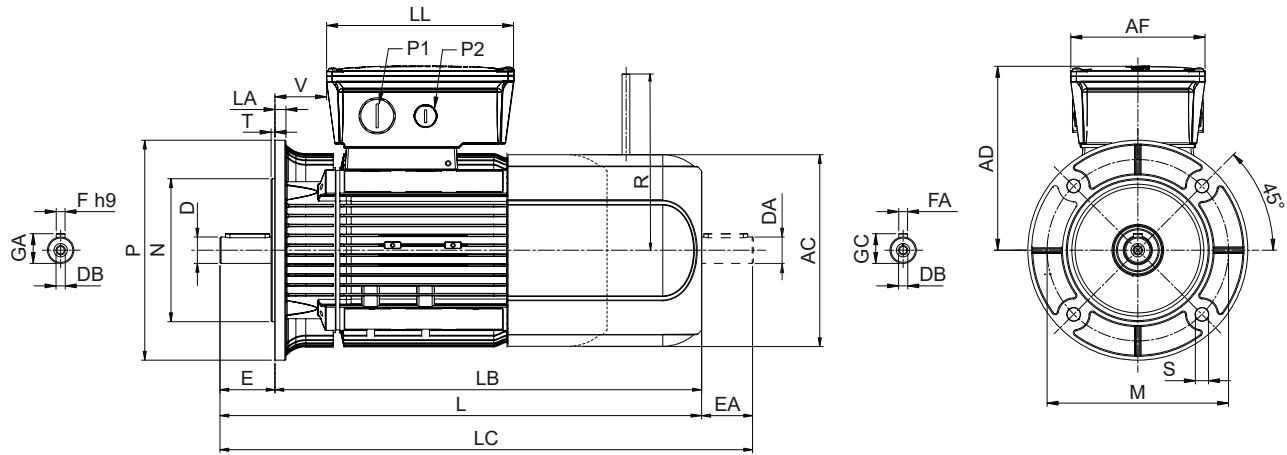
| | Shaft | | | | | Housing | | | | | | Motor | | | | | | | | |
|---------------|-------------------------|-------------------------|-------------------------|-----------------------------|-----------------------|---------|-----|-----|------|-----|----|-------|-----|-----|-----|-----|-----|-----|----|-----|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | |
| BXN 63 | 11 9 ⁽¹⁾ | 23 20 ⁽¹⁾ | M4 M3 ⁽¹⁾ | 12.5 10.2 ⁽¹⁾ | 4 3 ⁽¹⁾ | 115 | 95 | 140 | 9.5 | 3 | 9 | 122 | 281 | 258 | 301 | 136 | 112 | 165 | 37 | |
| BXN 71 | 14 11 ⁽¹⁾ | 30 23 ⁽¹⁾ | M5 M4 ⁽¹⁾ | 16 12.5 ⁽¹⁾ | 5 4 ⁽¹⁾ | 130 | 110 | 160 | | | | 138 | 292 | 262 | 315 | 138 | | | | 34 |
| BXN 80 | 19 14 ⁽¹⁾ | 40 30 ⁽¹⁾ | M6 M5 ⁽¹⁾ | 21.5 16 ⁽¹⁾ | 6 5 ⁽¹⁾ | 165 | 130 | 200 | 11.5 | 3.5 | 10 | 158 | 346 | 306 | 376 | 148 | | | | 40 |
| BXN 90 | 24 19 ⁽¹⁾ | 50 40 ⁽¹⁾ | M8 M6 ⁽¹⁾ | 27 21.5 ⁽¹⁾ | 8 6 ⁽¹⁾ | | | | | | | 177 | 365 | 315 | 405 | 170 | | | | 170 |

N.B.: 1) These values refer to the rear shaft end (PS).



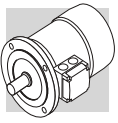
BXN-MXN

BXN - IM B5 - FD/FA - CE - CUS/UKCA

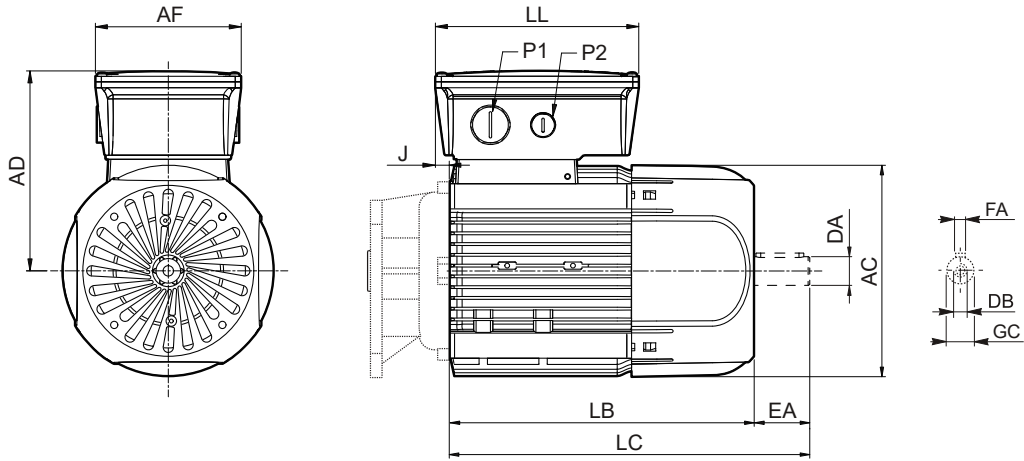


| | Shaft | | | | | Housing | | | | | | Motor | | | | | | | | | |
|---------------|-------------------------|-------------------------|-------------------------|-----------------------------|-----------------------|---------|-----|-----|------|-----|----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | D | E | DB | GA | F | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | R | |
| | DA | EA | | GC | FA | | | | | | | | | | | | | | | FD | FA |
| BXN 63 | 11 9 ⁽¹⁾ | 23 20 ⁽¹⁾ | M4 M3 ⁽¹⁾ | 12.5 10.2 ⁽¹⁾ | 4 3 ⁽¹⁾ | 115 | 95 | 140 | 9.5 | 3 | 9 | 122 | 328 | 305 | 352 | 136 | 112 | 165 | 37 | 96 | 116 |
| BXN 71 | 14 11 ⁽¹⁾ | 30 23 ⁽¹⁾ | M5 M4 ⁽¹⁾ | 16 12.5 ⁽¹⁾ | 5 4 ⁽¹⁾ | 130 | 110 | 160 | | 9 | | 138 | 351 | 321 | 380 | 138 | | | 34 | 103 | 121 |
| BXN 80 | 19 14 ⁽¹⁾ | 40 30 ⁽¹⁾ | M6 M5 ⁽¹⁾ | 21.5 16 ⁽¹⁾ | 6 5 ⁽¹⁾ | 165 | 130 | 200 | 11.5 | 3.5 | 10 | 158 | 417 | 377 | 448 | 148 | | 40 | 129 | 131 | |
| BXN 90 | 24 19 ⁽¹⁾ | 50 40 ⁽¹⁾ | M8 M6 ⁽¹⁾ | 27 21.5 ⁽¹⁾ | 8 6 ⁽¹⁾ | | | | | | | 177 | 433 | 383 | 451 | 170 | | 170 | 43 | 160 | 160 |

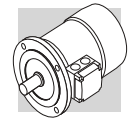
N.B.: 1) These values refer to the rear shaft end (PS).



MXN

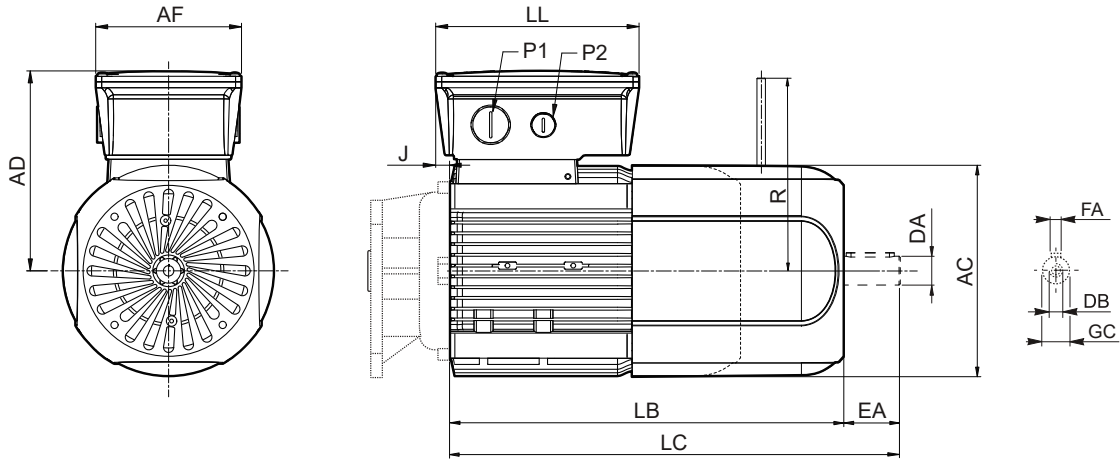


| | Rear shaft end | | | | | Motor | | | | | | |
|---------------|----------------|----|----|----|------|-------|-------|-------|-----|-----|------|-----|
| | DA | EA | DB | FA | GC | AC | LB | LC | AF | LL | J | AD |
| MXN 05 | 9 | 20 | M3 | 3 | 10.2 | 123 | 211.5 | 231.5 | 112 | 165 | 9.5 | 136 |
| MXN 10 | 11 | 23 | M4 | 4 | 12.5 | 138 | 216 | 239 | 112 | 165 | 11.5 | 137 |
| MXN 20 | 14 | 30 | M5 | 5 | 16 | 158 | 255.5 | 285.5 | 112 | 165 | 10.5 | 146 |

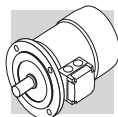


MXN_FD/FA

BXN-MXN



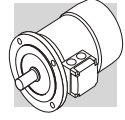
| | Rear shaft end | | | | | Motor | | | | | | | | |
|---------------|----------------|----|----|----|------|-------|-------|-------|-----|-----|------|-----|-----|-----|
| | DA | EA | DB | FA | GC | AC | LB | LC | AF | LL | J | AD | R | |
| | | | | | | | | | | | | | FD | FA |
| MXN 05 | 9 | 20 | M3 | 3 | 10.2 | 122 | 211.5 | 258.5 | 112 | 165 | 9.5 | 136 | 96 | 116 |
| MXN 10 | 11 | 23 | M4 | 4 | 12.5 | 138 | 216 | 275 | 112 | 165 | 11.5 | 138 | 103 | 121 |
| MXN 20 | 14 | 30 | M5 | 5 | 16 | 158 | 255.5 | 326.5 | 112 | 165 | 10.5 | 148 | 129 | 131 |



M16 MOTOR RATING CHARTS BX-MX

| 4 P | | 1500 min⁻¹ - S1 | | | | | | | | | | | 50 Hz - IE3 | | | | | | | | | |
|----------------------------|-----------|-----------------------------------|----------------------------|--------------------------------|--------------|--------------|--------------|--------------|--|--|--|--------------------|--|------------------|-------------------|----------------------------|--|-------------------|------------|----------------------------|--|------------------|
| P_n kW | CE | n min ⁻¹ | M_n Nm | I_n 400V A | η% | | | cos φ | I_s I _n | M_s M _n | M_a M _n | KVA code | J_m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | a.c. brake | | | | |
| | | | | | 100% | 75% | 50% | | | | | | | | Mod | M_b Nm | J_m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M_b Nm | J_m x 10 ⁻⁴ kgm ² | IM B5 |
| | | | | | FD 04 | FD 14 | FD 05 | | | | | | | | | | | | | | | |
| 0.75 | | BX 80B 4 | 1425 | 5.0 | 1.61 | 82.5 | 83.9 | 83.2 | 0.81 | 6.5 | 2.0 | J | 35 | 16 | FD 04 | 15 | 37 | 19.9 | 15 | 37 | 19.8 | |
| 1.1 | | BX 90S 4 | 1425 | 7.4 | 2.44 | 84.1 | 84.1 | 82.0 | 0.77 | 6.9 | 3.4 | J | 27 | 16 | FD 14 | 15 | 29 | 20.2 | 15 | 29 | 20.1 | |
| 1.5 | | BX 90LA 4 | 1420 | 10.1 | 3.3 | 85.3 | 86.2 | 84.9 | 0.78 | 6.3 | 3.1 | J | 31 | 17 | FD 05 | 26 | 35 | 23 | 26 | 35 | 23.7 | |
| 2.2 | | BX 100LA 4 | 1445 | 14.5 | 5.1 | 86.7 | 86.2 | 84.0 | 0.72 | 7.2 | 3.6 | K | 58 | 24 | FD 15 | 40 | 62 | 31 | 40 | 62 | 31 | |
| 3 | | BX 100LB 4 | 1445 | 19.8 | 6.7 | 87.7 | 87.7 | 86.0 | 0.74 | 7.6 | 3.9 | K | 73 | 29 | FD 15 | 40 | 77 | 36 | 40 | 77 | 36 | |
| 4 | | BX 112M 4 | 1445 | 26 | 8.1 | 88.6 | 88.9 | 87.6 | 0.8 | 8.1 | 3.8 | J | 130 | 38 | FD 06S | 60 | 139 | 48 | 60 | 139 | 50 | |
| 5.5 | | BX 132SB 4 | 1460 | 36 | 10.6 | 89.6 | 89.2 | 88.8 | 0.83 | 8.2 | 3.6 | J | 310 | 57 | FD 56 | 75 | 320 | 70 | 75 | 320 | 71 | |
| 7.5 | | BX 132MA 4 | 1460 | 49 | 15.0 | 90.4 | 90.9 | 90.2 | 0.80 | 8.4 | 3.8 | K | 360 | 67 | FD 06 | 100 | 370 | 80 | 100 | 370 | 85 | |
| 9.2 | | BX 160MA 4 | 1465 | 60 | 17.8 | 91.0 | 92.1 | 91.7 | 0.82 | 7.9 | 3.6 | J | 650 | 95 | FD 08 | 170 | 725 | 125 | 170 | 725 | 124 | |
| 11 | | BX 160MB 4 | 1465 | 72 | 20.5 | 91.4 | 92.9 | 92.5 | 0.84 | 7.8 | 3.4 | J | 780 | 110 | FD 08 | 170 | 855 | 140 | 170 | 855 | 139 | |
| 15 | | BX 160L 4 | 1465 | 98 | 28.1 | 92.1 | 93.2 | 92.6 | 0.82 | 9.0 | 4.1 | K | 890 | 121 | FD 08 | 200 | 965 | 151 | 200 | 965 | 150 | |
| 18.5 | | BX 180M 4 | 1480 | 119 | 32.9 | 92.6 | 94.1 | 93.1 | 0.85 | 11.3 | 2.6 | M | 1560 | 155 | FD 09 | 300 | 1760 | 195 | 300 | 1760 | 195 | |
| 22 | | BX 180L 4 | 1475 | 142 | 38.2 | 93.0 | 93.6 | 92.8 | 0.88 | 10.2 | 2.5 | L | 1660 | 163 | FD 09 | 300 | 1860 | 203 | 300 | 1860 | 203 | |

Note: for more details on the available energy certifications look at the catalog's dedicated section.

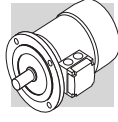


| 4 P | | 1500 min ⁻¹ - S1 | | | | | | | | | | | | 50 Hz - IE3 | | | | | | | | | | | | | | | | | | | | | |
|----------------------|----------|-----------------------------|------------|----------------------|---|-----------------|------|----------------------|---|-------|------|------|------|-------------|------------|----------------------------------|---|----------------------------------|-------|----------------------------------|-------|-------------|-------|---|------|-------|-----|-----|------|----------------------|-----|---|------|-------|-----|
| P _n kW | CE | CCC | d.c. brake | | | | | | | | | | | | a.c. brake | | | | | | | | | | | | | | | | | | | | |
| | | | FD | | | | | | FA | | | | | | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | | | | | | | | | | | | | | | |
| | | | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | BX 200LA | 4 | 1483 | M _n Nm | 193.2 | In 400V A | 54.8 | 100% | 93.6 | 75% | 93.9 | 50% | 93.4 | cos φ | 0.84 | I _s I _n | 7.5 | M _s M _n | 2.7 | M _a M _n | 3.2 | KVA code | N/A | J _m x 10 ⁻⁴ kgm ² | 3850 | IM B5 | 292 | Mod | FD20 | M _b Nm | 260 | J _m x 10 ⁻⁴ kgm ² | 3910 | IM B5 | 317 |
| 37 | BX 225SA | 4 | 1482 | 238.6 | 68.9 | 93.9 | 93.8 | 94.1 | 93.8 | 94.1 | 93.8 | 94.1 | 93.8 | 0.83 | 7.2 | 3.1 | 3.1 | N/A | 4270 | 322 | FD25 | 400 | 4450 | 356 | | | | | | | | | | | |
| 45 | BX 225SB | 4 | 1482 | 290 | 82.3 | 94.2 | 94.4 | 94.4 | 94 | 94.4 | 94 | 94 | 94 | 0.84 | 8 | 3.2 | 3.5 | N/A | 5250 | 357 | FD25 | 400 | 5430 | 391 | | | | | | | | | | | |
| 55 | BX 250MA | 4 | 1482 | 354.2 | 100 | 94.6 | 94.7 | 94 | 94.7 | 94 | 94.7 | 94 | 94.8 | 0.84 | 7.1 | 2.9 | 3.4 | N/A | 6940 | 406 | FD30 | 1000 | 7540 | 452 | | | | | | | | | | | |
| 75 | BX 280SA | 4 | 1485 | 483 | 133 | 95 | 94.8 | 95.2 | 94.8 | 95.2 | 94.8 | 94.8 | 94.8 | 0.86 | 6.4 | 2.3 | 2.8 | N/A | 13800 | 645 | FD30 | 1000 | 14400 | 691 | | | | | | | | | | | |
| 90 | BX 280SB | 4 | 1485 | 578 | 158 | 95.2 | 95.2 | 95.5 | 95.2 | 95.5 | 95.2 | 95.2 | 95.2 | 0.86 | 7.1 | 2.5 | 2.9 | N/A | 17300 | 700 | FD30 | 1000 | 17900 | 746 | | | | | | | | | | | |
| 110 | BX 315SA | 4 | 1489 | 705 | 198 | 95.4 | 95.4 | 95.5 | 95 | 95.5 | 95.5 | 95 | 95 | 0.84 | 7 | 2.1 | 3 | N/A | 24300 | 930 | FD30 | 1000 | 24900 | 976 | | | | | | | | | | | |
| 132 | BX 315SB | 4 | 1488 | 847 | 231 | 95.6 | 95.6 | 95.9 | 95.5 | 95.9 | 95.5 | 95.5 | 95.5 | 0.86 | 6.7 | 2.2 | 2.9 | N/A | 29000 | 1000 | FD160 | 1600 | 30500 | 1121 | | | | | | | | | | | |
| 160 | BX 315SC | 4 | 1488 | 1026 | 282 | 95.8 | 95.8 | 96 | 95.8 | 96 | 95.8 | 96 | 95.8 | 0.85 | 6.9 | 2.2 | 3 | N/A | 32000 | 1065 | FD160 | 1600 | 33500 | 1186 | | | | | | | | | | | |
| 200 | BX 315MA | 4 | 1487 | 1284 | 351 | 96 | 96.4 | 96.4 | 96.4 | 96.4 | 96.4 | 96.4 | 96.4 | 0.86 | 6.8 | 2.4 | 3 | N/A | 39000 | 1220 | FD250 | 2500 | 41400 | 1390 | | | | | | | | | | | |
| 250 | BX 355MA | 4 | 1491 | 1601 | 435 | 96 | 96 | 96 | 95.6 | 96 | 96 | 95.6 | 95.6 | 0.86 | 6.4 | 2.1 | 2.9 | N/A | 59000 | 1610 | FD250 | 2500 | 61400 | 1780 | | | | | | | | | | | |
| 315 | BX 355MB | 4 | 1491 | 2018 | 550 | 96 | 96.1 | 95.7 | 96.1 | 95.7 | 96.1 | 95.7 | 95.7 | 0.85 | 7.3 | 2.4 | 3.3 | N/A | 69000 | 1780 | FD400 | 4000 | 73300 | 2000 | | | | | | | | | | | |
| 355 | BX 355MC | 4 | 1490 | 2273 | 616 | 96 | 96.2 | 95.8 | 96.2 | 95.8 | 96.2 | 95.8 | 95.8 | 0.86 | 6.3 | 2.3 | 2.8 | N/A | 72000 | 1820 | FD400 | 4000 | 76300 | 2040 | | | | | | | | | | | |



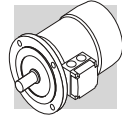
Note: for more details on the available energy certifications look at the catalog's dedicated section.

BX-MX



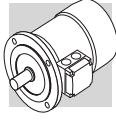
| 4 P | | 1500 min ⁻¹ - S1 | | | | | | | | | | | | 50 Hz - IE3 | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|-------------|--|------------|--|----------------------|------------|-------|--|----------------------|-----|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | I _s I _n | M _s M _n | M _a M _n | KVA code | J _m x 10 ⁻⁴ kgm ² | d.c. brake | | | a.c. brake | | | | |
| | | | | 100% | 75% | | | | | | | IM B5 | J _m x 10 ⁻⁴ kgm ² | M _b Nm | Mod | IM B5 | J _m x 10 ⁻⁴ kgm ² | M _b Nm | Mod |
| | | | | 50% | 50% | | | | | | | | | | | | | | |
| 30 | BX 200LAK 4 | 193 | 55.7 | 94.7 | 95.1 | 0.82 | 8.3 | 3 | 3.3 | N/A | 3660 | 319 | 3940 | 400 | FD 8 | 337 | 337 | | |
| 37 | BX 225SAK 4 | 238 | 65.9 | 95.1 | 95.5 | 0.85 | 7.7 | 2.8 | 3.1 | N/A | 5360 | 398 | 5720 | 600 | FD 9 | 426 | 426 | | |
| 45 | BX 225SBK 4 | 290 | 80.4 | 95.2 | 95.6 | 0.85 | 7.9 | 2.8 | 3.2 | N/A | 5360 | 398 | 5720 | 600 | FD 9 | 426 | 426 | | |
| 55 | BX 250MAK 4 | 354 | 98.9 | 95.6 | 95.8 | 0.84 | 7.9 | 3 | 3.3 | N/A | 9330 | 476 | 10080 | 800 | FD 10 | 521 | 521 | | |
| 75 | BX 280SAK 4 | 482 | 134 | 95.9 | 96.2 | 0.84 | 7.3 | 2.5 | 2.8 | N/A | 15000 | 665 | 15360 | 1000 | FD 1000 | 771 | 771 | | |
| 90 | BX 280SBK 4 | 578 | 161 | 96.2 | 96.4 | 0.84 | 7.9 | 2.9 | 3 | N/A | 18500 | 725 | 18860 | 1000 | FD 1000 | 831 | 831 | | |
| 110 | BX 315SAK 4 | 704 | 194 | 96.8 | 97 | 0.84 | 8.3 | 2.4 | 3.1 | N/A | 29000 | 1000 | 29360 | 1000 | FD 1000 | 1106 | 1106 | ⊖ | |
| 132 | BX 315SBK 4 | 846 | 234 | 96.9 | 97.1 | 0.84 | 8.1 | 2.6 | 3.2 | N/A | 32000 | 1065 | 32500 | 1600 | FD 1600 | 1233 | 1233 | | |
| 160 | BX 315SCK 4 | 1025 | 279 | 96.7 | 96.9 | 0.86 | 8.2 | 2.7 | 3 | N/A | 39000 | 1220 | 39500 | 1600 | FD 1600 | 1388 | 1388 | | |
| 200 | BX 355SAK 4 | 1281 | 345 | 96.6 | 96.7 | 0.87 | 7.3 | 2.1 | 2.7 | N/A | 59000 | 1610 | 59500 | 2500 | FD 2500 | 1778 | 1778 | | |
| 250 | BX 355MAK 4 | 1601 | 435 | 96 | 96 | 0.86 | 6.4 | 2.1 | 2.9 | N/A | 69000 | 1780 | 69500 | 2500 | FD 2500 | 1948 | 1948 | | |
| 315 | BX 355MBK 4 | 2017 | 550 | 96 | 96.1 | 0.85 | 7.3 | 2.4 | 3.3 | N/A | 72000 | 1820 | 72500 | 2500 | FD 2500 | 1988 | 1988 | | |
| 355 | BX 355MCK 4 | 2275 | 616 | 96 | 96.2 | 0.86 | 6.3 | 2.3 | 2.8 | N/A | 84000 | 2140 | 84500 | 2500 | FD 2500 | 2308 | 2308 | | |

Note: for more details on the available energy certifications look at the catalog's dedicated section.



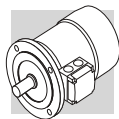
| 4 P | | 1800 min ⁻¹ - S1 | | | | | | | | | | | | | 60 Hz - Nema Premium | | | | | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|-------------|--|-----------|------------------|----------------------|--|------------------|-------|----------------------|--|-----------|-------|--|-------|--|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 460V A | η% | | cos φ | I _s I _n | M _s M _n | M _a M _n | KVA code | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake FD | | | a.c. brake FA | | | | | | | | |
| | | | | 100% | 75% | | | | | | | | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | | |
| | | | | 50% | | | | | | | | | FD 14 | | FA 14 | | FA 14 | | FA 05 | | FA 15 | | FA 15 | |
| 0.75 | BX 90SR 4 | 4.1 | 1.48 | 85.5 | 86.4 | 83.9 | 8.0 | 3.7 | 2.5 | L | 27 | 16 | 15 | 29 | 20.2 | 15 | 29 | 20.1 | | | | | | |
| 1.1 | BX 90S 4 | 6.0 | 2.15 | 86.5 | 85.9 | 83.0 | 8.2 | 4.1 | 2.8 | K | 27 | 16 | 15 | 29 | 20.2 | 15 | 29 | 20.1 | | | | | | |
| 1.5 | BX 90LA 4 | 8.3 | 2.91 | 86.5 | 86.5 | 84.4 | 7.4 | 3.6 | 2.5 | K | 31 | 17 | 26 | 35 | 23 | 26 | 35 | 23.7 | | | | | | |
| 2.2 | BX 100LA 4 | 11.9 | 4.4 | 89.5 | 88.6 | 86.2 | 9.9 | 4.8 | 3.6 | N | 73 | 29 | 40 | 77 | 36 | 40 | 77 | 36 | | | | | | |
| 3 | BX 100LB 4 | 16.4 | 5.9 | 89.5 | 88.9 | 86.7 | 9.1 | 4.4 | 3.3 | M | 73 | 29 | 40 | 77 | 36 | 40 | 77 | 36 | | | | | | |
| 3.7 | BX 112M 4 | 20 | 6.7 | 89.5 | 89.5 | 89.1 | 10.4 | 4.7 | 3.4 | M | 130 | 38 | 60 | 139 | 48 | 60 | 139 | 50 | | | | | | |
| 5.5 | BX 132SB 4 | 30 | 9.9 | 91.7 | 92.0 | 90.2 | 10.7 | 5.1 | 4.6 | N | 410 | 77 | 75 | 420 | 90 | 75 | 420 | 91 | | | | | | |
| 7.5 | BX 132MA 4 | 41 | 13.4 | 91.7 | 91.3 | 89.7 | 11.0 | 4.9 | 4.4 | N | 410 | 77 | 100 | 420 | 90 | 100 | 420 | 95 | | | | | | |
| 9.2 | BX 160MA 4 | 50 | 15.6 | 92.4 | 92.5 | 91.6 | 9.1 | 4.1 | 2.6 | L | 650 | 95 | 170 | 725 | 125 | 170 | 725 | 124 | | | | | | |
| 11 | BX 160MB 4 | 59 | 18.2 | 92.4 | 92.9 | 92.0 | 9.3 | 4.0 | 2.4 | L | 780 | 110 | 170 | 855 | 140 | 170 | 855 | 139 | | | | | | |
| 15 | BX 160L 4 | 81 | 24.5 | 93.0 | 93.5 | 92.5 | 10.9 | 4.8 | 2.8 | M | 890 | 121 | 200 | 965 | 151 | 200 | 965 | 150 | | | | | | |
| 18.5 | BX 180M 4 | 99 | 28.6 | 93.6 | 94.5 | 93.2 | 13.0 | 2.9 | 2.7 | N | 1560 | 155 | 300 | 1760 | 195 | 300 | 1760 | | | | | | | |
| 22 | BX 180L 4 | 118 | 33.1 | 93.6 | 94.2 | 93.1 | 11.5 | 2.8 | 2.4 | M | 1660 | 163 | 300 | 1860 | 203 | 300 | 1860 | | | | | | | |

Note: for more details on the available energy certifications look at the catalog's dedicated section.



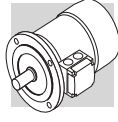
| 4 P | | 1800 min ⁻¹ - S1 | | | | | | | | | | | 60 Hz - Nema Premium | | | | | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|-------------|--|-----------|----------------------|----------------------|--|------------|-------|----------------------|--|-----------|-------|------|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 460V A | η% | | cos φ | I _s I _n | M _s M _n | M _a M _n | KVA code | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | a.c. brake | | | | | | |
| | | | | 100% | 75% | | | | | | | | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | | |
| | | | | 50% | 50% | | | | | | | | | | | | | | | | | |
| 30 | BX 200LAK 4 | 1786 | 160 | 47.9 | 94.7 | 94.8 | 94.1 | 0.83 | 9.4 | 3.3 | 3.7 | N/A | 3660 | 319 | FD 8 | 400 | 3940 | 337 | FD 8 | 400 | 3940 | 337 |
| 37 | BX 225SAK 4 | 1784 | 198 | 57.3 | 95.3 | 95.5 | 94.9 | 0.85 | 8.8 | 2.9 | 3.4 | N/A | 5360 | 398 | FD 9 | 600 | 5720 | 426 | FD 9 | 600 | 5720 | 426 |
| 45 | BX 225SBK 4 | 1785 | 240 | 70.5 | 95.3 | 95.4 | 94.8 | 0.84 | 8.9 | 3 | 3.6 | N/A | 5360 | 398 | FD 9 | 600 | 5720 | 426 | FD 9 | 600 | 5720 | 426 |
| 55 | BX 250MAK 4 | 1787 | 293 | 85.8 | 95.7 | 95.8 | 95.2 | 0.84 | 9.1 | 3.3 | 3.7 | N/A | 9330 | 476 | FD 10 | 800 | 10080 | 521 | FD 10 | 800 | 10080 | 521 |
| 75 | BX 280SAK 4 | 1788 | 401 | 117 | 95.9 | 95.7 | 94.7 | 0.84 | 8.4 | 2.7 | 3.1 | N/A | 15000 | 665 | FD 1000 | 1000 | 15360 | 771 | FD 1000 | 1000 | 15360 | 771 |
| 90 | BX 280SBK 4 | 1788 | 481 | 140 | 96.1 | 95.9 | 95 | 0.84 | 9 | 3.1 | 3.3 | N/A | 18500 | 725 | FD 1000 | 1000 | 18860 | 831 | FD 1000 | 1000 | 18860 | 831 |
| 110 | BX 315SAK 4 | 1792 | 586 | 172 | 96.1 | 96 | 95.3 | 0.84 | 8.8 | 2.6 | 3.4 | N/A | 29000 | 1000 | FD 1000 | 1000 | 29360 | 1106 | FD 1000 | 1000 | 29360 | 1106 |
| 132 | BX 315SBK 4 | 1791 | 704 | 206 | 96.4 | 96.3 | 95.6 | 0.84 | 9 | 2.8 | 3.6 | N/A | 32000 | 1065 | FD 1600 | 1600 | 32500 | 1233 | FD 1600 | 1600 | 32500 | 1233 |
| 160 | BX 315SCK 4 | 1791 | 853 | 241 | 96.4 | 96.4 | 95.9 | 0.86 | 9 | 2.9 | 3.3 | N/A | 39000 | 1220 | FD 1600 | 1600 | 39500 | 1388 | FD 1600 | 1600 | 39500 | 1388 |
| 200 | BX 355SAK 4 | 1792 | 1065 | 301 | 96.4 | 96.2 | 95.4 | 0.87 | 8.3 | 2.2 | 3 | N/A | 59000 | 1610 | FD 2500 | 2500 | 59500 | 1778 | FD 2500 | 2500 | 59500 | 1778 |
| 250 | BX 355MAK 4 | 1792 | 1332 | 381 | 96.7 | 96.6 | 96 | 0.86 | 8.8 | 2.7 | 3.2 | N/A | 69000 | 1780 | FD 2500 | 2500 | 69500 | 1948 | FD 2500 | 2500 | 69500 | 1948 |
| 315 | BX 355MBK 4 | 1791 | 1679 | 479 | 96.7 | 96.6 | 96.1 | 0.85 | 8.5 | 3.1 | 3.2 | N/A | 72000 | 1820 | FD 2500 | 2500 | 72500 | 1988 | FD 2500 | 2500 | 72500 | 1988 |
| 355 | BX 355MCK 4 | 1792 | 1893 | 541 | 96.7 | 96.5 | 96.9 | 0.86 | 7.2 | 2.4 | 3.1 | N/A | 84000 | 2140 | FD 2500 | 2500 | 84500 | 2308 | FD 2500 | 2500 | 84500 | 2308 |

Note: for more details on the available energy certifications look at the catalog's dedicated section.

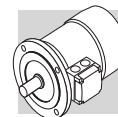


| 4 P | | 1500 min ⁻¹ - S1 | | | | | | | | | | | 50 Hz - IE3 | | | | | | | | |
|----------------|---------------|-----------------------------|----------------|---------|------|-------|--------------------------------|--------------------------------|--------------------------------|----------|--|-------|-------------|-------------------|--|-------|-----|-------------------|--|-------|------|
| | | d.c. brake | | | | | | | | | | | a.c. brake | | | | | | | | |
| | | FD | | | | | | | | | | | FA | | | | | | | | |
| P _n | | n | M _n | In 400V | η% | cos φ | I _s /I _n | M _s /M _n | M _a /M _n | KVA code | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | |
| 0.75 | MX 2SB | 4 | 1425 | 5.0 | 1.61 | 82.5 | 83.9 | 83.2 | 0.81 | 6.5 | 2.0 | 1.8 | J | 35 | 16 | 19.9 | 15 | 37 | 15 | 37 | 19.8 |
| 1.1 | MX 3SA | 4 | 1445 | 7.3 | 2.46 | 84.1 | 85.5 | 83.5 | 0.75 | 6.7 | 3.0 | 2.0 | J | 35 | 17 | 24 | 15 | 26 | 15 | 26 | 24 |
| 1.5 | MX 3SB | 4 | 1445 | 9.9 | 3.3 | 85.3 | 86.8 | 85.4 | 0.75 | 6.7 | 3.1 | 2.0 | J | 43 | 20 | 27 | 26 | 47 | 26 | 47 | 27 |
| 2.2 | MX 3LA | 4 | 1445 | 14.5 | 5.1 | 86.7 | 86.2 | 84.0 | 0.72 | 7.2 | 3.6 | 2.4 | K | 58 | 24 | 31 | 40 | 62 | 40 | 62 | 31 |
| 3 | MX 3LB | 4 | 1445 | 19.8 | 6.7 | 87.7 | 87.7 | 86.0 | 0.74 | 7.6 | 3.9 | 2.6 | K | 73 | 29 | 36 | 40 | 77 | 40 | 77 | 36 |
| 4 | MX 4SA | 4 | 1460 | 26 | 7.8 | 88.6 | 89.9 | 88.7 | 0.82 | 8.1 | 3.7 | 2.5 | J | 225 | 45 | 58 | 75 | 235 | 75 | 235 | 59 |
| 5.5 | MX 4SB | 4 | 1460 | 36 | 10.6 | 89.6 | 89.9 | 88.8 | 0.83 | 8.2 | 3.6 | 2.3 | J | 310 | 57 | 70 | 75 | 320 | 75 | 320 | 71 |
| 7.5 | MX 4LA | 4 | 1460 | 49 | 15.0 | 90.4 | 90.9 | 90.2 | 0.80 | 8.4 | 3.8 | 2.5 | K | 360 | 67 | 80 | 100 | 370 | 100 | 370 | 85 |
| 9.2 | MX 5SA | 4 | 1465 | 60 | 17.8 | 91.0 | 92.1 | 91.7 | 0.82 | 7.9 | 3.6 | 2.1 | J | 650 | 95 | 125 | 170 | 725 | 170 | 725 | 124 |
| 11 | MX 5SB | 4 | 1465 | 72 | 20.5 | 91.4 | 92.9 | 92.5 | 0.84 | 7.8 | 3.4 | 1.9 | J | 780 | 110 | 140 | 170 | 855 | 170 | 855 | 139 |
| 15 | MX 5LA | 4 | 1465 | 98 | 28.1 | 92.1 | 93.2 | 92.6 | 0.82 | 9.0 | 4.1 | 2.3 | K | 890 | 121 | 151 | 200 | 965 | 200 | 965 | 150 |

BX-MX

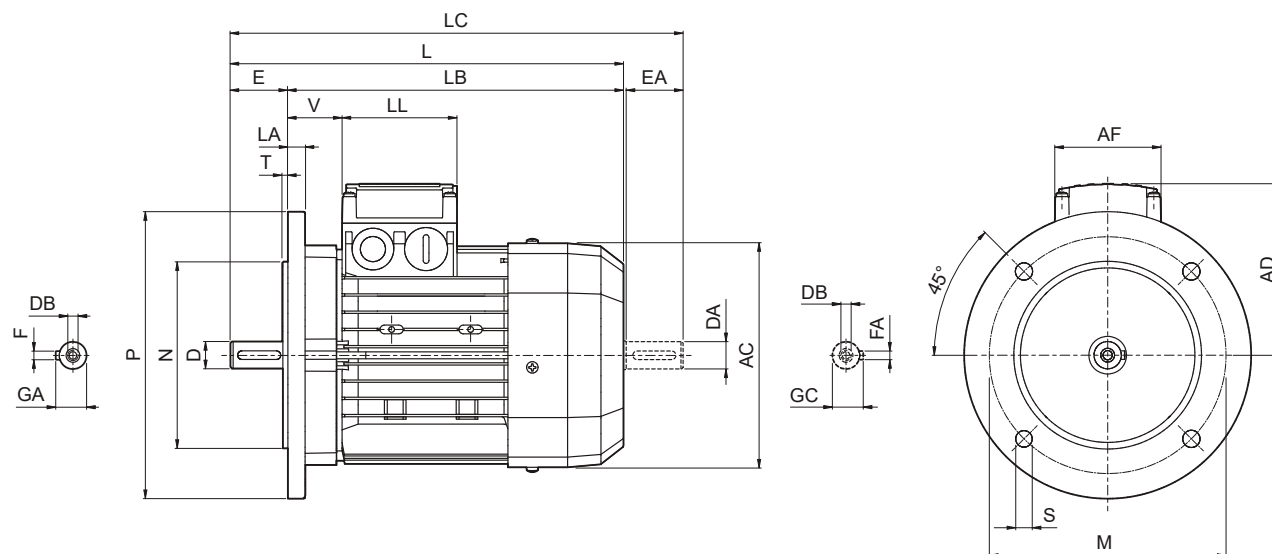


| 4 P | | 1800 min ⁻¹ - S1 | | | | | | | | | | | | | 60 Hz - IE3 | | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|-------------|--|-----------|--------------|----------------------|--|-----------|--------------|----------------|--|-----------|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 460V A | η% | | | cos φ | I _s I _n | M _s M _n | M _a M _n | KVA code | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | a.c. brake | | | |
| | | | | 100% | 75% | 50% | | | | | | | | Mod | M _b Nm | J _m x 10 ⁻⁴ kgm ² | IM B5 | FA | | | |
| | | | | | | | | | | | | | | | | | | Mod | M _b | J _m x 10 ⁻⁴ kgm ² | IM B5 |
| 0.75 | MX 2SB 4 | 4.1 | 1.48 | 85.5 | 86.4 | 83.9 | 0.73 | 8.0 | 3.7 | 2.5 | L | 27 | 16 | FD 14 | 15 | 29 | 20.2 | FA 14 | 15 | 29 | 20.1 |
| 1.1 | MX 3SA 4 | 6.0 | 2.19 | 86.5 | 86.0 | 83.0 | 0.73 | 7.9 | 3.3 | 2.5 | L | 35 | 17 | FD 15 | 15 | 26 | 24 | FA 15 | 15 | 26 | 24 |
| 1.5 | MX 3SB 4 | 8.2 | 2.96 | 86.5 | 87.2 | 85.0 | 0.72 | 8.5 | 3.7 | 2.9 | L | 43 | 20 | FD 15 | 26 | 47 | 27 | FA 15 | 26 | 47 | 27 |
| 2.2 | MX 3LA 4 | 11.9 | 4.4 | 89.5 | 88.6 | 86.2 | 0.71 | 9.9 | 4.8 | 3.6 | N | 73 | 29 | FD 15 | 40 | 77 | 36 | FA 15 | 40 | 77 | 36 |
| 3 | MX 3LB 4 | 16.4 | 5.9 | 89.5 | 88.9 | 86.7 | 0.71 | 9.1 | 4.4 | 3.3 | M | 73 | 29 | FD 15 | 40 | 77 | 36 | FA 15 | 40 | 77 | 36 |
| 3.7 | MX 4SA 4 | 20.0 | 6.6 | 89.5 | 89.8 | 87.7 | 0.78 | 9.9 | 4.7 | 3.4 | M | 225 | 45 | FD 56 | 75 | 235 | 58 | FA 06 | 75 | 235 | 59 |
| 5.5 | MX 4SB 4 | 30 | 9.9 | 91.7 | 92.0 | 90.2 | 0.76 | 10.7 | 5.1 | 4.6 | N | 410 | 77 | FD 56 | 75 | 420 | 90 | FA 06 | 75 | 420 | 91 |
| 7.5 | MX 4LA 4 | 41 | 13.4 | 91.7 | 91.3 | 89.7 | 0.76 | 11.0 | 4.9 | 4.4 | N | 410 | 77 | FD 06 | 100 | 420 | 90 | FA 07 | 100 | 420 | 95 |
| 9.2 | MX 5SA 4 | 50 | 15.6 | 92.4 | 92.5 | 91.6 | 0.8 | 9.1 | 4.1 | 2.6 | L | 650 | 95 | FD 08 | 170 | 725 | 125 | FA 08 | 170 | 725 | 124 |
| 11 | MX 5SB 4 | 59 | 18.2 | 92.4 | 92.9 | 92.0 | 0.82 | 9.3 | 4.0 | 2.4 | L | 780 | 110 | FD 08 | 170 | 855 | 140 | FA 08 | 170 | 855 | 139 |
| 15 | MX 5LA 4 | 81 | 24.5 | 93.0 | 93.5 | 92.5 | 0.81 | 10.9 | 4.8 | 2.8 | M | 890 | 121 | FD 08 | 200 | 965 | 151 | FA 08 | 200 | 965 | 150 |



M17 MOTORS DIMENSIONS BX-MX

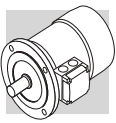
BX - IM B5 - CE/CCC



| | Shaft | | | | | Flange | | | | | Motor | | | | | | | | |
|------------------|--------------------------|---------------------------|---------------------------|----------------------------|-------------------------|--------|-----|-----|------|-----|-------|-----|------|------|------|-----|-----|-----|----|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V |
| BX 80 B | 19 14 ⁽¹⁾ | 40 30 ⁽¹⁾ | M6 M5 ⁽¹⁾ | 21.5 16 ⁽¹⁾ | 6 5 ⁽¹⁾ | | | | | | | 156 | 320 | 280 | 351 | 119 | 74 | 80 | 38 |
| BX 90 S | 24 19 ⁽¹⁾ | 50 40 ⁽¹⁾ | M8 M6 ⁽¹⁾ | 27 21.5 ⁽¹⁾ | 8 6 ⁽¹⁾ | 165 | 130 | 200 | 11.5 | 3.5 | 11.5 | 176 | 326 | 276 | 368 | 133 | | | 44 |
| BX 90 LA | | | | | | | | | | | | | | | | | | | |
| BX 100 LA | | | | | | | | | | | 14 | 195 | 410 | 350 | 462 | 142 | 98 | 98 | 50 |
| BX 100 LB | 28 24 ⁽¹⁾ | 60 50 ⁽¹⁾ | M10 M8 ⁽¹⁾ | 31 27 ⁽¹⁾ | 8 8 ⁽¹⁾ | 215 | 180 | 250 | | | | | | | | | | | |
| BX 112 M | | | | | | | | | 14 | 4 | 15 | 219 | 430 | 370 | 482 | 157 | | | 52 |
| BX 132 SB | | | | | | | | | | | 20 | 258 | 493 | 413 | 556 | 193 | 118 | 118 | 58 |
| BX 132 MA | 38 28 ⁽¹⁾ | 80 60 ⁽¹⁾ | M12 M10 ⁽¹⁾ | 41 31 ⁽¹⁾ | 10 8 ⁽¹⁾ | 265 | 230 | 300 | | | | | 528 | 448 | 591 | | | | |
| BX 160 MA | | | | | | | | | | | | | 596 | 486 | 680 | | | | |
| BX 160 MB | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | | | | | | 15 | 310 | 640 | 530 | 724 | 245 | | | 51 |
| BX 160 L | | | | | | 300 | 250 | 350 | 18.5 | | | | | | | | 187 | 187 | |
| BX 180 M | | | | | | | | | | | 18 | 348 | 708 | 598 | 823 | 261 | | | 52 |
| BX 180 L | 48 42 ⁽¹⁾ | 110 110 ⁽¹⁾ | M16 M16 ⁽¹⁾ | 51.5 45 ⁽¹⁾ | 14 12 ⁽¹⁾ | | | | | | | | | | | | | | |
| BX 200LA | 55 45 ⁽¹⁾ | | | 59 48.5 ⁽¹⁾ | 16 14 ⁽¹⁾ | 350 | 300 | 400 | | 5 | | | 423 | 821 | 711 | 934 | 328 | | 55 |
| BX 225SA | | | | | | | | | | | 20 | 465 | 879 | 739 | 1001 | 348 | 300 | 311 | |
| BX 225SB | 60 55 ⁽¹⁾ | 140 110 ⁽¹⁾ | | 64 59 ⁽¹⁾ | 18 16 ⁽¹⁾ | 400 | 350 | 450 | 19 | | | | | | | | | | 48 |
| BX 250MA | 65 55 ⁽¹⁾ | | | 69 59 ⁽¹⁾ | | | | | | | 24 | 514 | 884 | 744 | 1010 | 376 | | | |
| BX 280SA | | | | | | | | | | | 23 | 567 | 1088 | 948 | 1238 | 482 | 434 | 306 | 43 |
| BX 280SB | 75 65 ⁽¹⁾ | 140 140 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 79.5 69 ⁽¹⁾ | 20 18 ⁽¹⁾ | 500 | 450 | 550 | 18 | | | | | | | | | | |
| BX 315SA | | | | | | | | | | | | | | | | | | | |
| BX 315SB | 80 75 ⁽¹⁾ | 170 140 ⁽¹⁾ | | 85 79.5 ⁽¹⁾ | 22 20 ⁽¹⁾ | 600 | 550 | 660 | | | | 645 | 1204 | 1034 | 1352 | 537 | 473 | 347 | 42 |
| BX 315SC | | | | | | | | | | | | | | | | | | | |
| BX 315MA | 90 75 ⁽¹⁾ | | | 95 79.5 ⁽¹⁾ | 25 20 ⁽¹⁾ | | | | | 23 | 6 | 25 | 1315 | 1145 | 1463 | | | | |
| BX 355MA | | | | | | | | | | | | | | | | | | | |
| BX 355MB | 100 75 ⁽¹⁾ | 210 170 ⁽¹⁾ | M24 M20 ⁽¹⁾ | 106 79.5 ⁽¹⁾ | 28 20 ⁽¹⁾ | 740 | 680 | 800 | | | | 740 | 1479 | 1269 | 1659 | 603 | 694 | 413 | 50 |
| BX 355MC | | | | | | | | | | | | | | | | | | | |

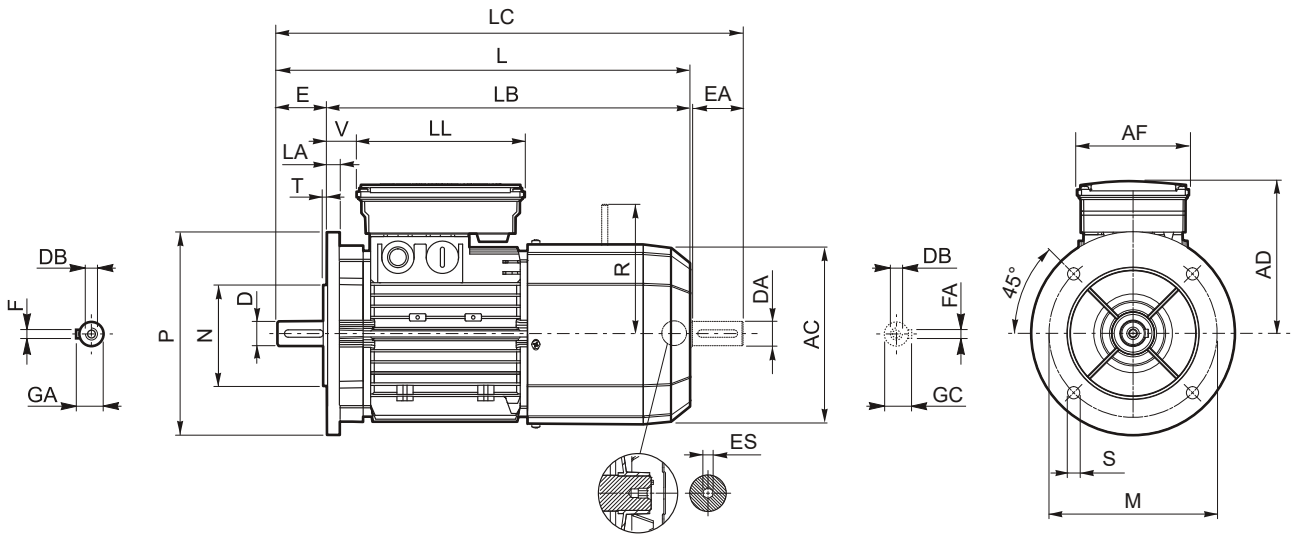
N.B.: 1) These values refer to the rear shaft end (PS).

BX-MX



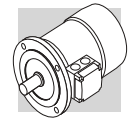
BX - IM B5 - FD/FA - CE/CCC

BX-MX



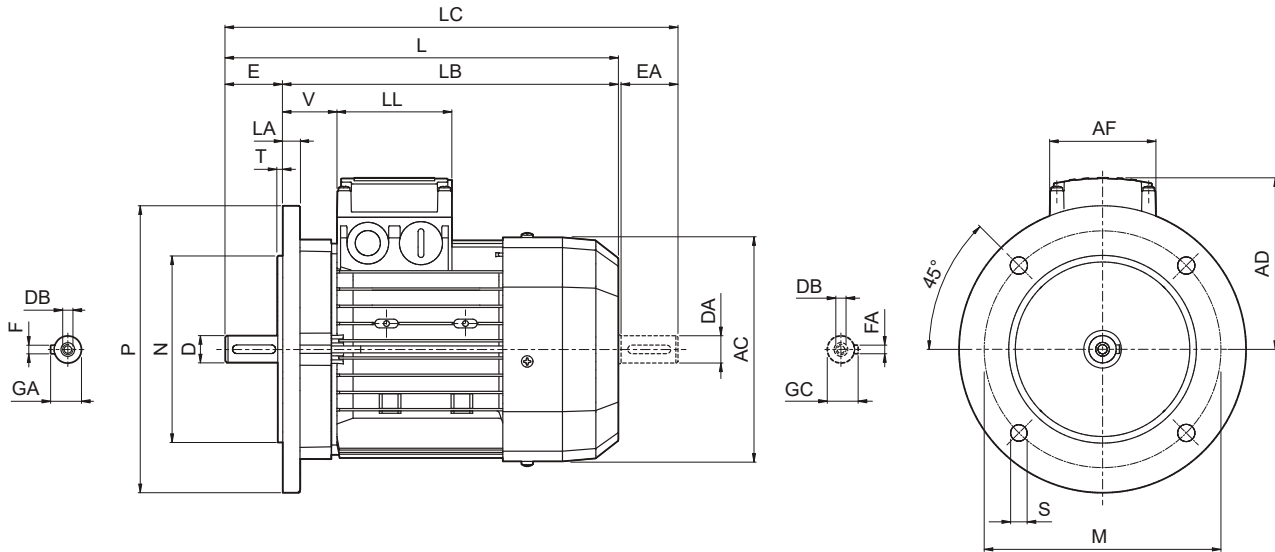
| | Shaft | | | | | Flange | | | | | | Motor | | | | | | | | | | | |
|------------------|--------------------------|---------------------------|---------------------------|----------------------------|-------------------------|--------|-----|-----|------|-----|------|-------|------|------|------|------|-----|-----|-----|-----|-----|-----|---|
| | D | E | DB | GA | F | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | R | | ES | |
| | DA | EA | | GC | FA | | | | | | | | | | | | | | | FD | FA | (2) | |
| BX 80 B | 19 14 ⁽¹⁾ | 40 30 ⁽¹⁾ | M6 M5 ⁽¹⁾ | 21.5 16 ⁽¹⁾ | 6 5 ⁽¹⁾ | | | | | | | 156 | 392 | 352 | 423 | 143 | 98 | 133 | 25 | | 129 | 134 | 5 |
| BX 90 S | 24 19 ⁽¹⁾ | 50 40 ⁽¹⁾ | M8 M6 ⁽¹⁾ | 27 21.5 ⁽¹⁾ | 8 6 ⁽¹⁾ | 165 | 130 | 200 | 11.5 | 3.5 | 11.5 | 176 | 410 | 360 | 452 | 146 | | | 32 | | | | |
| BX 90 LA | | | | | | | | | | | | | | | | | | 110 | 165 | | 160 | 160 | 6 |
| BX 100 LA | | | | | | | | | | | 14 | 195 | 502 | 442 | 554 | 155 | | | 37 | | | | |
| BX 100 LB | 28 24 ⁽¹⁾ | 60 50 ⁽¹⁾ | M10 M8 ⁽¹⁾ | 31 27 ⁽¹⁾ | 8 8 ⁽¹⁾ | 215 | 180 | 250 | | | | | | | | | | | | | | | |
| BX 112 M | | | | | | | | | 14 | 4 | 15 | 219 | 527 | 467 | 579 | 170 | | | 39 | 199 | 198 | | |
| BX 132 SB | 38 28 ⁽¹⁾ | 80 60 ⁽¹⁾ | M12 M10 ⁽¹⁾ | 41 31 ⁽¹⁾ | 10 8 ⁽¹⁾ | 265 | 230 | 300 | | | 16 | 258 | 603 | 523 | 667 | 210 | 140 | 188 | 46 | 204 | 200 | | |
| BX 132 MA | | | | | | | | | | | | | 627 | 547 | 690 | | | | | | 226 | | |
| BX 160 MA | | | | | | | | | | | | | 736 | 626 | 820 | | | | | | | | |
| BX 160 MB | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | | | | | | 15 | 310 | | | | 245 | | | 51 | 266 | 247 | | |
| BX 160 L | | | | | | 300 | 250 | 350 | 18.5 | 5 | | | 780 | 670 | 864 | | | 187 | 187 | | | | |
| BX 180 M | 48 42 ⁽¹⁾ | | M16 M16 ⁽¹⁾ | 51.5 45 ⁽¹⁾ | 14 12 ⁽¹⁾ | | | | | | 18 | 348 | 866 | 756 | 981 | 261 | | | 52 | 305 | | | |
| BX 180 L | | 110 110 ⁽¹⁾ | | | | | | | | | | | | | | | | | | | | | |
| BX 200LA | 55 45 ⁽¹⁾ | | | 59 48.5 ⁽¹⁾ | 16 14 ⁽¹⁾ | 350 | 300 | 400 | | | | | 423 | 982 | 872 | 1095 | 328 | | | 55 | 275 | | |
| BX 225SA | 60 55 ⁽¹⁾ | | | 64 59 ⁽¹⁾ | 18 16 ⁽¹⁾ | 400 | 350 | 450 | 19 | | 20 | | 465 | 1058 | 918 | 1180 | 348 | 300 | 311 | 48 | 308 | | |
| BX 225SB | | 140 110 ⁽¹⁾ | | | | | | | | | | | | | | | | | | | | | |
| BX 250MA | 65 55 ⁽¹⁾ | | | 69 59 ⁽¹⁾ | | | | | | 5 | 24 | 514 | 1099 | 959 | 1225 | 376 | | | | | 313 | | |
| BX 280SA | 75 65 ⁽¹⁾ | 140 140 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 79.5 69 ⁽¹⁾ | 20 18 ⁽¹⁾ | 500 | 450 | 550 | 18 | | 23 | 567 | 1340 | 1200 | 1490 | 482 | 434 | 306 | 43 | | | | |
| BX 280SB | | | | | | | | | | | | | | | | | | | | | | | |
| BX 315SA | | | | | | | | | | | | | 1452 | 1282 | 1600 | | | | | | | | |
| BX 315SB | 80 75 ⁽¹⁾ | | | 85 79.5 ⁽¹⁾ | 22 20 ⁽¹⁾ | 600 | 550 | 660 | | | | 645 | 1497 | 1327 | 1645 | 537 | 473 | 347 | 42 | | | 500 | |
| BX 315SC | | 170 140 ⁽¹⁾ | | | | | | | | | | | | | | | | | | | | | |
| BX 315MA | 90 75 ⁽¹⁾ | | | 95 79.5 ⁽¹⁾ | 25 20 ⁽¹⁾ | | | | 23 | 6 | 25 | | 1607 | 1437 | 1755 | | | | | | | | |
| BX 355MA | | | | | | | | | | | | | 1790 | 1580 | 1970 | | | | | | | | |
| BX 355MB | 100 75 ⁽¹⁾ | 210 170 ⁽¹⁾ | M24 M20 ⁽¹⁾ | 106 79.5 ⁽¹⁾ | 28 20 ⁽¹⁾ | 740 | 680 | 800 | | | | 740 | 1825 | 1615 | 2005 | 603 | 694 | 413 | 50 | | | | |
| BX 355MC | | | | | | | | | | | | | | | | | | | | | | | |

N.B.: 1) These values refer to the rear shaft end (PS). 2) "ES" hexagon is not present with PS option



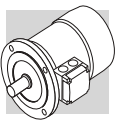
BX-MX

BX - IM B5 - CUS/NBR/EECA



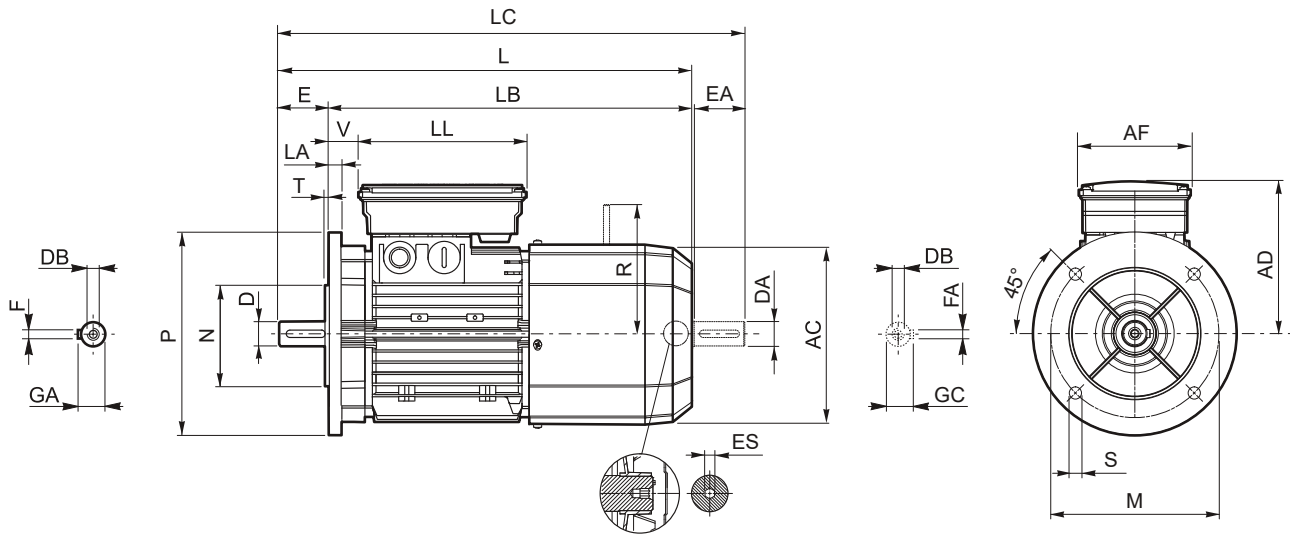
| | Shaft | | | | | Flange | | | | | Motor | | | | | | | | |
|------------------|--------------------------|---------------------------|---------------------------|-----------------------------|-------------------------|--------|-----|-----|------|-----|-------|-----|------|------|------|-----|-----|-----|----|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V |
| BX 90 SR | 19 19 ⁽¹⁾ | 40 40 ⁽¹⁾ | M6 M6 ⁽¹⁾ | 21.5 21.5 ⁽¹⁾ | 6 6 ⁽¹⁾ | | | | | | | | 316 | | 358 | | | | |
| BX 90 S | 24 19 ⁽¹⁾ | 50 40 ⁽¹⁾ | M8 M6 ⁽¹⁾ | 27 21.5 ⁽¹⁾ | 8 6 ⁽¹⁾ | 165 | 130 | 200 | 11.5 | 3.5 | 11.5 | 176 | 326 | 276 | 368 | 133 | | | 44 |
| BX 90 LA | | | | | | | | | | | | | | | | | 98 | 98 | |
| BX 100 LA | 28 24 ⁽¹⁾ | 60 50 ⁽¹⁾ | M10 M8 ⁽¹⁾ | 31 27 ⁽¹⁾ | 8 8 ⁽¹⁾ | 215 | 180 | 250 | | | 14 | 195 | 410 | 350 | 462 | 142 | | | 50 |
| BX 100 LB | | | | | | | | | | | | | | | | | | | |
| BX 112 M | | | | | | | | | 14 | 4 | 15 | 219 | 430 | 370 | 482 | 157 | | | 52 |
| BX 132 SB | 38 28 ⁽¹⁾ | 80 60 ⁽¹⁾ | M12 M10 ⁽¹⁾ | 41 31 ⁽¹⁾ | 10 8 ⁽¹⁾ | 265 | 230 | 300 | | | 20 | 258 | 552 | 472 | 615 | 193 | 118 | 118 | 58 |
| BX 132 MA | | | | | | | | | | | | | | | | | | | |
| BX 160 MA | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | | | | | | 15 | 310 | 596 | 486 | 680 | 245 | | | 51 |
| BX 160 MB | | | | | | | | | | | | | 640 | 530 | 724 | | | | |
| BX 160 L | | | | | | 300 | 250 | 350 | 18.5 | 5 | | | | | | | 187 | 187 | |
| BX 180 M | 48 42 ⁽¹⁾ | 110 110 ⁽¹⁾ | M16 M16 ⁽¹⁾ | 51.5 45 ⁽¹⁾ | 14 12 ⁽¹⁾ | | | | | | 18 | 348 | 708 | 598 | 823 | 261 | | | 52 |
| BX 180 L | | | | | | | | | | | | | | | | | | | |
| BX 200LAK | 55 45 ⁽¹⁾ | 110 110 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 59 48.5 ⁽¹⁾ | 16 14 ⁽¹⁾ | 350 | 300 | 400 | 19 | 5 | 20 | 423 | 821 | 711 | 934 | 328 | 300 | 311 | 55 |
| BX 225SAK | 60 55 ⁽¹⁾ | 140 110 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 64 59 ⁽¹⁾ | 18 16 ⁽¹⁾ | 400 | 350 | 450 | 19 | 5 | 20 | 465 | 879 | 739 | 1001 | 348 | 300 | 311 | 48 |
| BX 225SBK | | | | | | | | | | | | | | | | | | | |
| BX 250MAK | 65 55 ⁽¹⁾ | 140 110 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 69 59 ⁽¹⁾ | 18 16 ⁽¹⁾ | 500 | 450 | 550 | 19 | 5 | 24 | 514 | 884 | 744 | 1010 | 376 | 300 | 311 | |
| BX 280SAK | 75 65 ⁽¹⁾ | 140 140 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 79.5 69 ⁽¹⁾ | 20 18 ⁽¹⁾ | 500 | 450 | 550 | 18 | 5 | 23 | 567 | 1088 | 948 | 1238 | 482 | 434 | 306 | 43 |
| BX 280SBK | | | | | | | | | | | | | | | | | | | |
| BX 315SAK | 80 75 ⁽¹⁾ | 170 140 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 85 79.5 ⁽¹⁾ | 22 20 ⁽¹⁾ | 600 | 550 | 660 | 23 | 6 | 25 | 645 | 1204 | 1034 | 1352 | 537 | 473 | 347 | 42 |
| BX 315SBK | | | | | | | | | | | | | | | | | | | |
| BX 315SCK | | | | | | | | | | | | | 1315 | 1145 | 1453 | | | | |
| BX 355SAK | 100 75 ⁽¹⁾ | 210 170 ⁽¹⁾ | M24 M20 ⁽¹⁾ | 106 79.5 ⁽¹⁾ | 28 20 ⁽¹⁾ | 740 | 680 | 800 | 23 | 6 | 25 | 740 | 1479 | 1269 | 1659 | 603 | 694 | 413 | 50 |
| BX 355MAK | | | | | | | | | | | | | | | | | | | |
| BX 355MBK | | | | | | | | | | | | | | | | | | | |
| BX 355MCK | | | | | | | | | | | | | 1584 | 1374 | 1764 | | | | |

N.B.: 1) These values refer to the rear shaft end (PS).



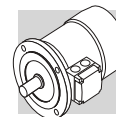
BX - IM B5 - FD/FA - CUS/NBR/EECA

BX-MX

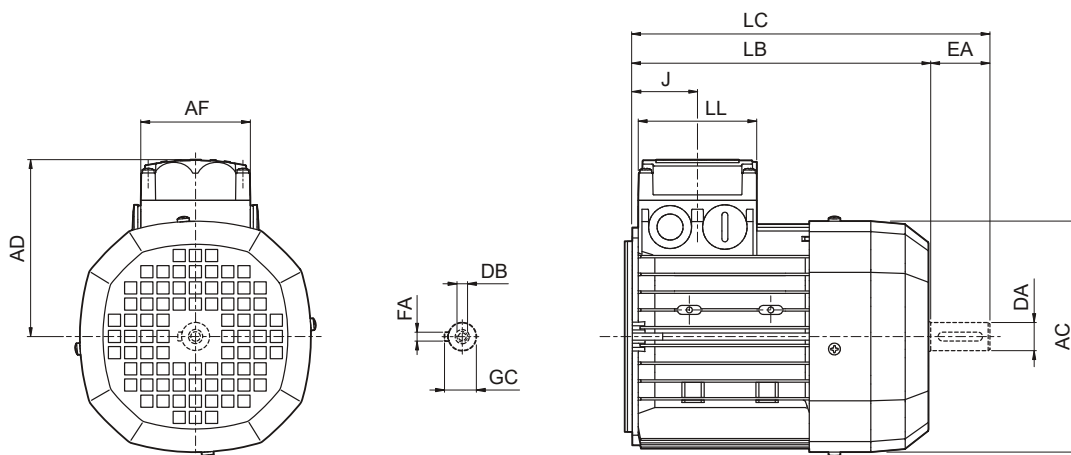


| | Shaft | | | | | Flange | | | | | | Motor | | | | | | | | | | | |
|------------------|--------------------------|---------------------------|---------------------------|-----------------------------|-------------------------|--------|-----|-----|------|-----|------|-------|------|------|------|-----|-----|-----|-----|-----|-----|-------------------|--|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | R | | ES ⁽²⁾ | |
| | | | | | | | | | | | | | | | | | | | | FD | FA | | |
| BX 90 SR | 19 19 ⁽¹⁾ | 40 40 ⁽¹⁾ | M6 M6 ⁽¹⁾ | 21.5 21.5 ⁽¹⁾ | 6 6 ⁽¹⁾ | | | | | | | | 400 | | 442 | | | | | | | | |
| BX 90 S | 24 19 ⁽¹⁾ | 50 40 ⁽¹⁾ | M8 M6 ⁽¹⁾ | 27 21.5 ⁽¹⁾ | 8 6 ⁽¹⁾ | 165 | 130 | 200 | 11.5 | 3.5 | 11.5 | 176 | 360 | 452 | 146 | | | | 32 | 129 | 134 | | |
| BX 90 LA | | | | | | | | | | | | | 410 | | | | | 110 | 165 | | | | |
| BX 100 LA | | | | | | | | | | | | | | | | | | | | | | | |
| BX 100 LB | 28 24 ⁽¹⁾ | 60 50 ⁽¹⁾ | M10 M8 ⁽¹⁾ | 31 27 ⁽¹⁾ | 8 8 ⁽¹⁾ | 215 | 180 | 250 | | | 14 | 195 | 502 | 442 | 554 | 155 | | | 37 | 160 | 160 | 6 | |
| BX 112 M | | | | | | | | | 14 | 4 | 15 | 219 | 527 | 467 | 579 | 170 | | | 39 | 199 | 198 | | |
| BX 132 SB | 38 28 ⁽¹⁾ | 80 60 ⁽¹⁾ | M12 M10 ⁽¹⁾ | 41 31 ⁽¹⁾ | 10 8 ⁽¹⁾ | 265 | 230 | 300 | | | 16 | 258 | 661 | 581 | 724 | 210 | 140 | 188 | 46 | 204 | 200 | | |
| BX 132 MA | | | | | | | | | | | | | | | | | | | | 226 | | | |
| BX 160 MA | | | | | | | | | | | | | 736 | 626 | 820 | | | | | | | | |
| BX 160 MB | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | | | | | | 15 | 310 | 780 | 670 | 864 | 245 | | | 51 | 266 | 247 | | |
| BX 160 L | | | | | | 300 | 250 | 350 | 18.5 | 5 | | | | | | | 187 | 187 | | | | | |
| BX 180 M | 48 42 ⁽¹⁾ | | M16 M16 ⁽¹⁾ | 51.5 45 ⁽¹⁾ | 14 12 ⁽¹⁾ | | | | | | 18 | 348 | 866 | 756 | 981 | 261 | | | 52 | 305 | | | |
| BX 180 L | | 110 110 ⁽¹⁾ | | | | | | | | | | | | | | | | | | | | | |
| BX 200LAK | 55 45 ⁽¹⁾ | | M20 M16 ⁽¹⁾ | 59 48.5 ⁽¹⁾ | 16 14 ⁽¹⁾ | 350 | 300 | 400 | | | | 417 | 967 | 857 | 1082 | 328 | | | 55 | 275 | | | |
| BX 225SAK | 60 55 ⁽¹⁾ | | | 64 59 ⁽¹⁾ | | 400 | 350 | 450 | 19 | | 20 | 460 | 1065 | 925 | 1180 | 348 | 300 | 311 | | 48 | 308 | | |
| BX 225SBK | | 140 110 ⁽¹⁾ | | | 18 16 ⁽¹⁾ | | | | | | | | | | | | | | | | | | |
| BX 250MAK | 65 55 ⁽¹⁾ | | | 69 59 ⁽¹⁾ | | | | | | | 24 | 510 | 1070 | 930 | 1240 | 376 | | | | 313 | | | |
| BX 280SAK | 75 65 ⁽¹⁾ | 140 140 ⁽¹⁾ | M20 M20 ⁽¹⁾ | 79.5 69 ⁽¹⁾ | 20 18 ⁽¹⁾ | 500 | 450 | 550 | 18 | | 23 | 564 | 1284 | 1144 | 1379 | 482 | 434 | 306 | 43 | | | | |
| BX 280SBK | | | | | | | | | | | | | | | | | | | | | | | |
| BX 315SAK | | | | | | | | | | | | | 1493 | 1323 | 1643 | | | | | | | | |
| BX 315SBK | 80 75 ⁽¹⁾ | 170 140 ⁽¹⁾ | | 85 79.5 ⁽¹⁾ | 22 20 ⁽¹⁾ | 600 | 550 | 660 | | | | 639 | 1530 | 1360 | 1680 | 537 | 473 | 347 | 42 | | | | |
| BX 315SCK | | | | | | | | | | | | | 1604 | 1434 | 1791 | | | | | | | | |
| BX 355SAK | | | | | | | | | 23 | 6 | 25 | | | | | | | | | | | | |
| BX 355MAK | | | | | | | | | | | | | 1722 | 1512 | 1902 | | | | | | | | |
| BX 355MBK | 100 90 ⁽¹⁾ | 210 170 ⁽¹⁾ | M24 M24 ⁽¹⁾ | 106 95 ⁽¹⁾ | 28 25 ⁽¹⁾ | 740 | 680 | 800 | | | | 725 | | | | 603 | 694 | 413 | 50 | | | | |
| BX 355MCK | | | | | | | | | | | | | 1827 | 1617 | 2082 | | | | | | | | |

N.B.: 1) These values refer to the rear shaft end (PS). 2) "ES" hexagon is not present with PS option

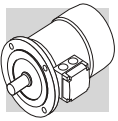


MX



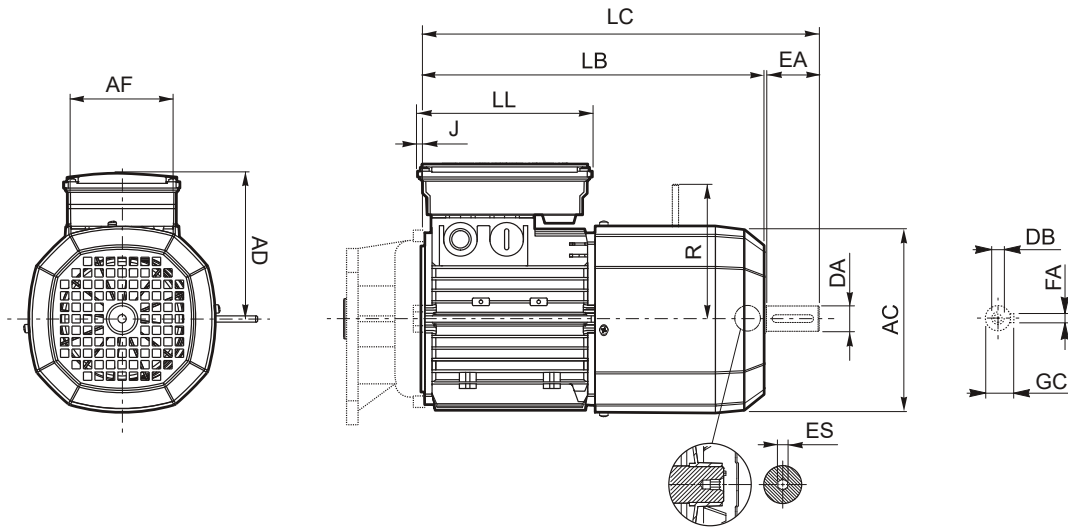
BX-MX

| | Rear shaft end | | | | | Motor | | | | | | |
|---------------|----------------|----|-----|----|-----|-------|-----|-----|-----|-----|------|-----|
| | DA | EA | DB | GC | FA | AC | LB | LC | AF | LL | J | AD |
| MX 2SB | 14 | 30 | M5 | 16 | 5 | 156 | 246 | 278 | 74 | 80 | 44 | 119 |
| MX 3SA | 24 | 50 | M8 | 27 | 8 | 195 | 265 | 317 | 98 | 98 | 53.5 | 142 |
| MX 3SB | | | | | | | 305 | 357 | | | | |
| MX 3LA | | | | | | | | | | | | |
| MX 3LB | | | | | | | | | | | | |
| MX 4SA | 28 | 60 | M10 | 31 | | 258 | 361 | 424 | 118 | 118 | 64.5 | 193 |
| MX 4SB | | | | | | | 396 | 459 | | | | |
| MX 4LA | | | | | | | | | | | | |
| MX 5SA | 38 | 80 | M12 | 41 | | 10 | 310 | 418 | 502 | 187 | 187 | 77 |
| MX 5SB | | | | | 462 | | | 546 | | | | |
| MX 5LA | | | | | | | | | | | | |



MX_FD/FA

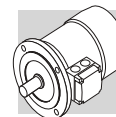
BX-MX



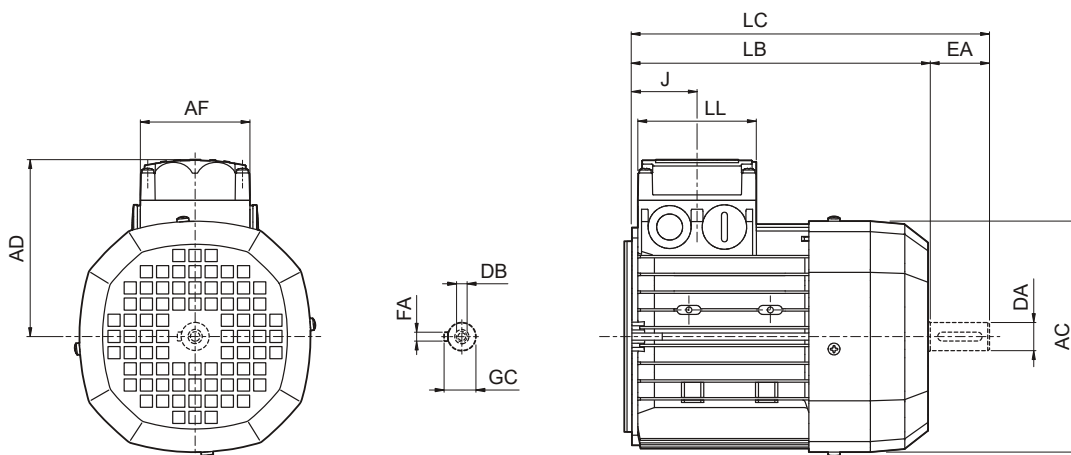
| | Rear shaft end | | | | | Motor | | | | | | | | | |
|---------------|----------------|----|-----|----|----|-------|-----|-----|-----|-----|---|-----|------------|-----|-------------------|
| | DA | EA | DB | GC | FA | AC | LB | LC | AF | LL | J | AD | R FD FA | | ES ⁽¹⁾ |
| MX 2SB | 14 | 30 | M5 | 16 | 5 | 156 | 318 | 349 | 98 | 133 | 9 | 143 | 129 | 134 | 5 |
| MX 3SA | 24 | 50 | M8 | 27 | 8 | 195 | 355 | 407 | 110 | 165 | 7 | 155 | 160 | 160 | 6 |
| MX 3SB | | | | | | | | | | | | | | | |
| MX 3LA | | | | | | | | | | | | | | | |
| MX 3LB | | | | | | | | | | | | | | | |
| MX 4SA | 28 | 60 | M10 | 31 | | 258 | 470 | 534 | 140 | 188 | | 210 | 204 | 200 | |
| MX 4SB | | | | | | | | | | | | | | | |
| MX 4LA | | | | | | | 226 | | | | | | | | |
| MX 5SA | 38 | 80 | M12 | 41 | | 10 | 310 | 558 | 644 | 187 | | 187 | 17 | 245 | |
| MX 5SB | | | | | | | | | | | | | | | |
| MX 5LA | | | | | | | | | | | | | | | |

N.B.:

1) "ES" hexagon is not present with PS option

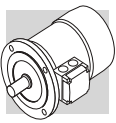


MX CUS



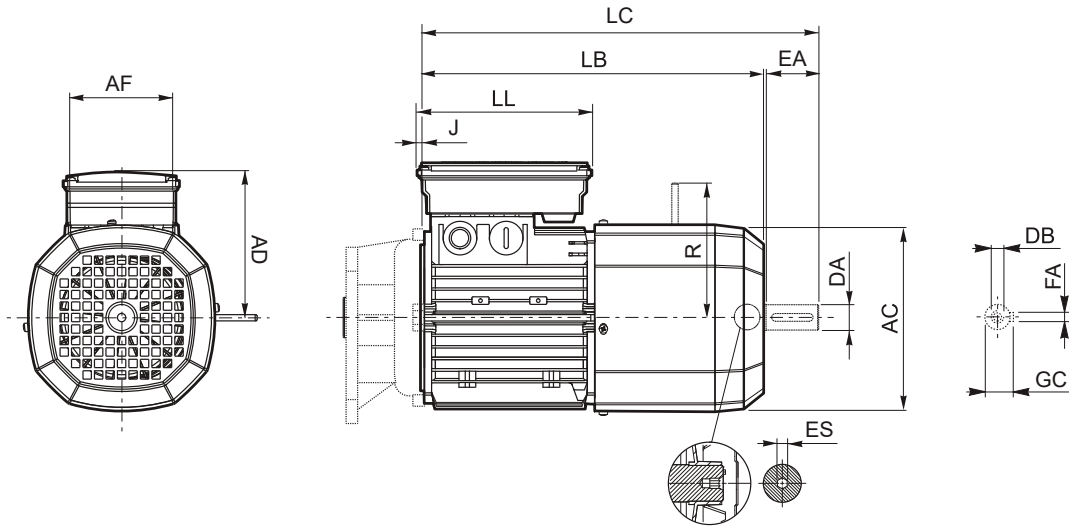
BX-MX

| | Rear shaft end | | | | | Motor | | | | | | |
|---------------|----------------|----|-----|----|----|-------|-----|-----|-----|-----|------|-----|
| | DA | EA | DB | GC | FA | AC | LB | LC | AF | LL | J | AD |
| MX 2SB | 14 | 30 | M5 | 16 | 5 | 176 | 262 | 293 | 98 | 98 | 79 | 133 |
| MX 3SA | 24 | 50 | M8 | 27 | 8 | 195 | 265 | 317 | | | 53.5 | 142 |
| MX 3SB | | | | | | | 305 | 357 | | | | |
| MX 3LA | | | | | | | 361 | 424 | | | | |
| MX 3LB | | | | | | | 420 | 483 | 118 | 118 | 64.5 | 193 |
| MX 4SA | 28 | 60 | M10 | 31 | | 258 | 418 | 502 | 187 | 187 | 77 | 245 |
| MX 4SB | | | | | | | 462 | 546 | | | | |
| MX 4LA | | | | | | | | | | | | |
| MX 5SA | 38 | 80 | M12 | 41 | 10 | 310 | | | | | | |
| MX 5SB | | | | | | | | | | | | |
| MX 5LA | | | | | | | | | | | | |



MX_FD/FA CUS

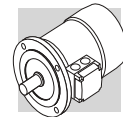
BX-MX



| | Rear shaft end | | | | | Motor | | | | | | | | | |
|---------------|----------------|----|-----|----|-----|-------|-----|-----|-----|-----|-----|-----|------------|-------------------|---|
| | DA | EA | DB | GC | FA | AC | LB | LC | AF | LL | J | AD | R FD FA | ES ⁽¹⁾ | |
| MX 2SB | 14 | 30 | M5 | 16 | 5 | 176 | 347 | 379 | | | -17 | 146 | 129 | 134 | 6 |
| MX 3SA | 24 | 50 | M8 | 27 | 8 | 195 | 355 | 407 | 110 | 165 | 7 | 155 | 160 | 160 | |
| MX 3SB | | | | | | | | | | | | | | | |
| MX 3LA | | | | | | | | | | | | | | | |
| MX 3LB | | | | | | | 397 | 450 | | | | | | | |
| MX 4SA | 28 | 60 | M10 | 31 | 258 | 470 | 534 | 140 | 188 | 210 | 204 | 200 | | | |
| MX 4SB | | | | | | 528 | 592 | | | | | 226 | | | |
| MX 4LA | | | | | | | | | | | | | | | |
| MX 5SA | 38 | 80 | M12 | 41 | 10 | 310 | 558 | 644 | 187 | 187 | 17 | 245 | 266 | 247 | — |
| MX 5SB | | | | | | | 602 | 686 | | | | | | | |
| MX 5LA | | | | | | | | | | | | | | | |

N.B.:

1) "ES" hexagon is not present with PS option

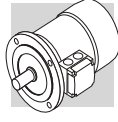


M18 MOTOR RATING CHARTS BE-ME

| 2 P | | 3000 min ⁻¹ - S1 | | | | | | | | | | | | | 50 Hz - IE2 | | | | | | | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|--|-----------|----------------------|-----------------------|-------------|-------|--|-----------|-------|----------------------|-----------------------|--|-----------|--------|-------|-------|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | | cos φ | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake FD | | | | a.c. brake FA | | | | | | | | | |
| | | | | 100% | 75% | 50% | | | | | | | M _b Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | |
| | | | | In | 75% | 50% | | | | | | | FD 04 | FD 04 | FD 14 | FD 05 | FD 15 | FD 06S | FA 04 | FA 04 | FA 14 | FA 05 | FA 15 | FA 06S | FA 06 | FA 06 |
| 0.75 | BE 80A 2 | 2.5 | 1.65 | 80 | 79.6 | 76.4 | 0.83 | 6.8 | 3.8 | 3.5 | 9 | 9.5 | 1700 | 3200 | — | — | — | — | 5 | 3200 | 9.4 | 13.4 | 5 | 3200 | 9.4 | 13.3 |
| 1.1 | BE 80B 2 | 3.7 | 2.35 | 81.5 | 82.2 | 79.9 | 0.83 | 6.9 | 3.8 | 3.1 | 11.4 | 11.3 | 1500 | 3000 | — | — | — | — | 10 | 3000 | 10.6 | 15.2 | 10 | 3000 | 10.6 | 15.1 |
| 1.5 | BE 90SA 2 | 5 | 3.2 | 81.3 | 80.7 | 78.1 | 0.82 | 6.8 | 3.6 | 2.8 | 12.5 | 12.3 | 900 | 2200 | — | — | — | — | 15 | 2200 | 14.1 | 16.5 | 15 | 2200 | 14.1 | 16.4 |
| 2.2 | BE 90L 2 | 7.3 | 4.7 | 83.2 | 83.1 | 80.8 | 0.82 | 6.9 | 3.1 | 2.9 | 16.7 | 14 | 900 | 2200 | — | — | — | — | 26 | 2200 | 21 | 20 | 26 | 2200 | 21 | 20.7 |
| 3 | BE 100L 2 | 9.9 | 6.2 | 84.6 | 84.6 | 83.7 | 0.83 | 7.3 | 3.5 | 3.1 | 39 | 23 | 700 | 1600 | — | — | — | — | 26 | 1600 | 35 | 29 | 26 | 1600 | 35 | 30 |
| 4 | BE 112M 2 | 13.1 | 8.2 | 85.8 | 85.5 | 84.3 | 0.82 | 7.9 | 3.5 | 3.1 | 57 | 28 | — | 950 | — | — | — | — | 40 | 950 | 66 | 39 | 40 | 950 | 66 | 40 |
| 5.5 | BE 132SA 2 | 18 | 10.6 | 87 | 85 | 81.7 | 0.86 | 8.5 | 3.6 | 3.3 | 145 | 42 | — | 600 | — | — | — | — | 50 | 600 | 112 | 55 | 50 | 600 | 112 | 56 |
| 7.5 | BE 132SB 2 | 24 | 14.3 | 88.1 | 87.4 | 84.7 | 0.86 | 8.8 | 3.9 | 3.6 | 178 | 53 | — | 550 | — | — | — | — | 50 | 550 | 154 | 66 | 50 | 550 | 154 | 67 |
| 9.2 | BE 132MB 2 | 30 | 16.4 | 88.8 | 86.5 | 84.2 | 0.91 | 8.4 | 3.7 | 3.3 | 210 | 65 | — | 430 | — | — | — | — | 75 | 430 | 189 | 78 | 75 | 430 | 189 | 79 |
| 11 | BE 160MA 2 | 36 | 20 | 89.4 | 89.5 | 88 | 0.89 | 8.1 | 3 | 2.9 | 340 | 84 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 15 | BE 160MB 2 | 49 | 27.2 | 90.5 | 90.5 | 89.5 | 0.88 | 8.5 | 3 | 2.8 | 420 | 97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 18.5 | BE 160L 2 | 60 | 32 | 90.9 | 90.5 | 89.8 | 0.91 | 7.7 | 2.9 | 2.7 | 490 | 109 | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

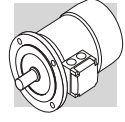


BE-ME



| 4 P | | 1500 min ⁻¹ - S1 | | | | | | | | | | | 50 Hz - IE2 | | | | | | | | | | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|-------|----------------------------------|----------------------------------|----------------------------------|--|------------|----------------------|-----------------------|-------------|------|--|------|-------|----------------------|-----------------------|--|------|------|------|-------|------|------|---|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | cos φ | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | d.c. brake | | | | | a.c. brake | | | | | | | | | | | | |
| | | | | | | | | | | FD | | | | | FA | | | | | | | | | | | | |
| | | | | 100% | 75% | | | | | Mod | M _b Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IMB5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IMB5 | | | | | | |
| 0.12 | BE 63A | 4 | 1360 | 0.84 | 0.45 | 59.1 | 59.6 | 53.5 | 0.65 | 3 | 2 | 2.2 | 2.3 | 3.5 | FD 02 | 1.75 | 10000 | 13000 | 10000 | 13000 | 2.6 | 5.2 | 1.75 | 13000 | 2.6 | 5.2 | |
| 0.18 | BE 63B | 4 | 1370 | 1.25 | 0.64 | 64.7 | 65.1 | 59.8 | 0.62 | 3.5 | 2.3 | 2.5 | 3.3 | 5.1 | FD 02 | 3.5 | 10000 | 13000 | 10000 | 13000 | 3 | 5.6 | 3.5 | 13000 | 3 | 5.4 | |
| 0.25 | BE 71A | 4 | 1380 | 1.73 | 0.68 | 68.5 | 68 | 62 | 0.78 | 4 | 2.3 | 2.5 | 5.8 | 5.1 | FD 03 | 3.5 | 7700 | 11000 | 7700 | 11000 | 6.9 | 7.8 | 3.5 | 11000 | 6.9 | 7.5 | |
| 0.37 | BE 71B | 4 | 1385 | 2.55 | 1.05 | 72.7 | 69.3 | 64.2 | 0.75 | 4.0 | 2.3 | 2.2 | 6.9 | 5.9 | | | | | | | | | | | | | |
| 0.55 | BE 80A | 4 | 1430 | 3.7 | 1.38 | 77.1 | 73.4 | 68 | 0.77 | 6 | 2.2 | 1.9 | 15 | 8.2 | FD 04 | 10 | 4100 | 8000 | 4100 | 8000 | 16.6 | 13.8 | 10 | 8000 | 16.6 | 13.7 | |
| 0.75 | BE 80B | 4 | 1430 | 5 | 1.76 | 79.6 | 78.5 | 75.1 | 0.78 | 6.1 | 3.2 | 3 | 28 | 12.2 | FD 04 | 15 | 4100 | 7800 | 4100 | 7800 | 22 | 16.1 | 15 | 7800 | 22 | 16 | |
| 1.1 | BE 90S | 4 | 1430 | 7.4 | 2.53 | 81.4 | 82 | 79.5 | 0.76 | 6.3 | 2.9 | 2.8 | 28 | 13.6 | FD 14 | 15 | 4800 | 8000 | 4800 | 8000 | 32 | 17.8 | 15 | 8000 | 32 | 17.7 | |
| 1.5 | BE 90LA | 4 | 1430 | 10 | 3.5 | 82.8 | 83 | 80 | 0.74 | 5.9 | 3.1 | 3 | 34 | 15.1 | FD 05 | 26 | 3400 | 6000 | 3400 | 6000 | 34 | 21.1 | 26 | 6000 | 34 | 21.8 | |
| 2.2 | BE 100LA | 4 | 1430 | 14.7 | 4.9 | 84.3 | 85 | 84 | 0.76 | 5.8 | 3 | 2.8 | 54 | 22 | FD 15 | 40 | 2600 | 4700 | 2600 | 4700 | 44 | 29 | 40 | 4700 | 44 | 29 | |
| 3 | BE 100LB | 4 | 1420 | 20 | 6.6 | 85.5 | 86 | 85.5 | 0.77 | 5.9 | 2.8 | 2.6 | 61 | 24 | FD 15 | 40 | 2400 | 4400 | 2400 | 4400 | 58 | 31 | 40 | 4400 | 58 | 31 | |
| 4 | BE 112M | 4 | 1440 | 27 | 8.3 | 86.6 | 87 | 86 | 0.8 | 6.5 | 2.8 | 2.8 | 105 | 32 | FD 06S | 60 | — | 1400 | — | 1400 | 107 | 42 | 60 | 2100 | 107 | 44 | |
| 5.5 | BE 132S | 4 | 1460 | 36 | 11.1 | 88.5 | 88.5 | 87.5 | 0.81 | 7.3 | 2.9 | 2.9 | 270 | 53 | FD 56 | 75 | — | 1050 | — | 1050 | 223 | 66 | 75 | 1200 | 223 | 67 | |
| 7.5 | BE 132MA | 4 | 1460 | 49 | 14.8 | 89 | 89 | 88.5 | 0.82 | 6.9 | 2.9 | 2.8 | 319 | 59 | FD 06 | 100 | — | 950 | — | 950 | 280 | 72 | 100 | 1000 | 280 | 77 | |
| 9.2 | BE 132MB | 4 | 1460 | 60 | 18.1 | 89.5 | 89.5 | 88.5 | 0.82 | 6.9 | 2.9 | 3 | 360 | 70 | FD 07 | 150 | — | 900 | — | 900 | 342 | 86 | 150 | 900 | 342 | 87 | |
| 11 | BE 160M | 4 | 1465 | 72 | 21.5 | 91 | 91.3 | 90.5 | 0.81 | 6.5 | 2.8 | 2.6 | 650 | 99 | FD 08 | 170 | — | 800 | — | 800 | 655 | 129 | 170 | 800 | 655 | 128 | |
| 15 | BE 160L | 4 | 1465 | 98 | 28.7 | 90.8 | 91 | 90.5 | 0.83 | 6.5 | 2.6 | 2.3 | 790 | 115 | FD 08 | 200 | — | 750 | — | 750 | 725 | 129 | 200 | 750 | 725 | 128 | |
| 18.5 | BE 180M | 4 | 1465 | 121 | 35 | 91.6 | 92 | 91.3 | 0.83 | 6.5 | 2.6 | 2.5 | 1250 | 135 | FD 09 | 300 | — | 400 | — | 400 | 1450 | 175 | — | — | — | — | — |
| 22 | BE 180L | 4 | 1465 | 143 | 41 | 91.6 | 91.8 | 91.4 | 0.84 | 6.8 | 2.7 | 2.6 | 1650 | 157 | FD 09 | 300 | — | 300 | — | 300 | 1850 | 197 | — | — | — | — | — |

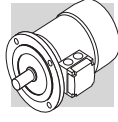




| 6 P | | 1000 min ⁻¹ - S1 | | | | | | | | | | | 50 Hz - IE2 | | | | | | | | | | |
|----------------------|---------------|-----------------------------|----------------------|-----------------------------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|--|-----------|------------------|----------------------|------|-----------------------|--|-----------|--------|----------------------|-----------------------|--|-----------|
| P _n kW | CE A16B744 | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake FD | | | | a.c. brake FA | | | | | | |
| | | | | | 100% | 75% | | | | | | | 50% | M _b Nm | NB | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 |
| 0.75 | | 935 | 7.7 | 2.06 | 75.9 | 75.9 | 0.69 | 5.1 | 3.1 | 2.9 | 33 | 15 | FD 14 | 15 | 3400 | 6500 | 28 | 19.2 | FA 14 | 15 | 6500 | 28 | 19.1 |
| 1.1 | | 945 | 11.1 | 2.75 | 78.1 | 76.2 | 0.74 | 4.9 | 2.2 | 1.9 | 82 | 22 | FD 15 | 26 | 2500 | 4800 | 58 | 30 | FA 15 | 26 | 4800 | 58 | 31 |
| 1.5 | | 945 | 15.2 | 3.9 | 79.8 | 77.5 | 0.72 | 5.6 | 2.5 | 2.3 | 95 | 24 | FD 15 | 40 | 1900 | 4100 | 86 | 30 | FA 15 | 40 | 4100 | 86 | 31 |
| 2.2 | | 950 | 22 | 5.2 | 81.8 | 81.8 | 0.74 | 5.2 | 2.6 | 2.3 | 168 | 32 | FD 06S | 60 | — | 2100 | 177 | 42 | FA 06S | 60 | 2100 | 177 | 44 |
| 3 | | 955 | 30 | 6.6 | 83.3 | 83.3 | 0.79 | 6.1 | 2.1 | 1.9 | 295 | 44 | FD 56 | 75 | — | 1400 | 226 | 57 | FA 06 | 75 | 1400 | 226 | 58 |
| 4 | | 965 | 40 | 8.7 | 84.6 | 85 | 0.79 | 6.9 | 2.2 | 2 | 383 | 56 | FD 06 | 100 | — | 1200 | 305 | 69 | FA 07 | 100 | 1200 | 305 | 74 |
| 5.5 | | 965 | 54 | 11.6 | 87 | 87 | 0.79 | 6.6 | 2.5 | 2.3 | 740 | 83 | FD 08 | 170 | — | 1000 | 700 | 112 | FA 08 | 170 | 1000 | 700 | 113 |
| 7.5 | | 965 | 74 | 15 | 88 | 88 | 0.82 | 6.6 | 2.3 | 2.1 | 970 | 103 | FD 08 | 170 | — | 900 | 815 | 132 | FA 08 | 170 | 900 | 815 | 133 |

(*) Power /size relation not standardized

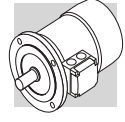
BE-ME



| | | |
|------------|-----------------------------------|--------------------|
| 2 P | 3000 min⁻¹ - S1 | 50 Hz - IE2 |
|------------|-----------------------------------|--------------------|



| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | $\frac{I_s}{I_n}$ | $\frac{M_s}{M_n}$ | $\frac{M_a}{M_n}$ | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | | | a.c. brake | | | | | |
|----------------------|------------------------|----------------------|--------------------------|------|------|-------|-------------------|-------------------|-------------------|---|-------|----------------------|-----------------------|------|------|---|-------|---------------|----------------------|-----------------------|----------------------|------|----------------------|
| | | | | 100% | 75% | | | | | | | FD | | | FA | | | FD | | | FA | | |
| | | | | | | | | | | | | M _b Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | M _b Nm | Mod | M _b Nm |
| 0.75 | BE 80A 2 | 2.5 | 1.65 | 80 | 79.6 | 0.83 | 6.8 | 3.8 | 3.5 | 9 | 9.5 | FD 04 | 5 | 1700 | 3200 | 9.4 | 12.5 | FA 04 | 5 | 3200 | 9.4 | 12.4 | |
| 1.1 | BE 80B 2 | 3.7 | 2.35 | 81.5 | 82.2 | 0.83 | 6.9 | 3.8 | 3.1 | 11.4 | 11.3 | FD 04 | 10 | 1500 | 3000 | 10.6 | 13.4 | FA 04 | 10 | 3000 | 10.6 | 13.3 | |
| 1.5 | BE 90SA 2 | 5 | 3.2 | 81.3 | 80.7 | 0.82 | 6.8 | 3.6 | 2.8 | 12.5 | 12.3 | FD 14 | 15 | 900 | 2200 | 14.1 | 16.5 | FA 14 | 15 | 2200 | 14.1 | 16.4 | |
| 2.2 | BE 90L 2 | 7.3 | 4.7 | 83.2 | 83.1 | 0.82 | 6.9 | 3.1 | 2.9 | 16.7 | 14 | FD 05 | 26 | 900 | 2200 | 21 | 20 | FA 05 | 26 | 2200 | 21 | 20.7 | |
| 3.7 | BE 112M 2 | 12.1 | 7.8 | 85.5 | 83 | 0.79 | 7.9 | 3.5 | 3.1 | 57 | 28 | FD 06S | 40 | — | 950 | 66 | 39 | FA 06S | 40 | 950 | 66 | 40 | |

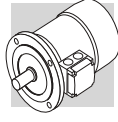


| | | |
|------------|-----------------------------------|--------------------|
| 4 P | 1500 min⁻¹ - S1 | 50 Hz - IE2 |
|------------|-----------------------------------|--------------------|



| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | $\frac{I_s}{I_n}$ | $\frac{M_s}{M_n}$ | $\frac{M_a}{M_n}$ | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | | | a.c. brake | | | | | |
|----------------------|------------------------|----------------------|-----------------------------|------|------|-------|-------------------|-------------------|-------------------|--|-----------|----------------------|-----------------------|------|------|----------------------|-----------------------|------------|-----------|--|----------------------|-----------------------|-----|
| | | | | 100% | 75% | | | | | | | FD | | FA | | FD | | FA | | | | | |
| | | | | | | | | | | | | M _b Nm | Z ₀ 1/h | NB | SB | M _b Nm | Z ₀ 1/h | Mod | IM B5 | J _m x 10 ⁻⁴ kgm ² | M _b Nm | Z ₀ 1/h | Mod |
| 0.37 | BE 71B 4 | 2.55 | 1.05 | 72.7 | 69.3 | 0.75 | 4.0 | 2.3 | 2.2 | 6.9 | | 5 | 6000 | 9400 | 8 | 8.6 | 5 | 9400 | 8 | 8.3 | | | |
| 0.55 | BE 80A 4 | 3.7 | 1.38 | 77.1 | 73.4 | 0.77 | 6 | 2.2 | 1.9 | 15 | | 10 | 4100 | 8000 | 16.6 | 13.8 | 10 | 8000 | 16.6 | 13.7 | | | |
| 0.75 | BE 80B 4 | 5 | 1.76 | 79.6 | 78.5 | 0.78 | 6.1 | 3.2 | 3 | 28 | | 15 | 4100 | 7800 | 22 | 16.1 | 15 | 7800 | 22 | 16 | | | |
| 1.1 | BE 90S 4 | 7.4 | 2.53 | 81.4 | 82 | 0.76 | 6.3 | 2.9 | 2.8 | 28 | | 15 | 4800 | 8000 | 32 | 17.8 | 15 | 8000 | 32 | 17.7 | | | |
| 1.5 | BE 90LA 4 | 10 | 3.5 | 82.8 | 83 | 0.74 | 5.9 | 3.1 | 3 | 34 | | 26 | 3400 | 6000 | 34 | 21.1 | 26 | 6000 | 34 | 21.8 | | | |
| 2.2 | BE 100LA 4 | 14.7 | 4.9 | 84.3 | 85 | 0.76 | 5.8 | 3 | 2.8 | 54 | | 40 | 2600 | 4700 | 44 | 29 | 40 | 4700 | 44 | 29 | | | |
| 3.7 | BE 112M 4 | 27 | 8.2 | 86.3 | 87 | 0.76 | 6.5 | 2.8 | 2.8 | 105 | | 60 | — | 1400 | 107 | 42 | 60 | 2100 | 107 | 44 | | | |

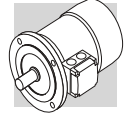
BE-ME



| 6 P | | 1000 min ⁻¹ - S1 | | | | | | | | | | | | | 50 Hz - IE2 | | | | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|--|-----------|------------|----------------------|-------------|-----------------------|--|-----------|------------|----------------------|-----------------------|--|-----------|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | | cos φ | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | | | a.c. brake | | | | |
| | | | | 100% | 75% | 50% | | | | | | | Mod | M _b Nm | NB | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 |
| 0.75 | 935 | 7.7 | 2.06 | 75.9 | 75.9 | 73 | 0.69 | 5.1 | 3.1 | 2.9 | 33 | 15 | FD 14 | 15 | 3400 | 6500 | 28 | 16.8 | FA 14 | 15 | 6500 | 28 | 16.7 |
| 1.1 | 945 | 11.1 | 2.75 | 78.1 | 76.2 | 73 | 0.74 | 4.9 | 2.2 | 1.9 | 82 | 22 | FD 15 | 40 | 1900 | 4100 | 86 | 28 | FA 15 | 40 | 4100 | 86 | 29 |
| 1.5 | 945 | 15.2 | 3.9 | 79.8 | 77.5 | 74 | 0.72 | 5.6 | 2.5 | 2.3 | 95 | 24 | FD 15 | 40 | 1700 | 3600 | 99 | 30 | FA 15 | 40 | 3600 | 99 | 31 |
| 2.2 | 950 | 22 | 5.2 | 81.8 | 81.8 | 79.3 | 0.74 | 5.2 | 2.6 | 2.3 | 168 | 32 | FD 06S | 60 | — | 2100 | 177 | 42 | FA 06S | 60 | 2100 | 177 | 44 |
| 3.7 | 970 | 36.1 | 8.3 | 84.3 | 83.6 | 81.3 | 0.76 | 6.9 | 2.2 | 2 | 383 | 56 | FD 06 | 100 | — | 1200 | 305 | 58 | FA 07 | 100 | 1200 | 318 | 63 |




(*) Power /size relation not standardized

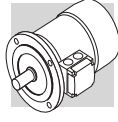


| | | |
|------------|-----------------------------------|--------------------|
| 4 P | 1800 min⁻¹ - S1 | 60 Hz - IE2 |
|------------|-----------------------------------|--------------------|



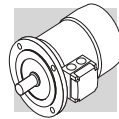
| P _n HP | P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | I _s I _n | M _s M _n | M _b M _n | KVA Code | J _m x 10 ⁻⁴ kgm ² | IM B5  | d.c. brake | | | | | | a.c. brake | | | | | |
|----------------------|----------------------|------------------------|----------------------|-----------------------------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|-------------|--|--|----------------|----------------|----------------|-------|----------------|----------------|----------------|-------|------|------|-----|--|
| | | | | | 100% | 75% | | | | | | | | FD | | | FA | | | | | | | | |
| | | | | | 100% | 75% | | | | | | | | M _b | Z ₀ | J _m | IM B5 | M _b | Z ₀ | J _m | IM B5 | | | | |
| 0.75 | 0.55 | 1740 | 3 | 1.23 | 75.5 | 73.1 | 0.74 | 8.7 | 3.8 | 3.0 | N | 19 | 9.9 | FD 04 | 10 | 4100 | 8000 | 16.6 | 13.8 | 10 | 8000 | 16.6 | 13.7 | | |
| 1 | 0.75 | 1745 | 4.1 | 1.46 | 82.5 | 81.1 | 0.78 | 7.6 | 3.5 | 3.2 | K | 28 | 12.2 | FD 04 | 15 | 4100 | 7800 | 22 | 16.1 | 15 | 7800 | 22 | 16 | | |
| 1.5 | 1.1 | 1740 | 6 | 2.25 | 84 | 82.7 | 0.73 | 7.7 | 3.5 | 3.2 | L | 28 | 13.6 | FD 14 | 15 | 4800 | 8000 | 32 | 17.8 | 15 | 8000 | 32 | 17.7 | | |
| 2 | 1.5 | 1740 | 8.2 | 3.1 | 84.5 | 83.9 | 0.73 | 7.1 | 3.6 | 3.4 | K | 34 | 15.1 | FD 05 | 26 | 3400 | 6000 | 34 | 21.1 | 26 | 6000 | 34 | 21.8 | | |
| 3 | 2.2 | 1745 | 12 | 4.2 | 87.5 | 85.5 | 0.76 | 7 | 3.3 | 2.9 | J | 54 | 22 | FD 15 | 40 | 2600 | 4700 | 44 | 29 | 40 | 4700 | 44 | 29 | | |
| 4 | 3 | 1735 | 16.5 | 5.9 | 87.5 | 87.7 | 0.76 | 7 | 3.2 | 2.9 | K | 61 | 24 | FD 15 | 40 | 2400 | 4400 | 58 | 31 | 40 | 4400 | 58 | 31 | | |
| 5 | 3.7 | 1750 | 20 | 6.6 | 87.5 | 87.5 | 0.8 | 7.8 | 3.3 | 3.2 | K | 105 | 32 | FD 06S | 60 | — | 1400 | 107 | 42 | FA 06S | 60 | 2100 | 107 | 44 | |
| 7.5 | 5.5 | 1760 | 30 | 9.3 | 89.5 | 89.5 | 0.83 | 8.7 | 3.5 | 3.5 | K | 270 | 53 | FD 56 | 75 | — | 1050 | 223 | 66 | FA 06 | 75 | 1200 | 223 | 67 | |
| 10 | 7.5 | 1760 | 43 | 12.7 | 89.5 | 89.5 | 0.83 | 8 | 3.4 | 3.3 | K | 319 | 59 | FD 06 | 100 | — | 950 | 280 | 72 | FA 06 | 100 | 1000 | 280 | 77 | |
| 12.5 | 9.2 | 1760 | 50 | 15.6 | 90 | 90 | 0.82 | 8.3 | 3.5 | 3.6 | K | 360 | 70 | FD 07 | 150 | — | 900 | 342 | 86 | FA 07 | 150 | 900 | 342 | 87 | |
| 15 | 11 | 1765 | 60 | 18.7 | 91 | 91 | 0.81 | 7.7 | 2.9 | 2.8 | J | 650 | 99 | FD 08 | 170 | — | 800 | 655 | 129 | FA 08 | 170 | 800 | 655 | 128 | |
| 20 | 15 | 1770 | 81 | 25.5 | 91 | 90.5 | 0.81 | 7.1 | 3.1 | 2.7 | J | 790 | 115 | FD 08 | 200 | — | 750 | 725 | 129 | FA 08 | 200 | 750 | 710 | 128 | |
| 25 | 18.5 | 1765 | 100 | 30.3 | 92.4 | 91.9 | 0.83 | 7.3 | 2.7 | 2.5 | H | 1250 | 135 | FD 09 | 300 | — | 400 | 1450 | 175 | — | — | — | — | — | |
| 30 | 22 | 1770 | 119 | 36 | 92.4 | 92.5 | 0.83 | 8.1 | 3.3 | 3.2 | J | 1650 | 157 | FD 09 | 300 | — | 300 | 1850 | 197 | — | — | — | — | — | |

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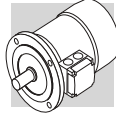
| 2 P | | 3000 min ⁻¹ - S1 | | | | | | | | | | | | | 50 Hz - IE2 | | | | | | | | | | | | | |
|----------------------|------------------------|-----------------------------|-----------------------------|------|------|-------|----------------------------------|----------------------------------|----------------------------------|--|-----------|------------|----------------------|-----------------------|-------------|----|--|------------|-----|----------------------|-----------------------|--|-----------|-------|----|------|-----|------|
| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | | | a.c. brake | | | | | | | | | | |
| | | | | 100% | 75% | | | | | | | FD | | | FA | | | | | | | | | | | | | |
| | | | | 100% | 75% | | | | | | | Mod | M _b Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | | | |
| 0.75 | ME 2SA | 2 | 2860 | 2.5 | 1.63 | 80 | 79.6 | 76.4 | 0.83 | 6.8 | 3.8 | 3.5 | 9 | 8.8 | FD 04 | 5 | 1700 | 3200 | — | — | 1400 | 107 | 46 | FA 06 | 50 | 2100 | 107 | 47 |
| 1.1 | ME 2SB | 2 | 2845 | 3.7 | 2.35 | 81.5 | 82.2 | 79.9 | 0.83 | 6.9 | 3.8 | 3.1 | 11.4 | 10.6 | FD 04 | 10 | 1500 | 3000 | — | — | 600 | 112 | 48 | FA 06 | 50 | 600 | 112 | 49 |
| 1.5 | ME 3SA | 2 | 2845 | 5.0 | 3.2 | 81.3 | 79 | 76 | 0.81 | 6.1 | 2.9 | 2.7 | 24 | 15.5 | FD 15 | 13 | 1300 | 2600 | — | — | 550 | 154 | 55 | FA 06 | 50 | 550 | 154 | 56 |
| 2.2 | ME 3LA | 2 | 2895 | 7.3 | 4.7 | 83.2 | 83.1 | 80.8 | 0.82 | 6.9 | 2.7 | 2.5 | 31 | 18.7 | FD 15 | 26 | 1100 | 2400 | — | — | 430 | 189 | 66 | FA 06 | 75 | 430 | 189 | 67 |
| 3 | ME 3LB | 2 | 2880 | 9.9 | 6.2 | 84.6 | 84.6 | 83.7 | 0.83 | 7.3 | 3.5 | 3.1 | 39 | 22 | FD 15 | 26 | 700 | 1600 | — | — | — | 35 | 28.5 | FA 15 | 26 | 1600 | 35 | 29.5 |
| 4 | ME 4SA | 2 | 2900 | 13.2 | 7.8 | 85.8 | 84.5 | 82.2 | 0.87 | 7.0 | 2.9 | 2.8 | 101 | 33 | FD 06 | 50 | — | 1400 | — | — | 600 | 112 | 48 | FA 06 | 50 | 600 | 112 | 49 |
| 5.5 | ME 4SB | 2 | 2925 | 18.0 | 10.6 | 87.0 | 85.0 | 81.7 | 0.86 | 8.5 | 3.6 | 3.3 | 145 | 40 | FD 06 | 50 | — | 600 | — | — | 550 | 154 | 55 | FA 06 | 50 | 550 | 154 | 56 |
| 7.5 | ME 4LA | 2 | 2935 | 24 | 14.3 | 88.1 | 87.4 | 84.7 | 0.86 | 8.8 | 3.9 | 3.6 | 178 | 51 | FD 06 | 50 | — | 430 | — | — | 430 | 189 | 66 | FA 06 | 75 | 430 | 189 | 67 |
| 9.2 | ME 4LB | 2 | 2920 | 30 | 16.4 | 88.8 | 86.5 | 84.2 | 0.91 | 8.4 | 3.7 | 3.3 | 210 | 60 | FD 56 | 75 | — | — | — | — | — | — | — | — | — | — | — | — |
| 11 | ME 5SA | 2 | 2940 | 36 | 20.0 | 90.5 | 90.5 | 88.0 | 0.89 | 8.1 | 3.0 | 2.9 | 340 | 70 | | | | | | | | | | | | | | |
| 15 | ME 5SB | 2 | 2950 | 49 | 27.2 | 90.9 | 90.5 | 89.5 | 0.88 | 8.5 | 3.0 | 2.8 | 420 | 83 | | | | | | | | | | | | | | |
| 18.5 | ME 5LA | 2 | 2945 | 60 | 32 | 90.4 | 90.1 | 89.8 | 0.91 | 7.7 | 2.9 | 2.7 | 490 | 95 | | | | | | | | | | | | | | |



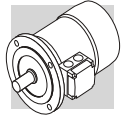


| 4 P | | 1500 min ⁻¹ - S1 | | | | | | | | | | | | | | | 50 Hz - IE2 | | | | | | | | | |
|----------------------|------------------|-----------------------------|----------------|------------------------|----------------|-----------------------|-------|----------------------------------|----------------------------------|----------------------------------|--|-------|------------|------|----------------|-----------------------|-------------|-------|----------------|-----------------------|-------|-------|--|--|------|-------|
| P _n kW | A1067/14 | n | M _n | I _n 400V | η% | | cos φ | I _s I _n | M _s M _n | M _s M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | a.c. brake | | | | | | | | | |
| | | | | | 100% | 75% | | | | | | | FD | | FA | | | | | | | | | | | |
| | | | | | M _b | Z ₀ 1/h | | | | | | | NB | SB | M _b | Z ₀ 1/h | Mod | IM B5 | M _b | Z ₀ 1/h | Mod | IM B5 | J _m x 10 ⁻⁴ kgm ² | J _m x 10 ⁻⁴ kgm ² | | |
| 0.12 | ME 05A | 4 | 1360 | 0.84 | 0.45 | 59.1 | 59.6 | 53.5 | 0.65 | 3 | 2 | 2.2 | 2.3 | 3.5 | FD 02 | 1.75 | 10000 | 13000 | 2.6 | 5.2 | FA 02 | 1.75 | 13000 | 2.6 | 5.2 | IM B5 |
| 0.18 | ME 05B | 4 | 1370 | 1.25 | 0.64 | 64.7 | 65.1 | 59.8 | 0.62 | 3.5 | 2.3 | 2.5 | 3.3 | 5.1 | FD 02 | 3.5 | 10000 | 13000 | 3 | 5.6 | FA 02 | 3.5 | 13000 | 3 | 5.6 | IM B5 |
| 0.25 | ME 1SA | 4 | 1380 | 1.73 | 0.68 | 68.5 | 68 | 62 | 0.78 | 4 | 2.3 | 2.5 | 5.8 | 5.1 | FD 03 | 3.5 | 7700 | 11000 | 6.9 | 7.8 | FA 03 | 3.5 | 11000 | 6.9 | 7.8 | IM B5 |
| 0.37 | ME 1SB | 4 | 1385 | 2.55 | 1.05 | 72.7 | 69.3 | 64.2 | 0.75 | 4.0 | 2.3 | 2.2 | 6.9 | 5.9 | FD 03 | 5 | 6000 | 9400 | 8.0 | 8.6 | FA 03 | 5 | 9400 | 8.0 | 8.6 | IM B5 |
| 0.55 | ME 2SA | 4 | 1430 | 3.7 | 1.38 | 77.1 | 73.4 | 68 | 0.77 | 6 | 2.2 | 1.9 | 15 | 9.9 | FD 04 | 10 | 4100 | 8000 | 16.6 | 13.8 | FA 04 | 10 | 8000 | 16.6 | 13.8 | IM B5 |
| 0.75 | ME 2SB | 4 | 1430 | 5 | 1.76 | 79.6 | 78.5 | 75.1 | 0.78 | 6.1 | 3.2 | 3.0 | 28 | 12.2 | FD 04 | 15 | 4100 | 7800 | 22 | 16.1 | FA 04 | 15 | 7800 | 22 | 16.1 | IM B5 |
| 1.1 | ME 3SA | 4 | 1430 | 7.4 | 2.53 | 82.5 | 82.0 | 79.5 | 0.76 | 6.3 | 2.9 | 2.8 | 28 | 15.5 | FD 15 | 26 | 4800 | 8000 | 32 | 21.5 | FA 15 | 26 | 8000 | 32 | 21.5 | IM B5 |
| 1.5 | ME 3SB | 4 | 1420 | 10 | 3.5 | 83.5 | 83.0 | 80.0 | 0.74 | 5.9 | 3.1 | 3.0 | 34 | 17 | FD 15 | 26 | 3400 | 6000 | 34 | 23 | FA 15 | 26 | 6000 | 34 | 23 | IM B5 |
| 2.2 | ME 3LA | 4 | 1430 | 14.7 | 4.9 | 84.3 | 85 | 84 | 0.76 | 5.8 | 3 | 2.8 | 54 | 21 | FD 15 | 40 | 2600 | 4700 | 44 | 27 | FA 15 | 40 | 4700 | 44 | 27 | IM B5 |
| 3 | ME 3LB | 4 | 1420 | 20 | 6.6 | 85.5 | 86.0 | 85.5 | 0.77 | 5.9 | 2.8 | 2.6 | 61 | 23 | FD 15 | 40 | 2400 | 4400 | 58 | 29 | FA 15 | 40 | 4400 | 58 | 29 | IM B5 |
| 4 | ME 4SA | 4 | 1440 | 27 | 8.3 | 87.0 | 87.0 | 86.0 | 0.80 | 6.5 | 2.8 | 2.8 | 105 | 42 | FD 56 | 75 | — | 1400 | 107 | 55 | FA 06 | 75 | 2100 | 107 | 55 | IM B5 |
| 5.5 | ME 4SB | 4 | 1460 | 36 | 11.1 | 88.5 | 88.5 | 87.5 | 0.81 | 7.3 | 2.9 | 2.9 | 270 | 51 | FD 56 | 75 | — | 1050 | 223 | 64 | FA 06 | 75 | 1200 | 223 | 64 | IM B5 |
| 7.5 | ME 4LA | 4 | 1460 | 49 | 14.8 | 89.0 | 89.0 | 88.5 | 0.82 | 6.9 | 2.9 | 2.8 | 319 | 57 | FD 06 | 100 | — | 950 | 280 | 70 | FA 07 | 100 | 1000 | 280 | 70 | IM B5 |
| 9.2 | ME 4LB | 4 | 1460 | 60 | 18.1 | 89.5 | 89.5 | 88.5 | 0.82 | 6.9 | 2.9 | 3.0 | 360 | 65 | FD 07 | 150 | — | 900 | 342 | 81 | FA 07 | 150 | 900 | 342 | 81 | IM B5 |
| 11 | ME 5SA | 4 | 1465 | 72 | 21.5 | 91.0 | 91.3 | 90.5 | 0.81 | 6.5 | 2.8 | 2.6 | 650 | 85 | FD 08 | 170 | — | 800 | 655 | 115 | FA 08 | 170 | 800 | 655 | 115 | IM B5 |
| 15 | ME 5LA | 4 | 1465 | 98 | 28.7 | 90.8 | 91.0 | 90.5 | 0.83 | 6.5 | 2.6 | 2.3 | 790 | 101 | FD 08 | 200 | — | 750 | 725 | 131 | FA 08 | 200 | 750 | 725 | 131 | IM B5 |

BE-ME



| 6 P | | 1000 min ⁻¹ - S1 | | | | | | | | | | | | 50 Hz - IE2 | | | | | | | | | | | |
|----------------------|--------------|-----------------------------|----------------------|-----------------------|------|-------|--|-------------------|-------------------|--|-----------------------|--|-----------|-------------|----------------------|-----------------------|--|-----------|------|-----|-----|-----|------|-----|-----|
| P _n kW | A0168744 | d.c. brake | | | | | | | | | | | | a.c. brake | | | | | | | | | | | |
| | | FD | | | | | | | | | | | | FA | | | | | | | | | | | |
| | | Mod | M _b Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | | | | | |
| 0.75 | ME 3SA 6 | n | M _n | In 400V | η% | cos φ | $\frac{I_s}{I_n}$ | $\frac{M_s}{M_n}$ | $\frac{M_a}{M_n}$ | J _m x 10 ⁻⁴ kgm ² | IM B5 | FD 15 | 26 | 3400 | 6500 | 28 | 21 | 26 | 6500 | 28 | 21 | 26 | 6500 | 28 | 22 |
| 1.1 | ME 3LA 6 (*) | 940 | 7.6 | 1.98 | 75.0 | 0.72 | 4.7 | 2.2 | 2 | 33 | 17 | FD 15 | 26 | 2700 | 5000 | 37 | 27 | 26 | 5000 | 37 | 27 | 26 | 5000 | 37 | 28 |
| 1.5 | ME 3LB 6 | 945 | 11.1 | 2.75 | 76.2 | 0.74 | 4.9 | 2.2 | 1.9 | 82 | 21 | FD 15 | 40 | 1900 | 4100 | 86 | 29 | 40 | 4100 | 86 | 29 | 40 | 4100 | 86 | 30 |
| 2.2 | ME 4SA 6 | 955 | 15.2 | 3.8 | 77.5 | 0.72 | 5.6 | 2.5 | 2.3 | 95 | 23 | FD 06 | 50 | — | 2100 | 177 | 47 | 50 | 2100 | 177 | 47 | 50 | 2100 | 177 | 48 |
| 3 | ME 4SB 6 | 955 | 22 | 4.9 | 81.8 | 0.80 | 5.7 | 1.9 | 1.7 | 216 | 34 | FD 56 | 75 | — | 1400 | 226 | 56 | 75 | 1400 | 226 | 56 | 75 | 1400 | 226 | 57 |
| 4 | ME 4LA 6 | 965 | 30 | 6.6 | 83.3 | 0.79 | 6.1 | 2.1 | 1.9 | 295 | 43 | FD 06 | 100 | — | 1200 | 305 | 70 | 100 | 1200 | 305 | 70 | 100 | 1200 | 305 | 72 |
| 5.5 | ME 5SA 6 (*) | 965 | 40 | 8.6 | 84.6 | 0.79 | 6.9 | 2.2 | 2.0 | 383 | 54 | FD 08 | 170 | — | 1050 | 406 | 99 | 170 | 1050 | 406 | 99 | 170 | 1050 | 406 | 98 |
| 7.5 | ME 5SB 6 (*) | 965 | 54 | 11.6 | 87.0 | 0.79 | 6.6 | 2.5 | 2.3 | 740 | 69 | FD 08 | 170 | — | 900 | 815 | 119 | 170 | 900 | 815 | 119 | 170 | 900 | 815 | 118 |
| | | 965 | 74 | 15.0 | 88.0 | 0.82 | 6.6 | 2.3 | 2.1 | 970 | 89 | FD 08 | 170 | — | — | — | — | 170 | — | — | — | — | 170 | — | — |

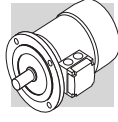


| | | |
|------------|-----------------------------------|--------------------|
| 2 P | 3000 min⁻¹ - S1 | 50 Hz - IE2 |
|------------|-----------------------------------|--------------------|



| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | $\frac{I_s}{I_n}$ | $\frac{M_s}{M_n}$ | $\frac{M_b}{M_n}$ | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | a.c. brake | | | | | | | | | | | |
|----------------------|------------------------|----------------------|-----------------------------|------|------|-------|-------------------|-------------------|-------------------|--|-----------|----------------------|-----------------------|------|------|------------|----------------------|-----------------------|------|----------------------|-----------------------|------|----------------------|-----------------------|------|--|-----------|
| | | | | 100% | 75% | | | | | | | FD | | FA | | | | | | | | | | | | | |
| | | | | 100% | 75% | | | | | | | M _b Nm | Z ₀ 1/h | NB | SB | Mod | M _b Nm | Z ₀ 1/h | Mod | M _b Nm | Z ₀ 1/h | Mod | M _b Nm | Z ₀ 1/h | Mod | J _m x 10 ⁻⁴ kgm ² | IM B5 |
| 0.75 | ME 2SA 2 | 2.5 | 1.63 | 80 | 79.6 | 0.83 | 6.8 | 3.8 | 3.5 | 9 | | 8.8 | 5 | 1700 | 3200 | — | 1400 | 107 | 46 | 5 | 3200 | 9.4 | 12.7 | 5 | 3200 | 9.4 | 12.6 |
| 1.1 | ME 2SB 2 | 3.7 | 2.35 | 81.5 | 82.2 | 0.83 | 6.9 | 3.8 | 3.1 | 11.4 | | 10.6 | 10 | 1500 | 3000 | — | 3000 | 10.6 | 14.5 | 10 | 3000 | 10.6 | 14.5 | 10 | 3000 | 10.6 | 14.4 |
| 1.5 | ME 3SA 2 | 5 | 3.2 | 81.3 | 79 | 0.81 | 6.1 | 2.9 | 2.7 | 24 | | 15.5 | 13 | 4800 | 8000 | — | 6000 | 34 | 22.5 | 26 | 8000 | 32 | 22.5 | 26 | 8000 | 32 | 22.5 |
| 2.2 | ME 3LA 2 | 7.3 | 4.7 | 83.2 | 83.1 | 0.82 | 6.9 | 3.1 | 2.9 | 16.7 | | 18.7 | 26 | 3400 | 6000 | — | 6000 | 34 | 25.7 | 26 | 6000 | 34 | 25.7 | 26 | 6000 | 34 | 25.7 |
| 3.7 | ME 4SA 2 | 12.1 | 7.8 | 84.7 | 83 | 0.79 | 7.9 | 3.5 | 3.1 | 57 | | 33 | 75 | — | 1400 | — | 1400 | 107 | 46 | 75 | 2100 | 107 | 46 | 75 | 2100 | 107 | 47 |

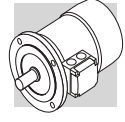
BE-ME



| | | |
|------------|-----------------------------------|--------------------|
| 4 P | 1500 min⁻¹ - S1 | 50 Hz - IE2 |
|------------|-----------------------------------|--------------------|



| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | $\frac{I_s}{I_n}$ | $\frac{M_s}{M_n}$ | $\frac{M_a}{M_n}$ | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | a.c. brake | | | | |
|----------------------|------------------------|----------------------|-----------------------------|----------------------|------|-------|-------------------|-------------------|-------------------|--|-------|-----------------------|--|-------|----------------------|------------|-----------------------|--|-------|----------------------|
| | | | | 100% | 75% | | | | | | | FD | | FA | | | | | | |
| | | | | M _b Nm | NB | | | | | | | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | M _b Nm | Mod | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | M _b Nm |
| 0.37 | 4 | 2.55 | 1.05 | 72.7 | 64.2 | 0.75 | 4.0 | 2.3 | 2.2 | 6.9 | 5.9 | 5 | 6000 | 9400 | 8 | 8.6 | 5 | 9400 | 8 | 8.3 |
| 0.55 | 4 | 3.7 | 1.38 | 77.1 | 68 | 0.77 | 6 | 2.2 | 1.9 | 15 | 9.9 | 10 | 4100 | 8000 | 16.6 | 13.8 | 10 | 8000 | 16.6 | 13.7 |
| 0.75 | 4 | 5 | 1.76 | 79.6 | 75.1 | 0.78 | 6.1 | 3.2 | 3 | 28 | 12.2 | 15 | 4100 | 7800 | 22 | 16.1 | 15 | 7800 | 22 | 16 |
| 1.1 | 4 | 7.4 | 2.6 | 82.5 | 79 | 0.74 | 5.5 | 2.5 | 2.8 | 34 | 15.5 | 26 | 4800 | 8000 | 32 | 22.5 | 26 | 8000 | 32 | 22.5 |
| 1.5 | 4 | 10.1 | 3.48 | 84 | 83 | 0.74 | 6.2 | 2.9 | 2.9 | 40 | 17 | 26 | 3400 | 6000 | 34 | 24 | 26 | 6000 | 34 | 24 |
| 2.2 | 4 | 14.7 | 4.9 | 84.3 | 84 | 0.76 | 5.8 | 3 | 2.8 | 54 | 21 | 40 | 2600 | 4700 | 44 | 28 | 40 | 4700 | 44 | 28 |
| 3.7 | 4 | 27 | 8.25 | 87.5 | 84 | 0.80 | 7.1 | 3 | 3.1 | 213 | 42 | 75 | — | 1400 | 107 | 55 | 75 | 2100 | 107 | 56 |

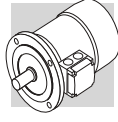


| | | |
|------------|-----------------------------------|--------------------|
| 6 P | 1000 min⁻¹ - S1 | 50 Hz - IE2 |
|------------|-----------------------------------|--------------------|

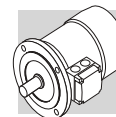


| P _n kW | n min ⁻¹ | M _n Nm | I _n 400V A | η% | | cos φ | $\frac{I_s}{I_n}$ | $\frac{M_s}{M_n}$ | $\frac{M_a}{M_n}$ | J _m x 10 ⁻⁴ kgm ² | IM B5 | d.c. brake | | | | a.c. brake | | | | | | | | | | | | | | | |
|----------------------|------------------------|----------------------|-----------------------------|------|------|-------|-------------------|-------------------|-------------------|--|-----------|----------------------|-----------------------|------|-----|----------------------|-----------------------|-----|-----------|-------|----|------|-----|------|-------|-----|------|-----|------|-----------|----|
| | | | | 100% | 75% | | | | | | | FD | | FA | | | | | | | | | | | | | | | | | |
| | | | | 100% | 75% | | | | | | | M _b Nm | Z ₀ 1/h | NB | SB | M _b Nm | Z ₀ 1/h | Mod | IM B5 | | | | | | | | | | | | |
| 0.75 | 940 | 7.6 | 1.98 | 75.9 | 70.7 | 0.72 | 4.7 | 2.2 | 2 | 33 | 17 | FD 15 | 3400 | 6500 | 26 | 3400 | 6500 | 26 | 6500 | FA 15 | 21 | 6500 | 26 | 6500 | FA 15 | 28 | 6500 | 26 | 6500 | IM B5 | 22 |
| 1.1 | 945 | 11.1 | 2.75 | 78.1 | 73 | 0.74 | 4.9 | 2.2 | 1.9 | 82 | 21 | FD 15 | 2700 | 5000 | 26 | 2700 | 5000 | 26 | 5000 | FA 15 | 27 | 5000 | 26 | 5000 | FA 15 | 37 | 5000 | 26 | 5000 | IM B5 | 28 |
| 1.5 | 945 | 15.2 | 3.8 | 79.8 | 74 | 0.72 | 5.6 | 2.5 | 2.3 | 95 | 23 | FD 15 | 1900 | 4100 | 40 | 1900 | 4100 | 40 | 4100 | FA 15 | 29 | 4100 | 40 | 4100 | FA 15 | 86 | 4100 | 40 | 4100 | IM B5 | 30 |
| 2.2 | 955 | 22 | 4.9 | 81.8 | 80 | 0.8 | 5.7 | 1.9 | 1.7 | 216 | 34 | FD 56 | — | 2100 | 75 | — | 2100 | 75 | 2100 | FA 06 | 47 | 2100 | 60 | 2100 | FA 06 | 177 | 2100 | 60 | 2100 | IM B5 | 48 |
| 3.7 | 970 | 36.1 | 8.3 | 83.5 | 81.3 | 0.76 | 6.9 | 2.2 | 2 | 383 | 54 | FD 06 | — | 1200 | 100 | — | 1200 | 100 | 1200 | FA 06 | 70 | 1200 | 100 | 1200 | FA 06 | 305 | 1200 | 100 | 1200 | IM B5 | 72 |

BE-ME

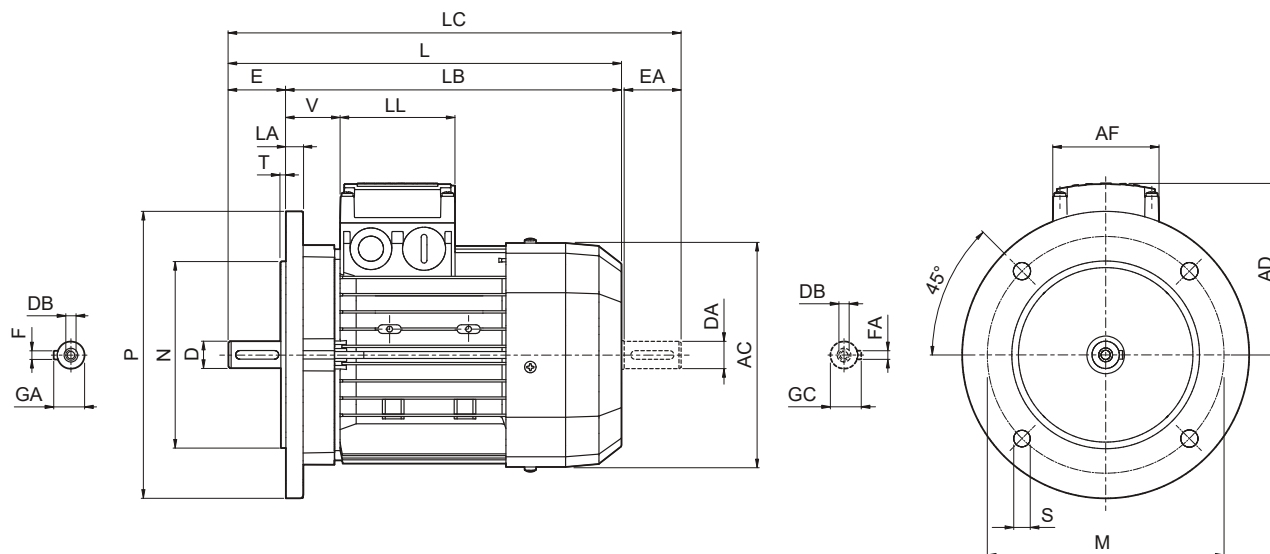


| 4 P | | 1800 min ⁻¹ - S1 | | | | | | | | | | 60 Hz - IE2 | | | | | | | | | | | | | | | | |
|----------------------------|------|-----------------------------|----------------------|-----------------------|------|------|--|-----------|------|----------------------|-----------------------|----------------------------------|--|----------------------------------|-------------|--|-----------------------|--|-----------|------|------|------|------|-------|-----|------|------|------|
| P _n HP kW | | d.c. brake | | | | | | | | | | | | | a.c. brake | | | | | | | | | | | | | |
| | | FD | | | | | | | | | | | | | FA | | | | | | | | | | | | | |
| | | Mod | M _b Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | | | | | | | |
| 0.75 | 0.55 | ME 2SA | 4 | 1740 | 3 | 1.23 | A | 100% | 75% | 50% | cos φ | I _s I _n | M _s M _n | M _a M _n | KVA Code | J _m x 10 ⁻⁴ kgm ² | IM B5 | FD 04 | 10 | 4100 | 8000 | 16.6 | 13.8 | FA 04 | 10 | 8000 | 16.6 | 13.7 |
| 1 | 0.75 | ME 2SB | 4 | 1745 | 4.1 | 1.46 | A | 75.5 | 81.1 | 77.6 | 0.74 | 8.7 | 3.8 | 3.0 | N | 28 | 12.2 | FD 04 | 15 | 4100 | 7800 | 22 | 16.1 | FA 04 | 15 | 7800 | 22 | 16 |
| 1.5 | 1.1 | ME 3SA | 4 | 1740 | 6 | 2.25 | A | 84 | 82.7 | 79 | 0.73 | 7.7 | 3.5 | 3.2 | J | 28 | 15.5 | FD 15 | 26 | 4800 | 8000 | 32 | 21.5 | FA 15 | 26 | 8000 | 32 | 22.5 |
| 2 | 1.5 | ME 3SB | 4 | 1740 | 8.2 | 3.1 | A | 84.5 | 83.9 | 80.7 | 0.73 | 7.1 | 3.6 | 3.4 | K | 34 | 17 | FD 15 | 26 | 3400 | 6000 | 34 | 23 | FA 15 | 26 | 6000 | 34 | 24 |
| 3 | 2.2 | ME 3LA | 4 | 1745 | 12 | 4.2 | A | 87.5 | 85.5 | 83.2 | 0.76 | 7 | 3.3 | 2.9 | J | 54 | 21 | FD 15 | 40 | 2600 | 4700 | 44 | 27 | FA 15 | 40 | 4700 | 44 | 28 |
| 4 | 3 | ME 3LB | 4 | 1735 | 16.5 | 5.9 | A | 87.5 | 87.7 | 86.3 | 0.76 | 7 | 3.2 | 2.9 | K | 61 | 23 | FD 15 | 40 | 2400 | 4400 | 58 | 29 | FA 15 | 40 | 4400 | 58 | 30 |
| 5 | 3.7 | ME 4SA | 4 | 1750 | 20 | 6.6 | A | 87.5 | 87.5 | 86.1 | 0.8 | 7.8 | 3.3 | 3.2 | J | 105 | 42 | FD 56 | 75 | — | 1400 | 107 | 55 | FA 06 | 75 | 2100 | 107 | 56 |
| 7.5 | 5.5 | ME 4SB | 4 | 1760 | 30 | 9.3 | A | 89.5 | 89.5 | 87.7 | 0.83 | 8.7 | 3.5 | 3.5 | K | 270 | 51 | FD 56 | 75 | — | 1050 | 223 | 64 | FA 06 | 75 | 1200 | 223 | 65 |
| 10 | 7.5 | ME 4LA | 4 | 1760 | 43 | 12.7 | A | 89.5 | 89.5 | 87.9 | 0.83 | 8 | 3.4 | 3.3 | K | 319 | 57 | FD 06 | 100 | — | 950 | 280 | 70 | FA 07 | 100 | 1000 | 280 | 75 |
| 12.5 | 9.2 | ME 4LB | 4 | 1760 | 50 | 15.6 | A | 90 | 90 | 88.6 | 0.82 | 8.3 | 3.5 | 3.6 | K | 360 | 65 | FD 07 | 150 | — | 900 | 342 | 81 | FA 07 | 150 | 900 | 342 | 83 |
| 15 | 11 | ME 5SA | 4 | 1765 | 60 | 18.7 | A | 91 | 91 | 90 | 0.81 | 7.7 | 2.9 | 2.8 | J | 650 | 85 | FD 08 | 170 | — | 800 | 655 | 115 | FA 08 | 170 | 800 | 655 | 114 |
| 20 | 15 | ME 5LA | 4 | 1770 | 81 | 25.5 | A | 91 | 90.5 | 89.5 | 0.81 | 7.1 | 3.1 | 2.7 | J | 790 | 101 | FD 08 | 200 | — | 750 | 725 | 131 | FA 08 | 200 | 750 | 710 | 130 |



M19 MOTORS DIMENSIONS BE-ME

BE - IM B5- CE/CUS/BIS/CCC

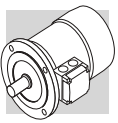


BE-ME

| | Shaft | | | | | Flange | | | | | | Motor | | | | | | | | |
|-----------|-------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------|-----|-----|------|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|----|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | |
| BE 63 | 11 | 23 | M4 | 12.5 | 4 | 115 | 95 | 140 | 9.5 | 3 | 10 | 121 | 207 | 184 | 232 | 95 | 74 | 80 | 26 | |
| BE 71 | 14 | 30 | M5 | 16 | 5 | 130 | 110 | 160 | | | | 138 | 249 | 219 | 281 | | | | 108 | 37 |
| BE 80 | 19 | 40 | M6 | 21.5 | 6 | | | | | | | 156 | 274 | 234 | 315 | | | | 119 | 38 |
| BE 90 S | 24 | 50 | M8 | 27 | 8 | 165 | 130 | 200 | 11.5 | 3.5 | 11.5 | 176 | 326 | 276 | 378 | 133 | 98 | 98 | 44 | |
| BE 90 L | | | | | | | | | | | | | | | | | | | 50 | |
| BE 100 | 28 | 60 | M10 | 31 | 8 | 215 | 180 | 250 | 14 | 4 | 14 | 195 | 367 | 307 | 429 | 142 | 98 | 98 | 50 | |
| BE 112 | | | | | | | | | | | | 15 | 219 | 385 | 325 | 448 | | | 157 | 52 |
| BE 132 S | 38 | 80 | M12 | 41 | 10 | 265 | 230 | 300 | 14 | 4 | 20 | 258 | 493 | 413 | 576 | 193 | 118 | 118 | 58 | |
| BE 132 MA | | | | | | | | | | | | | 528 | 448 | 611 | | | | | |
| BE 132 MB | | | | | | | | | | | | | 528 | 448 | 611 | | | | | |
| BE 160 M | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | 300 | 250 | 350 | 18.5 | 5 | 15 | 310 | 596 | 486 | 680 | 245 | 187 | 187 | 51 | |
| BE 160 L | | | | | | | | | | | | | 640 | 530 | 724 | | | | 52 | |
| BE 180 M | 48 42 ⁽¹⁾ | 110 110 ⁽¹⁾ | M16 M16 ⁽¹⁾ | 51.5 45 ⁽¹⁾ | 14 12 ⁽¹⁾ | 300 | 250 | 350 | 18.5 | 5 | 18 | 348 | 708 | 598 | 823 | 261 | 52 | | | |
| BE 180 L | | | | | | | | | | | | | 708 | 598 | 823 | 261 | | | | |

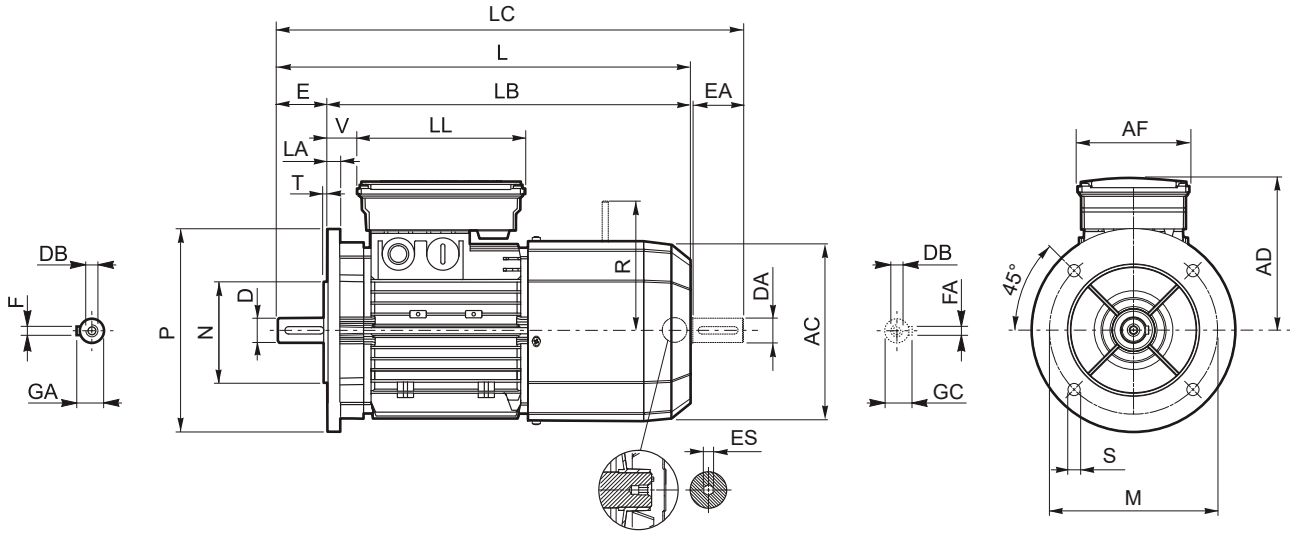
N.B.:

1) These values refer to the rear shaft end.



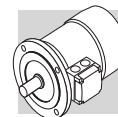
BE - IM B5 - FD/FA - CE/CUS/BIS

BE-IME

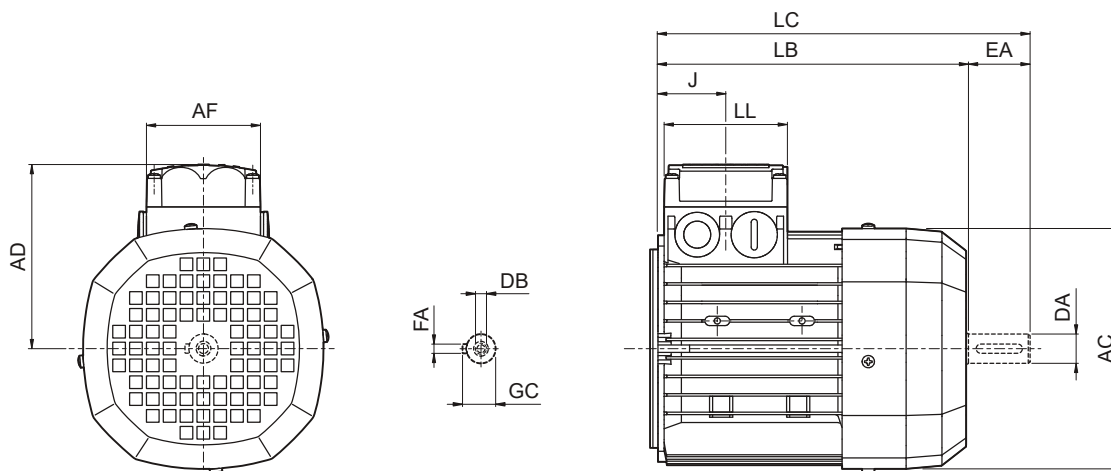


| | Shaft | | | | | Flange | | | | | Motor | | | | | | | | | | ES ⁽²⁾ | | | | |
|-----------|-------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------|-----|-----|------|-----|-------|------|-----|------|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | R | | | | | |
| | | | | | | | | | | | | | | | | | | | | FD | | FA | | | |
| BE 63 | 11 | 23 | M4 | 12.5 | 4 | 115 | 95 | 140 | 9.5 | 3 | 10 | 121 | 272 | 249 | 297 | 122 | 98 | 133 | 14 | 96 | 116 | 5 | | | |
| BE 71 | 14 | 30 | M5 | 16 | 5 | 130 | 110 | 160 | | | | 138 | 313 | 283 | 345 | 135 | | | | 24 | 103 | | 124 | | |
| BE 80 | 19 | 40 | M6 | 21.5 | 6 | 165 | 130 | 200 | | | | 11.5 | 3.5 | 11.5 | 156 | 348 | | | | 308 | 390 | | 143 | 25 | 129 |
| BE 90 S | 24 | 50 | M8 | 27 | 8 | | | | 215 | 180 | 250 | | | | 14 | 4 | 20 | 176 | 411 | 361 | 463 | 146 | 110 | 165 | 32 |
| BE 90 L | | | | | | 37 | 199 | 198 | | | | 6 | | | | | | | | | | | | | |
| BE 100 | 28 | 60 | M10 | 31 | 14 | 4 | 20 | 258 | 603 | 523 | 686 | | 193 | 140 | 188 | 46 | 204 | 200 | | | | | | | |
| BE 112 | | | | | | | | 15 | 219 | 484 | 424 | | | | | | | | 547 | 170 | 39 | 199 | 198 | | |
| BE 132 S | 38 | 80 | M12 | 41 | 10 | 265 | 230 | 300 | 14 | 4 | 20 | 258 | 628 | 548 | 711 | 226 | 217 | | | | | | | | |
| BE 132 MA | | | | | | | | | | | | | 20 | 258 | 603 | | | 523 | 686 | 193 | 140 | 188 | 46 | 204 | 200 |
| BE 132 MB | | | | | | | | | | | | | | | 628 | | | 548 | 711 | | | | | | |
| BE 160 M | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | 300 | 250 | 350 | 18.5 | 5 | 15 | 310 | 736 | 626 | 820 | 245 | 187 | 187 | 51 | 266 | 247 | — | | | |
| BE 160 L | | | | | | | | | | | | | 780 | 670 | 864 | | | | | | | | | | |
| BE 180 M | 48 42 ⁽¹⁾ | 110 110 ⁽¹⁾ | M16 M16 ⁽¹⁾ | 51.5 45 ⁽¹⁾ | 14 12 ⁽¹⁾ | 300 | 250 | 350 | 18.5 | 5 | 18 | 348 | 866 | 756 | 981 | 261 | 187 | 187 | 52 | 305 | — | | | | |
| BE 180 L | | | | | | | | | | | | | 866 | 756 | 981 | | | | | | | 261 | 305 | — | |

N.B.: 1) These values refer to the rear shaft end (PS). 2) "ES" hexagon is not present with PS option

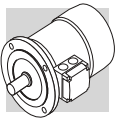


ME - CE/CUS/BIS/CCC



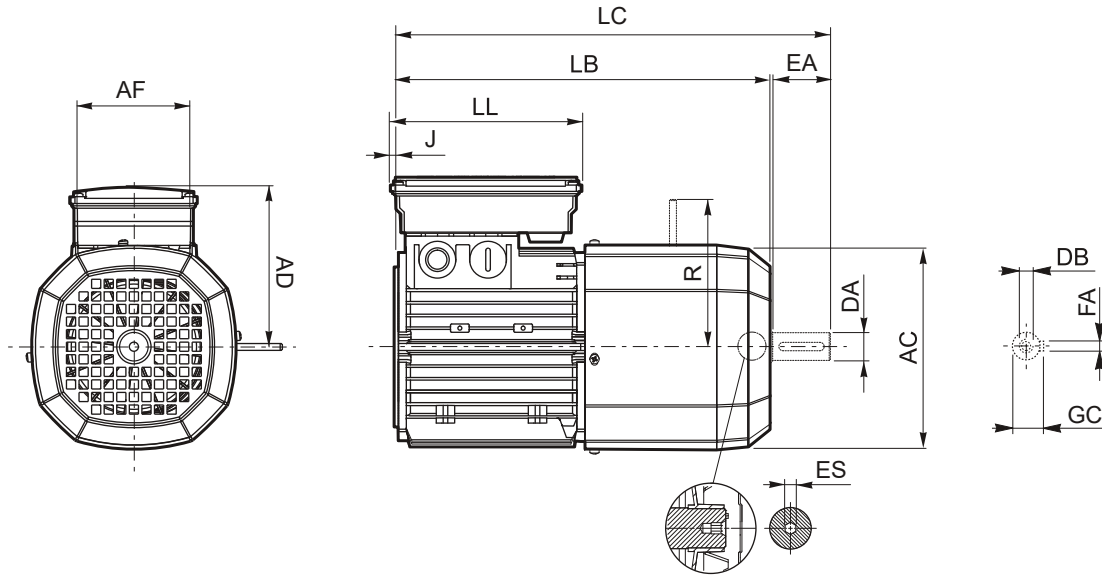
BE-ME

| | Rear shaft end | | | | | Motor | | | | | | |
|---------------|----------------|----|-----|------|----|-------|-----|-----|-----|-----|------|-----|
| | DA | EA | DB | FA | GC | AC | LB | LC | AF | LL | J | AD |
| ME 05 | 11 | 23 | M4 | 12.5 | 4 | 121 | 165 | 191 | 74 | 80 | 48 | 95 |
| ME 1S | 14 | 30 | M5 | 16 | 5 | 138 | 187 | 219 | | | 45 | 108 |
| ME 2S | 19 | 40 | M6 | 21.5 | 6 | 156 | 202 | 245 | | | 44 | 119 |
| ME 3S | 28 | 60 | M10 | 31 | 8 | 195 | 230 | 293 | 98 | 98 | 53.5 | 142 |
| ME 3L | | | | | | | 262 | 325 | | | | |
| ME 4S | 38 | 80 | M12 | 41 | 10 | 258 | 361 | 444 | 118 | 118 | 64.5 | 193 |
| ME 4L | | | | | | | 396 | 479 | | | | |
| ME 4LB | | | | | | | | | | | | |
| ME 5S | 38 | 80 | M12 | 41 | 10 | 310 | 418 | 502 | 187 | 187 | 77 | 245 |
| ME 5L | | | | | | | 462 | 546 | | | | |



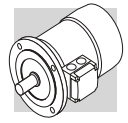
ME_FD/FA - CE/CUS/BIS

BE-ME



| | Rear shaft end | | | | | Motor | | | | | | | | | | |
|---------------|----------------|----|-----|------|----|-------|-----|-----|-----|-----|------|-----|------------|-----|-------------------|-----|
| | DA | EA | DB | GC | FA | AC | LB | LC | AF | LL | J | AD | R FD FA | | ES ⁽¹⁾ | |
| ME 05 | 11 | 23 | M4 | 12.5 | 4 | 121 | 231 | 256 | | | -4.5 | 119 | 96 | 116 | 5 | |
| ME 1S | 14 | 30 | M5 | 16 | 5 | 138 | 248 | 280 | 98 | 133 | -8 | 135 | 103 | 124 | | |
| ME 2S | 19 | 40 | M6 | 21.5 | 6 | 156 | 272 | 314 | | | -17 | 143 | 129 | 134 | | |
| ME 3S | 28 | 60 | M10 | 31 | 8 | 195 | 326 | 389 | 110 | 165 | 7 | 155 | 160 | 160 | 6 | |
| ME 3L | | | | | | | 353 | 416 | | | | | | | | |
| ME 4S | 38 | 80 | M12 | 41 | 10 | 258 | 470 | 553 | 140 | 188 | 7 | 210 | 204 | 200 | | |
| ME 4LA | | | | | | | 495 | 578 | | | | | 226 | 217 | | |
| ME 4LB | | | | | | | | | | | | | | | | |
| ME 5S | 38 | 80 | M12 | 41 | 10 | 310 | 558 | 642 | 187 | 187 | 17 | 245 | 266 | 247 | | --- |
| ME 5L | | | | | | | 602 | 686 | | | | | | | | |

N.B.: 1) "ES" hexagon is not present with PS option



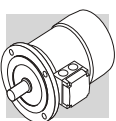
M20 MOTOR RATING CHARTS BN-M

| 2P | | 3000 min ⁻¹ - S1 | | | | | | | | | | | | | | 50 HZ | | | | | | | | | | | | | |
|----------------|----------|-----------------------------|------|----------------|-----|----------|---------|---------|-------|------|------|-----|-----|-----|----------------|------------|--------|------|----------------|------|----|----------------|-------|--------|------|----------------|------|----------------|-------|
| | | d.c. brake | | | | | | | | | | | | | | a.c. brake | | | | | | | | | | | | | |
| | | FD | | | | | | | IM B5 | | | | | | | FA | | | | | | | IM B5 | | | | | | |
| P _n | kW | P _n | n | M _n | IE1 | η (100%) | η (75%) | η (50%) | cosφ | In | In | Is | Ms | Ma | J _m | IM B5 | Mod | Mb | Z ₀ | 1/h | SB | J _m | IM B5 | Mod | Mb | Z ₀ | 1/h | J _m | IM B5 |
| 400V | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.18 | BN 63A | 2 | 2730 | 0.63 | ○ | 59.9 | 56.9 | 51.9 | 0.77 | 0.56 | 0.56 | 3.0 | 2.1 | 2.0 | 2.0 | 3.5 | FD 02 | 1.75 | 3900 | 4800 | — | 2.6 | 5.2 | FA 02 | 1.75 | 4800 | 2.6 | 5.2 | |
| 0.25 | BN 63B | 2 | 2740 | 0.87 | ○ | 66.0 | 64.8 | 64.8 | 0.76 | 0.72 | 0.72 | 3.3 | 2.3 | 2.3 | 3.9 | 3.9 | FD 02 | 1.75 | 3900 | 4800 | — | 3.0 | 5.6 | FA 02 | 1.75 | 4800 | 3.0 | 5.4 | |
| 0.37 | BN 63C | 2 | 2800 | 1.26 | ○ | 69.1 | 66.8 | 66.8 | 0.78 | 0.99 | 0.99 | 3.9 | 2.6 | 2.6 | 3.3 | 5.1 | FD 02 | 3.5 | 3600 | 4500 | — | 3.9 | 6.8 | FA 02 | 3.5 | 4500 | 3.9 | 6.6 | |
| 0.37 | BN 71A | 2 | 2820 | 1.25 | ○ | 73.8 | 73.0 | 70.6 | 0.76 | 0.95 | 0.95 | 4.8 | 2.8 | 2.6 | 3.5 | 5.4 | FD 03 | 3.5 | 3000 | 4100 | — | 4.6 | 8.1 | FA 03 | 3.5 | 4200 | 4.6 | 7.8 | |
| 0.55 | BN 71B | 2 | 2820 | 1.86 | ○ | 76.0 | 75.8 | 74.8 | 0.76 | 1.37 | 1.37 | 5.0 | 2.9 | 2.8 | 4.1 | 6.2 | FD 03 | 5 | 2900 | 4200 | — | 5.3 | 8.9 | FA 03 | 5 | 4200 | 5.3 | 8.6 | |
| 0.75 | BN 71C | 2 | 2810 | 2.6 | ○ | 76.6 | 76.2 | 76.2 | 0.76 | 1.86 | 1.86 | 5.1 | 3.1 | 2.8 | 5.0 | 7.3 | FD 03 | 5 | 1900 | 3300 | — | 6.1 | 10.0 | FA 03 | 5 | 3600 | 6.1 | 9.7 | |
| 0.75 | BN 80A | 2 | 2810 | 2.6 | ● | 76.2 | 75.5 | 68.3 | 0.81 | 1.75 | 1.75 | 4.8 | 2.6 | 2.2 | 7.8 | 8.6 | FD 04 | 5 | 1700 | 3200 | — | 9.4 | 12.5 | FA 04 | 5 | 3200 | 9.4 | 12.4 | |
| 1.1 | BN 80B | 2 | 2800 | 3.8 | ● | 76.4 | 76.2 | 75.0 | 0.81 | 2.57 | 2.57 | 4.8 | 2.8 | 2.4 | 9.0 | 9.5 | FD 04 | 10 | 1500 | 3000 | — | 10.6 | 13.4 | FA 04 | 10 | 3000 | 10.6 | 13.3 | |
| 1.5 | BN 80C | 2 | 2800 | 5.1 | ● | 79.1 | 79.5 | 77.2 | 0.81 | 3.4 | 3.4 | 4.9 | 2.7 | 2.4 | 11.4 | 11.3 | FD 04 | 15 | 1300 | 2600 | — | 13.0 | 15.2 | FA 04 | 15 | 2600 | 13.0 | 15.1 | |
| 1.5 | BN 90SA | 2 | 2870 | 5.0 | ● | 82.0 | 81.5 | 78.1 | 0.80 | 3.4 | 3.4 | 5.9 | 2.7 | 2.6 | 12.5 | 12.3 | FD 14 | 15 | 900 | 2200 | — | 14.1 | 16.5 | FA 14 | 15 | 2200 | 14.1 | 16.4 | |
| 1.85 | BN 90SB | 2 | 2880 | 6.1 | ● | 82.5 | 82.0 | 75.4 | 0.80 | 4.0 | 4.0 | 6.2 | 2.9 | 2.6 | 16.7 | 14 | FD 14 | 15 | 900 | 2200 | — | 18.3 | 18.2 | FA 14 | 15 | 2200 | 18.3 | 18.1 | |
| 2.2 | BN 90L | 2 | 2880 | 7.3 | ● | 82.7 | 82.1 | 80.8 | 0.80 | 4.8 | 4.8 | 6.3 | 2.9 | 2.7 | 16.7 | 14 | FD 05 | 26 | 900 | 2200 | — | 21 | 20 | FA 05 | 26 | 2200 | 21 | 20.7 | |
| 3 | BN 100L | 2 | 2860 | 10.0 | ● | 81.5 | 81.3 | 77.4 | 0.79 | 6.7 | 6.7 | 5.6 | 2.6 | 2.2 | 31 | 20 | FD 15 | 26 | 700 | 1600 | — | 35 | 26 | FA 15 | 26 | 1600 | 35 | 27 | |
| 4 | BN 100LB | 2 | 2870 | 13.3 | ● | 83.1 | 83.0 | 77.8 | 0.80 | 8.7 | 8.7 | 5.8 | 2.7 | 2.5 | 39 | 23 | FD 15 | 40 | 450 | 900 | — | 43 | 29 | FA 15 | 40 | 1000 | 43 | 30 | |
| 4 | BN 112M | 2 | 2900 | 13.2 | ● | 85.5 | 84.5 | 83.0 | 0.82 | 8.2 | 8.2 | 6.9 | 3.0 | 2.9 | 57 | 28 | FD 06S | 40 | — | — | — | 66 | 39 | FA 06S | 40 | 950 | 66 | 40 | |
| 5.5 | BN 132SA | 2 | 2890 | 18.2 | ● | 84.7 | 84.5 | 81.2 | 0.84 | 11.2 | 11.2 | 5.9 | 2.6 | 2.2 | 101 | 35 | FD 06 | 50 | — | — | — | 112 | 48 | FA 06 | 50 | 600 | 112 | 49 | |
| 7.5 | BN 132SB | 2 | 2900 | 25 | ● | 86.5 | 86.3 | 84.4 | 0.85 | 14.7 | 14.7 | 6.4 | 2.6 | 2.2 | 145 | 42 | FD 06 | 50 | — | — | — | 154 | 55 | FA 06 | 50 | 550 | 154 | 56 | |
| 9.2 | BN 132M | 2 | 2930 | 30 | ● | 87.0 | 86.5 | 83.6 | 0.86 | 17.7 | 17.7 | 6.7 | 2.8 | 2.3 | 178 | 53 | FD 06 | 75 | — | — | — | 189 | 66 | FA 06 | 75 | 430 | 189 | 67 | |
| 11 | BN 160MR | 2 | 2920 | 36 | ● | 87.6 | 87.0 | 86.0 | 0.88 | 20.6 | 20.6 | 6.9 | 2.9 | 2.5 | 210 | 65 | FD 06 | 75 | — | — | — | 210 | 65 | FA 06 | 75 | 430 | 210 | 67 | |
| 15 | BN 160MB | 2 | 2930 | 49 | ● | 89.6 | 89.4 | 88.0 | 0.86 | 28.1 | 28.1 | 7.1 | 2.6 | 2.3 | 340 | 84 | FD 06 | 75 | — | — | — | 340 | 84 | FA 06 | 75 | 430 | 340 | 84 | |
| 18.5 | BN 160L | 2 | 2930 | 60 | ● | 90.4 | 90.1 | 89.0 | 0.86 | 34 | 34 | 7.6 | 2.7 | 2.3 | 420 | 97 | FD 06 | 75 | — | — | — | 420 | 97 | FA 06 | 75 | 430 | 420 | 97 | |
| 22 | BN 180M | 2 | 2930 | 72 | ● | 89.9 | 89.7 | 89.5 | 0.88 | 40 | 40 | 7.8 | 2.6 | 2.4 | 490 | 109 | FD 06 | 75 | — | — | — | 490 | 109 | FA 06 | 75 | 430 | 490 | 109 | |
| 30 | BN 200LA | 2 | 2930 | 98 | ● | 90.7 | 90.1 | 87.6 | 0.89 | 54 | 54 | 7.8 | 2.7 | 2.9 | 770 | 140 | FD 06 | 75 | — | — | — | 770 | 140 | FA 06 | 75 | 430 | 770 | 140 | |

○ = n.a. ● = IE1

BN-M

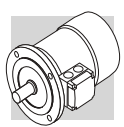
BN-M



4P 1500 min⁻¹ - S1 50 Hz

| | | d.c. brake | | | | | | | | | | a.c. brake | | | | | | | | | | | | | | | |
|----------------|------|------------|---------|---------|------|------|----------------------------------|------------------------------------|------------------------------------|--|-------|------------|------|-----------------------|-------|-----------------------|-------|--------|-----------------------|--|-------|------|--------|-----------------------|--|-------|------|
| | | FD | | | | | IM B5 | | | | | FA | | | | | | | | | | | | | | | |
| P _n | kW | η (100%) | η (75%) | η (50%) | cosφ | In | I _s I _n | I _{Ms} I _{Mn} | I _{Ma} I _{Mn} | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | Mb | Z _o 1/h | SB | Z _o 1/h | Mod | Mb | Z _o 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | Mb | Z _o 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | |
| 0.06 | 0.09 | 46.8 | 44.2 | 41.3 | 0.65 | 0.28 | 2.6 | 2.3 | 2.0 | 1.5 | 3.1 | FD 02 | 1.75 | 10000 | 13000 | 13000 | 13000 | FD 02 | 1.75 | 13000 | 2.6 | 5.2 | FA 02 | 1.75 | 13000 | 2.6 | 5.0 |
| | | 51.7 | 47.6 | 42.9 | 0.60 | 0.42 | 2.6 | 2.5 | 2.4 | 1.5 | 3.1 | FD 02 | 3.5 | 10000 | 13000 | 13000 | 13000 | FA 02 | 3.5 | 13000 | 3.0 | 5.6 | FA 02 | 3.5 | 13000 | 3.0 | 5.4 |
| 0.12 | 0.18 | 59.8 | 56.2 | 47.0 | 0.62 | 0.47 | 2.6 | 1.9 | 1.8 | 2.0 | 3.5 | FD 02 | 3.5 | 7800 | 10000 | 10000 | 10000 | FA 02 | 3.5 | 10000 | 3.9 | 6.8 | FA 02 | 3.5 | 10000 | 3.9 | 6.6 |
| 0.25 | 0.37 | 63.7 | 62.2 | 59.1 | 0.73 | 0.78 | 3.3 | 1.9 | 1.7 | 5.8 | 5.1 | FD 03 | 3.5 | 7700 | 11000 | 11000 | 11000 | FA 03 | 3.5 | 11000 | 6.9 | 7.8 | FA 03 | 3.5 | 11000 | 6.9 | 7.5 |
| 0.55 | 0.75 | 66.8 | 66.7 | 63.0 | 0.76 | 1.05 | 3.7 | 2.0 | 1.9 | 6.9 | 5.9 | FD 03 | 5 | 6000 | 9400 | 9400 | 9400 | FA 03 | 5 | 9400 | 8.0 | 8.6 | FA 03 | 5 | 9400 | 8.0 | 8.3 |
| 1.1 | 1.5 | 69.0 | 68.9 | 68.8 | 0.74 | 1.55 | 4.1 | 2.3 | 2.3 | 9.1 | 7.3 | FD 53 | 7.5 | 4300 | 8700 | 8700 | 8700 | FA 03 | 7.5 | 8700 | 10.2 | 10.0 | FA 03 | 7.5 | 8700 | 10.2 | 9.7 |
| 1.1 | 1.5 | 72.0 | 71.3 | 69.7 | 0.77 | 1.43 | 4.1 | 2.3 | 2.0 | 15 | 8.2 | FD 04 | 10 | 4100 | 8000 | 8000 | 8000 | FA 04 | 10 | 8000 | 16.6 | 12.1 | FA 04 | 10 | 8000 | 16.6 | 12.0 |
| 1.1 | 1.5 | 75.5 | 74.5 | 69.3 | 0.78 | 1.85 | 4.9 | 2.7 | 2.5 | 20 | 9.9 | FD 04 | 15 | 4100 | 7800 | 7800 | 7800 | FA 04 | 15 | 7800 | 22 | 13.8 | FA 04 | 15 | 7800 | 22 | 13.7 |
| 1.1 | 1.5 | 76.5 | 76.2 | 70.4 | 0.78 | 2.7 | 5.1 | 2.8 | 2.5 | 25 | 11.3 | FD 04 | 15 | 2600 | 5300 | 5300 | 5300 | FA 04 | 15 | 5300 | 27 | 15.2 | FA 04 | 15 | 5300 | 27 | 15.1 |
| 1.1 | 1.5 | 76.5 | 76.2 | 72.2 | 0.77 | 2.70 | 4.6 | 2.6 | 2.2 | 21 | 12.2 | FD 14 | 15 | 4800 | 8000 | 8000 | 8000 | FA 14 | 15 | 8000 | 23 | 16.4 | FA 14 | 15 | 8000 | 23 | 16.3 |
| 1.5 | 1.85 | 78.7 | 78.5 | 74.9 | 0.77 | 3.6 | 5.3 | 2.8 | 2.4 | 28 | 13.6 | FD 05 | 26 | 3400 | 6000 | 6000 | 6000 | FA 05 | 26 | 6000 | 32 | 19.6 | FA 05 | 26 | 6000 | 32 | 20.3 |
| 1.85 | 2.2 | 78.6 | 78.9 | 77.2 | 0.79 | 4.3 | 5.1 | 2.8 | 2.6 | 30 | 15.1 | FD 05 | 26 | 3200 | 5900 | 5900 | 5900 | FA 05 | 26 | 5900 | 34 | 21.1 | FA 05 | 26 | 5900 | 34 | 21.8 |
| 2.2 | 3 | 81.1 | 81.4 | 79.9 | 0.75 | 5.2 | 4.5 | 2.2 | 2.0 | 40 | 18 | FD 15 | 40 | 2600 | 4700 | 4700 | 4700 | FA 15 | 40 | 4700 | 44 | 25 | FA 15 | 40 | 4700 | 44 | 25 |
| 3 | 4 | 82.6 | 83.8 | 83.7 | 0.77 | 6.8 | 5.0 | 2.3 | 2.2 | 54 | 22 | FD 15 | 40 | 2400 | 4400 | 4400 | 4400 | FA 15 | 40 | 4400 | 58 | 28 | FA 15 | 40 | 4400 | 58 | 29 |
| 4 | 5.5 | 84.4 | 84.2 | 81.6 | 0.81 | 8.4 | 5.6 | 2.7 | 2.5 | 98 | 30 | FD 06S | 60 | — | 1400 | 1400 | 1400 | FA 06S | 60 | 2100 | 107 | 40 | FA 06S | 60 | 2100 | 107 | 42 |
| 5.5 | 7.5 | 84.7 | 84.8 | 82.5 | 0.81 | 11.6 | 5.5 | 2.3 | 2.2 | 213 | 44 | FD 56 | 75 | — | 1050 | 1050 | 1050 | FA 06 | 75 | 1200 | 223 | 57 | FA 06 | 75 | 1200 | 223 | 58 |
| 9.2 | 11 | 86.0 | 86.3 | 85.3 | 0.81 | 15.5 | 5.7 | 2.5 | 2.4 | 270 | 53 | FD 06 | 100 | — | 950 | 950 | 950 | FA 07 | 100 | 1000 | 280 | 66 | FA 07 | 100 | 1000 | 280 | 71 |
| 11 | 15 | 88.4 | 88.6 | 87.5 | 0.81 | 18.8 | 5.9 | 2.7 | 2.5 | 319 | 59 | FD 07 | 150 | — | 900 | 900 | 900 | FA 07 | 150 | 900 | 342 | 75 | FA 07 | 150 | 900 | 342 | 77 |
| 15 | 18.5 | 87.6 | 87.8 | 86.0 | 0.81 | 22.4 | 6.0 | 2.7 | 2.5 | 360 | 70 | FD 07 | 150 | — | 850 | 850 | 850 | FA 07 | 150 | 850 | 382 | 86 | FA 07 | 150 | 850 | 382 | 88 |
| 22 | 30 | 88.7 | 88.5 | 88.4 | 0.81 | 30 | 6.0 | 2.3 | 2.1 | 650 | 99 | FD 08 | 200 | — | 750 | 750 | 750 | FA 08 | 200 | 750 | 725 | 129 | FA 08 | 200 | 750 | 725 | 128 |
| 18.5 | 22 | 89.3 | 89.5 | 89.2 | 0.81 | 37 | 6.2 | 2.6 | 2.5 | 790 | 115 | FD 08 | 250 | — | 700 | 700 | 700 | FA 08 | 250 | 700 | 865 | 145 | FA 08 | 250 | 700 | 865 | 144 |
| 30 | | 89.9 | 90.0 | 90.0 | 0.80 | 44 | 6.4 | 2.5 | 2.5 | 1250 | 135 | FD 09 | 300 | — | 400 | 400 | 400 | FA 08 | 300 | 400 | 1450 | 175 | FA 08 | 300 | 400 | 1450 | 175 |
| 30 | | 91.4 | 91.7 | 91.0 | 0.80 | 59 | 7.1 | 2.7 | 2.8 | 1650 | 157 | FD 09 | 400 | — | 300 | 300 | 300 | FA 08 | 400 | 300 | 1850 | 197 | FA 08 | 400 | 300 | 1850 | 197 |

○ = n.a. • = IE1

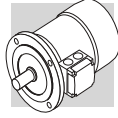


6P **1000 min⁻¹ - S1** **50 HZ**

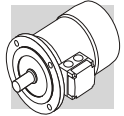
| P _n kW | | n min ⁻¹ | M _n Nm | IE1 | η (100%) % | η (75%) % | η (50%) % | cosφ | In 400V A | Is In % | Ms Mn % | Ma Mn % | d.c. brake | | | | a.c. brake | | | | | | |
|----------------------|----------|------------------------|----------------------|-----|------------------|-----------------|-----------------|------|-----------------|---------------|---------------|---------------|------------|----------|-----------------------|--|------------|------|----------|-----------------------|--|-----------|------|
| | | | | | | | | | | | | | FD | | FA | | FD | | FA | | | | |
| | | | | | | | | | | | | | Mod | Mb Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | Mb Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | |
| 0.09 | BN 63A | 6 | 0.98 | ○ | 41.0 | 41.0 | 32.9 | 0.53 | 0.60 | 2.1 | 2.1 | 1.8 | FD 02 | 3.5 | 9000 | 14000 | 4.0 | 6.3 | FA 02 | 3.5 | 14000 | 4.0 | 6.1 |
| 0.12 | BN 63B | 6 | 1.32 | ○ | 45.0 | 44.0 | 41.8 | 0.60 | 0.64 | 2.1 | 1.9 | 1.7 | FD 02 | 3.5 | 9000 | 14000 | 4.3 | 6.6 | FA 02 | 3.5 | 14000 | 4.3 | 6.4 |
| 0.18 | BN 71A | 6 | 1.91 | ○ | 55.0 | 55.5 | 51.0 | 0.69 | 0.68 | 2.6 | 1.9 | 1.7 | FD 03 | 5 | 8100 | 13500 | 9.5 | 8.2 | FA 03 | 5.0 | 13500 | 9.5 | 7.9 |
| 0.25 | BN 71B | 6 | 2.70 | ○ | 62.0 | 58.5 | 51.4 | 0.71 | 0.82 | 2.6 | 1.9 | 1.7 | FD 03 | 5 | 7800 | 13000 | 12 | 9.4 | FA 03 | 5.0 | 13000 | 12 | 9.1 |
| 0.37 | BN 71C | 6 | 3.9 | ○ | 66.0 | 60.0 | 53.3 | 0.69 | 1.17 | 3.0 | 2.4 | 2.0 | FD 03 | 7.5 | 5100 | 9500 | 14 | 10.4 | FA 03 | 7.5 | 9500 | 14 | 10.1 |
| 0.37 | BN 80A | 6 | 3.9 | ○ | 68.0 | 67.4 | 63.3 | 0.68 | 1.15 | 3.2 | 2.2 | 2.0 | FD 04 | 10 | 5200 | 8500 | 23 | 13.8 | FA 04 | 10 | 8500 | 23 | 13.7 |
| 0.55 | BN 80B | 6 | 5.7 | ○ | 70.0 | 69.8 | 64.3 | 0.68 | 1.67 | 3.9 | 2.6 | 2.2 | FD 04 | 15 | 4800 | 7200 | 27 | 15.2 | FA 04 | 15 | 7200 | 27 | 15.1 |
| 0.75 | BN 80C | 6 | 7.8 | ● | 70.0 | 70.0 | 64.4 | 0.65 | 2.38 | 3.8 | 2.5 | 2.2 | FD 04 | 15 | 3400 | 6400 | 30 | 16.1 | FA 04 | 15 | 6400 | 30 | 16.0 |
| 0.75 | BN 90S | 6 | 7.8 | ● | 70.0 | 69.0 | 64.2 | 0.68 | 2.27 | 3.8 | 2.4 | 2.2 | FD 14 | 15 | 3400 | 6500 | 28 | 16.8 | FA 14 | 15 | 6500 | 28 | 16.7 |
| 1.1 | BN 90L | 6 | 11.4 | ● | 72.9 | 72.6 | 69.1 | 0.69 | 3.2 | 3.9 | 2.3 | 2.0 | FD 05 | 26 | 2700 | 5000 | 37 | 21 | FA 05 | 26 | 5000 | 37 | 22 |
| 1.5 | BN 100LA | 6 | 15.2 | ● | 75.2 | 74.2 | 70.3 | 0.72 | 4.0 | 4.1 | 2.1 | 2.0 | FD 15 | 40 | 1900 | 4100 | 86 | 28 | FA 15 | 40 | 4100 | 86 | 29 |
| 1.85 | BN 100LB | 6 | 19.0 | ● | 76.6 | 72.8 | 62.6 | 0.73 | 4.8 | 4.6 | 2.1 | 2.0 | FD 15 | 40 | 1700 | 3600 | 99 | 30 | FA 15 | 40 | 3600 | 99 | 31 |
| 2.2 | BN 112M | 6 | 22 | ● | 78.5 | 79.0 | 76.5 | 0.73 | 5.5 | 4.8 | 2.2 | 2.0 | FD 06S | 60 | — | 2100 | 177 | 42 | FA 06S | 60 | 2100 | 177 | 44 |
| 3 | BN 132S | 6 | 30 | ● | 79.7 | 77.0 | 75.1 | 0.76 | 7.1 | 5.1 | 1.9 | 1.8 | FD 56 | 75 | — | 1400 | 226 | 49 | FA 06 | 75 | 1400 | 226 | 50 |
| 4 | BN 132MA | 6 | 40 | ● | 81.4 | 81.5 | 79.5 | 0.77 | 9.2 | 5.5 | 2.0 | 1.8 | FD 06 | 100 | — | 1200 | 305 | 58 | FA 07 | 100 | 1200 | 318 | 63 |
| 5.5 | BN 132MB | 6 | 56 | ● | 83.1 | 80.9 | 79.1 | 0.78 | 12.2 | 6.1 | 2.1 | 1.9 | FD 07 | 150 | — | 1050 | 406 | 72 | FA 07 | 150 | 1050 | 406 | 74 |
| 7.5 | BN 160M | 6 | 75 | ● | 85.0 | 85.0 | 84.8 | 0.81 | 15.7 | 5.9 | 2.2 | 2.0 | FD 08 | 170 | — | 900 | 815 | 112 | FA 08 | 170 | 900 | 815 | 113 |
| 11 | BN 160L | 6 | 109 | ● | 86.4 | 86.5 | 85.9 | 0.81 | 22.7 | 6.6 | 2.5 | 2.3 | FD 08 | 200 | — | 800 | 1045 | 133 | FA 08 | 200 | 800 | 1045 | 133 |
| 15 | BN 180L | 6 | 148 | ● | 87.7 | 88.0 | 87.3 | 0.82 | 30 | 6.2 | 2.0 | 2.4 | FD 09 | 300 | — | 600 | 1750 | 170 | FA 08 | 200 | 800 | 1045 | 133 |
| 18.5 | BN 200LA | 6 | 184 | ● | 88.6 | 88.0 | 87.3 | 0.81 | 37 | 5.9 | 2.0 | 2.3 | FD 09 | 400 | — | 450 | 1900 | 185 | FA 08 | 200 | 800 | 1045 | 133 |

○ = n.a. ● = IE1

BN-M

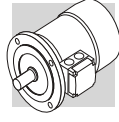


| 8P | | 750 min ⁻¹ - S1 | | | | | | | | | | | | 50 Hz | | | | | | | | | |
|----------------------|----------|----------------------------|----------------------|--------|------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|--|-----------|--------|----------|-----------------------|-------|-------|--|-----------|--------|----------|-----------------------|--|-----------|
| | | d.c. brake | | | | | | | | | | | | a.c. brake | | | | | | | | | |
| P _n kW | | n min ⁻¹ | M _n Nm | η % | cosφ | I _n 400V A | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | Mb Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | IMod | Mb Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 0.09 | BN 71A | 8 | 1.26 | 47 | 0.59 | 0.47 | 2.3 | 2.4 | 2.3 | 10.9 | 6.7 | FD 03 | 3.5 | 9000 | 16000 | 16000 | 12.0 | 9.4 | FA 03 | 3.5 | 16000 | 12.0 | IM B5 |
| 0.12 | BN 71B | 8 | 1.69 | 51 | 0.59 | 0.58 | 2.1 | 2.3 | 2.2 | 12.9 | 7.7 | FD 03 | 5.0 | 9000 | 16000 | 16000 | 14.0 | 10.4 | FA 03 | 5.0 | 16000 | 14.0 | IM B5 |
| 0.18 | BN 80A | 8 | 2.49 | 51 | 0.60 | 0.85 | 2.4 | 2.2 | 2.2 | 15 | 8.2 | FD 04 | 5.0 | 6500 | 11000 | 11000 | 16.6 | 12.1 | FA 04 | 5.0 | 11000 | 16.6 | IM B5 |
| 0.25 | BN 80B | 8 | 3.51 | 54 | 0.63 | 1.06 | 2.4 | 2.0 | 1.9 | 20 | 9.9 | FD 04 | 10.0 | 6000 | 10000 | 10000 | 22 | 13.8 | FA 04 | 10.0 | 10000 | 23 | IM B5 |
| 0.37 | BN 90S | 8 | 5.2 | 58 | 0.60 | 1.53 | 2.6 | 2.3 | 2.1 | 26 | 12.6 | FD 14 | 15.0 | 4800 | 7500 | 7500 | 28 | 16.8 | FA 14 | 15.0 | 7500 | 28 | IM B5 |
| 0.55 | BN 90L | 8 | 7.8 | 62 | 0.60 | 2.13 | 2.6 | 2.2 | 2.0 | 33 | 15 | FD 05 | 26 | 4000 | 6400 | 6400 | 37 | 21 | FA 05 | 26 | 6400 | 37 | IM B5 |
| 0.75 | BN 100LA | 8 | 10.2 | 68 | 0.63 | 2.53 | 3.4 | 1.9 | 1.7 | 82 | 22 | FD 15 | 26 | 2800 | 4800 | 4800 | 86 | 28 | FA 15 | 26 | 4800 | 86 | IM B5 |
| 1.1 | BN 100LB | 8 | 15.0 | 68 | 0.64 | 3.65 | 3.2 | 1.7 | 1.7 | 95 | 24 | FD 15 | 40 | 2500 | 4000 | 4000 | 99 | 30 | FA 15 | 40 | 4000 | 99 | IM B5 |
| 1.5 | BN 112M | 8 | 20.2 | 71 | 0.66 | 4.6 | 3.7 | 1.8 | 1.9 | 168 | 32 | FD 06S | 60 | — | 3000 | 3000 | 177 | 42 | FA 06S | 60 | 3000 | 177 | IM B5 |
| 2.2 | BN 132S | 8 | 29.6 | 75 | 0.66 | 6.4 | 3.8 | 1.8 | 2.0 | 295 | 45 | FD 56 | 75 | — | 2300 | 2300 | 305 | 58 | FA 06 | 75 | 2300 | 305 | IM B5 |
| 3 | BN 132MA | 8 | 40.4 | 76 | 0.69 | 8.3 | 3.9 | 1.6 | 1.8 | 370 | 53 | FD 06 | 100 | — | 1900 | 1900 | 394 | 69 | FA 07 | 100 | 1900 | 406 | IM B5 |

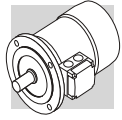


2/4P **3000/1500 min-1 - S1** **50 HZ**

| P _n kW | | d.c. brake | | | | | | | | | | | | | | a.c. brake | | | | | | | | | | |
|----------------------|---|------------|--|----------------------------------|----------------------------------|----------------------------------|-----------------|------|-----|----------------------|------------------------|-------|--|----------------------|------|------------|------|----------|-----------------------|--|--------|-----------------------|--|-------|------|------|
| | | FD | | | | | | | FA | | | | | | | FA | | | | | | | | | | |
| | | IM B5 | J _m x 10 ⁻⁴ kgm ² | M _a M _n | M _s M _n | I _s I _n | In 400V A | cosφ | η | M _n Nm | n min ⁻¹ | IM B5 | J _m x 10 ⁻⁴ kgm ² | M _b Nm | Mod | Mb Nm | Mod | Mb Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | | |
| 0.20 | 2 | BN 63B | 2 | 2700 | 0.71 | 55 | 0.82 | 3.5 | 2.1 | 1.9 | 2.9 | 4.4 | FD 02 | 3.5 | 2200 | 2600 | 5100 | 6.1 | 3.5 | 6.1 | FA 02 | 3.5 | 2600 | 5100 | 3.5 | 5.9 |
| 0.15 | 4 | | 4 | 1350 | 1.06 | 49 | 0.67 | 2.6 | 1.8 | 1.7 | | | | | | | | | | | | | | | | |
| 0.28 | 2 | BN 71A | 2 | 2700 | 0.99 | 56 | 0.82 | 2.9 | 1.9 | 1.7 | 4.7 | 4.4 | FD 03 | 3.5 | 2100 | 2400 | 4800 | 7.1 | 5.8 | 7.1 | FA 03 | 3.5 | 2400 | 4800 | 5.8 | 6.8 |
| 0.20 | 4 | | 4 | 1370 | 1.39 | 59 | 0.72 | 3.1 | 1.8 | 1.7 | | | | | | | | | | | | | | | | |
| 0.37 | 2 | BN 71B | 2 | 2740 | 1.29 | 56 | 0.82 | 1.16 | 1.8 | 1.8 | 5.8 | 5.1 | FD 03 | 5.0 | 1400 | 2100 | 4200 | 7.8 | 6.9 | 7.8 | FA 03 | 5.0 | 2100 | 4200 | 6.9 | 7.5 |
| 0.25 | 4 | | 4 | 1390 | 1.72 | 60 | 0.73 | 3.3 | 2.0 | 1.9 | | | | | | | | | | | | | | | | |
| 0.45 | 2 | BN 71C | 2 | 2780 | 1.55 | 63 | 0.85 | 1.21 | 1.8 | 1.8 | 6.9 | 5.9 | FD 03 | 5.0 | 1400 | 2100 | 4200 | 8.6 | 8.0 | 8.6 | FA 03 | 5.0 | 2100 | 4200 | 8.0 | 8.3 |
| 0.30 | 4 | | 4 | 1400 | 2.0 | 63 | 0.73 | 3.6 | 2.0 | 1.9 | | | | | | | | | | | | | | | | |
| 0.55 | 2 | BN 80A | 2 | 2800 | 1.9 | 63 | 0.85 | 1.48 | 1.7 | 1.7 | 15 | 8.2 | FD 04 | 5.0 | 1600 | 2300 | 4000 | 12.1 | 17 | 12.1 | FA 04 | 5.0 | 2300 | 4000 | 16.6 | 12.0 |
| 0.37 | 4 | | 4 | 1400 | 2.5 | 67 | 0.79 | 1.01 | 1.8 | 1.9 | | | | | | | | | | | | | | | | |
| 0.75 | 2 | BN 80B | 2 | 2780 | 2.6 | 65 | 0.85 | 1.96 | 1.9 | 1.8 | 20 | 9.9 | FD 04 | 10 | 1400 | 1600 | 3600 | 13.8 | 22 | 13.8 | FA 04 | 10 | 1600 | 3600 | 22 | 13.7 |
| 0.55 | 4 | | 4 | 1400 | 3.8 | 68 | 0.81 | 1.44 | 1.7 | 1.7 | | | | | | | | | | | | | | | | |
| 1.1 | 2 | BN 90S | 2 | 2790 | 3.8 | 71 | 0.82 | 2.73 | 2.3 | 2.0 | 21 | 12.2 | FD 14 | 10 | 1500 | 1600 | 2000 | 16.4 | 23 | 16.4 | FA 14 | 10 | 1600 | 2000 | 23 | 16.3 |
| 0.75 | 4 | | 4 | 1390 | 5.2 | 66 | 0.79 | 2.08 | 2.4 | 2.2 | | | | | | | | | | | | | | | | |
| 1.5 | 2 | BN 90L | 2 | 2780 | 5.2 | 70 | 0.85 | 3.64 | 2.4 | 2.1 | 28 | 14.0 | FD 05 | 26 | 1050 | 1200 | 2000 | 20 | 32 | 20 | FA 05 | 26 | 1200 | 2000 | 32 | 21 |
| 1.1 | 4 | | 4 | 1390 | 7.6 | 73 | 0.81 | 2.69 | 2.5 | 2.2 | | | | | | | | | | | | | | | | |
| 2.2 | 2 | BN 100LA | 2 | 2800 | 7.5 | 72 | 0.85 | 5.2 | 2.0 | 1.9 | 40 | 18.3 | FD 15 | 26 | 600 | 900 | 2100 | 25 | 44 | 25 | FA 15 | 26 | 900 | 2100 | 44 | 25 |
| 1.5 | 4 | | 4 | 1410 | 10.2 | 73 | 0.79 | 3.8 | 2.0 | 2.0 | | | | | | | | | | | | | | | | |
| 3.5 | 2 | BN 100LB | 2 | 2850 | 11.7 | 80 | 0.84 | 7.5 | 2.2 | 2.1 | 61 | 25 | FD 15 | 40 | 500 | 900 | 2100 | 31 | 65 | 31 | FA 15 | 40 | 900 | 2100 | 65 | 32 |
| 2.5 | 4 | | 4 | 1420 | 16.8 | 82 | 0.80 | 5.5 | 2.2 | 2.2 | | | | | | | | | | | | | | | | |
| 4 | 2 | BN 112M | 2 | 2880 | 13.3 | 79 | 0.83 | 8.8 | 2.4 | 2.0 | 98 | 30 | FD 06S | 60 | — | 700 | 107 | 40 | 107 | 40 | FA 06S | 60 | 700 | 107 | 107 | 42 |
| 3.3 | 4 | | 4 | 1420 | 22.2 | 80 | 0.80 | 7.4 | 2.1 | 2.0 | | | | | | | | | | | | | | | | |
| 5.5 | 2 | BN 132S | 2 | 2890 | 18.2 | 80 | 0.87 | 11.4 | 2.4 | 2.0 | 213 | 44 | FD 06 | 75 | — | 350 | 223 | 57 | 223 | 57 | FA 06 | 75 | 350 | 223 | 223 | 58 |
| 4.4 | 4 | | 4 | 1440 | 29 | 82 | 0.84 | 9.2 | 2.2 | 2.0 | | | | | | | | | | | | | | | | |
| 7.5 | 2 | BN 132MA | 2 | 2900 | 25 | 82 | 0.87 | 15.2 | 2.4 | 2.0 | 270 | 53 | FD 06 | 100 | — | 350 | 280 | 66 | 280 | 66 | FA 07 | 100 | 350 | 280 | 293 | 71 |
| 6 | 4 | | 4 | 1430 | 40 | 84 | 0.85 | 12.1 | 2.3 | 2.1 | | | | | | | | | | | | | | | | |
| 9.2 | 2 | BN 132MB | 2 | 2920 | 30 | 83 | 0.86 | 18.6 | 2.6 | 2.2 | 319 | 59 | FD 07 | 150 | — | 300 | 342 | 75 | 342 | 75 | FA 07 | 150 | 300 | 342 | 342 | 77 |
| 7.3 | 4 | | 4 | 1440 | 48 | 85 | 0.85 | 14.6 | 2.3 | 2.1 | | | | | | | | | | | | | | | | |







| 2/6P | | 3000/1000 min ⁻¹ - S3 60/40% | | | | | | | | | | | 50 Hz | | | | | | | | | |
|----------------------|----------|---|----------------------|----|------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|--|-----------|--------|----------------------|-----------------------|-------|------|--|-----------|-----|----------------------|-----------------------|--|
| d.c. brake | | | | | | | | | | | | | | a.c. brake | | | | | | | | |
| P _n kW | | n min ⁻¹ | M _n Nm | η | cosφ | I _n 400V A | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | FD | | | | | FA | | | | | |
| | | | | | | | | | | | | Mod | M _b Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² |
| 0.25 | BN 71A | 2 | 0.84 | 60 | 0.82 | 0.73 | 4.3 | 1.9 | 1.8 | 6.9 | 5.9 | FD 03 | 1.75 | 1500 | 1700 | 8.0 | 8.6 | FA 03 | 2.5 | 1700 | 8.0 | 8.3 |
| 0.08 | | 6 | 0.84 | 43 | 0.70 | 0.38 | 2.1 | 1.4 | 1.5 | | | | 10000 | 13000 | 13000 | | | | | 13000 | | |
| 0.37 | BN 71B | 2 | 1.23 | 62 | 0.80 | 1.08 | 4.4 | 1.9 | 1.8 | 9.1 | 7.3 | FD 03 | 3.5 | 1000 | 1300 | 10.2 | 10.0 | FA 03 | 3.5 | 1300 | 10.2 | 9.7 |
| 0.12 | | 6 | 1.27 | 44 | 0.73 | 0.54 | 2.4 | 1.4 | 1.5 | | | | 9000 | 11000 | 11000 | | | | | 11000 | | |
| 0.55 | BN 80A | 2 | 1.88 | 63 | 0.86 | 1.47 | 4.5 | 1.9 | 1.7 | 20 | 9.9 | FD 04 | 5.0 | 1500 | 1800 | 22 | 13.8 | FA 04 | 5.0 | 1800 | 22 | 13.7 |
| 0.18 | | 6 | 1.85 | 52 | 0.65 | 0.77 | 3.3 | 2.0 | 1.9 | | | | 4100 | 6300 | 6300 | | | | | 6300 | | |
| 0.75 | BN 80B | 2 | 2.6 | 66 | 0.87 | 1.89 | 4.3 | 1.8 | 1.6 | 25 | 11.3 | FD 04 | 5.0 | 1700 | 1900 | 27 | 15.2 | FA 04 | 5.0 | 1900 | 27 | 15.1 |
| 0.25 | | 6 | 2.6 | 54 | 0.67 | 1.00 | 3.2 | 1.7 | 1.8 | | | | 3800 | 6000 | 6000 | | | | | 6000 | | |
| 1.10 | BN 90L | 2 | 3.7 | 67 | 0.84 | 2.82 | 4.7 | 2.1 | 1.9 | 28 | 14.0 | FD 05 | 13 | 1400 | 1600 | 32 | 20 | FA 05 | 13 | 1600 | 32 | 21 |
| 0.37 | | 6 | 3.8 | 59 | 0.71 | 1.27 | 3.3 | 1.6 | 1.6 | | | | 3400 | 5200 | 5200 | | | | | 5200 | | |
| 1.5 | BN 100LA | 2 | 5 | 73 | 0.84 | 3.53 | 5.1 | 1.9 | 2.0 | 40 | 18.3 | FD 15 | 13 | 1000 | 1200 | 44 | 24 | FA 15 | 13 | 1200 | 44 | 25 |
| 0.55 | | 6 | 5.6 | 64 | 0.67 | 1.85 | 3.5 | 1.7 | 1.8 | | | | 2900 | 4000 | 4000 | | | | | 4000 | | |
| 2.2 | BN 100LB | 2 | 7.2 | 77 | 0.85 | 4.9 | 5.9 | 2.0 | 2.0 | 61 | 25 | FD 15 | 26 | 700 | 900 | 65 | 31 | FA 15 | 26 | 900 | 65 | 32 |
| 0.75 | | 6 | 7.5 | 67 | 0.64 | 2.5 | 3.3 | 1.9 | 1.8 | | | | 2100 | 3000 | 3000 | | | | | 3000 | | |
| 3 | BN 112M | 2 | 9.9 | 78 | 0.87 | 6.4 | 6.3 | 2.0 | 2.1 | 98 | 30 | FD 06S | 40 | — | 1000 | 107 | 40 | FA 06S | 40 | 1000 | 107 | 32 |
| 1.1 | | 6 | 11.1 | 72 | 0.64 | 3.4 | 3.9 | 1.8 | 1.8 | | | | — | 2600 | 2600 | | | | | 2600 | | |
| 4.5 | BN 132S | 2 | 14.8 | 78 | 0.84 | 9.9 | 5.8 | 1.9 | 1.8 | 213 | 44 | FD 56 | 37 | — | 500 | 223 | 57 | FA 06 | 37 | 500 | 223 | 58 |
| 1.5 | | 6 | 14.9 | 74 | 0.67 | 4.4 | 4.2 | 1.9 | 2.0 | | | | — | 2100 | 2100 | | | | | 2100 | | |
| 5.5 | BN 132M | 2 | 18.0 | 78 | 0.87 | 11.7 | 6.2 | 2.1 | 1.9 | 270 | 53 | FD 56 | 50 | — | 400 | 280 | 66 | FA 06 | 50 | 400 | 280 | 67 |
| 2.2 | | 6 | 22 | 77 | 0.71 | 5.8 | 4.3 | 2.1 | 2.0 | | | | — | 1900 | 1900 | | | | | 1900 | | |

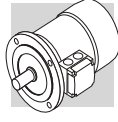


2/8P

3000/750 min-1 - S3 60/40%

50 HZ

| | | d.c. brake | | | | | | | | | | | | a.c. brake | | | | | | | | | |
|----------------------|---|------------------------|----------------------|--------|------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|--|--|--------|----------|-----------------------|-------|--|--|--------|----------|-----------------------|--|--|------|
| P _n kW |  | n min ⁻¹ | M _n Nm | η % | cosφ | I _n 400V A | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5  | Mod | Mb Nm | Z ₀ 1/h | SB | J _m x 10 ⁻⁴ kgm ² | IM B5  | Mod | Mb Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5  | |
| | | | | | | | | | | | | | | | | | | | | | | | FD |
| 0.25 | BN 71A | 2 | 0.86 | 61 | 0.87 | 0.68 | 3.9 | 1.8 | 1.9 | 10.9 | 6.7 | FD 03 | 1.75 | 1300 | 1400 | 12 | 9.4 | FA 03 | 2.5 | 1400 | 13000 | 12 | 9.1 |
| 0.06 | | 8 | 0.84 | 31 | 0.61 | 0.46 | 2.0 | 1.8 | 1.9 | | | | | 10000 | 13000 | | | | | | | | |
| 0.37 | BN 71B | 2 | 1.26 | 63 | 0.86 | 0.99 | 3.9 | 1.8 | 1.9 | 12.9 | 7.7 | FD 03 | 3.5 | 1200 | 1300 | 14 | 10.4 | FA 03 | 3.5 | 1300 | 13000 | 14 | 10.1 |
| 0.09 | | 8 | 1.28 | 34 | 0.75 | 0.51 | 1.8 | 1.4 | 1.5 | | | | | 9500 | 13000 | | | | | | | | |
| 0.55 | BN 80A | 2 | 1.86 | 66 | 0.86 | 1.40 | 4.4 | 2.1 | 2.0 | 20 | 9.9 | FD 04 | 5.0 | 1500 | 1800 | 22 | 13.8 | FA 04 | 5.0 | 1800 | 8000 | 22 | 13.7 |
| 0.13 | | 8 | 1.80 | 41 | 0.64 | 0.72 | 2.3 | 1.6 | 1.7 | | | | | 5600 | 8000 | | | | | | | | |
| 0.75 | BN 80B | 2 | 2.6 | 68 | 0.88 | 1.81 | 4.6 | 2.1 | 2.0 | 25 | 11.3 | FD 04 | 10 | 1700 | 1900 | 27 | 15.2 | FA 04 | 10 | 1900 | 7300 | 27 | 15.1 |
| 0.18 | | 8 | 2.5 | 43 | 0.66 | 0.92 | 2.3 | 1.6 | 1.7 | | | | | 4800 | 7300 | | | | | | | | |
| 1.10 | BN 90L | 2 | 3.7 | 63 | 0.84 | 3.00 | 4.5 | 2.1 | 1.9 | 28 | 14.0 | FD 05 | 13 | 1400 | 1600 | 32 | 20 | FA 05 | 13 | 1600 | 5100 | 32 | 21 |
| 0.28 | | 8 | 3.9 | 48 | 0.63 | 1.34 | 2.4 | 1.8 | 1.9 | | | | | 3400 | 5100 | | | | | | | | |
| 1.5 | BN 100LA | 2 | 5.0 | 69 | 0.85 | 3.69 | 4.7 | 1.9 | 1.8 | 40 | 18.3 | FD 15 | 13 | 1000 | 1200 | 44 | 25 | FA 15 | 13 | 1200 | 5000 | 44 | 25 |
| 0.37 | | 8 | 5.1 | 46 | 0.63 | 1.84 | 2.1 | 1.6 | 1.6 | | | | | 3300 | 5000 | | | | | | | | |
| 2.4 | BN 100LB | 2 | 7.9 | 75 | 0.82 | 5.6 | 5.4 | 2.1 | 2.0 | 61 | 25 | FD 15 | 26 | 550 | 700 | 65 | 31 | FA 15 | 26 | 700 | 3500 | 65 | 32 |
| 0.55 | | 8 | 7.5 | 54 | 0.58 | 2.5 | 2.6 | 1.8 | 1.8 | | | | | 2000 | 3500 | | | | | | | | |
| 3 | BN 112M | 2 | 9.9 | 76 | 0.87 | 6.5 | 6.3 | 2.1 | 1.9 | 98 | 30 | FD 06S | 40 | — | 900 | 107 | 40 | FA 06S | 40 | 900 | 2900 | 107 | 42 |
| 0.75 | | 8 | 10.4 | 60 | 0.65 | 2.8 | 2.5 | 1.6 | 1.6 | | | | | — | 2900 | | | | | | | | |
| 4 | BN 132S | 2 | 13.3 | 73 | 0.84 | 9.4 | 5.6 | 2.3 | 2.4 | 213 | 44 | FD 56 | 37 | — | 500 | 223 | 57 | FA 06 | 37 | 500 | 3500 | 223 | 58 |
| 1 | | 8 | 13.8 | 66 | 0.62 | 3.5 | 2.9 | 1.9 | 1.8 | | | | | — | 3500 | | | | | | | | |
| 5.5 | BN 132M | 2 | 18.3 | 75 | 0.84 | 12.6 | 6.1 | 2.4 | 2.5 | 270 | 53 | FD 06 | 50 | — | 400 | 280 | 66 | FA 06 | 50 | 400 | 2400 | 280 | 67 |
| 1.5 | | 8 | 21 | 68 | 0.63 | 5.1 | 2.9 | 1.9 | 1.9 | | | | | — | 2400 | | | | | | | | |

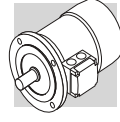


2/12P

3000/500 min-1 - S3 60/40%

50 Hz

| P _n kW | | d.c. brake | | | | | | | | | | | | | | a.c. brake | | | | | | | | | | | | | | | | | | | | |
|----------------------|------|------------|--|----------|----------|------|------|-----------------|----------|-------|--|------|----------|-----------------------|-----|------------|-------|--|-----|----------|-----------------------|-------|--|-------|------|-----|-----|------|-------|-----|------|-----|------|-------|-----|------|
| | | FD | | | | | | | | | | | | | | FA | | | | | | | | | | | | | | | | | | | | |
| | | IM B5 | J _m x 10 ⁻⁴ kgm ² | Ma Mn | Ms Mn | η | cosφ | In 400V A | Is In | IM B5 | J _m x 10 ⁻⁴ kgm ² | Mod | Mb Nm | Z ₀ 1/h | NB | SB | IM B5 | J _m x 10 ⁻⁴ kgm ² | Mod | Mb Nm | Z ₀ 1/h | IM B5 | J _m x 10 ⁻⁴ kgm ² | | | | | | | | | | | | | |
| 0.55 | 0.09 | 2 | 2820 | 1.86 | 64 | 0.89 | 1.39 | 4.2 | 1.6 | 1.7 | 1.7 | 11.3 | 25 | 1.7 | 1.8 | 1.8 | 1.9 | 1.8 | 5.0 | 1000 | 1300 | 1300 | 12000 | 12000 | 15.2 | 27 | 5.0 | 1300 | 12000 | 27 | 15.1 | 5.0 | 1300 | 12000 | 27 | 15.1 |
| 0.75 | 0.12 | 2 | 2790 | 2.6 | 56 | 0.89 | 2.17 | 4.2 | 1.8 | 1.7 | 1.6 | 12.6 | 26 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 13 | 1000 | 1150 | 6300 | 6300 | 6300 | 18.6 | 30 | 13 | 1150 | 6300 | 30 | 19.3 | 13 | 1150 | 6300 | 30 | 19.3 |
| 1.10 | 0.18 | 2 | 2850 | 3.7 | 65 | 0.85 | 2.87 | 4.5 | 1.6 | 1.8 | 1.5 | 18.3 | 40 | 1.8 | 1.5 | 1.3 | 1.5 | 1.5 | 13 | 700 | 900 | 6000 | 6000 | 6000 | 25 | 44 | 13 | 900 | 6000 | 44 | 25 | 13 | 900 | 6000 | 44 | 25 |
| 1.5 | 0.25 | 2 | 2900 | 4.9 | 67 | 0.86 | 3.76 | 5.6 | 1.9 | 1.9 | 1.8 | 22 | 54 | 1.9 | 1.9 | 1.7 | 1.8 | 1.8 | 13 | 700 | 900 | 5000 | 5000 | 5000 | 28 | 58 | 13 | 900 | 5000 | 58 | 29 | 13 | 900 | 5000 | 58 | 29 |
| 2 | 0.3 | 2 | 2900 | 6.6 | 74 | 0.88 | 4.43 | 6.5 | 2.1 | 2.0 | 2.0 | 30 | 98 | 2.0 | 2.0 | 2.1 | 2.0 | 2.0 | 20 | — | 800 | 3400 | 3400 | 3400 | 40 | 107 | 20 | 800 | 3400 | 107 | 40 | 20 | 800 | 3400 | 107 | 42 |
| 3 | 0.5 | 2 | 2920 | 9.8 | 74 | 0.87 | 6.7 | 6.8 | 2.3 | 1.9 | 1.6 | 44 | 213 | 1.9 | 1.6 | 1.7 | 1.6 | 1.6 | 37 | — | 450 | 223 | 223 | 223 | 57 | 223 | 37 | 450 | 223 | 223 | 57 | 37 | 450 | 223 | 223 | 58 |
| 4 | 0.7 | 2 | 2920 | 13.1 | 75 | 0.89 | 8.6 | 5.9 | 2.4 | 2.3 | 1.6 | 53 | 270 | 2.3 | 2.4 | 1.7 | 1.6 | 1.6 | 37 | — | 400 | 280 | 280 | 280 | 66 | 280 | 37 | 400 | 280 | 280 | 66 | 37 | 400 | 280 | 280 | 67 |



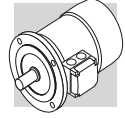
4/6P

1500/1000 min⁻¹ - S1

50 Hz

| P _n kW | | n min ⁻¹ | M _n Nm | η % | cosφ | I _n 400V A | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IMB5 | d.c. brake | | | | | | a.c. brake | | | | | |
|----------------------|----------|------------------------|----------------------|--------|------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|--|----------|------------|----------|-----------------------|------|------|--|------------|-----|----------|-----------------------|--|----------|
| | | | | | | | | | | | | FD | | | FA | | | FD | | | FA | | |
| | | | | | | | | | | | | Mod | Mb Nm | Z ₀ 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IMB5 | Mod | Mb Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IMB5 |
| 0.22 | BN 71B | 4 | 1.5 | 64 | 0.74 | 0.67 | 3.9 | 1.8 | 1.9 | 9.1 | 7.3 | FD 03 | 3.5 | 2500 | 3500 | 10.2 | 10.0 | FA 03 | 3.5 | 3500 | 10.2 | 10.2 | 9.7 |
| 0.13 | | 6 | 1.4 | 43 | 0.67 | 0.65 | 2.3 | 1.6 | 1.7 | | | | 5000 | 9000 | | | | | | 9000 | | | |
| 0.30 | BN 80A | 4 | 2.0 | 61 | 0.82 | 0.87 | 3.5 | 1.3 | 1.5 | 15 | 8.2 | FD 04 | 5.0 | 2500 | 3100 | 16.6 | 12.1 | FA 04 | 5.0 | 3100 | 16.6 | 16.6 | 12.0 |
| 0.20 | | 6 | 2.1 | 54 | 0.66 | 0.81 | 3.2 | 1.9 | 2.0 | | | | 4000 | 6000 | | | | | | 6000 | | | |
| 0.40 | BN 80B | 4 | 2.7 | 63 | 0.75 | 1.22 | 3.9 | 1.8 | 1.8 | 20 | 9.9 | FD 04 | 10 | 1800 | 2300 | 22 | 13.8 | FA 04 | 10 | 2300 | 22 | 22 | 13.7 |
| 0.26 | | 6 | 2.7 | 55 | 0.70 | 0.97 | 2.7 | 1.5 | 1.6 | | | | 3600 | 5500 | | | | | | 5500 | | | |
| 0.55 | BN 90S | 4 | 3.7 | 70 | 0.78 | 1.45 | 4.5 | 2.0 | 1.9 | 21 | 12.2 | FD 14 | 10 | 1500 | 2100 | 23 | 16.1 | FA 14 | 10 | 2100 | 23 | 23 | 16.3 |
| 0.33 | | 6 | 3.4 | 62 | 0.70 | 1.10 | 3.7 | 2.3 | 2.0 | | | | 2500 | 4100 | | | | | | 4100 | | | |
| 0.75 | BN 90L | 4 | 5.0 | 74 | 0.78 | 1.88 | 4.3 | 1.9 | 1.8 | 28 | 14 | FD 05 | 13 | 1400 | 2000 | 32 | 20 | FA 05 | 13 | 2000 | 32 | 32 | 21 |
| 0.45 | | 6 | 4.7 | 66 | 0.71 | 1.39 | 3.3 | 2.0 | 1.9 | | | | 2300 | 3600 | | | | | | 3600 | | | |
| 1.1 | BN 100LA | 4 | 7.2 | 74 | 0.79 | 2.72 | 5.0 | 1.7 | 1.9 | 82 | 22 | FD 15 | 26 | 1400 | 2000 | 86 | 28 | FA 15 | 26 | 2000 | 86 | 86 | 29 |
| 0.8 | | 6 | 8.0 | 65 | 0.69 | 2.57 | 4.1 | 1.9 | 2.1 | | | | 2100 | 3300 | | | | | | 3300 | | | |
| 1.5 | BN 100LB | 4 | 9.9 | 75 | 0.79 | 3.65 | 5.1 | 1.7 | 1.9 | 95 | 25 | FD 15 | 26 | 1300 | 1800 | 99 | 31 | FA 15 | 26 | 1800 | 99 | 99 | 32 |
| 1.1 | | 6 | 11.1 | 72 | 0.68 | 3.24 | 4.3 | 2.0 | 2.1 | | | | 2000 | 3000 | | | | | | 3000 | | | |
| 2.3 | BN 112M | 4 | 15.2 | 75 | 0.78 | 5.7 | 5.2 | 1.8 | 1.9 | 168 | 32 | FD 06S | 40 | — | 1600 | 177 | 42 | FA 06S | 40 | 1600 | 177 | 177 | 44 |
| 1.5 | | 6 | 14.9 | 73 | 0.72 | 4.1 | 4.9 | 2.0 | 2.0 | | | | — | 2400 | | | | | | 2400 | | | |
| 3.1 | BN 132S | 4 | 20 | 83 | 0.83 | 6.5 | 5.9 | 2.1 | 2.0 | 213 | 44 | FD 06 | 37 | — | 1200 | 223 | 57 | FA 06 | 37 | 1200 | 223 | 223 | 58 |
| 2 | | 6 | 20 | 77 | 0.75 | 4.9 | 4.5 | 2.1 | 2.1 | | | | — | 1900 | | | | | | 1900 | | | |
| 4.2 | BN 132MA | 4 | 27 | 84 | 0.82 | 8.8 | 5.9 | 2.1 | 2.2 | 270 | 53 | FD 06 | 50 | — | 900 | 280 | 66 | FA 06 | 50 | 900 | 280 | 280 | 67 |
| 2.6 | | 6 | 26 | 79 | 0.72 | 6.6 | 4.3 | 2.0 | 2.0 | | | | — | 1500 | | | | | | 1500 | | | |

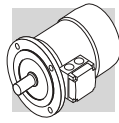
BN-M



| 2P | | 3000 min ⁻¹ - S1 | | | | | | | | | | | | | | 50 Hz | | | | | | | | | | | | | | | | | |
|----------------------|-------|--|----------|----------|----------|-----------------|------|------------------|-----------------|-----------------|-----|----------------------|------------------------|----------------------|-------|------------|--|-----------------------|-----|-----|-------|--|-----------------------|----------|------|-------|--|-----------------------|----------|------|-------|-------|-------|
| | | d.c. brake | | | | | | | | | | | | | | a.c. brake | | | | | | | | | | | | | | | | | |
| | | FD | | | | | | | | | | | | | | FA | | | | | | | | | | | | | | | | | |
| P _n kW | IM B5 | J _m x 10 ⁻⁴ kgm ² | Ma Mn | Ms Mn | Is In | In 400V A | cosφ | η (100%) % | η (75%) % | η (50%) % | IE1 | M _n Nm | n min ⁻¹ | M _b Nm | Mod | IM B5 | J _m x 10 ⁻⁴ kgm ² | Z _o 1/h | NB | SB | IM B5 | J _m x 10 ⁻⁴ kgm ² | Z _o 1/h | Mb Nm | Mod | IM B5 | J _m x 10 ⁻⁴ kgm ² | Z _o 1/h | Mb Nm | Mod | IM B5 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | FD 02 | FD 02 |
| 0.18 | M 05A | 2 | 2.0 | 2.1 | 3.0 | 0.56 | 0.77 | 51.9 | 56.9 | 64.8 | ○ | 0.63 | 2730 | 1.75 | FD 02 | 3.2 | 2.0 | 2.0 | 2.1 | 3.0 | 0.56 | 3900 | 4800 | 2.6 | 1.75 | FA 02 | 4.9 | 2.6 | 4800 | 1.75 | FA 02 | 4.7 | |
| 0.25 | M 05B | 2 | 2.3 | 2.3 | 3.3 | 0.72 | 0.76 | 64.8 | 64.8 | 66.8 | ○ | 0.87 | 2740 | 1.75 | FD 02 | 3.6 | 2.3 | 2.3 | 2.3 | 3.3 | 0.72 | 3900 | 4800 | 3.0 | 1.75 | FA 02 | 5.3 | 3.0 | 4800 | 1.75 | FA 02 | 5.1 | |
| 0.37 | M 05C | 2 | 3.3 | 2.6 | 3.9 | 0.99 | 0.78 | 66.8 | 66.8 | 66.8 | ○ | 1.26 | 2800 | 3.5 | FD 02 | 4.8 | 3.3 | 2.6 | 2.6 | 3.9 | 0.99 | 3600 | 4500 | 3.9 | 3.5 | FA 02 | 6.5 | 3.9 | 4500 | 3.5 | FA 02 | 6.3 | |
| 0.55 | M 1SD | 2 | 4.1 | 2.9 | 5.0 | 1.37 | 0.76 | 74.8 | 75.8 | 74.8 | ○ | 1.86 | 2820 | 5 | FD 03 | 5.8 | 4.1 | 2.9 | 2.9 | 5.0 | 1.37 | 2900 | 4200 | 5.3 | 5 | FA 03 | 8.5 | 5.3 | 4200 | 5 | FA 03 | 8.2 | |
| 0.75 | M 1LA | 2 | 5.0 | 3.1 | 5.1 | 1.86 | 0.76 | 76.2 | 76.2 | 76.2 | ○ | 2.6 | 2810 | 5 | FD 03 | 6.9 | 5.0 | 3.1 | 3.1 | 5.1 | 1.86 | 1900 | 3300 | 6.1 | 5 | FA 03 | 9.6 | 6.1 | 3300 | 5 | FA 03 | 9.3 | |
| 1.1 | M 2SA | 2 | 9.0 | 2.8 | 4.8 | 2.57 | 0.81 | 75.0 | 76.2 | 75.0 | ● | 3.8 | 2800 | 10 | FD 04 | 8.8 | 9.0 | 2.8 | 2.8 | 4.8 | 2.57 | 1500 | 3000 | 10.6 | 10 | FA 04 | 11.9 | 10.6 | 3000 | 10 | FA 04 | 12.6 | |
| 1.5 | M 2SB | 2 | 11.4 | 2.7 | 4.9 | 3.4 | 0.81 | 77.2 | 79.5 | 77.2 | ● | 5.1 | 2800 | 15 | FD 04 | 10.6 | 11.4 | 2.7 | 2.7 | 4.9 | 3.4 | 1300 | 2600 | 13.0 | 15 | FA 04 | 13.0 | 13.0 | 2600 | 15 | FA 04 | 14.4 | |
| 2.2 | M 3SA | 2 | 24 | 2.9 | 6.3 | 4.8 | 0.80 | 81.0 | 82.1 | 81.0 | ● | 7.3 | 2880 | 26 | FD 15 | 15.5 | 24 | 2.9 | 2.9 | 6.3 | 4.8 | 1100 | 2400 | 28 | 26 | FA 15 | 22 | 28 | 2400 | 26 | FA 15 | 23 | |
| 3 | M 3LA | 2 | 31 | 2.6 | 5.6 | 6.7 | 0.79 | 77.4 | 81.3 | 77.4 | ● | 10.0 | 2860 | 26 | FD 15 | 18.7 | 31 | 2.6 | 2.6 | 5.6 | 6.7 | 700 | 1600 | 35 | 26 | FA 15 | 25 | 35 | 1600 | 26 | FA 15 | 26 | |
| 4 | M 3LB | 2 | 39 | 2.7 | 5.8 | 8.7 | 0.80 | 77.8 | 83.0 | 77.8 | ● | 13.3 | 2870 | 40 | FD 15 | 22 | 39 | 2.7 | 2.7 | 5.8 | 8.7 | 450 | 900 | 43 | 40 | FA 15 | 28 | 43 | 900 | 40 | FA 15 | 29 | |
| 5.5 | M 4SA | 2 | 101 | 2.6 | 5.9 | 11.2 | 0.84 | 81.2 | 84.5 | 81.2 | ● | 18.2 | 2890 | 50 | FD 06 | 33 | 101 | 2.6 | 2.6 | 5.9 | 11.2 | — | 600 | 112 | 112 | 50 | FA 06 | 46 | 112 | 600 | 50 | FA 06 | 47 |
| 7.5 | M 4SB | 2 | 145 | 2.6 | 6.4 | 14.7 | 0.85 | 84.4 | 86.3 | 84.4 | ● | 25 | 2900 | 50 | FD 06 | 40 | 145 | 2.6 | 2.6 | 6.4 | 14.7 | — | 550 | 154 | 154 | 50 | FA 06 | 53 | 154 | 550 | 50 | FA 06 | 54 |
| 9.2 | M 4LA | 2 | 178 | 2.8 | 6.7 | 17.7 | 0.86 | 83.6 | 86.5 | 83.6 | ● | 30 | 2930 | 75 | FD 56 | 51 | 178 | 2.8 | 2.8 | 6.7 | 17.7 | — | 430 | 189 | 189 | 75 | FA 06 | 64 | 189 | 430 | 75 | FA 06 | 65 |
| 11 | M 4LC | 2 | 210 | 2.9 | 6.9 | 20.6 | 0.88 | 86.0 | 87.0 | 86.0 | ● | 36 | 2920 | 75 | FD 56 | 60 | 210 | 2.9 | 2.9 | 6.9 | 20.6 | — | 430 | 189 | 189 | 75 | FA 06 | 64 | 189 | 430 | 75 | FA 06 | 65 |
| 15 | M 5SB | 2 | 340 | 2.6 | 7.1 | 28.1 | 0.86 | 88.0 | 89.4 | 88.0 | ● | 49 | 2930 | 75 | FD 56 | 70 | 340 | 2.6 | 2.6 | 7.1 | 28.1 | — | 430 | 189 | 189 | 75 | FA 06 | 64 | 189 | 430 | 75 | FA 06 | 65 |
| 18.5 | M 5SC | 2 | 420 | 2.7 | 7.6 | 34 | 0.86 | 89.0 | 90.1 | 89.0 | ● | 60 | 2930 | 75 | FD 56 | 83 | 420 | 2.7 | 2.7 | 7.6 | 34 | — | 430 | 189 | 189 | 75 | FA 06 | 64 | 189 | 430 | 75 | FA 06 | 65 |
| 22 | M 5LA | 2 | 490 | 2.6 | 7.8 | 40 | 0.88 | 89.5 | 89.7 | 89.5 | ● | 72 | 2930 | 75 | FD 56 | 95 | 490 | 2.6 | 2.6 | 7.8 | 40 | — | 430 | 189 | 189 | 75 | FA 06 | 64 | 189 | 430 | 75 | FA 06 | 65 |

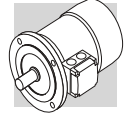
○ = n.a. ● = IE1

BN-M



| 4P | | 1500 min ⁻¹ - S1 | | | | | | | | | | | | | | | | | | 50 Hz | | | | | | | | |
|----------------|------|-----------------------------|----------------|------|----------|---------|---------|------|---------------------|----------------|-------------------------------|-------------------------------|-------------------------------|--|-------|-------|------|--------------------|-------|------------|--|-------|-------|------|--------------------|--|-------|---|
| | | d.c. brake | | | | | | | | | | | | | | | | | | a.c. brake | | | | | | | | |
| | | FD | | | | | | | | | IM B5 | | | | | | | | | FA | | | | | | | | |
| P _n | | n | M _n | IE1 | η (100%) | η (75%) | η (50%) | cosφ | I _n 400V | I _n | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | Mb | Z _o 1/h | NB | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | Mod | Mb | Z _o 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | |
| 0.09 | M0B | 4 | 1350 | 0.64 | ○ | 51.7 | 47.6 | 42.9 | 0.60 | 0.42 | 2.6 | 2.5 | 2.4 | 1.5 | 2.9 | FD 02 | 1.75 | 10000 | 10000 | 13000 | 2.6 | 4.9 | FA 02 | 1.75 | 13000 | 2.6 | 4.7 | |
| 0.12 | M05A | 4 | 1350 | 0.85 | ○ | 59.8 | 56.2 | 47.0 | 0.62 | 0.47 | 2.6 | 1.9 | 1.8 | 2.0 | 3.2 | FD 02 | 3.5 | 10000 | 13000 | 13000 | 3.0 | 5.3 | FA 02 | 3.5 | 13000 | 3.0 | 5.1 | |
| 0.18 | M05B | 4 | 1320 | 1.30 | ○ | 54.8 | 52.9 | 52.5 | 0.67 | 0.71 | 2.6 | 2.2 | 2.0 | 2.3 | 3.6 | FD 02 | 3.5 | 7800 | 10000 | 10000 | 3.9 | 6.5 | FA 02 | 3.5 | 10000 | 3.9 | 6.3 | |
| 0.25 | M05C | 4 | 1340 | 1.78 | ○ | 65.3 | 65.0 | 57.9 | 0.69 | 0.80 | 2.7 | 2.1 | 1.9 | 3.3 | 4.8 | FD 03 | 5 | 6000 | 9400 | 9400 | 8.0 | 8.2 | FA 03 | 5 | 9400 | 8.0 | 7.9 | |
| 0.37 | M1SD | 4 | 1370 | 2.6 | ○ | 66.8 | 66.7 | 63.0 | 0.76 | 1.05 | 3.7 | 2.0 | 1.9 | 6.9 | 5.5 | FD 53 | 7.5 | 4300 | 8700 | 8700 | 10.2 | 9.6 | FA 03 | 7.5 | 8700 | 10.2 | 9.3 | |
| 0.55 | M1LA | 4 | 1380 | 3.8 | ○ | 69.0 | 68.9 | 68.8 | 0.74 | 1.55 | 4.1 | 2.3 | 2.3 | 9.1 | 6.9 | FD 04 | 15 | 4100 | 7800 | 7800 | 22 | 13.1 | FA 04 | 15 | 7800 | 22 | 13.0 | |
| 0.75 | M2SA | 4 | 1400 | 5.1 | ● | 75.0 | 74.5 | 69.3 | 0.78 | 1.85 | 4.9 | 2.7 | 2.5 | 20 | 9.2 | FD 04 | 15 | 2600 | 5300 | 5300 | 27 | 14.5 | FA 04 | 15 | 5300 | 27 | 14.4 | |
| 1.1 | M2SB | 4 | 1400 | 7.5 | ● | 76.4 | 76.2 | 70.4 | 0.78 | 2.66 | 5.1 | 2.8 | 2.5 | 25 | 10.6 | FD 15 | 26 | 2800 | 4900 | 4900 | 38 | 22 | FA 15 | 26 | 4900 | 38 | 23 | |
| 1.5 | M3SA | 4 | 1410 | 10.2 | ● | 79.6 | 80.5 | 79.3 | 0.77 | 3.5 | 4.6 | 2.1 | 2.1 | 34 | 15.5 | FD 15 | 40 | 2600 | 4700 | 4700 | 44 | 24 | FA 15 | 40 | 4700 | 44 | 24 | |
| 2.2 | M3LA | 4 | 1410 | 14.9 | ● | 81.1 | 81.4 | 79.9 | 0.75 | 5.2 | 4.5 | 2.2 | 2.0 | 40 | 17 | FD 15 | 40 | 2400 | 4400 | 4400 | 58 | 27 | FA 15 | 40 | 4400 | 58 | 28 | |
| 3 | M3LB | 4 | 1410 | 20 | ● | 82.6 | 83.8 | 83.7 | 0.77 | 6.8 | 5.0 | 2.3 | 2.2 | 54 | 21 | FD 55 | 55 | — | 1300 | 1300 | 65 | 29 | FA 15 | 40 | 1300 | 65 | 30 | |
| 4 | M3LC | 4 | 1400 | 27 | ○ | 82.7 | 83.1 | 80.5 | 0.78 | 9.0 | 4.7 | 2.3 | 2.2 | 61 | 23 | FD 56 | 75 | — | 1050 | 1050 | 223 | 55 | FA 06 | 75 | 1050 | 223 | 56 | |
| 5.5 | M4SA | 4 | 1440 | 36 | ● | 84.7 | 84.8 | 82.5 | 0.81 | 11.6 | 5.5 | 2.3 | 2.2 | 213 | 42 | FD 06 | 100 | — | 950 | 950 | 280 | 64 | FA 07 | 100 | 950 | 280 | 65 | |
| 7.5 | M4LA | 4 | 1440 | 50 | ● | 86.0 | 86.3 | 85.3 | 0.81 | 15.5 | 5.7 | 2.5 | 2.4 | 270 | 51 | FD 07 | 150 | — | 900 | 900 | 342 | 73 | FA 07 | 150 | 900 | 342 | 75 | |
| 9.2 | M4LB | 4 | 1440 | 61 | ● | 88.4 | 88.6 | 87.5 | 0.81 | 18.8 | 5.9 | 2.7 | 2.5 | 319 | 57 | FD 07 | 150 | — | 850 | 850 | 382 | 81 | FA 07 | 150 | 850 | 382 | 83 | |
| 11 | M4LC | 4 | 1440 | 73 | ● | 87.6 | 87.8 | 86.0 | 0.81 | 22.4 | 6.0 | 2.7 | 2.5 | 360 | 65 | FD 08 | 200 | — | 750 | 750 | 725 | 115 | FA 08 | 200 | 750 | 725 | 114 | |
| 15 | M5SB | 4 | 1460 | 98 | ● | 88.7 | 88.5 | 88.4 | 0.81 | 30.1 | 6.0 | 2.3 | 2.1 | 650 | 85 | FD 08 | 250 | — | 700 | 700 | 865 | 131 | FA 08 | 250 | 700 | 865 | 130 | |
| 18.5 | M5LA | 4 | 1460 | 121 | ● | 89.3 | 89.5 | 89.2 | 0.81 | 37 | 6.2 | 2.6 | 2.5 | 790 | 101 | FD 08 | 250 | — | — | — | — | — | — | — | — | — | — | — |

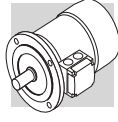
○ = n.a. ● = IE1



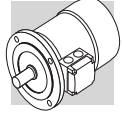
| 6P | | 1000 min ⁻¹ - S1 | | | | | | | | | | 50 Hz | | | | | | | | | | | | | | | | | | | |
|----------------------|-------|--|----------|----------|----------|-----------------|------|-----------------|-----------------|------------------|-----|----------------------|------------------------|----------------------|-------|------|-----------------------|------|--|-------|----------------------|-----|-----------------------|--|-------|-------|-------|-------|-------|-------|-------|
| | | d.c. brake | | | | | | | | | | | | | | | a.c. brake | | | | | | | | | | | | | | |
| | | FD | | | | | | | | | | | | | | | FA | | | | | | | | | | | | | | |
| P _n kW | IM B5 | J _m x 10 ⁻⁴ kgm ² | Ma Mn | Ms Mn | Is In | In 400V A | cosφ | η (50%) % | η (75%) % | η (100%) % | IE1 | M _n Nm | n min ⁻¹ | M _b Nm | Mod | NB | Z ₀ 1/h | SB | J _m x 10 ⁻⁴ kgm ² | IM B5 | M _b Nm | Mod | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | FD 02 | FD 02 | FD 03 | FD 03 | FD 53 | FD 04 |
| 0.09 | M 05A | 6 | 1.8 | 2.1 | 2.1 | 0.60 | 0.53 | 32.9 | 41.0 | 41.0 | ○ | 0.98 | 880 | 3.5 | FD 02 | 9000 | 14000 | 4.0 | 4.3 | 6.0 | IM B5 | 3.5 | FD 02 | 14000 | 4.0 | 6.0 | IM B5 | | | | |
| 0.12 | M 05B | 6 | 1.7 | 1.9 | 2.1 | 0.64 | 0.60 | 41.8 | 44.0 | 45.0 | ○ | 1.32 | 870 | 3.5 | FD 02 | 9000 | 14000 | 4.3 | 4.6 | 6.3 | IM B5 | 3.5 | FD 02 | 14000 | 4.3 | 6.3 | IM B5 | | | | |
| 0.18 | M 13C | 6 | 1.7 | 1.9 | 2.6 | 0.68 | 0.69 | 51.0 | 55.5 | 55.0 | ○ | 1.91 | 900 | 5 | FD 03 | 8100 | 13500 | 9.5 | 5.1 | 7.8 | IM B5 | 5 | FD 03 | 13500 | 9.5 | 7.8 | IM B5 | | | | |
| 0.25 | M 13D | 6 | 1.7 | 1.9 | 2.6 | 0.82 | 0.71 | 51.4 | 58.5 | 62.0 | ○ | 2.7 | 900 | 5 | FD 03 | 7800 | 13000 | 12 | 6.3 | 9.0 | IM B5 | 5 | FD 03 | 13000 | 12 | 9.0 | IM B5 | | | | |
| 0.37 | M 13A | 6 | 2.0 | 2.4 | 3.0 | 1.17 | 0.69 | 53.3 | 60.0 | 66.0 | ○ | 3.9 | 910 | 7.5 | FD 53 | 5100 | 9500 | 14 | 7.3 | 10.0 | IM B5 | 7.5 | FD 03 | 9500 | 14 | 10.0 | IM B5 | | | | |
| 0.55 | M 23A | 6 | 2.2 | 2.6 | 3.9 | 1.67 | 0.68 | 64.3 | 69.8 | 70.0 | ○ | 5.7 | 920 | 15 | FD 04 | 4800 | 7200 | 27 | 10.6 | 14.5 | IM B5 | 15 | FD 04 | 7200 | 27 | 14.5 | IM B5 | | | | |
| 0.75 | M 23B | 6 | 2.2 | 2.5 | 3.8 | 2.38 | 0.65 | 64.4 | 70.0 | 70.0 | ● | 7.8 | 920 | 15 | FD 04 | 3400 | 6400 | 30 | 11.5 | 15.4 | IM B5 | 15 | FD 04 | 6400 | 30 | 15.4 | IM B5 | | | | |
| 1.1 | M 33A | 6 | 1.8 | 2.0 | 4.3 | 2.9 | 0.72 | 72.0 | 74.0 | 75.0 | ● | 11.4 | 920 | 26 | FD 15 | 2700 | 5000 | 37 | 17 | 23 | IM B5 | 26 | FD 15 | 5000 | 37 | 23 | IM B5 | | | | |
| 1.5 | M 33A | 6 | 2.0 | 2.1 | 4.1 | 4.0 | 0.72 | 70.3 | 74.2 | 75.2 | ● | 15.2 | 940 | 40 | FD 15 | 1900 | 4100 | 86 | 21 | 27 | IM B5 | 40 | FD 15 | 4100 | 86 | 27 | IM B5 | | | | |
| 1.85 | M 33B | 6 | 2.0 | 2.1 | 4.6 | 4.8 | 0.73 | 62.6 | 72.8 | 76.6 | ● | 19.0 | 930 | 40 | FD 15 | 1700 | 3600 | 99 | 23 | 29 | IM B5 | 40 | FD 15 | 3600 | 99 | 29 | IM B5 | | | | |
| 2.2 | M 33C | 6 | 2.1 | 2.3 | 4.7 | 5.8 | 0.71 | 72.4 | 76.8 | 77.7 | ● | 23 | 930 | 55 | FD 55 | — | 1900 | 99 | 23 | 29 | IM B5 | 55 | FD 55 | 1900 | 99 | 29 | IM B5 | | | | |
| 3 | M 43A | 6 | 1.8 | 1.9 | 5.1 | 7.1 | 0.76 | 75.1 | 77.0 | 79.7 | ● | 30 | 940 | 75 | FD 56 | — | 1400 | 226 | 34 | 47 | IM B5 | 75 | FD 56 | 1400 | 226 | 47 | IM B5 | | | | |
| 4 | M 43A | 6 | 1.8 | 2.0 | 5.5 | 9.2 | 0.77 | 79.5 | 81.5 | 81.4 | ● | 40 | 950 | 100 | FD 06 | — | 1200 | 305 | 43 | 56 | IM B5 | 100 | FD 06 | 1200 | 305 | 56 | IM B5 | | | | |
| 5.5 | M 43B | 6 | 1.9 | 2.1 | 6.1 | 12.2 | 0.78 | 79.1 | 80.9 | 83.1 | ● | 56 | 945 | 150 | FD 07 | — | 1050 | 406 | 54 | 70 | IM B5 | 150 | FD 07 | 1050 | 406 | 70 | IM B5 | | | | |
| 7.5 | M 53A | 6 | 2.0 | 2.2 | 5.9 | 15.7 | 0.81 | 84.8 | 85.0 | 85.0 | ● | 75 | 955 | 170 | FD 08 | — | 900 | 815 | 69 | 98 | IM B5 | 170 | FD 08 | 900 | 800 | 98 | IM B5 | | | | |
| 11 | M 53B | 6 | 2.3 | 2.5 | 6.6 | 22.7 | 0.81 | 85.9 | 86.5 | 86.4 | ● | 109 | 960 | 200 | FD 08 | — | 800 | 1045 | 89 | 119 | IM B5 | 200 | FD 08 | 800 | 1030 | 118 | IM B5 | | | | |

○ = n.a. ● = IE1

BN-M

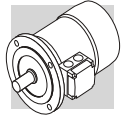


| 2/4P | | 3000/1500 min ⁻¹ - S1 | | | | | | | | | | | | | | 50 Hz | | | | | | | | |
|------|---|----------------------------------|------------------------|----------------------|--------|------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|--|-----------|-----------------|----------------------|------|------------|-----------|--|-----------------------|-----------------|----------------------|-----------------------|--|-----------|
| | | d.c. brake | | | | | | | | | | | | | | a.c. brake | | | | | | | | |
| | | P _n kW | n min ⁻¹ | M _n Nm | η % | cosφ | I _n 400V A | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | IM B5 | M _{od} | M _b Nm | FD | | IM B5 | J _m x 10 ⁻⁴ kgm ² | Z ₀ 1/h | M _{od} | M _b Nm | Z ₀ 1/h | J _m x 10 ⁻⁴ kgm ² | IM B5 |
| NB | | | | | | | | | | | | | | | SB | | | | | | | | | |
| 0.20 | 2 | 0.71 | 55 | 0.82 | 0.84 | 3.5 | 2.1 | 1.9 | 2.9 | 4.1 | FD 02 | 3.5 | 2200 | 2600 | 5.8 | 3.5 | 2600 | FA 02 | 3.5 | 2600 | 3.5 | 2600 | 5.6 | 5.6 |
| 0.15 | 4 | 1.06 | 49 | 0.67 | 0.86 | 2.6 | 1.8 | 1.7 | | | | | 4000 | 5100 | | | 5100 | | | | | | | |
| 0.28 | 2 | 0.99 | 56 | 0.82 | 0.88 | 2.9 | 1.9 | 1.7 | 4.7 | 4.0 | FD 03 | 3.5 | 2100 | 2400 | 6.7 | 5.8 | 2400 | FA 03 | 3.5 | 2400 | 5.8 | 2400 | 6.4 | 6.4 |
| 0.20 | 4 | 1.39 | 59 | 0.68 | 1.02 | 3.1 | 1.8 | 1.7 | | | | | 3800 | 4800 | | | 4800 | | | | | | | |
| 0.37 | 2 | 1.29 | 56 | 0.82 | 1.16 | 3.5 | 1.8 | 1.8 | 5.8 | 4.7 | FD 03 | 5 | 1400 | 2100 | 7.4 | 6.9 | 2100 | FA 03 | 5 | 2100 | 6.9 | 2100 | 7.1 | 7.1 |
| 0.25 | 4 | 1.72 | 60 | 0.73 | 0.82 | 3.3 | 2.0 | 1.9 | | | | | 2900 | 4200 | | | 4200 | | | | | | | |
| 0.45 | 2 | 1.55 | 63 | 0.85 | 1.21 | 3.8 | 1.8 | 1.8 | 6.9 | 5.5 | FD 03 | 5 | 1400 | 2100 | 8.2 | 8.0 | 2100 | FA 03 | 5 | 2100 | 8.0 | 2100 | 7.9 | 7.9 |
| 0.30 | 4 | 2.0 | 63 | 0.74 | 0.93 | 3.8 | 2.1 | 1.9 | | | | | 2900 | 4200 | | | 4200 | | | | | | | |
| 0.55 | 2 | 2.800 | 73 | 0.79 | 1.38 | 4.2 | 2.0 | 1.8 | 9.1 | 6.9 | FD 03 | 5 | 1600 | 2200 | 9.6 | 10.2 | 2200 | FA 03 | 5 | 2200 | 10.2 | 2200 | 9.3 | 9.3 |
| 0.37 | 4 | 2.5 | 68 | 0.72 | 1.09 | 3.9 | 2.2 | 2.0 | | | | | 3300 | 4600 | | | 4600 | | | | | | | |
| 0.75 | 2 | 2.780 | 65 | 0.85 | 1.96 | 3.8 | 1.9 | 1.8 | 20 | 9.2 | FD 04 | 10 | 1400 | 1600 | 13.1 | 22 | 1600 | FA 04 | 10 | 1600 | 22 | 1600 | 13.0 | 13.0 |
| 0.55 | 4 | 3.8 | 68 | 0.81 | 1.44 | 3.9 | 1.7 | 1.7 | | | | | 2700 | 3600 | | | 3600 | | | | | | | |
| 1.1 | 2 | 2.730 | 65 | 0.86 | 2.84 | 3.9 | 2.0 | 1.9 | 25 | 10.7 | FD 04 | 10 | 1200 | 1500 | 14.5 | 27 | 1500 | FA 04 | 10 | 1500 | 27 | 1500 | 14.5 | 14.5 |
| 0.75 | 4 | 5.1 | 75 | 0.81 | 1.78 | 4.5 | 2.1 | 2.0 | | | | | 2300 | 3100 | | | 3100 | | | | | | | |
| 1.5 | 2 | 2.830 | 74 | 0.83 | 3.5 | 4.7 | 2.1 | 2.0 | 34 | 15.5 | FD 15 | 26 | 700 | 1000 | 22 | 38 | 1000 | FA 15 | 26 | 1000 | 38 | 1000 | 23 | 23 |
| 1.1 | 4 | 7.4 | 77 | 0.78 | 2.6 | 4.3 | 2.1 | 2.0 | | | | | 1600 | 2600 | | | 2600 | | | | | | | |
| 2.2 | 2 | 2.800 | 72 | 0.85 | 5.2 | 4.5 | 2.0 | 1.9 | 40 | 17 | FD 15 | 26 | 600 | 900 | 24 | 44 | 900 | FA 15 | 26 | 900 | 44 | 900 | 24 | 24 |
| 1.5 | 4 | 10.2 | 73 | 0.79 | 3.8 | 4.7 | 2.0 | 2.0 | | | | | 1300 | 2300 | | | 2300 | | | | | | | |
| 3.5 | 2 | 2.850 | 80 | 0.84 | 7.5 | 5.4 | 2.2 | 2.1 | 61 | 23 | FD 15 | 40 | 500 | 900 | 29 | 65 | 900 | FA 15 | 40 | 900 | 65 | 900 | 30 | 30 |
| 2.5 | 4 | 16.8 | 82 | 0.80 | 5.5 | 5.2 | 2.2 | 2.2 | | | | | 1000 | 2100 | | | 2100 | | | | | | | |
| 4.8 | 2 | 2.900 | 81 | 0.88 | 9.7 | 6.0 | 2.0 | 1.9 | 213 | 42 | FD 06 | 50 | — | 400 | 55 | 233 | 400 | FA 06 | 50 | 400 | 233 | 400 | 56 | 56 |
| 3.8 | 4 | 25.4 | 81 | 0.84 | 8.1 | 5.2 | 2.1 | 2.1 | | | | | — | 950 | | | 950 | | | | | | | |
| 5.5 | 2 | 2.890 | 80 | 0.87 | 11.4 | 5.9 | 2.4 | 2.0 | 213 | 42 | FD 56 | 75 | — | 350 | 55 | 223 | 350 | FA 06 | 75 | 350 | 223 | 350 | 56 | 56 |
| 4.4 | 4 | 29 | 82 | 0.84 | 9.2 | 5.3 | 2.2 | 2.0 | | | | | — | 900 | | | 900 | | | | | | | |
| 7.5 | 2 | 2.900 | 82 | 0.87 | 15.2 | 6.5 | 2.4 | 2.0 | 270 | 51 | FD 06 | 100 | — | 350 | 64 | 280 | 350 | FA 07 | 100 | 350 | 280 | 350 | 65 | 65 |
| 6 | 4 | 40 | 84 | 0.85 | 12.1 | 5.8 | 2.3 | 2.1 | | | | | — | 950 | | | 950 | | | | | | | |
| 9.2 | 2 | 2.920 | 83 | 0.86 | 18.6 | 6.0 | 2.6 | 2.2 | 319 | 57 | FD 07 | 150 | — | 300 | 73 | 342 | 300 | FA 07 | 150 | 300 | 342 | 300 | 75 | 75 |
| 7.3 | 4 | 48 | 85 | 0.85 | 14.6 | 5.5 | 2.3 | 2.1 | | | | | — | 800 | | | 800 | | | | | | | |



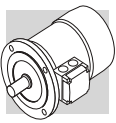
2/6P **3000/1000 min-1 - S3 60/40%** **50 Hz**

| P _n kW | n min ⁻¹ | M _n Nm | η | cosφ | I _n 400V A | I _s I _n | M _s M _n | M _a M _n | J _m x 10 ⁻⁴ kgm ² | d.c. brake | | | | | | a.c. brake | | | | | | | | | | |
|----------------------|------------------------|----------------------|----|------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|--|------------|------|-----------------------|-------|------|-----------------------|------------|------|-----------------------|-------|------|-----------------------|------|------|-------|-------|--|
| | | | | | | | | | | FD | | | FA | | | FD | | | FA | | | | | | | |
| | | | | | | | | | | IM B5 | Mb | Z _o 1/h | IM B5 | Mb | Z _o 1/h | IM B5 | Mb | Z _o 1/h | IM B5 | Mb | Z _o 1/h | | | | | |
| 0.25 | 2850 | 0.84 | 60 | 0.82 | 0.73 | 4.3 | 1.9 | 1.8 | 6.9 | 5.5 | 1.75 | 1500 | 1700 | 8.0 | 8.2 | 1700 | 1700 | 8.0 | 8.0 | 1700 | 1700 | 8.0 | 8.0 | 13000 | 13000 | |
| 0.08 | 910 | 0.84 | 43 | 0.70 | 0.38 | 2.1 | 1.4 | 1.5 | | | | 10000 | 13000 | | | | | | | | | | | | | |
| 0.37 | 2880 | 1.23 | 62 | 0.80 | 1.08 | 4.4 | 1.9 | 1.8 | 9.1 | 6.9 | 3.5 | 1000 | 1300 | 10.2 | 9.6 | 1300 | 1300 | 10.2 | 10.2 | 1300 | 1300 | 10.2 | 10.2 | 11000 | 11000 | |
| 0.12 | 900 | 1.27 | 44 | 0.73 | 0.54 | 2.4 | 1.4 | 1.5 | | | | 9000 | 11000 | | | | | | | | | | | | | |
| 0.55 | 2800 | 1.88 | 63 | 0.86 | 1.47 | 4.5 | 1.9 | 1.7 | 20 | 9.2 | 5 | 1500 | 1800 | 22 | 13.1 | 1800 | 1800 | 22 | 22 | 1800 | 1800 | 22 | 22 | 6300 | 6300 | |
| 0.18 | 930 | 1.85 | 52 | 0.65 | 0.77 | 3.3 | 2.0 | 1.9 | | | | 4100 | 6300 | | | | | | | | | | | | | |
| 0.75 | 2800 | 2.6 | 66 | 0.87 | 1.89 | 4.3 | 1.8 | 1.6 | 25 | 10.6 | 5 | 1700 | 1900 | 27 | 14.5 | 1900 | 1900 | 27 | 27 | 1900 | 1900 | 27 | 27 | 6000 | 6000 | |
| 0.25 | 930 | 2.6 | 54 | 0.67 | 1.00 | 3.2 | 1.7 | 1.8 | | | | 3800 | 6000 | | | | | | | | | | | | | |
| 1.1 | 2870 | 3.7 | 71 | 0.82 | 2.73 | 4.9 | 1.8 | 1.9 | 34 | 15.5 | 13 | 1000 | 1300 | 38 | 22 | 1300 | 1300 | 38 | 38 | 1300 | 1300 | 38 | 38 | 5000 | 5000 | |
| 0.37 | 930 | 3.8 | 63 | 0.70 | 1.21 | 3.1 | 1.5 | 1.8 | | | | 3500 | 5000 | | | | | | | | | | | | | |
| 1.5 | 2880 | 5.0 | 73 | 0.84 | 3.53 | 5.1 | 1.9 | 2.0 | 40 | 17 | 13 | 1000 | 1200 | 44 | 24 | 1200 | 1200 | 44 | 44 | 1200 | 1200 | 44 | 44 | 4000 | 4000 | |
| 0.55 | 940 | 5.6 | 64 | 0.67 | 1.85 | 3.5 | 1.7 | 1.8 | | | | 2900 | 4000 | | | | | | | | | | | | | |
| 2.2 | 2900 | 7.2 | 77 | 0.85 | 4.9 | 5.9 | 2.0 | 2.0 | 61 | 23 | 26 | 700 | 900 | 65 | 29 | 900 | 900 | 65 | 65 | 900 | 900 | 65 | 65 | 3000 | 3000 | |
| 0.75 | 950 | 7.5 | 67 | 0.64 | 2.5 | 3.3 | 1.9 | 1.8 | | | | 2100 | 3000 | | | | | | | | | | | | | |
| 3 | 2910 | 9.9 | 74 | 0.88 | 6.6 | 5.6 | 2.0 | 2.1 | 170 | 36 | 37 | — | 600 | 182 | 48 | 600 | 600 | 182 | 182 | 600 | 600 | 182 | 182 | 2200 | 2200 | |
| 1.1 | 960 | 10.9 | 73 | 0.68 | 3.2 | 4.5 | 2.2 | 2.0 | | | | — | 2200 | | | — | — | 2200 | | | — | — | | | | |
| 4.5 | 2910 | 14.8 | 78 | 0.84 | 9.9 | 5.8 | 1.9 | 1.8 | 213 | 42 | 37 | — | 500 | 223 | 55 | 500 | 500 | 223 | 223 | 500 | 500 | 223 | 223 | 2100 | 2100 | |
| 1.5 | 960 | 14.9 | 74 | 0.67 | 4.4 | 4.2 | 1.9 | 2.0 | | | | — | 2100 | | | — | — | 2100 | | | — | — | | | | |
| 5.5 | 2920 | 18.0 | 78 | 0.87 | 11.7 | 6.2 | 2.1 | 1.9 | 270 | 51 | 50 | — | 400 | 280 | 64 | 400 | 400 | 280 | 280 | 400 | 400 | 280 | 280 | 1900 | 1900 | |
| 2.2 | 960 | 22 | 77 | 0.71 | 5.8 | 4.3 | 2.1 | 2.0 | | | | — | 1900 | | | — | — | 1900 | | | — | — | | | | |



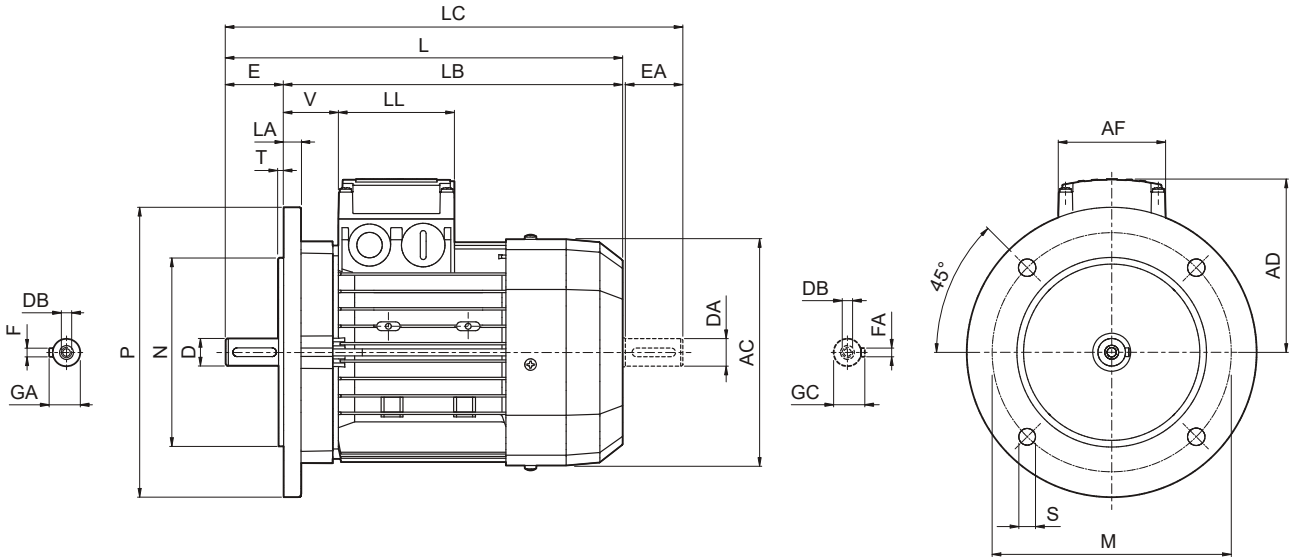
2/12P **3000/500 min⁻¹ - S3 60/40%** **50 Hz**

| | | d.c. brake | | | | | | | | | | | a.c. brake | | | | | | | | | | |
|-------|--------------|------------|------------|-------|-------------------|-------------------|-------------------|--------------------|-------|--------------|----|------|----------------|-----|------------------|----------------|--------------|-----|------|----------------|------------------|----------------|-------|
| | | FD | | | | | | IM B5 | | | | | FA | | | | | | | | | | |
| P_n | | η | $\cos\phi$ | I_n | $\frac{I_s}{I_n}$ | $\frac{M_s}{M_n}$ | $\frac{M_a}{M_n}$ | J_m | IM B5 | Mod | Mb | NB | Z _o | 1/h | SB | J _m | IM B5 | Mod | Mb | Z _o | 1/h | J _m | IM B5 |
| kW | | % | | 400V | A | | | x 10 ⁻⁴ | | | Nm | | 1/h | | kgm ² | | | Nm | 1/h | | kgm ² | | |
| 0.55 | M 2SA | 64 | 0.89 | 1.39 | 4.2 | 1.6 | 1.7 | 25 | 10.6 | FD 04 | 5 | 1000 | 1300 | | 27 | 14.5 | FA 04 | 5 | 1300 | | 27 | 14.4 | |
| 0.09 | 12 | 30 | 0.63 | 0.69 | 1.8 | 1.9 | 1.8 | | 8000 | | | 8000 | 12000 | | | 12000 | | | | | | | |
| 0.75 | M 3SA | 65 | 0.81 | 2.06 | 5.2 | 1.9 | 2.1 | 34 | 15.5 | FD 15 | 13 | 700 | 900 | | 38 | 22 | FA 15 | 13 | 900 | | 38 | 23 | |
| 0.12 | 12 | 33 | 0.43 | 1.22 | 1.9 | 1.3 | 1.6 | | 5000 | | | 5000 | 7000 | | | 7000 | | | | | | | |
| 1.1 | M 3LA | 65 | 0.85 | 2.87 | 4.5 | 1.6 | 1.8 | 40 | 17 | FD 15 | 13 | 700 | 900 | | 44 | 24 | FA 15 | 13 | 900 | | 44 | 24 | |
| 0.18 | 12 | 26 | 0.54 | 1.85 | 1.5 | 1.3 | 1.5 | | 4000 | | | 4000 | 6000 | | | 6000 | | | | | | | |
| 1.5 | M 3LB | 67 | 0.86 | 3.76 | 5.6 | 1.9 | 1.9 | 54 | 21 | FD 15 | 13 | 700 | 900 | | 58 | 27 | FA 15 | 13 | 900 | | 58 | 28 | |
| 0.25 | 12 | 36 | 0.46 | 2.18 | 1.8 | 1.7 | 1.8 | | 3800 | | | 3800 | 5000 | | | 5000 | | | | | | | |
| 2 | M 3LC | 70 | 0.84 | 4.9 | 4.9 | 1.8 | 1.7 | 61 | 23 | FD 55 | 18 | — | 700 | | 65 | 29 | FA 15 | 18 | 700 | | 65 | 30 | |
| 0.3 | 12 | 38 | 0.47 | 2.4 | 1.7 | 1.6 | 1.7 | | — | | | — | 3500 | | | 3500 | | | | | | | |
| 3 | M 4SA | 74 | 0.87 | 6.7 | 6.8 | 2.3 | 1.9 | 213 | 42 | FD 56 | 37 | — | 450 | | 223 | 55 | FA 06 | 37 | 450 | | 223 | 56 | |
| 0.5 | 12 | 51 | 0.43 | 3.3 | 2.0 | 1.7 | 1.6 | | — | | | — | 3000 | | | 3000 | | | | | | | |
| 4 | M 4LA | 75 | 0.89 | 8.6 | 5.9 | 2.4 | 2.3 | 270 | 51 | FD 56 | 37 | — | 400 | | 280 | 64 | FA 06 | 37 | 400 | | 280 | 65 | |
| 0.7 | 12 | 53 | 0.44 | 4.3 | 1.9 | 1.7 | 1.6 | | — | | | — | 2800 | | | 2800 | | | | | | | |



M21 MOTORS DIMENSIONS BN-M

BN - IM B5

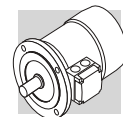


BN-M

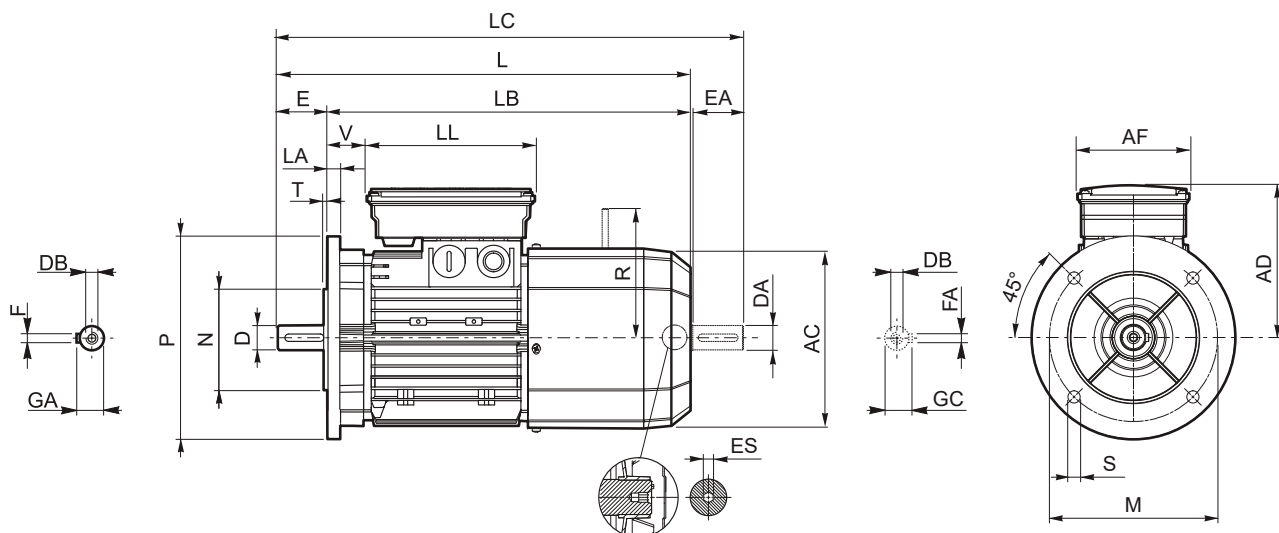
| | Shaft | | | | | Flange | | | | | | Motor | | | | | | | |
|------------------|-------------------------|---------------------------|---------------------------|---------------------------|-------------------------|--------|-----|-----|------|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V |
| BN 56 | 9 | 20 | M3 | 10.2 | 3 | 100 | 80 | 120 | 7 | 3 | 8 | 110 | 185 | 165 | 207 | 91 | 74 | 80 | 34 |
| BN 63 | 11 | 23 | M4 | 12.5 | 4 | 115 | 95 | 140 | 9.5 | | 10 | 121 | 207 | 184 | 232 | 95 | | | 26 |
| BN 71 | 14 | 30 | M5 | 16 | 5 | 130 | 110 | 160 | 11.5 | | 10 | 138 | 249 | 219 | 281 | 108 | | | 37 |
| BN 80 | 19 | 40 | M6 | 21.5 | 6 | 165 | 130 | 200 | 11.5 | 3.5 | 11.5 | 156 | 274 | 234 | 315 | 119 | 98 | 98 | 38 |
| BN 90 | 24 | 50 | M8 | 27 | 8 | | | | | | 176 | 326 | 276 | 378 | 133 | 44 | | | |
| BN 100 | 28 | 60 | M10 | 31 | 8 | 215 | 180 | 250 | 14 | 4 | 14 | 195 | 367 | 307 | 429 | 142 | 98 | 98 | 50 |
| BN 112 | | | | | | | | | | | 15 | 219 | 385 | 325 | 448 | 157 | | | 52 |
| BN 132 | 38 | 80 | M12 | 41 | 10 | 265 | 230 | 300 | 18.5 | 5 | 20 | 258 | 493 | 413 | 576 | 193 | 118 | 118 | 58 |
| BN 160 MR | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | 300 | 250 | 350 | | | 15 | | 310 | 596 | 486 | | | | 680 |
| BN 160 M | | | | | | | | | 15 | 310 | 596 | 486 | 680 | 51 | | | | | |
| BN 160 L | 48 38 ⁽¹⁾ | 110 110 ⁽¹⁾ | M16 M16 ⁽¹⁾ | 51.5 41 ⁽¹⁾ | 14 10 ⁽¹⁾ | 300 | 250 | 350 | 18.5 | 5 | 15 | 310 | 640 | 530 | 724 | 187 | 187 | 51 | |
| BN 180 M | | | | | | | | | | | 15 | 310 | 640 | 530 | 724 | | | 52 | |
| BN 180 L | 48 42 ⁽¹⁾ | 110 110 ⁽¹⁾ | M16 M16 ⁽¹⁾ | 51.5 45 ⁽¹⁾ | 14 12 ⁽¹⁾ | 350 | 300 | 400 | 18.5 | 5 | 18 | 348 | 708 | 598 | 823 | 261 | 261 | 52 | |
| BN 200 L | 55 42 ⁽¹⁾ | 110 110 ⁽¹⁾ | M20 M16 ⁽¹⁾ | 59 45 ⁽¹⁾ | 16 12 ⁽¹⁾ | | | | | | 350 | 300 | 400 | 18 | 348 | | | 722 | 612 |

NOTE:

1) These values refer to the rear shaft end.



BN_FD ; IM B5



BN-M

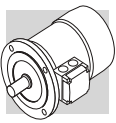
| | Shaft | | | | | Flange | | | | | Motor | | | | | | | | | | |
|------------------|-------------------|-------------------|--------------------|-------------------|-------------------|--------|-----|-----|-------------------|-------------------|-------|------|-------------------|-------------------|------|-----|-----|-----|-----|--------------------|-----|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | R | ES |
| BN 63 | 11 | 23 | M4 | 12.5 | 4 | 115 | 95 | 140 | 9.5 | 3 | 10 | 121 | 272 | 249 | 297 | 122 | 98 | 133 | 14 | 96 | 5 |
| BN 71 | 14 | 30 | M5 | 16 | 5 | 130 | 110 | 160 | 9.5 | 3.5 | | 138 | 310 | 280 | 342 | 135 | | | 25 | 103 | |
| BN 80 | 19 | 40 | M6 | 21.5 | 6 | 165 | 130 | 200 | 11.5 | | | 156 | 346 | 306 | 388 | 146 | | | 41 | 129 | |
| BN 90 S | 24 | 50 | M8 | 27 | 8 | | | | | 215 | 180 | 250 | 14 | 4 | 11.5 | 176 | 409 | 359 | 461 | 149 | 110 |
| BN 90 L | | | | | | 146 | 165 | 62 | | | | | | | | | | | | | |
| BN 100 | 28 | 60 | M10 | 31 | 8 | 215 | 180 | 250 | 14 | 4 | 14 | 195 | 458 | 398 | 521 | 158 | 110 | 165 | 73 | 199 | |
| BN 112 | | | | | | | | | | | | 15 | 219 | 484 | 424 | 547 | | | | | 173 |
| BN 132 | 38 | 80 | M12 | 41 | 10 | 265 | 230 | 300 | 18.5 | 5 | 20 | 258 | 603 | 523 | 686 | 210 | 140 | 188 | 46 | 204 ⁽²⁾ | |
| BN 160 MR | 42 | 110 | M16 | 45 | 12 | 300 | 250 | 350 | | | | 18.5 | 5 | 15 | 672 | | | | 562 | 755 | 245 |
| BN 160 M | 38 ⁽¹⁾ | | | | | | | | 41 ⁽¹⁾ | 10 ⁽¹⁾ | 310 | | | | 736 | 626 | 820 | 187 | 187 | 51 | 266 |
| BN 160 L | 42 | 80 ⁽¹⁾ | M12 ⁽¹⁾ | 51.5 | 14 | 300 | 250 | 350 | 18.5 | 5 | 15 | 310 | 780 | 670 | 864 | 245 | 187 | 187 | 52 | 305 | |
| BN 180 M | 48 | 38 ⁽¹⁾ | M16 | | | | | | | | | | 41 ⁽¹⁾ | 10 ⁽¹⁾ | 780 | | | | | | 670 |
| BN 180 L | 48 | 42 ⁽¹⁾ | M16 | 51.5 | 14 | 350 | 300 | 400 | 18.5 | 5 | 18 | 348 | 866 | 756 | 981 | 261 | 187 | 187 | 64 | 305 | |
| BN 200 L | 55 | 42 ⁽¹⁾ | M20 | 45 ⁽¹⁾ | 12 ⁽¹⁾ | | | | | | | | 866 | 756 | 981 | | | | | | 64 |

NOTE:

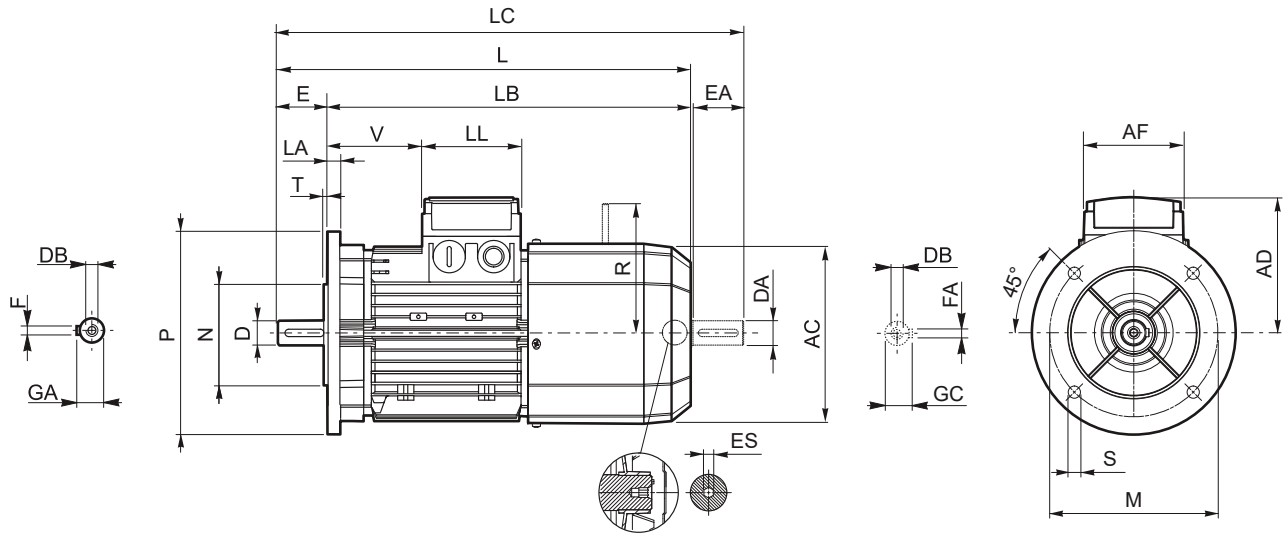
1) These values refer to the rear shaft end.

2) For FD07 brake value R=226.

ES hexagon is not supplied with PS option.



BN_FA - IM B5



BN-M

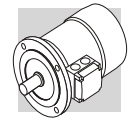
| | Shaft | | | | | Flange | | | | | | Motor | | | | | | | | | | | | |
|------------------|-------------------------|--------------------------|---------------------------|---------------------------|-------------------------|--------|-----|-----|------|-----|------|-------|-----|-----|-----|-----|-----|-----|-----|--------------------|-----|-----|-----|---|
| | D DA | E EA | DB | GA GC | F FA | M | N | P | S | T | LA | AC | L | LB | LC | AD | AF | LL | V | R | ES | | | |
| BN 63 | 11 | 23 | M4 | 12.5 | 4 | 115 | 95 | 140 | 9.5 | 3 | 10 | 121 | 272 | 249 | 297 | 95 | 74 | 80 | 26 | 116 | 5 | | | |
| BN 71 | 14 | 30 | M5 | 16 | 5 | 130 | 110 | 160 | | 138 | | 310 | 280 | 342 | 108 | 68 | | | 124 | | | | | |
| BN 80 | 19 | 40 | M6 | 21.5 | 6 | 165 | 130 | 200 | 11.5 | 3.5 | 11.5 | 156 | 346 | 306 | 388 | 119 | | | 83 | 134 | | | | |
| BN 90 | 24 | 50 | M8 | 27 | 8 | | | | | 176 | | 409 | 359 | 461 | 133 | 95 | 160 | | | | | | | |
| BN 100 | 28 | 60 | M10 | 31 | 8 | 215 | 180 | 250 | 14 | 4 | 14 | 195 | 458 | 398 | 521 | 142 | 98 | 98 | 119 | 198 | 6 | | | |
| BN 112 | | | | | | | | | | 15 | 219 | 484 | 424 | 547 | 157 | 128 | | | | | | | | |
| BN 132 | 38 | 80 | M12 | 41 | 10 | 265 | 230 | 300 | 18.5 | 5 | 15 | 20 | 603 | 523 | 686 | 210 | 140 | 188 | 46 | 200 ⁽²⁾ | | | | |
| BN 160 MR | 42 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 45 41 ⁽¹⁾ | 12 10 ⁽¹⁾ | 300 | 250 | 350 | | | | 18.5 | 5 | 15 | 258 | 672 | 562 | 755 | 193 | 118 | 118 | 218 | 217 | |
| BN 160 M | | | | | | | | | | | | | | | 310 | 736 | 626 | 820 | 245 | 187 | 187 | 51 | 247 | — |
| BN 160 L | | | | | | | | | | | | | | | 310 | 736 | 626 | 820 | 245 | 187 | 187 | 51 | 247 | — |
| BN 180 M | 48 38 ⁽¹⁾ | 110 80 ⁽¹⁾ | M16 M12 ⁽¹⁾ | 51.5 41 ⁽¹⁾ | 14 10 ⁽¹⁾ | 300 | 250 | 350 | 18.5 | 5 | 15 | 310 | 780 | 670 | 864 | 245 | 187 | 187 | 51 | 247 | — | | | |

NOTE:

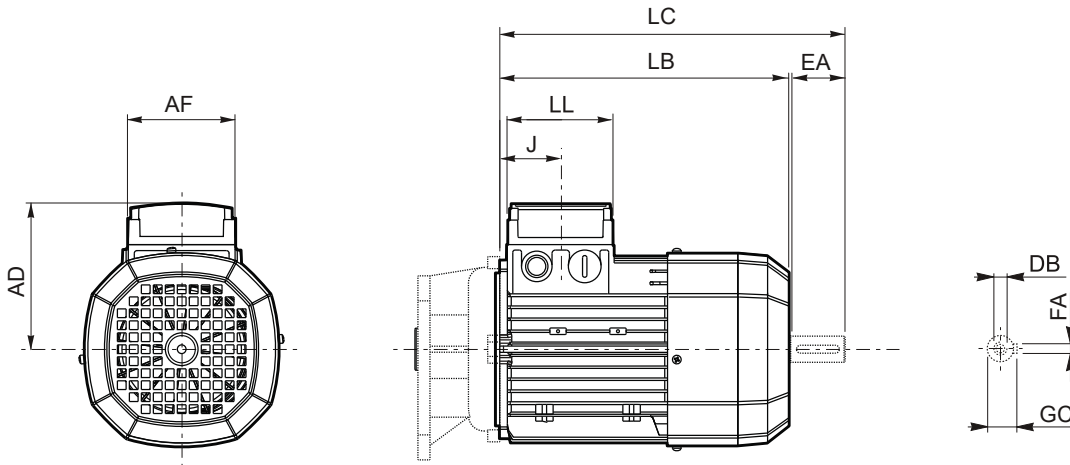
- 1) These values refer to the rear shaft end.
- 2) For FA07 brake value R=217.

Dimensions AD, AF, LL and V, relevant to terminal box of motors BN...FA featuring the separate brake supply (option SA), are coincident with corresponding dimensions of same-size BN...FD motors

ES hexagon is not supplied with PS option.

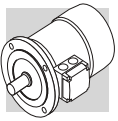


M

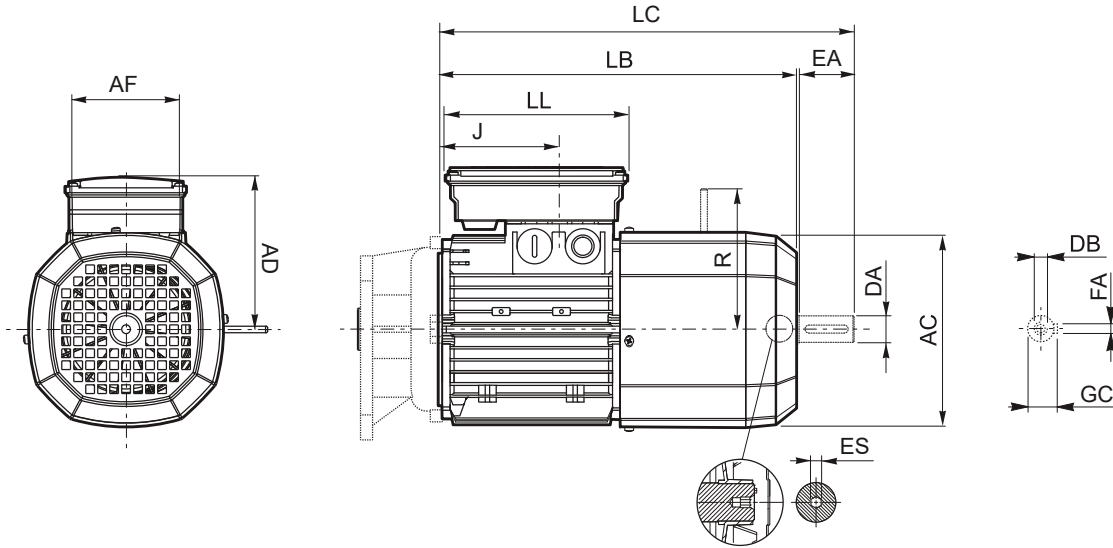


BN-M

| | Rear shaft end | | | | | Motor | | | | | | |
|---------------|----------------|----|-----|----|------|-------|-----|-----|-----|-----|------|-----|
| | DA | EA | DB | FA | GC | AC | LB | LC | AF | LL | J | AD |
| M 0 | 9 | 20 | M3 | 3 | 10.2 | 110 | 133 | 155 | 74 | 80 | 42 | 91 |
| M 05 | 11 | 23 | M4 | 4 | 12.5 | 121 | 165 | 191 | | | 48 | 95 |
| M 1 | 14 | 30 | M5 | 5 | 16 | 138 | 187 | 219 | | | 45 | 108 |
| M 2 S | 19 | 40 | M6 | 6 | 21.5 | 156 | 202 | 245 | | | 44 | 119 |
| M 3 S | 28 | 60 | M10 | 8 | 31 | 195 | 230 | 293 | 98 | 98 | 53.5 | 142 |
| M 3 L | | | | | | | 262 | 325 | | | | |
| M 4 | 38 | 80 | M12 | 10 | 41 | 258 | 361 | 444 | 118 | 118 | 64.5 | 193 |
| M 4 LC | | | | | | | 396 | 479 | | | | |
| M 5 S | | | | | | 310 | 418 | 502 | 187 | 187 | 77 | 245 |
| M 5 L | | | | | | | 462 | 546 | | | | |



M_FD



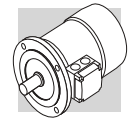
BN-M

| | Rear shaft end | | | | | Motor | | | | | | | | |
|---------------|----------------|-----|-----|----|------|-------|-----|-----|-----|-----|-------|-----|---------|----|
| | DA | EA | DB | FA | GC | AC | LB | LC | AF | LL | J | AD | R | ES |
| M 05 | 11 | 23 | M4 | 4 | 12.5 | 121 | 231 | 256 | 98 | 133 | 48 | 122 | 96 | 5 |
| M 1 | 14 | 30 | M5 | 5 | 16 | 138 | 248 | 280 | | | 73 | 135 | 103 | |
| M 2 S | 19 | 40 | M6 | 6 | 21.5 | 156 | 272 | 314 | | | 88 | 146 | 129 | |
| M 3 S | 28 | 60 | M10 | 8 | 31 | 195 | 326 | 389 | 110 | 165 | 124.5 | 158 | 160 | 6 |
| M 3 L | | | | | | | 353 | 416 | | | | | | |
| M 4 | 38 | 80 | M12 | 10 | 41 | 258 | 470 | 553 | 140 | 188 | 185.5 | 210 | 204 (1) | |
| M 4 LC | | | | | | | 495 | 578 | | | 64.5 | | 226 | |
| M 5 S | | | | | | 310 | 558 | 642 | 187 | 187 | 77 | 245 | 266 | |
| M 5 L | 602 | 686 | | | | | | | | | | | | |

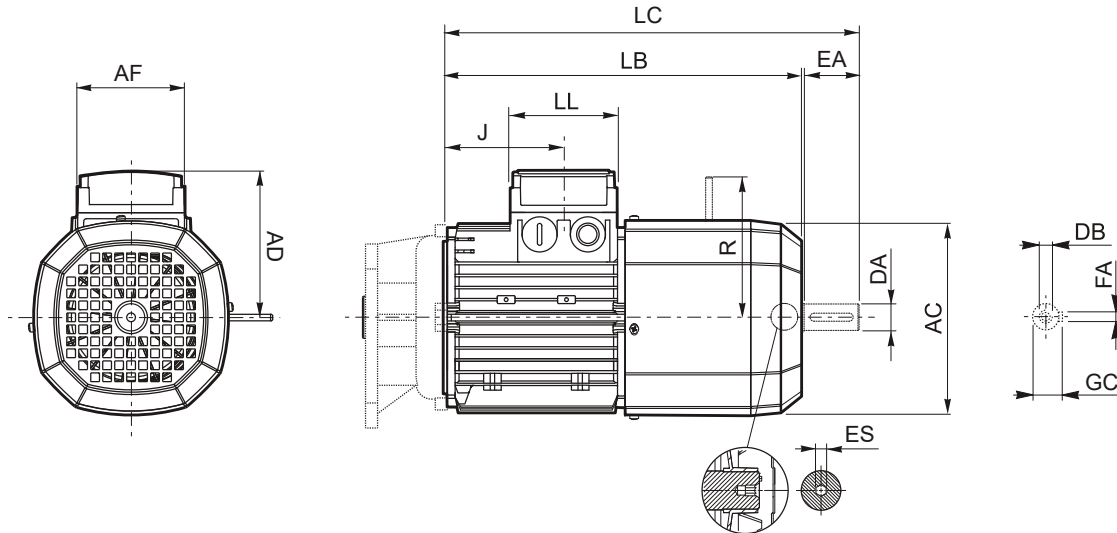
NOTE:

1) For FD07 brake value R=226.

ES hexagon is not supplied with PS option.



M_FA



BN-M

| | Rear shaft end | | | | | Motor | | | | | | | | | |
|---------------|----------------|----|-----|----|------|-------|-----|-----|-----|-----|-------|-----|---------|----|---|
| | DA | EA | DB | FA | GC | AC | LB | LC | AF | LL | J | AD | R | ES | |
| M 05 | 11 | 23 | M4 | 4 | 12.5 | 121 | 231 | 256 | 74 | 80 | 48 | 95 | 116 | 5 | |
| M 1 | 14 | 30 | M5 | 5 | 16 | 138 | 248 | 280 | | | 73 | 108 | 124 | | |
| M 2 S | 19 | 40 | M6 | 6 | 21.5 | 156 | 272 | 314 | | | 88 | 119 | 134 | | |
| M 3 S | 28 | 60 | M10 | 8 | 31 | 195 | 326 | 389 | 98 | 98 | 124.5 | 142 | 160 | 6 | |
| M 3 L | | | 353 | | | | 416 | | | | | | | | |
| M 4 | 38 | 80 | M14 | 10 | 41 | 258 | 470 | 553 | 140 | 188 | 185.5 | 210 | 200 (1) | | |
| M 4 LC | | | | | | | 495 | 578 | | | 64.5 | | 217 | | |
| M 5 S | | | M12 | | | 310 | 558 | 642 | 187 | 187 | 77 | 245 | 247 | | — |
| M 5 L | | | | | | | | | | | | | | | |

NOTE:


1) For FA07 brake value R=217.

Dimensions AD, AF, LL and V, relevant to terminal box of motors M...FA featuring the separate brake supply (option SA), are coincident with corresponding dimensions of same-size M...FD motors

ES hexagon is not supplied with PS option.



INDEX OF REVISIONS

| BR_CAT_CAFS_IE2-IE3_ENG_R13_0 | |
|---|--|
|  | Description |
| ... | Added availability of BXN and MXN electric motors. |
| 26, 190, 364, 509 | IHB and Long Term Stock Options added. |
| 560...679 | "Electric motors" section updated. |

2022 09 30



We have a relentless commitment to excellence, innovation & sustainability. Our team creates, distributes and services world-class power transmission & drive solutions to keep the world in motion.

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