evox PLATFORM INCLUDED

C-A-F-S SERIES

IE2-IE3

Helical gear units C
Helical bevel gear units A Ex INCLUDED
Shaft mounted gear units F
Single stage gearboxes S

Bonfiglioli

Revisions

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

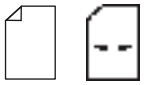
GENERAL INFORMATION

1 SYMBOLS AND UNITS OF MEASURE

Symbols	Units of Measure	Description
$A_{N\ 1,2}$	[N]	Permissible axial force
f_s	–	Service factor
f_T	–	Thermal factor
f_{TP}	–	Temperature factor
i	–	Gear ratio
I	–	Cyclic duration factor
J_C	[Kgm²]	Mass moment of inertia to be driven
J_M	[Kgm²]	Motor mass moment of inertia
J_R	[Kgm²]	Mass moment of inertia for the gear unit
K	–	Mass acceleration factor
K_r	–	Transmission element factor
$M_{1,2}$	[Nm]	Torque
$M_{c\ 1,2}$	[Nm]	Calculated torque
$M_{n\ 1,2}$	[Nm]	Rated torque
$M_{r\ 1,2}$	[Nm]	Torque demand
$n_{1,2}$	[min^{-1}]	Speed
$P_{1,2}$	[kW]	Power
$P_{N\ 1,2}$	[kW]	Rated power
$P_{R\ 1,2}$	[kW]	Power demand
$R_{C\ 1,2}$	[N]	Calculated radial force
$R_{N\ 1,2}$	[N]	Permissible overhung load
S	–	Safety factor
t_a	[°C]	Ambient temperature
t_s	[°C]	Surface temperature
t_o	[°C]	Oil temperature
t_f	[min]	Work time under constant load
t_r	[min]	Rest time
η_d	–	Dynamic efficiency
η_s	–	Static efficiency
φ	[']	Output shaft angular backlash (with locked input shaft)

$_1$ value applies to input shaft

$_2$ value applies to output shaft



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

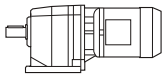
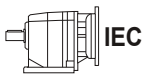
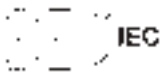
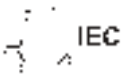
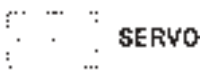
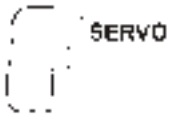
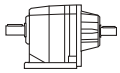
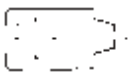
This symbol refers to the angle the overhung load applies (viewing from drive end).

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.

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

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		
$t_{au\ min}$	Minimum operating ambient temperature	**-30°C**	**-10°C**
$t_{au\ Max}$	Maximum operating ambient temperature	**+50°C**	**+40°C**
$t_{as\ min}$	Minimum storage ambient temperature	**-40°C**	**-10°C**
$t_{as\ Max}$	Maximum storage ambient temperature	**+50°C**	**+50°C**
t_s	Surface temperature		
$t_{s\ min}$	Minimum gearbox surface temperature starting with partial load (#)	**-25°C**	**-10°C**
$t_{sc\ min}$	Minimum gearbox surface temperature starting with full load	**-10°C**	**-5°C**
$t_{s\ Max}$	Maximum casing surface temperature during continuous operation (measured next to the gearbox input)	**+100°C**	**+100°C** (@)
t_o	Oil temperature		
$t_{o\ Max}$	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°C and t_s, t_o > 80 °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 fs , 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 min^{-1}	n_1 = 2800 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 min^{-1}	n_1 = 2800 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 min^{-1}	n_1 = 2800 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.

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

The condition to be verified is:

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

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:

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

(A 3)

	2 x	**3 x**	**4 x**
η_d	95%	93%	90%

	2 x	**3 x**	**4 x**
η_d	94%	91%	89%

	2 x	**3 x**	**4 x**
η_d	95%	93%	90%

	1 x
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:

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

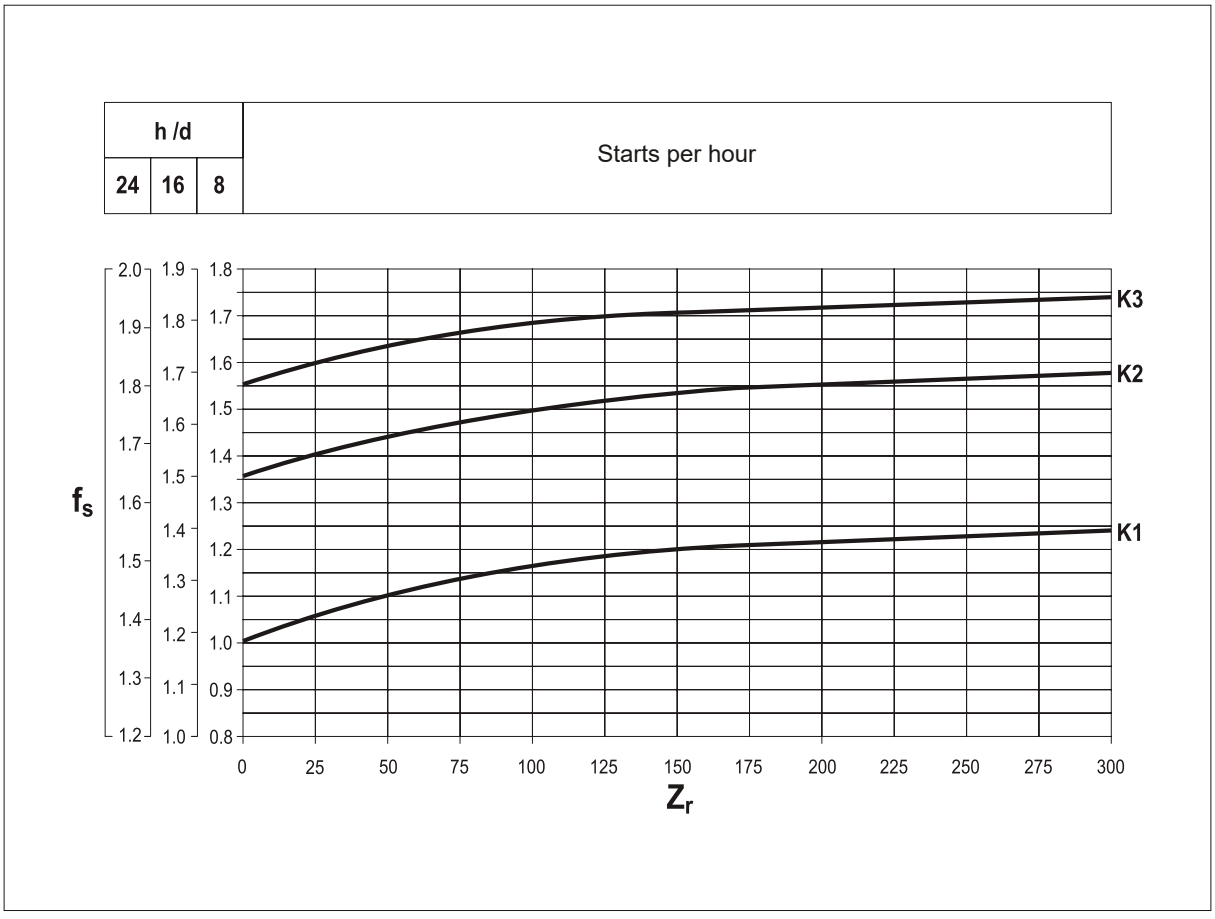
9 MOMENT OF INERTIA J_r [Kgm^2]

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)

$$K = \frac{J_c}{J_m} \rightarrow \begin{cases} J_c = \text{Moment of inertia of driven masses referred to motor drive shaft} \\ J_m = \text{Motor moment of inertia} \end{cases}$$

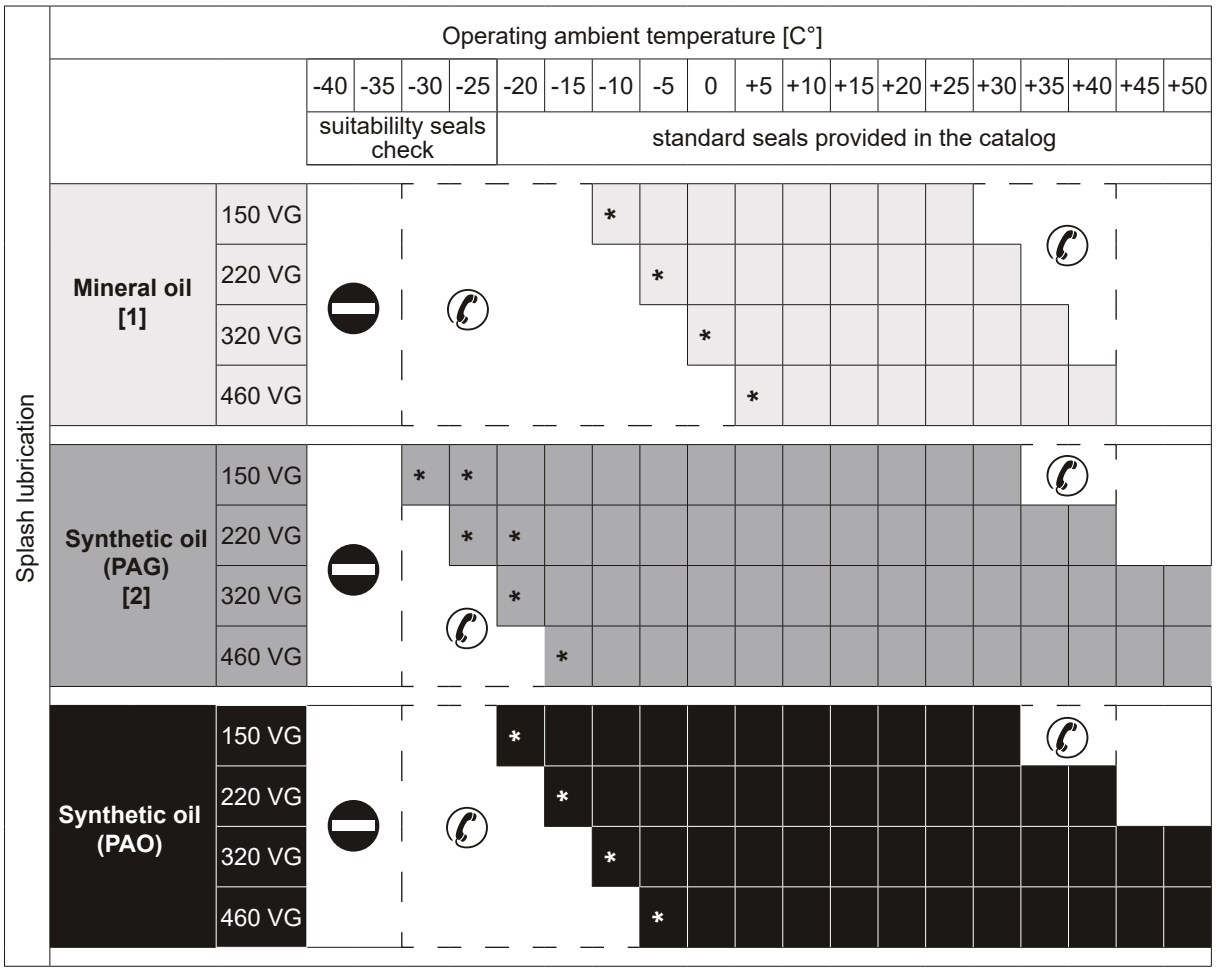
K ≤ 0,25	→ **K1**	Uniform load
0,25 < K ≤ 3	→ **K2**	Moderate shock load
3 < K ≤ 10	→ **K3**	Heavy shock load
K > 10	→	Please consult Bonfiglioli Technical Service

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)



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 fs ≥ 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” poliglycol-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.

(A 8)

Bonfiglioli	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					
		B_1)	***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	Gearbox output speed		
				%	[Nm]	[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						
	S2			**S3***			**S4 - S8**
	Cycle duration [min]			Cyclic duration factor (I)			Please contact us
	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 $\mathbf{P_n}$ section within the gearmotor selection charts and locate the unit that features the desired output speed $\mathbf{n_2}$, or closest to, along with a safety factor **S** that meets or exceeds the applicable service factor $\mathbf{f_s}$.

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.

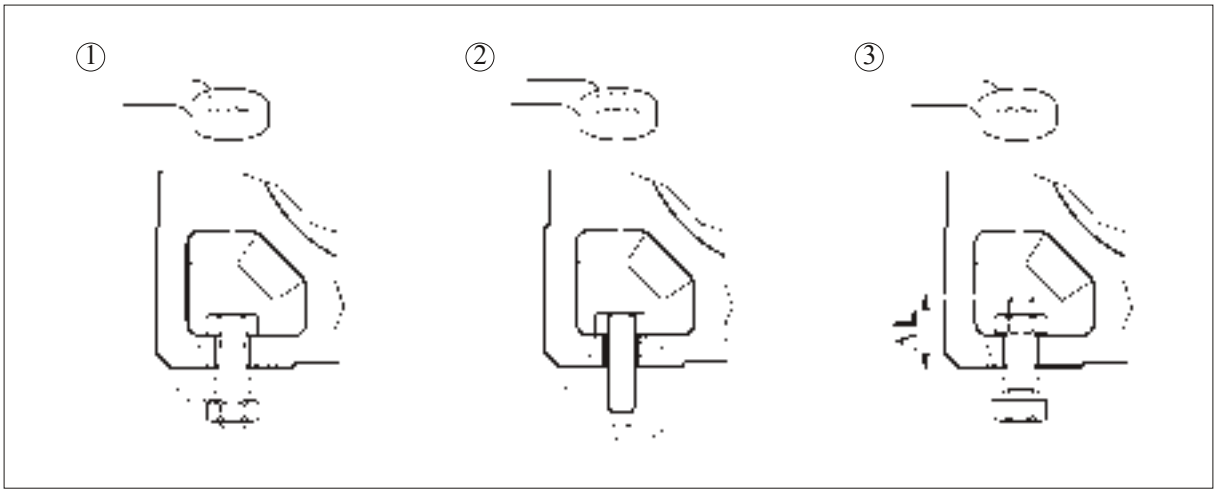
14.1 Fitting servomotors to gear heads featuring a clamping device (adapter type SC)

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			
	①	②	③	ΔL (mm)
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			
	①	②	③	ΔL (mm)
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).

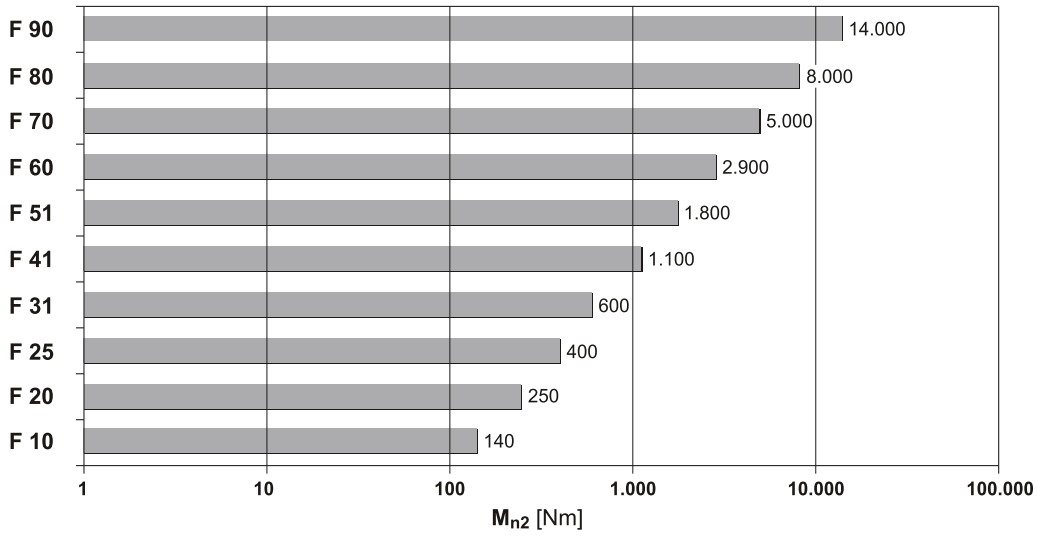
18 PAINT SPECIFICATIONS

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

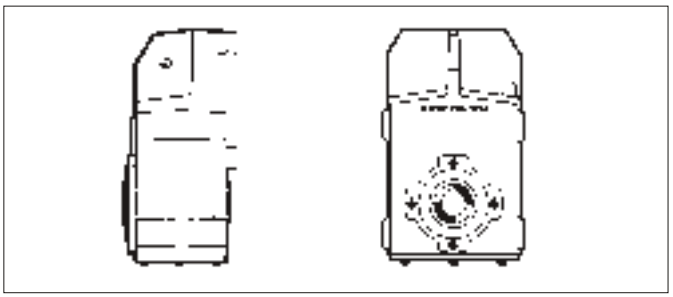
54 DESIGN FEATURES

The main design characteristics are:
- modularity
- space effectiveness
- universal mounting
- high efficiency
- quite operation
- gears in hardened and case-hardened steel
- bare aluminium housing for sizes 10, 20 and 25,
  high strength painted cast-iron housings for larger frame sizes.

(D 44)



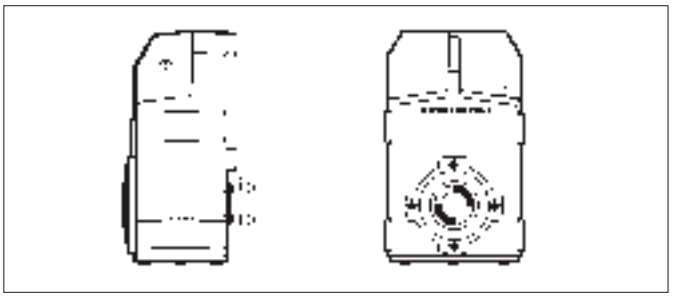
55 VERSIONS



H

Hollow output shaft and keyway

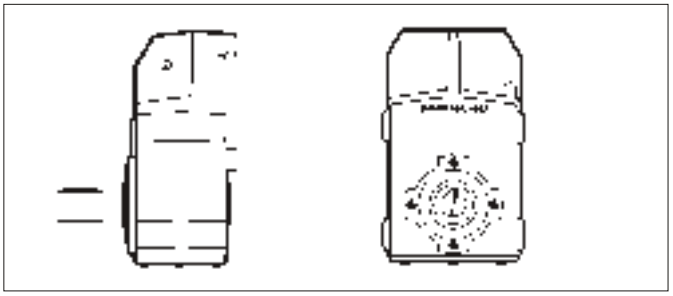
F 10 ... F 90



S

Hollow output shaft and shrink disc

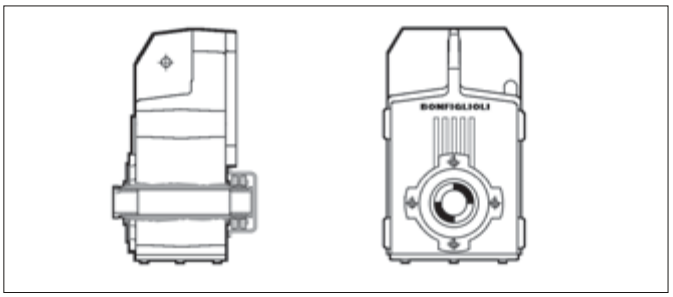
F 10 ... F 90



R

Solid output shaft

F 10 ... F 90



QF **(Quick-fit)**

Hollow shaft with adapter bushings and shrink disc

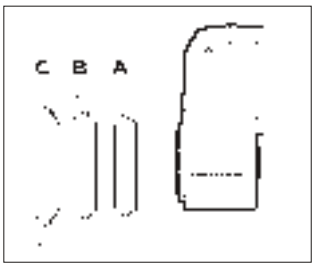
F 10 ... F 60

$M_{n2\ max}$ [Nm]	
F 25 QF30	350
F 41 QF42	850
F 41 QF45	1000
F 51 QF50	1750

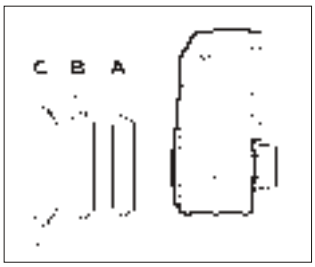
Basic versions with bolted flange

The sketches show the applicable flanges to the basic versions.

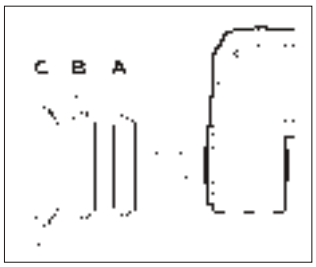
H... F...



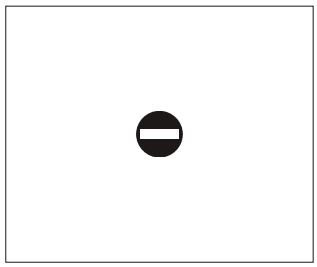
S F...



R F...



QF...



56 DESIGNATION

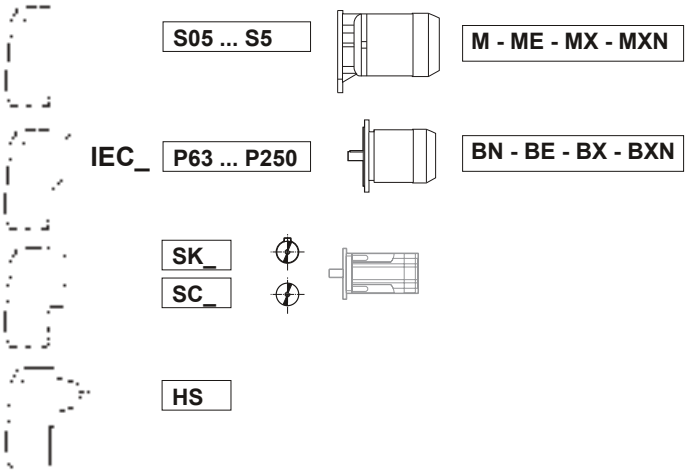
GEAR UNIT

F 10 2 H30 FA 9.8 S2 H5 .....

OPTIONS

MOUNTING POSITION
H1 (Default), **H2**, **H3**, **H4**, **H5**, **H6**

INPUT CONFIGURATION



GEAR RATIO

OUTPUT FLANGE SIZE AND POSITION (specify only if requested)
F = Flanged version
A, **B**, **C** = Flange size

VERSION

	H									
	F 10	F 20	F 25	F 31	F 41	F 51	F 60	F 70	F 80	F 90
Standard	**H25**	**H30**	**H35**	**H35**	**H40**	**H50**	**H60**	**H80**	**H90**	**H100**
Alternative	H30	H35	H40	H40	H45	H55	H70	H70	H80	H90

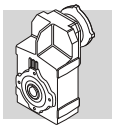
S (F 10...F 90) **R** (F 10...F 90) **QF** (F 10...F 60)

← Alternative diameters available on request

REDUCTIONS
2 (F 10...F 51), **3** (F 20...F 90), **4** (F 31...F 90)

GEAR FRAME SIZE
10, **20**, **25**, **31**, **41**, **51**, **60**, **70**, **80**, **90**

TYPE **F** = helical shaft-mounted gear unit



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

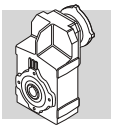
DEGREE OF PROTECTION
IP55 standard (IP54 - brake motor)

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



56.1 Gearbox options

LUBRICATION

Gearboxes F10, F20, 25, F31 and F41, are usually factory filled with oil in the standard version.
Gearboxes F51, F60, F70, F80 and F90, 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 F51, F60, F70, F80 e F90 in mounting position H6.

LUBRICATION	Type	Designation	Producer
LU	PolyAlfaOlefine (PAO)	OMALA S4 GX 150	
LY	PolyAlfaOlefine (PAO)	OMALA S4 GX 220	
LV	PolyAlfaOlefine (PAO)	OMALA S4 GX 320	
LW	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	Shell
LK	PolyGlicole (PAG)	OMALA S4 WE 460	
LN [1]	Mineral Base EP	OMALA S2 G 150	
LZ [1]	Mineral Base EP	OMALA S2 G 220	
LI [1]	Mineral Base EP	OMALA S2 G 320	
LJ [1]	Mineral Base EP	OMALA S2 G 460	
LA	Food grade	KLUBERSYNTH UH1 6-150	
LB	Food grade	KLUBERSYNTH UH1 6-220	KLÜBER LUBRICATION
LC	Food grade	KLUBERSYNTH UH1 6-320	
LD	Food grade	KLUBERSYNTH UH1 6-460	

* unless otherwise specified, the gearboxes F10, F20, F25, F31 and F41 supplied with lubricant use OMALA S4 WE 320 oil.

[1] The use of mineral oil is permitted on gearmotors with service factor fs ≥ 1.30

SO

Gear units F 10 through F 41 usually factory filled with oil, to be supplied unlubricated.

DV

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

VV

Oil seal in Fluoro elastomer compound on input shaft.

PV

Both input and output shafts feature oil seal in Fluoro elastomer compound.

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.

(D 45)

F 31 2*	**F 41 2** ⛀ (6.7; 10.8)					
F 31 3*	**F 41 3**	**F 51 3**	**F 60 3**	**F 70 3**	**F 80 3**	**F 90 3**
		F 51 4	**F 60 4**	**F 70 4**	**F 80 4**	**F 90 4**

* The supply of the backstop will ban the configuration of servomotor adapters type S_60A, S_ 60B, S_80A.

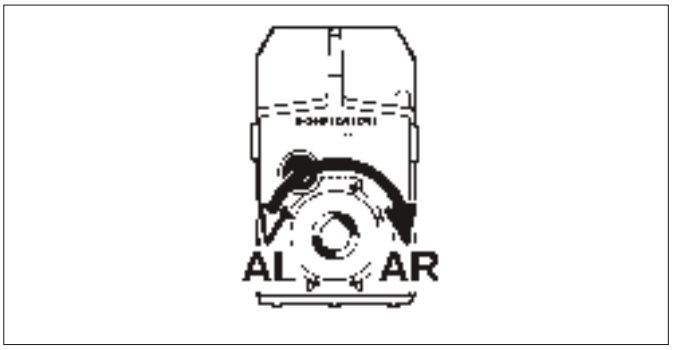
When ordering the gear unit, the direction of free rotation must be specified through either the AR or the AL option (Table D46).

⚠ 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.

FL

Gear units F 10...F 41 can be side machined and tapped by specifying the FL option.
Mounting dimensions relevant to the FL option are given in the following chart. Gear units type F 51 through F 90 are side machined and tapped as standard.

(D 46)



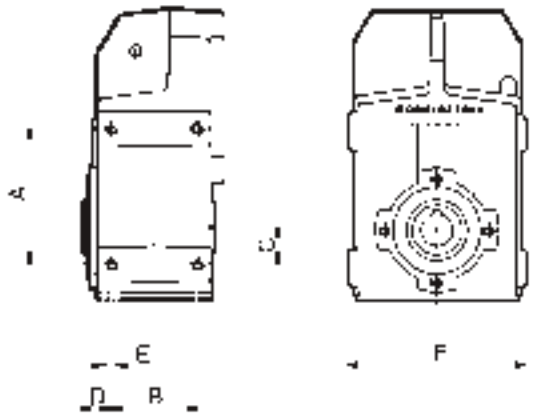
IHB

For applications where the Rated torque M_{n2} - 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.

(D 47)



	A	B	C	D	E	F
F 10	115	60	35	21.25	M8x16	163
F 20	130	70	40	26.5	M10x20	181
F 25	130	70	40	27.5	M10x20	181
F 31	147	80	45	30	M12x20	203
F 41	190	95	60	32.5	M12x22	235

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.

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 SL option
F10 ... F31	Only when oil lubrication options are not active (SO option is active)
F41 ... F90	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
F10 ... F41	BONFIGLIOLI TECHNICAL SERVICE
F51 ... F90	

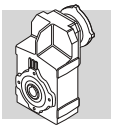
SURFACE PROTECTION

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.

(D 48)

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.

(D 49)

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.

56.2 Accessories

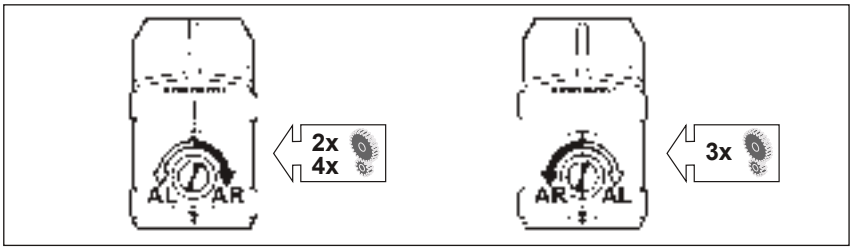
See chapter 66 of this catalogue.

56.3 Motor options

AL, AR

A backstop device on the motor itself, as described in the electric motors section of this catalogue, is available for gearmotors with integral M, ME or MX Series motors. The following table shows the direction of free rotation of the gearbox, on the basis of which the correct option must be selected.

(D 50)



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

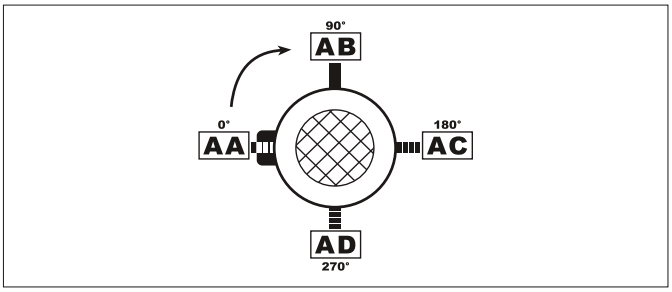
57 MOUNTING POSITION AND TERMINAL BOX ANGULAR LOCATION

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.

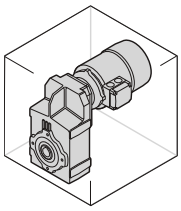
Unless otherwise specified, brake motors have the manual device side located, 90° apart from terminal box. Different angles can be specified through the relevant options available.

(D 51)

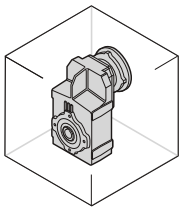


F ...

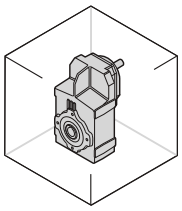
H1



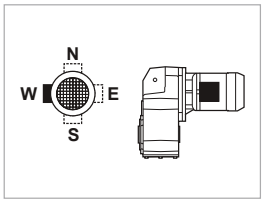
_S



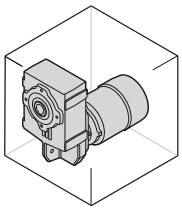
_P(IEC) _SK / _SC



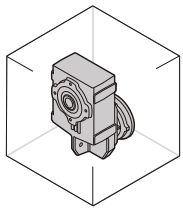
_HS



H2



_S



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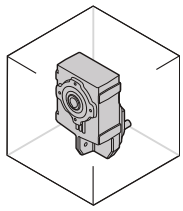

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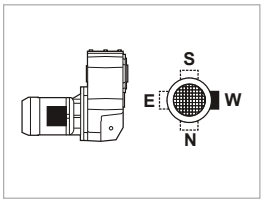

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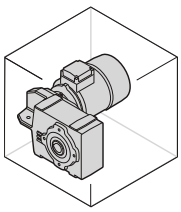

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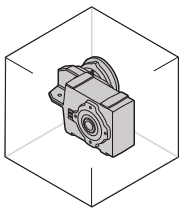

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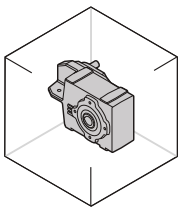

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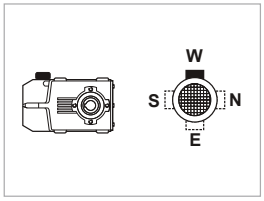

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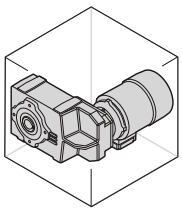

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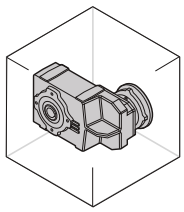

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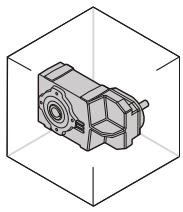

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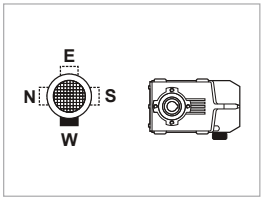

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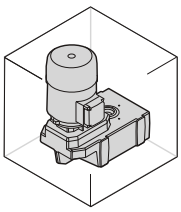

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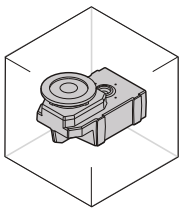

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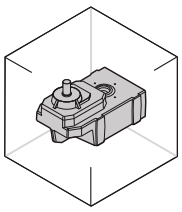

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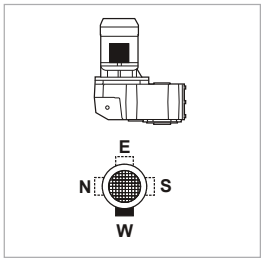

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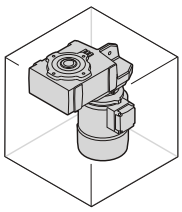

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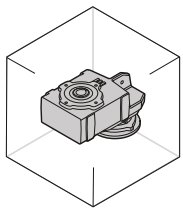

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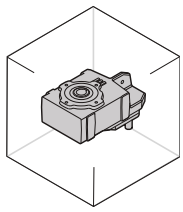

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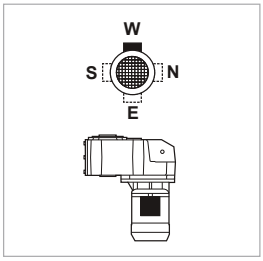


W = Default

58 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:

$$R_{c1}\,[N] = \frac{2000 \cdot M_1[Nm] \cdot K_r}{d\,[mm]} \quad ; \quad R_{c2}\,[N] = \frac{2000 \cdot M_2[Nm] \cdot K_r}{d\,[mm]} \qquad (35)$$

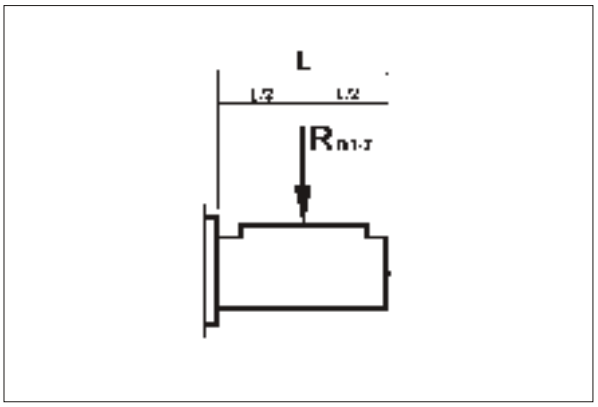
(D 52)

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

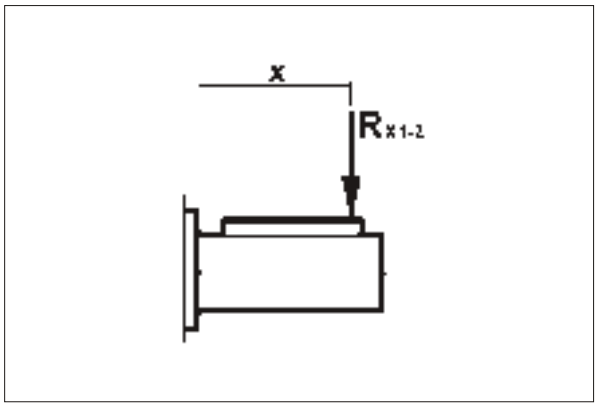
K_r = 1,25	Gear transmission
K_r = 1,5	V-belt transmission
K_r = 2,0	Flat belt transmission

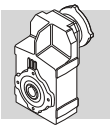
Verification of OHL capability varies depending on whether load applies at midpoint of shaft or it is shifted further out:

(D 53)



(D 54)





a) Load applied at midpoint of shaft, tab. (D53)

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

$Rc1 \leq Rn1$ [input shaft]

or

$Rc2 \leq Rn2$ [output shaft]

b) Load off the midpoint tab. (D54)

When load is shifted at an “x” distance from shaft shoulder, permissible load must be calculated for that distance.
Revised permissible overhung loads Rx1 (input) and Rx2 (output) are calculated respectively from original rated values Rn1 and Rn2 through factor:

$$\frac{a}{b+x} \qquad (36)$$

(D 55)

	Load location factors					
	Output shaft			Input shaft		
	a	**b**	**c**	**a**	**b**	**c**
F 10 2	123	100.5	450	21	1	300
F 20 2	145	115	600	40	20	350
F 20 3	145	115	600	21	1	300
F 25 2 - F 25 3	157.5	127.5	800	40	20	350
F 25 4	157.5	127.5	800	21	1	300
F 31 2 - F 31 3	165	135	850	38.5	18.5	350
F 31 4	165	135	850	21	1	300
F 41 2 - F 41 3	191.5	151.5	1000	49.5	24.5	450
F 41 4	191.5	151.5	1000	40	20	350
F 51 2 - F 51 3	233.5	183.5	1300	49.5	24.5	450
F 51 4	233.5	183.5	1300	38.5	18.5	350
F 60 3	258.5	198.5	1100	55.5	25.5	600
F 60 4	258.5	198.5	1100	49.5	24.5	450
F 70 3	342	277	1600	86	31	1000
F 70 4	342	277	1600	49.5	24.5	450
F 80 3	386.5	301.5	1800	86	31	1000
F 80 4	386.5	301.5	1800	49.5	24.5	450
F 90 3	458.5	353.5	2400	116	46	1400
F 90 4	458.5	353.5	2400	49.5	24.5	450

Verification procedure is described here after.

INPUT SHAFT

1. Calculate:

$$R_{x1} = R_{n1} \cdot \frac{a}{b + x} \tag{37}$$

N.B. Subject to condition:

$$\frac{L}{2} \leq x \leq c \tag{38}$$

Finally, the following condition must be verified:

$$R_{c1} \leq R_{x1} \tag{39}$$

OUTPUT SHAFT

1. Calculate:

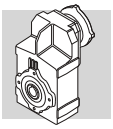
$$R_{x2} = R_{n2} \cdot \frac{a}{b + x} \tag{40}$$

N.B. Subject to condition:

$$\frac{L}{2} \leq x \leq c \tag{41}$$

Finally, the following condition must be verified:

$$R_{c2} \leq R_{x2} \tag{42}$$

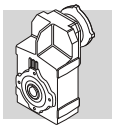


59 THRUST LOADS, A_{n1}, A_{n2}

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:

$$A_{n1} = R_{n1} \cdot 0.2$$
$$A_{n2} = R_{n2} \cdot 0.2 \quad (43)$$

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.

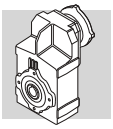


60 GEARMOTOR RATING CHARTS

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	
0.40	1945	2.6	2188	35000			**F704_2188 P63 BN63A6**	493
0.50	1526	3.4	1717	35000			**F704_1717 P63 BN63A6**	493
0.62	1254	0.9	1411	8500	**F414_1411 S05 M05A6**	480	**F414_1411 P63 BN63A6**	481
0.73	1079	1.0	1213	8500	**F414_1213 S05 M05A6**	480	**F414_1213 P63 BN63A6**	481
0.81	971	1.1	1092	8500	**F414_1092 S05 M05A6**	480	**F414_1092 P63 BN63A6**	481
0.90	874	1.3	982.4	8500	**F414_982.4 S05 M05A6**	480	**F414_982.4 P63 BN63A6**	481
0.98	801	1.4	900.5	8500	**F414_900.5 S05 M05A6**	480	**F414_900.5 P63 BN63A6**	481
1.1	724	1.5	813.8	8500	**F414_813.8 S05 M05A6**	480	**F414_813.8 P63 BN63A6**	481
1.2	678	0.9	762.3	6500	**F314_762.3 S05 M05A6**	476	**F314_762.3 P63 BN63A6**	477
1.2	658	1.7	739.4	8500	**F414_739.4 S05 M05A6**	480	**F414_739.4 P63 BN63A6**	481
1.3	610	1.0	685.6	6500	**F314_685.6 S05 M05A6**	476	**F314_685.6 P63 BN63A6**	477
1.3	614	1.8	690.1	8500	**F414_690.1 S05 M05A6**	480	**F414_690.1 P63 BN63A6**	481
1.4	551	1.1	619.9	6500	**F314_619.9 S05 M05A6**	476	**F314_619.9 P63 BN63A6**	477
1.5	515	1.2	578.6	6500	**F314_578.6 S05 M05A6**	476	**F314_578.6 P63 BN63A6**	477
1.6	489	2.2	549.8	8500	**F414_549.8 S05 M05A6**	480	**F414_549.8 P63 BN63A6**	481
1.7	469	0.9	527.3	6500	**F254_527.3 S05 M05A6**	472	**F254_527.3 P63 BN63A6**	473
1.7	469	1.3	527.8	6500	**F314_527.8 S05 M05A6**	476	**F314_527.8 P63 BN63A6**	477
1.9	414	1.0	466.0	6500	**F254_466.0 S05 M05A6**	472	**F254_466.0 P63 BN63A6**	473
1.9	411	1.5	462.6	6500	**F314_462.6 S05 M05A6**	476	**F314_462.6 P63 BN63A6**	477
2.0	387	1.0	434.9	6500	**F254_434.9 S05 M05A6**	472	**F254_434.9 P63 BN63A6**	473
2.0	386	2.9	433.7	8500	**F414_433.7 S05 M05A6**	480	**F414_433.7 P63 BN63A6**	481
2.1	372	1.6	418.9	6500	**F314_418.9 S05 M05A6**	476	**F314_418.9 P63 BN63A6**	477
2.2	350	1.1	393.9	6500	**F254_393.9 S05 M05A6**	472	**F254_393.9 P63 BN63A6**	473
2.4	340	1.8	374.4	6500			**F313_374.4 P63 BN63A6**	477
2.6	302	2.0	332.8	6500			**F313_332.8 P63 BN63A6**	477
2.6	313	3.5	344.8	8500			**F413_344.8 P63 BN63A6**	481
2.8	288	0.9	316.9	4000	**F203_316.9 S05 M05A6**	468	**F203_316.9 P63 BN63A6**	469
3.0	267	2.2	293.8	6500			**F313_293.8 P63 BN63A6**	477
3.1	259	1.0	285.2	4000	**F203_285.2 S05 M05A6**	468	**F203_285.2 P63 BN63A6**	469
3.4	232	1.1	255.3	4000	**F203_255.3 S05 M05A6**	468	**F203_255.3 P63 BN63A6**	469
3.5	230	2.6	253.6	6500			**F313_253.6 P63 BN63A6**	477
3.9	207	2.9	228.2	6500			**F313_228.2 P63 BN63A6**	477
4.2	190	1.3	209.3	4000	**F203_209.3 S05 M05A6**	468	**F203_209.3 P63 BN63A6**	469
4.4	184	3.3	202.3	6500			**F313_202.3 P63 BN63A6**	477
4.8	168	1.5	184.9	4000	**F203_184.9 S05 M05A6**	468	**F203_184.9 P63 BN63A6**	469
5.1	157	1.6	172.6	4000	**F203_172.6 S05 M05A6**	468	**F203_172.6 P63 BN63A6**	469
5.6	142	1.8	156.3	4000	**F203_156.3 S05 M05A6**	468	**F203_156.3 P63 BN63A6**	469
6.7	123	2.0	132.2	4000	**F202_132.2 S05 M05A6**	468	**F202_132.2 P63 BN63A6**	469
6.9	118	1.2	127.1	2800	**F102_127.1 S05 M05A6**	464	**F102_127.1 P63 BN63A6**	465



0.09 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1		IE1	
7.7	106	2.4	114.3	4000	**F202_114.3 S05 M05A6**	468	**F202_114.3 P63 BN63A6**	469
8.3	98	1.4	106.0	2800	**F102_106.0 S05 M05A6**	464	**F102_106.0 P63 BN63A6**	465
8.7	94	2.6	101.6	4000	**F202_101.6 S05 M05A6**	468	**F202_101.6 P63 BN63A6**	469
9.6	85	1.6	91.5	2800	**F102_91.5 S05 M05A6**	464	**F102_91.5 P63 BN63A6**	465
9.7	84	3.0	90.4	4000	**F202_90.4 S05 M05A6**	468	**F202_90.4 P63 BN63A6**	469
10.8	75	1.9	81.3	2800	**F102_81.3 S05 M05A6**	464	**F102_81.3 P63 BN63A6**	465
11.5	71	3.5	76.8	4000	**F202_76.8 S05 M05A6**	468	**F202_76.8 P63 BN63A6**	469
12.4	66	2.1	71.1	2800	**F102_71.1 S05 M05A6**	464	**F102_71.1 P63 BN63A6**	465
14.0	58	2.4	63.0	2800	**F102_63.0 S05 M05A6**	464	**F102_63.0 P63 BN63A6**	465
15.5	53	2.7	56.7	2800	**F102_56.7 S05 M05A6**	464	**F102_56.7 P63 BN63A6**	465
18.1	45	3.1	48.7	2800	**F102_48.7 S05 M05A6**	464	**F102_48.7 P63 BN63A6**	465
19.7	41	3.4	44.7	2800	**F102_44.7 S05 M05A6**	464	**F102_44.7 P63 BN63A6**	465
22.2	37	3.8	39.6	2800	**F102_39.6 S05 M05A6**	464	**F102_39.6 P63 BN63A6**	465
24.9	33	4.3	35.3	2800	**F102_35.3 S05 M05A6**	464	**F102_35.3 P63 BN63A6**	465
26.7	31	4.6	33.0	2800	**F102_33.0 S05 M05A6**	464	**F102_33.0 P63 BN63A6**	465
29.7	28	5.1	29.6	2800	**F102_29.6 S05 M05A6**	464	**F102_29.6 P63 BN63A6**	465
34	24	5.9	25.8	2800	**F102_25.8 S05 M05A6**	464	**F102_25.8 P63 BN63A6**	465
39	21	6.6	22.8	2800	**F102_22.8 S05 M05A6**	464	**F102_22.8 P63 BN63A6**	465
46	18	7.8	19.3	2800	**F102_19.3 S05 M05A6**	464	**F102_19.3 P63 BN63A6**	465
52	16	8.9	17.0	2800	**F102_17.0 S05 M05A6**	464	**F102_17.0 P63 BN63A6**	465
60	14	10.1	14.6	2700	**F102_14.6 S05 M05A6**	464	**F102_14.6 P63 BN63A6**	465
68	12	10.3	13.0	2600	**F102_13.0 S05 M05A6**	464	**F102_13.0 P63 BN63A6**	465
76	11	10.3	11.5	2500	**F102_11.5 S05 M05A6**	464	**F102_11.5 P63 BN63A6**	465
90	9	11.8	9.8	2370	**F102_9.8 S05 M05A6**	464	**F102_9.8 P63 BN63A6**	465
103	8	11.8	8.6	2270	**F102_8.6 S05 M05A6**	464	**F102_8.6 P63 BN63A6**	465
119	7	13.2	7.4	2160	**F102_7.4 S05 M05A6**	464	**F102_7.4 P63 BN63A6**	465

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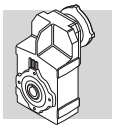
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
0.40	2623	1.9	2188	35000				**F704_2188 P63 BN63B6**		493
0.51	2058	2.5	1717	35000				**F704_1717 P63 BN63B6**		493
0.60	1742	2.9	2188	35000				**F704_2188 P63 BN63A4**	**F704_2188 P63 BE63A4**	493
0.65	1607	3.1	2019	35000				**F704_2019 P63 BN63A4**	**F704_2019 P63 BE63A4**	493
0.76	1368	2.1	1141	20000				**F604_1141 P63 BN63B6**		489
0.89	1178	0.9	982.4	8500	**F414_982.4 S05 M05B6**		480	**F414_982.4 P63 BN63B6**		481
0.96	1090	1.0	1411	8500	**F414_1411 S05 M05A4**	**F414_1411 S05 ME05A4**	480	**F414_1411 P63 BN63A4**	**F414_1411 P63 BE63A4**	481
1.1	938	1.2	1213	8500	**F414_1213 S05 M05A4**	**F414_1213 S05 ME05A4**	480	**F414_1213 P63 BN63A4**	**F414_1213 P63 BE63A4**	481
1.2	844	1.3	1092	8500	**F414_1092 S05 M05A4**	**F414_1092 S05 ME05A4**	480	**F414_1092 P63 BN63A4**	**F414_1092 P63 BE63A4**	481
1.4	759	1.4	982.4	8500	**F414_982.4 S05 M05A4**	**F414_982.4 S05 ME05A4**	480	**F414_982.4 P63 BN63A4**	**F414_982.4 P63 BE63A4**	481
1.5	696	1.6	900.5	8500	**F414_900.5 S05 M05A4**	**F414_900.5 S05 ME05A4**	480	**F414_900.5 P63 BN63A4**	**F414_900.5 P63 BE63A4**	481
1.6	643	0.9	831.6	6500	**F314_831.6 S05 M05A4**	**F314_831.6 S05 ME05A4**	476	**F314_831.6 P63 BN63A4**	**F314_831.6 P63 BE63A4**	477
1.7	629	1.7	813.8	8500	**F414_813.8 S05 M05A4**	**F414_813.8 S05 ME05A4**	480	**F414_813.8 P63 BN63A4**	**F414_813.8 P63 BE63A4**	481
1.8	589	1.0	762.3	6500	**F314_762.3 S05 M05A4**	**F314_762.3 S05 ME05A4**	476	**F314_762.3 P63 BN63A4**	**F314_762.3 P63 BE63A4**	477
1.8	571	1.9	739.4	8500	**F414_739.4 S05 M05A4**	**F414_739.4 S05 ME05A4**	480	**F414_739.4 P63 BN63A4**	**F414_739.4 P63 BE63A4**	481
2.0	530	1.1	685.6	6500	**F314_685.6 S05 M05A4**	**F314_685.6 S05 ME05A4**	476	**F314_685.6 P63 BN63A4**	**F314_685.6 P63 BE63A4**	477
2.0	533	2.1	690.1	8500	**F414_690.1 S05 M05A4**	**F414_690.1 S05 ME05A4**	480	**F414_690.1 P63 BN63A4**	**F414_690.1 P63 BE63A4**	481
2.2	479	1.3	619.9	6500	**F314_619.9 S05 M05A4**	**F314_619.9 S05 ME05A4**	476	**F314_619.9 P63 BN63A4**	**F314_619.9 P63 BE63A4**	477
2.3	456	0.9	589.7	6500	**F254_589.7 S05 M05A4**	**F254_589.7 S05 ME05A4**	472	**F254_589.7 P63 BN63A4**	**F254_589.7 P63 BE63A4**	473
2.3	447	1.3	578.6	6500	**F314_578.6 S05 M05A4**	**F314_578.6 S05 ME05A4**	476	**F314_578.6 P63 BN63A4**	**F314_578.6 P63 BE63A4**	477
2.5	425	2.6	549.8	8500	**F414_549.8 S05 M05A4**	**F414_549.8 S05 ME05A4**	480	**F414_549.8 P63 BN63A4**	**F414_549.8 P63 BE63A4**	481
2.6	408	1.0	527.3	6500	**F254_527.3 S05 M05A4**	**F254_527.3 S05 ME05A4**	472	**F254_527.3 P63 BN63A4**	**F254_527.3 P63 BE63A4**	473



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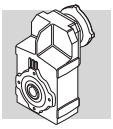
n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE1	IE2		IE1	IE2	
2.6	408	1.5	527.8	6500	**F314_527.8 S05 M05A4**	**F314_527.8 S05 ME05A4**	476	**F314_527.8 P63 BN63A4**	**F314_527.8 P63 BE63A4**	477
2.9	360	1.1	466.0	6500	**F254_466.0 S05 M05A4**	**F254_466.0 S05 ME05A4**	472	**F254_466.0 P63 BN63A4**	**F254_466.0 P63 BE63A4**	473
2.9	358	1.7	462.6	6500	**F314_462.6 S05 M05A4**	**F314_462.6 S05 ME05A4**	476	**F314_462.6 P63 BN63A4**	**F314_462.6 P63 BE63A4**	477
3.1	336	1.2	434.9	6500	**F254_434.9 S05 M05A4**	**F254_434.9 S05 ME05A4**	472	**F254_434.9 P63 BN63A4**	**F254_434.9 P63 BE63A4**	473
3.1	335	3.3	433.7	8500	**F414_433.7 S05 M05A4**	**F414_433.7 S05 ME05A4**	480	**F414_433.7 P63 BN63A4**	**F414_433.7 P63 BE63A4**	481
3.2	324	1.9	418.9	6500	**F314_418.9 S05 M05A4**	**F314_418.9 S05 ME05A4**	476	**F314_418.9 P63 BN63A4**	**F314_418.9 P63 BE63A4**	477
3.4	304	1.3	393.9	6500	**F254_393.9 S05 M05A4**	**F254_393.9 S05 ME05A4**	472	**F254_393.9 P63 BN63A4**	**F254_393.9 P63 BE63A4**	473
3.6	296	2.0	374.4	6500				**F313_374.4 P63 BN63A4**	**F313_374.4 P63 BE63A4**	477
4.1	263	1.5	333.1	6500	**F253_333.1 S05 M05A4**	**F253_333.1 S05 ME05A4**	472	**F253_333.1 P63 BN63A4**	**F253_333.1 P63 BE63A4**	473
4.1	263	2.3	332.8	6500				**F313_332.8 P63 BN63A4**	**F313_332.8 P63 BE63A4**	477
4.3	250	1.0	316.9	4000	**F203_316.9 S05 M05A4**	**F203_316.9 S05 ME05A4**	468	**F203_316.9 P63 BN63A4**	**F203_316.9 P63 BE63A4**	469
4.6	232	2.6	293.8	6500				**F313_293.8 P63 BN63A4**	**F313_293.8 P63 BE63A4**	477
4.7	225	1.1	285.2	4000	**F203_285.2 S05 M05A4**	**F203_285.2 S05 ME05A4**	468	**F203_285.2 P63 BN63A4**	**F203_285.2 P63 BE63A4**	469
4.7	228	1.8	288.1	6500	**F253_288.1 S05 M05A4**	**F253_288.1 S05 ME05A4**	472	**F253_288.1 P63 BN63A4**	**F253_288.1 P63 BE63A4**	473
5.3	202	1.2	255.3	4000	**F203_255.3 S05 M05A4**	**F203_255.3 S05 ME05A4**	468	**F203_255.3 P63 BN63A4**	**F203_255.3 P63 BE63A4**	469
5.3	202	2.0	256.1	6500	**F253_256.1 S05 M05A4**	**F253_256.1 S05 ME05A4**	472	**F253_256.1 P63 BN63A4**	**F253_256.1 P63 BE63A4**	473
5.3	200	3.0	253.6	6500				**F313_253.6 P63 BN63A4**	**F313_253.6 P63 BE63A4**	477
5.9	180	2.2	227.8	6500	**F253_227.8 S05 M05A4**	**F253_227.8 S05 ME05A4**	472	**F253_227.8 P63 BN63A4**	**F253_227.8 P63 BE63A4**	473
5.9	180	3.3	228.2	6500				**F313_228.2 P63 BN63A4**	**F313_228.2 P63 BE63A4**	477
6.5	165	1.5	209.3	4000	**F203_209.3 S05 M05A4**	**F203_209.3 S05 ME05A4**	468	**F203_209.3 P63 BN63A4**	**F203_209.3 P63 BE63A4**	469
7.0	153	2.6	193.6	6500	**F253_193.6 S05 M05A4**	**F253_193.6 S05 ME05A4**	472	**F253_193.6 P63 BN63A4**	**F253_193.6 P63 BE63A4**	473
7.3	146	1.7	184.9	4000	**F203_184.9 S05 M05A4**	**F203_184.9 S05 ME05A4**	468	**F203_184.9 P63 BN63A4**	**F203_184.9 P63 BE63A4**	469
7.7	138	2.9	174.2	6500	**F253_174.2 S05 M05A4**	**F253_174.2 S05 ME05A4**	472	**F253_174.2 P63 BN63A4**	**F253_174.2 P63 BE63A4**	473
7.8	136	1.8	172.6	4000	**F203_172.6 S05 M05A4**	**F203_172.6 S05 ME05A4**	468	**F203_172.6 P63 BN63A4**	**F203_172.6 P63 BE63A4**	469
8.6	123	2.0	156.3	4000	**F203_156.3 S05 M05A4**	**F203_156.3 S05 ME05A4**	468	**F203_156.3 P63 BN63A4**	**F203_156.3 P63 BE63A4**	469
8.7	123	3.2	155.9	6500	**F253_155.9 S05 M05A4**	**F253_155.9 S05 ME05A4**	472	**F253_155.9 P63 BN63A4**	**F253_155.9 P63 BE63A4**	473
9.4	113	3.5	143.0	6500	**F253_143.0 S05 M05A4**	**F253_143.0 S05 ME05A4**	472	**F253_143.0 P63 BN63A4**	**F253_143.0 P63 BE63A4**	473
10.2	107	2.3	132.2	4000	**F202_132.2 S05 M05A4**	**F202_132.2 S05 ME05A4**	468	**F202_132.2 P63 BN63A4**	**F202_132.2 P63 BE63A4**	469
10.6	103	1.4	127.1	2800	**F102_127.1 S05 M05A4**	**F102_127.1 S05 ME05A4**	464	**F102_127.1 P63 BN63A4**	**F102_127.1 P63 BE63A4**	465
11.8	92	2.7	114.3	4000	**F202_114.3 S05 M05A4**	**F202_114.3 S05 ME05A4**	468	**F202_114.3 P63 BN63A4**	**F202_114.3 P63 BE63A4**	469
12.7	86	1.6	106.0	2800	**F102_106.0 S05 M05A4**	**F102_106.0 S05 ME05A4**	464	**F102_106.0 P63 BN63A4**	**F102_106.0 P63 BE63A4**	465
13.3	82	3.0	101.6	4000	**F202_101.6 S05 M05A4**	**F202_101.6 S05 ME05A4**	468	**F202_101.6 P63 BN63A4**	**F202_101.6 P63 BE63A4**	469
14.8	74	1.9	91.5	2800	**F102_91.5 S05 M05A4**	**F102_91.5 S05 ME05A4**	464	**F102_91.5 P63 BN63A4**	**F102_91.5 P63 BE63A4**	465
14.9	73	3.4	90.4	4000	**F202_90.4 S05 M05A4**	**F202_90.4 S05 ME05A4**	468	**F202_90.4 P63 BN63A4**	**F202_90.4 P63 BE63A4**	469
16.6	66	2.1	81.3	2800	**F102_81.3 S05 M05A4**	**F102_81.3 S05 ME05A4**	464	**F102_81.3 P63 BN63A4**	**F102_81.3 P63 BE63A4**	465
19.0	57	2.4	71.1	2800	**F102_71.1 S05 M05A4**	**F102_71.1 S05 ME05A4**	464	**F102_71.1 P63 BN63A4**	**F102_71.1 P63 BE63A4**	465
21.4	51	2.8	63.0	2800	**F102_63.0 S05 M05A4**	**F102_63.0 S05 ME05A4**	464	**F102_63.0 P63 BN63A4**	**F102_63.0 P63 BE63A4**	465
23.8	46	3.1	56.7	2800	**F102_56.7 S05 M05A4**	**F102_56.7 S05 ME05A4**	464	**F102_56.7 P63 BN63A4**	**F102_56.7 P63 BE63A4**	465
27.7	39	3.6	48.7	2800	**F102_48.7 S05 M05A4**	**F102_48.7 S05 ME05A4**	464	**F102_48.7 P63 BN63A4**	**F102_48.7 P63 BE63A4**	465
30	36	3.9	44.7	2800	**F102_44.7 S05 M05A4**	**F102_44.7 S05 ME05A4**	464	**F102_44.7 P63 BN63A4**	**F102_44.7 P63 BE63A4**	465
34	32	4.4	39.6	2800	**F102_39.6 S05 M05A4**	**F102_39.6 S05 ME05A4**	464	**F102_39.6 P63 BN63A4**	**F102_39.6 P63 BE63A4**	465
38	29	4.9	35.3	2800	**F102_35.3 S05 M05A4**	**F102_35.3 S05 ME05A4**	464	**F102_35.3 P63 BN63A4**	**F102_35.3 P63 BE63A4**	465
41	27	5.3	33.0	2800	**F102_33.0 S05 M05A4**	**F102_33.0 S05 ME05A4**	464	**F102_33.0 P63 BN63A4**	**F102_33.0 P63 BE63A4**	465
46	24	5.9	29.6	2800	**F102_29.6 S05 M05A4**	**F102_29.6 S05 ME05A4**	464	**F102_29.6 P63 BN63A4**	**F102_29.6 P63 BE63A4**	465
52	21	6.7	25.8	2800	**F102_25.8 S05 M05A4**	**F102_25.8 S05 ME05A4**	464	**F102_25.8 P63 BN63A4**	**F102_25.8 P63 BE63A4**	465
59	18	7.6	22.8	2700	**F102_22.8 S05 M05A4**	**F102_22.8 S05 ME05A4**	464	**F102_22.8 P63 BN63A4**	**F102_22.8 P63 BE63A4**	465
70	16	8.7	19.3	2560	**F102_19.3 S05 M05A4**	**F102_19.3 S05 ME05A4**	464	**F102_19.3 P63 BN63A4**	**F102_19.3 P63 BE63A4**	465
80	14	9.3	17.0	2450	**F102_17.0 S05 M05A4**	**F102_17.0 S05 ME05A4**	464	**F102_17.0 P63 BN63A4**	**F102_17.0 P63 BE63A4**	465
92	12	10.1	14.6	2340	**F102_14.6 S05 M05A4**	**F102_14.6 S05 ME05A4**	464	**F102_14.6 P63 BN63A4**	**F102_14.6 P63 BE63A4**	465
104	11	9.9	13.0	2250	**F102_13.0 S05 M05A4**	**F102_13.0 S05 ME05A4**	464	**F102_13.0 P63 BN63A4**	**F102_13.0 P63 BE63A4**	465
117	9	10.3	11.5	2160	**F102_11.5 S05 M05A4**	**F102_11.5 S05 ME05A4**	464	**F102_11.5 P63 BN63A4**	**F102_11.5 P63 BE63A4**	465
138	8	11.3	9.8	2050	**F102_9.8 S05 M05A4**	**F102_9.8 S05 ME05A4**	464	**F102_9.8 P63 BN63A4**	**F102_9.8 P63 BE63A4**	465
157	7	11.8	8.6	1970	**F102_8.6 S05 M05A4**	**F102_8.6 S05 ME05A4**	464	**F102_8.6 P63 BN63A4**	**F102_8.6 P63 BE63A4**	465
182	6	12.7	7.4	1870	**F102_7.4 S05 M05A4**	**F102_7.4 S05 ME05A4**	464	**F102_7.4 P63 BN63A4**	**F102_7.4 P63 BE63A4**	465



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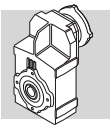
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.40	2623	1.9	2188	35000				
0.51	2058	2.5	1717	35000				
0.60	1742	2.9	2188	35000			**F704_2188 P63 BXN63MA4**	493
0.65	1607	3.1	2019	35000			**F704_2019 P63 BXN63MA4**	493
0.76	1368	2.1	1141	20000				
0.89	1178	0.9	982.4	8500				
0.96	1090	1.0	1411	8500	**F414_1411 S05 MXN05MA4**	480	**F414_1411 P63 BXN63MA4**	481
1.1	938	1.2	1213	8500	**F414_1213 S05 MXN05MA4**	480	**F414_1213 P63 BXN63MA4**	481
1.2	844	1.3	1092	8500	**F414_1092 S05 MXN05MA4**	480	**F414_1092 P63 BXN63MA4**	481
1.4	759	1.4	982.4	8500	**F414_982.4 S05 MXN05MA4**	480	**F414_982.4 P63 BXN63MA4**	481
1.5	696	1.6	900.5	8500	**F414_900.5 S05 MXN05MA4**	480	**F414_900.5 P63 BXN63MA4**	481
1.6	643	0.9	831.6	6500	**F314_831.6 S05 MXN05MA4**	476	**F314_831.6 P63 BXN63MA4**	477
1.7	629	1.7	813.8	8500	**F414_813.8 S05 MXN05MA4**	480	**F414_813.8 P63 BXN63MA4**	481
1.8	589	1.0	762.3	6500	**F314_762.3 S05 MXN05MA4**	476	**F314_762.3 P63 BXN63MA4**	477
1.8	571	1.9	739.4	8500	**F414_739.4 S05 MXN05MA4**	480	**F414_739.4 P63 BXN63MA4**	481
2.0	530	1.1	685.6	6500	**F314_685.6 S05 MXN05MA4**	476	**F314_685.6 P63 BXN63MA4**	477
2.0	533	2.1	690.1	8500	**F414_690.1 S05 MXN05MA4**	480	**F414_690.1 P63 BXN63MA4**	481
2.2	479	1.3	619.9	6500	**F314_619.9 S05 MXN05MA4**	476	**F314_619.9 P63 BXN63MA4**	477
2.3	456	0.9	589.7	6500	**F254_589.7 S05 MXN05MA4**	472	**F254_589.7 P63 BXN63MA4**	473
2.3	447	1.3	578.6	6500	**F314_578.6 S05 MXN05MA4**	476	**F314_578.6 P63 BXN63MA4**	477
2.5	425	2.6	549.8	8500	**F414_549.8 S05 MXN05MA4**	480	**F414_549.8 P63 BXN63MA4**	481
2.6	408	1.0	527.3	6500	**F254_527.3 S05 MXN05MA4**	472	**F254_527.3 P63 BXN63MA4**	473
2.6	408	1.5	527.8	6500	**F314_527.8 S05 MXN05MA4**	476	**F314_527.8 P63 BXN63MA4**	477
2.9	360	1.1	466.0	6500	**F254_466.0 S05 MXN05MA4**	472	**F254_466.0 P63 BXN63MA4**	473
2.9	358	1.7	462.6	6500	**F314_462.6 S05 MXN05MA4**	476	**F314_462.6 P63 BXN63MA4**	477
3.1	336	1.2	434.9	6500	**F254_434.9 S05 MXN05MA4**	472	**F254_434.9 P63 BXN63MA4**	473
3.1	335	3.3	433.7	8500	**F414_433.7 S05 MXN05MA4**	480	**F414_433.7 P63 BXN63MA4**	481
3.2	324	1.9	418.9	6500	**F314_418.9 S05 MXN05MA4**	476	**F314_418.9 P63 BXN63MA4**	477
3.4	304	1.3	393.9	6500	**F254_393.9 S05 MXN05MA4**	472	**F254_393.9 P63 BXN63MA4**	473
3.6	296	2.0	374.4	6500			**F313_374.4 P63 BXN63MA4**	477
4.1	263	1.5	333.1	6500	**F253_333.1 S05 MXN05MA4**	472	**F253_333.1 P63 BXN63MA4**	473
4.1	263	2.3	332.8	6500			**F313_332.8 P63 BXN63MA4**	477
4.3	250	1.0	316.9	4000	**F203_316.9 S05 MXN05MA4**	468	**F203_316.9 P63 BXN63MA4**	469
4.6	232	2.6	293.8	6500			**F313_293.8 P63 BXN63MA4**	477
4.7	225	1.1	285.2	4000	**F203_285.2 S05 MXN05MA4**	468	**F203_285.2 P63 BXN63MA4**	469
4.7	228	1.8	288.1	6500	**F253_288.1 S05 MXN05MA4**	472	**F253_288.1 P63 BXN63MA4**	473
5.3	202	1.2	255.3	4000	**F203_255.3 S05 MXN05MA4**	468	**F203_255.3 P63 BXN63MA4**	469
5.3	202	2.0	256.1	6500	**F253_256.1 S05 MXN05MA4**	472	**F253_256.1 P63 BXN63MA4**	473
5.3	200	3.0	253.6	6500			**F313_253.6 P63 BXN63MA4**	477
5.9	180	2.2	227.8	6500	**F253_227.8 S05 MXN05MA4**	472	**F253_227.8 P63 BXN63MA4**	473
5.9	180	3.3	228.2	6500			**F313_228.2 P63 BXN63MA4**	477
6.5	165	1.5	209.3	4000	**F203_209.3 S05 MXN05MA4**	468	**F203_209.3 P63 BXN63MA4**	469
7.0	153	2.6	193.6	6500	**F253_193.6 S05 MXN05MA4**	472	**F253_193.6 P63 BXN63MA4**	473
7.3	146	1.7	184.9	4000	**F203_184.9 S05 MXN05MA4**	468	**F203_184.9 P63 BXN63MA4**	469
7.7	138	2.9	174.2	6500	**F253_174.2 S05 MXN05MA4**	472	**F253_174.2 P63 BXN63MA4**	473
7.8	136	1.8	172.6	4000	**F203_172.6 S05 MXN05MA4**	468	**F203_172.6 P63 BXN63MA4**	469
8.6	123	2.0	156.3	4000	**F203_156.3 S05 MXN05MA4**	468	**F203_156.3 P63 BXN63MA4**	469
8.7	123	3.2	155.9	6500	**F253_155.9 S05 MXN05MA4**	472	**F253_155.9 P63 BXN63MA4**	473
9.4	113	3.5	143.0	6500	**F253_143.0 S05 MXN05MA4**	472	**F253_143.0 P63 BXN63MA4**	473
10.2	107	2.3	132.2	4000	**F202_132.2 S05 MXN05MA4**	468	**F202_132.2 P63 BXN63MA4**	469
10.6	103	1.4	127.1	2800	**F102_127.1 S05 MXN05MA4**	464	**F102_127.1 P63 BXN63MA4**	465
11.8	92	2.7	114.3	4000	**F202_114.3 S05 MXN05MA4**	468	**F202_114.3 P63 BXN63MA4**	469
12.7	86	1.6	106.0	2800	**F102_106.0 S05 MXN05MA4**	464	**F102_106.0 P63 BXN63MA4**	465
13.3	82	3.0	101.6	4000	**F202_101.6 S05 MXN05MA4**	468	**F202_101.6 P63 BXN63MA4**	469
14.8	74	1.9	91.5	2800	**F102_91.5 S05 MXN05MA4**	464		
14.9	73	3.4	90.4	4000	**F202_90.4 S05 MXN05MA4**	468		
16.6	66	2.1	81.3	2800	**F102_81.3 S05 MXN05MA4**	464		



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n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		DC IE3	
19.0	57	2.4	71.1	2800	**F102_71.1 S05 MXN05MA4**	464	**F102_71.1 P63 BXN63MA4**	465
21.4	51	2.8	63.0	2800	**F102_63.0 S05 MXN05MA4**	464	**F102_63.0 P63 BXN63MA4**	465
23.8	46	3.1	56.7	2800	**F102_56.7 S05 MXN05MA4**	464	**F102_56.7 P63 BXN63MA4**	465
27.7	39	3.6	48.7	2800	**F102_48.7 S05 MXN05MA4**	464	**F102_48.7 P63 BXN63MA4**	465
30	36	3.9	44.7	2800	**F102_44.7 S05 MXN05MA4**	464	**F102_44.7 P63 BXN63MA4**	465
34	32	4.4	39.6	2800	**F102_39.6 S05 MXN05MA4**	464	**F102_39.6 P63 BXN63MA4**	465
38	29	4.9	35.3	2800	**F102_35.3 S05 MXN05MA4**	464	**F102_35.3 P63 BXN63MA4**	465
41	27	5.3	33.0	2800	**F102_33.0 S05 MXN05MA4**	464	**F102_33.0 P63 BXN63MA4**	465
46	24	5.9	29.6	2800	**F102_29.6 S05 MXN05MA4**	464	**F102_29.6 P63 BXN63MA4**	465
52	21	6.7	25.8	2800	**F102_25.8 S05 MXN05MA4**	464	**F102_25.8 P63 BXN63MA4**	465
59	18	7.6	22.8	2700	**F102_22.8 S05 MXN05MA4**	464	**F102_22.8 P63 BXN63MA4**	465
70	16	8.7	19.3	2560	**F102_19.3 S05 MXN05MA4**	464	**F102_19.3 P63 BXN63MA4**	465
80	14	9.3	17.0	2450	**F102_17.0 S05 MXN05MA4**	464	**F102_17.0 P63 BXN63MA4**	465
92	12	10.1	14.6	2340	**F102_14.6 S05 MXN05MA4**	464	**F102_14.6 P63 BXN63MA4**	465
104	11	9.9	13.0	2250	**F102_13.0 S05 MXN05MA4**	464	**F102_13.0 P63 BXN63MA4**	465
117	9	10.3	11.5	2160	**F102_11.5 S05 MXN05MA4**	464	**F102_11.5 P63 BXN63MA4**	465
138	8	11.3	9.8	2050	**F102_9.8 S05 MXN05MA4**	464		
157	7	11.8	8.6	1970	**F102_8.6 S05 MXN05MA4**	464		
182	6	12.7	7.4	1870	**F102_7.4 S05 MXN05MA4**	464		

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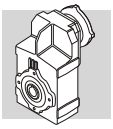
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1	IE2		DC IE1	IE2	
0.41	3804	1.3	2188	35000	**F704_2188 S1 M1SC6**		492	**F704_2188 P71 BN71A6**		493
0.45	3511	1.4	2019	35000	**F704_2019 S1 M1SC6**		492	**F704_2019 P71 BN71A6**		493
0.45	3455	2.3	1987	45000	**F804_1987 S1 M1SC6**		495	**F804_1987 P71 BN71A6**		496
0.49	3189	2.5	1834	45000	**F804_1834 S1 M1SC6**		495	**F804_1834 P71 BN71A6**		496
0.52	2985	1.7	1717	35000	**F704_1717 S1 M1SC6**		492	**F704_1717 P71 BN71A6**		493
0.53	2972	2.7	1709	45000	**F804_1709 S1 M1SC6**		495	**F804_1709 P71 BN71A6**		496
0.57	2756	1.8	1585	35000	**F704_1585 S1 M1SC6**		492	**F704_1585 P71 BN71A6**		493
0.57	2744	2.9	1578	45000	**F804_1578 S1 M1SC6**		495	**F804_1578 P71 BN71A6**		496
0.61	2576	1.9	1481	35000	**F704_1481 S1 M1SC6**		492	**F704_1481 P71 BN71A6**		493
0.65	2406	3.3	1384	45000	**F804_1384 S1 M1SC6**		495	**F804_1384 P71 BN71A6**		496
0.66	2378	2.1	1368	35000	**F704_1368 S1 M1SC6**		492	**F704_1368 P71 BN71A6**		493
0.76	2055	2.4	1182	35000	**F704_1182 S1 M1SC6**		492	**F704_1182 P71 BN71A6**		493
0.77	2030	0.9	1168	12000	**F514_1168 S1 M1SC6**		484	**F514_1168 P71 BN71A6**		485
0.79	1985	1.5	1141	20000	**F604_1141 S1 M1SC6**		488	**F604_1141 P71 BN71A6**		489
0.83	1897	2.6	1091	35000	**F704_1091 S1 M1SC6**		492	**F704_1091 P71 BN71A6**		493
0.84	1861	1.0	1070	12000	**F514_1070 S1 M1SC6**		484	**F514_1070 P71 BN71A6**		485
0.85	1832	1.6	1054	20000	**F604_1054 S1 M1SC6**		488	**F604_1054 P71 BN71A6**		489
0.92	1703	1.1	979.4	12000	**F514_979.4 S1 M1SC6**		484	**F514_979.4 P71 BN71A6**		485
0.92	1694	3.0	974.4	35000	**F704_974.4 S1 M1SC6**		492	**F704_974.4 P71 BN71A6**		493
0.94	1667	1.7	958.9	20000	**F604_958.9 S1 M1SC6**		488	**F604_958.9 P71 BN71A6**		489
1.0	1540	1.2	885.5	12000	**F514_885.5 S1 M1SC6**		484	**F514_885.5 P71 BN71A6**		485
1.0	1539	1.9	885.1	20000	**F604_885.1 S1 M1SC6**		488	**F604_885.1 P71 BN71A6**		489
1.0	1564	3.2	899.4	35000	**F704_899.4 S1 M1SC6**		492	**F704_899.4 P71 BN71A6**		493
1.1	1437	1.3	826.4	12000	**F514_826.4 S1 M1SC6**		484	**F514_826.4 P71 BN71A6**		485
1.1	1430	3.5	822.2	35000	**F704_822.2 S1 M1SC6**		492	**F704_822.2 P71 BN71A6**		493
1.2	1286	0.9	739.4	8500	**F414_739.4 S1 M1SC6**		480	**F414_739.4 P71 BN71A6**		481
1.2	1286	0.9	739.4	8500	**F414_739.4 S1 M1SC6**		480	**F414_739.4 P71 BN71A6**		481
1.3	1200	0.9	690.1	8500	**F414_690.1 S1 M1SC6**		480	**F414_690.1 P71 BN71A6**		481
1.3	1200	0.9	690.1	8500	**F414_690.1 S1 M1SC6**		480	**F414_690.1 P71 BN71A6**		481
1.3	1165	0.9	982.4	8500	**F414_982.4 S05 M05B4**	**F414_982.4 S05 ME05B4**	480	**F414_982.4 P63 BN63B4**	**F414_982.4 P63 BE63B4**	481
1.5	1068	1.0	900.5	8500	**F414_900.5 S05 M05B4**	**F414_900.5 S05 ME05B4**	480	**F414_900.5 P63 BN63B4**	**F414_900.5 P63 BE63B4**	481
1.6	965	1.1	813.8	8500	**F414_813.8 S05 M05B4**	**F414_813.8 S05 ME05B4**	480	**F414_813.8 P63 BN63B4**	**F414_813.8 P63 BE63B4**	481
1.8	877	1.3	739.4	8500	**F414_739.4 S05 M05B4**	**F414_739.4 S05 ME05B4**	480	**F414_739.4 P63 BN63B4**	**F414_739.4 P63 BE63B4**	481
1.9	818	1.3	690.1	8500	**F414_690.1 S05 M05B4**	**F414_690.1 S05 ME05B4**	480	**F414_690.1 P63 BN63B4**	**F414_690.1 P63 BE63B4**	481
2.3	686	0.9	578.6	6500	**F314_578.6 S05 M05B4**	**F314_578.6 S05 ME05B4**	476	**F314_578.6 P63 BN63B4**	**F314_578.6 P63 BE63B4**	477



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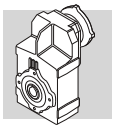
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
2.4	652	1.7	549.8	8500	**F414_549.8 S05 M05B4**	**F414_549.8 S05 ME05B4**	480	**F414_549.8 P63 BN63B4**	**F414_549.8 P63 BE63B4**	481
2.5	626	1.0	527.8	6500	**F314_527.8 S05 M05B4**	**F314_527.8 S05 ME05B4**	476	**F314_527.8 P63 BN63B4**	**F314_527.8 P63 BE63B4**	477
2.9	549	1.1	462.6	6500	**F314_462.6 S05 M05B4**	**F314_462.6 S05 ME05B4**	476	**F314_462.6 P63 BN63B4**	**F314_462.6 P63 BE63B4**	477
3.0	514	2.1	433.7	8500	**F414_433.7 S05 M05B4**	**F414_433.7 S05 ME05B4**	480	**F414_433.7 P63 BN63B4**	**F414_433.7 P63 BE63B4**	481
3.2	497	1.2	418.9	6500	**F314_418.9 S05 M05B4**	**F314_418.9 S05 ME05B4**	476	**F314_418.9 P63 BN63B4**	**F314_418.9 P63 BE63B4**	477
3.4	467	0.9	393.9	6500	**F254_393.9 S05 M05B4**	**F254_393.9 S05 ME05B4**	472	**F254_393.9 P63 BN63B4**	**F254_393.9 P63 BE63B4**	473
3.5	454	1.3	374.4	6500				**F313_374.4 P63 BN63B4**	**F313_374.4 P63 BE63B4**	477
3.8	418	2.6	344.8	8500				**F413_344.8 P63 BN63B4**	**F413_344.8 P63 BE63B4**	481
4.0	404	1.0	333.1	6500	**F253_333.1 S05 M05B4**	**F253_333.1 S05 ME05B4**	472	**F253_333.1 P63 BN63B4**	**F253_333.1 P63 BE63B4**	473
4.0	403	1.5	332.8	6500				**F313_332.8 P63 BN63B4**	**F313_332.8 P63 BE63B4**	477
4.5	356	1.7	293.8	6500				**F313_293.8 P63 BN63B4**	**F313_293.8 P63 BE63B4**	477
4.5	359	3.1	296.6	8500				**F413_296.6 P63 BN63B4**	**F413_296.6 P63 BE63B4**	481
4.6	349	1.1	288.1	6500	**F253_288.1 S05 M05B4**	**F253_288.1 S05 ME05B4**	472	**F253_288.1 P63 BN63B4**	**F253_288.1 P63 BE63B4**	473
4.9	323	3.4	266.9	8500				**F413_266.9 P63 BN63B4**	**F413_266.9 P63 BE63B4**	481
5.2	310	1.3	256.1	6500	**F253_256.1 S05 M05B4**	**F253_256.1 S05 ME05B4**	472	**F253_256.1 P63 BN63B4**	**F253_256.1 P63 BE63B4**	473
5.2	307	2.0	253.6	6500				**F313_253.6 P63 BN63B4**	**F313_253.6 P63 BE63B4**	477
5.8	276	1.4	227.8	6500	**F253_227.8 S05 M05B4**	**F253_227.8 S05 ME05B4**	472	**F253_227.8 P63 BN63B4**	**F253_227.8 P63 BE63B4**	473
5.8	277	2.2	228.2	6500				**F313_228.2 P63 BN63B4**	**F313_228.2 P63 BE63B4**	477
6.3	254	1.0	209.3	4000	**F203_209.3 S05 M05B4**	**F203_209.3 S05 ME05B4**	468	**F203_209.3 P63 BN63B4**	**F203_209.3 P63 BE63B4**	469
6.5	245	2.4	202.3	6500				**F313_202.3 P63 BN63B4**	**F313_202.3 P63 BE63B4**	477
6.8	235	1.7	193.6	6500	**F253_193.6 S05 M05B4**	**F253_193.6 S05 ME05B4**	472	**F253_193.6 P63 BN63B4**	**F253_193.6 P63 BE63B4**	473
7.1	224	1.1	184.9	4000	**F203_184.9 S05 M05B4**	**F203_184.9 S05 ME05B4**	468	**F203_184.9 P63 BN63B4**	**F203_184.9 P63 BE63B4**	469
7.1	225	2.7	185.4	6500				**F313_185.4 P63 BN63B4**	**F313_185.4 P63 BE63B4**	477
7.6	209	1.2	172.6	4000	**F203_172.6 S05 M05B4**	**F203_172.6 S05 ME05B4**	468	**F203_172.6 P63 BN63B4**	**F203_172.6 P63 BE63B4**	469
7.6	211	1.9	174.2	6500	**F253_174.2 S05 M05B4**	**F253_174.2 S05 ME05B4**	472	**F253_174.2 P63 BN63B4**	**F253_174.2 P63 BE63B4**	473
7.9	202	3.0	166.8	6500				**F313_166.8 P63 BN63B4**	**F313_166.8 P63 BE63B4**	477
8.4	189	1.3	156.3	4000	**F203_156.3 S05 M05B4**	**F203_156.3 S05 ME05B4**	468	**F203_156.3 P63 BN63B4**	**F203_156.3 P63 BE63B4**	469
8.5	189	2.1	155.9	6500	**F253_155.9 S05 M05B4**	**F253_155.9 S05 ME05B4**	472	**F253_155.9 P63 BN63B4**	**F253_155.9 P63 BE63B4**	473
8.8	183	3.3	150.8	6500				**F313_150.8 P63 BN63B4**	**F313_150.8 P63 BE63B4**	477
9.2	173	2.3	143.0	6500	**F253_143.0 S05 M05B4**	**F253_143.0 S05 ME05B4**	472	**F253_143.0 P63 BN63B4**	**F253_143.0 P63 BE63B4**	473
9.4	171	3.5	140.7	6500				**F313_140.7 P63 BN63B4**	**F313_140.7 P63 BE63B4**	477
10.0	164	1.5	132.2	4000	**F202_132.2 S05 M05B4**	**F202_132.2 S05 ME05B4**	468	**F202_132.2 P63 BN63B4**	**F202_132.2 P63 BE63B4**	469
10.3	155	2.6	127.8	6500	**F253_127.8 S05 M05B4**	**F253_127.8 S05 ME05B4**	472	**F253_127.8 P63 BN63B4**	**F253_127.8 P63 BE63B4**	473
10.4	157	0.9	127.1	2800	**F102_127.1 S05 M05B4**	**F102_127.1 S05 ME05B4**	464	**F102_127.1 P63 BN63B4**	**F102_127.1 P63 BE63B4**	465
11.5	142	1.8	114.3	4000	**F202_114.3 S05 M05B4**	**F202_114.3 S05 ME05B4**	468	**F202_114.3 P63 BN63B4**	**F202_114.3 P63 BE63B4**	469
11.7	137	2.9	113.0	6500	**F253_113.0 S05 M05B4**	**F253_113.0 S05 ME05B4**	472	**F253_113.0 P63 BN63B4**	**F253_113.0 P63 BE63B4**	473
12.5	131	1.1	106.0	2800	**F102_106.0 S05 M05B4**	**F102_106.0 S05 ME05B4**	464	**F102_106.0 P63 BN63B4**	**F102_106.0 P63 BE63B4**	465
12.5	128	3.1	105.4	6500	**F253_105.4 S05 M05B4**	**F253_105.4 S05 ME05B4**	472	**F253_105.4 P63 BN63B4**	**F253_105.4 P63 BE63B4**	473
13.0	126	2.0	101.6	4000	**F202_101.6 S05 M05B4**	**F202_101.6 S05 ME05B4**	468	**F202_101.6 P63 BN63B4**	**F202_101.6 P63 BE63B4**	469
13.8	116	3.5	95.5	6500	**F253_95.5 S05 M05B4**	**F253_95.5 S05 ME05B4**	472	**F253_95.5 P63 BN63B4**	**F253_95.5 P63 BE63B4**	473
14.4	113	1.2	91.5	2800	**F102_91.5 S05 M05B4**	**F102_91.5 S05 ME05B4**	464	**F102_91.5 P63 BN63B4**	**F102_91.5 P63 BE63B4**	465
14.6	112	2.2	90.4	4000	**F202_90.4 S05 M05B4**	**F202_90.4 S05 ME05B4**	468	**F202_90.4 P63 BN63B4**	**F202_90.4 P63 BE63B4**	469
16.2	101	1.4	81.3	2800	**F102_81.3 S05 M05B4**	**F102_81.3 S05 ME05B4**	464	**F102_81.3 P63 BN63B4**	**F102_81.3 P63 BE63B4**	465
17.2	95	2.6	76.8	4000	**F202_76.8 S05 M05B4**	**F202_76.8 S05 ME05B4**	468	**F202_76.8 P63 BN63B4**	**F202_76.8 P63 BE63B4**	469
18.6	88	1.6	71.1	2800	**F102_71.1 S05 M05B4**	**F102_71.1 S05 ME05B4**	464	**F102_71.1 P63 BN63B4**	**F102_71.1 P63 BE63B4**	465
19.1	86	2.9	69.1	4000	**F202_69.1 S05 M05B4**	**F202_69.1 S05 ME05B4**	468	**F202_69.1 P63 BN63B4**	**F202_69.1 P63 BE63B4**	469
21.0	78	1.8	63.0	2800	**F102_63.0 S05 M05B4**	**F102_63.0 S05 ME05B4**	464	**F102_63.0 P63 BN63B4**	**F102_63.0 P63 BE63B4**	465
21.3	77	3.3	61.9	4000	**F202_61.9 S05 M05B4**	**F202_61.9 S05 ME05B4**	468	**F202_61.9 P63 BN63B4**	**F202_61.9 P63 BE63B4**	469
23.3	70	2.0	56.7	2800	**F102_56.7 S05 M05B4**	**F102_56.7 S05 ME05B4**	464	**F102_56.7 P63 BN63B4**	**F102_56.7 P63 BE63B4**	465
27.1	60	2.3	48.7	2800	**F102_48.7 S05 M05B4**	**F102_48.7 S05 ME05B4**	464	**F102_48.7 P63 BN63B4**	**F102_48.7 P63 BE63B4**	465
29.6	55	2.5	44.7	2800	**F102_44.7 S05 M05B4**	**F102_44.7 S05 ME05B4**	464	**F102_44.7 P63 BN63B4**	**F102_44.7 P63 BE63B4**	465
33	49	2.9	39.6	2800	**F102_39.6 S05 M05B4**	**F102_39.6 S05 ME05B4**	464	**F102_39.6 P63 BN63B4**	**F102_39.6 P63 BE63B4**	465
37	44	3.2	35.3	2800	**F102_35.3 S05 M05B4**	**F102_35.3 S05 ME05B4**	464	**F102_35.3 P63 BN63B4**	**F102_35.3 P63 BE63B4**	465
40	41	3.4	33.0	2800	**F102_33.0 S05 M05B4**	**F102_33.0 S05 ME05B4**	464	**F102_33.0 P63 BN63B4**	**F102_33.0 P63 BE63B4**	465
45	37	3.8	29.6	2800	**F102_29.6 S05 M05B4**	**F102_29.6 S05 ME05B4**	464	**F102_29.6 P63 BN63B4**	**F102_29.6 P63 BE63B4**	465
51	32	4.4	25.8	2780	**F102_25.8 S05 M05B4**	**F102_25.8 S05 ME05B4**	464	**F102_25.8 P63 BN63B4**	**F102_25.8 P63 BE63B4**	465
58	28	5.0	22.8	2680	**F102_22.8 S05 M05B4**	**F102_22.8 S05 ME05B4**	464	**F102_22.8 P63 BN63B4**	**F102_22.8 P63 BE63B4**	465
68	24	5.7	19.3	2540	**F102_19.3 S05 M05B4**	**F102_19.3 S05 ME05B4**	464	**F102_19.3 P63 BN63B4**	**F102_19.3 P63 BE63B4**	465
78	21	6.1	17.0	2440	**F102_17.0 S05 M05B4**	**F102_17.0 S05 ME05B4**	464	**F102_17.0 P63 BN63B4**	**F102_17.0 P63 BE63B4**	465
90	18	6.6	14.6	2330	**F102_14.6 S05 M05B4**	**F102_14.6 S05 ME05B4**	464	**F102_14.6 P63 BN63B4**	**F102_14.6 P63 BE63B4**	465
101	16	6.4	13.0	2240	**F102_13.0 S05 M05B4**	**F102_13.0 S05 ME05B4**	464	**F102_13.0 P63 BN63B4**	**F102_13.0 P63 BE63B4**	465
114	14	6.7	11.5	2150	**F102_11.5 S05 M05B4**	**F102_11.5 S05 ME05B4**	464	**F102_11.5 P63 BN63B4**	**F102_11.5 P63 BE63B4**	465
135	12	7.4	9.8	2040	**F102_9.8 S05 M05B4**	**F102_9.8 S05 ME05B4**	464	**F102_9.8 P63 BN63B4**	**F102_9.8 P63 BE63B4**	465
154	11	7.7	8.6	1960	**F102_8.6 S05 M05B4**	**F102_8.6 S05 ME05B4**	464	**F102_8.6 P63 BN63B4**	**F102_8.6 P63 BE63B4**	465
178	9	8.3	7.4	1870	**F102_7.4 S05 M05B4**	**F102_7.4 S05 ME05B4**	464	**F102_7.4 P63 BN63B4**	**F102_7.4 P63 BE63B4**	465



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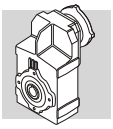
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
186	9	10.7	14.6	1860	**F102_14.6 S05 M05A2**		464	**F102_14.6 P63 BN63A2**		465
210	8	10.9	13.0	1790	**F102_13.0 S05 M05A2**		464	**F102_13.0 P63 BN63A2**		465
237	7	11.3	11.5	1720	**F102_11.5 S05 M05A2**		464	**F102_11.5 P63 BN63A2**		465
279	6	12.5	9.8	1630	**F102_9.8 S05 M05A2**		464	**F102_9.8 P63 BN63A2**		465
318	5	13.0	8.6	1560	**F102_8.6 S05 M05A2**		464	**F102_8.6 P63 BN63A2**		465
369	4	14.2	7.4	1490	**F102_7.4 S05 M05A2**		464	**F102_7.4 P63 BN63A2**		465

0.18 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.41	3804	1.3	2188	35000				
0.45	3511	1.4	2019	35000				
0.45	3455	2.3	1987	45000				
0.49	3189	2.5	1834	45000				
0.52	2985	1.7	1717	35000				
0.53	2972	2.7	1709	45000				
0.57	2756	1.8	1585	35000				
0.57	2744	2.9	1578	45000				
0.61	2576	1.9	1481	35000				
0.65	2406	3.3	1384	45000				
0.66	2378	2.1	1368	35000				
0.76	2055	2.4	1182	35000				
0.77	2030	0.9	1168	12000				
0.79	1985	1.5	1141	20000				
0.83	1897	2.6	1091	35000				
0.84	1861	1.0	1070	12000				
0.85	1832	1.6	1054	20000				
0.92	1703	1.1	979.4	12000				
0.92	1694	3.0	974.4	35000				
0.94	1667	1.7	958.9	20000				
1.0	1540	1.2	885.5	12000				
1.0	1539	1.9	885.1	20000				
1.0	1564	3.2	899.4	35000				
1.1	1437	1.3	826.4	12000				
1.1	1430	3.5	822.2	35000				
1.2	1286	0.9	739.4	8500				
1.2	1286	0.9	739.4	8500				
1.3	1200	0.9	690.1	8500				
1.3	1200	0.9	690.1	8500				
1.3	1165	0.9	982.4	8500	**F414_982.4 S05 MXN05MB4**	480	**F414_982.4 P63 BXN63MB4**	481
1.5	1068	1.0	900.5	8500	**F414_900.5 S05 MXN05MB4**	480	**F414_900.5 P63 BXN63MB4**	481
1.6	965	1.1	813.8	8500	**F414_813.8 S05 MXN05MB4**	480	**F414_813.8 P63 BXN63MB4**	481
1.8	877	1.3	739.4	8500	**F414_739.4 S05 MXN05MB4**	480	**F414_739.4 P63 BXN63MB4**	481
1.9	818	1.3	690.1	8500	**F414_690.1 S05 MXN05MB4**	480	**F414_690.1 P63 BXN63MB4**	481
2.3	686	0.9	578.6	6500	**F314_578.6 S05 MXN05MB4**	476	**F314_578.6 P63 BXN63MB4**	477
2.4	652	1.7	549.8	8500	**F414_549.8 S05 MXN05MB4**	480	**F414_549.8 P63 BXN63MB4**	481
2.5	626	1.0	527.8	6500	**F314_527.8 S05 MXN05MB4**	476	**F314_527.8 P63 BXN63MB4**	477
2.9	549	1.1	462.6	6500	**F314_462.6 S05 MXN05MB4**	476	**F314_462.6 P63 BXN63MB4**	477
3.0	514	2.1	433.7	8500	**F414_433.7 S05 MXN05MB4**	480	**F414_433.7 P63 BXN63MB4**	481
3.2	497	1.2	418.9	6500	**F314_418.9 S05 MXN05MB4**	476	**F314_418.9 P63 BXN63MB4**	477
3.4	467	0.9	393.9	6500	**F254_393.9 S05 MXN05MB4**	472	**F254_393.9 P63 BXN63MB4**	473
3.5	454	1.3	374.4	6500			**F313_374.4 P63 BXN63MB4**	477
3.8	418	2.6	344.8	8500			**F413_344.8 P63 BXN63MB4**	481
4.0	404	1.0	333.1	6500	**F253_333.1 S05 MXN05MB4**	472	**F253_333.1 P63 BXN63MB4**	473
4.0	403	1.5	332.8	6500			**F313_332.8 P63 BXN63MB4**	477
4.5	356	1.7	293.8	6500			**F313_293.8 P63 BXN63MB4**	477
4.5	359	3.1	296.6	8500			**F413_296.6 P63 BXN63MB4**	481
4.6	349	1.1	288.1	6500	**F253_288.1 S05 MXN05MB4**	472	**F253_288.1 P63 BXN63MB4**	473



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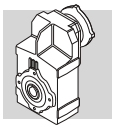
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
4.9	323	3.4	266.9	8500			**F413_266.9 P63 BXN63MB4**	481
5.2	310	1.3	256.1	6500	**F253_256.1 S05 MXN05MB4**	472	**F253_256.1 P63 BXN63MB4**	473
5.2	307	2.0	253.6	6500			**F313_253.6 P63 BXN63MB4**	477
5.8	276	1.4	227.8	6500	**F253_227.8 S05 MXN05MB4**	472	**F253_227.8 P63 BXN63MB4**	473
5.8	277	2.2	228.2	6500			**F313_228.2 P63 BXN63MB4**	477
6.3	254	1.0	209.3	4000	**F203_209.3 S05 MXN05MB4**	468	**F203_209.3 P63 BXN63MB4**	469
6.5	245	2.4	202.3	6500			**F313_202.3 P63 BXN63MB4**	477
6.8	235	1.7	193.6	6500	**F253_193.6 S05 MXN05MB4**	472	**F253_193.6 P63 BXN63MB4**	473
7.1	224	1.1	184.9	4000	**F203_184.9 S05 MXN05MB4**	468	**F203_184.9 P63 BXN63MB4**	469
7.1	225	2.7	185.4	6500			**F313_185.4 P63 BXN63MB4**	477
7.6	209	1.2	172.6	4000	**F203_172.6 S05 MXN05MB4**	468	**F203_172.6 P63 BXN63MB4**	469
7.6	211	1.9	174.2	6500	**F253_174.2 S05 MXN05MB4**	472	**F253_174.2 P63 BXN63MB4**	473
7.9	202	3.0	166.8	6500			**F313_166.8 P63 BXN63MB4**	477
8.4	189	1.3	156.3	4000	**F203_156.3 S05 MXN05MB4**	468	**F203_156.3 P63 BXN63MB4**	469
8.5	189	2.1	155.9	6500	**F253_155.9 S05 MXN05MB4**	472	**F253_155.9 P63 BXN63MB4**	473
8.8	183	3.3	150.8	6500			**F313_150.8 P63 BXN63MB4**	477
9.2	173	2.3	143.0	6500	**F253_143.0 S05 MXN05MB4**	472	**F253_143.0 P63 BXN63MB4**	473
9.4	171	3.5	140.7	6500			**F313_140.7 P63 BXN63MB4**	477
10.0	164	1.5	132.2	4000	**F202_132.2 S05 MXN05MB4**	468	**F202_132.2 P63 BXN63MB4**	469
10.3	155	2.6	127.8	6500	**F253_127.8 S05 MXN05MB4**	472	**F253_127.8 P63 BXN63MB4**	473
10.4	157	0.9	127.1	2800	**F102_127.1 S05 MXN05MB4**	464	**F102_127.1 P63 BXN63MB4**	465
11.5	142	1.8	114.3	4000	**F202_114.3 S05 MXN05MB4**	468	**F202_114.3 P63 BXN63MB4**	469
11.7	137	2.9	113.0	6500	**F253_113.0 S05 MXN05MB4**	472	**F253_113.0 P63 BXN63MB4**	473
12.5	131	1.1	106.0	2800	**F102_106.0 S05 MXN05MB4**	464	**F102_106.0 P63 BXN63MB4**	465
12.5	128	3.1	105.4	6500	**F253_105.4 S05 MXN05MB4**	472	**F253_105.4 P63 BXN63MB4**	473
13.0	126	2.0	101.6	4000	**F202_101.6 S05 MXN05MB4**	468	**F202_101.6 P63 BXN63MB4**	469
13.8	116	3.5	95.5	6500	**F253_95.5 S05 MXN05MB4**	472	**F253_95.5 P63 BXN63MB4**	473
14.4	113	1.2	91.5	2800	**F102_91.5 S05 MXN05MB4**	464	**F102_91.5 P63 BXN63MB4**	465
14.6	112	2.2	90.4	4000	**F202_90.4 S05 MXN05MB4**	468	**F202_90.4 P63 BXN63MB4**	469
16.2	101	1.4	81.3	2800	**F102_81.3 S05 MXN05MB4**	464	**F102_81.3 P63 BXN63MB4**	465
17.2	95	2.6	76.8	4000	**F202_76.8 S05 MXN05MB4**	468	**F202_76.8 P63 BXN63MB4**	469
18.6	88	1.6	71.1	2800	**F102_71.1 S05 MXN05MB4**	464	**F102_71.1 P63 BXN63MB4**	465
19.1	86	2.9	69.1	4000	**F202_69.1 S05 MXN05MB4**	468	**F202_69.1 P63 BXN63MB4**	469
21.0	78	1.8	63.0	2800	**F102_63.0 S05 MXN05MB4**	464	**F102_63.0 P63 BXN63MB4**	465
21.3	77	3.3	61.9	4000	**F202_61.9 S05 MXN05MB4**	468	**F202_61.9 P63 BXN63MB4**	469
23.3	70	2.0	56.7	2800	**F102_56.7 S05 MXN05MB4**	464	**F102_56.7 P63 BXN63MB4**	465
27.1	60	2.3	48.7	2800	**F102_48.7 S05 MXN05MB4**	464	**F102_48.7 P63 BXN63MB4**	465
29.6	55	2.5	44.7	2800	**F102_44.7 S05 MXN05MB4**	464	**F102_44.7 P63 BXN63MB4**	465
33	49	2.9	39.6	2800	**F102_39.6 S05 MXN05MB4**	464	**F102_39.6 P63 BXN63MB4**	465
37	44	3.2	35.3	2800	**F102_35.3 S05 MXN05MB4**	464	**F102_35.3 P63 BXN63MB4**	465
40	41	3.4	33.0	2800	**F102_33.0 S05 MXN05MB4**	464	**F102_33.0 P63 BXN63MB4**	465
45	37	3.8	29.6	2800	**F102_29.6 S05 MXN05MB4**	464	**F102_29.6 P63 BXN63MB4**	465
51	32	4.4	25.8	2780	**F102_25.8 S05 MXN05MB4**	464	**F102_25.8 P63 BXN63MB4**	465
58	28	5.0	22.8	2680	**F102_22.8 S05 MXN05MB4**	464	**F102_22.8 P63 BXN63MB4**	465
68	24	5.7	19.3	2540	**F102_19.3 S05 MXN05MB4**	464	**F102_19.3 P63 BXN63MB4**	465
78	21	6.1	17.0	2440	**F102_17.0 S05 MXN05MB4**	464	**F102_17.0 P63 BXN63MB4**	465
90	18	6.6	14.6	2330	**F102_14.6 S05 MXN05MB4**	464	**F102_14.6 P63 BXN63MB4**	465
101	16	6.4	13.0	2240	**F102_13.0 S05 MXN05MB4**	464	**F102_13.0 P63 BXN63MB4**	465
114	14	6.7	11.5	2150	**F102_11.5 S05 MXN05MB4**	464	**F102_11.5 P63 BXN63MB4**	465
135	12	7.4	9.8	2040	**F102_9.8 S05 MXN05MB4**	464	**F102_9.8 P63 BXN63MB4**	465
154	11	7.7	8.6	1960	**F102_8.6 S05 MXN05MB4**	464	**F102_8.6 P63 BXN63MB4**	465
178	9	8.3	7.4	1870	**F102_7.4 S05 MXN05MB4**	464	**F102_7.4 P63 BXN63MB4**	465
186	9	10.7	14.6	1860				
210	8	10.9	13.0	1790				
237	7	11.3	11.5	1720				
279	6	12.5	9.8	1630				
318	5	13.0	8.6	1560				
369	4	14.2	7.4	1490				



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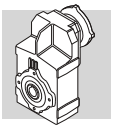
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
0.41	5283	0.9	2188	35000	**F704_2188 S1 M1SD6**		492	**F704_2188 P71 BN71B6**		493
0.45	4877	1.0	2019	35000	**F704_2019 S1 M1SD6**		492	**F704_2019 P71 BN71B6**		493
0.45	4799	1.7	1987	45000	**F804_1987 S1 M1SD6**		495	**F804_1987 P71 BN71B6**		496
0.49	4430	1.8	1834	45000	**F804_1834 S1 M1SD6**		495	**F804_1834 P71 BN71B6**		496
0.52	4146	1.2	1717	35000	**F704_1717 S1 M1SD6**		492	**F704_1717 P71 BN71B6**		493
0.53	4128	1.9	1709	45000	**F804_1709 S1 M1SD6**		495	**F804_1709 P71 BN71B6**		496
0.57	3827	1.3	1585	35000	**F704_1585 S1 M1SD6**		492	**F704_1585 P71 BN71B6**		493
0.57	3810	2.1	1578	45000	**F804_1578 S1 M1SD6**		495	**F804_1578 P71 BN71B6**		496
0.61	3578	1.4	1481	35000	**F704_1481 S1 M1SD6**		492	**F704_1481 P71 BN71B6**		493
0.65	3342	2.4	1384	45000	**F804_1384 S1 M1SD6**		495	**F804_1384 P71 BN71B6**		496
0.66	3303	1.5	1368	35000	**F704_1368 S1 M1SD6**		492	**F704_1368 P71 BN71B6**		493
0.70	3085	2.6	1277	45000	**F804_1277 S1 M1SD6**		495	**F804_1277 P71 BN71B6**		496
0.76	2854	1.8	1182	35000	**F704_1182 S1 M1SD6**		492	**F704_1182 P71 BN71B6**		493
0.79	2757	1.1	1141	20000	**F604_1141 S1 M1SD6**		488	**F604_1141 P71 BN71B6**		489
0.79	2769	2.9	1146	45000	**F804_1146 S1 M1SD6**		495	**F804_1146 P71 BN71B6**		496
0.83	2635	1.9	1091	35000	**F704_1091 S1 M1SD6**		492	**F704_1091 P71 BN71B6**		493
0.85	2545	1.1	1054	20000	**F604_1054 S1 M1SD6**		488	**F604_1054 P71 BN71B6**		489
0.85	2556	3.1	1058	45000	**F804_1058 S1 M1SD6**		495	**F804_1058 P71 BN71B6**		496
0.92	2353	2.1	974.4	35000	**F704_974.4 S1 M1SD6**		492	**F704_974.4 P71 BN71B6**		493
0.94	2316	1.3	958.9	20000	**F604_958.9 S1 M1SD6**		488	**F604_958.9 P71 BN71B6**		489
1.0	2138	1.4	885.1	20000	**F604_885.1 S1 M1SD6**		488	**F604_885.1 P71 BN71B6**		489
1.0	2172	2.3	899.4	35000	**F704_899.4 S1 M1SD6**		492	**F704_899.4 P71 BN71B6**		493
1.1	1996	0.9	826.4	12000	**F514_826.4 S1 M1SD6**		484	**F514_826.4 P71 BN71B6**		485
1.1	1986	2.5	822.2	35000	**F704_822.2 S1 M1SD6**		492	**F704_822.2 P71 BN71B6**		493
1.3	1633	1.1	676.3	12000	**F514_676.3 S1 M1SD6**		484	**F514_676.3 P71 BN71B6**		485
1.4	1600	1.8	662.4	20000	**F604_662.4 S1 M1SD6**		488	**F604_662.4 P71 BN71B6**		489
1.4	1588	3.1	657.4	35000	**F704_657.4 S1 M1SD6**		492	**F704_657.4 P71 BN71B6**		493
1.5	1477	2.0	611.4	20000	**F604_611.4 S1 M1SD6**		488	**F604_611.4 P71 BN71B6**		489
1.5	1466	3.4	606.8	35000	**F704_606.8 S1 M1SD6**		492	**F704_606.8 P71 BN71B6**		493
1.7	1282	0.9	813.8	8500	**F414_813.8 S05 M05C4**	**F414_813.8 S1 ME1SA4**	480	**F414_813.8 P71 BN71A4**	**F414_813.8 P71 BE71A4**	481
1.8	1199	0.9	739.4	8500	**F414_739.4 S05 M05C4**	**F414_739.4 S1 ME1SA4**	480	**F414_739.4 P71 BN71A4**	**F414_739.4 P71 BE71A4**	481
1.9	1119	1.0	690.1	8500	**F414_690.1 S05 M05C4**	**F414_690.1 S1 ME1SA4**	480	**F414_690.1 P71 BN71A4**	**F414_690.1 P71 BE71A4**	481
2.4	892	1.2	549.8	8500	**F414_549.8 S05 M05C4**	**F414_549.8 S1 ME1SA4**	480	**F414_549.8 P71 BN71A4**	**F414_549.8 P71 BE71A4**	481
2.8	783	2.3	317.3	12000	**F513_317.3 S1 M1SD6**		484	**F513_317.3 P71 BN71B6**		485
3.1	704	1.6	433.7	8500	**F414_433.7 S05 M05C4**	**F414_433.7 S1 ME1SA4**	480	**F414_433.7 P71 BN71A4**	**F414_433.7 P71 BE71A4**	481
3.2	679	0.9	418.9	6500	**F314_418.9 S05 M05C4**	**F314_418.9 S1 ME1SA4**	476	**F314_418.9 P71 BN71A4**	**F314_418.9 P71 BE71A4**	477
3.7	603	1.0	374.4	6500				**F313_374.4 P71 BN71A4**	**F313_374.4 P71 BE71A4**	477
4.0	555	2.0	344.8	8500				**F413_344.8 P71 BN71A4**	**F413_344.8 P71 BE71A4**	481
4.1	536	1.1	332.8	6500				**F313_332.8 P71 BN71A4**	**F313_332.8 P71 BE71A4**	477
4.7	473	1.3	293.8	6500				**F313_293.8 P71 BN71A4**	**F313_293.8 P71 BE71A4**	477
4.7	477	2.3	296.6	8500				**F413_296.6 P71 BN71A4**	**F413_296.6 P71 BE71A4**	481
5.2	425	0.9	256.1	6500	**F253_256.1 S05 M05C4**	**F253_256.1 S1 ME1SA4**	472	**F253_256.1 P71 BN71A4**	**F253_256.1 P71 BE71A4**	473
5.2	430	2.6	266.9	8500				**F413_266.9 P71 BN71A4**	**F413_266.9 P71 BE71A4**	481
5.4	408	1.5	253.6	6500				**F313_253.6 P71 BN71A4**	**F313_253.6 P71 BE71A4**	477
5.7	387	2.8	240.1	8500				**F413_240.1 P71 BN71A4**	**F413_240.1 P71 BE71A4**	481
5.9	378	1.1	227.8	6500	**F253_227.8 S05 M05C4**	**F253_227.8 S1 ME1SA4**	472	**F253_227.8 P71 BN71A4**	**F253_227.8 P71 BE71A4**	473
6.0	367	1.6	228.2	6500				**F313_228.2 P71 BN71A4**	**F313_228.2 P71 BE71A4**	477
6.3	354	3.1	220.1	8500				**F413_220.1 P71 BN71A4**	**F413_220.1 P71 BE71A4**	481
6.8	326	1.8	202.3	6500				**F313_202.3 P71 BN71A4**	**F313_202.3 P71 BE71A4**	477
6.9	321	1.2	193.6	6500	**F253_193.6 S05 M05C4**	**F253_193.6 S1 ME1SA4**	472	**F253_193.6 P71 BN71A4**	**F253_193.6 P71 BE71A4**	473
6.9	320	3.4	198.9	8500				**F413_198.9 P71 BN71A4**	**F413_198.9 P71 BE71A4**	481
7.4	299	2.0	185.4	6500				**F313_185.4 P71 BN71A4**	**F313_185.4 P71 BE71A4**	477
7.7	289	1.4	174.2	6500	**F253_174.2 S05 M05C4**	**F253_174.2 S1 ME1SA4**	472	**F253_174.2 P71 BN71A4**	**F253_174.2 P71 BE71A4**	473
8.0	278	0.9	172.6	4000	**F203_172.6 S05 M05C4**	**F203_172.6 S1 ME1SA4**	468	**F203_172.6 P71 BN71A4**	**F203_172.6 P71 BE71A4**	469
8.3	268	2.2	166.8	6500				**F313_166.8 P71 BN71A4**	**F313_166.8 P71 BE71A4**	477
8.6	259	1.0	156.3	4000	**F203_156.3 S05 M05C4**	**F203_156.3 S1 ME1SA4**	468	**F203_156.3 P71 BN71A4**	**F203_156.3 P71 BE71A4**	469
8.6	259	1.5	155.9	6500	**F253_155.9 S05 M05C4**	**F253_155.9 S1 ME1SA4**	472	**F253_155.9 P71 BN71A4**	**F253_155.9 P71 BE71A4**	473
9.2	243	2.5	150.8	6500				**F313_150.8 P71 BN71A4**	**F313_150.8 P71 BE71A4**	477
9.7	230	1.7	143.0	6500	**F253_143.0 S05 M05C4**	**F253_143.0 S1 ME1SA4**	472	**F253_143.0 P71 BN71A4**	**F253_143.0 P71 BE71A4**	473
9.8	227	2.6	140.7	6500				**F313_140.7 P71 BN71A4**	**F313_140.7 P71 BE71A4**	477



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n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
10.1	224	1.1	132.2	4000	**F202_132.2 S05 M05C4**	**F202_132.2 S1 ME1SA4**	468	**F202_132.2 P71 BN71A4**	**F202_132.2 P71 BE71A4**	469
10.5	212	1.9	127.8	6500	**F253_127.8 S05 M05C4**	**F253_127.8 S1 ME1SA4**	472	**F253_127.8 P71 BN71A4**	**F253_127.8 P71 BE71A4**	473
10.7	207	2.9	128.4	6500				**F313_128.4 P71 BN71A4**	**F313_128.4 P71 BE71A4**	477
11.7	194	1.3	114.3	4000	**F202_114.3 S05 M05C4**	**F202_114.3 S1 ME1SA4**	468	**F202_114.3 P71 BN71A4**	**F202_114.3 P71 BE71A4**	469
12.2	182	2.2	113.0	6500	**F253_113.0 S05 M05C4**	**F253_113.0 S1 ME1SA4**	472	**F253_113.0 P71 BN71A4**	**F253_113.0 P71 BE71A4**	473
12.3	181	3.3	112.5	6500				**F313_112.5 P71 BN71A4**	**F313_112.5 P71 BE71A4**	477
12.7	175	2.3	105.4	6500	**F253_105.4 S05 M05C4**	**F253_105.4 S1 ME1SA4**	472	**F253_105.4 P71 BN71A4**	**F253_105.4 P71 BE71A4**	473
13.2	172	1.5	101.6	4000	**F202_101.6 S05 M05C4**	**F202_101.6 S1 ME1SA4**	468	**F202_101.6 P71 BN71A4**	**F202_101.6 P71 BE71A4**	469
14.0	158	2.5	95.5	6500	**F253_95.5 S05 M05C4**	**F253_95.5 S1 ME1SA4**	472	**F253_95.5 P71 BN71A4**	**F253_95.5 P71 BE71A4**	473
14.6	155	0.9	91.5	2800	**F102_91.5 S05 M05C4**	**F102_91.5 S1 ME1SA4**	464	**F102_91.5 P71 BN71A4**	**F102_91.5 P71 BE71A4**	465
14.8	153	1.6	90.4	4000	**F202_90.4 S05 M05C4**	**F202_90.4 S1 ME1SA4**	468	**F202_90.4 P71 BN71A4**	**F202_90.4 P71 BE71A4**	469
16.1	138	2.9	83.4	6500	**F253_83.4 S05 M05C4**	**F253_83.4 S1 ME1SA4**	472	**F253_83.4 P71 BN71A4**	**F253_83.4 P71 BE71A4**	473
16.5	138	1.0	81.3	2800	**F102_81.3 S05 M05C4**	**F102_81.3 S1 ME1SA4**	464	**F102_81.3 P71 BN71A4**	**F102_81.3 P71 BE71A4**	465
17.4	130	1.9	76.8	4000	**F202_76.8 S05 M05C4**	**F202_76.8 S1 ME1SA4**	468	**F202_76.8 P71 BN71A4**	**F202_76.8 P71 BE71A4**	469
17.5	127	3.2	76.6	6420	**F253_76.6 S05 M05C4**	**F253_76.6 S1 ME1SA4**	472	**F253_76.6 P71 BN71A4**	**F253_76.6 P71 BE71A4**	473
18.8	120	1.2	71.1	2800	**F102_71.1 S05 M05C4**	**F102_71.1 S1 ME1SA4**	464	**F102_71.1 P71 BN71A4**	**F102_71.1 P71 BE71A4**	465
19.4	117	2.1	69.1	4000	**F202_69.1 S05 M05C4**	**F202_69.1 S1 ME1SA4**	468	**F202_69.1 P71 BN71A4**	**F202_69.1 P71 BE71A4**	469
21.3	107	1.3	63.0	2800	**F102_63.0 S05 M05C4**	**F102_63.0 S1 ME1SA4**	464	**F102_63.0 P71 BN71A4**	**F102_63.0 P71 BE71A4**	465
21.7	105	2.4	61.9	4000	**F202_61.9 S05 M05C4**	**F202_61.9 S1 ME1SA4**	468	**F202_61.9 P71 BN71A4**	**F202_61.9 P71 BE71A4**	469
23.6	96	1.5	56.7	2800	**F102_56.7 S05 M05C4**	**F102_56.7 S1 ME1SA4**	464	**F102_56.7 P71 BN71A4**	**F102_56.7 P71 BE71A4**	465
23.6	96	2.6	56.7	4000	**F202_56.7 S05 M05C4**	**F202_56.7 S1 ME1SA4**	468	**F202_56.7 P71 BN71A4**	**F202_56.7 P71 BE71A4**	469
26.4	86	2.9	50.7	4000	**F202_50.7 S05 M05C4**	**F202_50.7 S1 ME1SA4**	468	**F202_50.7 P71 BN71A4**	**F202_50.7 P71 BE71A4**	469
27.5	83	1.7	48.7	2800	**F102_48.7 S05 M05C4**	**F102_48.7 S1 ME1SA4**	464	**F102_48.7 P71 BN71A4**	**F102_48.7 P71 BE71A4**	465
29.9	76	3.3	44.8	3870	**F202_44.8 S05 M05C4**	**F202_44.8 S1 ME1SA4**	468	**F202_44.8 P71 BN71A4**	**F202_44.8 P71 BE71A4**	469
30	76	1.9	44.7	2800	**F102_44.7 S05 M05C4**	**F102_44.7 S1 ME1SA4**	464	**F102_44.7 P71 BN71A4**	**F102_44.7 P71 BE71A4**	465
34	67	2.1	39.6	2800	**F102_39.6 S05 M05C4**	**F102_39.6 S1 ME1SA4**	464	**F102_39.6 P71 BN71A4**	**F102_39.6 P71 BE71A4**	465
38	60	2.3	35.3	2800	**F102_35.3 S05 M05C4**	**F102_35.3 S1 ME1SA4**	464	**F102_35.3 P71 BN71A4**	**F102_35.3 P71 BE71A4**	465
41	56	2.5	33.0	2800	**F102_33.0 S05 M05C4**	**F102_33.0 S1 ME1SA4**	464	**F102_33.0 P71 BN71A4**	**F102_33.0 P71 BE71A4**	465
45	50	2.8	29.6	2800	**F102_29.6 S05 M05C4**	**F102_29.6 S1 ME1SA4**	464	**F102_29.6 P71 BN71A4**	**F102_29.6 P71 BE71A4**	465
52	44	3.2	25.8	2750	**F102_25.8 S05 M05C4**	**F102_25.8 S1 ME1SA4**	464	**F102_25.8 P71 BN71A4**	**F102_25.8 P71 BE71A4**	465
59	39	3.6	22.8	2650	**F102_22.8 S05 M05C4**	**F102_22.8 S1 ME1SA4**	464	**F102_22.8 P71 BN71A4**	**F102_22.8 P71 BE71A4**	465
69	33	4.2	19.3	2520	**F102_19.3 S05 M05C4**	**F102_19.3 S1 ME1SA4**	464	**F102_19.3 P71 BN71A4**	**F102_19.3 P71 BE71A4**	465
81	28	4.6	17.0	2420	**F102_17.0 S05 M05C4**	**F102_17.0 S1 ME1SA4**	464	**F102_17.0 P71 BN71A4**	**F102_17.0 P71 BE71A4**	465
91	25	4.8	14.6	2310	**F102_14.6 S05 M05C4**	**F102_14.6 S1 ME1SA4**	464	**F102_14.6 P71 BN71A4**	**F102_14.6 P71 BE71A4**	465
103	22	4.7	13.0	2230	**F102_13.0 S05 M05C4**	**F102_13.0 S1 ME1SA4**	464	**F102_13.0 P71 BN71A4**	**F102_13.0 P71 BE71A4**	465
120	19	5.1	11.5	2140	**F102_11.5 S05 M05C4**	**F102_11.5 S1 ME1SA4**	464	**F102_11.5 P71 BN71A4**	**F102_11.5 P71 BE71A4**	465
137	17	5.4	9.8	2030	**F102_9.8 S05 M05C4**	**F102_9.8 S1 ME1SA4**	464	**F102_9.8 P71 BN71A4**	**F102_9.8 P71 BE71A4**	465
161	14	5.8	8.6	1950	**F102_8.6 S05 M05C4**	**F102_8.6 S1 ME1SA4**	464	**F102_8.6 P71 BN71A4**	**F102_8.6 P71 BE71A4**	465
181	13	6.1	7.4	1860	**F102_7.4 S05 M05C4**	**F102_7.4 S1 ME1SA4**	464	**F102_7.4 P71 BN71A4**	**F102_7.4 P71 BE71A4**	465
187	12	7.7	14.6	1850	**F102_14.6 S05 M05B2**		464	**F102_14.6 P63 BN63B2**		465
210	11	7.9	13.0	1780	**F102_13.0 S05 M05B2**		464	**F102_13.0 P63 BN63B2**		465
237	10	8.2	11.5	1710	**F102_11.5 S05 M05B2**		464	**F102_11.5 P63 BN63B2**		465
280	8	9.0	9.8	1620	**F102_9.8 S05 M05B2**		464	**F102_9.8 P63 BN63B2**		465
319	7	9.4	8.6	1550	**F102_8.6 S05 M05B2**		464	**F102_8.6 P63 BN63B2**		465
370	6	10.3	7.4	1480	**F102_7.4 S05 M05B2**		464	**F102_7.4 P63 BN63B2**		465

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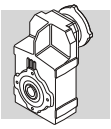
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.41	5283	0.9	2188	35000				
0.45	4877	1.0	2019	35000				
0.45	4799	1.7	1987	45000				
0.49	4430	1.8	1834	45000				
0.52	4146	1.2	1717	35000				
0.53	4128	1.9	1709	45000				
0.57	3827	1.3	1585	35000				



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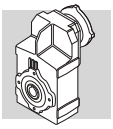
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.57	3810	2.1	1578	45000				
0.61	3578	1.4	1481	35000				
0.65	3342	2.4	1384	45000				
0.66	3303	1.5	1368	35000				
0.70	3085	2.6	1277	45000				
0.76	2854	1.8	1182	35000				
0.79	2757	1.1	1141	20000				
0.79	2769	2.9	1146	45000				
0.83	2635	1.9	1091	35000				
0.85	2545	1.1	1054	20000				
0.85	2556	3.1	1058	45000				
0.92	2353	2.1	974.4	35000				
0.94	2316	1.3	958.9	20000				
1.0	2138	1.4	885.1	20000				
1.0	2172	2.3	899.4	35000				
1.1	1996	0.9	826.4	12000				
1.1	1986	2.5	822.2	35000				
1.3	1633	1.1	676.3	12000				
1.4	1600	1.8	662.4	20000				
1.4	1588	3.1	657.4	35000				
1.5	1477	2.0	611.4	20000				
1.5	1466	3.4	606.8	35000				
1.7	1282	0.9	813.8	8500	**F414_813.8 S10 MXN10MA4**	480	**F414_813.8 P71 BXN71MA4**	481
1.8	1199	0.9	739.4	8500	**F414_739.4 S10 MXN10MA4**	480	**F414_739.4 P71 BXN71MA4**	481
1.9	1119	1.0	690.1	8500	**F414_690.1 S10 MXN10MA4**	480	**F414_690.1 P71 BXN71MA4**	481
2.4	892	1.2	549.8	8500	**F414_549.8 S10 MXN10MA4**	480	**F414_549.8 P71 BXN71MA4**	481
2.8	783	2.3	317.3	12000				
3.1	704	1.6	433.7	8500	**F414_433.7 S10 MXN10MA4**	480	**F414_433.7 P71 BXN71MA4**	481
3.2	679	0.9	418.9	6500	**F314_418.9 S10 MXN10MA4**	476	**F314_418.9 P71 BXN71MA4**	477
3.7	603	1.0	374.4	6500			**F313_374.4 P71 BXN71MA4**	477
4.0	555	2.0	344.8	8500			**F413_344.8 P71 BXN71MA4**	481
4.1	536	1.1	332.8	6500			**F313_332.8 P71 BXN71MA4**	477
4.7	473	1.3	293.8	6500			**F313_293.8 P71 BXN71MA4**	477
4.7	477	2.3	296.6	8500			**F413_296.6 P71 BXN71MA4**	481
5.2	425	0.9	256.1	6500	**F253_256.1 S10 MXN10MA4**	472	**F253_256.1 P71 BXN71MA4**	473
5.2	430	2.6	266.9	8500			**F413_266.9 P71 BXN71MA4**	481
5.4	408	1.5	253.6	6500			**F313_253.6 P71 BXN71MA4**	477
5.7	387	2.8	240.1	8500			**F413_240.1 P71 BXN71MA4**	481
5.9	378	1.1	227.8	6500	**F253_227.8 S10 MXN10MA4**	472	**F253_227.8 P71 BXN71MA4**	473
6.0	367	1.6	228.2	6500			**F313_228.2 P71 BXN71MA4**	477
6.3	354	3.1	220.1	8500			**F413_220.1 P71 BXN71MA4**	481
6.8	326	1.8	202.3	6500			**F313_202.3 P71 BXN71MA4**	477
6.9	321	1.2	193.6	6500	**F253_193.6 S10 MXN10MA4**	472	**F253_193.6 P71 BXN71MA4**	473
6.9	320	3.4	198.9	8500			**F413_198.9 P71 BXN71MA4**	481
7.4	299	2.0	185.4	6500			**F313_185.4 P71 BXN71MA4**	477
7.7	289	1.4	174.2	6500	**F253_174.2 S10 MXN10MA4**	472	**F253_174.2 P71 BXN71MA4**	473
8.0	278	0.9	172.6	4000	**F203_172.6 S10 MXN10MA4**	468	**F203_172.6 P71 BXN71MA4**	469
8.3	268	2.2	166.8	6500			**F313_166.8 P71 BXN71MA4**	477
8.6	259	1.0	156.3	4000	**F203_156.3 S10 MXN10MA4**	468	**F203_156.3 P71 BXN71MA4**	469
8.6	259	1.5	155.9	6500	**F253_155.9 S10 MXN10MA4**	472	**F253_155.9 P71 BXN71MA4**	473
9.2	243	2.5	150.8	6500			**F313_150.8 P71 BXN71MA4**	477
9.7	230	1.7	143.0	6500	**F253_143.0 S10 MXN10MA4**	472	**F253_143.0 P71 BXN71MA4**	473
9.8	227	2.6	140.7	6500			**F313_140.7 P71 BXN71MA4**	477
10.1	224	1.1	132.2	4000	**F202_132.2 S10 MXN10MA4**	468	**F202_132.2 P71 BXN71MA4**	469
10.5	212	1.9	127.8	6500	**F253_127.8 S10 MXN10MA4**	472	**F253_127.8 P71 BXN71MA4**	473
10.7	207	2.9	128.4	6500			**F313_128.4 P71 BXN71MA4**	477
11.7	194	1.3	114.3	4000	**F202_114.3 S10 MXN10MA4**	468	**F202_114.3 P71 BXN71MA4**	469
12.2	182	2.2	113.0	6500	**F253_113.0 S10 MXN10MA4**	472	**F253_113.0 P71 BXN71MA4**	473
12.3	181	3.3	112.5	6500			**F313_112.5 P71 BXN71MA4**	477
12.7	175	2.3	105.4	6500	**F253_105.4 S10 MXN10MA4**	472	**F253_105.4 P71 BXN71MA4**	473



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n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
13.2	172	1.5	101.6	4000	**F202_101.6 S10 MXN10MA4**	468	**F202_101.6 P71 BXN71MA4**	469
14.0	158	2.5	95.5	6500	**F253_95.5 S10 MXN10MA4**	472	**F253_95.5 P71 BXN71MA4**	473
14.6	155	0.9	91.5	2800	**F102_91.5 S10 MXN10MA4**	464	**F102_91.5 P71 BXN71MA4**	465
14.8	153	1.6	90.4	4000	**F202_90.4 S10 MXN10MA4**	468	**F202_90.4 P71 BXN71MA4**	469
16.1	138	2.9	83.4	6500	**F253_83.4 S10 MXN10MA4**	472	**F253_83.4 P71 BXN71MA4**	473
16.5	138	1.0	81.3	2800	**F102_81.3 S10 MXN10MA4**	464	**F102_81.3 P71 BXN71MA4**	465
17.4	130	1.9	76.8	4000	**F202_76.8 S10 MXN10MA4**	468	**F202_76.8 P71 BXN71MA4**	469
17.5	127	3.2	76.6	6420	**F253_76.6 S10 MXN10MA4**	472	**F253_76.6 P71 BXN71MA4**	473
18.8	120	1.2	71.1	2800	**F102_71.1 S10 MXN10MA4**	464	**F102_71.1 P71 BXN71MA4**	465
19.4	117	2.1	69.1	4000	**F202_69.1 S10 MXN10MA4**	468	**F202_69.1 P71 BXN71MA4**	469
21.3	107	1.3	63.0	2800	**F102_63.0 S10 MXN10MA4**	464	**F102_63.0 P71 BXN71MA4**	465
21.7	105	2.4	61.9	4000	**F202_61.9 S10 MXN10MA4**	468	**F202_61.9 P71 BXN71MA4**	469
23.6	96	1.5	56.7	2800	**F102_56.7 S10 MXN10MA4**	464	**F102_56.7 P71 BXN71MA4**	465
23.6	96	2.6	56.7	4000	**F202_56.7 S10 MXN10MA4**	468	**F202_56.7 P71 BXN71MA4**	469
26.4	86	2.9	50.7	4000	**F202_50.7 S10 MXN10MA4**	468	**F202_50.7 P71 BXN71MA4**	469
27.5	83	1.7	48.7	2800	**F102_48.7 S10 MXN10MA4**	464	**F102_48.7 P71 BXN71MA4**	465
29.9	76	3.3	44.8	3870	**F202_44.8 S10 MXN10MA4**	468	**F202_44.8 P71 BXN71MA4**	469
30	76	1.9	44.7	2800	**F102_44.7 S10 MXN10MA4**	464	**F102_44.7 P71 BXN71MA4**	465
34	67	2.1	39.6	2800	**F102_39.6 S10 MXN10MA4**	464	**F102_39.6 P71 BXN71MA4**	465
38	60	2.3	35.3	2800	**F102_35.3 S10 MXN10MA4**	464	**F102_35.3 P71 BXN71MA4**	465
41	56	2.5	33.0	2800	**F102_33.0 S10 MXN10MA4**	464	**F102_33.0 P71 BXN71MA4**	465
45	50	2.8	29.6	2800	**F102_29.6 S10 MXN10MA4**	464	**F102_29.6 P71 BXN71MA4**	465
52	44	3.2	25.8	2750	**F102_25.8 S10 MXN10MA4**	464	**F102_25.8 P71 BXN71MA4**	465
59	39	3.6	22.8	2650	**F102_22.8 S10 MXN10MA4**	464	**F102_22.8 P71 BXN71MA4**	465
69	33	4.2	19.3	2520	**F102_19.3 S10 MXN10MA4**	464	**F102_19.3 P71 BXN71MA4**	465
81	28	4.6	17.0	2420	**F102_17.0 S10 MXN10MA4**	464	**F102_17.0 P71 BXN71MA4**	465
91	25	4.8	14.6	2310	**F102_14.6 S10 MXN10MA4**	464	**F102_14.6 P71 BXN71MA4**	465
103	22	4.7	13.0	2230	**F102_13.0 S10 MXN10MA4**	464	**F102_13.0 P71 BXN71MA4**	465
120	19	5.1	11.5	2140	**F102_11.5 S10 MXN10MA4**	464	**F102_11.5 P71 BXN71MA4**	465
137	17	5.4	9.8	2030	**F102_9.8 S10 MXN10MA4**	464	**F102_9.8 P71 BXN71MA4**	465
161	14	5.8	8.6	1950	**F102_8.6 S10 MXN10MA4**	464	**F102_8.6 P71 BXN71MA4**	465
181	13	6.1	7.4	1860	**F102_7.4 S10 MXN10MA4**	464	**F102_7.4 P71 BXN71MA4**	465
187	12	7.7	14.6	1850				
210	11	7.9	13.0	1780				
237	10	8.2	11.5	1710				
280	8	9.0	9.8	1620				
319	7	9.4	8.6	1550				
370	6	10.3	7.4	1480				

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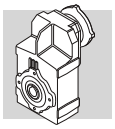
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
0.46	7024	1.1	1987	45000	**F804_1987 S1 M1LA6**		495	**F804_1987 P80 BN80A6**		496
0.50	6484	1.2	1834	45000	**F804_1834 S1 M1LA6**		495	**F804_1834 P80 BN80A6**		496
0.53	6042	1.3	1709	45000	**F804_1709 S1 M1LA6**		495	**F804_1709 P80 BN80A6**		496
0.57	5602	0.9	1585	35000	**F704_1585 S1 M1LA6**		492	**F704_1585 P80 BN80A6**		493
0.58	5577	1.4	1578	45000	**F804_1578 S1 M1LA6**		495	**F804_1578 P80 BN80A6**		496
0.61	5238	1.0	1481	35000	**F704_1481 S1 M1LA6**		492	**F704_1481 P80 BN80A6**		493
0.63	5137	1.0	2188	35000	**F704_2188 S1 M1SD4**	**F704_2188 S1 ME1SB4**	492	**F704_2188 P71 BN71B4**	**F704_2188 P71 BE71B4**	493
0.68	4742	1.1	2019	35000	**F704_2019 S1 M1SD4**	**F704_2019 S1 ME1SB4**	492	**F704_2019 P71 BN71B4**	**F704_2019 P71 BE71B4**	493
0.69	4666	1.7	1987	45000	**F804_1987 S1 M1SD4**	**F804_1987 S1 ME1SB4**	495	**F804_1987 P71 BN71B4**	**F804_1987 P71 BE71B4**	496
0.75	4307	1.9	1834	45000	**F804_1834 S1 M1SD4**	**F804_1834 S1 ME1SB4**	495	**F804_1834 P71 BN71B4**	**F804_1834 P71 BE71B4**	496
0.80	4031	1.2	1717	35000	**F704_1717 S1 M1SD4**	**F704_1717 S1 ME1SB4**	492	**F704_1717 P71 BN71B4**	**F704_1717 P71 BE71B4**	493
0.80	4013	2.0	1709	45000	**F804_1709 S1 M1SD4**	**F804_1709 S1 ME1SB4**	495	**F804_1709 P71 BN71B4**	**F804_1709 P71 BE71B4**	496
0.86	3721	1.3	1585	35000	**F704_1585 S1 M1SD4**	**F704_1585 S1 ME1SB4**	492	**F704_1585 P71 BN71B4**	**F704_1585 P71 BE71B4**	493
0.87	3705	2.2	1578	45000	**F804_1578 S1 M1SD4**	**F804_1578 S1 ME1SB4**	495	**F804_1578 P71 BN71B4**	**F804_1578 P71 BE71B4**	496
0.92	3479	1.4	1481	35000	**F704_1481 S1 M1SD4**	**F704_1481 S1 ME1SB4**	492	**F704_1481 P71 BN71B4**	**F704_1481 P71 BE71B4**	493
0.99	3250	2.5	1384	45000	**F804_1384 S1 M1SD4**	**F804_1384 S1 ME1SB4**	495	**F804_1384 P71 BN71B4**	**F804_1384 P71 BE71B4**	496
1.0	3211	1.6	1368	35000	**F704_1368 S1 M1SD4**	**F704_1368 S1 ME1SB4**	492	**F704_1368 P71 BN71B4**	**F704_1368 P71 BE71B4**	493



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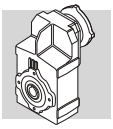
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
1.1	3000	2.7	1277	45000	**F804_1277 S1 M1SD4**	**F804_1277 S1 ME1SB4**	495	**F804_1277 P71 BN71B4**	**F804_1277 P71 BE71B4**	496
1.2	2680	1.1	1141	20000	**F604_1141 S1 M1SD4**	**F604_1141 S1 ME1SB4**	488	**F604_1141 P71 BN71B4**	**F604_1141 P71 BE71B4**	489
1.2	2775	1.8	1182	35000	**F704_1182 S1 M1SD4**	**F704_1182 S1 ME1SB4**	492	**F704_1182 P71 BN71B4**	**F704_1182 P71 BE71B4**	493
1.2	2692	3.0	1146	45000	**F804_1146 S1 M1SD4**	**F804_1146 S1 ME1SB4**	495	**F804_1146 P71 BN71B4**	**F804_1146 P71 BE71B4**	496
1.3	2474	1.2	1054	20000	**F604_1054 S1 M1SD4**	**F604_1054 S1 ME1SB4**	488	**F604_1054 P71 BN71B4**	**F604_1054 P71 BE71B4**	489
1.3	2562	2.0	1091	35000	**F704_1091 S1 M1SD4**	**F704_1091 S1 ME1SB4**	492	**F704_1091 P71 BN71B4**	**F704_1091 P71 BE71B4**	493
1.3	2485	3.2	1058	45000	**F804_1058 S1 M1SD4**	**F804_1058 S1 ME1SB4**	495	**F804_1058 P71 BN71B4**	**F804_1058 P71 BE71B4**	496
1.4	2252	1.3	958.9	20000	**F604_958.9 S1 M1SD4**	**F604_958.9 S1 ME1SB4**	488	**F604_958.9 P71 BN71B4**	**F604_958.9 P71 BE71B4**	489
1.4	2288	2.2	974.4	35000	**F704_974.4 S1 M1SD4**	**F704_974.4 S1 ME1SB4**	492	**F704_974.4 P71 BN71B4**	**F704_974.4 P71 BE71B4**	493
1.5	2079	0.9	885.5	12000	**F514_885.5 S1 M1SD4**	**F514_885.5 S1 ME1SB4**	484	**F514_885.5 P71 BN71B4**	**F514_885.5 P71 BE71B4**	485
1.5	2078	1.4	885.1	20000	**F604_885.1 S1 M1SD4**	**F604_885.1 S1 ME1SB4**	488	**F604_885.1 P71 BN71B4**	**F604_885.1 P71 BE71B4**	489
1.5	2112	2.4	899.4	35000	**F704_899.4 S1 M1SD4**	**F704_899.4 S1 ME1SB4**	492	**F704_899.4 P71 BN71B4**	**F704_899.4 P71 BE71B4**	493
1.7	1941	0.9	826.4	12000	**F514_826.4 S1 M1SD4**	**F514_826.4 S1 ME1SB4**	484	**F514_826.4 P71 BN71B4**	**F514_826.4 P71 BE71B4**	485
1.7	1931	2.6	822.2	35000	**F704_822.2 S1 M1SD4**	**F704_822.2 S1 ME1SB4**	492	**F704_822.2 P71 BN71B4**	**F704_822.2 P71 BE71B4**	493
2.0	1588	1.1	676.3	12000	**F514_676.3 S1 M1SD4**	**F514_676.3 S1 ME1SB4**	484	**F514_676.3 P71 BN71B4**	**F514_676.3 P71 BE71B4**	485
2.1	1556	1.9	662.4	20000	**F604_662.4 S1 M1SD4**	**F604_662.4 S1 ME1SB4**	488	**F604_662.4 P71 BN71B4**	**F604_662.4 P71 BE71B4**	489
2.1	1544	3.2	657.4	35000	**F704_657.4 S1 M1SD4**	**F704_657.4 S1 ME1SB4**	492	**F704_657.4 P71 BN71B4**	**F704_657.4 P71 BE71B4**	493
2.2	1436	2.0	611.4	20000	**F604_611.4 S1 M1SD4**	**F604_611.4 S1 ME1SB4**	488	**F604_611.4 P71 BN71B4**	**F604_611.4 P71 BE71B4**	489
2.3	1425	3.5	606.8	35000	**F704_606.8 S1 M1SD4**	**F704_606.8 S1 ME1SB4**	492	**F704_606.8 P71 BN71B4**	**F704_606.8 P71 BE71B4**	493
2.5	1291	0.9	549.8	8500	**F414_549.8 S1 M1SD4**	**F414_549.8 S1 ME1SB4**	480	**F414_549.8 P71 BN71B4**	**F414_549.8 P71 BE71B4**	481
2.6	1246	1.4	530.5	12000	**F514_530.5 S1 M1SD4**	**F514_530.5 S1 ME1SB4**	484	**F514_530.5 P71 BN71B4**	**F514_530.5 P71 BE71B4**	485
2.6	1246	2.3	530.7	20000	**F604_530.7 S1 M1SD4**	**F604_530.7 S1 ME1SB4**	488	**F604_530.7 P71 BN71B4**	**F604_530.7 P71 BE71B4**	489
2.8	1150	2.5	489.8	20000	**F604_489.8 S1 M1SD4**	**F604_489.8 S1 ME1SB4**	488	**F604_489.8 P71 BN71B4**	**F604_489.8 P71 BE71B4**	489
3.2	1018	1.1	433.7	8500	**F414_433.7 S1 M1SD4**	**F414_433.7 S1 ME1SB4**	480	**F414_433.7 P71 BN71B4**	**F414_433.7 P71 BE71B4**	481
3.2	1008	1.8	429.1	12000	**F514_429.1 S1 M1SD4**	**F514_429.1 S1 ME1SB4**	484	**F514_429.1 P71 BN71B4**	**F514_429.1 P71 BE71B4**	485
3.2	1016	2.9	432.6	20000	**F604_432.6 S1 M1SD4**	**F604_432.6 S1 ME1SB4**	488	**F604_432.6 P71 BN71B4**	**F604_432.6 P71 BE71B4**	489
3.4	938	3.1	399.3	20000	**F604_399.3 S1 M1SD4**	**F604_399.3 S1 ME1SB4**	488	**F604_399.3 P71 BN71B4**	**F604_399.3 P71 BE71B4**	489
3.9	846	2.1	352.5	12000	**F513_352.5 S1 M1SD4**	**F513_352.5 S1 ME1SB4**	484	**F513_352.5 P71 BN71B4**	**F513_352.5 P71 BE71B4**	485
4.0	827	1.3	344.8	8500	**F413_344.8 S1 M1SD4**	**F413_344.8 S1 ME1SB4**	480	**F413_344.8 P71 BN71B4**	**F413_344.8 P71 BE71B4**	481
4.3	761	2.4	317.3	12000	**F513_317.3 S1 M1SD4**	**F513_317.3 S1 ME1SB4**	484	**F513_317.3 P71 BN71B4**	**F513_317.3 P71 BE71B4**	485
4.6	712	1.5	296.6	8500	**F413_296.6 S1 M1SD4**	**F413_296.6 S1 ME1SB4**	480	**F413_296.6 P71 BN71B4**	**F413_296.6 P71 BE71B4**	481
4.8	686	2.6	285.9	12000	**F513_285.9 S1 M1SD4**	**F513_285.9 S1 ME1SB4**	484	**F513_285.9 P71 BN71B4**	**F513_285.9 P71 BE71B4**	485
5.1	641	1.7	266.9	8500	**F413_266.9 S1 M1SD4**	**F413_266.9 S1 ME1SB4**	480	**F413_266.9 P71 BN71B4**	**F413_266.9 P71 BE71B4**	481
5.2	629	2.9	262.1	12000	**F513_262.1 S1 M1SD4**	**F513_262.1 S1 ME1SB4**	484	**F513_262.1 P71 BN71B4**	**F513_262.1 P71 BE71B4**	485
5.4	609	1.0	253.6	6500	**F313_253.6 S1 M1SD4**	**F313_253.6 S1 ME1SB4**	476	**F313_253.6 P71 BN71B4**	**F313_253.6 P71 BE71B4**	477
5.7	576	1.9	240.1	8500	**F413_240.1 S1 M1SD4**	**F413_240.1 S1 ME1SB4**	480	**F413_240.1 P71 BN71B4**	**F413_240.1 P71 BE71B4**	481
5.7	576	3.1	239.8	12000	**F513_239.8 S1 M1SD4**	**F513_239.8 S1 ME1SB4**	484	**F513_239.8 P71 BN71B4**	**F513_239.8 P71 BE71B4**	485
6.0	548	1.1	228.2	6500	**F313_228.2 S1 M1SD4**	**F313_228.2 S1 ME1SB4**	476	**F313_228.2 P71 BN71B4**	**F313_228.2 P71 BE71B4**	477
6.2	528	2.1	220.1	8500	**F413_220.1 S1 M1SD4**	**F413_220.1 S1 ME1SB4**	480	**F413_220.1 P71 BN71B4**	**F413_220.1 P71 BE71B4**	481
6.3	520	3.5	216.9	12000	**F513_216.9 S1 M1SD4**	**F513_216.9 S1 ME1SB4**	484	**F513_216.9 P71 BN71B4**	**F513_216.9 P71 BE71B4**	485
6.8	485	1.2	202.3	6500	**F313_202.3 S1 M1SD4**	**F313_202.3 S1 ME1SB4**	476	**F313_202.3 P71 BN71B4**	**F313_202.3 P71 BE71B4**	477
6.9	477	2.3	198.9	8500	**F413_198.9 S1 M1SD4**	**F413_198.9 S1 ME1SB4**	480	**F413_198.9 P71 BN71B4**	**F413_198.9 P71 BE71B4**	481
7.4	445	1.3	185.4	6500	**F313_185.4 S1 M1SD4**	**F313_185.4 S1 ME1SB4**	476	**F313_185.4 P71 BN71B4**	**F313_185.4 P71 BE71B4**	477
7.6	434	2.5	180.7	8500	**F413_180.7 S1 M1SD4**	**F413_180.7 S1 ME1SB4**	480	**F413_180.7 P71 BN71B4**	**F413_180.7 P71 BE71B4**	481
7.9	418	1.0	174.2	6500	**F253_174.2 S1 M1SD4**	**F253_174.2 S1 ME1SB4**	472	**F253_174.2 P71 BN71B4**	**F253_174.2 P71 BE71B4**	473
8.1	405	2.7	168.7	8500	**F413_168.7 S1 M1SD4**	**F413_168.7 S1 ME1SB4**	480	**F413_168.7 P71 BN71B4**	**F413_168.7 P71 BE71B4**	481
8.2	400	1.5	166.8	6500	**F313_166.8 S1 M1SD4**	**F313_166.8 S1 ME1SB4**	476	**F313_166.8 P71 BN71B4**	**F313_166.8 P71 BE71B4**	477
8.8	374	1.1	155.9	6500	**F253_155.9 S1 M1SD4**	**F253_155.9 S1 ME1SB4**	472	**F253_155.9 P71 BN71B4**	**F253_155.9 P71 BE71B4**	473
9.1	362	1.7	150.8	6500	**F313_150.8 S1 M1SD4**	**F313_150.8 S1 ME1SB4**	476	**F313_150.8 P71 BN71B4**	**F313_150.8 P71 BE71B4**	477
9.6	343	1.2	143.0	6500	**F253_143.0 S1 M1SD4**	**F253_143.0 S1 ME1SB4**	472	**F253_143.0 P71 BN71B4**	**F253_143.0 P71 BE71B4**	473
9.7	338	1.8	140.7	6500	**F313_140.7 S1 M1SD4**	**F313_140.7 S1 ME1SB4**	476	**F313_140.7 P71 BN71B4**	**F313_140.7 P71 BE71B4**	477
10.2	323	3.4	134.4	8500	**F413_134.4 S1 M1SD4**	**F413_134.4 S1 ME1SB4**	480	**F413_134.4 P71 BN71B4**	**F413_134.4 P71 BE71B4**	481
10.7	307	1.3	127.8	6500	**F253_127.8 S1 M1SD4**	**F253_127.8 S1 ME1SB4**	472	**F253_127.8 P71 BN71B4**	**F253_127.8 P71 BE71B4**	473
10.7	308	1.9	128.4	6500	**F313_128.4 S1 M1SD4**	**F313_128.4 S1 ME1SB4**	476	**F313_128.4 P71 BN71B4**	**F313_128.4 P71 BE71B4**	477
12.1	271	1.5	113.0	6500	**F253_113.0 S1 M1SD4**	**F253_113.0 S1 ME1SB4**	472	**F253_113.0 P71 BN71B4**	**F253_113.0 P71 BE71B4**	473
12.2	270	2.2	112.5	6500	**F313_112.5 S1 M1SD4**	**F313_112.5 S1 ME1SB4**	476	**F313_112.5 P71 BN71B4**	**F313_112.5 P71 BE71B4**	477
13.0	253	1.6	105.4	6500	**F253_105.4 S1 M1SD4**	**F253_105.4 S1 ME1SB4**	472	**F253_105.4 P71 BN71B4**	**F253_105.4 P71 BE71B4**	473
13.4	245	2.5	101.9	6500	**F313_101.9 S1 M1SD4**	**F313_101.9 S1 ME1SB4**	476	**F313_101.9 P71 BN71B4**	**F313_101.9 P71 BE71B4**	477
13.5	249	1.0	101.6	4000				**F202_101.6 P71 BN71B4**	**F202_101.6 P71 BE71B4**	469
14.3	229	1.7	95.5	6490	**F253_95.5 S1 M1SD4**	**F253_95.5 S1 ME1SB4**	472	**F253_95.5 P71 BN71B4**	**F253_95.5 P71 BE71B4**	473
15.2	222	1.1	90.4	4000	**F202_90.4 S1 M1SD4**	**F202_90.4 S1 ME1SB4**	468	**F202_90.4 P71 BN71B4**	**F202_90.4 P71 BE71B4**	469
15.7	210	2.9	87.4	6500	**F313_87.4 S1 M1SD4**	**F313_87.4 S1 ME1SB4**	476	**F313_87.4 P71 BN71B4**	**F313_87.4 P71 BE71B4**	477
16.4	200	2.0	83.4	6280	**F253_83.4 S1 M1SD4**	**F253_83.4 S1 ME1SB4**	472	**F253_83.4 P71 BN71B4**	**F253_83.4 P71 BE71B4**	473
17.4	189	3.2	78.9	6500	**F313_78.9 S1 M1SD4**	**F313_78.9 S1 ME1SB4**	476	**F313_78.9 P71 BN71B4**	**F313_78.9 P71 BE71B4**	477
17.8	188	1.3	76.8	4000	**F202_76.8 S1 M1SD4**	**F202_76.8 S1 ME1SB4**	468	**F202_76.8 P71 BN71B4**	**F202_76.8 P71 BE71B4**	469
17.9	184	2.2	76.6	6160	**F253_76.6 S1 M1SD4**	**F253_76.6 S1 ME1SB4**	472	**F253_76.6 P71 BN71B4**	**F253_76.6 P71 BE71B4**	473
19.8	169	1.5	69.1	4000	**F202_69.1 S1 M1SD4**	**F202_69.1 S1 ME1SB4**	468	**F202_69.1 P71 BN71B4**	**F202_69.1 P71 BE71B4**	469
21.0	157	2.6	65.3	5920	**F253_65.3 S1 M1SD4**	**F253_65.3 S1 ME1SB4**	472	**F253_65.3 P71 BN71B4**	**F253_65.3 P71 BE71B4**	473
21.7	154	0.9	63.0	2800	**F102_63.0 S1 M1SD4**	**F102_63.0 S1 ME1SB4**	464	**F102_63.0 P71 BN71B4**	**F102_63.0 P71 BE71B4**	465



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n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
22.1	152	1.6	61.9	4000	**F202_61.9 S1 M1SD4**	**F202_61.9 S1 ME1SB4**	468	**F202_61.9 P71 BN71B4**	**F202_61.9 P71 BE71B4**	469
23.5	140	2.9	58.3	5750	**F253_58.3 S1 M1SD4**	**F253_58.3 S1 ME1SB4**	472	**F253_58.3 P71 BN71B4**	**F253_58.3 P71 BE71B4**	473
24.2	139	1.0	56.7	2800	**F102_56.7 S1 M1SD4**	**F102_56.7 S1 ME1SB4**	464	**F102_56.7 P71 BN71B4**	**F102_56.7 P71 BE71B4**	465
24.2	139	1.8	56.7	4000	**F202_56.7 S1 M1SD4**	**F202_56.7 S1 ME1SB4**	468	**F202_56.7 P71 BN71B4**	**F202_56.7 P71 BE71B4**	469
27.0	124	2.0	50.7	3900	**F202_50.7 S1 M1SD4**	**F202_50.7 S1 ME1SB4**	468	**F202_50.7 P71 BN71B4**	**F202_50.7 P71 BE71B4**	469
27.0	122	3.3	50.8	5540	**F253_50.8 S1 M1SD4**	**F253_50.8 S1 ME1SB4**	472	**F253_50.8 P71 BN71B4**	**F253_50.8 P71 BE71B4**	473
28.1	119	1.2	48.7	2800	**F102_48.7 S1 M1SD4**	**F102_48.7 S1 ME1SB4**	464	**F102_48.7 P71 BN71B4**	**F102_48.7 P71 BE71B4**	465
31	110	1.3	44.7	2800	**F102_44.7 S1 M1SD4**	**F102_44.7 S1 ME1SB4**	464	**F102_44.7 P71 BN71B4**	**F102_44.7 P71 BE71B4**	465
31	110	2.3	44.8	3770	**F202_44.8 S1 M1SD4**	**F202_44.8 S1 ME1SB4**	468	**F202_44.8 P71 BN71B4**	**F202_44.8 P71 BE71B4**	469
31	109	3.5	44.4	5370	**F252_44.4 S1 M1SD4**	**F252_44.4 S1 ME1SB4**	472	**F252_44.4 P71 BN71B4**	**F252_44.4 P71 BE71B4**	473
33	103	2.4	41.8	3700	**F202_41.8 S1 M1SD4**	**F202_41.8 S1 ME1SB4**	468	**F202_41.8 P71 BN71B4**	**F202_41.8 P71 BE71B4**	469
35	97	1.4	39.6	2800	**F102_39.6 S1 M1SD4**	**F102_39.6 S1 ME1SB4**	464	**F102_39.6 P71 BN71B4**	**F102_39.6 P71 BE71B4**	465
36	93	2.7	37.9	3600	**F202_37.9 S1 M1SD4**	**F202_37.9 S1 ME1SB4**	468	**F202_37.9 P71 BN71B4**	**F202_37.9 P71 BE71B4**	469
39	87	1.6	35.3	2800	**F102_35.3 S1 M1SD4**	**F102_35.3 S1 ME1SB4**	464	**F102_35.3 P71 BN71B4**	**F102_35.3 P71 BE71B4**	465
41	81	3.1	33.1	3460	**F202_33.1 S1 M1SD4**	**F202_33.1 S1 ME1SB4**	468	**F202_33.1 P71 BN71B4**	**F202_33.1 P71 BE71B4**	469
42	81	1.7	33.0	2800	**F102_33.0 S1 M1SD4**	**F102_33.0 S1 ME1SB4**	464	**F102_33.0 P71 BN71B4**	**F102_33.0 P71 BE71B4**	465
45	75	3.4	30.4	3380	**F202_30.4 S1 M1SD4**	**F202_30.4 S1 ME1SB4**	468	**F202_30.4 P71 BN71B4**	**F202_30.4 P71 BE71B4**	469
46	73	1.9	29.6	2800	**F102_29.6 S1 M1SD4**	**F102_29.6 S1 ME1SB4**	464	**F102_29.6 P71 BN71B4**	**F102_29.6 P71 BE71B4**	465
53	63	2.2	25.8	2690	**F102_25.8 S1 M1SD4**	**F102_25.8 S1 ME1SB4**	464	**F102_25.8 P71 BN71B4**	**F102_25.8 P71 BE71B4**	465
60	56	2.5	22.8	2600	**F102_22.8 S1 M1SD4**	**F102_22.8 S1 ME1SB4**	464	**F102_22.8 P71 BN71B4**	**F102_22.8 P71 BE71B4**	465
71	47	2.9	19.3	2470	**F102_19.3 S1 M1SD4**	**F102_19.3 S1 ME1SB4**	464	**F102_19.3 P71 BN71B4**	**F102_19.3 P71 BE71B4**	465
81	42	3.1	17.0	2380	**F102_17.0 S1 M1SD4**	**F102_17.0 S1 ME1SB4**	464	**F102_17.0 P71 BN71B4**	**F102_17.0 P71 BE71B4**	465
94	36	3.3	14.6	2280	**F102_14.6 S1 M1SD4**	**F102_14.6 S1 ME1SB4**	464	**F102_14.6 P71 BN71B4**	**F102_14.6 P71 BE71B4**	465
105	32	3.3	13.0	2200	**F102_13.0 S1 M1SD4**	**F102_13.0 S1 ME1SB4**	464	**F102_13.0 P71 BN71B4**	**F102_13.0 P71 BE71B4**	465
119	28	3.4	11.5	2120	**F102_11.5 S1 M1SD4**	**F102_11.5 S1 ME1SB4**	464	**F102_11.5 P71 BN71B4**	**F102_11.5 P71 BE71B4**	465
140	24	3.7	9.8	2010	**F102_9.8 S1 M1SD4**	**F102_9.8 S1 ME1SB4**	464	**F102_9.8 P71 BN71B4**	**F102_9.8 P71 BE71B4**	465
160	21	3.9	8.6	1930	**F102_8.6 S1 M1SD4**	**F102_8.6 S1 ME1SB4**	464	**F102_8.6 P71 BN71B4**	**F102_8.6 P71 BE71B4**	465
185	18	4.2	7.4	1850	**F102_7.4 S1 M1SD4**	**F102_7.4 S1 ME1SB4**	464	**F102_7.4 P71 BN71B4**	**F102_7.4 P71 BE71B4**	465
193	17	5.4	14.6	1830	**F102_14.6 S05 M05C2**		464	**F102_14.6 P71 BN71A2**		465
216	16	5.5	13.0	1760	**F102_13.0 S05 M05C2**		464	**F102_13.0 P71 BN71A2**		465
244	14	5.7	11.5	1690	**F102_11.5 S05 M05C2**		464	**F102_11.5 P71 BN71A2**		465
289	12	6.3	9.8	1610	**F102_9.8 S05 M05C2**		464	**F102_9.8 P71 BN71A2**		465
329	10	6.6	8.6	1540	**F102_8.6 S05 M05C2**		464	**F102_8.6 P71 BN71A2**		465
381	9	7.1	7.4	1470	**F102_7.4 S05 M05C2**		464	**F102_7.4 P71 BN71A2**		465

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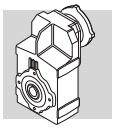
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.46	7024	1.1	1987	45000				
0.50	6484	1.2	1834	45000				
0.53	6042	1.3	1709	45000				
0.57	5602	0.9	1585	35000				
0.58	5577	1.4	1578	45000				
0.61	5238	1.0	1481	35000				
0.63	5137	1.0	2188	35000	**F704_2188 S10 MXN10MB4**	492	**F704_2188 P71 BXN71MB4**	493
0.68	4742	1.1	2019	35000	**F704_2019 S10 MXN10MB4**	492	**F704_2019 P71 BXN71MB4**	493
0.69	4666	1.7	1987	45000	**F804_1987 S10 MXN10MB4**	495	**F804_1987 P71 BXN71MB4**	496
0.75	4307	1.9	1834	45000	**F804_1834 S10 MXN10MB4**	495	**F804_1834 P71 BXN71MB4**	496
0.80	4031	1.2	1717	35000	**F704_1717 S10 MXN10MB4**	492	**F704_1717 P71 BXN71MB4**	493
0.80	4013	2.0	1709	45000	**F804_1709 S10 MXN10MB4**	495	**F804_1709 P71 BXN71MB4**	496
0.86	3721	1.3	1585	35000	**F704_1585 S10 MXN10MB4**	492	**F704_1585 P71 BXN71MB4**	493
0.87	3705	2.2	1578	45000	**F804_1578 S10 MXN10MB4**	495	**F804_1578 P71 BXN71MB4**	496
0.92	3479	1.4	1481	35000	**F704_1481 S10 MXN10MB4**	492	**F704_1481 P71 BXN71MB4**	493
0.99	3250	2.5	1384	45000	**F804_1384 S10 MXN10MB4**	495	**F804_1384 P71 BXN71MB4**	496
1.0	3211	1.6	1368	35000			**F704_1368 P71 BXN71MB4**	493
1.1	3000	2.7	1277	45000			**F804_1277 P71 BXN71MB4**	496
1.2	2680	1.1	1141	20000			**F604_1141 P71 BXN71MB4**	489
1.2	2775	1.8	1182	35000			**F704_1182 P71 BXN71MB4**	493
1.2	2692	3.0	1146	45000			**F804_1146 P71 BXN71MB4**	496
1.3	2474	1.2	1054	20000			**F604_1054 P71 BXN71MB4**	489
1.3	2562	2.0	1091	35000			**F704_1091 P71 BXN71MB4**	493
1.3	2485	3.2	1058	45000			**F804_1058 P71 BXN71MB4**	496
1.4	2252	1.3	958.9	20000			**F604_958.9 P71 BXN71MB4**	489
1.4	2288	2.2	974.4	35000			**F704_974.4 P71 BXN71MB4**	493
1.5	2079	0.9	885.5	12000	**F514_885.5 S10 MXN10MB4**	484	**F514_885.5 P71 BXN71MB4**	485



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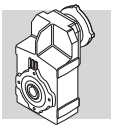
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
1.5	2078	1.4	885.1	20000			**F604_885.1 P71 BXN71MB4**	489
1.5	2112	2.4	899.4	35000			**F704_899.4 P71 BXN71MB4**	493
1.7	1941	0.9	826.4	12000	**F514_826.4 S10 MXN10MB4**	484	**F514_826.4 P71 BXN71MB4**	485
1.7	1931	2.6	822.2	35000			**F704_822.2 P71 BXN71MB4**	493
2.0	1588	1.1	676.3	12000	**F514_676.3 S10 MXN10MB4**	484	**F514_676.3 P71 BXN71MB4**	485
2.1	1556	1.9	662.4	20000			**F604_662.4 P71 BXN71MB4**	489
2.1	1544	3.2	657.4	35000			**F704_657.4 P71 BXN71MB4**	493
2.2	1436	2.0	611.4	20000			**F604_611.4 P71 BXN71MB4**	489
2.3	1425	3.5	606.8	35000			**F704_606.8 P71 BXN71MB4**	493
2.5	1291	0.9	549.8	8500	**F414_549.8 S10 MXN10MB4**	480	**F414_549.8 P71 BXN71MB4**	481
2.6	1246	1.4	530.5	12000	**F514_530.5 S10 MXN10MB4**	484	**F514_530.5 P71 BXN71MB4**	485
2.6	1246	2.3	530.7	20000			**F604_530.7 P71 BXN71MB4**	489
2.8	1150	2.5	489.8	20000			**F604_489.8 P71 BXN71MB4**	489
3.2	1018	1.1	433.7	8500	**F414_433.7 S10 MXN10MB4**	480	**F414_433.7 P71 BXN71MB4**	481
3.2	1008	1.8	429.1	12000	**F514_429.1 S10 MXN10MB4**	484	**F514_429.1 P71 BXN71MB4**	485
3.2	1016	2.9	432.6	20000			**F604_432.6 P71 BXN71MB4**	489
3.4	938	3.1	399.3	20000			**F604_399.3 P71 BXN71MB4**	489
3.9	846	2.1	352.5	12000			**F513_352.5 P71 BXN71MB4**	485
4.0	827	1.3	344.8	8500			**F413_344.8 P71 BXN71MB4**	481
4.3	761	2.4	317.3	12000			**F513_317.3 P71 BXN71MB4**	485
4.6	712	1.5	296.6	8500			**F413_296.6 P71 BXN71MB4**	481
4.8	686	2.6	285.9	12000			**F513_285.9 P71 BXN71MB4**	485
5.1	641	1.7	266.9	8500			**F413_266.9 P71 BXN71MB4**	481
5.2	629	2.9	262.1	12000			**F513_262.1 P71 BXN71MB4**	485
5.4	609	1.0	253.6	6500	**F313_253.6 S10 MXN10MB4**	476	**F313_253.6 P71 BXN71MB4**	477
5.7	576	1.9	240.1	8500			**F413_240.1 P71 BXN71MB4**	481
5.7	576	3.1	239.8	12000			**F513_239.8 P71 BXN71MB4**	485
6.0	548	1.1	228.2	6500	**F313_228.2 S10 MXN10MB4**	476	**F313_228.2 P71 BXN71MB4**	477
6.2	528	2.1	220.1	8500			**F413_220.1 P71 BXN71MB4**	481
6.3	520	3.5	216.9	12000			**F513_216.9 P71 BXN71MB4**	485
6.8	485	1.2	202.3	6500	**F313_202.3 S10 MXN10MB4**	476	**F313_202.3 P71 BXN71MB4**	477
6.9	477	2.3	198.9	8500			**F413_198.9 P71 BXN71MB4**	481
7.4	445	1.3	185.4	6500	**F313_185.4 S10 MXN10MB4**	476	**F313_185.4 P71 BXN71MB4**	477
7.6	434	2.5	180.7	8500			**F413_180.7 P71 BXN71MB4**	481
7.9	418	1.0	174.2	6500	**F253_174.2 S10 MXN10MB4**	472	**F253_174.2 P71 BXN71MB4**	473
8.1	405	2.7	168.7	8500			**F413_168.7 P71 BXN71MB4**	481
8.2	400	1.5	166.8	6500	**F313_166.8 S10 MXN10MB4**	476	**F313_166.8 P71 BXN71MB4**	477
8.8	374	1.1	155.9	6500	**F253_155.9 S10 MXN10MB4**	472	**F253_155.9 P71 BXN71MB4**	473
9.1	362	1.7	150.8	6500	**F313_150.8 S10 MXN10MB4**	476	**F313_150.8 P71 BXN71MB4**	477
9.6	343	1.2	143.0	6500	**F253_143.0 S10 MXN10MB4**	472	**F253_143.0 P71 BXN71MB4**	473
9.7	338	1.8	140.7	6500	**F313_140.7 S10 MXN10MB4**	476	**F313_140.7 P71 BXN71MB4**	477
10.2	323	3.4	134.4	8500			**F413_134.4 P71 BXN71MB4**	481
10.7	307	1.3	127.8	6500	**F253_127.8 S10 MXN10MB4**	472	**F253_127.8 P71 BXN71MB4**	473
10.7	308	1.9	128.4	6500	**F313_128.4 S10 MXN10MB4**	476	**F313_128.4 P71 BXN71MB4**	477
12.1	271	1.5	113.0	6500	**F253_113.0 S10 MXN10MB4**	472	**F253_113.0 P71 BXN71MB4**	473
12.2	270	2.2	112.5	6500	**F313_112.5 S10 MXN10MB4**	476	**F313_112.5 P71 BXN71MB4**	477
13.0	253	1.6	105.4	6500	**F253_105.4 S10 MXN10MB4**	472	**F253_105.4 P71 BXN71MB4**	473
13.4	245	2.5	101.9	6500	**F313_101.9 S10 MXN10MB4**	476	**F313_101.9 P71 BXN71MB4**	477
13.5	249	1.0	101.6	4000			**F202_101.6 P71 BXN71MB4**	469
14.3	229	1.7	95.5	6490	**F253_95.5 S10 MXN10MB4**	472	**F253_95.5 P71 BXN71MB4**	473
15.2	222	1.1	90.4	4000	**F202_90.4 S10 MXN10MB4**	468	**F202_90.4 P71 BXN71MB4**	469
15.7	210	2.9	87.4	6500	**F313_87.4 S10 MXN10MB4**	476	**F313_87.4 P71 BXN71MB4**	477
16.4	200	2.0	83.4	6280	**F253_83.4 S10 MXN10MB4**	472	**F253_83.4 P71 BXN71MB4**	473
17.4	189	3.2	78.9	6500	**F313_78.9 S10 MXN10MB4**	476	**F313_78.9 P71 BXN71MB4**	477
17.8	188	1.3	76.8	4000	**F202_76.8 S10 MXN10MB4**	468	**F202_76.8 P71 BXN71MB4**	469
17.9	184	2.2	76.6	6160	**F253_76.6 S10 MXN10MB4**	472	**F253_76.6 P71 BXN71MB4**	473
19.8	169	1.5	69.1	4000	**F202_69.1 S10 MXN10MB4**	468	**F202_69.1 P71 BXN71MB4**	469
21.0	157	2.6	65.3	5920	**F253_65.3 S10 MXN10MB4**	472	**F253_65.3 P71 BXN71MB4**	473
21.7	154	0.9	63.0	2800	**F102_63.0 S10 MXN10MB4**	464	**F102_63.0 P71 BXN71MB4**	465
22.1	152	1.6	61.9	4000	**F202_61.9 S10 MXN10MB4**	468	**F202_61.9 P71 BXN71MB4**	469
23.5	140	2.9	58.3	5750	**F253_58.3 S10 MXN10MB4**	472	**F253_58.3 P71 BXN71MB4**	473
24.2	139	1.0	56.7	2800	**F102_56.7 S10 MXN10MB4**	464	**F102_56.7 P71 BXN71MB4**	465
24.2	139	1.8	56.7	4000	**F202_56.7 S10 MXN10MB4**	468	**F202_56.7 P71 BXN71MB4**	469
27.0	124	2.0	50.7	3900	**F202_50.7 S10 MXN10MB4**	468	**F202_50.7 P71 BXN71MB4**	469
27.0	122	3.3	50.8	5540	**F253_50.8 S10 MXN10MB4**	472	**F253_50.8 P71 BXN71MB4**	473
28.1	119	1.2	48.7	2800	**F102_48.7 S10 MXN10MB4**	464	**F102_48.7 P71 BXN71MB4**	465
31	110	1.3	44.7	2800	**F102_44.7 S10 MXN10MB4**	464	**F102_44.7 P71 BXN71MB4**	465
31	110	2.3	44.8	3770	**F202_44.8 S10 MXN10MB4**	468	**F202_44.8 P71 BXN71MB4**	469
31	109	3.5	44.4	5370	**F252_44.4 S10 MXN10MB4**	472	**F252_44.4 P71 BXN71MB4**	473



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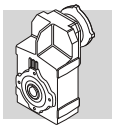
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
33	103	2.4	41.8	3700	**F202_41.8 S10 MXN10MB4**	468	**F202_41.8 P71 BXN71MB4**	469
35	97	1.4	39.6	2800	**F102_39.6 S10 MXN10MB4**	464	**F102_39.6 P71 BXN71MB4**	465
36	93	2.7	37.9	3600	**F202_37.9 S10 MXN10MB4**	468	**F202_37.9 P71 BXN71MB4**	469
39	87	1.6	35.3	2800	**F102_35.3 S10 MXN10MB4**	464	**F102_35.3 P71 BXN71MB4**	465
41	81	3.1	33.1	3460	**F202_33.1 S10 MXN10MB4**	468	**F202_33.1 P71 BXN71MB4**	469
42	81	1.7	33.0	2800	**F102_33.0 S10 MXN10MB4**	464	**F102_33.0 P71 BXN71MB4**	465
45	75	3.4	30.4	3380	**F202_30.4 S10 MXN10MB4**	468	**F202_30.4 P71 BXN71MB4**	469
46	73	1.9	29.6	2800	**F102_29.6 S10 MXN10MB4**	464	**F102_29.6 P71 BXN71MB4**	465
53	63	2.2	25.8	2690	**F102_25.8 S10 MXN10MB4**	464	**F102_25.8 P71 BXN71MB4**	465
60	56	2.5	22.8	2600	**F102_22.8 S10 MXN10MB4**	464	**F102_22.8 P71 BXN71MB4**	465
71	47	2.9	19.3	2470	**F102_19.3 S10 MXN10MB4**	464	**F102_19.3 P71 BXN71MB4**	465
81	42	3.1	17.0	2380	**F102_17.0 S10 MXN10MB4**	464	**F102_17.0 P71 BXN71MB4**	465
94	36	3.3	14.6	2280	**F102_14.6 S10 MXN10MB4**	464	**F102_14.6 P71 BXN71MB4**	465
105	32	3.3	13.0	2200	**F102_13.0 S10 MXN10MB4**	464	**F102_13.0 P71 BXN71MB4**	465
119	28	3.4	11.5	2120	**F102_11.5 S10 MXN10MB4**	464	**F102_11.5 P71 BXN71MB4**	465
140	24	3.7	9.8	2010	**F102_9.8 S10 MXN10MB4**	464	**F102_9.8 P71 BXN71MB4**	465
160	21	3.9	8.6	1930	**F102_8.6 S10 MXN10MB4**	464	**F102_8.6 P71 BXN71MB4**	465
185	18	4.2	7.4	1850	**F102_7.4 S10 MXN10MB4**	464	**F102_7.4 P71 BXN71MB4**	465
193	17	5.4	14.6	1830				
216	16	5.5	13.0	1760				
244	14	5.7	11.5	1690				
289	12	6.3	9.8	1610				
329	10	6.6	8.6	1540				
381	9	7.1	7.4	1470				

0.55 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
0.44	10909	1.3	2099	55000	**F904_2099 S2 M2SA6**		498	**F904_2099 P80 BN80B6**		499
0.47	10070	1.4	1937	55000	**F904_1937 S2 M2SA6**		498	**F904_1937 P80 BN80B6**		499
0.54	8884	0.9	1709	45000	**F804_1709 S2 M2SA6**		495	**F804_1709 P80 BN80B6**		496
0.54	8849	1.6	1702	55000	**F904_1702 S2 M2SA6**		498	**F904_1702 P80 BN80B6**		499
0.58	8201	1.0	1578	45000	**F804_1578 S2 M2SA6**		495	**F804_1578 P80 BN80B6**		496
0.59	8168	1.7	1571	55000	**F904_1571 S2 M2SA6**		498	**F904_1571 P80 BN80B6**		499
0.64	7422	1.9	1428	55000	**F904_1428 S2 M2SA6**		498	**F904_1428 P80 BN80B6**		499
0.66	7193	1.1	1384	45000	**F804_1384 S2 M2SA6**		495	**F804_1384 P80 BN80B6**		496
0.69	6885	1.2	1987	45000	**F804_1987 S1 M1LA4**	**F804_1987 S2 ME2SA4**	495	**F804_1987 P80 BN80A4**	**F804_1987 P80 BE80A4**	496
0.75	6356	1.3	1834	45000	**F804_1834 S1 M1LA4**	**F804_1834 S2 ME2SA4**	495	**F804_1834 P80 BN80A4**	**F804_1834 P80 BE80A4**	496
0.81	5923	1.4	1709	45000	**F804_1709 S1 M1LA4**	**F804_1709 S2 ME2SA4**	495	**F804_1709 P80 BN80A4**	**F804_1709 P80 BE80A4**	496
0.87	5491	0.9	1585	35000	**F704_1585 S1 M1LA4**	**F704_1585 S2 ME2SA4**	492	**F704_1585 P80 BN80A4**	**F704_1585 P80 BE80A4**	493
0.87	5467	1.5	1578	45000	**F804_1578 S1 M1LA4**	**F804_1578 S2 ME2SA4**	495	**F804_1578 P80 BN80A4**	**F804_1578 P80 BE80A4**	496
0.93	5134	1.0	1481	35000	**F704_1481 S1 M1LA4**	**F704_1481 S2 ME2SA4**	492	**F704_1481 P80 BN80A4**	**F704_1481 P80 BE80A4**	493
1.0	4739	1.1	1368	35000	**F704_1368 S1 M1LA4**	**F704_1368 S2 ME2SA4**	492	**F704_1368 P80 BN80A4**	**F704_1368 P80 BE80A4**	493
1.0	4795	1.7	1384	45000	**F804_1384 S1 M1LA4**	**F804_1384 S2 ME2SA4**	495	**F804_1384 P80 BN80A4**	**F804_1384 P80 BE80A4**	496
1.1	4427	1.8	1277	45000	**F804_1277 S1 M1LA4**	**F804_1277 S2 ME2SA4**	495	**F804_1277 P80 BN80A4**	**F804_1277 P80 BE80A4**	496
1.2	4095	1.2	1182	35000	**F704_1182 S1 M1LA4**	**F704_1182 S2 ME2SA4**	492	**F704_1182 P80 BN80A4**	**F704_1182 P80 BE80A4**	493
1.2	3972	2.0	1146	45000	**F804_1146 S1 M1LA4**	**F804_1146 S2 ME2SA4**	495	**F804_1146 P80 BN80A4**	**F804_1146 P80 BE80A4**	496
1.3	3780	1.3	1091	35000	**F704_1091 S1 M1LA4**	**F704_1091 S2 ME2SA4**	492	**F704_1091 P80 BN80A4**	**F704_1091 P80 BE80A4**	493
1.3	3667	2.2	1058	45000	**F804_1058 S1 M1LA4**	**F804_1058 S2 ME2SA4**	495	**F804_1058 P80 BN80A4**	**F804_1058 P80 BE80A4**	496
1.4	3323	0.9	958.9	20000	**F604_958.9 S1 M1LA4**	**F604_958.9 S2 ME2SA4**	488	**F604_958.9 P80 BN80A4**	**F604_958.9 P80 BE80A4**	489
1.4	3377	1.5	974.4	35000	**F704_974.4 S1 M1LA4**	**F704_974.4 S2 ME2SA4**	492	**F704_974.4 P80 BN80A4**	**F704_974.4 P80 BE80A4**	493
1.5	3117	1.6	899.4	35000	**F704_899.4 S1 M1LA4**	**F704_899.4 S2 ME2SA4**	492	**F704_899.4 P80 BN80A4**	**F704_899.4 P80 BE80A4**	493
1.5	3109	2.6	897.3	45000	**F804_897.3 S1 M1LA4**	**F804_897.3 S2 ME2SA4**	495	**F804_897.3 P80 BN80A4**	**F804_897.3 P80 BE80A4**	496
1.6	3067	0.9	885.1	20000	**F604_885.1 S1 M1LA4**	**F604_885.1 S2 ME2SA4**	488	**F604_885.1 P80 BN80A4**	**F604_885.1 P80 BE80A4**	489
1.7	2849	1.8	822.2	35000	**F704_822.2 S1 M1LA4**	**F704_822.2 S2 ME2SA4**	492	**F704_822.2 P80 BN80A4**	**F704_822.2 P80 BE80A4**	493
1.8	2684	3.0	774.4	45000	**F804_774.4 S1 M1LA4**	**F804_774.4 S2 ME2SA4**	495	**F804_774.4 P80 BN80A4**	**F804_774.4 P80 BE80A4**	496
1.9	2477	3.2	714.9	45000	**F804_714.9 S1 M1LA4**	**F804_714.9 S2 ME2SA4**	495	**F804_714.9 P80 BN80A4**	**F804_714.9 P80 BE80A4**	496
2.1	2295	1.3	662.4	20000	**F604_662.4 S1 M1LA4**	**F604_662.4 S2 ME2SA4**	488	**F604_662.4 P80 BN80A4**	**F604_662.4 P80 BE80A4**	489
2.1	2278	2.2	657.4	35000	**F704_657.4 S1 M1LA4**	**F704_657.4 S2 ME2SA4**	492	**F704_657.4 P80 BN80A4**	**F704_657.4 P80 BE80A4**	493
2.3	2119	1.4	611.4	20000	**F604_611.4 S1 M1LA4**	**F604_611.4 S2 ME2SA4**	488	**F604_611.4 P80 BN80A4**	**F604_611.4 P80 BE80A4**	489
2.3	2103	2.4	606.8	35000	**F704_606.8 S1 M1LA4**	**F704_606.8 S2 ME2SA4**	492	**F704_606.8 P80 BN80A4**	**F704_606.8 P80 BE80A4**	493
2.6	1838	1.0	530.5	12000	**F514_530.5 S1 M1LA4**	**F514_530.5 S2 ME2SA4**	484	**F514_530.5 P80 BN80A4**	**F514_530.5 P80 BE80A4**	485
2.6	1839	1.6	530.7	20000	**F604_530.7 S1 M1LA4**	**F604_530.7 S2 ME2SA4**	488	**F604_530.7 P80 BN80A4**	**F604_530.7 P80 BE80A4**	489
2.7	1769	2.8	510.4	35000	**F704_510.4 S1 M1LA4**	**F704_510.4 S2 ME2SA4**	492	**F704_510.4 P80 BN80A4**	**F704_510.4 P80 BE80A4**	493



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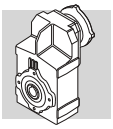
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
2.8	1698	1.7	489.8	20000	**F604_489.8 S1 M1LA4**	**F604_489.8 S2 ME2SA4**	488	**F604_489.8 P80 BN80A4**	**F604_489.8 P80 BE80A4**	489
2.9	1633	3.1	471.2	35000	**F704_471.2 S1 M1LA4**	**F704_471.2 S2 ME2SA4**	492	**F704_471.2 P80 BN80A4**	**F704_471.2 P80 BE80A4**	493
3.2	1487	1.2	429.1	12000	**F514_429.1 S1 M1LA4**	**F514_429.1 S2 ME2SA4**	484	**F514_429.1 P80 BN80A4**	**F514_429.1 P80 BE80A4**	485
3.2	1499	1.9	432.6	20000	**F604_432.6 S1 M1LA4**	**F604_432.6 S2 ME2SA4**	488	**F604_432.6 P80 BN80A4**	**F604_432.6 P80 BE80A4**	489
3.5	1384	2.1	399.3	20000	**F604_399.3 S1 M1LA4**	**F604_399.3 S2 ME2SA4**	488	**F604_399.3 P80 BN80A4**	**F604_399.3 P80 BE80A4**	489
3.9	1248	1.4	352.5	12000	**F513_352.5 S1 M1LA4**	**F513_352.5 S2 ME2SA4**	484	**F513_352.5 P80 BN80A4**	**F513_352.5 P80 BE80A4**	485
4.0	1221	0.9	344.8	8500	**F413_344.8 S1 M1LA4**	**F413_344.8 S2 ME2SA4**	480	**F413_344.8 P80 BN80A4**	**F413_344.8 P80 BE80A4**	481
4.0	1184	2.4	341.7	20000	**F604_341.7 S1 M1LA4**	**F604_341.7 S2 ME2SA4**	488	**F604_341.7 P80 BN80A4**	**F604_341.7 P80 BE80A4**	489
4.3	1124	1.6	317.3	12000	**F513_317.3 S1 M1LA4**	**F513_317.3 S2 ME2SA4**	484	**F513_317.3 P80 BN80A4**	**F513_317.3 P80 BE80A4**	485
4.4	1093	2.7	315.4	20000	**F604_315.4 S1 M1LA4**	**F604_315.4 S2 ME2SA4**	488	**F604_315.4 P80 BN80A4**	**F604_315.4 P80 BE80A4**	489
4.7	1050	1.0	296.6	8500	**F413_296.6 S1 M1LA4**	**F413_296.6 S2 ME2SA4**	480	**F413_296.6 P80 BN80A4**	**F413_296.6 P80 BE80A4**	481
4.8	1013	1.8	285.9	12000	**F513_285.9 S1 M1LA4**	**F513_285.9 S2 ME2SA4**	484	**F513_285.9 P80 BN80A4**	**F513_285.9 P80 BE80A4**	485
5.2	945	1.2	266.9	8500	**F413_266.9 S1 M1LA4**	**F413_266.9 S2 ME2SA4**	480	**F413_266.9 P80 BN80A4**	**F413_266.9 P80 BE80A4**	481
5.3	928	1.9	262.1	12000	**F513_262.1 S1 M1LA4**	**F513_262.1 S2 ME2SA4**	484	**F513_262.1 P80 BN80A4**	**F513_262.1 P80 BE80A4**	485
5.7	850	1.3	240.1	8500	**F413_240.1 S1 M1LA4**	**F413_240.1 S2 ME2SA4**	480	**F413_240.1 P80 BN80A4**	**F413_240.1 P80 BE80A4**	481
5.8	849	2.1	239.8	12000	**F513_239.8 S1 M1LA4**	**F513_239.8 S2 ME2SA4**	484	**F513_239.8 P80 BN80A4**	**F513_239.8 P80 BE80A4**	485
6.3	780	1.4	220.1	8500	**F413_220.1 S1 M1LA4**	**F413_220.1 S2 ME2SA4**	480	**F413_220.1 P80 BN80A4**	**F413_220.1 P80 BE80A4**	481
6.4	768	2.3	216.9	12000	**F513_216.9 S1 M1LA4**	**F513_216.9 S2 ME2SA4**	484	**F513_216.9 P80 BN80A4**	**F513_216.9 P80 BE80A4**	485
6.8	717	2.5	202.4	12000	**F513_202.4 S1 M1LA4**	**F513_202.4 S2 ME2SA4**	484	**F513_202.4 P80 BN80A4**	**F513_202.4 P80 BE80A4**	485
6.9	704	1.6	198.9	8500	**F413_198.9 S1 M1LA4**	**F413_198.9 S2 ME2SA4**	480	**F413_198.9 P80 BN80A4**	**F413_198.9 P80 BE80A4**	481
7.4	657	0.9	185.4	6500	**F313_185.4 S1 M1LA4**	**F313_185.4 S2 ME2SA4**	476	**F313_185.4 P80 BN80A4**	**F313_185.4 P80 BE80A4**	477
7.6	640	1.7	180.7	8500	**F413_180.7 S1 M1LA4**	**F413_180.7 S2 ME2SA4**	480	**F413_180.7 P80 BN80A4**	**F413_180.7 P80 BE80A4**	481
8.2	597	1.8	168.7	8500	**F413_168.7 S1 M1LA4**	**F413_168.7 S2 ME2SA4**	480	**F413_168.7 P80 BN80A4**	**F413_168.7 P80 BE80A4**	481
8.3	591	1.0	166.8	6500	**F313_166.8 S1 M1LA4**	**F313_166.8 S2 ME2SA4**	476	**F313_166.8 P80 BN80A4**	**F313_166.8 P80 BE80A4**	477
8.3	587	3.1	165.6	12000	**F513_165.6 S1 M1LA4**	**F513_165.6 S2 ME2SA4**	484	**F513_165.6 P80 BN80A4**	**F513_165.6 P80 BE80A4**	485
9.2	534	1.1	150.8	6500	**F313_150.8 S1 M1LA4**	**F313_150.8 S2 ME2SA4**	476	**F313_150.8 P80 BN80A4**	**F313_150.8 P80 BE80A4**	477
9.8	498	1.2	140.7	6500	**F313_140.7 S1 M1LA4**	**F313_140.7 S2 ME2SA4**	476	**F313_140.7 P80 BN80A4**	**F313_140.7 P80 BE80A4**	477
10.3	476	2.3	134.4	8500	**F413_134.4 S1 M1LA4**	**F413_134.4 S2 ME2SA4**	480	**F413_134.4 P80 BN80A4**	**F413_134.4 P80 BE80A4**	481
10.7	455	1.3	128.4	6500	**F313_128.4 S1 M1LA4**	**F313_128.4 S2 ME2SA4**	476	**F313_128.4 P80 BN80A4**	**F313_128.4 P80 BE80A4**	477
12.2	400	1.0	113.0	6130	**F253_113.0 S1 M1LA4**	**F253_113.0 S2 ME2SA4**	472	**F253_113.0 P80 BN80A4**	**F253_113.0 P80 BE80A4**	473
12.3	399	1.5	112.5	6500	**F313_112.5 S1 M1LA4**	**F313_112.5 S2 ME2SA4**	476	**F313_112.5 P80 BN80A4**	**F313_112.5 P80 BE80A4**	477
13.0	375	2.9	106.0	8500	**F413_106.0 S1 M1LA4**	**F413_106.0 S2 ME2SA4**	480	**F413_106.0 P80 BN80A4**	**F413_106.0 P80 BE80A4**	481
13.1	373	1.1	105.4	6070	**F253_105.4 S1 M1LA4**	**F253_105.4 S2 ME2SA4**	472	**F253_105.4 P80 BN80A4**	**F253_105.4 P80 BE80A4**	473
13.5	361	1.7	101.9	6500	**F313_101.9 S1 M1LA4**	**F313_101.9 S2 ME2SA4**	476	**F313_101.9 P80 BN80A4**	**F313_101.9 P80 BE80A4**	477
14.5	338	1.2	95.5	5980	**F253_95.5 S1 M1LA4**	**F253_95.5 S2 ME2SA4**	472	**F253_95.5 P80 BN80A4**	**F253_95.5 P80 BE80A4**	473
15.8	309	1.9	87.4	6500	**F313_87.4 S1 M1LA4**	**F313_87.4 S2 ME2SA4**	476	**F313_87.4 P80 BN80A4**	**F313_87.4 P80 BE80A4**	477
16.5	295	1.4	83.4	5840	**F253_83.4 S1 M1LA4**	**F253_83.4 S2 ME2SA4**	472	**F253_83.4 P80 BN80A4**	**F253_83.4 P80 BE80A4**	473
17.5	279	2.1	78.9	6500	**F313_78.9 S1 M1LA4**	**F313_78.9 S2 ME2SA4**	476	**F313_78.9 P80 BN80A4**	**F313_78.9 P80 BE80A4**	477
18.0	278	0.9	76.8	4000	**F202_76.8 S1 M1LA4**	**F202_76.8 S2 ME2SA4**	468	**F202_76.8 P80 BN80A4**	**F202_76.8 P80 BE80A4**	469
18.0	271	1.5	76.6	5750	**F253_76.6 S1 M1LA4**	**F253_76.6 S2 ME2SA4**	472	**F253_76.6 P80 BN80A4**	**F253_76.6 P80 BE80A4**	473
20.0	250	1.0	69.1	3980	**F202_69.1 S1 M1LA4**	**F202_69.1 S2 ME2SA4**	468	**F202_69.1 P80 BN80A4**	**F202_69.1 P80 BE80A4**	469
20.0	245	2.5	69.1	6500	**F313_69.1 S1 M1LA4**	**F313_69.1 S2 ME2SA4**	476	**F313_69.1 P80 BN80A4**	**F313_69.1 P80 BE80A4**	477
21.1	231	1.7	65.3	5570	**F253_65.3 S1 M1LA4**	**F253_65.3 S2 ME2SA4**	472	**F253_65.3 P80 BN80A4**	**F253_65.3 P80 BE80A4**	473
22.1	221	2.7	62.8	6500				**F313_62.8 P80 BN80A4**	**F313_62.8 P80 BE80A4**	477
22.3	224	1.1	61.9	3890	**F202_61.9 S1 M1LA4**	**F202_61.9 S2 ME2SA4**	468	**F202_61.9 P80 BN80A4**	**F202_61.9 P80 BE80A4**	469
23.7	207	1.9	58.3	5430	**F253_58.3 S1 M1LA4**	**F253_58.3 S2 ME2SA4**	472	**F253_58.3 P80 BN80A4**	**F253_58.3 P80 BE80A4**	473
24.3	205	1.2	56.7	3810	**F202_56.7 S1 M1LA4**	**F202_56.7 S2 ME2SA4**	468	**F202_56.7 P80 BN80A4**	**F202_56.7 P80 BE80A4**	469
26.7	183	3.3	52.1	6500				**F313_52.1 P80 BN80A4**	**F313_52.1 P80 BE80A4**	477
27.2	184	1.4	50.7	3720	**F202_50.7 S1 M1LA4**	**F202_50.7 S2 ME2SA4**	468	**F202_50.7 P80 BN80A4**	**F202_50.7 P80 BE80A4**	469
27.2	180	2.2	50.8	5270	**F253_50.8 S1 M1LA4**	**F253_50.8 S2 ME2SA4**	472	**F253_50.8 P80 BN80A4**	**F253_50.8 P80 BE80A4**	473
29.2	167	3.5	47.5	6500				**F313_47.5 P80 BN80A4**	**F313_47.5 P80 BE80A4**	477
31	162	1.5	44.8	3610	**F202_44.8 S1 M1LA4**	**F202_44.8 S2 ME2SA4**	468	**F202_44.8 P80 BN80A4**	**F202_44.8 P80 BE80A4**	469
31	161	2.4	44.4	5140	**F252_44.4 S1 M1LA4**	**F252_44.4 S2 ME2SA4**	472	**F252_44.4 P80 BN80A4**	**F252_44.4 P80 BE80A4**	473
31	160	2.5	45.6	5130				**F253_45.6 P80 BN80A4**	**F253_45.6 P80 BE80A4**	473
33	151	1.7	41.8	3550	**F202_41.8 S1 M1LA4**	**F202_41.8 S2 ME2SA4**	468	**F202_41.8 P80 BN80A4**	**F202_41.8 P80 BE80A4**	469
34	147	2.5	40.7	5030	**F252_40.7 S1 M1LA4**	**F252_40.7 S2 ME2SA4**	472	**F252_40.7 P80 BN80A4**	**F252_40.7 P80 BE80A4**	473
35	143	1.0	39.6	2800	**F102_39.6 S1 M1LA4**	**F102_39.6 S2 ME2SA4**	464	**F102_39.6 P80 BN80A4**	**F102_39.6 P80 BE80A4**	465
36	137	1.8	37.9	3460	**F202_37.9 S1 M1LA4**	**F202_37.9 S2 ME2SA4**	468	**F202_37.9 P80 BN80A4**	**F202_37.9 P80 BE80A4**	469
38	132	3.0	36.4	4890	**F252_36.4 S1 M1LA4**	**F252_36.4 S2 ME2SA4**	472	**F252_36.4 P80 BN80A4**	**F252_36.4 P80 BE80A4**	473
39	128	1.1	35.3	2800	**F102_35.3 S1 M1LA4**	**F102_35.3 S2 ME2SA4**	464	**F102_35.3 P80 BN80A4**	**F102_35.3 P80 BE80A4**	465
42	119	1.2	33.0	2750	**F102_33.0 S1 M1LA4**	**F102_33.0 S2 ME2SA4**	464	**F102_33.0 P80 BN80A4**	**F102_33.0 P80 BE80A4**	465
42	120	2.1	33.1	3340	**F202_33.1 S1 M1LA4**	**F202_33.1 S2 ME2SA4**	468	**F202_33.1 P80 BN80A4**	**F202_33.1 P80 BE80A4**	469
43	116	3.4	32.2	4730	**F252_32.2 S1 M1LA4**	**F252_32.2 S2 ME2SA4**	472	**F252_32.2 P80 BN80A4**	**F252_32.2 P80 BE80A4**	473
45	110	2.3	30.4	3260	**F202_30.4 S1 M1LA4**	**F202_30.4 S2 ME2SA4**	468	**F202_30.4 P80 BN80A4**	**F202_30.4 P80 BE80A4**	469
47	107	1.3	29.6	2680	**F102_29.6 S1 M1LA4**	**F102_29.6 S2 ME2SA4**	464	**F102_29.6 P80 BN80A4**	**F102_29.6 P80 BE80A4**	465



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n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE1	IE2		IE1	IE2	
53	94	2.6	25.9	3130	**F202_25.9 S1 M1LA4**	**F202_25.9 S2 ME2SA4**	468	**F202_25.9 P80 BN80A4**	**F202_25.9 P80 BE80A4**	469
54	93	1.5	25.8	2590	**F102_25.8 S1 M1LA4**	**F102_25.8 S2 ME2SA4**	464	**F102_25.8 P80 BN80A4**	**F102_25.8 P80 BE80A4**	465
60	83	1.7	22.8	2510	**F102_22.8 S1 M1LA4**	**F102_22.8 S2 ME2SA4**	464	**F102_22.8 P80 BN80A4**	**F102_22.8 P80 BE80A4**	465
60	84	2.8	23.1	3030	**F202_23.1 S1 M1LA4**	**F202_23.1 S2 ME2SA4**	468	**F202_23.1 P80 BN80A4**	**F202_23.1 P80 BE80A4**	469
68	73	3.1	20.2	2910	**F202_20.2 S1 M1LA4**	**F202_20.2 S2 ME2SA4**	468	**F202_20.2 P80 BN80A4**	**F202_20.2 P80 BE80A4**	469
71	70	1.9	19.3	2400	**F102_19.3 S1 M1LA4**	**F102_19.3 S2 ME2SA4**	464	**F102_19.3 P80 BN80A4**	**F102_19.3 P80 BE80A4**	465
77	65	3.3	18.1	2820	**F202_18.1 S1 M1LA4**	**F202_18.1 S2 ME2SA4**	468	**F202_18.1 P80 BN80A4**	**F202_18.1 P80 BE80A4**	469
81	61	2.1	17.0	2310	**F102_17.0 S1 M1LA4**	**F102_17.0 S2 ME2SA4**	464	**F102_17.0 P80 BN80A4**	**F102_17.0 P80 BE80A4**	465
94	53	2.2	14.6	2220	**F102_14.6 S1 M1LA4**	**F102_14.6 S2 ME2SA4**	464	**F102_14.6 P80 BN80A4**	**F102_14.6 P80 BE80A4**	465
106	47	2.2	13.0	2140	**F102_13.0 S1 M1LA4**	**F102_13.0 S2 ME2SA4**	464	**F102_13.0 P80 BN80A4**	**F102_13.0 P80 BE80A4**	465
120	42	2.3	11.5	2070	**F102_11.5 S1 M1LA4**	**F102_11.5 S2 ME2SA4**	464	**F102_11.5 P80 BN80A4**	**F102_11.5 P80 BE80A4**	465
141	35	2.5	9.8	1970	**F102_9.8 S1 M1LA4**	**F102_9.8 S2 ME2SA4**	464	**F102_9.8 P80 BN80A4**	**F102_9.8 P80 BE80A4**	465
161	31	2.6	8.6	1890	**F102_8.6 S1 M1LA4**	**F102_8.6 S2 ME2SA4**	464	**F102_8.6 P80 BN80A4**	**F102_8.6 P80 BE80A4**	465
186	27	2.8	7.4	1810	**F102_7.4 S1 M1LA4**	**F102_7.4 S2 ME2SA4**	464	**F102_7.4 P80 BN80A4**	**F102_7.4 P80 BE80A4**	465
193	26	3.6	14.6	1800	**F102_14.6 S1 M1SD2**		464	**F102_14.6 P71 BN71B2**		465
216	23	3.7	13.0	1730	**F102_13.0 S1 M1SD2**		464	**F102_13.0 P71 BN71B2**		465
244	20	3.8	11.5	1670	**F102_11.5 S1 M1SD2**		464	**F102_11.5 P71 BN71B2**		465
289	17	4.2	9.8	1590	**F102_9.8 S1 M1SD2**		464	**F102_9.8 P71 BN71B2**		465
329	15	4.4	8.6	1530	**F102_8.6 S1 M1SD2**		464	**F102_8.6 P71 BN71B2**		465
381	13	4.8	7.4	1460	**F102_7.4 S1 M1SD2**		464	**F102_7.4 P71 BN71B2**		465

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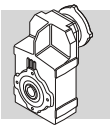
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.44	10909	1.3	2099	55000				
0.47	10070	1.4	1937	55000				
0.54	8884	0.9	1709	45000				
0.54	8849	1.6	1702	55000				
0.58	8201	1.0	1578	45000				
0.59	8168	1.7	1571	55000				
0.64	7422	1.9	1428	55000				
0.66	7193	1.1	1384	45000				
0.69	6885	1.2	1987	45000			**F804_1987 P80 BXN80MA4**	496
0.75	6356	1.3	1834	45000			**F804_1834 P80 BXN80MA4**	496
0.81	5923	1.4	1709	45000			**F804_1709 P80 BXN80MA4**	496
0.87	5491	0.9	1585	35000			**F704_1585 P80 BXN80MA4**	493
0.87	5467	1.5	1578	45000			**F804_1578 P80 BXN80MA4**	496
0.93	5134	1.0	1481	35000			**F704_1481 P80 BXN80MA4**	493
1.0	4739	1.1	1368	35000			**F704_1368 P80 BXN80MA4**	493
1.0	4795	1.7	1384	45000			**F804_1384 P80 BXN80MA4**	496
1.1	4427	1.8	1277	45000			**F804_1277 P80 BXN80MA4**	496
1.2	4095	1.2	1182	35000			**F704_1182 P80 BXN80MA4**	493
1.2	3972	2.0	1146	45000			**F804_1146 P80 BXN80MA4**	496
1.3	3780	1.3	1091	35000			**F704_1091 P80 BXN80MA4**	493
1.3	3667	2.2	1058	45000			**F804_1058 P80 BXN80MA4**	496
1.4	3323	0.9	958.9	20000			**F604_958.9 P80 BXN80MA4**	489
1.4	3377	1.5	974.4	35000			**F704_974.4 P80 BXN80MA4**	493
1.5	3117	1.6	899.4	35000			**F704_899.4 P80 BXN80MA4**	493
1.5	3109	2.6	897.3	45000			**F804_897.3 P80 BXN80MA4**	496
1.6	3067	0.9	885.1	20000			**F604_885.1 P80 BXN80MA4**	489
1.7	2849	1.8	822.2	35000			**F704_822.2 P80 BXN80MA4**	493
1.8	2684	3.0	774.4	45000			**F804_774.4 P80 BXN80MA4**	496
1.9	2477	3.2	714.9	45000			**F804_714.9 P80 BXN80MA4**	496
2.1	2295	1.3	662.4	20000			**F604_662.4 P80 BXN80MA4**	489
2.1	2278	2.2	657.4	35000			**F704_657.4 P80 BXN80MA4**	493
2.3	2119	1.4	611.4	20000			**F604_611.4 P80 BXN80MA4**	489
2.3	2103	2.4	606.8	35000			**F704_606.8 P80 BXN80MA4**	493
2.6	1838	1.0	530.5	12000			**F514_530.5 P80 BXN80MA4**	485
2.6	1839	1.6	530.7	20000			**F604_530.7 P80 BXN80MA4**	489
2.7	1769	2.8	510.4	35000			**F704_510.4 P80 BXN80MA4**	493
2.8	1698	1.7	489.8	20000			**F604_489.8 P80 BXN80MA4**	489



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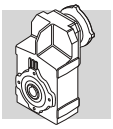
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
2.9	1633	3.1	471.2	35000			**F704_471.2 P80 BXN80MA4**	493
3.2	1487	1.2	429.1	12000			**F514_429.1 P80 BXN80MA4**	485
3.2	1499	1.9	432.6	20000			**F604_432.6 P80 BXN80MA4**	489
3.5	1384	2.1	399.3	20000			**F604_399.3 P80 BXN80MA4**	489
3.9	1248	1.4	352.5	12000			**F513_352.5 P80 BXN80MA4**	485
4.0	1221	0.9	344.8	8500			**F413_344.8 P80 BXN80MA4**	481
4.0	1184	2.4	341.7	20000			**F604_341.7 P80 BXN80MA4**	489
4.3	1124	1.6	317.3	12000			**F513_317.3 P80 BXN80MA4**	485
4.4	1093	2.7	315.4	20000			**F604_315.4 P80 BXN80MA4**	489
4.7	1050	1.0	296.6	8500			**F413_296.6 P80 BXN80MA4**	481
4.8	1013	1.8	285.9	12000			**F513_285.9 P80 BXN80MA4**	485
5.2	945	1.2	266.9	8500			**F413_266.9 P80 BXN80MA4**	481
5.3	928	1.9	262.1	12000			**F513_262.1 P80 BXN80MA4**	485
5.7	850	1.3	240.1	8500			**F413_240.1 P80 BXN80MA4**	481
5.8	849	2.1	239.8	12000			**F513_239.8 P80 BXN80MA4**	485
6.3	780	1.4	220.1	8500			**F413_220.1 P80 BXN80MA4**	481
6.4	768	2.3	216.9	12000			**F513_216.9 P80 BXN80MA4**	485
6.8	717	2.5	202.4	12000			**F513_202.4 P80 BXN80MA4**	485
6.9	704	1.6	198.9	8500			**F413_198.9 P80 BXN80MA4**	481
7.4	657	0.9	185.4	6500			**F313_185.4 P80 BXN80MA4**	477
7.6	640	1.7	180.7	8500			**F413_180.7 P80 BXN80MA4**	481
8.2	597	1.8	168.7	8500			**F413_168.7 P80 BXN80MA4**	481
8.3	591	1.0	166.8	6500			**F313_166.8 P80 BXN80MA4**	477
8.3	587	3.1	165.6	12000			**F513_165.6 P80 BXN80MA4**	485
9.2	534	1.1	150.8	6500			**F313_150.8 P80 BXN80MA4**	477
9.8	498	1.2	140.7	6500			**F313_140.7 P80 BXN80MA4**	477
10.3	476	2.3	134.4	8500			**F413_134.4 P80 BXN80MA4**	481
10.7	455	1.3	128.4	6500			**F313_128.4 P80 BXN80MA4**	477
12.2	400	1.0	113.0	6130	**F253_113.0 S20 MXN20MA4**	472	**F253_113.0 P80 BXN80MA4**	473
12.3	399	1.5	112.5	6500			**F313_112.5 P80 BXN80MA4**	477
13.0	375	2.9	106.0	8500			**F413_106.0 P80 BXN80MA4**	481
13.1	373	1.1	105.4	6070	**F253_105.4 S20 MXN20MA4**	472	**F253_105.4 P80 BXN80MA4**	473
13.5	361	1.7	101.9	6500			**F313_101.9 P80 BXN80MA4**	477
14.5	338	1.2	95.5	5980	**F253_95.5 S20 MXN20MA4**	472	**F253_95.5 P80 BXN80MA4**	473
15.8	309	1.9	87.4	6500			**F313_87.4 P80 BXN80MA4**	477
16.5	295	1.4	83.4	5840	**F253_83.4 S20 MXN20MA4**	472	**F253_83.4 P80 BXN80MA4**	473
17.5	279	2.1	78.9	6500			**F313_78.9 P80 BXN80MA4**	477
18.0	278	0.9	76.8	4000	**F202_76.8 S20 MXN20MA4**	468	**F202_76.8 P80 BXN80MA4**	469
18.0	271	1.5	76.6	5750	**F253_76.6 S20 MXN20MA4**	472	**F253_76.6 P80 BXN80MA4**	473
20.0	250	1.0	69.1	3980	**F202_69.1 S20 MXN20MA4**	468	**F202_69.1 P80 BXN80MA4**	469
20.0	245	2.5	69.1	6500			**F313_69.1 P80 BXN80MA4**	477
21.1	231	1.7	65.3	5570	**F253_65.3 S20 MXN20MA4**	472	**F253_65.3 P80 BXN80MA4**	473
22.1	221	2.7	62.8	6500			**F313_62.8 P80 BXN80MA4**	477
22.3	224	1.1	61.9	3890	**F202_61.9 S20 MXN20MA4**	468	**F202_61.9 P80 BXN80MA4**	469
23.7	207	1.9	58.3	5430	**F253_58.3 S20 MXN20MA4**	472	**F253_58.3 P80 BXN80MA4**	473
24.3	205	1.2	56.7	3810	**F202_56.7 S20 MXN20MA4**	468	**F202_56.7 P80 BXN80MA4**	469
26.7	183	3.3	52.1	6500			**F313_52.1 P80 BXN80MA4**	477
27.2	184	1.4	50.7	3720	**F202_50.7 S20 MXN20MA4**	468	**F202_50.7 P80 BXN80MA4**	469
27.2	180	2.2	50.8	5270	**F253_50.8 S20 MXN20MA4**	472	**F253_50.8 P80 BXN80MA4**	473
29.2	167	3.5	47.5	6500			**F313_47.5 P80 BXN80MA4**	477
31	162	1.5	44.8	3610	**F202_44.8 S20 MXN20MA4**	468	**F202_44.8 P80 BXN80MA4**	469
31	161	2.4	44.4	5140	**F252_44.4 S20 MXN20MA4**	472	**F252_44.4 P80 BXN80MA4**	473
31	160	2.5	45.6	5130			**F253_45.6 P80 BXN80MA4**	473
33	151	1.7	41.8	3550	**F202_41.8 S20 MXN20MA4**	468	**F202_41.8 P80 BXN80MA4**	469
34	147	2.5	40.7	5030	**F252_40.7 S20 MXN20MA4**	472	**F252_40.7 P80 BXN80MA4**	473
35	143	1.0	39.6	2800	**F102_39.6 S20 MXN20MA4**	464	**F102_39.6 P80 BXN80MA4**	465
36	137	1.8	37.9	3460	**F202_37.9 S20 MXN20MA4**	468	**F202_37.9 P80 BXN80MA4**	469
38	132	3.0	36.4	4890	**F252_36.4 S20 MXN20MA4**	472	**F252_36.4 P80 BXN80MA4**	473
39	128	1.1	35.3	2800	**F102_35.3 S20 MXN20MA4**	464	**F102_35.3 P80 BXN80MA4**	465
42	119	1.2	33.0	2750	**F102_33.0 S20 MXN20MA4**	464	**F102_33.0 P80 BXN80MA4**	465
42	120	2.1	33.1	3340	**F202_33.1 S20 MXN20MA4**	468	**F202_33.1 P80 BXN80MA4**	469
43	116	3.4	32.2	4730	**F252_32.2 S20 MXN20MA4**	472	**F252_32.2 P80 BXN80MA4**	473
45	110	2.3	30.4	3260	**F202_30.4 S20 MXN20MA4**	468	**F202_30.4 P80 BXN80MA4**	469
47	107	1.3	29.6	2680	**F102_29.6 S20 MXN20MA4**	464	**F102_29.6 P80 BXN80MA4**	465
53	94	2.6	25.9	3130	**F202_25.9 S20 MXN20MA4**	468	**F202_25.9 P80 BXN80MA4**	469



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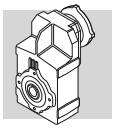
n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
54	93	1.5	25.8	2590	**F102_25.8 S20 MXN20MA4**	464	**F102_25.8 P80 BXN80MA4**	465
60	83	1.7	22.8	2510	**F102_22.8 S20 MXN20MA4**	464	**F102_22.8 P80 BXN80MA4**	465
60	84	2.8	23.1	3030	**F202_23.1 S20 MXN20MA4**	468	**F202_23.1 P80 BXN80MA4**	469
68	73	3.1	20.2	2910	**F202_20.2 S20 MXN20MA4**	468	**F202_20.2 P80 BXN80MA4**	469
71	70	1.9	19.3	2400	**F102_19.3 S20 MXN20MA4**	464	**F102_19.3 P80 BXN80MA4**	465
77	65	3.3	18.1	2820	**F202_18.1 S20 MXN20MA4**	468	**F202_18.1 P80 BXN80MA4**	469
81	61	2.1	17.0	2310	**F102_17.0 S20 MXN20MA4**	464	**F102_17.0 P80 BXN80MA4**	465
94	53	2.2	14.6	2220	**F102_14.6 S20 MXN20MA4**	464	**F102_14.6 P80 BXN80MA4**	465
106	47	2.2	13.0	2140	**F102_13.0 S20 MXN20MA4**	464	**F102_13.0 P80 BXN80MA4**	465
120	42	2.3	11.5	2070	**F102_11.5 S20 MXN20MA4**	464	**F102_11.5 P80 BXN80MA4**	465
141	35	2.5	9.8	1970	**F102_9.8 S20 MXN20MA4**	464	**F102_9.8 P80 BXN80MA4**	465
161	31	2.6	8.6	1890	**F102_8.6 S20 MXN20MA4**	464	**F102_8.6 P80 BXN80MA4**	465
186	27	2.8	7.4	1810	**F102_7.4 S20 MXN20MA4**	464	**F102_7.4 P80 BXN80MA4**	465
193	26	3.6	14.6	1800				
216	23	3.7	13.0	1730				
244	20	3.8	11.5	1670				
289	17	4.2	9.8	1590				
329	15	4.4	8.6	1530				
381	13	4.8	7.4	1460				

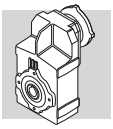
0.75 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
0.45	14391	1.0	2098.7	55000	**F904_2099 S3 ME3SA6**		498	**F904_2099 P90 BE90S6**		499
0.49	13284	1.1	1937.3	55000	**F904_1937 S3 ME3SA6**		498	**F904_1937 P90 BE90S6**		499
0.55	11673	1.2	1702.3	55000	**F904_1702 S3 ME3SA6**		498	**F904_1702 P90 BE90S6**		499
0.60	10775	1.3	1571.4	55000	**F904_1571 S3 ME3SA6**		498	**F904_1571 P90 BE90S6**		499
0.66	9791	1.4	1427.9	55000	**F904_1428 S3 ME3SA6**		498	**F904_1428 P90 BE90S6**		499
0.68	9444	1.5	2098.7	55000	**F904_2099 S2 ME2SB4**	**F904_2099 S2 MX2SB4**	498	**F904_2099 P80 BE80B4**	**F904_2099 P80 BX80B4**	499
0.72	8941	0.9	1986.8	45000	**F804_1987 S2 ME2SB4**	**F804_1987 S2 MX2SB4**	495	**F804_1987 P80 BE80B4**	**F804_1987 P80 BX80B4**	496
0.74	8718	1.6	1937.3	55000	**F904_1937 S2 ME2SB4**	**F904_1937 S2 MX2SB4**	498	**F904_1937 P80 BE80B4**	**F904_1937 P80 BX80B4**	499
0.78	8253	1.0	1834.0	45000	**F804_1834 S2 ME2SB4**	**F804_1834 S2 MX2SB4**	495	**F804_1834 P80 BE80B4**	**F804_1834 P80 BX80B4**	496
0.84	7691	1.0	1709.1	45000	**F804_1709 S2 ME2SB4**	**F804_1709 S2 MX2SB4**	495	**F804_1709 P80 BE80B4**	**F804_1709 P80 BX80B4**	496
0.84	7660	1.8	1702.3	55000	**F904_1702 S2 ME2SB4**	**F904_1702 S2 MX2SB4**	498	**F904_1702 P80 BE80B4**	**F904_1702 P80 BX80B4**	499
0.91	7099	1.1	1577.6	45000	**F804_1578 S2 ME2SB4**	**F804_1578 S2 MX2SB4**	495	**F804_1578 P80 BE80B4**	**F804_1578 P80 BX80B4**	496
0.91	7071	2.0	1571.4	55000	**F904_1571 S2 ME2SB4**	**F904_1571 S2 MX2SB4**	498	**F904_1571 P80 BE80B4**	**F904_1571 P80 BX80B4**	499
1.0	6426	2.2	1427.9	55000	**F904_1428 S2 ME2SB4**	**F904_1428 S2 MX2SB4**	498	**F904_1428 P80 BE80B4**	**F904_1428 P80 BX80B4**	499
1.0	6227	1.3	1383.8	45000	**F804_1384 S2 ME2SB4**	**F804_1384 S2 MX2SB4**	495	**F804_1384 P80 BE80B4**	**F804_1384 P80 BX80B4**	496
1.1	5931	2.4	1318.1	55000	**F904_1318 S2 ME2SB4**	**F904_1318 S2 MX2SB4**	498	**F904_1318 P80 BE80B4**	**F904_1318 P80 BX80B4**	499
1.1	5748	1.4	1277.3	45000	**F804_1277 S2 ME2SB4**	**F804_1277 S2 MX2SB4**	495	**F804_1277 P80 BE80B4**	**F804_1277 P80 BX80B4**	496
1.2	5422	2.6	1204.9	55000	**F904_1205 S2 ME2SB4**	**F904_1205 S2 MX2SB4**	498	**F904_1205 P80 BE80B4**	**F904_1205 P80 BX80B4**	499
1.2	5318	0.9	1181.8	35000	**F704_1182 S2 ME2SB4**	**F704_1182 S2 MX2SB4**	492	**F704_1182 P80 BE80B4**	**F704_1182 P80 BX80B4**	493
1.2	5158	1.6	1146.2	45000	**F804_1146 S2 ME2SB4**	**F804_1146 S2 MX2SB4**	495	**F804_1146 P80 BE80B4**	**F804_1146 P80 BX80B4**	496
1.3	5005	2.8	1112.3	55000	**F904_1112 S2 ME2SB4**	**F904_1112 S2 MX2SB4**	498	**F904_1112 P80 BE80B4**	**F904_1112 P80 BX80B4**	499
1.3	4909	1.0	1090.9	35000	**F704_1091 S2 ME2SB4**	**F704_1091 S2 MX2SB4**	492	**F704_1091 P80 BE80B4**	**F704_1091 P80 BX80B4**	493
1.4	4761	1.7	1058.1	45000	**F804_1058 S2 ME2SB4**	**F804_1058 S2 MX2SB4**	495	**F804_1058 P80 BE80B4**	**F804_1058 P80 BX80B4**	496
1.5	4437	3.2	986.0	55000	**F904_986.0 S2 ME2SB4**	**F904_986.0 S2 MX2SB4**	498	**F904_986.0 P80 BE80B4**	**F904_986.0 P80 BX80B4**	499
1.5	4385	1.1	974.4	35000	**F704_974.4 S2 ME2SB4**	**F704_974.4 S2 MX2SB4**	492	**F704_974.4 P80 BE80B4**	**F704_974.4 P80 BX80B4**	493
1.5	4374	1.8	972.0	45000	**F804_972.0 S2 ME2SB4**	**F804_972.0 S2 MX2SB4**	495	**F804_972.0 P80 BE80B4**	**F804_972.0 P80 BX80B4**	496
1.6	4096	3.4	910.2	55000	**F904_910.2 S2 ME2SB4**	**F904_910.2 S2 MX2SB4**	498	**F904_910.2 P80 BE80B4**	**F904_910.2 P80 BX80B4**	499
1.6	4047	1.2	899.4	35000	**F704_899.4 S2 ME2SB4**	**F704_899.4 S2 MX2SB4**	492	**F704_899.4 P80 BE80B4**	**F704_899.4 P80 BX80B4**	493
1.6	4038	2.0	897.3	45000	**F804_897.3 S2 ME2SB4**	**F804_897.3 S2 MX2SB4**	495	**F804_897.3 P80 BE80B4**	**F804_897.3 P80 BX80B4**	496
1.7	3700	1.4	822.2	35000	**F704_822.2 S2 ME2SB4**	**F704_822.2 S2 MX2SB4**	492	**F704_822.2 P80 BE80B4**	**F704_822.2 P80 BX80B4**	493
1.8	3485	2.3	774.4	45000	**F804_774.4 S2 ME2SB4**	**F804_774.4 S2 MX2SB4**	495	**F804_774.4 P80 BE80B4**	**F804_774.4 P80 BX80B4**	496
1.9	3415	1.5	759.0	35000	**F704_759.0 S2 ME2SB4**	**F704_759.0 S2 MX2SB4**	492	**F704_759.0 P80 BE80B4**	**F704_759.0 P80 BX80B4**	493
2.0	3217	2.5	714.9	45000	**F804_714.9 S2 ME2SB4**	**F804_714.9 S2 MX2SB4**	495	**F804_714.9 P80 BE80B4**	**F804_714.9 P80 BX80B4**	496
2.2	2981	1.0	662.4	20000	**F604_662.4 S2 ME2SB4**	**F604_662.4 S2 MX2SB4**	488	**F604_662.4 P80 BE80B4**	**F604_662.4 P80 BX80B4**	489
2.2	2958	1.7	657.4	35000	**F704_657.4 S2 ME2SB4**	**F704_657.4 S2 MX2SB4**	492	**F704_657.4 P80 BE80B4**	**F704_657.4 P80 BX80B4**	493



0.75 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
2.3	2751	1.1	611.4	20000	**F604_611.4 S2 ME2SB4**	**F604_611.4 S2 MX2SB4**	488	**F604_611.4 P80 BE80B4**	**F604_611.4 P80 BX80B4**	489
2.3	2749	2.9	610.9	45000	**F804_610.9 S2 ME2SB4**	**F804_610.9 S2 MX2SB4**	495	**F804_610.9 P80 BE80B4**	**F804_610.9 P80 BX80B4**	496
2.4	2731	1.8	606.8	35000	**F704_606.8 S2 ME2SB4**	**F704_606.8 S2 MX2SB4**	492	**F704_606.8 P80 BE80B4**	**F704_606.8 P80 BX80B4**	493
2.5	2537	3.2	563.9	45000	**F804_563.9 S2 ME2SB4**	**F804_563.9 S2 MX2SB4**	495	**F804_563.9 P80 BE80B4**	**F804_563.9 P80 BX80B4**	496
2.7	2388	1.2	530.7	20000	**F604_530.7 S2 ME2SB4**	**F604_530.7 S2 MX2SB4**	488	**F604_530.7 P80 BE80B4**	**F604_530.7 P80 BX80B4**	489
2.8	2297	2.2	510.4	35000	**F704_510.4 S2 ME2SB4**	**F704_510.4 S2 MX2SB4**	492	**F704_510.4 P80 BE80B4**	**F704_510.4 P80 BX80B4**	493
2.9	2204	1.3	489.8	20000	**F604_489.8 S2 ME2SB4**	**F604_489.8 S2 MX2SB4**	488	**F604_489.8 P80 BE80B4**	**F604_489.8 P80 BX80B4**	489
3.0	2120	2.4	471.2	35000	**F704_471.2 S2 ME2SB4**	**F704_471.2 S2 MX2SB4**	492	**F704_471.2 P80 BE80B4**	**F704_471.2 P80 BX80B4**	493
3.3	1947	1.5	432.6	20000	**F604_432.6 S2 ME2SB4**	**F604_432.6 S2 MX2SB4**	488	**F604_432.6 P80 BE80B4**	**F604_432.6 P80 BX80B4**	489
3.3	1931	0.9	429.1	12000	**F514_429.1 S2 ME2SB4**	**F514_429.1 S2 MX2SB4**	484	**F514_429.1 P80 BE80B4**	**F514_429.1 P80 BX80B4**	485
3.5	1816	2.8	403.5	35000	**F704_403.5 S2 ME2SB4**	**F704_403.5 S2 MX2SB4**	492	**F704_403.5 P80 BE80B4**	**F704_403.5 P80 BX80B4**	493
3.6	1797	1.6	399.3	20000	**F604_399.3 S2 ME2SB4**	**F604_399.3 S2 MX2SB4**	488	**F604_399.3 P80 BE80B4**	**F604_399.3 P80 BX80B4**	489
3.8	1676	3.0	372.5	35000	**F704_372.5 S2 ME2SB4**	**F704_372.5 S2 MX2SB4**	492	**F704_372.5 P80 BE80B4**	**F704_372.5 P80 BX80B4**	493
4.1	1639	1.1	352.5	12000	**F513_352.5 S2 ME2SB4**	**F513_352.5 S2 MX2SB4**	484	**F513_352.5 P80 BE80B4**	**F513_352.5 P80 BX80B4**	485
4.2	1538	1.9	341.7	20000	**F604_341.7 S2 ME2SB4**	**F604_341.7 S2 MX2SB4**	488	**F604_341.7 P80 BE80B4**	**F604_341.7 P80 BX80B4**	489
4.5	1475	1.2	317.3	12000	**F513_317.3 S2 ME2SB4**	**F513_317.3 S2 MX2SB4**	484	**F513_317.3 P80 BE80B4**	**F513_317.3 P80 BX80B4**	485
4.5	1419	2.0	315.4	20000	**F604_315.4 S2 ME2SB4**	**F604_315.4 S2 MX2SB4**	488	**F604_315.4 P80 BE80B4**	**F604_315.4 P80 BX80B4**	489
4.7	1370	3.7	304.3	35000	**F704_304.3 S2 ME2SB4**	**F704_304.3 S2 MX2SB4**	492	**F704_304.3 P80 BE80B4**	**F704_304.3 P80 BX80B4**	493
5.0	1330	1.4	285.9	12000	**F513_285.9 S2 ME2SB4**	**F513_285.9 S2 MX2SB4**	484	**F513_285.9 P80 BE80B4**	**F513_285.9 P80 BX80B4**	485
5.1	1305	2.2	280.7	20000	**F603_280.7 S2 ME2SB4**	**F603_280.7 S2 MX2SB4**	488	**F603_280.7 P80 BE80B4**	**F603_280.7 P80 BX80B4**	489
5.5	1219	1.5	262.1	12000	**F513_262.1 S2 ME2SB4**	**F513_262.1 S2 MX2SB4**	484	**F513_262.1 P80 BE80B4**	**F513_262.1 P80 BX80B4**	485
5.5	1205	2.4	259.1	20000	**F603_259.1 S2 ME2SB4**	**F603_259.1 S2 MX2SB4**	488	**F603_259.1 P80 BE80B4**	**F603_259.1 P80 BX80B4**	489
6.0	1117	1.0	240.1	8500	**F413_240.1 S2 ME2SB4**	**F413_240.1 S2 MX2SB4**	480	**F413_240.1 P80 BE80B4**	**F413_240.1 P80 BX80B4**	481
6.0	1115	1.6	239.8	12000	**F513_239.8 S2 ME2SB4**	**F513_239.8 S2 MX2SB4**	484	**F513_239.8 P80 BE80B4**	**F513_239.8 P80 BX80B4**	485
6.1	1096	2.6	235.8	20000	**F603_235.8 S2 ME2SB4**	**F603_235.8 S2 MX2SB4**	488	**F603_235.8 P80 BE80B4**	**F603_235.8 P80 BX80B4**	489
6.5	1024	1.1	220.1	8500	**F413_220.1 S2 ME2SB4**	**F413_220.1 S2 MX2SB4**	480	**F413_220.1 P80 BE80B4**	**F413_220.1 P80 BX80B4**	481
6.6	1012	2.9	217.6	20000	**F603_217.6 S2 ME2SB4**	**F603_217.6 S2 MX2SB4**	488	**F603_217.6 P80 BE80B4**	**F603_217.6 P80 BX80B4**	489
6.6	1008	1.8	216.9	12000	**F513_216.9 S2 ME2SB4**	**F513_216.9 S2 MX2SB4**	484	**F513_216.9 P80 BE80B4**	**F513_216.9 P80 BX80B4**	485
7.1	941	1.9	202.4	12000	**F513_202.4 S2 ME2SB4**	**F513_202.4 S2 MX2SB4**	484	**F513_202.4 P80 BE80B4**	**F513_202.4 P80 BX80B4**	485
7.1	936	3.1	201.4	20000	**F603_201.4 S2 ME2SB4**	**F603_201.4 S2 MX2SB4**	488	**F603_201.4 P80 BE80B4**	**F603_201.4 P80 BX80B4**	489
7.2	925	1.2	198.9	8500	**F413_198.9 S2 ME2SB4**	**F413_198.9 S2 MX2SB4**	480	**F413_198.9 P80 BE80B4**	**F413_198.9 P80 BX80B4**	481
7.7	864	3.4	185.9	20000	**F603_185.9 S2 ME2SB4**	**F603_185.9 S2 MX2SB4**	488	**F603_185.9 P80 BE80B4**	**F603_185.9 P80 BX80B4**	489
7.9	840	1.3	180.7	8500	**F413_180.7 S2 ME2SB4**	**F413_180.7 S2 MX2SB4**	480	**F413_180.7 P80 BE80B4**	**F413_180.7 P80 BX80B4**	481
8.5	784	1.4	168.7	8500	**F413_168.7 S2 ME2SB4**	**F413_168.7 S2 MX2SB4**	480	**F413_168.7 P80 BE80B4**	**F413_168.7 P80 BX80B4**	481
8.6	770	2.3	165.6	12000	**F513_165.6 S2 ME2SB4**	**F513_165.6 S2 MX2SB4**	484	**F513_165.6 P80 BE80B4**	**F513_165.6 P80 BX80B4**	485
8.8	757	3.8	162.9	20000	**F603_162.9 S2 ME2SB4**	**F603_162.9 S2 MX2SB4**	488	**F603_162.9 P80 BE80B4**	**F603_162.9 P80 BX80B4**	489
10.2	654	0.9	140.7	6500	**F313_140.7 S2 ME2SB4**	**F313_140.7 S2 MX2SB4**	476	**F313_140.7 P80 BE80B4**	**F313_140.7 P80 BX80B4**	477
10.6	625	1.8	134.4	8500	**F413_134.4 S2 ME2SB4**	**F413_134.4 S2 MX2SB4**	480	**F413_134.4 P80 BE80B4**	**F413_134.4 P80 BX80B4**	481
11.0	604	3.0	129.9	12000	**F513_129.9 S2 ME2SB4**	**F513_129.9 S2 MX2SB4**	484	**F513_129.9 P80 BE80B4**	**F513_129.9 P80 BX80B4**	485
11.1	597	1.0	128.4	6500	**F313_128.4 S2 ME2SB4**	**F313_128.4 S2 MX2SB4**	476	**F313_128.4 P80 BE80B4**	**F313_128.4 P80 BX80B4**	477
12.7	523	1.1	112.5	6500	**F313_112.5 S2 ME2SB4**	**F313_112.5 S2 MX2SB4**	476	**F313_112.5 P80 BE80B4**	**F313_112.5 P80 BX80B4**	477
13.5	493	2.2	106.0	8500	**F413_106.0 S2 ME2SB4**	**F413_106.0 S2 MX2SB4**	480	**F413_106.0 P80 BE80B4**	**F413_106.0 P80 BX80B4**	481
14.0	474	1.3	101.9	6500	**F313_101.9 S2 ME2SB4**	**F313_101.9 S2 MX2SB4**	476	**F313_101.9 P80 BE80B4**	**F313_101.9 P80 BX80B4**	477
15.0	444	0.9	95.5	5450	**F253_95.5 S2 ME2SB4**	**F253_95.5 S2 MX2SB4**	472	**F253_95.5 P80 BE80B4**	**F253_95.5 P80 BX80B4**	473
16.4	406	1.5	87.4	6500	**F313_87.4 S2 ME2SB4**	**F313_87.4 S2 MX2SB4**	476	**F313_87.4 P80 BE80B4**	**F313_87.4 P80 BX80B4**	477
16.8	395	2.8	84.9	8500	**F413_84.9 S2 ME2SB4**	**F413_84.9 S2 MX2SB4**	480	**F413_84.9 P80 BE80B4**	**F413_84.9 P80 BX80B4**	481
17.1	388	1.0	83.4	5350	**F253_83.4 S2 ME2SB4**	**F253_83.4 S2 MX2SB4**	472	**F253_83.4 P80 BE80B4**	**F253_83.4 P80 BX80B4**	473
18.1	367	1.6	78.9	6500	**F313_78.9 S2 ME2SB4**	**F313_78.9 S2 MX2SB4**	476	**F313_78.9 P80 BE80B4**	**F313_78.9 P80 BX80B4**	477
18.7	356	1.1	76.6	5300	**F253_76.6 S2 ME2SB4**	**F253_76.6 S2 MX2SB4**	472	**F253_76.6 P80 BE80B4**	**F253_76.6 P80 BX80B4**	473
20.7	321	1.9	69.1	6500	**F313_69.1 S2 ME2SB4**	**F313_69.1 S2 MX2SB4**	476	**F313_69.1 P80 BE80B4**	**F313_69.1 P80 BX80B4**	477
21.5	309	3.6	66.5	8500	**F413_66.5 S2 ME2SB4**	**F413_66.5 S2 MX2SB4**	480	**F413_66.5 P80 BE80B4**	**F413_66.5 P80 BX80B4**	481
21.9	304	1.3	65.3	5180	**F253_65.3 S2 ME2SB4**	**F253_65.3 S2 MX2SB4**	472	**F253_65.3 P80 BE80B4**	**F253_65.3 P80 BX80B4**	473
22.8	292	2.1	62.8	6500	**F313_62.8 S2 ME2SB4**	**F313_62.8 S2 MX2SB4**	476	**F313_62.8 P80 BE80B4**	**F313_62.8 P80 BX80B4**	477
24.5	271	1.5	58.3	5080	**F253_58.3 S2 ME2SB4**	**F253_58.3 S2 MX2SB4**	472	**F253_58.3 P80 BE80B4**	**F253_58.3 P80 BX80B4**	473
25.2	269	0.9	56.7	3590	**F202_56.7 S2 ME2SB4**	**F202_56.7 S2 MX2SB4**	468	**F202_56.7 P80 BE80B4**	**F202_56.7 P80 BX80B4**	469
27.5	242	2.5	52.1	6500	**F313_52.1 S2 ME2SB4**	**F313_52.1 S2 MX2SB4**	476	**F313_52.1 P80 BE80B4**	**F313_52.1 P80 BX80B4**	477
28.2	236	1.7	50.8	4960	**F253_50.8 S2 ME2SB4**	**F253_50.8 S2 MX2SB4**	472	**F253_50.8 P80 BE80B4**	**F253_50.8 P80 BX80B4**	473
28.2	241	1.0	50.7	3510	**F202_50.7 S2 ME2SB4**	**F202_50.7 S2 MX2SB4**	468	**F202_50.7 P80 BE80B4**	**F202_50.7 P80 BX80B4**	469
30	221	2.6	47.5	6500	**F313_47.5 S2 ME2SB4**	**F313_47.5 S2 MX2SB4**	476	**F313_47.5 P80 BE80B4**	**F313_47.5 P80 BX80B4**	477
31	212	1.9	45.6	4860	**F253_45.6 S2 ME2SB4**	**F253_45.6 S2 MX2SB4**	472	**F253_45.6 P80 BE80B4**	**F253_45.6 P80 BX80B4**	473

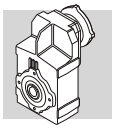


0.75 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
32	213	1.2	44.8	3420	**F202_44.8 S2 ME2SB4**	**F202_44.8 S2 MX2SB4**	468	**F202_44.8 P80 BE80B4**	**F202_44.8 P80 BX80B4**	469
32	212	2.8	44.6	6500	**F312_44.6 S2 ME2SB4**	**F312_44.6 S2 MX2SB4**	476	**F312_44.6 P80 BE80B4**	**F312_44.6 P80 BX80B4**	477
32	211	1.8	44.4	4890	**F252_44.4 S2 ME2SB4**	**F252_44.4 S2 MX2SB4**	472	**F252_44.4 P80 BE80B4**	**F252_44.4 P80 BX80B4**	473
34	199	1.3	41.8	3370	**F202_41.8 S2 ME2SB4**	**F202_41.8 S2 MX2SB4**	468	**F202_41.8 P80 BE80B4**	**F202_41.8 P80 BX80B4**	469
35	193	1.9	40.7	4790	**F252_40.7 S2 ME2SB4**	**F252_40.7 S2 MX2SB4**	472	**F252_40.7 P80 BE80B4**	**F252_40.7 P80 BX80B4**	473
35	192	3.1	40.4	6500	**F312_40.4 S2 ME2SB4**	**F312_40.4 S2 MX2SB4**	476	**F312_40.4 P80 BE80B4**	**F312_40.4 P80 BX80B4**	477
38	180	1.4	37.9	3300	**F202_37.9 S2 ME2SB4**	**F202_37.9 S2 MX2SB4**	468	**F202_37.9 P80 BE80B4**	**F202_37.9 P80 BX80B4**	469
38	179	3.4	37.7	6500	**F312_37.7 S2 ME2SB4**	**F312_37.7 S2 MX2SB4**	476	**F312_37.7 P80 BE80B4**	**F312_37.7 P80 BX80B4**	477
39	173	2.3	36.4	4680	**F252_36.4 S2 ME2SB4**	**F252_36.4 S2 MX2SB4**	472	**F252_36.4 P80 BE80B4**	**F252_36.4 P80 BX80B4**	473
43	157	1.6	33.1	3200	**F202_33.1 S2 ME2SB4**	**F202_33.1 S2 MX2SB4**	468	**F202_33.1 P80 BE80B4**	**F202_33.1 P80 BX80B4**	469
44	153	2.6	32.2	4540	**F252_32.2 S2 ME2SB4**	**F252_32.2 S2 MX2SB4**	472	**F252_32.2 P80 BE80B4**	**F252_32.2 P80 BX80B4**	473
47	144	1.7	30.4	3140	**F202_30.4 S2 ME2SB4**	**F202_30.4 S2 MX2SB4**	468	**F202_30.4 P80 BE80B4**	**F202_30.4 P80 BX80B4**	469
48	143	2.8	30.0	4470	**F252_30.0 S2 ME2SB4**	**F252_30.0 S2 MX2SB4**	472	**F252_30.0 P80 BE80B4**	**F252_30.0 P80 BX80B4**	473
48	141	1.0	29.6	2550	**F102_29.6 S2 ME2SB4**	**F102_29.6 S2 MX2SB4**	464	**F102_29.6 P80 BE80B4**	**F102_29.6 P80 BX80B4**	465
53	129	3.1	27.2	4360	**F252_27.2 S2 ME2SB4**	**F252_27.2 S2 MX2SB4**	472	**F252_27.2 P80 BE80B4**	**F252_27.2 P80 BX80B4**	473
55	123	1.9	25.9	3020	**F202_25.9 S2 ME2SB4**	**F202_25.9 S2 MX2SB4**	468	**F202_25.9 P80 BE80B4**	**F202_25.9 P80 BX80B4**	469
55	122	1.1	25.8	2470	**F102_25.8 S2 ME2SB4**	**F102_25.8 S2 MX2SB4**	464	**F102_25.8 P80 BE80B4**	**F102_25.8 P80 BX80B4**	465
60	113	3.5	23.8	4210	**F252_23.8 S2 ME2SB4**	**F252_23.8 S2 MX2SB4**	472	**F252_23.8 P80 BE80B4**	**F252_23.8 P80 BX80B4**	473
62	110	2.1	23.1	2930	**F202_23.1 S2 ME2SB4**	**F202_23.1 S2 MX2SB4**	468	**F202_23.1 P80 BE80B4**	**F202_23.1 P80 BX80B4**	469
63	108	1.3	22.8	2400	**F102_22.8 S2 ME2SB4**	**F102_22.8 S2 MX2SB4**	464	**F102_22.8 P80 BE80B4**	**F102_22.8 P80 BX80B4**	465
71	96	2.3	20.2	2830	**F202_20.2 S2 ME2SB4**	**F202_20.2 S2 MX2SB4**	468	**F202_20.2 P80 BE80B4**	**F202_20.2 P80 BX80B4**	469
74	92	1.5	19.3	2310	**F102_19.3 S2 ME2SB4**	**F102_19.3 S2 MX2SB4**	464	**F102_19.3 P80 BE80B4**	**F102_19.3 P80 BX80B4**	465
79	86	2.5	18.1	2740	**F202_18.1 S2 ME2SB4**	**F202_18.1 S2 MX2SB4**	468	**F202_18.1 P80 BE80B4**	**F202_18.1 P80 BX80B4**	469
84	81	1.6	17.0	2230	**F102_17.0 S2 ME2SB4**	**F102_17.0 S2 MX2SB4**	464	**F102_17.0 P80 BE80B4**	**F102_17.0 P80 BX80B4**	465
97	70	2.9	14.8	2600	**F202_14.8 S2 ME2SB4**	**F202_14.8 S2 MX2SB4**	468	**F202_14.8 P80 BE80B4**	**F202_14.8 P80 BX80B4**	469
98	70	1.7	14.6	2150	**F102_14.6 S2 ME2SB4**	**F102_14.6 S2 MX2SB4**	464	**F102_14.6 P80 BE80B4**	**F102_14.6 P80 BX80B4**	465
110	62	1.7	13.0	2070	**F102_13.0 S2 ME2SB4**	**F102_13.0 S2 MX2SB4**	464	**F102_13.0 P80 BE80B4**	**F102_13.0 P80 BX80B4**	465
124	55	1.8	11.5	2010	**F102_11.5 S2 ME2SB4**	**F102_11.5 S2 MX2SB4**	464	**F102_11.5 P80 BE80B4**	**F102_11.5 P80 BX80B4**	465
146	46	1.9	9.8	1920	**F102_9.8 S2 ME2SB4**	**F102_9.8 S2 MX2SB4**	464	**F102_9.8 P80 BE80B4**	**F102_9.8 P80 BX80B4**	465
167	41	2.0	8.6	1850	**F102_8.6 S2 ME2SB4**	**F102_8.6 S2 MX2SB4**	464	**F102_8.6 P80 BE80B4**	**F102_8.6 P80 BX80B4**	465
193	35	2.2	7.4	1770	**F102_7.4 S2 ME2SB4**	**F102_7.4 S2 MX2SB4**	464	**F102_7.4 P80 BE80B4**	**F102_7.4 P80 BX80B4**	465
195	35	2.7	14.6	1770	**F102_14.6 S2 ME2SA2**		464	**F102_14.6 P80 BE80A2**		465
219	31	2.7	13.0	1710	**F102_13.0 S2 ME2SA2**		464	**F102_13.0 P80 BE80A2**		465
247	28	2.8	11.5	1650	**F102_11.5 S2 ME2SA2**		464	**F102_11.5 P80 BE80A2**		465
292	23	3.1	9.8	1570	**F102_9.8 S2 ME2SA2**		464	**F102_9.8 P80 BE80A2**		465
332	20.5	3.2	8.6	1510	**F102_8.6 S2 ME2SA2**		464	**F102_8.6 P80 BE80A2**		465
385	17.7	3.6	7.4	1440	**F102_7.4 S2 ME2SA2**		464	**F102_7.4 P80 BE80A2**		465

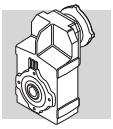
0.75 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.45	14391	1.0	2098.7	55000				
0.49	13284	1.1	1937.3	55000				
0.55	11673	1.2	1702.3	55000				
0.60	10775	1.3	1571.4	55000				
0.66	9791	1.4	1427.9	55000				
0.68	9444	1.5	2098.7	55000			**F904_2099 P80 BXN80MB4**	499
0.72	8941	0.9	1986.8	45000			**F804_1987 P80 BXN80MB4**	496
0.74	8718	1.6	1937.3	55000			**F904_1937 P80 BXN80MB4**	499
0.78	8253	1.0	1834.0	45000			**F804_1834 P80 BXN80MB4**	496
0.84	7691	1.0	1709.1	45000			**F804_1709 P80 BXN80MB4**	496
0.84	7660	1.8	1702.3	55000			**F904_1702 P80 BXN80MB4**	499
0.91	7099	1.1	1577.6	45000			**F804_1578 P80 BXN80MB4**	496
0.91	7071	2.0	1571.4	55000			**F904_1571 P80 BXN80MB4**	499
1.0	6426	2.2	1427.9	55000			**F904_1428 P80 BXN80MB4**	499
1.0	6227	1.3	1383.8	45000			**F804_1384 P80 BXN80MB4**	496



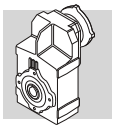
0.75 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
1.1	5931	2.4	1318.1	55000			**F904_1318 P80 BXN80MB4**	499
1.1	5748	1.4	1277.3	45000			**F804_1277 P80 BXN80MB4**	496
1.2	5422	2.6	1204.9	55000			**F904_1205 P80 BXN80MB4**	499
1.2	5318	0.9	1181.8	35000			**F704_1182 P80 BXN80MB4**	493
1.2	5158	1.6	1146.2	45000			**F804_1146 P80 BXN80MB4**	496
1.3	5005	2.8	1112.3	55000			**F904_1112 P80 BXN80MB4**	499
1.3	4909	1.0	1090.9	35000			**F704_1091 P80 BXN80MB4**	493
1.4	4761	1.7	1058.1	45000			**F804_1058 P80 BXN80MB4**	496
1.5	4437	3.2	986.0	55000			**F904_986.0 P80 BXN80MB4**	499
1.5	4385	1.1	974.4	35000			**F704_974.4 P80 BXN80MB4**	493
1.5	4374	1.8	972.0	45000			**F804_972.0 P80 BXN80MB4**	496
1.6	4096	3.4	910.2	55000			**F904_910.2 P80 BXN80MB4**	499
1.6	4047	1.2	899.4	35000			**F704_899.4 P80 BXN80MB4**	493
1.6	4038	2.0	897.3	45000			**F804_897.3 P80 BXN80MB4**	496
1.7	3700	1.4	822.2	35000			**F704_822.2 P80 BXN80MB4**	493
1.8	3485	2.3	774.4	45000			**F804_774.4 P80 BXN80MB4**	496
1.9	3415	1.5	759.0	35000			**F704_759.0 P80 BXN80MB4**	493
2.0	3217	2.5	714.9	45000			**F804_714.9 P80 BXN80MB4**	496
2.2	2981	1.0	662.4	20000			**F604_662.4 P80 BXN80MB4**	489
2.2	2958	1.7	657.4	35000			**F704_657.4 P80 BXN80MB4**	493
2.3	2751	1.1	611.4	20000			**F604_611.4 P80 BXN80MB4**	489
2.3	2749	2.9	610.9	45000			**F804_610.9 P80 BXN80MB4**	496
2.4	2731	1.8	606.8	35000			**F704_606.8 P80 BXN80MB4**	493
2.5	2537	3.2	563.9	45000			**F804_563.9 P80 BXN80MB4**	496
2.7	2388	1.2	530.7	20000			**F604_530.7 P80 BXN80MB4**	489
2.8	2297	2.2	510.4	35000			**F704_510.4 P80 BXN80MB4**	493
2.9	2204	1.3	489.8	20000			**F604_489.8 P80 BXN80MB4**	489
3.0	2120	2.4	471.2	35000			**F704_471.2 P80 BXN80MB4**	493
3.3	1947	1.5	432.6	20000			**F604_432.6 P80 BXN80MB4**	489
3.3	1931	0.9	429.1	12000			**F514_429.1 P80 BXN80MB4**	485
3.5	1816	2.8	403.5	35000			**F704_403.5 P80 BXN80MB4**	493
3.6	1797	1.6	399.3	20000			**F604_399.3 P80 BXN80MB4**	489
3.8	1676	3.0	372.5	35000			**F704_372.5 P80 BXN80MB4**	493
4.1	1639	1.1	352.5	12000			**F513_352.5 P80 BXN80MB4**	485
4.2	1538	1.9	341.7	20000			**F604_341.7 P80 BXN80MB4**	489
4.5	1475	1.2	317.3	12000			**F513_317.3 P80 BXN80MB4**	485
4.5	1419	2.0	315.4	20000			**F604_315.4 P80 BXN80MB4**	489
4.7	1370	3.7	304.3	35000			**F704_304.3 P80 BXN80MB4**	493
5.0	1330	1.4	285.9	12000			**F513_285.9 P80 BXN80MB4**	485
5.1	1305	2.2	280.7	20000			**F603_280.7 P80 BXN80MB4**	489
5.5	1219	1.5	262.1	12000			**F513_262.1 P80 BXN80MB4**	485
5.5	1205	2.4	259.1	20000			**F603_259.1 P80 BXN80MB4**	489
6.0	1117	1.0	240.1	8500			**F413_240.1 P80 BXN80MB4**	481
6.0	1115	1.6	239.8	12000			**F513_239.8 P80 BXN80MB4**	485
6.1	1096	2.6	235.8	20000			**F603_235.8 P80 BXN80MB4**	489
6.5	1024	1.1	220.1	8500			**F413_220.1 P80 BXN80MB4**	481
6.6	1012	2.9	217.6	20000			**F603_217.6 P80 BXN80MB4**	489
6.6	1008	1.8	216.9	12000			**F513_216.9 P80 BXN80MB4**	485
7.1	941	1.9	202.4	12000			**F513_202.4 P80 BXN80MB4**	485
7.1	936	3.1	201.4	20000			**F603_201.4 P80 BXN80MB4**	489
7.2	925	1.2	198.9	8500			**F413_198.9 P80 BXN80MB4**	481
7.7	864	3.4	185.9	20000			**F603_185.9 P80 BXN80MB4**	489
7.9	840	1.3	180.7	8500			**F413_180.7 P80 BXN80MB4**	481
8.5	784	1.4	168.7	8500			**F413_168.7 P80 BXN80MB4**	481
8.6	770	2.3	165.6	12000			**F513_165.6 P80 BXN80MB4**	485
8.8	757	3.8	162.9	20000			**F603_162.9 P80 BXN80MB4**	489
10.2	654	0.9	140.7	6500			**F313_140.7 P80 BXN80MB4**	477
10.6	625	1.8	134.4	8500			**F413_134.4 P80 BXN80MB4**	481
11.0	604	3.0	129.9	12000			**F513_129.9 P80 BXN80MB4**	485
11.1	597	1.0	128.4	6500			**F313_128.4 P80 BXN80MB4**	477
12.7	523	1.1	112.5	6500			**F313_112.5 P80 BXN80MB4**	477
13.5	493	2.2	106.0	8500			**F413_106.0 P80 BXN80MB4**	481
14.0	474	1.3	101.9	6500			**F313_101.9 P80 BXN80MB4**	477



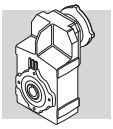
0.75 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
15.0	444	0.9	95.5	5450			**F253_95.5 P80 BXN80MB4**	473
16.4	406	1.5	87.4	6500			**F313_87.4 P80 BXN80MB4**	477
16.8	395	2.8	84.9	8500			**F413_84.9 P80 BXN80MB4**	481
17.1	388	1.0	83.4	5350	**F253_83.4 S20 MXN20MB4**	472	**F253_83.4 P80 BXN80MB4**	473
18.1	367	1.6	78.9	6500			**F313_78.9 P80 BXN80MB4**	477
18.7	356	1.1	76.6	5300	**F253_76.6 S20 MXN20MB4**	472	**F253_76.6 P80 BXN80MB4**	473
20.7	321	1.9	69.1	6500			**F313_69.1 P80 BXN80MB4**	477
21.5	309	3.6	66.5	8500			**F413_66.5 P80 BXN80MB4**	481
21.9	304	1.3	65.3	5180	**F253_65.3 S20 MXN20MB4**	472	**F253_65.3 P80 BXN80MB4**	473
22.8	292	2.1	62.8	6500			**F313_62.8 P80 BXN80MB4**	477
24.5	271	1.5	58.3	5080	**F253_58.3 S20 MXN20MB4**	472	**F253_58.3 P80 BXN80MB4**	473
25.2	269	0.9	56.7	3590	**F202_56.7 S20 MXN20MB4**	468	**F202_56.7 P80 BXN80MB4**	469
27.5	242	2.5	52.1	6500			**F313_52.1 P80 BXN80MB4**	477
28.2	236	1.7	50.8	4960	**F253_50.8 S20 MXN20MB4**	472	**F253_50.8 P80 BXN80MB4**	473
28.2	241	1.0	50.7	3510	**F202_50.7 S20 MXN20MB4**	468	**F202_50.7 P80 BXN80MB4**	469
30	221	2.6	47.5	6500			**F313_47.5 P80 BXN80MB4**	477
31	212	1.9	45.6	4860	**F253_45.6 S20 MXN20MB4**	472	**F253_45.6 P80 BXN80MB4**	473
32	213	1.2	44.8	3420	**F202_44.8 S20 MXN20MB4**	468	**F202_44.8 P80 BXN80MB4**	469
32	212	2.8	44.6	6500			**F312_44.6 P80 BXN80MB4**	477
32	211	1.8	44.4	4890	**F252_44.4 S20 MXN20MB4**	472	**F252_44.4 P80 BXN80MB4**	473
34	199	1.3	41.8	3370	**F202_41.8 S20 MXN20MB4**	468	**F202_41.8 P80 BXN80MB4**	469
35	193	1.9	40.7	4790	**F252_40.7 S20 MXN20MB4**	472	**F252_40.7 P80 BXN80MB4**	473
35	192	3.1	40.4	6500			**F312_40.4 P80 BXN80MB4**	477
38	180	1.4	37.9	3300	**F202_37.9 S20 MXN20MB4**	468	**F202_37.9 P80 BXN80MB4**	469
38	179	3.4	37.7	6500			**F312_37.7 P80 BXN80MB4**	477
39	173	2.3	36.4	4680	**F252_36.4 S20 MXN20MB4**	472	**F252_36.4 P80 BXN80MB4**	473
43	157	1.6	33.1	3200	**F202_33.1 S20 MXN20MB4**	468	**F202_33.1 P80 BXN80MB4**	469
44	153	2.6	32.2	4540	**F252_32.2 S20 MXN20MB4**	472	**F252_32.2 P80 BXN80MB4**	473
47	144	1.7	30.4	3140	**F202_30.4 S20 MXN20MB4**	468	**F202_30.4 P80 BXN80MB4**	469
48	143	2.8	30.0	4470	**F252_30.0 S20 MXN20MB4**	472	**F252_30.0 P80 BXN80MB4**	473
48	141	1.0	29.6	2550	**F102_29.6 S20 MXN20MB4**	464	**F102_29.6 P80 BXN80MB4**	465
53	129	3.1	27.2	4360	**F252_27.2 S20 MXN20MB4**	472	**F252_27.2 P80 BXN80MB4**	473
55	123	1.9	25.9	3020	**F202_25.9 S20 MXN20MB4**	468	**F202_25.9 P80 BXN80MB4**	469
55	122	1.1	25.8	2470	**F102_25.8 S20 MXN20MB4**	464	**F102_25.8 P80 BXN80MB4**	465
60	113	3.5	23.8	4210	**F252_23.8 S20 MXN20MB4**	472	**F252_23.8 P80 BXN80MB4**	473
62	110	2.1	23.1	2930	**F202_23.1 S20 MXN20MB4**	468	**F202_23.1 P80 BXN80MB4**	469
63	108	1.3	22.8	2400	**F102_22.8 S20 MXN20MB4**	464	**F102_22.8 P80 BXN80MB4**	465
71	96	2.3	20.2	2830	**F202_20.2 S20 MXN20MB4**	468	**F202_20.2 P80 BXN80MB4**	469
74	92	1.5	19.3	2310	**F102_19.3 S20 MXN20MB4**	464	**F102_19.3 P80 BXN80MB4**	465
79	86	2.5	18.1	2740	**F202_18.1 S20 MXN20MB4**	468	**F202_18.1 P80 BXN80MB4**	469
84	81	1.6	17.0	2230	**F102_17.0 S20 MXN20MB4**	464	**F102_17.0 P80 BXN80MB4**	465
97	70	2.9	14.8	2600	**F202_14.8 S20 MXN20MB4**	468	**F202_14.8 P80 BXN80MB4**	469
98	70	1.7	14.6	2150	**F102_14.6 S20 MXN20MB4**	464	**F102_14.6 P80 BXN80MB4**	465
110	62	1.7	13.0	2070	**F102_13.0 S20 MXN20MB4**	464	**F102_13.0 P80 BXN80MB4**	465
124	55	1.8	11.5	2010	**F102_11.5 S20 MXN20MB4**	464	**F102_11.5 P80 BXN80MB4**	465
146	46	1.9	9.8	1920	**F102_9.8 S20 MXN20MB4**	464	**F102_9.8 P80 BXN80MB4**	465
167	41	2.0	8.6	1850	**F102_8.6 S20 MXN20MB4**	464	**F102_8.6 P80 BXN80MB4**	465
193	35	2.2	7.4	1770	**F102_7.4 S20 MXN20MB4**	464	**F102_7.4 P80 BXN80MB4**	465
195	35	2.7	14.6	1770				
219	31	2.7	13.0	1710				
247	28	2.8	11.5	1650				
292	23	3.1	9.8	1570				
332	20.5	3.2	8.6	1510				
385	17.7	3.6	7.4	1440				



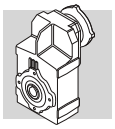
1.1 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
0.60	15694	0.9	1571.4	55000	**F904_1571 S3 ME3LA6**		498	**F904_1571 P100 BE100M6**		499
0.66	14285	1.0	1427.9	55000	**F904_1428 S3 ME3LA6**		498	**F904_1428 P100 BE100M6**		499
0.68	13977	1.0	2098.7	55000	**F904_2099 S3 ME3SA4**	**F904_2099 S3 MX3SA4**	498	**F904_2099 P90 BE90S4**	**F904_2099 P90 BX90S4**	499
0.74	12902	1.1	1937.3	55000	**F904_1937 S3 ME3SA4**	**F904_1937 S3 MX3SA4**	498	**F904_1937 P90 BE90S4**	**F904_1937 P90 BX90S4**	499
0.84	11337	1.2	1702.3	55000	**F904_1702 S3 ME3SA4**	**F904_1702 S3 MX3SA4**	498	**F904_1702 P90 BE90S4**	**F904_1702 P90 BX90S4**	499
0.91	10465	1.3	1571.4	55000	**F904_1571 S3 ME3SA4**	**F904_1571 S3 MX3SA4**	498	**F904_1571 P90 BE90S4**	**F904_1571 P90 BX90S4**	499
1.0	9510	1.5	1427.9	55000	**F904_1428 S3 ME3SA4**	**F904_1428 S3 MX3SA4**	498	**F904_1428 P90 BE90S4**	**F904_1428 P90 BX90S4**	499
1.1	8778	1.6	1318.1	55000	**F904_1318 S3 ME3SA4**	**F904_1318 S3 MX3SA4**	498	**F904_1318 P90 BE90S4**	**F904_1318 P90 BX90S4**	499
1.1	8507	0.9	1277.3	45000	**F804_1277 S3 ME3SA4**	**F804_1277 S3 MX3SA4**	495	**F804_1277 P90 BE90S4**	**F804_1277 P90 BX90S4**	496
1.2	8025	1.7	1204.9	55000	**F904_1205 S3 ME3SA4**	**F904_1205 S3 MX3SA4**	498	**F904_1205 P90 BE90S4**	**F904_1205 P90 BX90S4**	499
1.2	7634	1.0	1146.2	45000	**F804_1146 S3 ME3SA4**	**F804_1146 S3 MX3SA4**	495	**F804_1146 P90 BE90S4**	**F804_1146 P90 BX90S4**	496
1.3	7408	1.9	1112.3	55000	**F904_1112 S3 ME3SA4**	**F904_1112 S3 MX3SA4**	498	**F904_1112 P90 BE90S4**	**F904_1112 P90 BX90S4**	499
1.4	7047	1.1	1058.1	45000	**F804_1058 S3 ME3SA4**	**F804_1058 S3 MX3SA4**	495	**F804_1058 P90 BE90S4**	**F804_1058 P90 BX90S4**	496
1.5	6567	2.1	986.0	55000	**F904_986.0 S3 ME3SA4**	**F904_986.0 S3 MX3SA4**	498	**F904_986.0 P90 BE90S4**	**F904_986.0 P90 BX90S4**	499
1.5	6474	1.2	972.0	45000	**F804_972.0 S3 ME3SA4**	**F804_972.0 S3 MX3SA4**	495	**F804_972.0 P90 BE90S4**	**F804_972.0 P90 BX90S4**	496
1.6	6062	2.3	910.2	55000	**F904_910.2 S3 ME3SA4**	**F904_910.2 S3 MX3SA4**	498	**F904_910.2 P90 BE90S4**	**F904_910.2 P90 BX90S4**	499
1.6	5976	1.3	897.3	45000	**F804_897.3 S3 ME3SA4**	**F804_897.3 S3 MX3SA4**	495	**F804_897.3 P90 BE90S4**	**F804_897.3 P90 BX90S4**	496
1.7	5476	0.9	822.2	35000	**F704_822.2 S3 ME3SA4**	**F704_822.2 S3 MX3SA4**	492	**F704_822.2 P90 BE90S4**	**F704_822.2 P90 BX90S4**	493
1.8	5158	1.6	774.4	45000	**F804_774.4 S3 ME3SA4**	**F804_774.4 S3 MX3SA4**	495	**F804_774.4 P90 BE90S4**	**F804_774.4 P90 BX90S4**	496
1.8	5151	2.7	773.4	55000	**F904_773.4 S3 ME3SA4**	**F904_773.4 S3 MX3SA4**	498	**F904_773.4 P90 BE90S4**	**F904_773.4 P90 BX90S4**	499
1.9	5055	1.0	759.0	35000	**F704_759.0 S3 ME3SA4**	**F704_759.0 S3 MX3SA4**	492	**F704_759.0 P90 BE90S4**	**F704_759.0 P90 BX90S4**	493
1.9	4893	1.6	489.1	45000	**F804_489.1 S3 ME3LA6**		495	**F804_489.1 P100 BE100M6**		496
2.0	4761	1.7	714.9	45000	**F804_714.9 S3 ME3SA4**	**F804_714.9 S3 MX3SA4**	495	**F804_714.9 P90 BE90S4**	**F804_714.9 P90 BX90S4**	496
2.0	4755	2.9	714.0	55000	**F904_714.0 S3 ME3SA4**	**F904_714.0 S3 MX3SA4**	498	**F904_714.0 P90 BE90S4**	**F904_714.0 P90 BX90S4**	499
2.1	4517	1.8	451.5	45000	**F804_451.5 S3 ME3LA6**		495	**F804_451.5 P100 BE100M6**		496
2.2	4378	1.1	657.4	35000	**F704_657.4 S3 ME3SA4**	**F704_657.4 S3 MX3SA4**	492	**F704_657.4 P90 BE90S4**	**F704_657.4 P90 BX90S4**	493
2.3	4167	3.4	625.6	55000	**F904_625.6 S3 ME3SA4**	**F904_625.6 S3 MX3SA4**	498	**F904_625.6 P90 BE90S4**	**F904_625.6 P90 BX90S4**	499
2.3	4068	2.0	610.9	45000	**F804_610.9 S3 ME3SA4**	**F804_610.9 S3 MX3SA4**	495	**F804_610.9 P90 BE90S4**	**F804_610.9 P90 BX90S4**	496
2.4	4042	1.2	606.8	35000	**F704_606.8 S3 ME3SA4**	**F704_606.8 S3 MX3SA4**	492	**F704_606.8 P90 BE90S4**	**F704_606.8 P90 BX90S4**	493
2.5	3846	3.6	577.5	55000	**F904_577.5 S3 ME3SA4**	**F904_577.5 S3 MX3SA4**	498	**F904_577.5 P90 BE90S4**	**F904_577.5 P90 BX90S4**	499
2.5	3755	2.1	563.9	45000	**F804_563.9 S3 ME3SA4**	**F804_563.9 S3 MX3SA4**	495	**F804_563.9 P90 BE90S4**	**F804_563.9 P90 BX90S4**	496
2.8	3399	1.5	510.4	35000	**F704_510.4 S3 ME3SA4**	**F704_510.4 S3 MX3SA4**	492	**F704_510.4 P90 BE90S4**	**F704_510.4 P90 BX90S4**	493
2.9	3262	0.9	489.8	20000	**F604_489.8 S3 ME3SA4**	**F604_489.8 S3 MX3SA4**	488	**F604_489.8 P90 BE90S4**	**F604_489.8 P90 BX90S4**	489
2.9	3258	2.5	489.1	45000	**F804_489.1 S3 ME3SA4**	**F804_489.1 S3 MX3SA4**	495	**F804_489.1 P90 BE90S4**	**F804_489.1 P90 BX90S4**	496
3.0	3138	1.6	471.2	35000	**F704_471.2 S3 ME3SA4**	**F704_471.2 S3 MX3SA4**	492	**F704_471.2 P90 BE90S4**	**F704_471.2 P90 BX90S4**	493
3.2	3007	2.7	451.5	45000	**F804_451.5 S3 ME3SA4**	**F804_451.5 S3 MX3SA4**	495	**F804_451.5 P90 BE90S4**	**F804_451.5 P90 BX90S4**	496
3.3	2881	1.0	432.6	20000	**F604_432.6 S3 ME3SA4**	**F604_432.6 S3 MX3SA4**	488	**F604_432.6 P90 BE90S4**	**F604_432.6 P90 BX90S4**	489
3.5	2687	1.9	403.5	35000	**F704_403.5 S3 ME3SA4**	**F704_403.5 S3 MX3SA4**	492	**F704_403.5 P90 BE90S4**	**F704_403.5 P90 BX90S4**	493
3.6	2660	1.1	399.3	20000	**F604_399.3 S3 ME3SA4**	**F604_399.3 S3 MX3SA4**	488	**F604_399.3 P90 BE90S4**	**F604_399.3 P90 BX90S4**	489
3.7	2552	3.1	383.2	45000	**F804_383.2 S3 ME3SA4**	**F804_383.2 S3 MX3SA4**	495	**F804_383.2 P90 BE90S4**	**F804_383.2 P90 BX90S4**	496
3.8	2481	2.0	372.5	35000	**F704_372.5 S3 ME3SA4**	**F704_372.5 S3 MX3SA4**	492	**F704_372.5 P90 BE90S4**	**F704_372.5 P90 BX90S4**	493
4.0	2356	3.4	353.7	45000	**F804_353.7 S3 ME3SA4**	**F804_353.7 S3 MX3SA4**	495	**F804_353.7 P90 BE90S4**	**F804_353.7 P90 BX90S4**	496
4.2	2276	1.3	341.7	20000	**F604_341.7 S3 ME3SA4**	**F604_341.7 S3 MX3SA4**	488	**F604_341.7 P90 BE90S4**	**F604_341.7 P90 BX90S4**	489
4.5	2100	1.4	315.4	20000	**F604_315.4 S3 ME3SA4**	**F604_315.4 S3 MX3SA4**	488	**F604_315.4 P90 BE90S4**	**F604_315.4 P90 BX90S4**	489
4.7	2027	2.5	304.3	35000	**F704_304.3 S3 ME3SA4**	**F704_304.3 S3 MX3SA4**	492	**F704_304.3 P90 BE90S4**	**F704_304.3 P90 BX90S4**	493
5.0	1968	0.9	285.9	12000	**F513_285.9 S3 ME3SA4**	**F513_285.9 S3 MX3SA4**	484	**F513_285.9 P90 BE90S4**	**F513_285.9 P90 BX90S4**	485
5.1	1871	2.7	280.9	35000	**F704_280.9 S3 ME3SA4**	**F704_280.9 S3 MX3SA4**	492	**F704_280.9 P90 BE90S4**	**F704_280.9 P90 BX90S4**	493
5.1	1932	1.5	280.7	20000	**F603_280.7 S3 ME3SA4**	**F603_280.7 S3 MX3SA4**	488	**F603_280.7 P90 BE90S4**	**F603_280.7 P90 BX90S4**	489
5.5	1804	1.0	262.1	12000	**F513_262.1 S3 ME3SA4**	**F513_262.1 S3 MX3SA4**	484	**F513_262.1 P90 BE90S4**	**F513_262.1 P90 BX90S4**	485
5.5	1783	1.6	259.1	20000	**F603_259.1 S3 ME3SA4**	**F603_259.1 S3 MX3SA4**	488	**F603_259.1 P90 BE90S4**	**F603_259.1 P90 BX90S4**	489
6.0	1651	1.1	239.8	12000	**F513_239.8 S3 ME3SA4**	**F513_239.8 S3 MX3SA4**	484	**F513_239.8 P90 BE90S4**	**F513_239.8 P90 BX90S4**	485
6.1	1623	1.8	235.8	20000	**F603_235.8 S3 ME3SA4**	**F603_235.8 S3 MX3SA4**	488	**F603_235.8 P90 BE90S4**	**F603_235.8 P90 BX90S4**	489
6.1	1562	3.2	234.6	35000	**F704_234.6 S3 ME3SA4**	**F704_234.6 S3 MX3SA4**	492	**F704_234.6 P90 BE90S4**	**F704_234.6 P90 BX90S4**	493
6.6	1498	1.9	217.6	20000	**F603_217.6 S3 ME3SA4**	**F603_217.6 S3 MX3SA4**	488	**F603_217.6 P90 BE90S4**	**F603_217.6 P90 BX90S4**	489
6.6	1492	1.2	216.9	12000	**F513_216.9 S3 ME3SA4**	**F513_216.9 S3 MX3SA4**	484	**F513_216.9 P90 BE90S4**	**F513_216.9 P90 BX90S4**	485
6.6	1442	3.5	216.5	35000	**F704_216.5 S3 ME3SA4**	**F704_216.5 S3 MX3SA4**	492	**F704_216.5 P90 BE90S4**	**F704_216.5 P90 BX90S4**	493
7.1	1393	1.3	202.4	12000	**F513_202.4 S3 ME3SA4**	**F513_202.4 S3 MX3SA4**	484	**F513_202.4 P90 BE90S4**	**F513_202.4 P90 BX90S4**	485



1.1 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
7.1	1386	2.1	201.4	20000	**F603_201.4 S3 ME3SA4**	**F603_201.4 S3 MX3SA4**	488	**F603_201.4 P90 BE90S4**	**F603_201.4 P90 BX90S4**	489
7.7	1279	2.3	185.9	20000	**F603_185.9 S3 ME3SA4**	**F603_185.9 S3 MX3SA4**	488	**F603_185.9 P90 BE90S4**	**F603_185.9 P90 BX90S4**	489
7.9	1244	0.9	180.7	8500	**F413_180.7 S3 ME3SA4**	**F413_180.7 S3 MX3SA4**	480	**F413_180.7 P90 BE90S4**	**F413_180.7 P90 BX90S4**	481
8.5	1161	0.9	168.7	8500	**F413_168.7 S3 ME3SA4**	**F413_168.7 S3 MX3SA4**	480	**F413_168.7 P90 BE90S4**	**F413_168.7 P90 BX90S4**	481
8.6	1140	1.6	165.6	12000	**F513_165.6 S3 ME3SA4**	**F513_165.6 S3 MX3SA4**	484	**F513_165.6 P90 BE90S4**	**F513_165.6 P90 BX90S4**	485
8.8	1121	2.6	162.9	20000	**F603_162.9 S3 ME3SA4**	**F603_162.9 S3 MX3SA4**	488	**F603_162.9 P90 BE90S4**	**F603_162.9 P90 BX90S4**	489
9.5	1035	2.8	150.4	20000	**F603_150.4 S3 ME3SA4**	**F603_150.4 S3 MX3SA4**	488	**F603_150.4 P90 BE90S4**	**F603_150.4 P90 BX90S4**	489
10.6	925	1.2	134.4	8500	**F413_134.4 S3 ME3SA4**	**F413_134.4 S3 MX3SA4**	480	**F413_134.4 P90 BE90S4**	**F413_134.4 P90 BX90S4**	481
11.0	894	2.0	129.9	12000	**F513_129.9 S3 ME3SA4**	**F513_129.9 S3 MX3SA4**	484	**F513_129.9 P90 BE90S4**	**F513_129.9 P90 BX90S4**	485
13.5	730	1.5	106.0	8500	**F413_106.0 S3 ME3SA4**	**F413_106.0 S3 MX3SA4**	480	**F413_106.0 P90 BE90S4**	**F413_106.0 P90 BX90S4**	481
13.6	723	2.5	105.1	12000	**F513_105.1 S3 ME3SA4**	**F513_105.1 S3 MX3SA4**	484	**F513_105.1 P90 BE90S4**	**F513_105.1 P90 BX90S4**	485
16.4	601	1.0	87.4	6500	**F313_87.4 S3 ME3SA4**	**F313_87.4 S3 MX3SA4**	476	**F313_87.4 P90 BE90S4**	**F313_87.4 P90 BX90S4**	477
16.8	584	1.9	84.9	8500	**F413_84.9 S3 ME3SA4**	**F413_84.9 S3 MX3SA4**	480	**F413_84.9 P90 BE90S4**	**F413_84.9 P90 BX90S4**	481
17.2	573	3.1	83.2	12000	**F513_83.2 S3 ME3SA4**	**F513_83.2 S3 MX3SA4**	484	**F513_83.2 P90 BE90S4**	**F513_83.2 P90 BX90S4**	485
18.1	543	1.1	78.9	6500	**F313_78.9 S3 ME3SA4**	**F313_78.9 S3 MX3SA4**	476	**F313_78.9 P90 BE90S4**	**F313_78.9 P90 BX90S4**	477
20.7	475	1.3	69.1	6500	**F313_69.1 S3 ME3SA4**	**F313_69.1 S3 MX3SA4**	476	**F313_69.1 P90 BE90S4**	**F313_69.1 P90 BX90S4**	477
21.5	458	2.4	66.5	8500	**F413_66.5 S3 ME3SA4**	**F413_66.5 S3 MX3SA4**	480	**F413_66.5 P90 BE90S4**	**F413_66.5 P90 BX90S4**	481
21.9	450	0.9	65.3	4610	**F253_65.3 S3 ME3SA4**	**F253_65.3 S3 MX3SA4**	472	**F253_65.3 P90 BE90S4**	**F253_65.3 P90 BX90S4**	473
22.8	432	1.4	62.8	6500	**F313_62.8 S3 ME3SA4**	**F313_62.8 S3 MX3SA4**	476	**F313_62.8 P90 BE90S4**	**F313_62.8 P90 BX90S4**	477
23.7	415	2.7	60.2	8500	**F413_60.2 S3 ME3SA4**	**F413_60.2 S3 MX3SA4**	480	**F413_60.2 P90 BE90S4**	**F413_60.2 P90 BX90S4**	481
24.5	401	1.0	58.3	4500	**F253_58.3 S3 ME3SA4**	**F253_58.3 S3 MX3SA4**	472	**F253_58.3 P90 BE90S4**	**F253_58.3 P90 BX90S4**	473
27.5	359	1.7	52.1	6500	**F313_52.1 S3 ME3SA4**	**F313_52.1 S3 MX3SA4**	476	**F313_52.1 P90 BE90S4**	**F313_52.1 P90 BX90S4**	477
27.8	354	3.1	51.5	8500	**F413_51.5 S3 ME3SA4**	**F413_51.5 S3 MX3SA4**	480	**F413_51.5 P90 BE90S4**	**F413_51.5 P90 BX90S4**	481
28.2	350	1.1	50.8	4450	**F253_50.8 S3 ME3SA4**	**F253_50.8 S3 MX3SA4**	472	**F253_50.8 P90 BE90S4**	**F253_50.8 P90 BX90S4**	473
29.8	337	3.2	47.9	8500	**F412_47.9 S3 ME3SA4**	**F412_47.9 S3 MX3SA4**	480	**F412_47.9 P90 BE90S4**	**F412_47.9 P90 BX90S4**	481
30	327	1.8	47.5	6500	**F313_47.5 S3 ME3SA4**	**F313_47.5 S3 MX3SA4**	476	**F313_47.5 P90 BE90S4**	**F313_47.5 P90 BX90S4**	477
31	314	1.3	45.6	4400	**F253_45.6 S3 ME3SA4**	**F253_45.6 S3 MX3SA4**	472	**F253_45.6 P90 BE90S4**	**F253_45.6 P90 BX90S4**	473
32	314	1.9	44.6	6500	**F312_44.6 S3 ME3SA4**	**F312_44.6 S3 MX3SA4**	476	**F312_44.6 P90 BE90S4**	**F312_44.6 P90 BX90S4**	477
32	312	1.2	44.4	4470	**F252_44.4 S3 ME3SA4**	**F252_44.4 S3 MX3SA4**	472	**F252_44.4 P90 BE90S4**	**F252_44.4 P90 BX90S4**	473
35	286	1.3	40.7	4410	**F252_40.7 S3 ME3SA4**	**F252_40.7 S3 MX3SA4**	472	**F252_40.7 P90 BE90S4**	**F252_40.7 P90 BX90S4**	473
35	284	2.1	40.4	6500	**F312_40.4 S3 ME3SA4**	**F312_40.4 S3 MX3SA4**	476	**F312_40.4 P90 BE90S4**	**F312_40.4 P90 BX90S4**	477
38	266	0.9	37.9	3050	**F202_37.9 S3 ME3SA4**	**F202_37.9 S3 MX3SA4**	468	**F202_37.9 P90 BE90S4**	**F202_37.9 P90 BX90S4**	469
38	265	2.3	37.7	6500	**F312_37.7 S3 ME3SA4**	**F312_37.7 S3 MX3SA4**	476	**F312_37.7 P90 BE90S4**	**F312_37.7 P90 BX90S4**	477
39	256	1.6	36.4	4330	**F252_36.4 S3 ME3SA4**	**F252_36.4 S3 MX3SA4**	472	**F252_36.4 P90 BE90S4**	**F252_36.4 P90 BX90S4**	473
42	242	2.5	34.4	6500	**F312_34.4 S3 ME3SA4**	**F312_34.4 S3 MX3SA4**	476	**F312_34.4 P90 BE90S4**	**F312_34.4 P90 BX90S4**	477
43	233	1.1	33.1	2980	**F202_33.1 S3 ME3SA4**	**F202_33.1 S3 MX3SA4**	468	**F202_33.1 P90 BE90S4**	**F202_33.1 P90 BX90S4**	469
44	226	1.8	32.2	4240	**F252_32.2 S3 ME3SA4**	**F252_32.2 S3 MX3SA4**	472	**F252_32.2 P90 BE90S4**	**F252_32.2 P90 BX90S4**	473
47	214	1.2	30.4	2930	**F202_30.4 S3 ME3SA4**	**F202_30.4 S3 MX3SA4**	468	**F202_30.4 P90 BE90S4**	**F202_30.4 P90 BX90S4**	469
47	212	2.8	30.1	6500	**F312_30.1 S3 ME3SA4**	**F312_30.1 S3 MX3SA4**	476	**F312_30.1 P90 BE90S4**	**F312_30.1 P90 BX90S4**	477
48	211	1.9	30.0	4190	**F252_30.0 S3 ME3SA4**	**F252_30.0 S3 MX3SA4**	472	**F252_30.0 P90 BE90S4**	**F252_30.0 P90 BX90S4**	473
52	192	3.1	27.3	6500	**F312_27.3 S3 ME3SA4**	**F312_27.3 S3 MX3SA4**	476	**F312_27.3 P90 BE90S4**	**F312_27.3 P90 BX90S4**	477
53	191	2.1	27.2	4100	**F252_27.2 S3 ME3SA4**	**F252_27.2 S3 MX3SA4**	472	**F252_27.2 P90 BE90S4**	**F252_27.2 P90 BX90S4**	473
55	182	1.3	25.9	2840	**F202_25.9 S3 ME3SA4**	**F202_25.9 S3 MX3SA4**	468	**F202_25.9 P90 BE90S4**	**F202_25.9 P90 BX90S4**	469
60	167	2.4	23.8	3990	**F252_23.8 S3 ME3SA4**	**F252_23.8 S3 MX3SA4**	472	**F252_23.8 P90 BE90S4**	**F252_23.8 P90 BX90S4**	473
62	163	1.4	23.1	2780	**F202_23.1 S3 ME3SA4**	**F202_23.1 S3 MX3SA4**	468	**F202_23.1 P90 BE90S4**	**F202_23.1 P90 BX90S4**	469
66	153	2.6	21.8	3920	**F252_21.8 S3 ME3SA4**	**F252_21.8 S3 MX3SA4**	472	**F252_21.8 P90 BE90S4**	**F252_21.8 P90 BX90S4**	473
71	142	1.6	20.2	2690	**F202_20.2 S3 ME3SA4**	**F202_20.2 S3 MX3SA4**	468	**F202_20.2 P90 BE90S4**	**F202_20.2 P90 BX90S4**	469
74	136	1.0	19.3	2170	**F102_19.3 S3 ME3SA4**	**F102_19.3 S3 MX3SA4**	464	**F102_19.3 P90 BE90S4**	**F102_19.3 P90 BX90S4**	465
77	131	3.1	18.6	3780	**F252_18.6 S3 ME3SA4**	**F252_18.6 S3 MX3SA4**	472	**F252_18.6 P90 BE90S4**	**F252_18.6 P90 BX90S4**	473
79	127	1.7	18.1	2620	**F202_18.1 S3 ME3SA4**	**F202_18.1 S3 MX3SA4**	468	**F202_18.1 P90 BE90S4**	**F202_18.1 P90 BX90S4**	469
84	119	1.1	17.0	2110	**F102_17.0 S3 ME3SA4**	**F102_17.0 S3 MX3SA4**	464	**F102_17.0 P90 BE90S4**	**F102_17.0 P90 BX90S4**	465
86	117	3.4	16.6	3670	**F252_16.6 S3 ME3SA4**	**F252_16.6 S3 MX3SA4**	472	**F252_16.6 P90 BE90S4**	**F252_16.6 P90 BX90S4**	473
97	104	2.0	14.8	2500	**F202_14.8 S3 ME3SA4**	**F202_14.8 S3 MX3SA4**	468	**F202_14.8 P90 BE90S4**	**F202_14.8 P90 BX90S4**	469
98	103	1.2	14.6	2050	**F102_14.6 S3 ME3SA4**	**F102_14.6 S3 MX3SA4**	464	**F102_14.6 P90 BE90S4**	**F102_14.6 P90 BX90S4**	465
110	92	1.1	13.0	1980	**F102_13.0 S3 ME3SA4**	**F102_13.0 S3 MX3SA4**	464	**F102_13.0 P90 BE90S4**	**F102_13.0 P90 BX90S4**	465
124	81	1.2	11.5	1920	**F102_11.5 S3 ME3SA4**	**F102_11.5 S3 MX3SA4**	464	**F102_11.5 P90 BE90S4**	**F102_11.5 P90 BX90S4**	465
127	79	2.2	11.2	2310	**F202_11.2 S3 ME3SA4**	**F202_11.2 S3 MX3SA4**	468	**F202_11.2 P90 BE90S4**	**F202_11.2 P90 BX90S4**	469

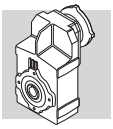


1.1 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
143	71	2.3	10.0	2200	**F202_10.0 S3 ME3SA4**	**F202_10.0 S3 MX3SA4**	468	**F202_10.0 P90 BE90S4**	**F202_10.0 P90 BX90S4**	469
146	69	1.3	9.8	1840	**F102_9.8 S3 ME3SA4**	**F102_9.8 S3 MX3SA4**	464	**F102_9.8 P90 BE90S4**	**F102_9.8 P90 BX90S4**	465
164	61	2.5	8.7	2160	**F202_8.7 S3 ME3SA4**	**F202_8.7 S3 MX3SA4**	468	**F202_8.7 P90 BE90S4**	**F202_8.7 P90 BX90S4**	469
167	60	1.4	8.6	1780	**F102_8.6 S3 ME3SA4**	**F102_8.6 S3 MX3SA4**	464	**F102_8.6 P90 BE90S4**	**F102_8.6 P90 BX90S4**	465
183	55	2.6	7.8	2100	**F202_7.8 S3 ME3SA4**	**F202_7.8 S3 MX3SA4**	468	**F202_7.8 P90 BE90S4**	**F202_7.8 P90 BX90S4**	469
193	52	1.5	7.4	1720	**F102_7.4 S3 ME3SA4**	**F102_7.4 S3 MX3SA4**	464	**F102_7.4 P90 BE90S4**	**F102_7.4 P90 BX90S4**	465
223	45	2.9	6.4	1980	**F202_6.4 S3 ME3SA4**	**F202_6.4 S3 MX3SA4**	468	**F202_6.4 P90 BE90S4**	**F202_6.4 P90 BX90S4**	469
245	41	1.9	11.5	1600	**F102_11.5S2ME2SB2**		464	**F102_11.5 P80 BE80B2**		465
252	40	3.6	11.2	1910	**F202_11.2S2ME2SB2**		468	**F202_11.2 P80 BE80B2**		469
290	34	2.1	9.8	1530	**F102_9.8S2ME2SB2**		464	**F102_9.8 P80 BE80B2**		465
330	30	2.2	8.6	1480	**F102_8.6S2ME2SB2**		464	**F102_8.6 P80 BE80B2**		465
382	26	2.4	7.4	1410	**F102_7.4S2ME2SB2**		464	**F102_7.4 P80 BE80B2**		465

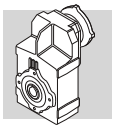
1.1 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.60	15694	0.9	1571.4	55000				
0.66	14285	1.0	1427.9	55000				
0.68	13977	1.0	2098.7	55000			**F904_2099 P90 BXN90S4**	499
0.74	12902	1.1	1937.3	55000			**F904_1937 P90 BXN90S4**	499
0.84	11337	1.2	1702.3	55000			**F904_1702 P90 BXN90S4**	499
0.91	10465	1.3	1571.4	55000			**F904_1571 P90 BXN90S4**	499
1.0	9510	1.5	1427.9	55000			**F904_1428 P90 BXN90S4**	499
1.1	8778	1.6	1318.1	55000			**F904_1318 P90 BXN90S4**	499
1.1	8507	0.9	1277.3	45000			**F804_1277 P90 BXN90S4**	496
1.2	8025	1.7	1204.9	55000			**F904_1205 P90 BXN90S4**	499
1.2	7634	1.0	1146.2	45000			**F804_1146 P90 BXN90S4**	496
1.3	7408	1.9	1112.3	55000			**F904_1112 P90 BXN90S4**	499
1.4	7047	1.1	1058.1	45000			**F804_1058 P90 BXN90S4**	496
1.5	6567	2.1	986.0	55000			**F904_986.0 P90 BXN90S4**	499
1.5	6474	1.2	972.0	45000			**F804_972.0 P90 BXN90S4**	496
1.6	6062	2.3	910.2	55000			**F904_910.2 P90 BXN90S4**	499
1.6	5976	1.3	897.3	45000			**F804_897.3 P90 BXN90S4**	496
1.7	5476	0.9	822.2	35000			**F704_822.2 P90 BXN90S4**	493
1.8	5158	1.6	774.4	45000			**F804_774.4 P90 BXN90S4**	496
1.8	5151	2.7	773.4	55000			**F904_773.4 P90 BXN90S4**	499
1.9	5055	1.0	759.0	35000			**F704_759.0 P90 BXN90S4**	493
1.9	4893	1.6	489.1	45000				
2.0	4761	1.7	714.9	45000			**F804_714.9 P90 BXN90S4**	496
2.0	4755	2.9	714.0	55000			**F904_714.0 P90 BXN90S4**	499
2.1	4517	1.8	451.5	45000				
2.2	4378	1.1	657.4	35000			**F704_657.4 P90 BXN90S4**	493
2.3	4167	3.4	625.6	55000			**F904_625.6 P90 BXN90S4**	499
2.3	4068	2.0	610.9	45000			**F804_610.9 P90 BXN90S4**	496
2.4	4042	1.2	606.8	35000			**F704_606.8 P90 BXN90S4**	493
2.5	3846	3.6	577.5	55000			**F904_577.5 P90 BXN90S4**	499
2.5	3755	2.1	563.9	45000			**F804_563.9 P90 BXN90S4**	496
2.8	3399	1.5	510.4	35000			**F704_510.4 P90 BXN90S4**	493
2.9	3262	0.9	489.8	20000			**F604_489.8 P90 BXN90S4**	489
2.9	3258	2.5	489.1	45000			**F804_489.1 P90 BXN90S4**	496
3.0	3138	1.6	471.2	35000			**F704_471.2 P90 BXN90S4**	493
3.2	3007	2.7	451.5	45000			**F804_451.5 P90 BXN90S4**	496
3.3	2881	1.0	432.6	20000			**F604_432.6 P90 BXN90S4**	489
3.5	2687	1.9	403.5	35000			**F704_403.5 P90 BXN90S4**	493



1.1 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
3.6	2660	1.1	399.3	20000			**F604_399.3 P90 BXN90S4**	489
3.7	2552	3.1	383.2	45000			**F804_383.2 P90 BXN90S4**	496
3.8	2481	2.0	372.5	35000			**F704_372.5 P90 BXN90S4**	493
4.0	2356	3.4	353.7	45000			**F804_353.7 P90 BXN90S4**	496
4.2	2276	1.3	341.7	20000			**F604_341.7 P90 BXN90S4**	489
4.5	2100	1.4	315.4	20000			**F604_315.4 P90 BXN90S4**	489
4.7	2027	2.5	304.3	35000			**F704_304.3 P90 BXN90S4**	493
5.0	1968	0.9	285.9	12000			**F513_285.9 P90 BXN90S4**	485
5.1	1871	2.7	280.9	35000			**F704_280.9 P90 BXN90S4**	493
5.1	1932	1.5	280.7	20000			**F603_280.7 P90 BXN90S4**	489
5.5	1804	1.0	262.1	12000			**F513_262.1 P90 BXN90S4**	485
5.5	1783	1.6	259.1	20000			**F603_259.1 P90 BXN90S4**	489
6.0	1651	1.1	239.8	12000			**F513_239.8 P90 BXN90S4**	485
6.1	1623	1.8	235.8	20000			**F603_235.8 P90 BXN90S4**	489
6.1	1562	3.2	234.6	35000			**F704_234.6 P90 BXN90S4**	493
6.6	1498	1.9	217.6	20000			**F603_217.6 P90 BXN90S4**	489
6.6	1492	1.2	216.9	12000			**F513_216.9 P90 BXN90S4**	485
6.6	1442	3.5	216.5	35000			**F704_216.5 P90 BXN90S4**	493
7.1	1393	1.3	202.4	12000			**F513_202.4 P90 BXN90S4**	485
7.1	1386	2.1	201.4	20000			**F603_201.4 P90 BXN90S4**	489
7.7	1279	2.3	185.9	20000			**F603_185.9 P90 BXN90S4**	489
7.9	1244	0.9	180.7	8500			**F413_180.7 P90 BXN90S4**	481
8.5	1161	0.9	168.7	8500			**F413_168.7 P90 BXN90S4**	481
8.6	1140	1.6	165.6	12000			**F513_165.6 P90 BXN90S4**	485
8.8	1121	2.6	162.9	20000			**F603_162.9 P90 BXN90S4**	489
9.5	1035	2.8	150.4	20000			**F603_150.4 P90 BXN90S4**	489
10.6	925	1.2	134.4	8500			**F413_134.4 P90 BXN90S4**	481
11.0	894	2.0	129.9	12000			**F513_129.9 P90 BXN90S4**	485
13.5	730	1.5	106.0	8500			**F413_106.0 P90 BXN90S4**	481
13.6	723	2.5	105.1	12000			**F513_105.1 P90 BXN90S4**	485
16.4	601	1.0	87.4	6500			**F313_87.4 P90 BXN90S4**	477
16.8	584	1.9	84.9	8500			**F413_84.9 P90 BXN90S4**	481
17.2	573	3.1	83.2	12000			**F513_83.2 P90 BXN90S4**	485
18.1	543	1.1	78.9	6500			**F313_78.9 P90 BXN90S4**	477
20.7	475	1.3	69.1	6500			**F313_69.1 P90 BXN90S4**	477
21.5	458	2.4	66.5	8500			**F413_66.5 P90 BXN90S4**	481
21.9	450	0.9	65.3	4610			**F253_65.3 P90 BXN90S4**	473
22.8	432	1.4	62.8	6500			**F313_62.8 P90 BXN90S4**	477
23.7	415	2.7	60.2	8500			**F413_60.2 P90 BXN90S4**	481
24.5	401	1.0	58.3	4500			**F253_58.3 P90 BXN90S4**	473
27.5	359	1.7	52.1	6500			**F313_52.1 P90 BXN90S4**	477
27.8	354	3.1	51.5	8500			**F413_51.5 P90 BXN90S4**	481
28.2	350	1.1	50.8	4450			**F253_50.8 P90 BXN90S4**	473
29.8	337	3.2	47.9	8500			**F412_47.9 P90 BXN90S4**	481
30	327	1.8	47.5	6500			**F313_47.5 P90 BXN90S4**	477
31	314	1.3	45.6	4400			**F253_45.6 P90 BXN90S4**	473
32	314	1.9	44.6	6500			**F312_44.6 P90 BXN90S4**	477
32	312	1.2	44.4	4470			**F252_44.4 P90 BXN90S4**	473
35	286	1.3	40.7	4410			**F252_40.7 P90 BXN90S4**	473
35	284	2.1	40.4	6500			**F312_40.4 P90 BXN90S4**	477
38	266	0.9	37.9	3050			**F202_37.9 P90 BXN90S4**	469
38	265	2.3	37.7	6500			**F312_37.7 P90 BXN90S4**	477
39	256	1.6	36.4	4330			**F252_36.4 P90 BXN90S4**	473
42	242	2.5	34.4	6500			**F312_34.4 P90 BXN90S4**	477
43	233	1.1	33.1	2980			**F202_33.1 P90 BXN90S4**	469
44	226	1.8	32.2	4240			**F252_32.2 P90 BXN90S4**	473
47	214	1.2	30.4	2930			**F202_30.4 P90 BXN90S4**	469



1.1 kW

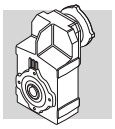
n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		DC IE3	
47	212	2.8	30.1	6500			**F312_30.1 P90 BXN90S4**	477
48	211	1.9	30.0	4190			**F252_30.0 P90 BXN90S4**	473
52	192	3.1	27.3	6500			**F312_27.3 P90 BXN90S4**	477
53	191	2.1	27.2	4100			**F252_27.2 P90 BXN90S4**	473
55	182	1.3	25.9	2840			**F202_25.9 P90 BXN90S4**	469
60	167	2.4	23.8	3990			**F252_23.8 P90 BXN90S4**	473
62	163	1.4	23.1	2780			**F202_23.1 P90 BXN90S4**	469
66	153	2.6	21.8	3920			**F252_21.8 P90 BXN90S4**	473
71	142	1.6	20.2	2690			**F202_20.2 P90 BXN90S4**	469
74	136	1.0	19.3	2170			**F102_19.3 P90 BXN90S4**	465
77	131	3.1	18.6	3780			**F252_18.6 P90 BXN90S4**	473
79	127	1.7	18.1	2620			**F202_18.1 P90 BXN90S4**	469
84	119	1.1	17.0	2110			**F102_17.0 P90 BXN90S4**	465
86	117	3.4	16.6	3670			**F252_16.6 P90 BXN90S4**	473
97	104	2.0	14.8	2500			**F202_14.8 P90 BXN90S4**	469
98	103	1.2	14.6	2050			**F102_14.6 P90 BXN90S4**	465
110	92	1.1	13.0	1980			**F102_13.0 P90 BXN90S4**	465
124	81	1.2	11.5	1920			**F102_11.5 P90 BXN90S4**	465
127	79	2.2	11.2	2310			**F202_11.2 P90 BXN90S4**	469
143	71	2.3	10.0	2200			**F202_10.0 P90 BXN90S4**	469
146	69	1.3	9.8	1840			**F102_9.8 P90 BXN90S4**	465
164	61	2.5	8.7	2160			**F202_8.7 P90 BXN90S4**	469
167	60	1.4	8.6	1780			**F102_8.6 P90 BXN90S4**	465
183	55	2.6	7.8	2100			**F202_7.8 P90 BXN90S4**	469
193	52	1.5	7.4	1720			**F102_7.4 P90 BXN90S4**	465
223	45	2.9	6.4	1980			**F202_6.4 P90 BXN90S4**	469
245	41	1.9	11.5	1600				
252	40	3.6	11.2	1910				
290	34	2.1	9.8	1530				
330	30	2.2	8.6	1480				
382	26	2.4	7.4	1410				

1.5 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		DC IE2	DC IE3	
0.8	15321	0.9	1702.3	55000	**F904_1702 S3 ME3SB4**	**F904_1702 S3 MX3SB4**	498	**F904_1702 P90 BE90LA4**	**F904_1702 P90 BX90LA4**	499
0.9	14142	1.0	1571.4	55000	**F904_1571 S3 ME3SB4**	**F904_1571 S3 MX3SB4**	498	**F904_1571 P90 BE90LA4**	**F904_1571 P90 BX90LA4**	499
1.0	12851	1.1	1427.9	55000	**F904_1428 S3 ME3SB4**	**F904_1428 S3 MX3SB4**	498	**F904_1428 P90 BE90LA4**	**F904_1428 P90 BX90LA4**	499
1.1	11863	1.2	1318.1	55000	**F904_1318 S3 ME3SB4**	**F904_1318 S3 MX3SB4**	498	**F904_1318 P90 BE90LA4**	**F904_1318 P90 BX90LA4**	499
1.2	10845	1.3	1204.9	55000	**F904_1205 S3 ME3SB4**	**F904_1205 S3 MX3SB4**	498	**F904_1205 P90 BE90LA4**	**F904_1205 P90 BX90LA4**	499
1.3	10010	1.4	1112.3	55000	**F904_1112 S3 ME3SB4**	**F904_1112 S3 MX3SB4**	498	**F904_1112 P90 BE90LA4**	**F904_1112 P90 BX90LA4**	499
1.5	8874	1.6	986.0	55000	**F904_986.0 S3 ME3SB4**	**F904_986.0 S3 MX3SB4**	498	**F904_986.0 P90 BE90LA4**	**F904_986.0 P90 BX90LA4**	499
1.5	8748	0.9	972.0	45000	**F804_972.0 S3 ME3SB4**	**F804_972.0 S3 MX3SB4**	495	**F804_972.0 P90 BE90LA4**	**F804_972.0 P90 BX90LA4**	496
1.6	8192	1.7	910.2	55000	**F904_910.2 S3 ME3SB4**	**F904_910.2 S3 MX3SB4**	498	**F904_910.2 P90 BE90LA4**	**F904_910.2 P90 BX90LA4**	499
1.6	8075	1.0	897.3	45000	**F804_897.3 S3 ME3SB4**	**F804_897.3 S3 MX3SB4**	495	**F804_897.3 P90 BE90LA4**	**F804_897.3 P90 BX90LA4**	496
1.8	6970	1.1	774.4	45000	**F804_774.4 S3 ME3SB4**	**F804_774.4 S3 MX3SB4**	495	**F804_774.4 P90 BE90LA4**	**F804_774.4 P90 BX90LA4**	496
1.8	6961	2.0	773.4	55000	**F904_773.4 S3 ME3SB4**	**F904_773.4 S3 MX3SB4**	498	**F904_773.4 P90 BE90LA4**	**F904_773.4 P90 BX90LA4**	499
2.0	6434	1.2	714.9	45000	**F804_714.9 S3 ME3SB4**	**F804_714.9 S3 MX3SB4**	495	**F804_714.9 P90 BE90LA4**	**F804_714.9 P90 BX90LA4**	496
2.0	6426	2.2	714.0	55000	**F904_714.0 S3 ME3SB4**	**F904_714.0 S3 MX3SB4**	498	**F904_714.0 P90 BE90LA4**	**F904_714.0 P90 BX90LA4**	499
2.3	5631	2.5	625.6	55000	**F904_625.6 S3 ME3SB4**	**F904_625.6 S3 MX3SB4**	498	**F904_625.6 P90 BE90LA4**	**F904_625.6 P90 BX90LA4**	499
2.3	5498	1.5	610.9	45000	**F804_610.9 S3 ME3SB4**	**F804_610.9 S3 MX3SB4**	495	**F804_610.9 P90 BE90LA4**	**F804_610.9 P90 BX90LA4**	496
2.4	5462	0.9	606.8	35000	**F704_606.8 S3 ME3SB4**	**F704_606.8 S3 MX3SB4**	492	**F704_606.8 P90 BE90LA4**	**F704_606.8 P90 BX90LA4**	493
2.5	5197	2.7	577.5	55000	**F904_577.5 S3 ME3SB4**	**F904_577.5 S3 MX3SB4**	498	**F904_577.5 P90 BE90LA4**	**F904_577.5 P90 BX90LA4**	499
2.5	5075	1.6	563.9	45000	**F804_563.9 S3 ME3SB4**	**F804_563.9 S3 MX3SB4**	495	**F804_563.9 P90 BE90LA4**	**F804_563.9 P90 BX90LA4**	496

1.5 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
2.8	4594	1.1	510.4	35000	**F704_510.4 S3 ME3SB4**	**F704_510.4 S3 MX3SB4**	492	**F704_510.4 P90 BE90LA4**	**F704_510.4 P90 BX90LA4**	493
2.9	4460	3.1	495.6	55000	**F904_495.6 S3 ME3SB4**	**F904_495.6 S3 MX3SB4**	498	**F904_495.6 P90 BE90LA4**	**F904_495.6 P90 BX90LA4**	499
2.9	4402	1.8	489.1	45000	**F804_489.1 S3 ME3SB4**	**F804_489.1 S3 MX3SB4**	495	**F804_489.1 P90 BE90LA4**	**F804_489.1 P90 BX90LA4**	496
3.0	4240	1.2	471.2	35000	**F704_471.2 S3 ME3SB4**	**F704_471.2 S3 MX3SB4**	492	**F704_471.2 P90 BE90LA4**	**F704_471.2 P90 BX90LA4**	493
3.1	4117	3.4	457.5	55000	**F904_457.5 S3 ME3SB4**	**F904_457.5 S3 MX3SB4**	498	**F904_457.5 P90 BE90LA4**	**F904_457.5 P90 BX90LA4**	499
3.2	4063	2.0	451.5	45000	**F804_451.5 S3 ME3SB4**	**F804_451.5 S3 MX3SB4**	495	**F804_451.5 P90 BE90LA4**	**F804_451.5 P90 BX90LA4**	496
3.5	3632	1.4	403.5	35000	**F704_403.5 S3 ME3SB4**	**F704_403.5 S3 MX3SB4**	492	**F704_403.5 P90 BE90LA4**	**F704_403.5 P90 BX90LA4**	493
3.7	3448	2.3	383.2	45000	**F804_383.2 S3 ME3SB4**	**F804_383.2 S3 MX3SB4**	495	**F804_383.2 P90 BE90LA4**	**F804_383.2 P90 BX90LA4**	496
3.8	3352	1.5	372.5	35000	**F704_372.5 S3 ME3SB4**	**F704_372.5 S3 MX3SB4**	492	**F704_372.5 P90 BE90LA4**	**F704_372.5 P90 BX90LA4**	493
4.0	3183	2.5	353.7	45000	**F804_353.7 S3 ME3SB4**	**F804_353.7 S3 MX3SB4**	495	**F804_353.7 P90 BE90LA4**	**F804_353.7 P90 BX90LA4**	496
4.2	3075	0.9	341.7	20000	**F604_341.7 S3 ME3SB4**	**F604_341.7 S3 MX3SB4**	488	**F604_341.7 P90 BE90LA4**	**F604_341.7 P90 BX90LA4**	489
4.5	2839	1.0	315.4	20000	**F604_315.4 S3 ME3SB4**	**F604_315.4 S3 MX3SB4**	488	**F604_315.4 P90 BE90LA4**	**F604_315.4 P90 BX90LA4**	489
4.7	2739	1.8	304.3	35000	**F704_304.3 S3 ME3SB4**	**F704_304.3 S3 MX3SB4**	492	**F704_304.3 P90 BE90LA4**	**F704_304.3 P90 BX90LA4**	493
4.8	2670	3.0	296.7	45000	**F804_296.7 S3 ME3SB4**	**F804_296.7 S3 MX3SB4**	495	**F804_296.7 P90 BE90LA4**	**F804_296.7 P90 BX90LA4**	496
5.1	2528	2.0	280.9	35000	**F704_280.9 S3 ME3SB4**	**F704_280.9 S3 MX3SB4**	492	**F704_280.9 P90 BE90LA4**	**F704_280.9 P90 BX90LA4**	493
5.1	2610	1.1	280.7	20000	**F603_280.7 S3 ME3SB4**	**F603_280.7 S3 MX3SB4**	488	**F603_280.7 P90 BE90LA4**	**F603_280.7 P90 BX90LA4**	489
5.2	2465	3.2	273.9	45000	**F804_273.9 S3 ME3SB4**	**F804_273.9 S3 MX3SB4**	495	**F804_273.9 P90 BE90LA4**	**F804_273.9 P90 BX90LA4**	496
5.5	2409	1.2	259.1	20000	**F603_259.1 S3 ME3SB4**	**F603_259.1 S3 MX3SB4**	488	**F603_259.1 P90 BE90LA4**	**F603_259.1 P90 BX90LA4**	489
6.1	2193	1.3	235.8	20000	**F603_235.8 S3 ME3SB4**	**F603_235.8 S3 MX3SB4**	488	**F603_235.8 P90 BE90LA4**	**F603_235.8 P90 BX90LA4**	489
6.1	2111	2.4	234.6	35000	**F704_234.6 S3 ME3SB4**	**F704_234.6 S3 MX3SB4**	492	**F704_234.6 P90 BE90LA4**	**F704_234.6 P90 BX90LA4**	493
6.6	2024	1.4	217.6	20000	**F603_217.6 S3 ME3SB4**	**F603_217.6 S3 MX3SB4**	488	**F603_217.6 P90 BE90LA4**	**F603_217.6 P90 BX90LA4**	489
6.6	1949	2.6	216.5	35000	**F704_216.5 S3 ME3SB4**	**F704_216.5 S3 MX3SB4**	492	**F704_216.5 P90 BE90LA4**	**F704_216.5 P90 BX90LA4**	493
7.1	1882	1.0	202.4	12000	**F513_202.4 S3 ME3SB4**	**F513_202.4 S3 MX3SB4**	484	**F513_202.4 P90 BE90LA4**	**F513_202.4 P90 BX90LA4**	485
7.1	1873	1.5	201.4	20000	**F603_201.4 S3 ME3SB4**	**F603_201.4 S3 MX3SB4**	488	**F603_201.4 P90 BE90LA4**	**F603_201.4 P90 BX90LA4**	489
7.3	1823	2.7	196.0	35000	**F703_196.0 S3 ME3SB4**	**F703_196.0 S3 MX3SB4**	492	**F703_196.0 P90 BE90LA4**	**F703_196.0 P90 BX90LA4**	493
7.7	1729	1.7	185.9	20000	**F603_185.9 S3 ME3SB4**	**F603_185.9 S3 MX3SB4**	488	**F603_185.9 P90 BE90LA4**	**F603_185.9 P90 BX90LA4**	489
7.9	1683	3.0	180.9	35000	**F703_180.9 S3 ME3SB4**	**F703_180.9 S3 MX3SB4**	492	**F703_180.9 P90 BE90LA4**	**F703_180.9 P90 BX90LA4**	493
8.6	1550	3.2	166.7	35000	**F703_166.7 S3 ME3SB4**	**F703_166.7 S3 MX3SB4**	492	**F703_166.7 P90 BE90LA4**	**F703_166.7 P90 BX90LA4**	493
8.6	1540	1.2	165.6	12000	**F513_165.6 S3 ME3SB4**	**F513_165.6 S3 MX3SB4**	484	**F513_165.6 P90 BE90LA4**	**F513_165.6 P90 BX90LA4**	485
8.8	1515	1.9	162.9	20000	**F603_162.9 S3 ME3SB4**	**F603_162.9 S3 MX3SB4**	488	**F603_162.9 P90 BE90LA4**	**F603_162.9 P90 BX90LA4**	489
9.3	1431	3.5	153.8	35000	**F703_153.8 S3 ME3SB4**	**F703_153.8 S3 MX3SB4**	492	**F703_153.8 P90 BE90LA4**	**F703_153.8 P90 BX90LA4**	493
9.5	1398	2.1	150.4	20000	**F603_150.4 S3 ME3SB4**	**F603_150.4 S3 MX3SB4**	488	**F603_150.4 P90 BE90LA4**	**F603_150.4 P90 BX90LA4**	489
10.6	1250	0.9	134.4	8500	**F413_134.4 S3 ME3SB4**	**F413_134.4 S3 MX3SB4**	480	**F413_134.4 P90 BE90LA4**	**F413_134.4 P90 BX90LA4**	481
11.0	1214	2.4	130.5	20000	**F603_130.5 S3 ME3SB4**	**F603_130.5 S3 MX3SB4**	488	**F603_130.5 P90 BE90LA4**	**F603_130.5 P90 BX90LA4**	489
11.0	1208	1.5	129.9	12000	**F513_129.9 S3 ME3SB4**	**F513_129.9 S3 MX3SB4**	484	**F513_129.9 P90 BE90LA4**	**F513_129.9 P90 BX90LA4**	485
11.9	1120	2.6	120.5	20000	**F603_120.5 S3 ME3SB4**	**F603_120.5 S3 MX3SB4**	488	**F603_120.5 P90 BE90LA4**	**F603_120.5 P90 BX90LA4**	489
13.4	989	2.9	106.4	20000	**F603_106.4 S3 ME3SB4**	**F603_106.4 S3 MX3SB4**	488	**F603_106.4 P90 BE90LA4**	**F603_106.4 P90 BX90LA4**	489
13.5	986	1.1	106.0	8500	**F413_106.0 S3 ME3SB4**	**F413_106.0 S3 MX3SB4**	480	**F413_106.0 P90 BE90LA4**	**F413_106.0 P90 BX90LA4**	481
13.6	977	1.8	105.1	12000	**F513_105.1 S3 ME3SB4**	**F513_105.1 S3 MX3SB4**	484	**F513_105.1 P90 BE90LA4**	**F513_105.1 P90 BX90LA4**	485
14.6	913	3.2	98.2	20000	**F603_98.2 S3 ME3SB4**	**F603_98.2 S3 MX3SB4**	488	**F603_98.2 P90 BE90LA4**	**F603_98.2 P90 BX90LA4**	489
16.8	789	1.4	84.9	8500	**F413_84.9 S3 ME3SB4**	**F413_84.9 S3 MX3SB4**	480	**F413_84.9 P90 BE90LA4**	**F413_84.9 P90 BX90LA4**	481
17.2	774	2.3	83.2	12000	**F513_83.2 S3 ME3SB4**	**F513_83.2 S3 MX3SB4**	484	**F513_83.2 P90 BE90LA4**	**F513_83.2 P90 BX90LA4**	485
20.7	642	0.9	69.1	6500	**F313_69.1 S3 ME3SB4**	**F313_69.1 S3 MX3SB4**	476	**F313_69.1 P90 BE90LA4**	**F313_69.1 P90 BX90LA4**	477
21.5	618	1.8	66.5	8500	**F413_66.5 S3 ME3SB4**	**F413_66.5 S3 MX3SB4**	480	**F413_66.5 P90 BE90LA4**	**F413_66.5 P90 BX90LA4**	481
21.7	612	2.9	65.8	12000	**F513_65.8 S3 ME3SB4**	**F513_65.8 S3 MX3SB4**	484	**F513_65.8 P90 BE90LA4**	**F513_65.8 P90 BX90LA4**	485
22.8	584	1.0	62.8	6500	**F313_62.8 S3 ME3SB4**	**F313_62.8 S3 MX3SB4**	476	**F313_62.8 P90 BE90LA4**	**F313_62.8 P90 BX90LA4**	477
23.7	560	2.0	60.2	8500	**F413_60.2 S3 ME3SB4**	**F413_60.2 S3 MX3SB4**	480	**F413_60.2 P90 BE90LA4**	**F413_60.2 P90 BX90LA4**	481
27.5	484	1.2	52.1	6500	**F313_52.1 S3 ME3SB4**	**F313_52.1 S3 MX3SB4**	476	**F313_52.1 P90 BE90LA4**	**F313_52.1 P90 BX90LA4**	477
27.8	479	2.3	51.5	8500	**F413_51.5 S3 ME3SB4**	**F413_51.5 S3 MX3SB4**	480	**F413_51.5 P90 BE90LA4**	**F413_51.5 P90 BX90LA4**	481
29.8	455	2.4	47.9	8500	**F412_47.9 S3 ME3SB4**	**F412_47.9 S3 MX3SB4**	480	**F412_47.9 P90 BE90LA4**	**F412_47.9 P90 BX90LA4**	481
30	442	1.3	47.5	6500	**F313_47.5 S3 ME3SB4**	**F313_47.5 S3 MX3SB4**	476	**F313_47.5 P90 BE90LA4**	**F313_47.5 P90 BX90LA4**	477
31	424	0.9	45.6	3880	**F253_45.6 S3 ME3SB4**	**F253_45.6 S3 MX3SB4**	472	**F253_45.6 P90 BE90LA4**	**F253_45.6 P90 BX90LA4**	473
32	424	1.4	44.6	6500	**F312_44.6 S3 ME3SB4**	**F312_44.6 S3 MX3SB4**	476	**F312_44.6 P90 BE90LA4**	**F312_44.6 P90 BX90LA4**	477
32	422	0.9	44.4	4180	**F252_44.4 S3 ME3SB4**	**F252_44.4 S3 MX3SB4**	472	**F252_44.4 P90 BE90LA4**	**F252_44.4 P90 BX90LA4**	473
35	387	1.0	40.7	3970	**F252_40.7 S3 ME3SB4**	**F252_40.7 S3 MX3SB4**	472	**F252_40.7 P90 BE90LA4**	**F252_40.7 P90 BX90LA4**	473
35	383	1.6	40.4	6500	**F312_40.4 S3 ME3SB4**	**F312_40.4 S3 MX3SB4**	476	**F312_40.4 P90 BE90LA4**	**F312_40.4 P90 BX90LA4**	477
37	363	3.0	38.2	8500	**F412_38.2 S3 ME3SB4**	**F412_38.2 S3 MX3SB4**	480	**F412_38.2 P90 BE90LA4**	**F412_38.2 P90 BX90LA4**	481

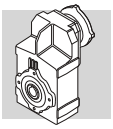


1.5 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
38	358	1.7	37.7	6500	**F312_37.7 S3 ME3SB4**	**F312_37.7 S3 MX3SB4**	476	**F312_37.7 P90 BE90LA4**	**F312_37.7 P90 BX90LA4**	477
39	346	1.2	36.4	3940	**F252_36.4 S3 ME3SB4**	**F252_36.4 S3 MX3SB4**	472	**F252_36.4 P90 BE90LA4**	**F252_36.4 P90 BX90LA4**	473
42	326	1.8	34.4	6500	**F312_34.4 S3 ME3SB4**	**F312_34.4 S3 MX3SB4**	476	**F312_34.4 P90 BE90LA4**	**F312_34.4 P90 BX90LA4**	477
44	306	1.3	32.2	3890	**F252_32.2 S3 ME3SB4**	**F252_32.2 S3 MX3SB4**	472	**F252_32.2 P90 BE90LA4**	**F252_32.2 P90 BX90LA4**	473
47	286	2.1	30.1	6500	**F312_30.1 S3 ME3SB4**	**F312_30.1 S3 MX3SB4**	476	**F312_30.1 P90 BE90LA4**	**F312_30.1 P90 BX90LA4**	477
48	285	1.4	30.0	3860	**F252_30.0 S3 ME3SB4**	**F252_30.0 S3 MX3SB4**	472	**F252_30.0 P90 BE90LA4**	**F252_30.0 P90 BX90LA4**	473
52	259	2.3	27.3	6500	**F312_27.3 S3 ME3SB4**	**F312_27.3 S3 MX3SB4**	476	**F312_27.3 P90 BE90LA4**	**F312_27.3 P90 BX90LA4**	477
53	258	1.5	27.2	3810	**F252_27.2 S3 ME3SB4**	**F252_27.2 S3 MX3SB4**	472	**F252_27.2 P90 BE90LA4**	**F252_27.2 P90 BX90LA4**	473
55	246	1.0	25.9	2640	**F202_25.9 S3 ME3SB4**	**F202_25.9 S3 MX3SB4**	468	**F202_25.9 P90 BE90LA4**	**F202_25.9 P90 BX90LA4**	469
60	226	1.8	23.8	3730	**F252_23.8 S3 ME3SB4**	**F252_23.8 S3 MX3SB4**	472	**F252_23.8 P90 BE90LA4**	**F252_23.8 P90 BX90LA4**	473
61	222	2.7	23.4	6480	**F312_23.4 S3 ME3SB4**	**F312_23.4 S3 MX3SB4**	476	**F312_23.4 P90 BE90LA4**	**F312_23.4 P90 BX90LA4**	477
62	220	1.1	23.1	2600	**F202_23.1 S3 ME3SB4**	**F202_23.1 S3 MX3SB4**	468	**F202_23.1 P90 BE90LA4**	**F202_23.1 P90 BX90LA4**	469
66	207	1.9	21.8	3680	**F252_21.8 S3 ME3SB4**	**F252_21.8 S3 MX3SB4**	472	**F252_21.8 P90 BE90LA4**	**F252_21.8 P90 BX90LA4**	473
68	201	3.0	21.1	6320	**F312_21.1 S3 ME3SB4**	**F312_21.1 S3 MX3SB4**	476	**F312_21.1 P90 BE90LA4**	**F312_21.1 P90 BX90LA4**	477
71	191	1.2	20.2	2530	**F202_20.2 S3 ME3SB4**	**F202_20.2 S3 MX3SB4**	468	**F202_20.2 P90 BE90LA4**	**F202_20.2 P90 BX90LA4**	469
77	177	2.3	18.6	3570	**F252_18.6 S3 ME3SB4**	**F252_18.6 S3 MX3SB4**	472	**F252_18.6 P90 BE90LA4**	**F252_18.6 P90 BX90LA4**	473
77	176	3.4	18.5	6110	**F312_18.5 S3 ME3SB4**	**F312_18.5 S3 MX3SB4**	476	**F312_18.5 P90 BE90LA4**	**F312_18.5 P90 BX90LA4**	477
79	172	1.2	18.1	2480	**F202_18.1 S3 ME3SB4**	**F202_18.1 S3 MX3SB4**	468	**F202_18.1 P90 BE90LA4**	**F202_18.1 P90 BX90LA4**	469
86	158	2.5	16.6	3490	**F252_16.6 S3 ME3SB4**	**F252_16.6 S3 MX3SB4**	472	**F252_16.6 P90 BE90LA4**	**F252_16.6 P90 BX90LA4**	473
97	141	1.4	14.8	2380	**F202_14.8 S3 ME3SB4**	**F202_14.8 S3 MX3SB4**	468	**F202_14.8 P90 BE90LA4**	**F202_14.8 P90 BX90LA4**	469
99	137	2.9	14.5	3390	**F252_14.5 S3 ME3SB4**	**F252_14.5 S3 MX3SB4**	472	**F252_14.5 P90 BE90LA4**	**F252_14.5 P90 BX90LA4**	473
110	123	3.2	13.0	3310	**F252_13.0 S3 ME3SB4**	**F252_13.0 S3 MX3SB4**	472	**F252_13.0 P90 BE90LA4**	**F252_13.0 P90 BX90LA4**	473
124	110	0.9	11.5	1160	**F102_11.5 S3 ME3SB4**	**F102_11.5 S3 MX3SB4**	464	**F102_11.5 P90 BE90LA4**	**F102_11.5 P90 BX90LA4**	465
127	107	1.7	11.2	2220	**F202_11.2 S3 ME3SB4**	**F202_11.2 S3 MX3SB4**	468	**F202_11.2 P90 BE90LA4**	**F202_11.2 P90 BX90LA4**	469
143	95	1.7	10.0	2160	**F202_10.0 S3 ME3SB4**	**F202_10.0 S3 MX3SB4**	468	**F202_10.0 P90 BE90LA4**	**F202_10.0 P90 BX90LA4**	469
146	93	1.0	9.8	1760	**F102_9.8 S3 ME3SB4**	**F102_9.8 S3 MX3SB4**	464	**F102_9.8 P90 BE90LA4**	**F102_9.8 P90 BX90LA4**	465
153	89	3.0	9.4	3070	**F252_9.4 S3 ME3SB4**	**F252_9.4 S3 MX3SB4**	472	**F252_9.4 P90 BE90LA4**	**F252_9.4 P90 BX90LA4**	473
164	83	1.9	8.7	2090	**F202_8.7 S3 ME3SB4**	**F202_8.7 S3 MX3SB4**	468	**F202_8.7 P90 BE90LA4**	**F202_8.7 P90 BX90LA4**	469
167	82	1.0	8.6	1710	**F102_8.6 S3 ME3SB4**	**F102_8.6 S3 MX3SB4**	464	**F102_8.6 P90 BE90LA4**	**F102_8.6 P90 BX90LA4**	465
170	80	3.3	8.4	2980	**F252_8.4 S3 ME3SB4**	**F252_8.4 S3 MX3SB4**	472	**F252_8.4 P90 BE90LA4**	**F252_8.4 P90 BX90LA4**	473
183	74	1.9	7.8	2030	**F202_7.8 S3 ME3SB4**	**F202_7.8 S3 MX3SB4**	468	**F202_7.8 P90 BE90LA4**	**F202_7.8 P90 BX90LA4**	469
193	70	1.1	7.4	1650	**F102_7.4 S3 ME3SB4**	**F102_7.4 S3 MX3SB4**	464	**F102_7.4 P90 BE90LA4**	**F102_7.4 P90 BX90LA4**	465
223	61	2.1	6.4	1930	**F202_6.4 S3 ME3SB4**	**F202_6.4 S3 MX3SB4**	468	**F202_6.4 P90 BE90LA4**	**F202_6.4 P90 BX90LA4**	469
247	55	1.4	11.5	1560	**F102_11.5 S3 ME3SA2**		464	**F102_11.5 P90 BE90SA2**		465
254	54	2.6	11.2	1860	**F202_11.2 S3 ME3SA2**		468	**F202_11.2 P90 BE90SA2**		469
292	47	1.6	9.8	1490	**F102_9.8 S3 ME3SA2**		464	**F102_9.8 P90 BE90SA2**		465
327	42	3.0	8.7	1740	**F202_8.7 S3 ME3SA2**		468	**F202_8.7 P90 BE90SA2**		469
333	41	1.6	8.6	1440	**F102_8.6 S3 ME3SA2**		464	**F102_8.6 P90 BE90SA2**		465
364	37	3.1	7.8	1680	**F202_7.8 S3 ME3SA2**		468	**F202_7.8 P90 BE90SA2**		469
386	35	1.8	7.4	1380	**F102_7.4 S3 ME3SA2**		464	**F102_7.4 P90 BE90SA2**		465
445	31	3.4	6.4	1590	**F202_6.4 S3 ME3SA2**		468	**F202_6.4 P90 BE90SA2**		469

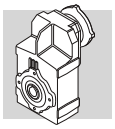
1.5 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
0.8	15321	0.9	1702.3	55000			**F904_1702 P90 BXN90L4**	499
0.9	14142	1.0	1571.4	55000			**F904_1571 P90 BXN90L4**	499
1.0	12851	1.1	1427.9	55000			**F904_1428 P90 BXN90L4**	499
1.1	11863	1.2	1318.1	55000			**F904_1318 P90 BXN90L4**	499
1.2	10845	1.3	1204.9	55000			**F904_1205 P90 BXN90L4**	499
1.3	10010	1.4	1112.3	55000			**F904_1112 P90 BXN90L4**	499
1.5	8874	1.6	986.0	55000			**F904_986.0 P90 BXN90L4**	499
1.5	8748	0.9	972.0	45000			**F804_972.0 P90 BXN90L4**	496
1.6	8192	1.7	910.2	55000			**F904_910.2 P90 BXN90L4**	499



1.5 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE3		IE3	
1.6	8075	1.0	897.3	45000			**F804_897.3 P90 BXN90L4**	496
1.8	6970	1.1	774.4	45000			**F804_774.4 P90 BXN90L4**	496
1.8	6961	2.0	773.4	55000			**F904_773.4 P90 BXN90L4**	499
2.0	6434	1.2	714.9	45000			**F804_714.9 P90 BXN90L4**	496
2.0	6426	2.2	714.0	55000			**F904_714.0 P90 BXN90L4**	499
2.3	5631	2.5	625.6	55000			**F904_625.6 P90 BXN90L4**	499
2.3	5498	1.5	610.9	45000			**F804_610.9 P90 BXN90L4**	496
2.4	5462	0.9	606.8	35000			**F704_606.8 P90 BXN90L4**	493
2.5	5197	2.7	577.5	55000			**F904_577.5 P90 BXN90L4**	499
2.5	5075	1.6	563.9	45000			**F804_563.9 P90 BXN90L4**	496
2.8	4594	1.1	510.4	35000			**F704_510.4 P90 BXN90L4**	493
2.9	4460	3.1	495.6	55000			**F904_495.6 P90 BXN90L4**	499
2.9	4402	1.8	489.1	45000			**F804_489.1 P90 BXN90L4**	496
3.0	4240	1.2	471.2	35000			**F704_471.2 P90 BXN90L4**	493
3.1	4117	3.4	457.5	55000			**F904_457.5 P90 BXN90L4**	499
3.2	4063	2.0	451.5	45000			**F804_451.5 P90 BXN90L4**	496
3.5	3632	1.4	403.5	35000			**F704_403.5 P90 BXN90L4**	493
3.7	3448	2.3	383.2	45000			**F804_383.2 P90 BXN90L4**	496
3.8	3352	1.5	372.5	35000			**F704_372.5 P90 BXN90L4**	493
4.0	3183	2.5	353.7	45000			**F804_353.7 P90 BXN90L4**	496
4.2	3075	0.9	341.7	20000			**F604_341.7 P90 BXN90L4**	489
4.5	2839	1.0	315.4	20000			**F604_315.4 P90 BXN90L4**	489
4.7	2739	1.8	304.3	35000			**F704_304.3 P90 BXN90L4**	493
4.8	2670	3.0	296.7	45000			**F804_296.7 P90 BXN90L4**	496
5.1	2528	2.0	280.9	35000			**F704_280.9 P90 BXN90L4**	493
5.1	2610	1.1	280.7	20000			**F603_280.7 P90 BXN90L4**	489
5.2	2465	3.2	273.9	45000			**F804_273.9 P90 BXN90L4**	496
5.5	2409	1.2	259.1	20000			**F603_259.1 P90 BXN90L4**	489
6.1	2193	1.3	235.8	20000			**F603_235.8 P90 BXN90L4**	489
6.1	2111	2.4	234.6	35000			**F704_234.6 P90 BXN90L4**	493
6.6	2024	1.4	217.6	20000			**F603_217.6 P90 BXN90L4**	489
6.6	1949	2.6	216.5	35000			**F704_216.5 P90 BXN90L4**	493
7.1	1882	1.0	202.4	12000			**F513_202.4 P90 BXN90L4**	485
7.1	1873	1.5	201.4	20000			**F603_201.4 P90 BXN90L4**	489
7.3	1823	2.7	196.0	35000			**F703_196.0 P90 BXN90L4**	493
7.7	1729	1.7	185.9	20000			**F603_185.9 P90 BXN90L4**	489
7.9	1683	3.0	180.9	35000			**F703_180.9 P90 BXN90L4**	493
8.6	1550	3.2	166.7	35000			**F703_166.7 P90 BXN90L4**	493
8.6	1540	1.2	165.6	12000			**F513_165.6 P90 BXN90L4**	485
8.8	1515	1.9	162.9	20000			**F603_162.9 P90 BXN90L4**	489
9.3	1431	3.5	153.8	35000			**F703_153.8 P90 BXN90L4**	493
9.5	1398	2.1	150.4	20000			**F603_150.4 P90 BXN90L4**	489
10.6	1250	0.9	134.4	8500			**F413_134.4 P90 BXN90L4**	481
11.0	1214	2.4	130.5	20000			**F603_130.5 P90 BXN90L4**	489
11.0	1208	1.5	129.9	12000			**F513_129.9 P90 BXN90L4**	485
11.9	1120	2.6	120.5	20000			**F603_120.5 P90 BXN90L4**	489
13.4	989	2.9	106.4	20000			**F603_106.4 P90 BXN90L4**	489
13.5	986	1.1	106.0	8500			**F413_106.0 P90 BXN90L4**	481
13.6	977	1.8	105.1	12000			**F513_105.1 P90 BXN90L4**	485
14.6	913	3.2	98.2	20000			**F603_98.2 P90 BXN90L4**	489
16.8	789	1.4	84.9	8500			**F413_84.9 P90 BXN90L4**	481
17.2	774	2.3	83.2	12000			**F513_83.2 P90 BXN90L4**	485
20.7	642	0.9	69.1	6500			**F313_69.1 P90 BXN90L4**	477
21.5	618	1.8	66.5	8500			**F413_66.5 P90 BXN90L4**	481
21.7	612	2.9	65.8	12000			**F513_65.8 P90 BXN90L4**	485
22.8	584	1.0	62.8	6500			**F313_62.8 P90 BXN90L4**	477
23.7	560	2.0	60.2	8500			**F413_60.2 P90 BXN90L4**	481

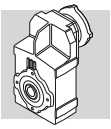


2.2 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
1.2	15941	0.9	1204.9	55000	**F904_1205 S3 ME3LA4**	**F904_1205 S3 MX3LA4**	498	**F904_1205 P100 BE100LA4**	**F904_1205 P100 BX100LA4**	499
1.3	14715	1.0	1112.3	55000	**F904_1112 S3 ME3LA4**	**F904_1112 S3 MX3LA4**	498	**F904_1112 P100 BE100LA4**	**F904_1112 P100 BX100LA4**	499
1.5	13045	1.1	986.0	55000	**F904_986.0 S3 ME3LA4**	**F904_986.0 S3 MX3LA4**	498	**F904_986.0 P100 BE100LA4**	**F904_986.0 P100 BX100LA4**	499
1.6	12042	1.2	910.2	55000	**F904_910.2 S3 ME3LA4**	**F904_910.2 S3 MX3LA4**	498	**F904_910.2 P100 BE100LA4**	**F904_910.2 P100 BX100LA4**	499
1.8	10233	1.4	773.4	55000	**F904_773.4 S3 ME3LA4**	**F904_773.4 S3 MX3LA4**	498	**F904_773.4 P100 BE100LA4**	**F904_773.4 P100 BX100LA4**	499
2.0	9446	1.5	714.0	55000	**F904_714.0 S3 ME3LA4**	**F904_714.0 S3 MX3LA4**	498	**F904_714.0 P100 BE100LA4**	**F904_714.0 P100 BX100LA4**	499
2.3	8277	1.7	625.6	55000	**F904_625.6 S3 ME3LA4**	**F904_625.6 S3 MX3LA4**	498	**F904_625.6 P100 BE100LA4**	**F904_625.6 P100 BX100LA4**	499
2.3	8082	1.0	610.9	45000	**F804_610.9 S3 ME3LA4**	**F804_610.9 S3 MX3LA4**	495	**F804_610.9 P100 BE100LA4**	**F804_610.9 P100 BX100LA4**	496
2.5	7640	1.8	577.5	55000	**F904_577.5 S3 ME3LA4**	**F904_577.5 S3 MX3LA4**	498	**F904_577.5 P100 BE100LA4**	**F904_577.5 P100 BX100LA4**	499
2.5	7460	1.1	563.9	45000	**F804_563.9 S3 ME3LA4**	**F804_563.9 S3 MX3LA4**	495	**F804_563.9 P100 BE100LA4**	**F804_563.9 P100 BX100LA4**	496
2.9	6556	2.1	495.6	55000	**F904_495.6 S3 ME3LA4**	**F904_495.6 S3 MX3LA4**	498	**F904_495.6 P100 BE100LA4**	**F904_495.6 P100 BX100LA4**	499
2.9	6471	1.2	489.1	45000	**F804_489.1 S3 ME3LA4**	**F804_489.1 S3 MX3LA4**	495	**F804_489.1 P100 BE100LA4**	**F804_489.1 P100 BX100LA4**	496
3.1	6052	2.3	457.5	55000	**F904_457.5 S3 ME3LA4**	**F904_457.5 S3 MX3LA4**	498	**F904_457.5 P100 BE100LA4**	**F904_457.5 P100 BX100LA4**	499
3.2	5973	1.3	451.5	45000	**F804_451.5 S3 ME3LA4**	**F804_451.5 S3 MX3LA4**	495	**F804_451.5 P100 BE100LA4**	**F804_451.5 P100 BX100LA4**	496
3.5	5338	0.9	403.5	35000	**F704_403.5 S3 ME3LA4**	**F704_403.5 S3 MX3LA4**	492	**F704_403.5 P100 BE100LA4**	**F704_403.5 P100 BX100LA4**	493
3.6	5186	2.7	392.0	55000	**F904_392.0 S3 ME3LA4**	**F904_392.0 S3 MX3LA4**	498	**F904_392.0 P100 BE100LA4**	**F904_392.0 P100 BX100LA4**	499
3.7	5069	1.6	383.2	45000	**F804_383.2 S3 ME3LA4**	**F804_383.2 S3 MX3LA4**	495	**F804_383.2 P100 BE100LA4**	**F804_383.2 P100 BX100LA4**	496
3.8	4928	1.0	372.5	35000	**F704_372.5 S3 ME3LA4**	**F704_372.5 S3 MX3LA4**	492	**F704_372.5 P100 BE100LA4**	**F704_372.5 P100 BX100LA4**	493
4.0	4787	2.9	361.8	55000	**F904_361.8 S3 ME3LA4**	**F904_361.8 S3 MX3LA4**	498	**F904_361.8 P100 BE100LA4**	**F904_361.8 P100 BX100LA4**	499
4.0	4679	1.7	353.7	45000	**F804_353.7 S3 ME3LA4**	**F804_353.7 S3 MX3LA4**	495	**F804_353.7 P100 BE100LA4**	**F804_353.7 P100 BX100LA4**	496
4.7	4027	1.2	304.3	35000	**F704_304.3 S3 ME3LA4**	**F704_304.3 S3 MX3LA4**	492	**F704_304.3 P100 BE100LA4**	**F704_304.3 P100 BX100LA4**	493
4.8	3926	2.0	296.7	45000	**F804_296.7 S3 ME3LA4**	**F804_296.7 S3 MX3LA4**	495	**F804_296.7 P100 BE100LA4**	**F804_296.7 P100 BX100LA4**	496
4.9	3852	3.6	291.1	55000	**F904_291.1 S3 ME3LA4**	**F904_291.1 S3 MX3LA4**	498	**F904_291.1 P100 BE100LA4**	**F904_291.1 P100 BX100LA4**	499
5.1	3717	1.3	280.9	35000	**F704_280.9 S3 ME3LA4**	**F704_280.9 S3 MX3LA4**	492	**F704_280.9 P100 BE100LA4**	**F704_280.9 P100 BX100LA4**	493
5.2	3624	2.2	273.9	45000	**F804_273.9 S3 ME3LA4**	**F804_273.9 S3 MX3LA4**	495	**F804_273.9 P100 BE100LA4**	**F804_273.9 P100 BX100LA4**	496
6.1	3223	0.9	235.8	20000	**F603_235.8 S3 ME3LA4**	**F603_235.8 S3 MX3LA4**	488	**F603_235.8 P100 BE100LA4**	**F603_235.8 P100 BX100LA4**	489
6.1	3103	1.6	234.6	35000	**F704_234.6 S3 ME3LA4**	**F704_234.6 S3 MX3LA4**	492	**F704_234.6 P100 BE100LA4**	**F704_234.6 P100 BX100LA4**	493
6.5	2891	2.8	218.5	45000	**F804_218.5 S3 ME3LA4**	**F804_218.5 S3 MX3LA4**	495	**F804_218.5 P100 BE100LA4**	**F804_218.5 P100 BX100LA4**	496
6.6	2975	1.0	217.6	20000	**F603_217.6 S3 ME3LA4**	**F603_217.6 S3 MX3LA4**	488	**F603_217.6 P100 BE100LA4**	**F603_217.6 P100 BX100LA4**	489
6.6	2865	1.7	216.5	35000	**F704_216.5 S3 ME3LA4**	**F704_216.5 S3 MX3LA4**	492	**F704_216.5 P100 BE100LA4**	**F704_216.5 P100 BX100LA4**	493
7.1	2753	1.1	201.4	20000	**F603_201.4 S3 ME3LA4**	**F603_201.4 S3 MX3LA4**	488	**F603_201.4 P100 BE100LA4**	**F603_201.4 P100 BX100LA4**	489
7.2	2734	2.9	200.0	45000	**F803_200.0 S3 ME3LA4**	**F803_200.0 S3 MX3LA4**	495	**F803_200.0 P100 BE100LA4**	**F803_200.0 P100 BX100LA4**	496
7.3	2680	1.9	196.0	35000	**F703_196.0 S3 ME3LA4**	**F703_196.0 S3 MX3LA4**	492	**F703_196.0 P100 BE100LA4**	**F703_196.0 P100 BX100LA4**	493
7.7	2541	1.1	185.9	20000	**F603_185.9 S3 ME3LA4**	**F603_185.9 S3 MX3LA4**	488	**F603_185.9 P100 BE100LA4**	**F603_185.9 P100 BX100LA4**	489
7.7	2524	3.2	184.6	45000	**F803_184.6 S3 ME3LA4**	**F803_184.6 S3 MX3LA4**	495	**F803_184.6 P100 BE100LA4**	**F803_184.6 P100 BX100LA4**	496
7.9	2474	2.0	180.9	35000	**F703_180.9 S3 ME3LA4**	**F703_180.9 S3 MX3LA4**	492	**F703_180.9 P100 BE100LA4**	**F703_180.9 P100 BX100LA4**	493
8.6	2279	2.2	166.7	35000	**F703_166.7 S3 ME3LA4**	**F703_166.7 S3 MX3LA4**	492	**F703_166.7 P100 BE100LA4**	**F703_166.7 P100 BX100LA4**	493
8.8	2227	1.3	162.9	20000	**F603_162.9 S3 ME3LA4**	**F603_162.9 S3 MX3LA4**	488	**F603_162.9 P100 BE100LA4**	**F603_162.9 P100 BX100LA4**	489
9.3	2103	2.4	153.8	35000	**F703_153.8 S3 ME3LA4**	**F703_153.8 S3 MX3LA4**	492	**F703_153.8 P100 BE100LA4**	**F703_153.8 P100 BX100LA4**	493
9.5	2056	1.4	150.4	20000	**F603_150.4 S3 ME3LA4**	**F603_150.4 S3 MX3LA4**	488	**F603_150.4 P100 BE100LA4**	**F603_150.4 P100 BX100LA4**	489
10.8	1818	2.8	133.0	35000	**F703_133.0 S3 ME3LA4**	**F703_133.0 S3 MX3LA4**	492	**F703_133.0 P100 BE100LA4**	**F703_133.0 P100 BX100LA4**	493
11.0	1784	1.6	130.5	20000	**F603_130.5 S3 ME3LA4**	**F603_130.5 S3 MX3LA4**	488	**F603_130.5 P100 BE100LA4**	**F603_130.5 P100 BX100LA4**	489
11.0	1776	1.0	129.9	12000	**F513_129.9 S3 ME3LA4**	**F513_129.9 S3 MX3LA4**	484	**F513_129.9 P100 BE100LA4**	**F513_129.9 P100 BX100LA4**	485
11.7	1678	3.0	122.7	35000	**F703_122.7 S3 ME3LA4**	**F703_122.7 S3 MX3LA4**	492	**F703_122.7 P100 BE100LA4**	**F703_122.7 P100 BX100LA4**	493
11.9	1647	1.8	120.5	20000	**F603_120.5 S3 ME3LA4**	**F603_120.5 S3 MX3LA4**	488	**F603_120.5 P100 BE100LA4**	**F603_120.5 P100 BX100LA4**	489
13.0	1499	3.3	109.6	35000	**F703_109.6 S3 ME3LA4**	**F703_109.6 S3 MX3LA4**	492	**F703_109.6 P100 BE100LA4**	**F703_109.6 P100 BX100LA4**	493
13.4	1454	2.0	106.4	20000	**F603_106.4 S3 ME3LA4**	**F603_106.4 S3 MX3LA4**	488	**F603_106.4 P100 BE100LA4**	**F603_106.4 P100 BX100LA4**	489
13.6	1437	1.3	105.1	12000	**F513_105.1 S3 ME3LA4**	**F513_105.1 S3 MX3LA4**	484	**F513_105.1 P100 BE100LA4**	**F513_105.1 P100 BX100LA4**	485
14.1	1383	3.6	101.2	35000	**F703_101.2 S3 ME3LA4**	**F703_101.2 S3 MX3LA4**	492	**F703_101.2 P100 BE100LA4**	**F703_101.2 P100 BX100LA4**	493
14.6	1342	2.2	98.2	20000	**F603_98.2 S3 ME3LA4**	**F603_98.2 S3 MX3LA4**	488	**F603_98.2 P100 BE100LA4**	**F603_98.2 P100 BX100LA4**	489
16.8	1160	0.9	84.9	8500	**F413_84.9 S3 ME3LA4**	**F413_84.9 S3 MX3LA4**	480	**F413_84.9 P100 BE100LA4**	**F413_84.9 P100 BX100LA4**	481
17.0	1149	2.5	84.0	20000	**F603_84.0 S3 ME3LA4**	**F603_84.0 S3 MX3LA4**	488	**F603_84.0 P100 BE100LA4**	**F603_84.0 P100 BX100LA4**	489
17.2	1138	1.6	83.2	12000	**F513_83.2 S3 ME3LA4**	**F513_83.2 S3 MX3LA4**	484	**F513_83.2 P100 BE100LA4**	**F513_83.2 P100 BX100LA4**	485
18.4	1060	2.7	77.6	20000	**F603_77.6 S3 ME3LA4**	**F603_77.6 S3 MX3LA4**	488	**F603_77.6 P100 BE100LA4**	**F603_77.6 P100 BX100LA4**	489
20.9	933	3.1	68.3	20000	**F603_68.3 S3 ME3LA4**	**F603_68.3 S3 MX3LA4**	488	**F603_68.3 P100 BE100LA4**	**F603_68.3 P100 BX100LA4**	489
21.5	909	1.2	66.5	8500	**F413_66.5 S3 ME3LA4**	**F413_66.5 S3 MX3LA4**	480	**F413_66.5 P100 BE100LA4**	**F413_66.5 P100 BX100LA4**	481
21.7	900	2.0	65.8	12000	**F513_65.8 S3 ME3LA4**	**F513_65.8 S3 MX3LA4**	484	**F513_65.8 P100 BE100LA4**	**F513_65.8 P100 BX100LA4**	485

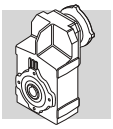
2.2 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
1.2	15941	0.9	1204.9	55000	**F904_1205 S3 ME3LA4**	**F904_1205 S3 MX3LA4**	498	**F904_1205 P100 BE100LA4**	**F904_1205 P100 BX100LA4**	499
1.3	14715	1.0	1112.3	55000	**F904_1112 S3 ME3LA4**	**F904_1112 S3 MX3LA4**	498	**F904_1112 P100 BE100LA4**	**F904_1112 P100 BX100LA4**	499
1.5	13045	1.1	986.0	55000	**F904_986.0 S3 ME3LA4**	**F904_986.0 S3 MX3LA4**	498	**F904_986.0 P100 BE100LA4**	**F904_986.0 P100 BX100LA4**	499
1.6	12042	1.2	910.2	55000	**F904_910.2 S3 ME3LA4**	**F904_910.2 S3 MX3LA4**	498	**F904_910.2 P100 BE100LA4**	**F904_910.2 P100 BX100LA4**	499
1.8	10233	1.4	773.4	55000	**F904_773.4 S3 ME3LA4**	**F904_773.4 S3 MX3LA4**	498	**F904_773.4 P100 BE100LA4**	**F904_773.4 P100 BX100LA4**	499
2.0	9446	1.5	714.0	55000	**F904_714.0 S3 ME3LA4**	**F904_714.0 S3 MX3LA4**	498	**F904_714.0 P100 BE100LA4**	**F904_714.0 P100 BX100LA4**	499
2.3	8277	1.7	625.6	55000	**F904_625.6 S3 ME3LA4**	**F904_625.6 S3 MX3LA4**	498	**F904_625.6 P100 BE100LA4**	**F904_625.6 P100 BX100LA4**	499
2.3	8082	1.0	610.9	45000	**F804_610.9 S3 ME3LA4**	**F804_610.9 S3 MX3LA4**	495	**F804_610.9 P100 BE100LA4**	**F804_610.9 P100 BX100LA4**	496
2.5	7640	1.8	577.5	55000	**F904_577.5 S3 ME3LA4**	**F904_577.5 S3 MX3LA4**	498	**F904_577.5 P100 BE100LA4**	**F904_577.5 P100 BX100LA4**	499
2.5	7460	1.1	563.9	45000	**F804_563.9 S3 ME3LA4**	**F804_563.9 S3 MX3LA4**	495	**F804_563.9 P100 BE100LA4**	**F804_563.9 P100 BX100LA4**	496
2.9	6556	2.1	495.6	55000	**F904_495.6 S3 ME3LA4**	**F904_495.6 S3 MX3LA4**	498	**F904_495.6 P100 BE100LA4**	**F904_495.6 P100 BX100LA4**	499
2.9	6471	1.2	489.1	45000	**F804_489.1 S3 ME3LA4**	**F804_489.1 S3 MX3LA4**	495	**F804_489.1 P100 BE100LA4**	**F804_489.1 P100 BX100LA4**	496
3.1	6052	2.3	457.5	55000	**F904_457.5 S3 ME3LA4**	**F904_457.5 S3 MX3LA4**	498	**F904_457.5 P100 BE100LA4**	**F904_457.5 P100 BX100LA4**	499
3.2	5973	1.3	451.5	45000	**F804_451.5 S3 ME3LA4**	**F804_451.5 S3 MX3LA4**	495	**F804_451.5 P100 BE100LA4**	**F804_451.5 P100 BX100LA4**	496
3.5	5338	0.9	403.5	35000	**F704_403.5 S3 ME3LA4**	**F704_403.5 S3 MX3LA4**	492	**F704_403.5 P100 BE100LA4**	**F704_403.5 P100 BX100LA4**	493
3.6	5186	2.7	392.0	55000	**F904_392.0 S3 ME3LA4**	**F904_392.0 S3 MX3LA4**	498	**F904_392.0 P100 BE100LA4**	**F904_392.0 P100 BX100LA4**	499
3.7	5069	1.6	383.2	45000	**F804_383.2 S3 ME3LA4**	**F804_383.2 S3 MX3LA4**	495	**F804_383.2 P100 BE100LA4**	**F804_383.2 P100 BX100LA4**	496
3.8	4928	1.0	372.5	35000	**F704_372.5 S3 ME3LA4**	**F704_372.5 S3 MX3LA4**	492	**F704_372.5 P100 BE100LA4**	**F704_372.5 P100 BX100LA4**	493
4.0	4787	2.9	361.8	55000	**F904_361.8 S3 ME3LA4**	**F904_361.8 S3 MX3LA4**	498	**F904_361.8 P100 BE100LA4**	**F904_361.8 P100 BX100LA4**	499
4.0	4679	1.7	353.7	45000	**F804_353.7 S3 ME3LA4**	**F804_353.7 S3 MX3LA4**	495	**F804_353.7 P100 BE100LA4**	**F804_353.7 P100 BX100LA4**	496
4.7	4027	1.2	304.3	35000	**F704_304.3 S3 ME3LA4**	**F704_304.3 S3 MX3LA4**	492	**F704_304.3 P100 BE100LA4**	**F704_304.3 P100 BX100LA4**	493
4.8	3926	2.0	296.7	45000	**F804_296.7 S3 ME3LA4**	**F804_296.7 S3 MX3LA4**	495	**F804_296.7 P100 BE100LA4**	**F804_296.7 P100 BX100LA4**	496
4.9	3852	3.6	291.1	55000	**F904_291.1 S3 ME3LA4**	**F904_291.1 S3 MX3LA4**	498	**F904_291.1 P100 BE100LA4**	**F904_291.1 P100 BX100LA4**	499
5.1	3717	1.3	280.9	35000	**F704_280.9 S3 ME3LA4**	**F704_280.9 S3 MX3LA4**	492	**F704_280.9 P100 BE100LA4**	**F704_280.9 P100 BX100LA4**	493
5.2	3624	2.2	273.9	45000	**F804_273.9 S3 ME3LA4**	**F804_273.9 S3 MX3LA4**	495	**F804_273.9 P100 BE100LA4**	**F804_273.9 P100 BX100LA4**	496
6.1	3223	0.9	235.8	20000	**F603_235.8 S3 ME3LA4**	**F603_235.8 S3 MX3LA4**	488	**F603_235.8 P100 BE100LA4**	**F603_235.8 P100 BX100LA4**	489
6.1	3103	1.6	234.6	35000	**F704_234.6 S3 ME3LA4**	**F704_234.6 S3 MX3LA4**	492	**F704_234.6 P100 BE100LA4**	**F704_234.6 P100 BX100LA4**	493
6.5	2891	2.8	218.5	45000	**F804_218.5 S3 ME3LA4**	**F804_218.5 S3 MX3LA4**	495	**F804_218.5 P100 BE100LA4**	**F804_218.5 P100 BX100LA4**	496
6.6	2975	1.0	217.6	20000	**F603_217.6 S3 ME3LA4**	**F603_217.6 S3 MX3LA4**	488	**F603_217.6 P100 BE100LA4**	**F603_217.6 P100 BX100LA4**	489
6.6	2865	1.7	216.5	35000	**F704_216.5 S3 ME3LA4**	**F704_216.5 S3 MX3LA4**	492	**F704_216.5 P100 BE100LA4**	**F704_216.5 P100 BX100LA4**	493
7.1	2753	1.1	201.4	20000	**F603_201.4 S3 ME3LA4**	**F603_201.4 S3 MX3LA4**	488	**F603_201.4 P100 BE100LA4**	**F603_201.4 P100 BX100LA4**	489
7.2	2734	2.9	200.0	45000	**F803_200.0 S3 ME3LA4**	**F803_200.0 S3 MX3LA4**	495	**F803_200.0 P100 BE100LA4**	**F803_200.0 P100 BX100LA4**	496
7.3	2680	1.9	196.0	35000	**F703_196.0 S3 ME3LA4**	**F703_196.0 S3 MX3LA4**	492	**F703_196.0 P100 BE100LA4**	**F703_196.0 P100 BX100LA4**	493
7.7	2541	1.1	185.9	20000	**F603_185.9 S3 ME3LA4**	**F603_185.9 S3 MX3LA4**	488	**F603_185.9 P100 BE100LA4**	**F603_185.9 P100 BX100LA4**	489
7.7	2524	3.2	184.6	45000	**F803_184.6 S3 ME3LA4**	**F803_184.6 S3 MX3LA4**	495	**F803_184.6 P100 BE100LA4**	**F803_184.6 P100 BX100LA4**	496
7.9	2474	2.0	180.9	35000	**F703_180.9 S3 ME3LA4**	**F703_180.9 S3 MX3LA4**	492	**F703_180.9 P100 BE100LA4**	**F703_180.9 P100 BX100LA4**	493
8.6	2279	2.2	166.7	35000	**F703_166.7 S3 ME3LA4**	**F703_166.7 S3 MX3LA4**	492	**F703_166.7 P100 BE100LA4**	**F703_166.7 P100 BX100LA4**	493
8.8	2227	1.3	162.9	20000	**F603_162.9 S3 ME3LA4**	**F603_162.9 S3 MX3LA4**	488	**F603_162.9 P100 BE100LA4**	**F603_162.9 P100 BX100LA4**	489
9.3	2103	2.4	153.8	35000	**F703_153.8 S3 ME3LA4**	**F703_153.8 S3 MX3LA4**	492	**F703_153.8 P100 BE100LA4**	**F703_153.8 P100 BX100LA4**	493
9.5	2056	1.4	150.4	20000	**F603_150.4 S3 ME3LA4**	**F603_150.4 S3 MX3LA4**	488	**F603_150.4 P100 BE100LA4**	**F603_150.4 P100 BX100LA4**	489
10.8	1818	2.8	133.0	35000	**F703_133.0 S3 ME3LA4**	**F703_133.0 S3 MX3LA4**	492	**F703_133.0 P100 BE100LA4**	**F703_133.0 P100 BX100LA4**	493
11.0	1784	1.6	130.5	20000	**F603_130.5 S3 ME3LA4**	**F603_130.5 S3 MX3LA4**	488	**F603_130.5 P100 BE100LA4**	**F603_130.5 P100 BX100LA4**	489
11.0	1776	1.0	129.9	12000	**F513_129.9 S3 ME3LA4**	**F513_129.9 S3 MX3LA4**	484	**F513_129.9 P100 BE100LA4**	**F513_129.9 P100 BX100LA4**	485
11.7	1678	3.0	122.7	35000	**F703_122.7 S3 ME3LA4**	**F703_122.7 S3 MX3LA4**	492	**F703_122.7 P100 BE100LA4**	**F703_122.7 P100 BX100LA4**	493
11.9	1647	1.8	120.5	20000	**F603_120.5 S3 ME3LA4**	**F603_120.5 S3 MX3LA4**	488	**F603_120.5 P100 BE100LA4**	**F603_120.5 P100 BX100LA4**	489
13.0	1499	3.3	109.6	35000	**F703_109.6 S3 ME3LA4**	**F703_109.6 S3 MX3LA4**	492	**F703_109.6 P100 BE100LA4**	**F703_109.6 P100 BX100LA4**	493
13.4	1454	2.0	106.4	20000	**F603_106.4 S3 ME3LA4**	**F603_106.4 S3 MX3LA4**	488	**F603_106.4 P100 BE100LA4**	**F603_106.4 P100 BX100LA4**	489
13.6	1437	1.3	105.1	12000	**F513_105.1 S3 ME3LA4**	**F513_105.1 S3 MX3LA4**	484	**F513_105.1 P100 BE100LA4**	**F513_105.1 P100 BX100LA4**	485
14.1	1383	3.6	101.2	35000	**F703_101.2 S3 ME3LA4**	**F703_101.2 S3 MX3LA4**	492	**F703_101.2 P100 BE100LA4**	**F703_101.2 P100 BX100LA4**	493
14.6	1342	2.2	98.2	20000	**F603_98.2 S3 ME3LA4**	**F603_98.2 S3 MX3LA4**	488	**F603_98.2 P100 BE100LA4**	**F603_98.2 P100 BX100LA4**	489
16.8	1160	0.9	84.9	8500	**F413_84.9 S3 ME3LA4**	**F413_84.9 S3 MX3LA4**	480	**F413_84.9 P100 BE100LA4**	**F413_84.9 P100 BX100LA4**	481
17.0	1149	2.5	84.0	20000	**F603_84.0 S3 ME3LA4**	**F603_84.0 S3 MX3LA4**	488	**F603_84.0 P100 BE100LA4**	**F603_84.0 P100 BX100LA4**	489
17.2	1138	1.6	83.2	12000	**F513_83.2 S3 ME3LA4**	**F513_83.2 S3 MX3LA4**	484	**F513_83.2 P100 BE100LA4**	**F513_83.2 P100 BX100LA4**	485
18.4	1060	2.7	77.6	20000	**F603_77.6 S3 ME3LA4**	**F603_77.6 S3 MX3LA4**	488	**F603_77.6 P100 BE100LA4**	**F603_77.6 P100 BX100LA4**	489
20.9	933	3.1	68.3	20000	**F603_68.3 S3 ME3LA4**	**F603_68.3 S3 MX3LA4**	488	**F603_68.3 P100 BE100LA4**	**F603_68.3 P100 BX100LA4**	489
21.5	909	1.2	66.5	8500	**F413_66.5 S3 ME3LA4**	**F413_66.5 S3 MX3LA4**	480	**F413_66.5 P100 BE100LA4**	**F413_66.5 P100 BX100LA4**	481
21.7	900	2.0	65.8	12000	**F513_65.8 S3 ME3LA4**	**F513_65.8 S3 MX3LA4**	484	**F513_65.8 P100 BE100LA4**	**F513_65.8 P100 BX100LA4**	485



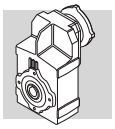
2.2 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
22.7	862	3.4	63.0	20000	**F603_63.0 S3 ME3LA4**	**F603_63.0 S3 MX3LA4**	488	**F603_63.0 P100 BE100LA4**	**F603_63.0 P100 BX100LA4**	489
23.7	824	1.3	60.2	8500	**F413_60.2 S3 ME3LA4**	**F413_60.2 S3 MX3LA4**	480	**F413_60.2 P100 BE100LA4**	**F413_60.2 P100 BX100LA4**	481
27.8	704	1.5	51.5	8500	**F413_51.5 S3 ME3LA4**	**F413_51.5 S3 MX3LA4**	480	**F413_51.5 P100 BE100LA4**	**F413_51.5 P100 BX100LA4**	481
29.2	669	2.7	48.9	12000	**F513_48.9 S3 ME3LA4**	**F513_48.9 S3 MX3LA4**	484	**F513_48.9 P100 BE100LA4**	**F513_48.9 P100 BX100LA4**	485
29.8	669	1.6	47.9	8500	**F412_47.9 S3 ME3LA4**	**F412_47.9 S3 MX3LA4**	480	**F412_47.9 P100 BE100LA4**	**F412_47.9 P100 BX100LA4**	481
30	650	0.9	47.5	6500	**F313_47.5 S3 ME3LA4**	**F313_47.5 S3 MX3LA4**	476	**F313_47.5 P100 BE100LA4**	**F313_47.5 P100 BX100LA4**	477
32	623	1.0	44.6	6500	**F312_44.6 S3 ME3LA4**	**F312_44.6 S3 MX3LA4**	476	**F312_44.6 P100 BE100LA4**	**F312_44.6 P100 BX100LA4**	477
35	564	1.1	40.4	6500	**F312_40.4 S3 ME3LA4**	**F312_40.4 S3 MX3LA4**	476	**F312_40.4 P100 BE100LA4**	**F312_40.4 P100 BX100LA4**	477
37	533	2.1	38.2	8500	**F412_38.2 S3 ME3LA4**	**F412_38.2 S3 MX3LA4**	480	**F412_38.2 P100 BE100LA4**	**F412_38.2 P100 BX100LA4**	481
38	526	1.1	37.7	6500	**F312_37.7 S3 ME3LA4**	**F312_37.7 S3 MX3LA4**	476	**F312_37.7 P100 BE100LA4**	**F312_37.7 P100 BX100LA4**	477
39	519	3.3	37.1	12000	**F512_37.1 S3 ME3LA4**	**F512_37.1 S3 MX3LA4**	484	**F512_37.1 P100 BE100LA4**	**F512_37.1 P100 BX100LA4**	485
42	480	1.3	34.4	6490	**F312_34.4 S3 ME3LA4**	**F312_34.4 S3 MX3LA4**	476	**F312_34.4 P100 BE100LA4**	**F312_34.4 P100 BX100LA4**	477
44	449	0.9	32.2	3620	**F252_32.2 S3 ME3LA4**	**F252_32.2 S3 MX3LA4**	472	**F252_32.2 P100 BE100LA4**	**F252_32.2 P100 BX100LA4**	473
47	421	1.4	30.1	6360	**F312_30.1 S3 ME3LA4**	**F312_30.1 S3 MX3LA4**	476	**F312_30.1 P100 BE100LA4**	**F312_30.1 P100 BX100LA4**	477
47	421	2.6	30.1	8500	**F412_30.1 S3 ME3LA4**	**F412_30.1 S3 MX3LA4**	480	**F412_30.1 P100 BE100LA4**	**F412_30.1 P100 BX100LA4**	481
48	419	1.0	30.0	3300	**F252_30.0 S3 ME3LA4**	**F252_30.0 S3 MX3LA4**	472	**F252_30.0 P100 BE100LA4**	**F252_30.0 P100 BX100LA4**	473
52	381	1.6	27.3	6250	**F312_27.3 S3 ME3LA4**	**F312_27.3 S3 MX3LA4**	476	**F312_27.3 P100 BE100LA4**	**F312_27.3 P100 BX100LA4**	477
53	380	1.1	27.2	3300	**F252_27.2 S3 ME3LA4**	**F252_27.2 S3 MX3LA4**	472	**F252_27.2 P100 BE100LA4**	**F252_27.2 P100 BX100LA4**	473
59	337	3.3	24.1	8400	**F412_24.1 S3 ME3LA4**	**F412_24.1 S3 MX3LA4**	480	**F412_24.1 P100 BE100LA4**	**F412_24.1 P100 BX100LA4**	481
60	332	1.2	23.8	3290	**F252_23.8 S3 ME3LA4**	**F252_23.8 S3 MX3LA4**	472	**F252_23.8 P100 BE100LA4**	**F252_23.8 P100 BX100LA4**	473
61	327	1.8	23.4	6080	**F312_23.4 S3 ME3LA4**	**F312_23.4 S3 MX3LA4**	476	**F312_23.4 P100 BE100LA4**	**F312_23.4 P100 BX100LA4**	477
66	305	1.3	21.8	3270	**F252_21.8 S3 ME3LA4**	**F252_21.8 S3 MX3LA4**	472	**F252_21.8 P100 BE100LA4**	**F252_21.8 P100 BX100LA4**	473
68	295	2.0	21.1	5960	**F312_21.1 S3 ME3LA4**	**F312_21.1 S3 MX3LA4**	476	**F312_21.1 P100 BE100LA4**	**F312_21.1 P100 BX100LA4**	477
77	260	1.5	18.6	3220	**F252_18.6 S3 ME3LA4**	**F252_18.6 S3 MX3LA4**	472	**F252_18.6 P100 BE100LA4**	**F252_18.6 P100 BX100LA4**	473
77	258	2.3	18.5	5790	**F312_18.5 S3 ME3LA4**	**F312_18.5 S3 MX3LA4**	476	**F312_18.5 P100 BE100LA4**	**F312_18.5 P100 BX100LA4**	477
85	235	2.6	16.8	5670	**F312_16.8 S3 ME3LA4**	**F312_16.8 S3 MX3LA4**	476	**F312_16.8 P100 BE100LA4**	**F312_16.8 P100 BX100LA4**	477
86	232	1.7	16.6	3180	**F252_16.6 S3 ME3LA4**	**F252_16.6 S3 MX3LA4**	472	**F252_16.6 P100 BE100LA4**	**F252_16.6 P100 BX100LA4**	473
97	207	1.0	14.8	2190	**F202_14.8 S3 ME3LA4**	**F202_14.8 S3 MX3LA4**	468	**F202_14.8 P100 BE100LA4**	**F202_14.8 P100 BX100LA4**	469
99	202	2.0	14.5	3120	**F252_14.5 S3 ME3LA4**	**F252_14.5 S3 MX3LA4**	472	**F252_14.5 P100 BE100LA4**	**F252_14.5 P100 BX100LA4**	473
103	195	3.1	13.9	5430	**F312_13.9 S3 ME3LA4**	**F312_13.9 S3 MX3LA4**	476	**F312_13.9 P100 BE100LA4**	**F312_13.9 P100 BX100LA4**	477
110	181	2.2	13.0	3070	**F252_13.0 S3 ME3LA4**	**F252_13.0 S3 MX3LA4**	472	**F252_13.0 P100 BE100LA4**	**F252_13.0 P100 BX100LA4**	473
112	178	3.4	12.7	5310	**F312_12.7 S3 ME3LA4**	**F312_12.7 S3 MX3LA4**	476	**F312_12.7 P100 BE100LA4**	**F312_12.7 P100 BX100LA4**	477
127	157	1.1	11.2	2060	**F202_11.2 S3 ME3LA4**	**F202_11.2 S3 MX3LA4**	468	**F202_11.2 P100 BE100LA4**	**F202_11.2 P100 BX100LA4**	469
135	148	2.7	10.6	2960	**F252_10.6 S3 ME3LA4**	**F252_10.6 S3 MX3LA4**	472	**F252_10.6 P100 BE100LA4**	**F252_10.6 P100 BX100LA4**	473
143	140	1.2	10.0	2000	**F202_10.0 S3 ME3LA4**	**F202_10.0 S3 MX3LA4**	468	**F202_10.0 P100 BE100LA4**	**F202_10.0 P100 BX100LA4**	469
153	131	2.0	9.4	2900	**F252_9.4 S3 ME3LA4**	**F252_9.4 S3 MX3LA4**	472	**F252_9.4 P100 BE100LA4**	**F252_9.4 P100 BX100LA4**	473
159	126	3.1	9.0	4830	**F312_9.0 S3 ME3LA4**	**F312_9.0 S3 MX3LA4**	476	**F312_9.0 P100 BE100LA4**	**F312_9.0 P100 BX100LA4**	477
164	122	1.3	8.7	1960	**F202_8.7 S3 ME3LA4**	**F202_8.7 S3 MX3LA4**	468	**F202_8.7 P100 BE100LA4**	**F202_8.7 P100 BX100LA4**	469
170	117	2.2	8.4	2830	**F252_8.4 S3 ME3LA4**	**F252_8.4 S3 MX3LA4**	472	**F252_8.4 P100 BE100LA4**	**F252_8.4 P100 BX100LA4**	473
174	115	3.4	8.2	4720	**F312_8.2 S3 ME3LA4**	**F312_8.2 S3 MX3LA4**	476	**F312_8.2 P100 BE100LA4**	**F312_8.2 P100 BX100LA4**	477
183	109	1.3	7.8	1920	**F202_7.8 S3 ME3LA4**	**F202_7.8 S3 MX3LA4**	468	**F202_7.8 P100 BE100LA4**	**F202_7.8 P100 BX100LA4**	469
208	96	2.7	6.9	2710	**F252_6.9 S3 ME3LA4**	**F252_6.9 S3 MX3LA4**	472	**F252_6.9 P100 BE100LA4**	**F252_6.9 P100 BX100LA4**	473
223	90	1.5	6.4	1840	**F202_6.4 S3 ME3LA4**	**F202_6.4 S3 MX3LA4**	468	**F202_6.4 P100 BE100LA4**	**F202_6.4 P100 BX100LA4**	469
248	80	1.0	11.5	1470	**F102_11.5 S3 ME3LA2**		464	**F102_11.5 P90 BE90L2**		465
255	78	1.8	11.2	1780	**F202_11.2 S3 ME3LA2**		468	**F202_11.2 P90 BE90L2**		469
293	68	1.1	9.8	1410	**F102_9.8 S3 ME3LA2**		464	**F102_9.8 P90 BE90L2**		465
328	61	2.0	8.7	1670	**F202_8.7 S3 ME3LA2**		468	**F202_8.7 P90 BE90L2**		469
334	60	1.1	8.6	1370	**F102_8.6 S3 ME3LA2**		464	**F102_8.6 P90 BE90L2**		465
366	55	2.1	7.8	1630	**F202_7.8 S3 ME3LA2**		468	**F202_7.8 P90 BE90L2**		469
387	52	1.2	7.4	1330	**F102_7.4 S3 ME3LA2**		464	**F102_7.4 P90 BE90L2**		465
447	45	2.3	6.4	1540	**F202_6.4 S3 ME3LA2**		468	**F202_6.4 P90 BE90L2**		469



3 kW

n_2 min^{-1}	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
1.9	13922	1.0	773.4	55000	**F904_773.4 S3 ME3LB4**	**F904_773.4 S3 MX3LB4**	498	**F904_773.4 P100 BE100LB4**	**F904_773.4 P100 BX100LB4**	499
2.0	12851	1.1	714.0	55000	**F904_714.0 S3 ME3LB4**	**F904_714.0 S3 MX3LB4**	498	**F904_714.0 P100 BE100LB4**	**F904_714.0 P100 BX100LB4**	499
2.3	11261	1.2	625.6	55000	**F904_625.6 S3 ME3LB4**	**F904_625.6 S3 MX3LB4**	498	**F904_625.6 P100 BE100LB4**	**F904_625.6 P100 BX100LB4**	499
2.5	10395	1.3	577.5	55000	**F904_577.5 S3 ME3LB4**	**F904_577.5 S3 MX3LB4**	498	**F904_577.5 P100 BE100LB4**	**F904_577.5 P100 BX100LB4**	499
2.9	8920	1.6	495.6	55000	**F904_495.6 S3 ME3LB4**	**F904_495.6 S3 MX3LB4**	498	**F904_495.6 P100 BE100LB4**	**F904_495.6 P100 BX100LB4**	499
2.9	8804	0.9	489.1	45000	**F804_489.1 S3 ME3LB4**	**F804_489.1 S3 MX3LB4**	495	**F804_489.1 P100 BE100LB4**	**F804_489.1 P100 BX100LB4**	496
3.1	8234	1.7	457.5	55000	**F904_457.5 S3 ME3LB4**	**F904_457.5 S3 MX3LB4**	498	**F904_457.5 P100 BE100LB4**	**F904_457.5 P100 BX100LB4**	499
3.2	8127	1.0	451.5	45000	**F804_451.5 S3 ME3LB4**	**F804_451.5 S3 MX3LB4**	495	**F804_451.5 P100 BE100LB4**	**F804_451.5 P100 BX100LB4**	496
3.7	7056	2.0	392.0	55000	**F904_392.0 S3 ME3LB4**	**F904_392.0 S3 MX3LB4**	498	**F904_392.0 P100 BE100LB4**	**F904_392.0 P100 BX100LB4**	499
3.8	6897	1.2	383.2	45000	**F804_383.2 S3 ME3LB4**	**F804_383.2 S3 MX3LB4**	495	**F804_383.2 P100 BE100LB4**	**F804_383.2 P100 BX100LB4**	496
4.0	6513	2.1	361.8	55000	**F904_361.8 S3 ME3LB4**	**F904_361.8 S3 MX3LB4**	498	**F904_361.8 P100 BE100LB4**	**F904_361.8 P100 BX100LB4**	499
4.1	6366	1.3	353.7	45000	**F804_353.7 S3 ME3LB4**	**F804_353.7 S3 MX3LB4**	495	**F804_353.7 P100 BE100LB4**	**F804_353.7 P100 BX100LB4**	496
4.7	5478	0.9	304.3	35000	**F704_304.3 S3 ME3LB4**	**F704_304.3 S3 MX3LB4**	492	**F704_304.3 P100 BE100LB4**	**F704_304.3 P100 BX100LB4**	493
4.9	5341	1.5	296.7	45000	**F804_296.7 S3 ME3LB4**	**F804_296.7 S3 MX3LB4**	495	**F804_296.7 P100 BE100LB4**	**F804_296.7 P100 BX100LB4**	496
4.9	5240	2.7	291.1	55000	**F904_291.1 S3 ME3LB4**	**F904_291.1 S3 MX3LB4**	498	**F904_291.1 P100 BE100LB4**	**F904_291.1 P100 BX100LB4**	499
5.1	5057	1.0	280.9	35000	**F704_280.9 S3 ME3LB4**	**F704_280.9 S3 MX3LB4**	492	**F704_280.9 P100 BE100LB4**	**F704_280.9 P100 BX100LB4**	493
5.3	4930	1.6	273.9	45000	**F804_273.9 S3 ME3LB4**	**F804_273.9 S3 MX3LB4**	495	**F804_273.9 P100 BE100LB4**	**F804_273.9 P100 BX100LB4**	496
5.4	4837	2.9	268.7	55000	**F904_268.7 S3 ME3LB4**	**F904_268.7 S3 MX3LB4**	498	**F904_268.7 P100 BE100LB4**	**F904_268.7 P100 BX100LB4**	499
6.1	4222	1.2	234.6	35000	**F704_234.6 S3 ME3LB4**	**F704_234.6 S3 MX3LB4**	492	**F704_234.6 P100 BE100LB4**	**F704_234.6 P100 BX100LB4**	493
6.2	4165	3.4	231.4	55000	**F904_231.4 S3 ME3LB4**	**F904_231.4 S3 MX3LB4**	498	**F904_231.4 P100 BE100LB4**	**F904_231.4 P100 BX100LB4**	499
6.6	3933	2.0	218.5	45000	**F804_218.5 S3 ME3LB4**	**F804_218.5 S3 MX3LB4**	495	**F804_218.5 P100 BE100LB4**	**F804_218.5 P100 BX100LB4**	496
6.7	3897	1.3	216.5	35000	**F704_216.5 S3 ME3LB4**	**F704_216.5 S3 MX3LB4**	492	**F704_216.5 P100 BE100LB4**	**F704_216.5 P100 BX100LB4**	493
6.7	3845	3.6	213.6	55000	**F904_213.6 S3 ME3LB4**	**F904_213.6 S3 MX3LB4**	498	**F904_213.6 P100 BE100LB4**	**F904_213.6 P100 BX100LB4**	499
7.2	3720	2.2	200.0	45000	**F803_200.0 S3 ME3LB4**	**F803_200.0 S3 MX3LB4**	495	**F803_200.0 P100 BE100LB4**	**F803_200.0 P100 BX100LB4**	496
7.3	3646	1.4	196.0	35000	**F703_196.0 S3 ME3LB4**	**F703_196.0 S3 MX3LB4**	492	**F703_196.0 P100 BE100LB4**	**F703_196.0 P100 BX100LB4**	493
7.8	3434	2.3	184.6	45000	**F803_184.6 S3 ME3LB4**	**F803_184.6 S3 MX3LB4**	495	**F803_184.6 P100 BE100LB4**	**F803_184.6 P100 BX100LB4**	496
8.0	3366	1.5	180.9	35000	**F703_180.9 S3 ME3LB4**	**F703_180.9 S3 MX3LB4**	492	**F703_180.9 P100 BE100LB4**	**F703_180.9 P100 BX100LB4**	493
8.6	3100	1.6	166.7	35000	**F703_166.7 S3 ME3LB4**	**F703_166.7 S3 MX3LB4**	492	**F703_166.7 P100 BE100LB4**	**F703_166.7 P100 BX100LB4**	493
8.8	3030	1.0	162.9	20000	**F603_162.9 S3 ME3LB4**	**F603_162.9 S3 MX3LB4**	488	**F603_162.9 P100 BE100LB4**	**F603_162.9 P100 BX100LB4**	489
9.0	2980	2.7	160.2	45000	**F803_160.2 S3 ME3LB4**	**F803_160.2 S3 MX3LB4**	495	**F803_160.2 P100 BE100LB4**	**F803_160.2 P100 BX100LB4**	496
9.4	2862	1.7	153.8	35000	**F703_153.8 S3 ME3LB4**	**F703_153.8 S3 MX3LB4**	492	**F703_153.8 P100 BE100LB4**	**F703_153.8 P100 BX100LB4**	493
9.6	2797	1.0	150.4	20000	**F603_150.4 S3 ME3LB4**	**F603_150.4 S3 MX3LB4**	488	**F603_150.4 P100 BE100LB4**	**F603_150.4 P100 BX100LB4**	489
9.7	2751	2.9	147.9	45000	**F803_147.9 S3 ME3LB4**	**F803_147.9 S3 MX3LB4**	495	**F803_147.9 P100 BE100LB4**	**F803_147.9 P100 BX100LB4**	496
10.8	2473	2.0	133.0	35000	**F703_133.0 S3 ME3LB4**	**F703_133.0 S3 MX3LB4**	492	**F703_133.0 P100 BE100LB4**	**F703_133.0 P100 BX100LB4**	493
10.9	2468	3.2	132.7	45000	**F803_132.7 S3 ME3LB4**	**F803_132.7 S3 MX3LB4**	495	**F803_132.7 P100 BE100LB4**	**F803_132.7 P100 BX100LB4**	496
11.0	2427	1.2	130.5	20000	**F603_130.5 S3 ME3LB4**	**F603_130.5 S3 MX3LB4**	488	**F603_130.5 P100 BE100LB4**	**F603_130.5 P100 BX100LB4**	489
11.7	2283	2.2	122.7	35000	**F703_122.7 S3 ME3LB4**	**F703_122.7 S3 MX3LB4**	492	**F703_122.7 P100 BE100LB4**	**F703_122.7 P100 BX100LB4**	493
12.0	2240	1.3	120.5	20000	**F603_120.5 S3 ME3LB4**	**F603_120.5 S3 MX3LB4**	488	**F603_120.5 P100 BE100LB4**	**F603_120.5 P100 BX100LB4**	489
13.1	2039	2.5	109.6	35000	**F703_109.6 S3 ME3LB4**	**F703_109.6 S3 MX3LB4**	492	**F703_109.6 P100 BE100LB4**	**F703_109.6 P100 BX100LB4**	493
13.5	1979	1.5	106.4	20000	**F603_106.4 S3 ME3LB4**	**F603_106.4 S3 MX3LB4**	488	**F603_106.4 P100 BE100LB4**	**F603_106.4 P100 BX100LB4**	489
13.7	1955	0.9	105.1	12000	**F513_105.1 S3 ME3LB4**	**F513_105.1 S3 MX3LB4**	484	**F513_105.1 P100 BE100LB4**	**F513_105.1 P100 BX100LB4**	485
14.2	1882	2.7	101.2	35000	**F703_101.2 S3 ME3LB4**	**F703_101.2 S3 MX3LB4**	492	**F703_101.2 P100 BE100LB4**	**F703_101.2 P100 BX100LB4**	493
14.7	1826	1.6	98.2	20000	**F603_98.2 S3 ME3LB4**	**F603_98.2 S3 MX3LB4**	488	**F603_98.2 P100 BE100LB4**	**F603_98.2 P100 BX100LB4**	489
15.6	1721	2.9	92.5	35000	**F703_92.5 S3 ME3LB4**	**F703_92.5 S3 MX3LB4**	492	**F703_92.5 P100 BE100LB4**	**F703_92.5 P100 BX100LB4**	493
16.9	1588	3.1	85.4	35000	**F703_85.4 S3 ME3LB4**	**F703_85.4 S3 MX3LB4**	492	**F703_85.4 P100 BE100LB4**	**F703_85.4 P100 BX100LB4**	493
17.1	1563	1.9	84.0	20000	**F603_84.0 S3 ME3LB4**	**F603_84.0 S3 MX3LB4**	488	**F603_84.0 P100 BE100LB4**	**F603_84.0 P100 BX100LB4**	489
17.3	1548	1.2	83.2	12000	**F513_83.2 S3 ME3LB4**	**F513_83.2 S3 MX3LB4**	484	**F513_83.2 P100 BE100LB4**	**F513_83.2 P100 BX100LB4**	485
18.6	1443	2.0	77.6	20000	**F603_77.6 S3 ME3LB4**	**F603_77.6 S3 MX3LB4**	488	**F603_77.6 P100 BE100LB4**	**F603_77.6 P100 BX100LB4**	489
19.6	1368	3.7	73.6	35000	**F703_73.6 S3 ME3LB4**	**F703_73.6 S3 MX3LB4**	492	**F703_73.6 P100 BE100LB4**	**F703_73.6 P100 BX100LB4**	493
21.1	1270	2.3	68.3	20000	**F603_68.3 S3 ME3LB4**	**F603_68.3 S3 MX3LB4**	488	**F603_68.3 P100 BE100LB4**	**F603_68.3 P100 BX100LB4**	489
21.9	1225	1.5	65.8	12000	**F513_65.8 S3 ME3LB4**	**F513_65.8 S3 MX3LB4**	484	**F513_65.8 P100 BE100LB4**	**F513_65.8 P100 BX100LB4**	485
22.8	1172	2.5	63.0	20000	**F603_63.0 S3 ME3LB4**	**F603_63.0 S3 MX3LB4**	488	**F603_63.0 P100 BE100LB4**	**F603_63.0 P100 BX100LB4**	489
23.9	1121	1.0	60.2	8500	**F413_60.2 S3 ME3LB4**	**F413_60.2 S3 MX3LB4**	480	**F413_60.2 P100 BE100LB4**	**F413_60.2 P100 BX100LB4**	481
27.8	964	3.0	51.8	20000	**F603_51.8 S3 ME3LB4**	**F603_51.8 S3 MX3LB4**	488	**F603_51.8 P100 BE100LB4**	**F603_51.8 P100 BX100LB4**	489
28.0	958	1.1	51.5	8500	**F413_51.5 S3 ME3LB4**	**F413_51.5 S3 MX3LB4**	480	**F413_51.5 P100 BE100LB4**	**F413_51.5 P100 BX100LB4**	481
29.4	910	2.0	48.9	12000	**F513_48.9 S3 ME3LB4**	**F513_48.9 S3 MX3LB4**	484	**F513_48.9 P100 BE100LB4**	**F513_48.9 P100 BX100LB4**	485
30	911	1.2	47.9	8500	**F412_47.9 S3 ME3LB4**	**F412_47.9 S3 MX3LB4**	480	**F412_47.9 P100 BE100LB4**	**F412_47.9 P100 BX100LB4**	481
30	890	3.3	47.8	20000	**F603_47.8 S3 ME3LB4**	**F603_47.8 S3 MX3LB4**	488	**F603_47.8 P100 BE100LB4**	**F603_47.8 P100 BX100LB4**	489
38	725	1.5	38.2	8500	**F412_38.2 S3 ME3LB4**	**F412_38.2 S3 MX3LB4**	480	**F412_38.2 P100 BE100LB4**	**F412_38.2 P100 BX100LB4**	481
39	706	2.4	37.1	11800	**F512_37.1 S3 ME3LB4**	**F512_37.1 S3 MX3LB4**	484	**F512_37.1 P100 BE100LB4**	**F512_37.1 P100 BX100LB4**	485
42	653	0.9	34.4	5810	**F312_34.4 S3 ME3LB4**	**F312_34.4 S3 MX3LB4**	476	**F312_34.4 P100 BE100LB4**	**F312_34.4 P100 BX100LB4**	477
48	572	1.0	30.1	5770	**F312_30.1 S3 ME3LB4**	**F312_30.1 S3 MX3LB4**	476	**F312_30.1 P100 BE100LB4**	**F312_30.1 P100 BX100LB4**	477
48	572	1.9	30.1	8290	**F412_30.1 S3 ME3LB4**	**F412_30.1 S3 MX3LB4**	480	**F412_30.1 P100 BE100LB4**	**F412_30.1 P100 BX100LB4**	481
48	571	3.0	30.0	11200	**F512_30.0 S3 ME3LB4**	**F512_30.0 S3 MX3LB4**	484	**F512_30.0 P100 BE100LB4**	**F512_30.0 P100 BX100LB4**	485
53	518	1.2	27.3	5720	**F312_27.3 S3 ME3LB4**	**F312_27.3 S3 MX3LB4**	476	**F312_27.3 P100 BE100LB4**	**F312_27.3 P100 BX100LB4**	477

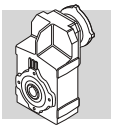


3 kW

n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE2	IE3		IE2	IE3	
60	458	2.4	24.1	7960	**F412_24.1 S3 ME3LB4**	**F412_24.1 S3 MX3LB4**	480	**F412_24.1 P100 BE100LB4**	**F412_24.1 P100 BX100LB4**	481
61	451	0.9	23.8	3100	**F252_23.8 S3 ME3LB4**	**F252_23.8 S3 MX3LB4**	472	**F252_23.8 P100 BE100LB4**	**F252_23.8 P100 BX100LB4**	473
62	444	1.4	23.4	5620	**F312_23.4 S3 ME3LB4**	**F312_23.4 S3 MX3LB4**	476	**F312_23.4 P100 BE100LB4**	**F312_23.4 P100 BX100LB4**	477
66	415	1.0	21.8	2800	**F252_21.8 S3 ME3LB4**	**F252_21.8 S3 MX3LB4**	472	**F252_21.8 P100 BE100LB4**	**F252_21.8 P100 BX100LB4**	473
68	401	1.5	21.1	5540	**F312_21.1 S3 ME3LB4**	**F312_21.1 S3 MX3LB4**	476	**F312_21.1 P100 BE100LB4**	**F312_21.1 P100 BX100LB4**	477
76	359	3.0	18.9	7560	**F412_18.9 S3 ME3LB4**	**F412_18.9 S3 MX3LB4**	480	**F412_18.9 P100 BE100LB4**	**F412_18.9 P100 BX100LB4**	481
77	354	1.1	18.6	2830	**F252_18.6 S3 ME3LB4**	**F252_18.6 S3 MX3LB4**	472	**F252_18.6 P100 BE100LB4**	**F252_18.6 P100 BX100LB4**	473
78	351	1.7	18.5	5430	**F312_18.5 S3 ME3LB4**	**F312_18.5 S3 MX3LB4**	476	**F312_18.5 P100 BE100LB4**	**F312_18.5 P100 BX100LB4**	477
84	325	3.2	17.1	7400	**F412_17.1 S3 ME3LB4**	**F412_17.1 S3 MX3LB4**	480	**F412_17.1 P100 BE100LB4**	**F412_17.1 P100 BX100LB4**	481
86	319	1.9	16.8	5340	**F312_16.8 S3 ME3LB4**	**F312_16.8 S3 MX3LB4**	476	**F312_16.8 P100 BE100LB4**	**F312_16.8 P100 BX100LB4**	477
87	316	1.3	16.6	2830	**F252_16.6 S3 ME3LB4**	**F252_16.6 S3 MX3LB4**	472	**F252_16.6 P100 BE100LB4**	**F252_16.6 P100 BX100LB4**	473
100	275	1.5	14.5	2810	**F252_14.5 S3 ME3LB4**	**F252_14.5 S3 MX3LB4**	472	**F252_14.5 P100 BE100LB4**	**F252_14.5 P100 BX100LB4**	473
103	265	2.3	13.9	5150	**F312_13.9 S3 ME3LB4**	**F312_13.9 S3 MX3LB4**	476	**F312_13.9 P100 BE100LB4**	**F312_13.9 P100 BX100LB4**	477
111	247	1.6	13.0	2790	**F252_13.0 S3 ME3LB4**	**F252_13.0 S3 MX3LB4**	472	**F252_13.0 P100 BE100LB4**	**F252_13.0 P100 BX100LB4**	473
113	242	2.5	12.7	5060	**F312_12.7 S3 ME3LB4**	**F312_12.7 S3 MX3LB4**	476	**F312_12.7 P100 BE100LB4**	**F312_12.7 P100 BX100LB4**	477
134	204	2.9	10.7	4880	**F312_10.7 S3 ME3LB4**	**F312_10.7 S3 MX3LB4**	476	**F312_10.7 P100 BE100LB4**	**F312_10.7 P100 BX100LB4**	477
136	202	2.0	10.6	2730	**F252_10.6 S3 ME3LB4**	**F252_10.6 S3 MX3LB4**	472	**F252_10.6 P100 BE100LB4**	**F252_10.6 P100 BX100LB4**	473
154	178	1.5	9.4	2710	**F252_9.4 S3 ME3LB4**	**F252_9.4 S3 MX3LB4**	472	**F252_9.4 P100 BE100LB4**	**F252_9.4 P100 BX100LB4**	473
160	171	2.3	9.0	4650	**F312_9.0 S3 ME3LB4**	**F312_9.0 S3 MX3LB4**	476	**F312_9.0 P100 BE100LB4**	**F312_9.0 P100 BX100LB4**	477
165	166	0.9	8.7	1820	**F202_8.7 S3 ME3LB4**	**F202_8.7 S3 MX3LB4**	468	**F202_8.7 P100 BE100LB4**	**F202_8.7 P100 BX100LB4**	469
172	159	1.6	8.4	2660	**F252_8.4 S3 ME3LB4**	**F252_8.4 S3 MX3LB4**	472	**F252_8.4 P100 BE100LB4**	**F252_8.4 P100 BX100LB4**	473
175	156	2.5	8.2	4550	**F312_8.2 S3 ME3LB4**	**F312_8.2 S3 MX3LB4**	476	**F312_8.2 P100 BE100LB4**	**F312_8.2 P100 BX100LB4**	477
184	149	1.0	7.8	1790	**F202_7.8 S3 ME3LB4**	**F202_7.8 S3 MX3LB4**	468	**F202_7.8 P100 BE100LB4**	**F202_7.8 P100 BX100LB4**	469
207	132	3.0	6.9	4360	**F312_6.9 S3 ME3LB4**	**F312_6.9 S3 MX3LB4**	476	**F312_6.9 P100 BE100LB4**	**F312_6.9 P100 BX100LB4**	477
210	131	2.0	6.9	2560	**F252_6.9 S3 ME3LB4**	**F252_6.9 S3 MX3LB4**	472	**F252_6.9 P100 BE100LB4**	**F252_6.9 P100 BX100LB4**	473
222	123	2.9	13.0	2510	**F252_13.0 S3 ME3LB2**		472	**F252_13.0 P100 BE100L2**		473
225	122	1.1	6.4	1730	**F202_6.4 S3 ME3LB4**	**F202_6.4 S3 MX3LB4**	468	**F202_6.4 P100 BE100LB4**	**F202_6.4 P100 BX100LB4**	469
256	106	1.3	11.2	1680	**F202_11.2 S3 ME3LB2**		468	**F202_11.2 P100 BE100L2**		469
271	100	3.2	10.6	2410	**F252_10.6 S3 ME3LB2**		472	**F252_10.6 P100 BE100L2**		473
308	88	3.0	9.4	2350	**F252_9.4 S3 ME3LB2**		472	**F252_9.4 P100 BE100L2**		473
330	83	1.5	8.7	1600	**F202_8.7 S3 ME3LB2**		468	**F202_8.7 P100 BE100L2**		469
343	79	3.3	8.4	2290	**F252_8.4 S3 ME3LB2**		472	**F252_8.4 P100 BE100L2**		473
368	74	1.6	7.8	1560	**F202_7.8 S3 ME3LB2**		468	**F202_7.8 P100 BE100L2**		469
449	61	1.7	6.4	1480	**F202_6.4 S3 ME3LB2**		468	**F202_6.4 P100 BE100L2**		469

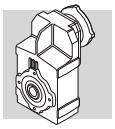
4 kW

n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE2	IE3		IE2	IE3	
2.3	15202	0.9	625.6	55000	**F904_625.6 S4 ME4SA4**	**F904_625.6 S4 MX4SA4**	498	**F904_625.6 P112 BE112M4**	**F904_625.6 P112 BX112M4**	499
2.5	14033	1.0	577.5	55000	**F904_577.5 S4 ME4SA4**	**F904_577.5 S4 MX4SA4**	498	**F904_577.5 P112 BE112M4**	**F904_577.5 P112 BX112M4**	499
2.9	12042	1.2	495.6	55000	**F904_495.6 S4 ME4SA4**	**F904_495.6 S4 MX4SA4**	498	**F904_495.6 P112 BE112M4**	**F904_495.6 P112 BX112M4**	499
3.1	11116	1.3	457.5	55000	**F904_457.5 S4 ME4SA4**	**F904_457.5 S4 MX4SA4**	498	**F904_457.5 P112 BE112M4**	**F904_457.5 P112 BX112M4**	499
3.7	9526	1.5	392.0	55000	**F904_392.0 S4 ME4SA4**	**F904_392.0 S4 MX4SA4**	498	**F904_392.0 P112 BE112M4**	**F904_392.0 P112 BX112M4**	499
4.0	8793	1.6	361.8	55000	**F904_361.8 S4 ME4SA4**	**F904_361.8 S4 MX4SA4**	498	**F904_361.8 P112 BE112M4**	**F904_361.8 P112 BX112M4**	499
4.1	8594	0.9	353.7	45000	**F804_353.7 S4 ME4SA4**	**F804_353.7 S4 MX4SA4**	495	**F804_353.7 P112 BE112M4**	**F804_353.7 P112 BX112M4**	496
4.9	7210	1.1	296.7	45000	**F804_296.7 S4 ME4SA4**	**F804_296.7 S4 MX4SA4**	495	**F804_296.7 P112 BE112M4**	**F804_296.7 P112 BX112M4**	496
4.9	7074	2.0	291.1	55000	**F904_291.1 S4 ME4SA4**	**F904_291.1 S4 MX4SA4**	498	**F904_291.1 P112 BE112M4**	**F904_291.1 P112 BX112M4**	499
5.3	6656	1.2	273.9	45000	**F804_273.9 S4 ME4SA4**	**F804_273.9 S4 MX4SA4**	495	**F804_273.9 P112 BE112M4**	**F804_273.9 P112 BX112M4**	496
5.4	6530	2.1	268.7	55000	**F904_268.7 S4 ME4SA4**	**F904_268.7 S4 MX4SA4**	498	**F904_268.7 P112 BE112M4**	**F904_268.7 P112 BX112M4**	499
6.1	5700	0.9	234.6	35000	**F704_234.6 S4 ME4SA4**	**F704_234.6 S4 MX4SA4**	492	**F704_234.6 P112 BE112M4**	**F704_234.6 P112 BX112M4**	493
6.2	5623	2.5	231.4	55000	**F904_231.4 S4 ME4SA4**	**F904_231.4 S4 MX4SA4**	498	**F904_231.4 P112 BE112M4**	**F904_231.4 P112 BX112M4**	499
6.6	5309	1.5	218.5	45000	**F804_218.5 S4 ME4SA4**	**F804_218.5 S4 MX4SA4**	495	**F804_218.5 P112 BE112M4**	**F804_218.5 P112 BX112M4**	496
6.7	5262	1.0	216.5	35000	**F704_216.5 S4 ME4SA4**	**F704_216.5 S4 MX4SA4**	492	**F704_216.5 P112 BE112M4**	**F704_216.5 P112 BX112M4**	493
6.7	5190	2.7	213.6	55000	**F904_213.6 S4 ME4SA4**	**F904_213.6 S4 MX4SA4**	498	**F904_213.6 P112 BE112M4**	**F904_213.6 P112 BX112M4**	499
7.2	5022	1.6	200.0	45000	**F803_200.0 S4 ME4SA4**	**F803_200.0 S4 MX4SA4**	495	**F803_200.0 P112 BE112M4**	**F803_200.0 P112 BX112M4**	496
7.3	4922	1.0	196.0	35000	**F703_196.0 S4 ME4SA4**	**F703_196.0 S4 MX4SA4**	492	**F703_196.0 P112 BE112M4**	**F703_196.0 P112 BX112M4**	493
7.4	4875	2.9	194.2	55000	**F903_194.2 S4 ME4SA4**	**F903_194.2 S4 MX4SA4**	498	**F903_194.2 P112 BE112M4**	**F903_194.2 P112 BX112M4**	499
7.8	4636	1.7	184.6	45000	**F803_184.6 S4 ME4SA4**	**F803_184.6 S4 MX4SA4**	495	**F803_184.6 P112 BE112M4**	**F803_184.6 P112 BX112M4**	496
8.0	4544	1.1	180.9	35000	**F703_180.9 S4 ME4SA4**	**F703_180.9 S4 MX4SA4**	492	**F703_180.9 P112 BE112M4**	**F703_180.9 P112 BX112M4**	493
8.0	4500	3.1	179.2	55000	**F903_179.2 S4 ME4SA4**	**F903_179.2 S4 MX4SA4**	498	**F903_179.2 P112 BE112M4**	**F903_179.2 P112 BX112M4**	499
8.6	4185	1.2	166.7	35000	**F703_166.7 S4 ME4SA4**	**F703_166.7 S4 MX4SA4**	492	**F703_166.7 P112 BE112M4**	**F703_166.7 P112 BX112M4**	493



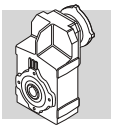
4 kW

n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE2	IE3		IE2	IE3	
8.8	4089	3.4	162.8	55000	**F903_162.8 S4 ME4SA4**	**F903_162.8 S4 MX4SA4**	498	**F903_162.8 P112 BE112M4**	**F903_162.8 P112 BX112M4**	499
9.0	4023	2.0	160.2	45000	**F803_160.2 S4 ME4SA4**	**F803_160.2 S4 MX4SA4**	495	**F803_160.2 P112 BE112M4**	**F803_160.2 P112 BX112M4**	496
9.4	3863	1.3	153.8	35000	**F703_153.8 S4 ME4SA4**	**F703_153.8 S4 MX4SA4**	492	**F703_153.8 P112 BE112M4**	**F703_153.8 P112 BX112M4**	493
9.7	3714	2.2	147.9	45000	**F803_147.9 S4 ME4SA4**	**F803_147.9 S4 MX4SA4**	495	**F803_147.9 P112 BE112M4**	**F803_147.9 P112 BX112M4**	496
10.8	3338	1.5	133.0	35000	**F703_133.0 S4 ME4SA4**	**F703_133.0 S4 MX4SA4**	492	**F703_133.0 P112 BE112M4**	**F703_133.0 P112 BX112M4**	493
10.9	3332	2.4	132.7	45000	**F803_132.7 S4 ME4SA4**	**F803_132.7 S4 MX4SA4**	495	**F803_132.7 P112 BE112M4**	**F803_132.7 P112 BX112M4**	496
11.0	3277	0.9	130.5	20000	**F603_130.5 S4 ME4SA4**	**F603_130.5 S4 MX4SA4**	488	**F603_130.5 P112 BE112M4**	**F603_130.5 P112 BX112M4**	489
11.7	3082	1.6	122.7	35000	**F703_122.7 S4 ME4SA4**	**F703_122.7 S4 MX4SA4**	492	**F703_122.7 P112 BE112M4**	**F703_122.7 P112 BX112M4**	493
11.8	3076	2.6	122.5	45000	**F803_122.5 S4 ME4SA4**	**F803_122.5 S4 MX4SA4**	495	**F803_122.5 P112 BE112M4**	**F803_122.5 P112 BX112M4**	496
12.0	3025	1.0	120.5	20000	**F603_120.5 S4 ME4SA4**	**F603_120.5 S4 MX4SA4**	488	**F603_120.5 P112 BE112M4**	**F603_120.5 P112 BX112M4**	489
12.7	2856	2.8	113.8	45000	**F803_113.8 S4 ME4SA4**	**F803_113.8 S4 MX4SA4**	495	**F803_113.8 P112 BE112M4**	**F803_113.8 P112 BX112M4**	496
13.1	2752	1.8	109.6	35000	**F703_109.6 S4 ME4SA4**	**F703_109.6 S4 MX4SA4**	492	**F703_109.6 P112 BE112M4**	**F703_109.6 P112 BX112M4**	493
13.5	2671	1.1	106.4	20000	**F603_106.4 S4 ME4SA4**	**F603_106.4 S4 MX4SA4**	488	**F603_106.4 P112 BE112M4**	**F603_106.4 P112 BX112M4**	489
13.7	2637	3.0	105.0	45000	**F803_105.0 S4 ME4SA4**	**F803_105.0 S4 MX4SA4**	495	**F803_105.0 P112 BE112M4**	**F803_105.0 P112 BX112M4**	496
14.2	2541	2.0	101.2	35000	**F703_101.2 S4 ME4SA4**	**F703_101.2 S4 MX4SA4**	492	**F703_101.2 P112 BE112M4**	**F703_101.2 P112 BX112M4**	493
14.7	2466	1.2	98.2	20000	**F603_98.2 S4 ME4SA4**	**F603_98.2 S4 MX4SA4**	488	**F603_98.2 P112 BE112M4**	**F603_98.2 P112 BX112M4**	489
15.6	2323	2.2	92.5	35000	**F703_92.5 S4 ME4SA4**	**F703_92.5 S4 MX4SA4**	492	**F703_92.5 P112 BE112M4**	**F703_92.5 P112 BX112M4**	493
16.9	2144	2.3	85.4	35000	**F703_85.4 S4 ME4SA4**	**F703_85.4 S4 MX4SA4**	492	**F703_85.4 P112 BE112M4**	**F703_85.4 P112 BX112M4**	493
17.1	2110	1.4	84.0	20000	**F603_84.0 S4 ME4SA4**	**F603_84.0 S4 MX4SA4**	488	**F603_84.0 P112 BE112M4**	**F603_84.0 P112 BX112M4**	489
18.6	1947	1.5	77.6	20000	**F603_77.6 S4 ME4SA4**	**F603_77.6 S4 MX4SA4**	488	**F603_77.6 P112 BE112M4**	**F603_77.6 P112 BX112M4**	489
19.6	1847	2.7	73.6	35000	**F703_73.6 S4 ME4SA4**	**F703_73.6 S4 MX4SA4**	492	**F703_73.6 P112 BE112M4**	**F703_73.6 P112 BX112M4**	493
21.1	1715	1.7	68.3	20000	**F603_68.3 S4 ME4SA4**	**F603_68.3 S4 MX4SA4**	488	**F603_68.3 P112 BE112M4**	**F603_68.3 P112 BX112M4**	489
21.2	1705	2.9	67.9	35000	**F703_67.9 S4 ME4SA4**	**F703_67.9 S4 MX4SA4**	492	**F703_67.9 P112 BE112M4**	**F703_67.9 P112 BX112M4**	493
21.9	1653	1.1	65.8	12000	**F513_65.8 S4 ME4SA4**	**F513_65.8 S4 MX4SA4**	484	**F513_65.8 P112 BE112M4**	**F513_65.8 P112 BX112M4**	485
22.8	1583	1.8	63.0	20000	**F603_63.0 S4 ME4SA4**	**F603_63.0 S4 MX4SA4**	488	**F603_63.0 P112 BE112M4**	**F603_63.0 P112 BX112M4**	489
23.0	1569	3.2	62.5	35000	**F703_62.5 S4 ME4SA4**	**F703_62.5 S4 MX4SA4**	492	**F703_62.5 P112 BE112M4**	**F703_62.5 P112 BX112M4**	493
25.0	1449	3.5	57.7	35000	**F703_57.7 S4 ME4SA4**	**F703_57.7 S4 MX4SA4**	492	**F703_57.7 P112 BE112M4**	**F703_57.7 P112 BX112M4**	493
27.8	1301	2.2	51.8	20000	**F603_51.8 S4 ME4SA4**	**F603_51.8 S4 MX4SA4**	488	**F603_51.8 P112 BE112M4**	**F603_51.8 P112 BX112M4**	489
29.4	1228	1.5	48.9	11600	**F513_48.9 S4 ME4SA4**	**F513_48.9 S4 MX4SA4**	484	**F513_48.9 P112 BE112M4**	**F513_48.9 P112 BX112M4**	485
30	1201	2.4	47.8	20000	**F603_47.8 S4 ME4SA4**	**F603_47.8 S4 MX4SA4**	488	**F603_47.8 P112 BE112M4**	**F603_47.8 P112 BX112M4**	489
34	1057	2.7	42.1	20000	**F603_42.1 S4 ME4SA4**	**F603_42.1 S4 MX4SA4**	488	**F603_42.1 P112 BE112M4**	**F603_42.1 P112 BX112M4**	489
37	975	3.0	38.8	20000	**F603_38.8 S4 ME4SA4**	**F603_38.8 S4 MX4SA4**	488	**F603_38.8 P112 BE112M4**	**F603_38.8 P112 BX112M4**	489
38	979	1.1	38.2	7720	**F412_38.2 S4 ME4SA4**	**F412_38.2 S4 MX4SA4**	480	**F412_38.2 P112 BE112M4**	**F412_38.2 P112 BX112M4**	481
39	953	1.8	37.1	11200	**F512_37.1 S4 ME4SA4**	**F512_37.1 S4 MX4SA4**	484	**F512_37.1 P112 BE112M4**	**F512_37.1 P112 BX112M4**	485
45	806	3.6	32.1	20000	**F603_32.1 S4 ME4SA4**	**F603_32.1 S4 MX4SA4**	488			
48	773	1.4	30.1	7610	**F412_30.1 S4 ME4SA4**	**F412_30.1 S4 MX4SA4**	480	**F412_30.1 P112 BE112M4**	**F412_30.1 P112 BX112M4**	481
48	770	2.2	30.0	10700	**F512_30.0 S4 ME4SA4**	**F512_30.0 S4 MX4SA4**	484	**F512_30.0 P112 BE112M4**	**F512_30.0 P112 BX112M4**	485
57	638	3.0	25.4	20000	**F603_25.4 S4 ME4SA4**	**F603_25.4 S4 MX4SA4**	488	**F603_25.4 P112 BE112M4**	**F603_25.4 P112 BX112M4**	489
60	619	1.8	24.1	7420	**F412_24.1 S4 ME4SA4**	**F412_24.1 S4 MX4SA4**	480	**F412_24.1 P112 BE112M4**	**F412_24.1 P112 BX112M4**	481
61	610	2.7	23.8	10200	**F512_23.8 S4 ME4SA4**	**F512_23.8 S4 MX4SA4**	484	**F512_23.8 P112 BE112M4**	**F512_23.8 P112 BX112M4**	485
61	589	3.2	23.5	20000	**F603_23.5 S4 ME4SA4**	**F603_23.5 S4 MX4SA4**	488	**F603_23.5 P112 BE112M4**	**F603_23.5 P112 BX112M4**	489
62	600	1.0	23.4	5040	**F312_23.4 S4 ME4SA4**	**F312_23.4 S4 MX4SA4**	476	**F312_23.4 P112 BE112M4**	**F312_23.4 P112 BX112M4**	477
68	542	1.1	21.1	5020	**F312_21.1 S4 ME4SA4**	**F312_21.1 S4 MX4SA4**	476	**F312_21.1 P112 BE112M4**	**F312_21.1 P112 BX112M4**	477
76	485	2.2	18.9	7150	**F412_18.9 S4 ME4SA4**	**F412_18.9 S4 MX4SA4**	480	**F412_18.9 P112 BE112M4**	**F412_18.9 P112 BX112M4**	481
77	483	3.2	18.8	9640	**F512_18.8 S4 ME4SA4**	**F512_18.8 S4 MX4SA4**	484	**F512_18.8 P112 BE112M4**	**F512_18.8 P112 BX112M4**	485
78	474	1.3	18.5	4980	**F312_18.5 S4 ME4SA4**	**F312_18.5 S4 MX4SA4**	476	**F312_18.5 P112 BE112M4**	**F312_18.5 P112 BX112M4**	477
84	439	2.4	17.1	7030	**F412_17.1 S4 ME4SA4**	**F412_17.1 S4 MX4SA4**	480	**F412_17.1 P112 BE112M4**	**F412_17.1 P112 BX112M4**	481
86	431	1.4	16.8	4930	**F312_16.8 S4 ME4SA4**	**F312_16.8 S4 MX4SA4**	476	**F312_16.8 P112 BE112M4**	**F312_16.8 P112 BX112M4**	477
98	375	2.7	14.6	6820	**F412_14.6 S4 ME4SA4**	**F412_14.6 S4 MX4SA4**	480	**F412_14.6 P112 BE112M4**	**F412_14.6 P112 BX112M4**	481
103	358	1.7	13.9	4820	**F312_13.9 S4 ME4SA4**	**F312_13.9 S4 MX4SA4**	476	**F312_13.9 P112 BE112M4**	**F312_13.9 P112 BX112M4**	477
113	326	1.8	12.7	4750	**F312_12.7 S4 ME4SA4**	**F312_12.7 S4 MX4SA4**	476	**F312_12.7 P112 BE112M4**	**F312_12.7 P112 BX112M4**	477
134	276	3.3	10.8	6380	**F412_10.8 S4 ME4SA4**	**F412_10.8 S4 MX4SA4**	480	**F412_10.8 P112 BE112M4**	**F412_10.8 P112 BX112M4**	481
134	276	2.2	10.7	4620	**F312_10.7 S4 ME4SA4**	**F312_10.7 S4 MX4SA4**	476	**F312_10.7 P112 BE112M4**	**F312_10.7 P112 BX112M4**	477
158	234	3.0	9.1	6160	**F412_9.1 S4 ME4SA4**	**F412_9.1 S4 MX4SA4**	480	**F412_9.1 P112 BE112M4**	**F412_9.1 P112 BX112M4**	481
160	231	1.7	9.0	4420	**F312_9.0 S4 ME4SA4**	**F312_9.0 S4 MX4SA4**	476	**F312_9.0 P112 BE112M4**	**F312_9.0 P112 BX112M4**	477
175	211	1.8	8.2	4350	**F312_8.2 S4 ME4SA4**	**F312_8.2 S4 MX4SA4**	476	**F312_8.2 P112 BE112M4**	**F312_8.2 P112 BX112M4**	477
207	178	2.2	6.9	4200	**F312_6.9 S4 ME4SA4**	**F312_6.9 S4 MX4SA4**	476	**F312_6.9 P112 BE112M4**	**F312_6.9 P112 BX112M4**	477
228	159	3.5	12.7	4120	**F312_12.7 S4 ME4SA2**		476	**F312_12.7 P112 BE112M2**		477
322	113	3.4	9.0	3760	**F312_9.0 S4 ME4SA2**		476	**F312_9.0 P112 BE112M2**		477



5.5 kW

n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE2	IE3		IE2	IE3	
2.9	16057	0.9	495.6	55000	**F904_495.6 S4 ME4SB4**	**F904_495.6 S4 MX4SB4**	498	**F904_495.6 P132 BE132S4**	**F904_495.6 P132 BX132SB4**	499
3.2	14821	0.9	457.5	55000	**F904_457.5 S4 ME4SB4**	**F904_457.5 S4 MX4SB4**	498	**F904_457.5 P132 BE132S4**	**F904_457.5 P132 BX132SB4**	499
3.7	12701	1.1	392.0	55000	**F904_392.0 S4 ME4SB4**	**F904_392.0 S4 MX4SB4**	498	**F904_392.0 P132 BE132S4**	**F904_392.0 P132 BX132SB4**	499
4.0	11724	1.2	361.8	55000	**F904_361.8 S4 ME4SB4**	**F904_361.8 S4 MX4SB4**	498	**F904_361.8 P132 BE132S4**	**F904_361.8 P132 BX132SB4**	499
5.0	9432	1.5	291.1	55000	**F904_291.1 S4 ME4SB4**	**F904_291.1 S4 MX4SB4**	498	**F904_291.1 P132 BE132S4**	**F904_291.1 P132 BX132SB4**	499
5.3	8874	0.9	273.9	45000	**F804_273.9 S4 ME4SB4**	**F804_273.9 S4 MX4SB4**	495	**F804_273.9 P132 BE132S4**	**F804_273.9 P132 BX132SB4**	496
5.4	8707	1.6	268.7	55000	**F904_268.7 S4 ME4SB4**	**F904_268.7 S4 MX4SB4**	498	**F904_268.7 P132 BE132S4**	**F904_268.7 P132 BX132SB4**	499
6.3	7497	1.9	231.4	55000	**F904_231.4 S4 ME4SB4**	**F904_231.4 S4 MX4SB4**	498	**F904_231.4 P132 BE132S4**	**F904_231.4 P132 BX132SB4**	499
6.7	7079	1.1	218.5	45000	**F804_218.5 S4 ME4SB4**	**F804_218.5 S4 MX4SB4**	495	**F804_218.5 P132 BE132S4**	**F804_218.5 P132 BX132SB4**	496
6.8	6920	2.0	213.6	55000	**F904_213.6 S4 ME4SB4**	**F904_213.6 S4 MX4SB4**	498	**F904_213.6 P132 BE132S4**	**F904_213.6 P132 BX132SB4**	499
7.3	6696	1.2	200.0	45000	**F803_200.0 S4 ME4SB4**	**F803_200.0 S4 MX4SB4**	495	**F803_200.0 P132 BE132S4**	**F803_200.0 P132 BX132SB4**	496
7.5	6500	2.2	194.2	55000	**F903_194.2 S4 ME4SB4**	**F903_194.2 S4 MX4SB4**	498	**F903_194.2 P132 BE132S4**	**F903_194.2 P132 BX132SB4**	499
7.9	6181	1.3	184.6	45000	**F803_184.6 S4 ME4SB4**	**F803_184.6 S4 MX4SB4**	495	**F803_184.6 P132 BE132S4**	**F803_184.6 P132 BX132SB4**	496
8.1	6000	2.3	179.2	55000	**F903_179.2 S4 ME4SB4**	**F903_179.2 S4 MX4SB4**	498	**F903_179.2 P132 BE132S4**	**F903_179.2 P132 BX132SB4**	499
8.8	5580	0.9	166.7	35000	**F703_166.7 S4 ME4SB4**	**F703_166.7 S4 MX4SB4**	492	**F703_166.7 P132 BE132S4**	**F703_166.7 P132 BX132SB4**	493
9.0	5452	2.6	162.8	55000	**F903_162.8 S4 ME4SB4**	**F903_162.8 S4 MX4SB4**	498	**F903_162.8 P132 BE132S4**	**F903_162.8 P132 BX132SB4**	499
9.1	5364	1.5	160.2	45000	**F803_160.2 S4 ME4SB4**	**F803_160.2 S4 MX4SB4**	495	**F803_160.2 P132 BE132S4**	**F803_160.2 P132 BX132SB4**	496
9.5	5151	1.0	153.8	35000	**F703_153.8 S4 ME4SB4**	**F703_153.8 S4 MX4SB4**	492	**F703_153.8 P132 BE132S4**	**F703_153.8 P132 BX132SB4**	493
9.7	5032	2.8	150.3	55000	**F903_150.3 S4 ME4SB4**	**F903_150.3 S4 MX4SB4**	498	**F903_150.3 P132 BE132S4**	**F903_150.3 P132 BX132SB4**	499
9.9	4952	1.6	147.9	45000	**F803_147.9 S4 ME4SB4**	**F803_147.9 S4 MX4SB4**	495	**F803_147.9 P132 BE132S4**	**F803_147.9 P132 BX132SB4**	496
10.6	4598	3.0	137.3	55000	**F903_137.3 S4 ME4SB4**	**F903_137.3 S4 MX4SB4**	498	**F903_137.3 P132 BE132S4**	**F903_137.3 P132 BX132SB4**	499
11.0	4451	1.1	133.0	35000	**F703_133.0 S4 ME4SB4**	**F703_133.0 S4 MX4SB4**	492	**F703_133.0 P132 BE132S4**	**F703_133.0 P132 BX132SB4**	493
11.0	4443	1.8	132.7	45000	**F803_132.7 S4 ME4SB4**	**F803_132.7 S4 MX4SB4**	495	**F803_132.7 P132 BE132S4**	**F803_132.7 P132 BX132SB4**	496
11.5	4244	3.3	126.8	55000	**F903_126.8 S4 ME4SB4**	**F903_126.8 S4 MX4SB4**	498	**F903_126.8 P132 BE132S4**	**F903_126.8 P132 BX132SB4**	499
11.9	4109	1.2	122.7	35000	**F703_122.7 S4 ME4SB4**	**F703_122.7 S4 MX4SB4**	492	**F703_122.7 P132 BE132S4**	**F703_122.7 P132 BX132SB4**	493
11.9	4101	2.0	122.5	45000	**F803_122.5 S4 ME4SB4**	**F803_122.5 S4 MX4SB4**	495	**F803_122.5 P132 BE132S4**	**F803_122.5 P132 BX132SB4**	496
12.8	3808	2.1	113.8	45000	**F803_113.8 S4 ME4SB4**	**F803_113.8 S4 MX4SB4**	495	**F803_113.8 P132 BE132S4**	**F803_113.8 P132 BX132SB4**	496
13.3	3670	1.4	109.6	35000	**F703_109.6 S4 ME4SB4**	**F703_109.6 S4 MX4SB4**	492	**F703_109.6 P132 BE132S4**	**F703_109.6 P132 BX132SB4**	493
13.9	3515	2.3	105.0	45000	**F803_105.0 S4 ME4SB4**	**F803_105.0 S4 MX4SB4**	495	**F803_105.0 P132 BE132S4**	**F803_105.0 P132 BX132SB4**	496
14.4	3388	1.5	101.2	35000	**F703_101.2 S4 ME4SB4**	**F703_101.2 S4 MX4SB4**	492	**F703_101.2 P132 BE132S4**	**F703_101.2 P132 BX132SB4**	493
15.8	3097	1.6	92.5	35000	**F703_92.5 S4 ME4SB4**	**F703_92.5 S4 MX4SB4**	492	**F703_92.5 P132 BE132S4**	**F703_92.5 P132 BX132SB4**	493
15.8	3090	2.6	92.3	45000	**F803_92.3 S4 ME4SB4**	**F803_92.3 S4 MX4SB4**	495	**F803_92.3 P132 BE132S4**	**F803_92.3 P132 BX132SB4**	496
17.1	2859	1.7	85.4	35000	**F703_85.4 S4 ME4SB4**	**F703_85.4 S4 MX4SB4**	492	**F703_85.4 P132 BE132S4**	**F703_85.4 P132 BX132SB4**	493
17.1	2853	2.8	85.2	45000	**F803_85.2 S4 ME4SB4**	**F803_85.2 S4 MX4SB4**	495	**F803_85.2 P132 BE132S4**	**F803_85.2 P132 BX132SB4**	496
17.4	2813	1.0	84.0	20000	**F603_84.0 S4 ME4SB4**	**F603_84.0 S4 MX4SB4**	488	**F603_84.0 P132 BE132S4**	**F603_84.0 P132 BX132SB4**	489
18.8	2597	1.1	77.6	20000	**F603_77.6 S4 ME4SB4**	**F603_77.6 S4 MX4SB4**	488	**F603_77.6 P132 BE132S4**	**F603_77.6 P132 BX132SB4**	489
19.1	2553	3.1	76.3	45000	**F803_76.3 S4 ME4SB4**	**F803_76.3 S4 MX4SB4**	495	**F803_76.3 P132 BE132S4**	**F803_76.3 P132 BX132SB4**	496
19.8	2463	2.0	73.6	35000	**F703_73.6 S4 ME4SB4**	**F703_73.6 S4 MX4SB4**	492	**F703_73.6 P132 BE132S4**	**F703_73.6 P132 BX132SB4**	493
20.7	2356	3.4	70.4	45000	**F803_70.4 S4 ME4SB4**	**F803_70.4 S4 MX4SB4**	495	**F803_70.4 P132 BE132S4**	**F803_70.4 P132 BX132SB4**	496
21.4	2286	1.3	68.3	20000	**F603_68.3 S4 ME4SB4**	**F603_68.3 S4 MX4SB4**	488	**F603_68.3 P132 BE132S4**	**F603_68.3 P132 BX132SB4**	489
21.5	2273	2.2	67.9	35000	**F703_67.9 S4 ME4SB4**	**F703_67.9 S4 MX4SB4**	492	**F703_67.9 P132 BE132S4**	**F703_67.9 P132 BX132SB4**	493
23.2	2110	1.4	63.0	20000	**F603_63.0 S4 ME4SB4**	**F603_63.0 S4 MX4SB4**	488	**F603_63.0 P132 BE132S4**	**F603_63.0 P132 BX132SB4**	489
23.4	2093	2.4	62.5	35000	**F703_62.5 S4 ME4SB4**	**F703_62.5 S4 MX4SB4**	492	**F703_62.5 P132 BE132S4**	**F703_62.5 P132 BX132SB4**	493
25.3	1932	2.6	57.7	35000	**F703_57.7 S4 ME4SB4**	**F703_57.7 S4 MX4SB4**	492	**F703_57.7 P132 BE132S4**	**F703_57.7 P132 BX132SB4**	493
28.2	1735	1.7	51.8	20000	**F603_51.8 S4 ME4SB4**	**F603_51.8 S4 MX4SB4**	488	**F603_51.8 P132 BE132S4**	**F603_51.8 P132 BX132SB4**	489
30	1639	3.1	49.0	35000	**F703_49.0 S4 ME4SB4**	**F703_49.0 S4 MX4SB4**	492	**F703_49.0 P132 BE132S4**	**F703_49.0 P132 BX132SB4**	493
30	1637	1.1	48.9	10300	**F513_48.9 S4 ME4SB4**	**F513_48.9 S4 MX4SB4**	484	**F513_48.9 P132 BE132S4**	**F513_48.9 P132 BX132SB4**	485
31	1602	1.8	47.8	20000	**F603_47.8 S4 ME4SB4**	**F603_47.8 S4 MX4SB4**	488	**F603_47.8 P132 BE132S4**	**F603_47.8 P132 BX132SB4**	489
32	1513	3.3	45.2	34300	**F703_45.2 S4 ME4SB4**	**F703_45.2 S4 MX4SB4**	492	**F703_45.2 P132 BE132S4**	**F703_45.2 P132 BX132SB4**	493
35	1409	2.1	42.1	20000	**F603_42.1 S4 ME4SB4**	**F603_42.1 S4 MX4SB4**	488	**F603_42.1 P132 BE132S4**	**F603_42.1 P132 BX132SB4**	489
38	1301	2.2	38.8	20000	**F603_38.8 S4 ME4SB4**	**F603_38.8 S4 MX4SB4**	488	**F603_38.8 P132 BE132S4**	**F603_38.8 P132 BX132SB4**	489
39	1270	1.3	37.1	10300	**F512_37.1 S4 ME4SB4**	**F512_37.1 S4 MX4SB4**	484	**F512_37.1 P132 BE132S4**	**F512_37.1 P132 BX132SB4**	485
46	1074	2.7	32.1	20000	**F603_32.1 S4 ME4SB4**	**F603_32.1 S4 MX4SB4**	488	**F603_32.1 P132 BE132S4**	**F603_32.1 P132 BX132SB4**	489
48	1030	1.1	30.1	6580	**F412_30.1 S4 ME4SB4**	**F412_30.1 S4 MX4SB4**	480	**F412_30.1 P132 BE132S4**	**F412_30.1 P132 BX132SB4**	481
49	1027	1.7	30.0	9950	**F512_30.0 S4 ME4SB4**	**F512_30.0 S4 MX4SB4**	484	**F512_30.0 P132 BE132S4**	**F512_30.0 P132 BX132SB4**	485
49	992	2.9	29.6	20000	**F603_29.6 S4 ME4SB4**	**F603_29.6 S4 MX4SB4**	488	**F603_29.6 P132 BE132S4**	**F603_29.6 P132 BX132SB4**	489
57	851	2.2	25.4	20000	**F603_25.4 S4 ME4SB4**	**F603_25.4 S4 MX4SB4**	488	**F603_25.4 P132 BE132S4**	**F603_25.4 P132 BX132SB4**	489
61	825	1.3	24.1	6580	**F412_24.1 S4 ME4SB4**	**F412_24.1 S4 MX4SB4**	480	**F412_24.1 P132 BE132S4**	**F412_24.1 P132 BX132SB4**	481
61	814	2.0	23.8	9560	**F512_23.8 S4 ME4SB4**	**F512_23.8 S4 MX4SB4**	484	**F512_23.8 P132 BE132S4**	**F512_23.8 P132 BX132SB4**	485
62	786	2.4	23.5	20000	**F603_23.5 S4 ME4SB4**	**F603_23.5 S4 MX4SB4**	488	**F603_23.5 P132 BE132S4**	**F603_23.5 P132 BX132SB4**	489
71	692	2.7	20.7	20000	**F603_20.7 S4 ME4SB4**	**F603_20.7 S4 MX4SB4**	488	**F603_20.7 P132 BE132S4**	**F603_20.7 P132 BX132SB4**	489
77	638	3.0	19.1	20000	**F603_19.1 S4 ME4SB4**	**F603_19.1 S4 MX4SB4**	488	**F603_19.1 P132 BE132S4**	**F603_19.1 P132 BX132SB4**	489
77	646	1.7	18.9	6480	**F412_18.9 S4 ME4SB4**	**F412_18.9 S4 MX4SB4**	480	**F412_18.9 P132 BE132S4**	**F412_18.9 P132 BX132SB4**	481
78	644	2.4	18.8	9110	**F512_18.8 S4 ME4SB4**	**F512_18.8 S4 MX4SB4**	484	**F512_18.8 P132 BE132S4**	**F512_18.8 P132 BX132SB4**	485
79	632	0.9	18.5	4480	**F312_18.5 S4 ME4SB4**	**F312_18.5 S4 MX4SB4**	476	**F312_18.5 P132 BE132S4**	**F312_18.5 P132 BX132SB4**	477

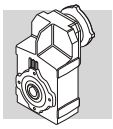


5.5 kW

n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE2	IE3		IE2	IE3	
85	585	1.8	17.1	6410	**F412_17.1 S4 ME4SB4**	**F412_17.1 S4 MX4SB4**	480	**F412_17.1 P132 BE132S4**	**F412_17.1 P132 BX132SB4**	481
87	575	1.0	16.8	4300	**F312_16.8 S4 ME4SB4**	**F312_16.8 S4 MX4SB4**	476	**F312_16.8 P132 BE132S4**	**F312_16.8 P132 BX132SB4**	477
100	500	2.0	14.6	6280	**F412_14.6 S4 ME4SB4**	**F412_14.6 S4 MX4SB4**	480	**F412_14.6 P132 BE132S4**	**F412_14.6 P132 BX132SB4**	481
104	478	3.0	14.0	8520	**F512_14.0 S4 ME4SB4**	**F512_14.0 S4 MX4SB4**	484	**F512_14.0 P132 BE132S4**	**F512_14.0 P132 BX132SB4**	485
105	477	1.3	13.9	4180	**F312_13.9 S4 ME4SB4**	**F312_13.9 S4 MX4SB4**	476	**F312_13.9 P132 BE132S4**	**F312_13.9 P132 BX132SB4**	477
115	435	1.4	12.7	3980	**F312_12.7 S4 ME4SB4**	**F312_12.7 S4 MX4SB4**	476	**F312_12.7 P132 BE132S4**	**F312_12.7 P132 BX132SB4**	477
131	380	3.5	11.1	8050	**F512_11.1 S4 ME4SB4**	**F512_11.1 S4 MX4SB4**	484	**F512_11.1 P132 BE132S4**	**F512_11.1 P132 BX132SB4**	485
136	368	2.4	10.8	5970	**F412_10.8 S4 ME4SB4**	**F412_10.8 S4 MX4SB4**	480	**F412_10.8 P132 BE132S4**	**F412_10.8 P132 BX132SB4**	481
136	368	1.6	10.7	3880	**F312_10.7 S4 ME4SB4**	**F312_10.7 S4 MX4SB4**	476	**F312_10.7 P132 BE132S4**	**F312_10.7 P132 BX132SB4**	477
160	312	2.2	9.1	5810	**F412_9.1 S4 ME4SB4**	**F412_9.1 S4 MX4SB4**	480	**F412_9.1 P132 BE132S4**	**F412_9.1 P132 BX132SB4**	481
161	310	3.6	9.1	7590	**F512_9.1 S4 ME4SB4**	**F512_9.1 S4 MX4SB4**	484	**F512_9.1 P132 BE132S4**	**F512_9.1 P132 BX132SB4**	485
162	308	1.3	9.0	3850	**F312_9.0 S4 ME4SB4**	**F312_9.0 S4 MX4SB4**	476	**F312_9.0 P132 BE132S4**	**F312_9.0 P132 BX132SB4**	477
177	281	1.4	8.2	3750	**F312_8.2 S4 ME4SB4**	**F312_8.2 S4 MX4SB4**	476	**F312_8.2 P132 BE132S4**	**F312_8.2 P132 BX132SB4**	477
200	250	3.3	14.6	5510	**F412_14.6 S4 ME4SB2**		480	**F412_14.6 P132 BE132SA2**		481
210	238	1.6	6.9	3610	**F312_6.9 S4 ME4SB4**	**F312_6.9 S4 MX4SB4**	476	**F312_6.9 P132 BE132S4**	**F312_6.9 P132 BX132SB4**	477
217	230	2.8	6.7	5430	**F412_6.7 S4 ME4SB4**	**F412_6.7 S4 MX4SB4**	480	**F412_6.7 P132 BE132S4**	**F412_6.7 P132 BX132SB4**	481
272	184	4.0	10.8	5120	**F412_10.8 S4 ME4SB2**		480	**F412_10.8 P132 BE132SA2**		481
320	156	3.9	9.1	4930	**F412_9.1 S4 ME4SB2**		480	**F412_9.1 P132 BE132SA2**		481

7.5 kW

n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE2	IE3		IE2	IE3	
4.0	15957	0.9	361.8	55000	**F904_361.8 S4 ME4LA4**	**F904_361.8 S4 MX4LA4**	498	**F904_361.8 P132 BE132MA4**	**F904_361.8 P132 BX132MA4**	499
5.0	12838	1.1	291.1	55000	**F904_291.1 S4 ME4LA4**	**F904_291.1 S4 MX4LA4**	498	**F904_291.1 P132 BE132MA4**	**F904_291.1 P132 BX132MA4**	499
5.4	11851	1.2	268.7	55000	**F904_268.7 S4 ME4LA4**	**F904_268.7 S4 MX4LA4**	498	**F904_268.7 P132 BE132MA4**	**F904_268.7 P132 BX132MA4**	499
6.3	10204	1.4	231.4	55000	**F904_231.4 S4 ME4LA4**	**F904_231.4 S4 MX4LA4**	498	**F904_231.4 P132 BE132MA4**	**F904_231.4 P132 BX132MA4**	499
6.8	9419	1.5	213.6	55000	**F904_213.6 S4 ME4LA4**	**F904_213.6 S4 MX4LA4**	498	**F904_213.6 P132 BE132MA4**	**F904_213.6 P132 BX132MA4**	499
7.3	9114	0.9	200.0	45000	**F803_200.0 S4 ME4LA4**	**F803_200.0 S4 MX4LA4**	495	**F803_200.0 P132 BE132MA4**	**F803_200.0 P132 BX132MA4**	496
7.5	8848	1.6	194.2	55000	**F903_194.2 S4 ME4LA4**	**F903_194.2 S4 MX4LA4**	498	**F903_194.2 P132 BE132MA4**	**F903_194.2 P132 BX132MA4**	499
7.9	8413	1.0	184.6	45000	**F803_184.6 S4 ME4LA4**	**F803_184.6 S4 MX4LA4**	495	**F803_184.6 P132 BE132MA4**	**F803_184.6 P132 BX132MA4**	496
8.1	8167	1.7	179.2	55000	**F903_179.2 S4 ME4LA4**	**F903_179.2 S4 MX4LA4**	498	**F903_179.2 P132 BE132MA4**	**F903_179.2 P132 BX132MA4**	499
8.9	7420	1.9	162.8	55000	**F903_162.8 S4 ME4LA4**	**F903_162.8 S4 MX4LA4**	498	**F903_162.8 P132 BE132MA4**	**F903_162.8 P132 BX132MA4**	499
9.1	7302	1.1	160.2	45000	**F803_160.2 S4 ME4LA4**	**F803_160.2 S4 MX4LA4**	495	**F803_160.2 P132 BE132MA4**	**F803_160.2 P132 BX132MA4**	496
9.7	6849	2.0	150.3	55000	**F903_150.3 S4 ME4LA4**	**F903_150.3 S4 MX4LA4**	498	**F903_150.3 P132 BE132MA4**	**F903_150.3 P132 BX132MA4**	499
9.8	6740	1.2	147.9	45000	**F803_147.9 S4 ME4LA4**	**F803_147.9 S4 MX4LA4**	495	**F803_147.9 P132 BE132MA4**	**F803_147.9 P132 BX132MA4**	496
10.6	6259	2.2	137.3	55000	**F903_137.3 S4 ME4LA4**	**F903_137.3 S4 MX4LA4**	498	**F903_137.3 P132 BE132MA4**	**F903_137.3 P132 BX132MA4**	499
11.0	6047	1.3	132.7	45000	**F803_132.7 S4 ME4LA4**	**F803_132.7 S4 MX4LA4**	495	**F803_132.7 P132 BE132MA4**	**F803_132.7 P132 BX132MA4**	496
11.5	5777	2.4	126.8	55000	**F903_126.8 S4 ME4LA4**	**F903_126.8 S4 MX4LA4**	498	**F903_126.8 P132 BE132MA4**	**F903_126.8 P132 BX132MA4**	499
11.9	5593	0.9	122.7	35000	**F703_122.7 S4 ME4LA4**	**F703_122.7 S4 MX4LA4**	492	**F703_122.7 P132 BE132MA4**	**F703_122.7 P132 BX132MA4**	493
11.9	5582	1.4	122.5	45000	**F803_122.5 S4 ME4LA4**	**F803_122.5 S4 MX4LA4**	495	**F803_122.5 P132 BE132MA4**	**F803_122.5 P132 BX132MA4**	496
12.8	5184	1.5	113.8	45000	**F803_113.8 S4 ME4LA4**	**F803_113.8 S4 MX4LA4**	495	**F803_113.8 P132 BE132MA4**	**F803_113.8 P132 BX132MA4**	496
13.0	5101	2.7	111.9	55000	**F903_111.9 S4 ME4LA4**	**F903_111.9 S4 MX4LA4**	498	**F903_111.9 P132 BE132MA4**	**F903_111.9 P132 BX132MA4**	499
13.3	4995	1.0	109.6	35000	**F703_109.6 S4 ME4LA4**	**F703_109.6 S4 MX4LA4**	492	**F703_109.6 P132 BE132MA4**	**F703_109.6 P132 BX132MA4**	493
13.9	4785	1.7	105.0	45000	**F803_105.0 S4 ME4LA4**	**F803_105.0 S4 MX4LA4**	495	**F803_105.0 P132 BE132MA4**	**F803_105.0 P132 BX132MA4**	496
14.1	4709	3.0	103.3	55000	**F903_103.3 S4 ME4LA4**	**F903_103.3 S4 MX4LA4**	498	**F903_103.3 P132 BE132MA4**	**F903_103.3 P132 BX132MA4**	499
14.4	4611	1.1	101.2	35000	**F703_101.2 S4 ME4LA4**	**F703_101.2 S4 MX4LA4**	492	**F703_101.2 P132 BE132MA4**	**F703_101.2 P132 BX132MA4**	493
15.2	4364	3.2	95.8	55000	**F903_95.8 S4 ME4LA4**	**F903_95.8 S4 MX4LA4**	498	**F903_95.8 P132 BE132MA4**	**F903_95.8 P132 BX132MA4**	499
15.7	4215	1.2	92.5	35000	**F703_92.5 S4 ME4LA4**	**F703_92.5 S4 MX4LA4**	492	**F703_92.5 P132 BE132MA4**	**F703_92.5 P132 BX132MA4**	493
15.8	4206	1.9	92.3	45000	**F803_92.3 S4 ME4LA4**	**F803_92.3 S4 MX4LA4**	495	**F803_92.3 P132 BE132MA4**	**F803_92.3 P132 BX132MA4**	496
16.5	4028	3.5	88.4	55000	**F903_88.4 S4 ME4LA4**	**F903_88.4 S4 MX4LA4**	498	**F903_88.4 P132 BE132MA4**	**F903_88.4 P132 BX132MA4**	499
17.0	3891	1.3	85.4	35000	**F703_85.4 S4 ME4LA4**	**F703_85.4 S4 MX4LA4**	492	**F703_85.4 P132 BE132MA4**	**F703_85.4 P132 BX132MA4**	493
17.1	3883	2.1	85.2	45000	**F803_85.2 S4 ME4LA4**	**F803_85.2 S4 MX4LA4**	495	**F803_85.2 P132 BE132MA4**	**F803_85.2 P132 BX132MA4**	496
19.1	3475	2.3	76.3	45000	**F803_76.3 S4 ME4LA4**	**F803_76.3 S4 MX4LA4**	495	**F803_76.3 P132 BE132MA4**	**F803_76.3 P132 BX132MA4**	496
19.8	3352	1.5	73.6	35000	**F703_73.6 S4 ME4LA4**	**F703_73.6 S4 MX4LA4**	492	**F703_73.6 P132 BE132MA4**	**F703_73.6 P132 BX132MA4**	493
20.7	3207	2.5	70.4	44700	**F803_70.4 S4 ME4LA4**	**F803_70.4 S4 MX4LA4**	495	**F803_70.4 P132 BE132MA4**	**F803_70.4 P132 BX132MA4**	496
21.3	3112	0.9	68.3	20000	**F603_68.3 S4 ME4LA4**	**F603_68.3 S4 MX4LA4**	488	**F603_68.3 P132 BE132MA4**	**F603_68.3 P132 BX132MA4**	489
21.4	3094	1.6	67.9	35000	**F703_67.9 S4 ME4LA4**	**F703_67.9 S4 MX4LA4**	492	**F703_67.9 P132 BE132MA4**	**F703_67.9 P132 BX132MA4**	493
23.1	2872	1.0	63.0	20000	**F603_63.0 S4 ME4LA4**	**F603_63.0 S4 MX4LA4**	488	**F603_63.0 P132 BE132MA4**	**F603_63.0 P132 BX132MA4**	489
23.3	2848	1.8	62.5	35000	**F703_62.5 S4 ME4LA4**	**F703_62.5 S4 MX4LA4**	492	**F703_62.5 P132 BE132MA4**	**F703_62.5 P132 BX132MA4**	493
23.7	2801	2.9	61.5	43500	**F803_61.5 S4 ME4LA4**	**F803_61.5 S4 MX4LA4**	495	**F803_61.5 P132 BE132MA4**	**F803_61.5 P132 BX132MA4**	496
25.2	2629	1.9	57.7	34900	**F703_57.7 S4 ME4LA4**	**F703_57.7 S4 MX4LA4**	492	**F703_57.7 P132 BE132MA4**	**F703_57.7 P132 BX132MA4**	493

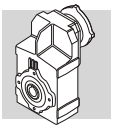


7.5 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
25.6	2585	3.1	56.7	42600	**F803_56.7 S4 ME4LA4**	**F803_56.7 S4 MX4LA4**	495	**F803_56.7 P132 BE132MA4**	**F803_56.7 P132 BX132MA4**	496
28.1	2362	1.2	51.8	20000	**F603_51.8 S4 ME4LA4**	**F603_51.8 S4 MX4LA4**	488	**F603_51.8 P132 BE132MA4**	**F603_51.8 P132 BX132MA4**	489
29.7	2231	2.2	49.0	33800	**F703_49.0 S4 ME4LA4**	**F703_49.0 S4 MX4LA4**	492	**F703_49.0 P132 BE132MA4**	**F703_49.0 P132 BX132MA4**	493
30	2180	1.3	47.8	20000	**F603_47.8 S4 ME4LA4**	**F603_47.8 S4 MX4LA4**	488	**F603_47.8 P132 BE132MA4**	**F603_47.8 P132 BX132MA4**	489
32	2059	2.4	45.2	33200	**F703_45.2 S4 ME4LA4**	**F703_45.2 S4 MX4LA4**	492	**F703_45.2 P132 BE132MA4**	**F703_45.2 P132 BX132MA4**	493
35	1918	1.5	42.1	20000	**F603_42.1 S4 ME4LA4**	**F603_42.1 S4 MX4LA4**	488	**F603_42.1 P132 BE132MA4**	**F603_42.1 P132 BX132MA4**	489
37	1770	1.6	38.8	20000	**F603_38.8 S4 ME4LA4**	**F603_38.8 S4 MX4LA4**	488	**F603_38.8 P132 BE132MA4**	**F603_38.8 P132 BX132MA4**	489
39	1729	1.0	37.1	9090	**F512_37.1 S4 ME4LA4**	**F512_37.1 S4 MX4LA4**	484	**F512_37.1 P132 BE132MA4**	**F512_37.1 P132 BX132MA4**	485
45	1462	2.0	32.1	20000	**F603_32.1 S4 ME4LA4**	**F603_32.1 S4 MX4LA4**	488	**F603_32.1 P132 BE132MA4**	**F603_32.1 P132 BX132MA4**	489
48	1398	1.2	30.0	9010	**F512_30.0 S4 ME4LA4**	**F512_30.0 S4 MX4LA4**	484	**F512_30.0 P132 BE132MA4**	**F512_30.0 P132 BX132MA4**	485
49	1350	2.1	29.6	20000	**F603_29.6 S4 ME4LA4**	**F603_29.6 S4 MX4LA4**	488	**F603_29.6 P132 BE132MA4**	**F603_29.6 P132 BX132MA4**	489
57	1158	1.6	25.4	20000	**F603_25.4 S4 ME4LA4**	**F603_25.4 S4 MX4LA4**	488	**F603_25.4 P132 BE132MA4**	**F603_25.4 P132 BX132MA4**	489
60	1123	1.0	24.1	5500	**F412_24.1 S4 ME4LA4**	**F412_24.1 S4 MX4LA4**	480	**F412_24.1 P132 BE132MA4**	**F412_24.1 P132 BX132MA4**	481
61	1108	1.5	23.8	8810	**F512_23.8 S4 ME4LA4**	**F512_23.8 S4 MX4LA4**	484	**F512_23.8 P132 BE132MA4**	**F512_23.8 P132 BX132MA4**	485
62	1069	1.8	23.5	20000	**F603_23.5 S4 ME4LA4**	**F603_23.5 S4 MX4LA4**	488	**F603_23.5 P132 BE132MA4**	**F603_23.5 P132 BX132MA4**	489
70	941	2.0	20.7	20000	**F603_20.7 S4 ME4LA4**	**F603_20.7 S4 MX4LA4**	488	**F603_20.7 P132 BE132MA4**	**F603_20.7 P132 BX132MA4**	489
76	869	2.2	19.1	20000	**F603_19.1 S4 ME4LA4**	**F603_19.1 S4 MX4LA4**	488	**F603_19.1 P132 BE132MA4**	**F603_19.1 P132 BX132MA4**	489
77	879	1.2	18.9	5630	**F412_18.9 S4 ME4LA4**	**F412_18.9 S4 MX4LA4**	480	**F412_18.9 P132 BE132MA4**	**F412_18.9 P132 BX132MA4**	481
77	876	1.8	18.8	8520	**F512_18.8 S4 ME4LA4**	**F512_18.8 S4 MX4LA4**	484	**F512_18.8 P132 BE132MA4**	**F512_18.8 P132 BX132MA4**	485
85	797	1.3	17.1	5650	**F412_17.1 S4 ME4LA4**	**F412_17.1 S4 MX4LA4**	480	**F412_17.1 P132 BE132MA4**	**F412_17.1 P132 BX132MA4**	481
93	715	2.7	15.7	20000	**F603_15.7 S4 ME4LA4**	**F603_15.7 S4 MX4LA4**	488	**F603_15.7 P132 BE132MA4**	**F603_15.7 P132 BX132MA4**	489
99	681	1.5	14.6	5630	**F412_14.6 S4 ME4LA4**	**F412_14.6 S4 MX4LA4**	480	**F412_14.6 P132 BE132MA4**	**F412_14.6 P132 BX132MA4**	481
101	660	2.9	14.5	20000	**F603_14.5 S4 ME4LA4**	**F603_14.5 S4 MX4LA4**	488	**F603_14.5 P132 BE132MA4**	**F603_14.5 P132 BX132MA4**	489
104	651	2.2	14.0	8080	**F512_14.0 S4 ME4LA4**	**F512_14.0 S4 MX4LA4**	484	**F512_14.0 P132 BE132MA4**	**F512_14.0 P132 BX132MA4**	485
104	649	0.9	13.9	3980	**F312_13.9 S4 ME4LA4**	**F312_13.9 S4 MX4LA4**	476	**F312_13.9 P132 BE132MA4**	**F312_13.9 P132 BX132MA4**	477
114	580	3.3	12.7	19900	**F603_12.7 S4 ME4LA4**	**F603_12.7 S4 MX4LA4**	488	**F603_12.7 P132 BE132MA4**	**F603_12.7 P132 BX132MA4**	489
114	592	1.0	12.7	3880	**F312_12.7 S4 ME4LA4**	**F312_12.7 S4 MX4LA4**	476	**F312_12.7 P132 BE132MA4**	**F312_12.7 P132 BX132MA4**	477
124	536	3.5	11.8	19500	**F603_11.8 S4 ME4LA4**	**F603_11.8 S4 MX4LA4**	488	**F603_11.8 P132 BE132MA4**	**F603_11.8 P132 BX132MA4**	489
131	517	2.6	11.1	7700	**F512_11.1 S4 ME4LA4**	**F512_11.1 S4 MX4LA4**	484	**F512_11.1 P132 BE132MA4**	**F512_11.1 P132 BX132MA4**	485
135	501	1.8	10.8	5490	**F412_10.8 S4 ME4LA4**	**F412_10.8 S4 MX4LA4**	480	**F412_10.8 P132 BE132MA4**	**F412_10.8 P132 BX132MA4**	481
135	500	1.2	10.7	3730	**F312_10.7 S4 ME4LA4**	**F312_10.7 S4 MX4LA4**	476	**F312_10.7 P132 BE132MA4**	**F312_10.7 P132 BX132MA4**	477
159	425	1.6	9.1	5410	**F412_9.1 S4 ME4LA4**	**F412_9.1 S4 MX4LA4**	480	**F412_9.1 P132 BE132MA4**	**F412_9.1 P132 BX132MA4**	481
161	421	2.6	9.1	7290	**F512_9.1 S4 ME4LA4**	**F512_9.1 S4 MX4LA4**	484	**F512_9.1 P132 BE132MA4**	**F512_9.1 P132 BX132MA4**	485
161	420	0.9	9.0	3770	**F312_9.0 S4 ME4LA4**	**F312_9.0 S4 MX4LA4**	476	**F312_9.0 P132 BE132MA4**	**F312_9.0 P132 BX132MA4**	477
177	383	1.0	8.2	3680	**F312_8.2 S4 ME4LA4**	**F312_8.2 S4 MX4LA4**	476	**F312_8.2 P132 BE132MA4**	**F312_8.2 P132 BX132MA4**	477
202	335	2.9	7.2	6900	**F512_7.2 S4 ME4LA4**	**F512_7.2 S4 MX4LA4**	484	**F512_7.2 P132 BE132MA4**	**F512_7.2 P132 BX132MA4**	485
209	323	1.2	6.9	3520	**F312_6.9 S4 ME4LA4**	**F312_6.9 S4 MX4LA4**	476	**F312_6.9 P132 BE132MA4**	**F312_6.9 P132 BX132MA4**	477
216	313	2.0	6.7	5140	**F412_6.7 S4 ME4LA4**	**F412_6.7 S4 MX4LA4**	480	**F412_6.7 P132 BE132MA4**	**F412_6.7 P132 BX132MA4**	481
272	251	2.9	10.8	4880	**F412_10.8 S4 ME4LA2**		480	**F412_10.8 P132 BE132SB2**		481
320	213	2.9	9.1	4730	**F412_9.1 S4 ME4LA2**		480	**F412_9.1 P132 BE132SB2**		481
435	156	3.3	6.7	4390	**F412_6.7 S4 ME4LA2**		480	**F412_6.7 P132 BE132SB2**		481

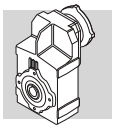
9.2 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
5.0	15983	0.9	291.1	55000	**F904_291.1 S4 ME4LB4**		498	**F904_291.1 P132 BE132MB4**	**F904_291.1 P160 BX160MA4**	499
5.4	14753	0.9	268.7	55000	**F904_268.7 S4 ME4LB4**		498	**F904_268.7 P132 BE132MB4**	**F904_268.7 P160 BX160MA4**	499
6.3	12703	1.1	231.4	55000	**F904_231.4 S4 ME4LB4**		498	**F904_231.4 P132 BE132MB4**	**F904_231.4 P160 BX160MA4**	499
6.8	11726	1.2	213.6	55000	**F904_213.6 S4 ME4LB4**		498	**F904_213.6 P132 BE132MB4**	**F904_213.6 P160 BX160MA4**	499
7.5	11014	1.3	194.2	55000	**F903_194.2 S4 ME4LB4**	**F903_194.2 S5 MX5SA4**	498	**F903_194.2 P132 BE132MB4**	**F903_194.2 P160 BX160MA4**	499
8.1	10167	1.4	179.2	55000	**F903_179.2 S4 ME4LB4**	**F903_179.2 S5 MX5SA4**	498	**F903_179.2 P132 BE132MB4**	**F903_179.2 P160 BX160MA4**	499
8.9	9237	1.5	162.8	55000	**F903_162.8 S4 ME4LB4**	**F903_162.8 S5 MX5SA4**	498	**F903_162.8 P132 BE132MB4**	**F903_162.8 P160 BX160MA4**	499
9.0	9090	0.9	160.2	45000	**F803_160.2 S4 ME4LB4**	**F803_160.2 S5 MX5SA4**	495	**F803_160.2 P132 BE132MB4**	**F803_160.2 P160 BX160MA4**	496
9.6	8527	1.6	150.3	55000	**F903_150.3 S4 ME4LB4**	**F903_150.3 S5 MX5SA4**	498	**F903_150.3 P132 BE132MB4**	**F903_150.3 P160 BX160MA4**	499
9.8	8390	1.0	147.9	45000	**F803_147.9 S4 ME4LB4**	**F803_147.9 S5 MX5SA4**	495	**F803_147.9 P132 BE132MB4**	**F803_147.9 P160 BX160MA4**	496
10.6	7791	1.8	137.3	55000	**F903_137.3 S4 ME4LB4**	**F903_137.3 S5 MX5SA4**	498	**F903_137.3 P132 BE132MB4**	**F903_137.3 P160 BX160MA4**	499
10.9	7528	1.1	132.7	45000	**F803_132.7 S4 ME4LB4**	**F803_132.7 S5 MX5SA4**	495	**F803_132.7 P132 BE132MB4**	**F803_132.7 P160 BX160MA4**	496
11.4	7192	1.9	126.8	55000	**F903_126.8 S4 ME4LB4**	**F903_126.8 S5 MX5SA4**	498	**F903_126.8 P132 BE132MB4**	**F903_126.8 P160 BX160MA4**	499
11.8	6949	1.2	122.5	45000	**F803_122.5 S4 ME4LB4**	**F803_122.5 S5 MX5SA4**	495	**F803_122.5 P132 BE132MB4**	**F803_122.5 P160 BX160MA4**	496
12.7	6453	1.2	113.8	45000	**F803_113.8 S4 ME4LB4**	**F803_113.8 S5 MX5SA4**	495	**F803_113.8 P132 BE132MB4**	**F803_113.8 P160 BX160MA4**	496



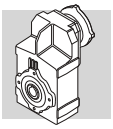
9.2 kW

n_2	M_2	S	i	R_{n2}						
min-1	Nm			N	IE2	IE3		IE2	IE3	
13.0	6351	2.2	111.9	55000	**F903_111.9 S4 ME4LB4**	**F903_111.9 S5 MX5SA4**	498	**F903_111.9 P132 BE132MB4**	**F903_111.9 P160 BX160MA4**	499
13.8	5957	1.3	105.0	45000	**F803_105.0 S4 ME4LB4**	**F803_105.0 S5 MX5SA4**	495	**F803_105.0 P132 BE132MB4**	**F803_105.0 P160 BX160MA4**	496
14.0	5862	2.4	103.3	55000	**F903_103.3 S4 ME4LB4**	**F903_103.3 S5 MX5SA4**	498	**F903_103.3 P132 BE132MB4**	**F903_103.3 P160 BX160MA4**	499
15.1	5432	2.6	95.8	55000	**F903_95.8 S4 ME4LB4**	**F903_95.8 S5 MX5SA4**	498	**F903_95.8 P132 BE132MB4**	**F903_95.8 P160 BX160MA4**	499
15.7	5248	1.0	92.5	35000	**F703_92.5 S4 ME4LB4**	**F703_92.5 S5 MX5SA4**	492	**F703_92.5 P132 BE132MB4**	**F703_92.5 P160 BX160MA4**	493
15.7	5237	1.5	92.3	45000	**F803_92.3 S4 ME4LB4**	**F803_92.3 S5 MX5SA4**	495	**F803_92.3 P132 BE132MB4**	**F803_92.3 P160 BX160MA4**	496
16.4	5015	2.8	88.4	55000	**F903_88.4 S4 ME4LB4**	**F903_88.4 S5 MX5SA4**	498	**F903_88.4 P132 BE132MB4**	**F903_88.4 P160 BX160MA4**	499
17.0	4844	1.0	85.4	35000	**F703_85.4 S4 ME4LB4**	**F703_85.4 S5 MX5SA4**	492	**F703_85.4 P132 BE132MB4**	**F703_85.4 P160 BX160MA4**	493
17.0	4834	1.7	85.2	45000	**F803_85.2 S4 ME4LB4**	**F803_85.2 S5 MX5SA4**	495	**F803_85.2 P132 BE132MB4**	**F803_85.2 P160 BX160MA4**	496
18.9	4348	3.2	76.7	55000	**F903_76.7 S4 ME4LB4**	**F903_76.7 S5 MX5SA4**	498	**F903_76.7 P132 BE132MB4**	**F903_76.7 P160 BX160MA4**	499
19.0	4326	1.8	76.3	44100	**F803_76.3 S4 ME4LB4**	**F803_76.3 S5 MX5SA4**	495	**F803_76.3 P132 BE132MB4**	**F803_76.3 P160 BX160MA4**	496
19.7	4173	1.2	73.6	35000	**F703_73.6 S4 ME4LB4**	**F703_73.6 S5 MX5SA4**	492	**F703_73.6 P132 BE132MB4**	**F703_73.6 P160 BX160MA4**	493
20.5	4014	3.5	70.8	55000	**F903_70.8 S4 ME4LB4**	**F903_70.8 S5 MX5SA4**	498	**F903_70.8 P132 BE132MB4**	**F903_70.8 P160 BX160MA4**	499
20.6	3993	2.0	70.4	43700	**F803_70.4 S4 ME4LB4**	**F803_70.4 S5 MX5SA4**	495	**F803_70.4 P132 BE132MB4**	**F803_70.4 P160 BX160MA4**	496
21.4	3852	1.3	67.9	34600	**F703_67.9 S4 ME4LB4**	**F703_67.9 S5 MX5SA4**	492	**F703_67.9 P132 BE132MB4**	**F703_67.9 P160 BX160MA4**	493
23.2	3546	1.4	62.5	34200	**F703_62.5 S4 ME4LB4**	**F703_62.5 S5 MX5SA4**	492	**F703_62.5 P132 BE132MB4**	**F703_62.5 P160 BX160MA4**	493
23.6	3487	2.3	61.5	42200	**F803_61.5 S4 ME4LB4**	**F803_61.5 S5 MX5SA4**	495	**F803_61.5 P132 BE132MB4**	**F803_61.5 P160 BX160MA4**	496
25.1	3273	1.5	57.7	33700	**F703_57.7 S4 ME4LB4**	**F703_57.7 S5 MX5SA4**	492	**F703_57.7 P132 BE132MB4**	**F703_57.7 P160 BX160MA4**	493
25.6	3218	2.5	56.7	41400	**F803_56.7 S4 ME4LB4**	**F803_56.7 S5 MX5SA4**	495	**F803_56.7 P132 BE132MB4**	**F803_56.7 P160 BX160MA4**	496
28.0	2940	1.0	51.8	20000	**F603_51.8 S4 ME4LB4**	**F603_51.8 S5 MX5SA4**	488	**F603_51.8 P132 BE132MB4**	**F603_51.8 P160 BX160MA4**	489
29.6	2777	1.8	49.0	32800	**F703_49.0 S4 ME4LB4**	**F703_49.0 S5 MX5SA4**	492	**F703_49.0 P132 BE132MB4**	**F703_49.0 P160 BX160MA4**	493
30	2714	1.1	47.8	20000	**F603_47.8 S4 ME4LB4**	**F603_47.8 S5 MX5SA4**	488	**F603_47.8 P132 BE132MB4**	**F603_47.8 P160 BX160MA4**	489
32	2564	2.0	45.2	32300	**F703_45.2 S4 ME4LB4**	**F703_45.2 S5 MX5SA4**	492	**F703_45.2 P132 BE132MB4**	**F703_45.2 P160 BX160MA4**	493
34	2387	1.2	42.1	20000	**F603_42.1 S4 ME4LB4**	**F603_42.1 S5 MX5SA4**	488	**F603_42.1 P132 BE132MB4**	**F603_42.1 P160 BX160MA4**	489
37	2204	1.3	38.8	20000	**F603_38.8 S4 ME4LB4**	**F603_38.8 S5 MX5SA4**	488	**F603_38.8 P132 BE132MB4**	**F603_38.8 P160 BX160MA4**	489
45	1820	1.6	32.1	20000	**F603_32.1 S4 ME4LB4**	**F603_32.1 S5 MX5SA4**	488	**F603_32.1 P132 BE132MB4**	**F603_32.1 P160 BX160MA4**	489
48	1741	1.0	30.0	8210	**F512_30.0 S4 ME4LB4**	**F512_30.0 S5 MX5SA4**	484	**F512_30.0 P132 BE132MB4**	**F512_30.0 P160 BX160MA4**	485
49	1680	1.7	29.6	20000	**F603_29.6 S4 ME4LB4**	**F603_29.6 S5 MX5SA4**	488	**F603_29.6 P132 BE132MB4**	**F603_29.6 P160 BX160MA4**	489
57	1442	1.3	25.4	20000	**F603_25.4 S4 ME4LB4**	**F603_25.4 S5 MX5SA4**	488	**F603_25.4 P132 BE132MB4**	**F603_25.4 P160 BX160MA4**	489
59	1393	2.9	24.6	28300	**F703_24.6 S4 ME4LB4**	**F703_24.6 S5 MX5SA4**	492	**F703_24.6 P132 BE132MB4**	**F703_24.6 P160 BX160MA4**	493
61	1379	1.2	23.8	8170	**F512_23.8 S4 ME4LB4**	**F512_23.8 S5 MX5SA4**	484	**F512_23.8 P132 BE132MB4**	**F512_23.8 P160 BX160MA4**	485
62	1331	1.4	23.5	20000	**F603_23.5 S4 ME4LB4**	**F603_23.5 S5 MX5SA4**	488	**F603_23.5 P132 BE132MB4**	**F603_23.5 P160 BX160MA4**	489
64	1282	3.4	22.6	27800	**F703_22.6 S4 ME4LB4**	**F703_22.6 S5 MX5SA4**	492	**F703_22.6 P132 BE132MB4**	**F703_22.6 P160 BX160MA4**	493
69	1184	3.4	20.9	27200	**F703_20.9 S4 ME4LB4**	**F703_20.9 S5 MX5SA4**	492	**F703_20.9 P132 BE132MB4**	**F703_20.9 P160 BX160MA4**	493
70	1172	1.6	20.7	20000	**F603_20.7 S4 ME4LB4**	**F603_20.7 S5 MX5SA4**	488	**F603_20.7 P132 BE132MB4**	**F603_20.7 P160 BX160MA4**	489
76	1082	1.8	19.1	20000	**F603_19.1 S4 ME4LB4**	**F603_19.1 S5 MX5SA4**	488	**F603_19.1 P132 BE132MB4**	**F603_19.1 P160 BX160MA4**	489
77	1095	1.0	18.9	4920	**F412_18.9 S4 ME4LB4**		480	**F412_18.9 P132 BE132MB4**		481
77	1091	1.4	18.8	8020	**F512_18.8 S4 ME4LB4**	**F512_18.8 S5 MX5SA4**	484	**F512_18.8 P132 BE132MB4**	**F512_18.8 P160 BX160MA4**	485
85	992	1.1	17.1	5000	**F412_17.1 S4 ME4LB4**		480	**F412_17.1 P132 BE132MB4**		481
92	890	2.1	15.7	20000	**F603_15.7 S4 ME4LB4**	**F603_15.7 S5 MX5SA4**	488	**F603_15.7 P132 BE132MB4**	**F603_15.7 P160 BX160MA4**	489
99	848	1.2	14.6	5070	**F412_14.6 S4 ME4LB4**		480	**F412_14.6 P132 BE132MB4**		481
100	821	2.3	14.5	20000	**F603_14.5 S4 ME4LB4**	**F603_14.5 S5 MX5SA4**	488	**F603_14.5 P132 BE132MB4**	**F603_14.5 P160 BX160MA4**	489
104	810	1.8	14.0	7700	**F512_14.0 S4 ME4LB4**	**F512_14.0 S5 MX5SA4**	484	**F512_14.0 P132 BE132MB4**	**F512_14.0 P160 BX160MA4**	485
114	722	2.6	12.7	19700	**F603_12.7 S4 ME4LB4**	**F603_12.7 S5 MX5SA4**	488	**F603_12.7 P132 BE132MB4**	**F603_12.7 P160 BX160MA4**	489
123	667	2.8	11.8	19300	**F603_11.8 S4 ME4LB4**	**F603_11.8 S5 MX5SA4**	488	**F603_11.8 P132 BE132MB4**	**F603_11.8 P160 BX160MA4**	489
131	644	2.1	11.1	7400	**F512_11.1 S4 ME4LB4**	**F512_11.1 S5 MX5SA4**	484	**F512_11.1 P132 BE132MB4**	**F512_11.1 P160 BX160MA4**	485
135	624	1.4	10.8	5080	**F412_10.8 S4 ME4LB4**		480	**F412_10.8 P132 BE132MB4**		481
135	623	1.0	10.7	3660	**F312_10.7 S4 ME4LB4**		476	**F312_10.7 P132 BE132MB4**		477
149	551	3.5	9.7	18400	**F603_9.7 S4 ME4LB4**	**F603_9.7 S5 MX5SA4**	488	**F603_9.7 P132 BE132MB4**	**F603_9.7 P160 BX160MA4**	489
159	529	1.3	9.1	5080	**F412_9.1 S4 ME4LB4**		480	**F412_9.1 P132 BE132MB4**		481
160	525	2.1	9.1	7040	**F512_9.1 S4 ME4LB4**	**F512_9.1 S5 MX5SA4**	484	**F512_9.1 P132 BE132MB4**	**F512_9.1 P160 BX160MA4**	485
202	417	2.3	7.2	6700	**F512_7.2 S4 ME4LB4**	**F512_7.2 S5 MX5SA4**	484	**F512_7.2 P132 BE132MB4**	**F512_7.2 P160 BX160MA4**	485
209	403	1.0	6.9	3450	**F312_6.9 S4 ME4LB4**		476	**F312_6.9 P132 BE132MB4**		477
216	390	1.6	6.7	4890	**F412_6.7 S4 ME4LB4**		480	**F412_6.7 P132 BE132MB4**		481
263	318	3.4	11.1	6340	**F512_11.1 S4 ME4LB2**		484	**F512_11.1 P132 BE132MB2**		485
271	308	2.4	10.8	4680	**F412_10.8 S4 ME4LB2**		480	**F412_10.8 P132 BE132MB2**		481
320	261	2.3	9.1	4560	**F412_9.1 S4 ME4LB2**		480	**F412_9.1 P132 BE132MB2**		481
323	259	3.5	9.1	5980	**F512_9.1 S4 ME4LB2**		484	**F512_9.1 P132 BE132MB2**		485
434	192	2.7	6.7	4270	**F412_6.7 S4 ME4LB2**		480	**F412_6.7 P132 BE132MB2**		481



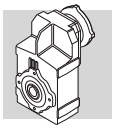
11 kW

n_2	M_2	S	i	R_{n2}	IE2	IE3		IE2	IE3	
min-1	Nm			N						
6.4	14994	0.9	231.4	55000	**F904_231.4 S5 ME5SA4**	**F904_231.4 S5 MX5SB4**	498	**F904_231.4 P160 BE160M4**	**F904_231.4 P160 BX160MB4**	499
6.9	13841	1.0	213.6	55000	**F904_213.6 S5 ME5SA4**	**F904_213.6 S5 MX5SB4**	498	**F904_213.6 P160 BE160M4**	**F904_213.6 P160 BX160MB4**	499
7.6	13001	1.1	194.2	55000	**F903_194.2 S5 ME5SA4**	**F903_194.2 S5 MX5SB4**	498	**F903_194.2 P160 BE160M4**	**F903_194.2 P160 BX160MB4**	499
8.2	12001	1.2	179.2	55000	**F903_179.2 S5 ME5SA4**	**F903_179.2 S5 MX5SB4**	498	**F903_179.2 P160 BE160M4**	**F903_179.2 P160 BX160MB4**	499
9.0	10903	1.3	162.8	55000	**F903_162.8 S5 ME5SA4**	**F903_162.8 S5 MX5SB4**	498	**F903_162.8 P160 BE160M4**	**F903_162.8 P160 BX160MB4**	499
9.8	10064	1.4	150.3	55000	**F903_150.3 S5 ME5SA4**	**F903_150.3 S5 MX5SB4**	498	**F903_150.3 P160 BE160M4**	**F903_150.3 P160 BX160MB4**	499
10.7	9196	1.5	137.3	55000	**F903_137.3 S5 ME5SA4**	**F903_137.3 S5 MX5SB4**	498	**F903_137.3 P160 BE160M4**	**F903_137.3 P160 BX160MB4**	499
11.1	8885	0.9	132.7	45000	**F803_132.7 S5 ME5SA4**	**F803_132.7 S5 MX5SB4**	495	**F803_132.7 P160 BE160M4**	**F803_132.7 P160 BX160MB4**	496
11.6	8489	1.6	126.8	55000	**F903_126.8 S5 ME5SA4**	**F903_126.8 S5 MX5SB4**	498	**F903_126.8 P160 BE160M4**	**F903_126.8 P160 BX160MB4**	499
12.0	8202	1.0	122.5	45000	**F803_122.5 S5 ME5SA4**	**F803_122.5 S5 MX5SB4**	495	**F803_122.5 P160 BE160M4**	**F803_122.5 P160 BX160MB4**	496
12.9	7617	1.1	113.8	45000	**F803_113.8 S5 ME5SA4**	**F803_113.8 S5 MX5SB4**	495	**F803_113.8 P160 BE160M4**	**F803_113.8 P160 BX160MB4**	496
13.1	7496	1.9	111.9	55000	**F903_111.9 S5 ME5SA4**	**F903_111.9 S5 MX5SB4**	498	**F903_111.9 P160 BE160M4**	**F903_111.9 P160 BX160MB4**	499
14.0	7031	1.1	105.0	44400	**F803_105.0 S5 ME5SA4**	**F803_105.0 S5 MX5SB4**	495	**F803_105.0 P160 BE160M4**	**F803_105.0 P160 BX160MB4**	496
14.2	6919	2.0	103.3	55000	**F903_103.3 S5 ME5SA4**	**F903_103.3 S5 MX5SB4**	498	**F903_103.3 P160 BE160M4**	**F903_103.3 P160 BX160MB4**	499
15.4	6412	2.2	95.8	55000	**F903_95.8 S5 ME5SA4**	**F903_95.8 S5 MX5SB4**	498	**F903_95.8 P160 BE160M4**	**F903_95.8 P160 BX160MB4**	499
15.9	6181	1.3	92.3	44100	**F803_92.3 S5 ME5SA4**	**F803_92.3 S5 MX5SB4**	495	**F803_92.3 P160 BE160M4**	**F803_92.3 P160 BX160MB4**	496
16.6	5919	2.4	88.4	55000	**F903_88.4 S5 ME5SA4**	**F903_88.4 S5 MX5SB4**	498	**F903_88.4 P160 BE160M4**	**F903_88.4 P160 BX160MB4**	499
17.3	5705	1.4	85.2	44000	**F803_85.2 S5 ME5SA4**	**F803_85.2 S5 MX5SB4**	495	**F803_85.2 P160 BE160M4**	**F803_85.2 P160 BX160MB4**	496
19.2	5132	2.7	76.7	55000	**F903_76.7 S5 ME5SA4**	**F903_76.7 S5 MX5SB4**	498	**F903_76.7 P160 BE160M4**	**F903_76.7 P160 BX160MB4**	499
19.3	5106	1.6	76.3	42800	**F803_76.3 S5 ME5SA4**	**F803_76.3 S5 MX5SB4**	495	**F803_76.3 P160 BE160M4**	**F803_76.3 P160 BX160MB4**	496
20.0	4925	1.0	73.6	33500	**F703_73.6 S5 ME5SA4**	**F703_73.6 S5 MX5SB4**	492	**F703_73.6 P160 BE160M4**	**F703_73.6 P160 BX160MB4**	493
20.8	4738	3.0	70.8	55000	**F903_70.8 S5 ME5SA4**	**F903_70.8 S5 MX5SB4**	498	**F903_70.8 P160 BE160M4**	**F903_70.8 P160 BX160MB4**	499
20.9	4713	1.7	70.4	42500	**F803_70.4 S5 ME5SA4**	**F803_70.4 S5 MX5SB4**	495	**F803_70.4 P160 BE160M4**	**F803_70.4 P160 BX160MB4**	496
21.6	4547	1.1	67.9	33100	**F703_67.9 S5 ME5SA4**	**F703_67.9 S5 MX5SB4**	492	**F703_67.9 P160 BE160M4**	**F703_67.9 P160 BX160MB4**	493
23.5	4185	1.2	62.5	32900	**F703_62.5 S5 ME5SA4**	**F703_62.5 S5 MX5SB4**	492	**F703_62.5 P160 BE160M4**	**F703_62.5 P160 BX160MB4**	493
23.7	4158	3.4	62.1	55000				**F903_62.1 P160 BE160M4**	**F903_62.1 P160 BX160MB4**	499
23.9	4115	1.9	61.5	41100	**F803_61.5 S5 ME5SA4**	**F803_61.5 S5 MX5SB4**	495	**F803_61.5 P160 BE160M4**	**F803_61.5 P160 BX160MB4**	496
25.5	3863	1.3	57.7	32500	**F703_57.7 S5 ME5SA4**	**F703_57.7 S5 MX5SB4**	492	**F703_57.7 P160 BE160M4**	**F703_57.7 P160 BX160MB4**	493
25.9	3799	2.1	56.7	40800	**F803_56.7 S5 ME5SA4**	**F803_56.7 S5 MX5SB4**	495	**F803_56.7 P160 BE160M4**	**F803_56.7 P160 BX160MB4**	496
29.9	3288	2.4	49.1	39100				**F803_49.1 P160 BE160M4**	**F803_49.1 P160 BX160MB4**	496
30	3278	1.5	49.0	31800	**F703_49.0 S5 ME5SA4**	**F703_49.0 S5 MX5SB4**	492	**F703_49.0 P160 BE160M4**	**F703_49.0 P160 BX160MB4**	493
31	3203	0.9	47.8	20000	**F603_47.8 S5 ME5SA4**	**F603_47.8 S5 MX5SB4**	488	**F603_47.8 P160 BE160M4**	**F603_47.8 P160 BX160MB4**	489
32	3035	2.6	45.3	38900				**F803_45.3 P160 BE160M4**	**F803_45.3 P160 BX160MB4**	496
33	3026	1.7	45.2	31300	**F703_45.2 S5 ME5SA4**	**F703_45.2 S5 MX5SB4**	492	**F703_45.2 P160 BE160M4**	**F703_45.2 P160 BX160MB4**	493
35	2818	1.0	42.1	20000	**F603_42.1 S5 ME5SA4**	**F603_42.1 S5 MX5SB4**	488	**F603_42.1 P160 BE160M4**	**F603_42.1 P160 BX160MB4**	489
38	2611	3.1	39.0	36400				**F803_39.0 P160 BE160M4**	**F803_39.0 P160 BX160MB4**	496
38	2601	1.1	38.8	20000	**F603_38.8 S5 ME5SA4**	**F603_38.8 S5 MX5SB4**	488	**F603_38.8 P160 BE160M4**	**F603_38.8 P160 BX160MB4**	489
38	2571	1.9	38.4	30200				**F703_38.4 P160 BE160M4**	**F703_38.4 P160 BX160MB4**	493
41	2411	3.3	36.0	35600				**F803_36.0 P160 BE160M4**	**F803_36.0 P160 BX160MB4**	496
41	2373	2.1	35.4	29600				**F703_35.4 P160 BE160M4**	**F703_35.4 P160 BX160MB4**	493
46	2148	1.3	32.1	20000	**F603_32.1 S5 ME5SA4**	**F603_32.1 S5 MX5SB4**	488	**F603_32.1 P160 BE160M4**	**F603_32.1 P160 BX160MB4**	489
49	2009	2.5	30.0	29000				**F703_30.0 P160 BE160M4**	**F703_30.0 P160 BX160MB4**	493
50	1983	1.5	29.6	20000	**F603_29.6 S5 ME5SA4**	**F603_29.6 S5 MX5SB4**	488	**F603_29.6 P160 BE160M4**	**F603_29.6 P160 BX160MB4**	489
53	1854	2.5	27.7	28300				**F703_27.7 P160 BE160M4**	**F703_27.7 P160 BX160MB4**	493
58	1702	1.1	25.4	20000	**F603_25.4 S5 ME5SA4**	**F603_25.4 S5 MX5SB4**	488	**F603_25.4 P160 BE160M4**	**F603_25.4 P160 BX160MB4**	489
60	1644	2.4	24.6	27800	**F703_24.6 S5 ME5SA4**	**F703_24.6 S5 MX5SB4**	492	**F703_24.6 P160 BE160M4**	**F703_24.6 P160 BX160MB4**	493
62	1628	1.0	23.8	7500	**F512_23.8 S5 ME5SA4**	**F512_23.8 S5 MX5SB4**	484	**F512_23.8 P160 BE160M4**	**F512_23.8 P160 BX160MB4**	485
63	1571	1.2	23.5	20000	**F603_23.5 S5 ME5SA4**	**F603_23.5 S5 MX5SB4**	488	**F603_23.5 P160 BE160M4**	**F603_23.5 P160 BX160MB4**	489
65	1514	2.9	22.6	27300	**F703_22.6 S5 ME5SA4**	**F703_22.6 S5 MX5SB4**	492	**F703_22.6 P160 BE160M4**	**F703_22.6 P160 BX160MB4**	493
70	1397	2.9	20.9	26800	**F703_20.9 S5 ME5SA4**	**F703_20.9 S5 MX5SB4**	492	**F703_20.9 P160 BE160M4**	**F703_20.9 P160 BX160MB4**	493
71	1383	1.4	20.7	20000	**F603_20.7 S5 ME5SA4**	**F603_20.7 S5 MX5SB4**	488	**F603_20.7 P160 BE160M4**	**F603_20.7 P160 BX160MB4**	489
77	1277	1.5	19.1	20000	**F603_19.1 S5 ME5SA4**	**F603_19.1 S5 MX5SB4**	488	**F603_19.1 P160 BE160M4**	**F603_19.1 P160 BX160MB4**	489
78	1287	1.2	18.8	7490	**F512_18.8 S5 ME5SA4**	**F512_18.8 S5 MX5SB4**	484	**F512_18.8 P160 BE160M4**	**F512_18.8 P160 BX160MB4**	485
94	1050	1.8	15.7	20000	**F603_15.7 S5 ME5SA4**	**F603_15.7 S5 MX5SB4**	488	**F603_15.7 P160 BE160M4**	**F603_15.7 P160 BX160MB4**	489
102	969	2.0	14.5	20000	**F603_14.5 S5 ME5SA4**	**F603_14.5 S5 MX5SB4**	488	**F603_14.5 P160 BE160M4**	**F603_14.5 P160 BX160MB4**	489
105	956	1.5	14.0	7310	**F512_14.0 S5 ME5SA4**	**F512_14.0 S5 MX5SB4**	484	**F512_14.0 P160 BE160M4**	**F512_14.0 P160 BX160MB4**	485
115	853	2.2	12.7	19400	**F603_12.7 S5 ME5SA4**	**F603_12.7 S5 MX5SB4**	488	**F603_12.7 P160 BE160M4**	**F603_12.7 P160 BX160MB4**	489
125	787	2.4	11.8	19000	**F603_11.8 S5 ME5SA4**	**F603_11.8 S5 MX5SB4**	488	**F603_11.8 P160 BE160M4**	**F603_11.8 P160 BX160MB4**	489
132	760	1.8	11.1	7090	**F512_11.1 S5 ME5SA4**	**F512_11.1 S5 MX5SB4**	484	**F512_11.1 P160 BE160M4**	**F512_11.1 P160 BX160MB4**	485
151	650	2.9	9.7	18200	**F603_9.7 S5 ME5SA4**	**F603_9.7 S5 MX5SB4**	488	**F603_9.7 P160 BE160M4**	**F603_9.7 P160 BX160MB4**	489
162	619	1.8	9.1	6770	**F512_9.1 S5 ME5SA4**	**F512_9.1 S5 MX5SB4**	484	**F512_9.1 P160 BE160M4**	**F512_9.1 P160 BX160MB4**	485
164	600	3.2	9.0	17800	**F603_9.0 S5 ME5SA4**	**F603_9.0 S5 MX5SB4**	488	**F603_9.0 P160 BE160M4**	**F603_9.0 P160 BX160MB4**	489
204	492	2.0	7.2	6490	**F512_7.2 S5 ME5SA4**	**F512_7.2 S5 MX5SB4**	484	**F512_7.2 P160 BE160M4**	**F512_7.2 P160 BX160MB4**	485
265	377	2.9	11.1	6170	**F512_11.1 S5 ME5SA2**		484	**F512_11.1 P160 BE160MA2**		485
325	307	2.9	9.1	5840	**F512_9.1 S5 ME5SA2**		484	**F512_9.1 P160 BE160MA2**		485
409	244	3.3	7.2	5510	**F512_7.2 S5 ME5SA2**		484	**F512_7.2 P160 BE160MA2**		485



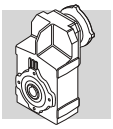
15 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
9.0	14840	0.9	162.8	55000	**F903_162.8 S5 ME5LA4**	**F903_162.8 S5 MX5LA4**	498	**F903_162.8 P160 BE160L4**	**F903_162.8 P160 BX160L4**	499
9.8	13699	1.0	150.3	55000	**F903_150.3 S5 ME5LA4**	**F903_150.3 S5 MX5LA4**	498	**F903_150.3 P160 BE160L4**	**F903_150.3 P160 BX160L4**	499
10.7	12517	1.1	137.3	55000	**F903_137.3 S5 ME5LA4**	**F903_137.3 S5 MX5LA4**	498	**F903_137.3 P160 BE160L4**	**F903_137.3 P160 BX160L4**	499
11.6	11554	1.2	126.8	55000	**F903_126.8 S5 ME5LA4**	**F903_126.8 S5 MX5LA4**	498	**F903_126.8 P160 BE160L4**	**F903_126.8 P160 BX160L4**	499
13.1	10203	1.4	111.9	55000	**F903_111.9 S5 ME5LA4**	**F903_111.9 S5 MX5LA4**	498	**F903_111.9 P160 BE160L4**	**F903_111.9 P160 BX160L4**	499
14.2	9418	1.5	103.3	55000	**F903_103.3 S5 ME5LA4**	**F903_103.3 S5 MX5LA4**	498	**F903_103.3 P160 BE160L4**	**F903_103.3 P160 BX160L4**	499
15.4	8728	1.6	95.8	55000	**F903_95.8 S5 ME5LA4**	**F903_95.8 S5 MX5LA4**	498	**F903_95.8 P160 BE160L4**	**F903_95.8 P160 BX160L4**	499
15.9	8413	1.0	92.3	41300	**F803_92.3 S5 ME5LA4**	**F803_92.3 S5 MX5LA4**	495	**F803_92.3 P160 BE160L4**	**F803_92.3 P160 BX160L4**	496
16.6	8056	1.7	88.4	55000	**F903_88.4 S5 ME5LA4**	**F903_88.4 S5 MX5LA4**	498	**F903_88.4 P160 BE160L4**	**F903_88.4 P160 BX160L4**	499
17.3	7766	1.0	85.2	40800	**F803_85.2 S5 ME5LA4**	**F803_85.2 S5 MX5LA4**	495	**F803_85.2 P160 BE160L4**	**F803_85.2 P160 BX160L4**	496
19.2	6986	2.0	76.7	55000	**F903_76.7 S5 ME5LA4**	**F903_76.7 S5 MX5LA4**	498	**F903_76.7 P160 BE160L4**	**F903_76.7 P160 BX160L4**	499
19.3	6949	1.2	76.3	40500	**F803_76.3 S5 ME5LA4**	**F803_76.3 S5 MX5LA4**	495	**F803_76.3 P160 BE160L4**	**F803_76.3 P160 BX160L4**	496
20.8	6449	2.2	70.8	55000	**F903_70.8 S5 ME5LA4**	**F903_70.8 S5 MX5LA4**	498	**F903_70.8 P160 BE160L4**	**F903_70.8 P160 BX160L4**	499
20.9	6415	1.2	70.4	39900	**F803_70.4 S5 ME5LA4**	**F803_70.4 S5 MX5LA4**	495	**F803_70.4 P160 BE160L4**	**F803_70.4 P160 BX160L4**	496
23.5	5696	0.9	62.5	31300	**F703_62.5 S5 ME5LA4**	**F703_62.5 S5 MX5LA4**	492	**F703_62.5 P160 BE160L4**	**F703_62.5 P160 BX160L4**	493
23.7	5660	2.5	62.1	55000				**F903_62.1 P160 BE160L4**	**F903_62.1 P160 BX160L4**	499
23.9	5601	1.4	61.5	38700	**F803_61.5 S5 ME5LA4**	**F803_61.5 S5 MX5LA4**	495	**F803_61.5 P160 BE160L4**	**F803_61.5 P160 BX160L4**	496
25.5	5258	1.0	57.7	29700	**F703_57.7 S5 ME5LA4**	**F703_57.7 S5 MX5LA4**	492	**F703_57.7 P160 BE160L4**	**F703_57.7 P160 BX160L4**	493
25.6	5224	2.7	57.3	55000				**F903_57.3 P160 BE160L4**	**F903_57.3 P160 BX160L4**	499
25.9	5170	1.5	56.7	38600	**F803_56.7 S5 ME5LA4**	**F803_56.7 S5 MX5LA4**	495	**F803_56.7 P160 BE160L4**	**F803_56.7 P160 BX160L4**	496
29.5	4548	3.1	49.9	54400				**F903_49.9 P160 BE160L4**	**F903_49.9 P160 BX160L4**	499
29.9	4476	1.8	49.1	37800				**F803_49.1 P160 BE160L4**	**F803_49.1 P160 BX160L4**	496
30	4462	1.1	49.0	29400	**F703_49.0 S5 ME5LA4**	**F703_49.0 S5 MX5LA4**	492	**F703_49.0 P160 BE160L4**	**F703_49.0 P160 BX160L4**	493
32	4198	3.3	46.1	53500				**F903_46.1 P160 BE160L4**	**F903_46.1 P160 BX160L4**	499
32	4131	1.9	45.3	37200				**F803_45.3 P160 BE160L4**	**F803_45.3 P160 BX160L4**	496
33	4119	1.2	45.2	29100	**F703_45.2 S5 ME5LA4**	**F703_45.2 S5 MX5LA4**	492	**F703_45.2 P160 BE160L4**	**F703_45.2 P160 BX160L4**	493
38	3554	2.3	39.0	35800				**F803_39.0 P160 BE160L4**	**F803_39.0 P160 BX160L4**	496
38	3499	1.4	38.4	28600				**F703_38.4 P160 BE160L4**	**F703_38.4 P160 BX160L4**	493
41	3281	2.4	36.0	35200				**F803_36.0 P160 BE160L4**	**F803_36.0 P160 BX160L4**	496
41	3230	1.5	35.4	28200				**F703_35.4 P160 BE160L4**	**F703_35.4 P160 BX160L4**	493
46	2924	1.0	32.1	20000	**F603_32.1 S5 ME5LA4**	**F603_32.1 S5 MX5LA4**	488	**F603_32.1 P160 BE160L4**	**F603_32.1 P160 BX160L4**	489
49	2734	1.8	30.0	27700				**F703_30.0 P160 BE160L4**	**F703_30.0 P160 BX160L4**	493
50	2699	1.1	29.6	20000	**F603_29.6 S5 ME5LA4**	**F603_29.6 S5 MX5LA4**	488	**F603_29.6 P160 BE160L4**	**F603_29.6 P160 BX160L4**	489
53	2524	1.9	27.7	27100				**F703_27.7 P160 BE160L4**	**F703_27.7 P160 BX160L4**	493
58	2299	2.7	25.2	32900	**F803_25.2 S5 ME5LA4**	**F803_25.2 S5 MX5LA4**	495	**F803_25.2 P160 BE160L4**	**F803_25.2 P160 BX160L4**	496
60	2238	1.8	24.6	26500	**F703_24.6 S5 ME5LA4**	**F703_24.6 S5 MX5LA4**	492	**F703_24.6 P160 BE160L4**	**F703_24.6 P160 BX160L4**	493
63	2138	0.9	23.5	20000	**F603_23.5 S5 ME5LA4**	**F603_23.5 S5 MX5LA4**	488	**F603_23.5 P160 BE160L4**	**F603_23.5 P160 BX160L4**	489
65	2060	2.1	22.6	26200	**F703_22.6 S5 ME5LA4**	**F703_22.6 S5 MX5LA4**	492	**F703_22.6 P160 BE160L4**	**F703_22.6 P160 BX160L4**	493
67	2008	3.3	22.0	31900	**F803_22.0 S5 ME5LA4**	**F803_22.0 S5 MX5LA4**	495	**F803_22.0 P160 BE160L4**	**F803_22.0 P160 BX160L4**	496
70	1902	2.1	20.9	25700	**F703_20.9 S5 ME5LA4**	**F703_20.9 S5 MX5LA4**	492	**F703_20.9 P160 BE160L4**	**F703_20.9 P160 BX160L4**	493
71	1883	1.0	20.7	20000	**F603_20.7 S5 ME5LA4**	**F603_20.7 S5 MX5LA4**	488	**F603_20.7 P160 BE160L4**	**F603_20.7 P160 BX160L4**	489
72	1853	3.3	20.3	31300	**F803_20.3 S5 ME5LA4**	**F803_20.3 S5 MX5LA4**	495	**F803_20.3 P160 BE160L4**	**F803_20.3 P160 BX160L4**	496
77	1738	1.1	19.1	20000	**F603_19.1 S5 ME5LA4**	**F603_19.1 S5 MX5LA4**	488	**F603_19.1 P160 BE160L4**	**F603_19.1 P160 BX160L4**	489
78	1752	0.9	18.8	6800	**F512_18.8 S5 ME5LA4**	**F512_18.8 S5 MX5LA4**	484	**F512_18.8 P160 BE160L4**	**F512_18.8 P160 BX160L4**	485
83	1614	2.7	17.7	24900	**F703_17.7 S5 ME5LA4**	**F703_17.7 S5 MX5LA4**	492	**F703_17.7 P160 BE160L4**	**F703_17.7 P160 BX160L4**	493
90	1490	2.7	16.3	24400	**F703_16.3 S5 ME5LA4**	**F703_16.3 S5 MX5LA4**	492	**F703_16.3 P160 BE160L4**	**F703_16.3 P160 BX160L4**	493
94	1429	1.3	15.7	19600	**F603_15.7 S5 ME5LA4**	**F603_15.7 S5 MX5LA4**	488	**F603_15.7 P160 BE160L4**	**F603_15.7 P160 BX160L4**	489
102	1319	1.4	14.5	19200	**F603_14.5 S5 ME5LA4**	**F603_14.5 S5 MX5LA4**	488	**F603_14.5 P160 BE160L4**	**F603_14.5 P160 BX160L4**	489
105	1301	1.1	14.0	6450	**F512_14.0 S5 ME5LA4**	**F512_14.0 S5 MX5LA4**	484	**F512_14.0 P160 BE160L4**	**F512_14.0 P160 BX160L4**	485
106	1266	3.1	13.9	23600	**F703_13.9 S5 ME5LA4**	**F703_13.9 S5 MX5LA4**	492	**F703_13.9 P160 BE160L4**	**F703_13.9 P160 BX160L4**	493
115	1168	3.1	12.8	23100	**F703_12.8 S5 ME5LA4**	**F703_12.8 S5 MX5LA4**	492	**F703_12.8 P160 BE160L4**	**F703_12.8 P160 BX160L4**	493
115	1160	1.6	12.7	18800	**F603_12.7 S5 ME5LA4**	**F603_12.7 S5 MX5LA4**	488	**F603_12.7 P160 BE160L4**	**F603_12.7 P160 BX160L4**	489
125	1071	1.8	11.8	18400	**F603_11.8 S5 ME5LA4**	**F603_11.8 S5 MX5LA4**	488	**F603_11.8 P160 BE160L4**	**F603_11.8 P160 BX160L4**	489
132	1034	1.3	11.1	6000	**F512_11.1 S5 ME5LA4**	**F512_11.1 S5 MX5LA4**	484	**F512_11.1 P160 BE160L4**	**F512_11.1 P160 BX160L4**	485
135	989	3.5	10.9	22300	**F703_10.9 S5 ME5LA4**	**F703_10.9 S5 MX5LA4**	492	**F703_10.9 P160 BE160L4**	**F703_10.9 P160 BX160L4**	493
147	913	3.5	10.0	21800	**F703_10.0 S5 ME5LA4**	**F703_10.0 S5 MX5LA4**	492	**F703_10.0 P160 BE160L4**	**F703_10.0 P160 BX160L4**	493
151	885	2.1	9.7	17700	**F603_9.7 S5 ME5LA4**	**F603_9.7 S5 MX5LA4**	488	**F603_9.7 P160 BE160L4**	**F603_9.7 P160 BX160L4**	489
162	843	1.3	9.1	5800	**F512_9.1 S5 ME5LA4**	**F512_9.1 S5 MX5LA4**	484	**F512_9.1 P160 BE160L4**	**F512_9.1 P160 BX160L4**	485
164	817	2.3	9.0	17300	**F603_9.0 S5 ME5LA4**	**F603_9.0 S5 MX5LA4**	488	**F603_9.0 P160 BE160L4**	**F603_9.0 P160 BX160L4**	489
204	670	1.5	7.2	5640	**F512_7.2 S5 ME5LA4**	**F512_7.2 S5 MX5LA4**	484	**F512_7.2 P160 BE160L4**	**F512_7.2 P160 BX160L4**	485



18.5 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
10.7	15327	0.9	137.3	55000				**F903_137.3 P180 BE180M4**	**F903_137.3 P180 BX180M4**	499
11.6	14148	1.0	126.8	55000				**F903_126.8 P180 BE180M4**	**F903_126.8 P180 BX180M4**	499
13.1	12493	1.1	111.9	55000				**F903_111.9 P180 BE180M4**	**F903_111.9 P180 BX180M4**	499
14.2	11532	1.2	103.3	55000				**F903_103.3 P180 BE180M4**	**F903_103.3 P180 BX180M4**	499
15.4	10687	1.3	95.8	55000				**F903_95.8 P180 BE180M4**	**F903_95.8 P180 BX180M4**	499
16.6	9865	1.4	88.4	55000				**F903_88.4 P180 BE180M4**	**F903_88.4 P180 BX180M4**	499
19.2	8554	1.6	76.7	55000				**F903_76.7 P180 BE180M4**	**F903_76.7 P180 BX180M4**	499
19.3	8510	0.9	76.3	38100				**F803_76.3 P180 BE180M4**	**F803_76.3 P180 BX180M4**	496
20.8	7896	1.8	70.8	55000				**F903_70.8 P180 BE180M4**	**F903_70.8 P180 BX180M4**	499
20.9	7855	1.0	70.4	37600				**F803_70.4 P180 BE180M4**	**F803_70.4 P180 BX180M4**	496
23.7	6930	2.0	62.1	55000				**F903_62.1 P180 BE180M4**	**F903_62.1 P180 BX180M4**	499
23.9	6859	1.2	61.5	37400				**F803_61.5 P180 BE180M4**	**F803_61.5 P180 BX180M4**	496
25.6	6397	2.2	57.3	55000				**F903_57.3 P180 BE180M4**	**F903_57.3 P180 BX180M4**	499
25.9	6331	1.3	56.7	36800				**F803_56.7 P180 BE180M4**	**F803_56.7 P180 BX180M4**	496
29.5	5568	2.5	49.9	55000				**F903_49.9 P180 BE180M4**	**F903_49.9 P180 BX180M4**	499
29.9	5480	1.5	49.1	35800				**F803_49.1 P180 BE180M4**	**F803_49.1 P180 BX180M4**	496
30	5464	0.9	49.0	27400				**F703_49.0 P180 BE180M4**	**F703_49.0 P180 BX180M4**	493
32	5140	2.7	46.1	55000				**F903_46.1 P180 BE180M4**	**F903_46.1 P180 BX180M4**	499
32	5059	1.6	45.3	35700				**F803_45.3 P180 BE180M4**	**F803_45.3 P180 BX180M4**	496
33	5043	1.0	45.2	27200				**F703_45.2 P180 BE180M4**	**F703_45.2 P180 BX180M4**	493
36	4520	3.1	40.5	52300				**F903_40.5 P180 BE180M4**	**F903_40.5 P180 BX180M4**	499
38	4352	1.8	39.0	35000				**F803_39.0 P180 BE180M4**	**F803_39.0 P180 BX180M4**	496
38	4285	1.2	38.4	27000				**F703_38.4 P180 BE180M4**	**F703_38.4 P180 BX180M4**	493
39	4172	3.2	37.4	51400				**F903_37.4 P180 BE180M4**	**F903_37.4 P180 BX180M4**	499
41	4018	2.0	36.0	34400				**F803_36.0 P180 BE180M4**	**F803_36.0 P180 BX180M4**	496
41	3955	1.3	35.4	26700				**F703_35.4 P180 BE180M4**	**F703_35.4 P180 BX180M4**	493
47	3488	2.3	31.3	33400				**F803_31.3 P180 BE180M4**	**F803_31.3 P180 BX180M4**	496
49	3348	1.5	30.0	26500				**F703_30.0 P180 BE180M4**	**F703_30.0 P180 BX180M4**	493
51	3219	2.5	28.8	33000				**F803_28.8 P180 BE180M4**	**F803_28.8 P180 BX180M4**	496
53	3090	1.5	27.7	26000				**F703_27.7 P180 BE180M4**	**F703_27.7 P180 BX180M4**	493
58	2815	2.2	25.2	32100				**F803_25.2 P180 BE180M4**	**F803_25.2 P180 BX180M4**	496
60	2741	1.5	24.6	25500				**F703_24.6 P180 BE180M4**	**F703_24.6 P180 BX180M4**	493
65	2523	1.7	22.6	25200				**F703_22.6 P180 BE180M4**	**F703_22.6 P180 BX180M4**	493
67	2458	2.7	22.0	31300				**F803_22.0 P180 BE180M4**	**F803_22.0 P180 BX180M4**	496
70	2329	1.7	20.9	24900				**F703_20.9 P180 BE180M4**	**F703_20.9 P180 BX180M4**	493
72	2269	2.7	20.3	30600				**F803_20.3 P180 BE180M4**	**F803_20.3 P180 BX180M4**	496
77	2128	0.9	19.1	19200				**F603_19.1 P180 BE180M4**	**F603_19.1 P180 BX180M4**	489
83	1976	2.2	17.7	24200				**F703_17.7 P180 BE180M4**	**F703_17.7 P180 BX180M4**	493
84	1964	3.4	17.6	29700				**F803_17.6 P180 BE180M4**	**F803_17.6 P180 BX180M4**	496
90	1824	2.2	16.3	23800				**F703_16.3 P180 BE180M4**	**F703_16.3 P180 BX180M4**	493
90	1813	3.4	16.2	29100				**F803_16.2 P180 BE180M4**	**F803_16.2 P180 BX180M4**	496
94	1750	1.1	15.7	18700				**F603_15.7 P180 BE180M4**	**F603_15.7 P180 BX180M4**	489
102	1615	1.2	14.5	18600				**F603_14.5 P180 BE180M4**	**F603_14.5 P180 BX180M4**	489
106	1550	2.5	13.9	23000				**F703_13.9 P180 BE180M4**	**F703_13.9 P180 BX180M4**	493
115	1430	2.5	12.8	22600				**F703_12.8 P180 BE180M4**	**F703_12.8 P180 BX180M4**	493
115	1421	1.3	12.7	18300				**F603_12.7 P180 BE180M4**	**F603_12.7 P180 BX180M4**	489
125	1312	1.4	11.8	17900				**F603_11.8 P180 BE180M4**	**F603_11.8 P180 BX180M4**	489
132	1267	1.1	11.1	5800				**F512_11.1 P180 BE180M4**	**F512_11.1 P180 BX180M4**	485
135	1211	2.8	10.9	21800				**F703_10.9 P180 BE180M4**	**F703_10.9 P180 BX180M4**	493
147	1118	2.9	10.0	21400				**F703_10.0 P180 BE180M4**	**F703_10.0 P180 BX180M4**	493
151	1083	1.8	9.7	17300				**F603_9.7 P180 BE180M4**	**F603_9.7 P180 BX180M4**	489
162	1032	1.1	9.1	5630				**F512_9.1 P180 BE180M4**	**F512_9.1 P180 BX180M4**	485
164	1000	1.9	9.0	16900				**F603_9.0 P180 BE180M4**	**F603_9.0 P180 BX180M4**	489
204	820	1.2	7.2	5400				**F512_7.2 P180 BE180M4**	**F512_7.2 P180 BX180M4**	485



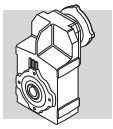
22 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE2	IE3		IE2	IE3	
13.1	14888	0.9	111.9	55000				**F903_111.9 P180 BE180L4**	**F903_111.9 P180 BX180L4**	499
14.2	13743	1.0	103.3	55000				**F903_103.3 P180 BE180L4**	**F903_103.3 P180 BX180L4**	499
15.4	12735	1.1	95.8	55000				**F903_95.8 P180 BE180L4**	**F903_95.8 P180 BX180L4**	499
16.6	11755	1.2	88.4	55000				**F903_88.4 P180 BE180L4**	**F903_88.4 P180 BX180L4**	499
19.2	10194	1.4	76.7	55000				**F903_76.7 P180 BE180L4**	**F903_76.7 P180 BX180L4**	499
20.8	9410	1.5	70.8	55000				**F903_70.8 P180 BE180L4**	**F903_70.8 P180 BX180L4**	499
23.7	8259	1.7	62.1	55000				**F903_62.1 P180 BE180L4**	**F903_62.1 P180 BX180L4**	499
23.9	8173	1.0	61.5	35400				**F803_61.5 P180 BE180L4**	**F803_61.5 P180 BX180L4**	496
25.6	7623	1.8	57.3	55000				**F903_57.3 P180 BE180L4**	**F903_57.3 P180 BX180L4**	499
25.9	7545	1.1	56.7	35000				**F803_56.7 P180 BE180L4**	**F803_56.7 P180 BX180L4**	496
29.5	6636	2.1	49.9	54400				**F903_49.9 P180 BE180L4**	**F903_49.9 P180 BX180L4**	499
29.9	6531	1.2	49.1	34100				**F803_49.1 P180 BE180L4**	**F803_49.1 P180 BX180L4**	496
32	6125	2.3	46.1	53500				**F903_46.1 P180 BE180L4**	**F903_46.1 P180 BX180L4**	499
32	6028	1.3	45.3	34300				**F803_45.3 P180 BE180L4**	**F803_45.3 P180 BX180L4**	496
36	5386	2.6	40.5	52300				**F903_40.5 P180 BE180L4**	**F903_40.5 P180 BX180L4**	499
38	5187	1.5	39.0	33300				**F803_39.0 P180 BE180L4**	**F803_39.0 P180 BX180L4**	496
38	5106	1.0	38.4	25400				**F703_38.4 P180 BE180L4**	**F703_38.4 P180 BX180L4**	493
39	4972	2.7	37.4	51400				**F903_37.4 P180 BE180L4**	**F903_37.4 P180 BX180L4**	499
41	4788	1.7	36.0	33200				**F803_36.0 P180 BE180L4**	**F803_36.0 P180 BX180L4**	496
41	4713	1.1	35.4	25300				**F703_35.4 P180 BE180L4**	**F703_35.4 P180 BX180L4**	493
47	4156	1.9	31.3	32600				**F803_31.3 P180 BE180L4**	**F803_31.3 P180 BX180L4**	496
47	4122	3.2	31.0	49500				**F903_31.0 P180 BE180L4**	**F903_31.0 P180 BX180L4**	499
49	3990	1.3	30.0	25100				**F703_30.0 P180 BE180L4**	**F703_30.0 P180 BX180L4**	493
51	3836	2.1	28.8	32000				**F803_28.8 P180 BE180L4**	**F803_28.8 P180 BX180L4**	496
51	3805	3.2	28.6	48600				**F903_28.6 P180 BE180L4**	**F903_28.6 P180 BX180L4**	499
53	3683	1.3	27.7	24800				**F703_27.7 P180 BE180L4**	**F703_27.7 P180 BX180L4**	493
58	3355	1.8	25.2	31300				**F803_25.2 P180 BE180L4**	**F803_25.2 P180 BX180L4**	496
60	3266	1.2	24.6	24500				**F703_24.6 P180 BE180L4**	**F703_24.6 P180 BX180L4**	493
65	3006	1.4	22.6	24300				**F703_22.6 P180 BE180L4**	**F703_22.6 P180 BX180L4**	493
67	2929	2.3	22.0	30200				**F803_22.0 P180 BE180L4**	**F803_22.0 P180 BX180L4**	496
70	2775	1.4	20.9	24000				**F703_20.9 P180 BE180L4**	**F703_20.9 P180 BX180L4**	493
72	2704	2.3	20.3	29900				**F803_20.3 P180 BE180L4**	**F803_20.3 P180 BX180L4**	496
83	2355	1.9	17.7	23400				**F703_17.7 P180 BE180L4**	**F703_17.7 P180 BX180L4**	493
84	2341	2.9	17.6	29100				**F803_17.6 P180 BE180L4**	**F803_17.6 P180 BX180L4**	496
90	2174	1.8	16.3	23100				**F703_16.3 P180 BE180L4**	**F703_16.3 P180 BX180L4**	493
90	2161	2.9	16.2	28500				**F803_16.2 P180 BE180L4**	**F803_16.2 P180 BX180L4**	496
94	2085	0.9	15.7	18200				**F603_15.7 P180 BE180L4**	**F603_15.7 P180 BX180L4**	489
102	1925	1.0	14.5	18000				**F603_14.5 P180 BE180L4**	**F603_14.5 P180 BX180L4**	489
106	1847	2.1	13.9	22400				**F703_13.9 P180 BE180L4**	**F703_13.9 P180 BX180L4**	493
115	1705	2.1	12.8	22100				**F703_12.8 P180 BE180L4**	**F703_12.8 P180 BX180L4**	493
115	1693	1.1	12.7	17700				**F603_12.7 P180 BE180L4**	**F603_12.7 P180 BX180L4**	489
125	1563	1.2	11.8	17400				**F603_11.8 P180 BE180L4**	**F603_11.8 P180 BX180L4**	489
135	1443	2.4	10.9	21400				**F703_10.9 P180 BE180L4**	**F703_10.9 P180 BX180L4**	493
147	1332	2.4	10.0	21000				**F703_10.0 P180 BE180L4**	**F703_10.0 P180 BX180L4**	493
151	1291	1.5	9.7	16900				**F603_9.7 P180 BE180L4**	**F603_9.7 P180 BX180L4**	489
164	1192	1.6	9.0	16500				**F603_9.0 P180 BE180L4**	**F603_9.0 P180 BX180L4**	489
204	977	1.0	7.2	5250				**F512_7.2 P180 BE180L4**	**F512_7.2 P180 BX180L4**	485

30 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE...		IE2*	IE3	
16.6	16022	0.9	88.4	52200			**F903_88.4 P200 IEC200L4**	**F903_88.4 P200 BX200LA4**	499
19.2	13893	1.0	76.7	52400			**F903_76.7 P200 IEC200L4**	**F903_76.7 P200 BX200LA4**	499
20.8	12825	1.1	70.8	52100			**F903_70.8 P200 IEC200L4**	**F903_70.8 P200 BX200LA4**	499
23.7	11256	1.2	62.1	51800			**F903_62.1 P200 IEC200L4**	**F903_62.1 P200 BX200LA4**	499
25.6	10390	1.3	57.3	51400			**F903_57.3 P200 IEC200L4**	**F903_57.3 P200 BX200LA4**	499

***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.**



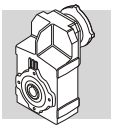
30 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE...		IE2*	IE3	
29.5	9044	1.5	49.9	50800			**F903_49.9 P200 IEC200L4**	**F903_49.9 P200 BX200LA4**	499
32	8348	1.7	46.1	50200			**F903_46.1 P200 IEC200L4**	**F903_46.1 P200 BX200LA4**	499
32	8216	1.0	45.3	30900			**F803_45.3 P200 IEC200L4**	**F803_45.3 P200 BX200LA4**	496
36	7341	1.9	40.5	49400			**F903_40.5 P200 IEC200L4**	**F903_40.5 P200 BX200LA4**	499
38	7069	1.1	39.0	31000			**F803_39.0 P200 IEC200L4**	**F803_39.0 P200 BX200LA4**	496
39	6776	2.0	37.4	48700			**F903_37.4 P200 IEC200L4**	**F903_37.4 P200 BX200LA4**	499
41	6525	1.2	36.0	30600			**F803_36.0 P200 IEC200L4**	**F803_36.0 P200 BX200LA4**	496
47	5664	1.4	31.3	29900			**F803_31.3 P200 IEC200L4**	**F803_31.3 P200 BX200LA4**	496
47	5618	2.3	31.0	47300			**F903_31.0 P200 IEC200L4**	**F903_31.0 P200 BX200LA4**	499
49	5438	0.9	30.0	22300			**F703_30.0 P200 IEC200L4**	**F703_30.0 P200 BX200LA4**	493
51	5229	1.5	28.8	29500			**F803_28.8 P200 IEC200L4**	**F803_28.8 P200 BX200LA4**	496
51	5186	2.3	28.6	46600			**F903_28.6 P200 IEC200L4**	**F903_28.6 P200 BX200LA4**	499
53	5019	0.9	27.7	22200			**F703_27.7 P200 IEC200L4**	**F703_27.7 P200 BX200LA4**	493
58	4601	2.6	25.4	45500			**F903_25.4 P200 IEC200L4**	**F903_25.4 P200 BX200LA4**	499
58	4572	1.2	25.2	29500			**F803_25.2 P200 IEC200L4**	**F803_25.2 P200 BX200LA4**	496
66	4039	3.0	22.3	44400			**F903_22.3 P200 IEC200L4**	**F903_22.3 P200 BX200LA4**	499
67	3992	1.7	22.0	29000			**F803_22.0 P200 IEC200L4**	**F803_22.0 P200 BX200LA4**	496
71	3728	3.0	20.6	43600			**F903_20.6 P200 IEC200L4**	**F903_20.6 P200 BX200LA4**	499
72	3685	1.7	20.3	28500			**F803_20.3 P200 IEC200L4**	**F803_20.3 P200 BX200LA4**	496
83	3209	1.4	17.7	21800			**F703_17.7 P200 IEC200L4**	**F703_17.7 P200 BX200LA4**	493
84	3190	2.1	17.6	27900			**F803_17.6 P200 IEC200L4**	**F803_17.6 P200 BX200LA4**	496
90	2963	1.4	16.3	21500			**F703_16.3 P200 IEC200L4**	**F703_16.3 P200 BX200LA4**	493
90	2945	2.1	16.2	27400			**F803_16.2 P200 IEC200L4**	**F803_16.2 P200 BX200LA4**	496
105	2534	2.7	14.0	26700			**F803_14.0 P200 IEC200L4**	**F803_14.0 P200 BX200LA4**	496
106	2517	1.5	13.9	21100			**F703_13.9 P200 IEC200L4**	**F703_13.9 P200 BX200LA4**	493
114	2339	2.7	12.9	26200			**F803_12.9 P200 IEC200L4**	**F803_12.9 P200 BX200LA4**	496
115	2323	1.5	12.8	20900			**F703_12.8 P200 IEC200L4**	**F703_12.8 P200 BX200LA4**	493
135	1967	1.8	10.9	20300			**F703_10.9 P200 IEC200L4**	**F703_10.9 P200 BX200LA4**	493
142	1874	3.0	10.3	24900			**F803_10.3 P200 IEC200L4**	**F803_10.3 P200 BX200LA4**	496
147	1815	1.8	10.0	20000			**F703_10.0 P200 IEC200L4**	**F703_10.0 P200 BX200LA4**	493

37 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE...		IE2*	IE3	
20.9	15710	0.9	70.8	47600			**F903_70.8 P225 IEC225S4**	**F903_70.8 P225 BX225SA4**	499
25.8	12728	1.1	57.3	47700			**F903_57.3 P225 IEC225S4**	**F903_57.3 P225 BX225SA4**	499
29.7	11079	1.3	49.9	47600			**F903_49.9 P225 IEC225S4**	**F903_49.9 P225 BX225SA4**	499
32	10227	1.4	46.1	47200			**F903_46.1 P225 IEC225S4**	**F903_46.1 P225 BX225SA4**	499
37	8993	1.6	40.5	46800			**F903_40.5 P225 IEC225S4**	**F903_40.5 P225 BX225SA4**	499
38	8659	0.9	39.0	28500			**F803_39.0 P225 IEC225S4**	**F803_39.0 P225 BX225SA4**	496
40	8301	1.6	37.4	46300			**F903_37.4 P225 IEC225S4**	**F903_37.4 P225 BX225SA4**	499
41	7993	1.0	36.0	28300			**F803_36.0 P225 IEC225S4**	**F803_36.0 P225 BX225SA4**	496
47	6939	1.2	31.3	28400			**F803_31.3 P225 IEC225S4**	**F803_31.3 P225 BX225SA4**	496
48	6882	1.9	31.0	45300			**F903_31.0 P225 IEC225S4**	**F903_31.0 P225 BX225SA4**	499
51	6405	1.2	28.8	28100			**F803_28.8 P225 IEC225S4**	**F803_28.8 P225 BX225SA4**	496
52	6353	1.9	28.6	44700			**F903_28.6 P225 IEC225S4**	**F903_28.6 P225 BX225SA4**	499
58	5637	2.1	25.4	43900			**F903_25.4 P225 IEC225S4**	**F903_25.4 P225 BX225SA4**	499
59	5601	1.1	25.2	27800			**F803_25.2 P225 IEC225S4**	**F803_25.2 P225 BX225SA4**	496
66	4947	2.4	22.3	43000			**F903_22.3 P225 IEC225S4**	**F903_22.3 P225 BX225SA4**	499
67	4891	1.1	22.0	27600			**F803_22.0 P225 IEC225S4**	**F803_22.0 P225 BX225SA4**	496
72	4567	2.5	20.6	42300			**F903_20.6 P225 IEC225S4**	**F903_20.6 P225 BX225SA4**	499
73	4515	1.1	20.3	27200			**F803_20.3 P225 IEC225S4**	**F803_20.3 P225 BX225SA4**	496
83	3975	2.8	17.9	41200			**F903_17.9 P225 IEC225S4**	**F903_17.9 P225 BX225SA4**	499
84	3908	1.7	17.6	26800			**F803_17.6 P225 IEC225S4**	**F803_17.6 P225 BX225SA4**	496

***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.**



37 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE...		IE2*	IE3	
90	3669	2.8	16.5	40500			**F903_16.5 P225 IEC225S4**	**F903_16.5 P225 BX225SA4**	499
91	3607	1.7	16.2	26300			**F803_16.2 P225 IEC225S4**	**F803_16.2 P225 BX225SA4**	496
102	3226	3.1	14.5	39500			**F903_14.5 P225 IEC225S4**	**F903_14.5 P225 BX225SA4**	499
106	3104	2.2	14.0	25800			**F803_14.0 P225 IEC225S4**	**F803_14.0 P225 BX225SA4**	496
110	2978	3.1	13.4	38700			**F903_13.4 P225 IEC225S4**	**F903_13.4 P225 BX225SA4**	499
115	2865	2.2	12.9	25300			**F803_12.9 P225 IEC225S4**	**F803_12.9 P225 BX225SA4**	496
132	2487	2.4	11.2	24500			**F803_11.2 P225 IEC225S4**	**F803_11.2 P225 BX225SA4**	496
143	2296	2.4	10.3	24300			**F803_10.3 P225 IEC225S4**	**F803_10.3 P225 BX225SA4**	496

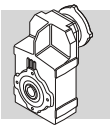
45 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE...		IE2*	IE3	
32	12438	1.1	46.1	43900			**F903_46.1 P225 IEC225M4**	**F903_46.1 P225 BX225SB4**	499
37	10937	1.3	40.5	43900			**F903_40.5 P225 IEC225M4**	**F903_40.5 P225 BX225SB4**	499
40	10096	1.3	37.4	43600			**F903_37.4 P225 IEC225M4**	**F903_37.4 P225 BX225SB4**	499
47	8439	0.9	31.3	26100			**F803_31.3 P225 IEC225M4**	**F803_31.3 P225 BX225SB4**	496
48	8370	1.6	31.0	43100			**F903_31.0 P225 IEC225M4**	**F903_31.0 P225 BX225SB4**	499
51	7790	1.0	28.8	26000			**F803_28.8 P225 IEC225M4**	**F803_28.8 P225 BX225SB4**	496
52	7726	1.6	28.6	42600			**F903_28.6 P225 IEC225M4**	**F903_28.6 P225 BX225SB4**	499
58	6855	1.8	25.4	42000			**F903_25.4 P225 IEC225M4**	**F903_25.4 P225 BX225SB4**	499
66	6017	2.0	22.3	41400			**F903_22.3 P225 IEC225M4**	**F903_22.3 P225 BX225SB4**	499
67	5948	1.1	22.0	26000			**F803_22.0 P225 IEC225M4**	**F803_22.0 P225 BX225SB4**	496
72	5554	2.0	20.6	40800			**F903_20.6 P225 IEC225M4**	**F903_20.6 P225 BX225SB4**	499
73	5491	1.1	20.3	25700			**F803_20.3 P225 IEC225M4**	**F803_20.3 P225 BX225SB4**	496
83	4834	2.3	17.9	39900			**F903_17.9 P225 IEC225M4**	**F903_17.9 P225 BX225SB4**	499
84	4753	1.4	17.6	25500			**F803_17.6 P225 IEC225M4**	**F803_17.6 P225 BX225SB4**	496
90	4463	2.3	16.5	39300			**F903_16.5 P225 IEC225M4**	**F903_16.5 P225 BX225SB4**	499
91	4387	1.4	16.2	25200			**F803_16.2 P225 IEC225M4**	**F803_16.2 P225 BX225SB4**	496
102	3924	2.5	14.5	38400			**F903_14.5 P225 IEC225M4**	**F903_14.5 P225 BX225SB4**	499
106	3775	1.8	14.0	24800			**F803_14.0 P225 IEC225M4**	**F803_14.0 P225 BX225SB4**	496
110	3622	2.6	13.4	37800			**F903_13.4 P225 IEC225M4**	**F903_13.4 P225 BX225SB4**	499
115	3484	1.8	12.9	24100			**F803_12.9 P225 IEC225M4**	**F803_12.9 P225 BX225SB4**	496
132	3025	1.5	11.2	24000			**F803_11.2 P225 IEC225M4**	**F803_11.2 P225 BX225SB4**	496
133	3003	2.9	11.1	36400			**F903_11.1 P225 IEC225M4**	**F903_11.1 P225 BX225SB4**	499
143	2792	2.0	10.3	23500			**F803_10.3 P225 IEC225M4**	**F803_10.3 P225 BX225SB4**	496

55 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE...		IE2*	IE3	
32	15202	0.9	46.1	39700			**F903_46.1 P250 IEC250M4**	**F903_46.1 P250 BX250MA4**	499
37	13367	1.0	40.5	40300			**F903_40.5 P250 IEC250M4**	**F903_40.5 P250 BX250MA4**	499
40	12339	1.1	37.4	40200			**F903_37.4 P250 IEC250M4**	**F903_37.4 P250 BX250MA4**	499
48	10230	1.3	31.0	40300			**F903_31.0 P250 IEC250M4**	**F903_31.0 P250 BX250MA4**	499
52	9443	1.3	28.6	40100			**F903_28.6 P250 IEC250M4**	**F903_28.6 P250 BX250MA4**	499
58	8379	1.4	25.4	39700			**F903_25.4 P250 IEC250M4**	**F903_25.4 P250 BX250MA4**	499
66	7354	1.6	22.3	39400			**F903_22.3 P250 IEC250M4**	**F903_22.3 P250 BX250MA4**	499
72	6788	1.7	20.6	38900			**F903_20.6 P250 IEC250M4**	**F903_20.6 P250 BX250MA4**	499

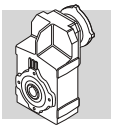
***The technical information shall be considered as indicative, the configurations should be matching the data provided by motors manufacturers on rated powers greater than 22 kW.**



55 kW

n_2 min-1	M_2 Nm	S	i	R_{n2} N	IE...		IE2*	IE3	
83	5909	1.9	17.9	38300			**F903_17.9 P250 IEC250M4**	**F903_17.9 P250 BX250MA4**	499
90	5454	1.9	16.5	37800			**F903_16.5 P250 IEC250M4**	**F903_16.5 P250 BX250MA4**	499
102	4796	2.1	14.5	37100			**F903_14.5 P250 IEC250M4**	**F903_14.5 P250 BX250MA4**	499
110	4427	2.1	13.4	36600			**F903_13.4 P250 IEC250M4**	**F903_13.4 P250 BX250MA4**	499
133	3671	2.4	11.1	35400			**F903_11.1 P250 IEC250M4**	**F903_11.1 P250 BX250MA4**	499
144	3388	2.4	10.3	34800			**F903_10.3 P250 IEC250M4**	**F903_10.3 P250 BX250MA4**	499

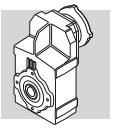
***The technical information shall be considered as indicative, the configurations should be matching the data provided by motors manufacturers on rated powers greater than 22 kW.**



61 GEARBOX RATING CHARTS

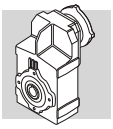
F 10 — 140 Nm

	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	
F 10 2_7.4	7.4	378	63	2.6	1000	1290	189	76	1.6	1290	1640	
F 10 2_8.6	8.6	326	67	2.4	980	1350	163	82	1.5	1260	1710	
F 10 2_9.8	9.8	287	73	2.3	980	1410	143	89	1.4	1250	1780	
F 10 2_11.5	11.5	243	78	2.1	950	1480	121	96	1.3	1220	1870	
F 10 2_13.0	13.0	215	85	2.0	940	1530	107	104	1.2	1210	1940	
F 10 2_14.6	14.6	191	94	2.0	1120	1590	96	119	1.3	1300	2000	
F 10 2_17.0	17.0	165	104	1.9	1090	1650	82	128	1.2	1300	2090	
F 10 2_19.3	19.3	145	108	1.7	1100	1730	72	136	1.1	1300	2180	
F 10 2_22.8	22.8	123	119	1.6	1080	1810	61	140	0.95	1300	2310	
F 10 2_25.8	25.8	109	123	1.5	1090	1890	54	140	0.84	1300	2430	
F 10 2_29.6	29.6	94	132	1.4	1060	1970	47	140	0.73	1300	2560	
F 10 2_33.0	33.0	85	137	1.3	1070	2040	42	140	0.65	1300	2670	465
F 10 2_35.3	35.3	79	140	1.2	1060	2090	40	140	0.61	1300	2740	
F 10 2_39.6	39.6	71	140	1.1	1080	2190	35	140	0.54	1300	2800	
F 10 2_44.7	44.7	63	140	0.97	1080	2290	31	140	0.48	1300	2800	
F 10 2_48.7	48.7	57	140	0.89	1090	2370	28.7	140	0.44	1300	2800	
F 10 2_56.7	56.7	49	140	0.76	1100	2520	24.7	140	0.38	1300	2800	
F 10 2_63.0	63.0	44	140	0.69	1110	2620	22.2	140	0.34	1300	2800	
F 10 2_71.1	71.1	39	140	0.61	1000	2750	19.7	140	0.30	1300	2800	
F 10 2_81.3	81.3	34	140	0.53	1110	2800	17.2	140	0.27	1300	2800	
F 10 2_91.5	91.5	31	140	0.47	1110	2800	15.3	140	0.24	1300	2800	
F 10 2_106.0	106.0	26.4	140	0.41	1120	2800	13.2	140	0.20	1300	2800	
F 10 2_127.1	127.1	22.0	140	0.34	1130	2800	11.0	140	0.17	1300	2800	



F 10 — 140 Nm

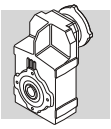
	i	n_1 = 900 min^{-1}					n_1 = 500 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 10 2_7.4	7.4	122	91	1.2	1300	1890	68	111	0.83	1300	2300	
F 10 2_8.6	8.6	105	94	1.1	1300	1970	58	112	0.72	1300	2430	
F 10 2_9.8	9.8	92	107	1.1	1300	2050	51	130	0.73	1300	2490	
F 10 2_11.5	11.5	78	110	0.95	1300	2180	43	131	0.63	1300	2660	
F 10 2_13.0	13.0	69	124	0.94	1300	2240	38	140	0.59	1300	2800	
F 10 2_14.6	14.6	61	138	0.93	1300	2320	34	140	0.53	1300	2800	
F 10 2_17.0	17.0	53	140	0.82	1300	2450	29.5	140	0.46	1300	2800	
F 10 2_19.3	19.3	47	140	0.72	1300	2580	25.9	140	0.40	1300	2800	
F 10 2_22.8	22.8	39	140	0.61	1300	2750	21.9	140	0.34	1300	2800	
F 10 2_25.8	25.8	35	140	0.54	1300	2800	19.4	140	0.30	1300	2800	
F 10 2_29.6	29.6	30	140	0.47	1300	2800	16.9	140	0.26	1300	2800	
F 10 2_33.0	33.0	27.3	140	0.42	1300	2800	15.2	140	0.23	1300	2800	465
F 10 2_35.3	35.3	25.5	140	0.39	1300	2800	14.1	140	0.22	1300	2800	
F 10 2_39.6	39.6	22.7	140	0.35	1300	2800	12.6	140	0.19	1300	2800	
F 10 2_44.7	44.7	20.1	140	0.31	1300	2800	11.2	140	0.17	1300	2800	
F 10 2_48.7	48.7	18.5	140	0.29	1300	2800	10.3	140	0.16	1300	2800	
F 10 2_56.7	56.7	15.9	140	0.24	1300	2800	8.8	140	0.14	1300	2800	
F 10 2_63.0	63.0	14.3	140	0.22	1300	2800	7.9	140	0.12	1300	2800	
F 10 2_71.1	71.1	12.7	140	0.20	1300	2800	7.0	140	0.11	1300	2800	
F 10 2_81.3	81.3	11.1	140	0.17	1300	2800	6.1	140	0.09	1300	2800	
F 10 2_91.5	91.5	9.8	140	0.15	1300	2800	5.5	140	0.08	1300	2800	
F 10 2_106.0	106.0	8.5	140	0.13	1300	2800	4.7	140	0.07	1300	2800	
F 10 2_127.1	127.1	7.1	140	0.11	1300	2800	3.9	140	0.06	1300	2800	



F 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	
F 20 2_6.4	6.4	437	103	5.0	—	1370	218	130	3.1	—	1720	
F 20 2_7.8	7.8	357	115	4.5	—	1440	179	144	2.8	—	1820	
F 20 2_8.7	8.7	321	123	4.3	—	1490	160	155	2.7	—	1870	
F 20 2_10.0	10.0	279	131	4.0	—	1550	140	165	2.5	—	1950	
F 20 2_11.2	11.2	249	141	3.9	—	1590	125	177	2.4	—	2010	
F 20 2_14.8	14.8	189	166	3.5	760	1740	95	203	2.1	1010	2210	
F 20 2_18.1	18.1	155	175	3.0	750	1870	77	213	1.8	1020	2380	
F 20 2_20.2	20.2	139	182	2.8	810	1940	69	223	1.7	1070	2460	
F 20 2_23.1	23.1	121	190	2.5	770	2030	60	235	1.6	1000	2570	
F 20 2_25.9	25.9	108	196	2.3	830	2110	54	240	1.4	1100	2680	
F 20 2_30.4	30.4	92	205	2.1	780	2230	46	250	1.3	1050	2840	
F 20 2_33.1	33.1	85	210	2.0	800	2300	42	250	1.2	1120	2940	
F 20 2_37.9	37.9	74	220	1.8	740	2400	37	250	1.0	1130	3110	
F 20 2_41.8	41.8	67	225	1.7	780	2490	33	250	0.92	1220	3240	
F 20 2_44.8	44.8	62	235	1.6	690	2540	31	250	0.86	1200	3330	
F 20 2_50.7	50.7	55	238	1.4	780	2660	27.6	250	0.76	1320	3500	
F 20 2_56.7	56.7	49	250	1.4	730	2750	24.7	250	0.68	1360	3660	
F 20 2_61.9	61.9	45	250	1.2	750	2860	22.6	250	0.62	1370	3790	
F 20 2_69.1	69.1	40	250	1.1	760	2990	20.2	250	0.56	1370	3950	469
F 20 2_76.8	76.8	36	250	1.0	780	3130	18.2	250	0.50	1380	4000	
F 20 2_90.4	90.4	31	250	0.85	830	3340	15.5	250	0.43	1390	4000	
F 20 2_101.6	101.6	27.5	250	0.76	830	3500	13.8	250	0.38	1390	4000	
F 20 2_114.3	114.3	24.5	250	0.67	850	3670	12.2	250	0.34	1400	4000	
F 20 2_132.2	132.2	21.2	250	0.58	870	3890	10.6	250	0.29	1400	4000	
F 20 3_156.3	156.3	17.9	250	0.50	1170	4000	9.0	250	0.25	1300	4000	
F 20 3_172.6	172.6	16.2	250	0.46	1200	4000	8.1	250	0.23	1300	4000	
F 20 3_184.9	184.9	15.1	250	0.43	1210	4000	7.6	250	0.21	1300	4000	
F 20 3_209.3	209.3	13.4	250	0.38	1240	4000	6.7	250	0.19	1300	4000	
F 20 3_234.0	234.0	12.0	250	0.34	1270	4000	6.0	250	0.17	1300	4000	
F 20 3_255.3	255.3	11.0	250	0.31	1280	4000	5.5	250	0.15	1300	4000	
F 20 3_285.2	285.2	9.8	250	0.28	1300	4000	4.9	250	0.14	1300	4000	
F 20 3_316.9	316.9	8.8	250	0.25	1300	4000	4.4	250	0.12	1300	4000	
F 20 3_372.9	372.9	7.5	250	0.21	1300	4000	3.8	250	0.11	1300	4000	
F 20 3_419.3	419.3	6.7	250	0.19	1300	4000	3.3	250	0.09	1300	4000	
F 20 3_471.7	471.7	5.9	250	0.17	1300	4000	3.0	250	0.08	1300	4000	
F 20 3_545.3	545.3	5.1	250	0.14	1300	4000	2.6	250	0.07	1300	4000	

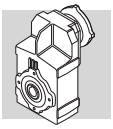
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



F 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	
F 20 2_6.4	6.4	140	150	2.3	—	1990	218	183	4.4	—	2420	
F 20 2_7.8	7.8	115	167	2.1	—	2110	64	189	1.3	—	2610	
F 20 2_8.7	8.7	103	180	2.0	—	2170	57	219	1.4	—	2640	
F 20 2_10.0	10.0	90	191	1.9	—	2260	50	221	1.2	—	2790	
F 20 2_11.2	11.2	80	205	1.8	—	2330	45	250	1.2	—	2830	
F 20 2_14.8	14.8	61	232	1.6	1210	2570	34	250	0.93	1790	3230	
F 20 2_18.1	18.1	50	250	1.4	1150	2740	27.7	250	0.76	1910	3500	
F 20 2_20.2	20.2	45	250	1.2	1320	2870	24.8	250	0.68	1960	3650	
F 20 2_23.1	23.1	39	250	1.1	1350	3040	21.6	250	0.60	1970	3860	
F 20 2_25.9	25.9	35	250	0.96	1500	3190	19.3	250	0.53	2010	4000	
F 20 2_30.4	30.4	29.6	250	0.82	1530	3400	16.5	250	0.45	2020	4000	
F 20 2_33.1	33.1	27.2	250	0.75	1580	3520	15.1	250	0.42	2040	4000	
F 20 2_37.9	37.9	23.8	250	0.65	1590	3720	13.2	250	0.36	2040	4000	
F 20 2_41.8	41.8	21.5	250	0.59	1610	3870	12.0	250	0.33	2070	4000	
F 20 2_44.8	44.8	20.1	250	0.55	1610	3970	11.2	250	0.31	2060	4000	
F 20 2_50.7	50.7	17.7	250	0.49	1640	4000	9.9	250	0.27	2090	4000	
F 20 2_56.7	56.7	15.9	250	0.44	1650	4000	8.8	250	0.24	2110	4000	
F 20 2_61.9	61.9	14.5	250	0.40	1660	4000	8.1	250	0.22	2110	4000	
F 20 2_69.1	69.1	13.0	250	0.36	1660	4000	7.2	250	0.20	2110	4000	469
F 20 2_76.8	76.8	11.7	250	0.32	1670	4000	6.5	250	0.18	2120	4000	
F 20 2_90.4	90.4	10.0	250	0.27	1680	4000	5.5	250	0.15	2130	4000	
F 20 2_101.6	101.6	8.9	250	0.24	1680	4000	4.9	250	0.14	2130	4000	
F 20 2_114.3	114.3	7.9	250	0.22	1690	4000	4.4	250	0.12	2140	4000	
F 20 2_132.2	132.2	6.8	250	0.19	1690	4000	3.8	250	0.10	2150	4000	
F 20 3_156.3	156.3	5.8	250	0.16	1300	4000	3.2	250	0.09	1300	4000	
F 20 3_172.6	172.6	5.2	250	0.15	1300	4000	2.9	250	0.08	1300	4000	
F 20 3_184.9	184.9	4.9	250	0.14	1300	4000	2.7	250	0.08	1300	4000	
F 20 3_209.3	209.3	4.3	250	0.12	1300	4000	2.4	250	0.07	1300	4000	
F 20 3_234.0	234.0	3.8	250	0.11	1300	4000	2.1	250	0.06	1300	4000	
F 20 3_255.3	255.3	3.5	250	0.10	1300	4000	2.0	250	0.06	1300	4000	
F 20 3_285.2	285.2	3.2	250	0.09	1300	4000	1.8	250	0.05	1300	4000	
F 20 3_316.9	316.9	2.8	250	0.08	1300	4000	1.6	250	0.04	1300	4000	
F 20 3_372.9	372.9	2.4	250	0.07	1300	4000	1.3	250	0.04	1300	4000	
F 20 3_419.3	419.3	2.1	250	0.06	1300	4000	1.2	250	0.03	1300	4000	
F 20 3_471.7	471.7	1.9	250	0.05	1300	4000	1.1	250	0.03	1300	4000	
F 20 3_545.3	545.3	1.7	250	0.05	1300	4000	0.92	250	0.03	1300	4000	

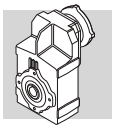
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



F 25 — 400 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	
F 25 2_6.9	6.9	408	155	7.0	—	1840	204	195	4.4	—	2320	
F 25 2_8.4	8.4	334	170	6.3	—	1950	167	215	4.0	—	2450	
F 25 2_9.4	9.4	299	180	5.9	—	2010	150	225	3.7	—	2540	
F 25 2_10.6	10.6	264	240	7.0	—	1850	132	305	4.4	—	2320	
F 25 2_13.0	13.0	216	255	6.1	—	1990	108	320	3.8	—	2510	
F 25 2_14.5	14.5	194	260	5.5	—	2080	97	330	3.5	—	2610	
F 25 2_16.6	16.6	168	270	5.0	—	2190	84	340	3.2	—	2760	
F 25 2_18.6	18.6	150	280	4.6	—	2270	75	350	2.9	—	2870	
F 25 2_21.8	21.8	128	280	4.0	—	2460	64	355	2.5	250	3090	
F 25 2_23.8	23.8	118	285	3.7	250	2540	59	360	2.3	300	3200	
F 25 2_27.2	27.2	103	290	3.3	250	2690	51	365	2.1	320	3400	
F 25 2_30.0	30.0	93	295	3.0	310	2800	47	370	1.9	410	3540	
F 25 2_32.2	32.2	87	295	2.8	310	2900	44	370	1.8	410	3660	
F 25 2_36.4	36.4	77	295	2.5	460	3070	38	370	1.6	600	3880	
F 25 2_40.7	40.7	69	295	2.2	560	3230	34	370	1.4	720	4080	
F 25 2_44.4	44.4	63	295	2.0	720	3360	32	370	1.3	720	4250	
F 25 3_45.6	45.6	61	340	2.4	1440	3100	31	400	1.4	1830	4030	
F 25 3_50.8	50.8	55	350	2.2	1450	3230	27.6	400	1.2	1850	4250	
F 25 3_58.3	58.3	48	365	2.0	1450	3390	24.0	400	1.1	1860	4530	
F 25 3_65.3	65.3	43	375	1.8	1450	3530	21.4	400	0.97	1870	4780	
F 25 3_76.6	76.6	37	395	1.6	1450	3730	18.3	400	0.82	1880	5140	
F 25 3_83.4	83.4	34	400	1.5	1450	3860	16.8	400	0.76	1880	5330	
F 25 3_95.5	95.5	29.3	400	1.3	1460	4130	14.7	400	0.66	1890	5660	473
F 25 3_105.4	105.4	26.6	400	1.2	1470	4320	13.3	400	0.60	1890	5910	
F 25 3_113.0	113.0	24.8	400	1.1	1470	4470	12.4	400	0.56	1890	6090	
F 25 3_127.8	127.8	21.9	400	0.99	1480	4730	11.0	400	0.49	1900	6430	
F 25 3_143.0	143.0	19.6	400	0.88	1480	4980	9.8	400	0.44	1910	6500	
F 25 3_155.9	155.9	18.0	400	0.81	1480	5180	9.0	400	0.40	1910	6500	
F 25 3_174.2	174.2	16.1	400	0.72	1490	5440	8.0	400	0.36	1910	6500	
F 25 3_193.6	193.6	14.5	400	0.65	1490	5700	7.2	400	0.33	1910	6500	
F 25 3_227.8	227.8	12.3	400	0.55	1490	6120	6.1	400	0.28	1920	6500	
F 25 3_256.1	256.1	10.9	400	0.49	1490	6430	5.5	400	0.25	1920	6500	
F 25 3_288.1	288.1	9.7	400	0.44	1490	6500	4.9	400	0.22	1920	6500	
F 25 3_333.1	333.1	8.4	400	0.38	1500	6500	4.2	400	0.19	1930	6500	
F 25 4_393.9	393.9	7.1	400	0.33	1270	6500	3.6	400	0.17	1300	6500	
F 25 4_434.9	434.9	6.4	400	0.30	1290	6500	3.2	400	0.15	1300	6500	
F 25 4_466.0	466.0	6.0	400	0.28	1300	6500	3.0	400	0.14	1300	6500	
F 25 4_527.3	527.3	5.3	400	0.25	1300	6500	2.7	400	0.12	1300	6500	
F 25 4_589.7	589.7	4.7	400	0.22	1300	6500	2.4	400	0.11	1300	6500	
F 25 4_643.3	643.3	4.4	400	0.20	1300	6500	2.2	400	0.10	1300	6500	
F 25 4_718.7	718.7	3.9	400	0.18	1300	6500	1.9	400	0.09	1300	6500	
F 25 4_798.5	798.5	3.5	400	0.16	1300	6500	1.8	400	0.08	1300	6500	
F 25 4_939.8	939.8	3.0	400	0.14	1300	6500	1.5	400	0.07	1300	6500	
F 25 4_1057	1057	2.7	400	0.12	1300	6500	1.3	400	0.06	1300	6500	
F 25 4_1189	1189	2.4	400	0.11	1300	6500	1.2	400	0.05	1300	6500	
F 25 4_1374	1374	2.0	400	0.09	1300	6500	1.0	400	0.05	1300	6500	

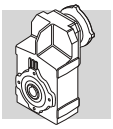
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



F 25 — 400 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	
F 25 2_6.9	6.9	131	225	3.2	—	2690	73	255	2.0	370	3350	
F 25 2_8.4	8.4	107	250	3.0	—	2840	60	260	1.7	590	3630	
F 25 2_9.4	9.4	96	260	2.8	—	2940	53	265	1.6	820	3780	
F 25 2_10.6	10.6	85	355	3.3	—	2680	47	395	2.0	360	3420	
F 25 2_13.0	13.0	69	370	2.8	—	2910	39	400	1.7	620	3750	
F 25 2_14.5	14.5	62	380	2.6	—	3030	35	400	1.5	940	3950	
F 25 2_16.6	16.6	54	395	2.4	—	3190	30	400	1.3	1070	4210	
F 25 2_18.6	18.6	48	400	2.1	300	3350	26.9	400	1.2	1330	4440	
F 25 2_21.8	21.8	41	400	1.8	420	3630	22.9	400	1.0	1450	4770	
F 25 2_23.8	23.8	38	400	1.7	530	3780	21.0	400	0.93	1560	4950	
F 25 2_27.2	27.2	33	400	1.5	610	4030	18.4	400	0.81	1640	5260	
F 25 2_30.0	30.0	30	400	1.3	760	4220	16.6	400	0.73	1790	5490	
F 25 2_32.2	32.2	28.0	400	1.2	760	4360	15.5	400	0.69	1790	5660	
F 25 2_36.4	36.4	24.7	400	1.1	970	4610	13.7	400	0.61	2000	5970	
F 25 2_40.7	40.7	22.1	375	0.91	1330	4950	12.3	375	0.51	2000	6360	
F 25 2_44.4	44.4	20.3	385	0.86	1230	5100	11.3	385	0.48	2000	6500	
F 25 3_45.6	45.6	19.8	400	0.89	2160	4960	11.0	400	0.49	2200	6420	
F 25 3_50.8	50.8	17.7	400	0.80	2180	5210	9.8	400	0.44	2200	6500	
F 25 3_58.3	58.3	15.4	400	0.69	2190	5540	8.6	400	0.39	2200	6500	
F 25 3_65.3	65.3	13.8	400	0.62	2200	5820	7.7	400	0.34	2200	6500	
F 25 3_76.6	76.6	11.8	400	0.53	2200	6240	6.5	400	0.29	2200	6500	
F 25 3_83.4	83.4	10.8	400	0.49	2200	6470	6.0	400	0.27	2200	6500	
F 25 3_95.5	95.5	9.4	400	0.42	2200	6500	5.2	400	0.24	2200	6500	473
F 25 3_105.4	105.4	8.5	400	0.38	2200	6500	4.7	400	0.21	2200	6500	
F 25 3_113.0	113.0	8.0	400	0.36	2200	6500	4.4	400	0.20	2200	6500	
F 25 3_127.8	127.8	7.0	400	0.32	2200	6500	3.9	400	0.18	2200	6500	
F 25 3_143.0	143.0	6.3	400	0.28	2200	6500	3.5	400	0.16	2200	6500	
F 25 3_155.9	155.9	5.8	400	0.26	2200	6500	3.2	400	0.14	2200	6500	
F 25 3_174.2	174.2	5.2	400	0.23	2200	6500	2.9	400	0.13	2200	6500	
F 25 3_193.6	193.6	4.6	400	0.21	2200	6500	2.6	400	0.12	2200	6500	
F 25 3_227.8	227.8	4.0	400	0.18	2200	6500	2.2	400	0.10	2200	6500	
F 25 3_256.1	256.1	3.5	400	0.16	2200	6500	2.0	400	0.09	2200	6500	
F 25 3_288.1	288.1	3.1	400	0.14	2200	6500	1.7	400	0.08	2200	6500	
F 25 3_333.1	333.1	2.7	400	0.12	2200	6500	1.5	400	0.07	2200	6500	
F 25 4_393.9	393.9	2.3	400	0.11	1300	6500	1.3	400	0.06	1300	6500	
F 25 4_434.9	434.9	2.1	400	0.10	1300	6500	1.1	400	0.05	1300	6500	
F 25 4_466.0	466.0	1.9	400	0.09	1300	6500	1.1	400	0.05	1300	6500	
F 25 4_527.3	527.3	1.7	400	0.08	1300	6500	0.95	400	0.04	1300	6500	
F 25 4_589.7	589.7	1.5	400	0.07	1300	6500	0.85	400	0.04	1300	6500	
F 25 4_643.3	643.3	1.4	400	0.07	1300	6500	0.78	400	0.04	1300	6500	
F 25 4_718.7	718.7	1.3	400	0.06	1300	6500	0.70	400	0.03	1300	6500	
F 25 4_798.5	798.5	1.1	400	0.05	1300	6500	0.63	400	0.03	1300	6500	
F 25 4_939.8	939.8	0.96	400	0.04	1300	6500	0.53	400	0.02	1300	6500	
F 25 4_1057	1057	0.85	400	0.04	1300	6500	0.47	400	0.02	1300	6500	
F 25 4_1189	1189	0.76	400	0.04	1300	6500	0.42	400	0.02	1300	6500	
F 25 4_1374	1374	0.65	400	0.03	1300	6500	0.36	400	0.02	1300	6500	

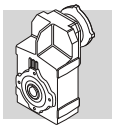
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



F 31 — 600 Nm

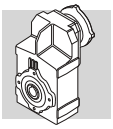
	i	n_1 = 2800 min^{-1}					n_1 = 1400 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 31 2_6.9	6.9	403	295	13.1	—	2710	201	360	8.0	—	3460	
F 31 2_8.2	8.2	340	310	11.6	—	2880	170	375	7.0	—	3690	
F 31 2_9.0	9.0	311	310	10.6	—	3000	155	385	6.6	390	3810	
F 31 2_10.7	10.7	261	450	12.9	—	2790	130	525	7.5	500	3670	
F 31 2_12.7	12.7	220	475	11.5	—	2950	110	555	6.7	490	3880	
F 31 2_13.9	13.9	201	475	10.5	290	3100	100	570	6.3	650	4010	
F 31 2_16.8	16.8	167	475	8.7	510	3410	83	595	5.5	680	4310	
F 31 2_18.5	18.5	151	475	7.9	730	3580	76	600	5.0	910	4510	
F 31 2_21.1	21.1	133	475	6.9	830	3830	66	600	4.4	1030	4820	
F 31 2_23.4	23.4	120	475	6.3	1020	4020	60	600	4.0	1270	5060	
F 31 2_27.3	27.3	103	475	5.4	1100	4330	51	600	3.4	1380	5450	
F 31 2_30.1	30.1	93	475	4.9	1270	4540	46	600	3.1	1590	5710	
F 31 2_34.4	34.4	81	475	4.3	1330	4820	41	600	2.7	1660	6070	
F 31 2_37.7	37.7	74	475	3.9	1430	5030	37	600	2.5	1800	6330	
F 31 2_40.4	40.4	69	475	3.6	1440	5190	35	600	2.3	1800	6500	
F 31 2_44.6	44.6	63	475	3.3	1540	5430	31	600	2.1	1930	6500	
F 31 3_47.5	47.5	59	475	3.1	2110	5490	29.4	580	1.9	2200	6500	
F 31 3_52.1	52.1	54	485	2.9	2120	5680	26.9	600	1.8	2200	6500	
F 31 3_62.8	62.8	45	515	2.6	2120	6040	22.3	600	1.5	2200	6500	
F 31 3_69.1	69.1	41	530	2.4	2130	6250	20.3	600	1.4	2200	6500	
F 31 3_78.9	78.9	36	550	2.2	2120	6500	17.8	600	1.2	2200	6500	
F 31 3_87.4	87.4	32	570	2.1	2130	6500	16.0	600	1.1	2200	6500	
F 31 3_101.9	101.9	27.5	595	1.8	2130	6500	13.7	600	0.93	2200	6500	
F 31 3_112.5	112.5	24.9	600	1.7	2130	6500	12.4	600	0.84	2200	6500	477
F 31 3_128.4	128.4	21.8	600	1.5	2140	6500	10.9	600	0.74	2200	6500	
F 31 3_140.7	140.7	19.9	600	1.3	2140	6500	9.9	600	0.67	2200	6500	
F 31 3_150.8	150.8	18.6	600	1.3	2140	6500	9.3	600	0.63	2200	6500	
F 31 3_166.8	166.8	16.8	600	1.1	2150	6500	8.4	600	0.57	2200	6500	
F 31 3_185.4	185.4	15.1	600	1.0	2160	6500	7.5	600	0.51	2200	6500	
F 31 3_202.3	202.3	13.8	600	0.94	2160	6500	6.9	600	0.47	2200	6500	
F 31 3_228.2	228.2	12.3	600	0.83	2160	6500	6.1	600	0.41	2200	6500	
F 31 3_253.6	253.6	11.0	600	0.75	2160	6500	5.5	600	0.37	2200	6500	
F 31 3_293.8	293.8	9.5	600	0.64	2170	6500	4.8	600	0.32	2200	6500	
F 31 3_332.8	332.8	8.4	600	0.57	2170	6500	4.2	600	0.28	2200	6500	
F 31 3_374.4	374.4	7.5	600	0.51	2170	6500	3.7	600	0.25	2200	6500	
F 31 4_418.9	418.9	6.7	600	0.47	1230	6500	3.3	600	0.23	1300	6500	
F 31 4_462.6	462.6	6.1	600	0.42	1250	6500	3.0	600	0.21	1300	6500	
F 31 4_527.8	527.8	5.3	600	0.37	1270	6500	2.7	600	0.19	1300	6500	
F 31 4_578.6	578.6	4.8	600	0.34	1290	6500	2.4	600	0.17	1300	6500	
F 31 4_619.9	619.9	4.5	600	0.32	1300	6500	2.3	600	0.16	1300	6500	
F 31 4_685.6	685.6	4.1	600	0.29	1300	6500	2.0	600	0.14	1300	6500	
F 31 4_762.3	762.3	3.7	600	0.26	1300	6500	1.8	600	0.13	1300	6500	
F 31 4_831.6	831.6	3.4	600	0.24	1300	6500	1.7	600	0.12	1300	6500	
F 31 4_938.2	938.2	3.0	600	0.21	1300	6500	1.5	600	0.10	1300	6500	
F 31 4_1042	1042	2.7	600	0.19	1300	6500	1.3	600	0.09	1300	6500	
F 31 4_1208	1208	2.3	600	0.16	1300	6500	1.2	600	0.08	1300	6500	
F 31 4_1368	1368	2.0	600	0.14	1300	6500	1.0	600	0.07	1300	6500	
F 31 4_1539	1539	1.8	600	0.13	1300	6500	0.91	600	0.06	1300	6500	

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



F 31 — 600 Nm

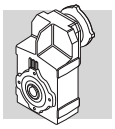
	i	n_1 = 900 min^{-1}					n_1 = 500 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 31 2_6.9	6.9	130	390	5.6	640	4120	72	390	3.1	2200	5350	
F 31 2_8.2	8.2	109	390	4.7	990	4450	61	390	2.6	2200	5760	
F 31 2_9.0	9.0	100	390	4.3	1320	4640	55	390	2.4	2200	5980	
F 31 2_10.7	10.7	84	600	5.5	670	4280	47	600	3.1	2200	5710	
F 31 2_12.7	12.7	71	600	4.7	1020	4670	39	600	2.6	2200	6170	
F 31 2_13.9	13.9	65	600	4.3	1350	4880	36	600	2.4	2200	6440	
F 31 2_16.8	16.8	54	600	3.5	1640	5340	29.8	600	2.0	2200	6500	
F 31 2_18.5	18.5	49	600	3.2	1915	5580	27.0	600	1.8	2200	6500	
F 31 2_21.1	21.1	43	600	2.8	2040	5950	23.7	600	1.6	2200	6500	
F 31 2_23.4	23.4	38	600	2.5	2200	6230	21.4	600	1.4	2200	6500	
F 31 2_27.3	27.3	33	600	2.2	2200	6500	18.3	600	1.2	2200	6500	
F 31 2_30.1	30.1	29.9	600	2.0	2200	6500	16.6	600	1.1	2200	6500	
F 31 2_34.4	34.4	26.2	600	1.7	2200	6500	14.6	600	0.96	2200	6500	
F 31 2_37.7	37.7	23.9	600	1.6	2200	6500	13.3	600	0.88	2200	6500	
F 31 2_40.4	40.4	22.3	600	1.5	2200	6500	12.4	600	0.82	2200	6500	
F 31 2_44.6	44.6	20.2	600	1.3	2200	6500	11.2	600	0.74	2200	6500	
F 31 3_47.5	47.5	18.9	600	1.3	2200	6500	10.5	600	0.71	2200	6500	
F 31 3_52.1	52.1	17.3	600	1.2	2200	6500	9.6	600	0.65	2200	6500	
F 31 3_62.8	62.8	14.3	600	0.97	2200	6500	8.0	600	0.54	2200	6500	
F 31 3_69.1	69.1	13.0	600	0.88	2200	6500	7.2	600	0.49	2200	6500	
F 31 3_78.9	78.9	11.4	600	0.77	2200	6500	6.3	600	0.43	2200	6500	
F 31 3_87.4	87.4	10.3	600	0.70	2200	6500	5.7	600	0.39	2200	6500	
F 31 3_101.9	101.9	8.8	600	0.60	2200	6500	4.9	600	0.33	2200	6500	
F 31 3_112.5	112.5	8.0	600	0.54	2200	6500	4.4	600	0.30	2200	6500	477
F 31 3_128.4	128.4	7.0	600	0.47	2200	6500	3.9	600	0.26	2200	6500	
F 31 3_140.7	140.7	6.4	600	0.43	2200	6500	3.6	600	0.24	2200	6500	
F 31 3_150.8	150.8	6.0	600	0.40	2200	6500	3.3	600	0.22	2200	6500	
F 31 3_166.8	166.8	5.4	600	0.36	2200	6500	3.0	600	0.20	2200	6500	
F 31 3_185.4	185.4	4.9	600	0.33	2200	6500	2.7	600	0.18	2200	6500	
F 31 3_202.3	202.3	4.4	600	0.30	2200	6500	2.5	600	0.17	2200	6500	
F 31 3_228.2	228.2	3.9	600	0.27	2200	6500	2.2	600	0.15	2200	6500	
F 31 3_253.6	253.6	3.5	600	0.24	2200	6500	2.0	600	0.13	2200	6500	
F 31 3_293.8	293.8	3.1	600	0.21	2200	6500	1.7	600	0.11	2200	6500	
F 31 3_332.8	332.8	2.7	600	0.18	2200	6500	1.5	600	0.10	2200	6500	
F 31 3_374.4	374.4	2.4	600	0.16	2200	6500	1.3	600	0.09	2200	6500	
F 31 4_418.9	418.9	2.1	600	0.15	1300	6500	1.2	600	0.08	1300	6500	
F 31 4_462.6	462.6	1.9	600	0.14	1300	6500	1.1	600	0.08	1300	6500	
F 31 4_527.8	527.8	1.7	600	0.12	1300	6500	0.95	600	0.07	1300	6500	
F 31 4_578.6	578.6	1.6	600	0.11	1300	6500	0.86	600	0.06	1300	6500	
F 31 4_619.9	619.9	1.5	600	0.10	1300	6500	0.81	600	0.06	1300	6500	
F 31 4_685.6	685.6	1.3	600	0.09	1300	6500	0.73	600	0.05	1300	6500	
F 31 4_762.3	762.3	1.2	600	0.08	1300	6500	0.66	600	0.05	1300	6500	
F 31 4_831.6	831.6	1.1	600	0.08	1300	6500	0.60	600	0.04	1300	6500	
F 31 4_938.2	938.2	0.96	600	0.07	1300	6500	0.53	600	0.04	1300	6500	
F 31 4_1042	1042	0.86	600	0.06	1300	6500	0.48	600	0.03	1300	6500	
F 31 4_1208	1208	0.75	600	0.05	1300	6500	0.41	600	0.03	1300	6500	
F 31 4_1368	1368	0.66	600	0.05	1300	6500	0.37	600	0.03	1300	6500	
F 31 4_1539	1539	0.58	600	0.04	1300	6500	0.32	600	0.02	1300	6500	



F 41 — 1100 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	
F 41 2_6.7	6.7	416	460	21	—	3410	208	580	13.3	—	4290	
F 41 2_9.1	9.1	306	515	17.4	—	3750	153	650	11.0	—	4730	
F 41 2_10.8	10.8	260	715	21	—	3310	130	900	12.9	—	4170	
F 41 2_14.6	14.6	191	805	17.0	—	3620	96	1015	10.7	—	4560	
F 41 2_17.1	17.1	164	835	15.1	—	3860	82	1055	9.5	—	4850	
F 41 2_18.9	18.9	148	860	14.0	410	4000	74	1085	8.9	500	5030	
F 41 2_24.1	24.1	116	875	11.2	650	4540	58	1100	7.0	840	5730	
F 41 2_30.1	30.1	93	875	9.0	980	5130	46	1100	5.6	1260	6470	
F 41 2_38.2	38.2	73	875	7.1	1260	5810	37	1100	4.4	1600	7330	
F 41 2_47.9	47.9	58	850	5.5	1680	6600	29.2	1070	3.4	2120	8320	
F 41 3_51.5	51.5	54	880	5.4	3030	6750	27.2	1085	3.3	3500	8500	
F 41 3_60.2	60.2	46	930	4.9	3030	7100	23.2	1100	2.9	3500	8500	
F 41 3_66.5	66.5	42	980	4.6	3030	7280	21.1	1100	2.6	3500	8500	
F 41 3_84.9	84.9	33	1065	4.0	3030	7890	16.5	1100	2.0	3500	8500	
F 41 3_106.0	106.0	26.4	1100	3.3	3040	8500	13.2	1100	1.6	3500	8500	
F 41 3_134.4	134.4	20.8	1100	2.6	3050	8500	10.4	1100	1.3	3500	8500	
F 41 3_168.7	168.7	16.6	1100	2.1	3070	8500	8.3	1100	1.0	3500	8500	
F 41 3_180.7	180.7	15.5	1100	1.9	3070	8500	7.7	1100	0.96	3500	8500	481
F 41 3_198.9	198.9	14.1	1100	1.7	3080	8500	7.0	1100	0.87	3500	8500	
F 41 3_220.1	220.1	12.7	1100	1.6	3090	8500	6.4	1100	0.79	3500	8500	
F 41 3_240.1	240.1	11.7	1100	1.4	3090	8500	5.8	1100	0.72	3500	8500	
F 41 3_266.9	266.9	10.5	1100	1.3	3090	8500	5.2	1100	0.65	3500	8500	
F 41 3_296.6	296.6	9.4	1100	1.2	3090	8500	4.7	1100	0.58	3500	8500	
F 41 3_344.8	344.8	8.1	1100	1.0	3100	8500	4.1	1100	0.50	3500	8500	
F 41 4_433.7	433.7	6.5	1100	0.83	1480	8500	3.2	1100	0.41	1910	8500	
F 41 4_549.8	549.8	5.1	1100	0.65	1520	8500	2.5	1100	0.33	1940	8500	
F 41 4_690.1	690.1	4.1	1100	0.52	1540	8500	2.0	1100	0.26	1970	8500	
F 41 4_739.4	739.4	3.8	1100	0.48	1550	8500	1.9	1100	0.24	1980	8500	
F 41 4_813.8	813.8	3.4	1100	0.44	1560	8500	1.7	1100	0.22	1990	8500	
F 41 4_900.5	900.5	3.1	1100	0.40	1570	8500	1.6	1100	0.20	2000	8500	
F 41 4_982.4	982.4	2.9	1100	0.36	1570	8500	1.4	1100	0.18	2000	8500	
F 41 4_1092	1092	2.6	1100	0.33	1580	8500	1.3	1100	0.16	2010	8500	
F 41 4_1213	1213	2.3	1100	0.30	1590	8500	1.2	1100	0.15	2020	8500	
F 41 4_1411	1411	2.0	1100	0.25	1600	8500	1.0	1100	0.13	2020	8500	

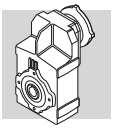
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



F 41 — 1100 Nm

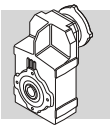
	i	n_1 = 900 min^{-1}					n_1 = 500 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 41 2_6.7	6.7	134	670	9.9	—	4980	74	700	5.7	1760	6450	
F 41 2_9.1	9.1	99	700	7.6	680	5660	55	700	4.2	2850	7410	
F 41 2_10.8	10.8	84	1025	9.4	480	4900	46	1100	5.6	1950	6480	
F 41 2_14.6	14.6	62	1100	7.5	860	5550	34	1100	4.1	3030	7590	
F 41 2_17.1	17.1	53	1100	6.4	1230	6060	29.2	1100	3.5	3400	8210	
F 41 2_18.9	18.9	48	1100	5.8	1760	6390	26.5	1100	3.2	3500	8500	
F 41 2_24.1	24.1	37	1100	4.5	2210	7260	20.7	1100	2.5	3500	8500	
F 41 2_30.1	30.1	29.9	1100	3.6	2630	8120	16.6	1100	2.0	3500	8500	
F 41 2_38.2	38.2	23.6	1100	2.9	2970	8500	13.1	1100	1.6	3500	8500	
F 41 2_47.9	47.9	18.8	1070	2.2	3490	8500	10.4	1070	1.2	3500	8500	
F 41 3_51.5	51.5	17.5	1100	2.2	3500	8500	9.7	1100	1.2	3500	8500	
F 41 3_60.2	60.2	14.9	1100	1.9	3500	8500	8.3	1100	1.0	3500	8500	
F 41 3_66.5	66.5	13.5	1100	1.7	3500	8500	7.5	1100	0.93	3500	8500	
F 41 3_84.9	84.9	10.6	1100	1.3	3500	8500	5.9	1100	0.73	3500	8500	
F 41 3_106.0	106.0	8.5	1100	1.1	3500	8500	4.7	1100	0.58	3500	8500	
F 41 3_134.4	134.4	6.7	1100	0.83	3500	8500	3.7	1100	0.46	3500	8500	
F 41 3_168.7	168.7	5.3	1100	0.66	3500	8500	3.0	1100	0.37	3500	8500	
F 41 3_180.7	180.7	5.0	1100	0.62	3500	8500	2.8	1100	0.34	3500	8500	481
F 41 3_198.9	198.9	4.5	1100	0.56	3500	8500	2.5	1100	0.31	3500	8500	
F 41 3_220.1	220.1	4.1	1100	0.51	3500	8500	2.3	1100	0.28	3500	8500	
F 41 3_240.1	240.1	3.7	1100	0.46	3500	8500	2.1	1100	0.26	3500	8500	
F 41 3_266.9	266.9	3.4	1100	0.42	3500	8500	1.9	1100	0.23	3500	8500	
F 41 3_296.6	296.6	3.0	1100	0.38	3500	8500	1.7	1100	0.21	3500	8500	
F 41 3_344.8	344.8	2.6	1100	0.32	3500	8500	1.5	1100	0.18	3500	8500	
F 41 4_433.7	433.7	2.1	1100	0.27	2200	8500	1.2	1100	0.15	2200	8500	
F 41 4_549.8	549.8	1.6	1100	0.21	2200	8500	0.91	1100	0.12	2200	8500	
F 41 4_690.1	690.1	1.3	1100	0.17	2200	8500	0.72	1100	0.09	2200	8500	
F 41 4_739.4	739.4	1.2	1100	0.16	2200	8500	0.68	1100	0.09	2200	8500	
F 41 4_813.8	813.8	1.1	1100	0.14	2200	8500	0.61	1100	0.08	2200	8500	
F 41 4_900.5	900.5	1.0	1100	0.13	2200	8500	0.56	1100	0.07	2200	8500	
F 41 4_982.4	982.4	0.92	1100	0.12	2200	8500	0.51	1100	0.07	2200	8500	
F 41 4_1092	1092	0.82	1100	0.11	2200	8500	0.46	1100	0.06	2200	8500	
F 41 4_1213	1213	0.74	1100	0.09	2200	8500	0.41	1100	0.05	2200	8500	
F 41 4_1411	1411	0.64	1100	0.08	2200	8500	0.35	1100	0.05	2200	8500	

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



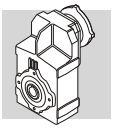
F 51 — 1800 Nm

	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	
F 51 2_7.2	7.2	389	775	33	990	4170	195	975	21	1440	5260	
F 51 2_9.1	9.1	309	875	30	890	4400	155	1100	18.8	1320	5550	
F 51 2_11.1	11.1	252	1055	29	1460	4530	126	1330	18.5	2010	5700	
F 51 2_14.0	14.0	200	1125	25	1580	4920	100	1420	15.7	2150	6200	
F 51 2_18.8	18.8	149	1225	20	1660	5480	74	1545	12.7	2240	6900	
F 51 2_23.8	23.8	118	1310	17.0	1710	5960	59	1650	10.7	2290	7520	
F 51 2_30.0	30.0	93	1350	13.9	1760	6610	47	1700	8.7	2330	8340	
F 51 2_37.1	37.1	75	1350	11.2	1910	7350	38	1700	7.1	2410	9260	
F 51 3_48.9	48.9	57	1505	9.7	2600	7800	28.6	1800	5.8	3310	10100	
F 51 3_65.8	65.8	43	1650	7.9	2610	8640	21.3	1800	4.3	3380	11600	
F 51 3_83.2	83.2	34	1770	6.7	2630	9380	16.8	1800	3.4	3440	12000	
F 51 3_105.1	105.1	26.6	1800	5.4	2650	10400	13.3	1800	2.7	3460	12000	
F 51 3_129.9	129.9	21.6	1800	4.4	2670	11600	10.8	1800	2.2	3490	12000	
F 51 3_165.6	165.6	16.9	1800	3.4	2700	12000	8.5	1800	1.7	3500	12000	
F 51 3_202.4	202.4	13.8	1800	2.8	2710	12000	6.9	1800	1.4	3500	12000	
F 51 3_216.9	216.9	12.9	1800	2.6	2710	12000	6.5	1800	1.3	3500	12000	485
F 51 3_239.8	239.8	11.7	1800	2.4	2730	12000	5.8	1800	1.2	3500	12000	
F 51 3_262.1	262.1	10.7	1800	2.2	2730	12000	5.3	1800	1.1	3500	12000	
F 51 3_285.9	285.9	9.8	1800	2.0	2730	12000	4.9	1800	0.99	3500	12000	
F 51 3_317.3	317.3	8.8	1800	1.8	2740	12000	4.4	1800	0.89	3500	12000	
F 51 3_352.5	352.5	7.9	1800	1.6	2740	12000	4.0	1800	0.80	3500	12000	
F 51 4_429.1	429.1	6.5	1800	1.4	1930	12000	3.3	1800	0.68	2200	12000	
F 51 4_530.5	530.5	5.3	1800	1.1	1970	12000	2.6	1800	0.55	2200	12000	
F 51 4_676.3	676.3	4.1	1800	0.87	2020	12000	2.1	1800	0.43	2200	12000	
F 51 4_826.4	826.4	3.4	1800	0.71	2040	12000	1.7	1800	0.35	2200	12000	
F 51 4_885.5	885.5	3.2	1800	0.66	2050	12000	1.6	1800	0.33	2200	12000	
F 51 4_979.4	979.4	2.9	1800	0.60	2060	12000	1.4	1800	0.30	2200	12000	
F 51 4_1070	1070	2.6	1800	0.55	2070	12000	1.3	1800	0.27	2200	12000	
F 51 4_1168	1168	2.4	1800	0.50	2080	12000	1.2	1800	0.25	2200	12000	
F 51 4_1296	1296	2.2	1800	0.45	2090	12000	1.1	1800	0.23	2200	12000	
F 51 4_1439	1439	1.9	1800	0.41	2100	12000	1.0	1800	0.20	2200	12000	



F 51 — 1800 Nm

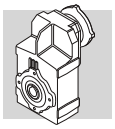
	i	n_1 = 900 min^{-1}					n_1 = 500 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 51 2_7.2	7.2	125	1100	15.2	1940	6170	70	1100	8.4	3190	8140	
F 51 2_9.1	9.1	99	1100	12.1	2450	6900	55	1100	6.7	3440	9030	
F 51 2_11.1	11.1	81	1520	13.6	2450	6660	45	1700	8.4	3190	8480	
F 51 2_14.0	14.0	64	1620	11.5	2550	7250	36	1700	6.7	3440	9500	
F 51 2_18.8	18.8	48	1700	9.0	2690	8230	26.6	1700	5.0	3500	10900	
F 51 2_23.8	23.8	38	1700	7.1	2870	9250	21.0	1700	3.9	3500	12000	
F 51 2_30.0	30.0	30	1700	5.6	2960	10300	16.6	1700	3.1	3500	12000	
F 51 2_37.1	37.1	24.2	1700	4.5	3040	11400	13.5	1700	2.5	3500	12000	
F 51 3_48.9	48.9	18.4	1800	3.7	3500	12000	10.2	1800	2.1	3500	12000	
F 51 3_65.8	65.8	13.7	1800	2.8	3500	12000	7.6	1800	1.5	3500	12000	
F 51 3_83.2	83.2	10.8	1800	2.2	3500	12000	6.0	1800	1.2	3500	12000	
F 51 3_105.1	105.1	8.6	1800	1.7	3500	12000	4.8	1800	0.96	3500	12000	
F 51 3_129.9	129.9	6.9	1800	1.4	3500	12000	3.8	1800	0.78	3500	12000	
F 51 3_165.6	165.6	5.4	1800	1.1	3500	12000	3.0	1800	0.61	3500	12000	
F 51 3_202.4	202.4	4.4	1800	0.90	3500	12000	2.5	1800	0.50	3500	12000	
F 51 3_216.9	216.9	4.2	1800	0.84	3500	12000	2.3	1800	0.47	3500	12000	485
F 51 3_239.8	239.8	3.8	1800	0.76	3500	12000	2.1	1800	0.42	3500	12000	
F 51 3_262.1	262.1	3.4	1800	0.70	3500	12000	1.9	1800	0.39	3500	12000	
F 51 3_285.9	285.9	3.1	1800	0.64	3500	12000	1.7	1800	0.35	3500	12000	
F 51 3_317.3	317.3	2.8	1800	0.57	3500	12000	1.6	1800	0.32	3500	12000	
F 51 3_352.5	352.5	2.6	1800	0.52	3500	12000	1.4	1800	0.29	3500	12000	
F 51 4_429.1	429.1	2.1	1800	0.44	2200	12000	1.2	1800	0.24	2200	12000	
F 51 4_530.5	530.5	1.7	1800	0.36	2200	12000	0.94	1800	0.20	2200	12000	
F 51 4_676.3	676.3	1.3	1800	0.28	2200	12000	0.74	1800	0.15	2200	12000	
F 51 4_826.4	826.4	1.1	1800	0.23	2200	12000	0.61	1800	0.13	2200	12000	
F 51 4_885.5	885.5	1.0	1800	0.21	2200	12000	0.56	1800	0.12	2200	12000	
F 51 4_979.4	979.4	0.92	1800	0.19	2200	12000	0.51	1800	0.11	2200	12000	
F 51 4_1070	1070	0.84	1800	0.18	2200	12000	0.47	1800	0.10	2200	12000	
F 51 4_1168	1168	0.77	1800	0.16	2200	12000	0.43	1800	0.09	2200	12000	
F 51 4_1296	1296	0.69	1800	0.15	2200	12000	0.39	1800	0.08	2200	12000	
F 51 4_1439	1439	0.63	1800	0.13	2200	12000	0.35	1800	0.07	2200	12000	



F 60 — 2900 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	
F 60 3_9.0	9.0	311	920	32	—	13300	156	1160	20	—	16500	
F 60 3_9.7	9.7	289	1000	33	—	13600	144	1250	20	—	16700	
F 60 3_11.8	11.8	237	1030	28	—	14600	119	1300	17.4	—	17800	
F 60 3_12.7	12.7	220	1110	28	—	14700	110	1400	17.4	—	18000	
F 60 3_14.5	14.5	193	1110	24	—	15500	97	1400	15.3	—	19000	
F 60 3_15.7	15.7	178	1200	24	—	15600	89	1500	15.1	—	19200	
F 60 3_19.1	19.1	147	1200	19.9	—	16800	73	1500	12.4	—	20000	
F 60 3_20.7	20.7	135	1300	19.9	—	17000	68	1640	12.5	—	20000	
F 60 3_23.5	23.5	119	1260	17.0	—	17900	60	1590	10.7	—	20000	
F 60 3_25.4	25.4	110	1370	17.1	—	18100	55	1720	10.7	—	20000	
F 60 3_29.6	29.6	95	2750	29	820	15900	47	2900	15.5	2630	20000	
F 60 3_32.1	32.1	87	2800	28	1290	16200	44	2900	14.3	3260	20000	
F 60 3_38.8	38.8	72	2900	24	1260	17500	36	2900	11.8	3480	20000	
F 60 3_42.1	42.1	67	2900	22	1820	17900	33	2900	10.9	3720	20000	
F 60 3_47.8	47.8	59	2900	19.2	1770	19100	29.3	2900	9.6	3730	20000	
F 60 3_51.8	51.8	54	2900	17.7	2290	19500	27.0	2900	8.9	3830	20000	
F 60 3_63.0	63.0	44	2900	14.6	2310	20000	22.2	2900	7.3	3850	20000	
F 60 3_68.3	68.3	41	2900	13.4	2790	20000	20.5	2900	6.7	3940	20000	
F 60 3_77.6	77.6	36	2900	11.8	2620	20000	18.0	2900	5.9	3920	20000	
F 60 3_84.0	84.0	33	2900	10.9	2960	20000	16.7	2900	5.5	4010	20000	
F 60 3_98.2	98.2	28.5	2900	9.3	2910	20000	14.3	2900	4.7	3980	20000	
F 60 3_106.4	106.4	26.3	2900	8.6	3020	20000	13.2	2900	4.3	4070	20000	
F 60 3_120.5	120.5	23.2	2900	7.6	2970	20000	11.6	2900	3.8	4030	20000	
F 60 3_130.5	130.5	21.5	2900	7.0	3060	20000	10.7	2900	3.5	4110	20000	489
F 60 3_150.4	150.4	18.6	2900	6.1	3010	20000	9.3	2900	3.0	4060	20000	
F 60 3_162.9	162.9	17.2	2900	5.6	3090	20000	8.6	2900	2.8	4140	20000	
F 60 3_185.9	185.9	15.1	2900	4.9	3050	20000	7.5	2900	2.5	4100	20000	
F 60 3_201.4	201.4	13.9	2900	4.6	3130	20000	7.0	2900	2.3	4180	20000	
F 60 3_217.6	217.6	12.9	2900	4.2	3070	20000	6.4	2900	2.1	4120	20000	
F 60 3_235.8	235.8	11.9	2900	3.9	3140	20000	5.9	2900	1.9	4190	20000	
F 60 3_259.1	259.1	10.8	2900	3.5	3080	20000	5.4	2900	1.8	4130	20000	
F 60 3_280.7	280.7	10.0	2900	3.3	3150	20000	5.0	2900	1.6	4200	20000	
F 60 4_315.4	315.4	8.9	2900	3.0	3500	20000	4.4	2900	1.5	3500	20000	
F 60 4_341.7	341.7	8.2	2900	2.8	3500	20000	4.1	2900	1.4	3500	20000	
F 60 4_399.3	399.3	7.0	2900	2.4	3500	20000	3.5	2900	1.2	3500	20000	
F 60 4_432.6	432.6	6.5	2900	2.2	3500	20000	3.2	2900	1.1	3500	20000	
F 60 4_489.8	489.8	5.7	2900	1.9	3500	20000	2.9	2900	0.96	3500	20000	
F 60 4_530.7	530.7	5.3	2900	1.8	3500	20000	2.6	2900	0.89	3500	20000	
F 60 4_611.4	611.4	4.6	2900	1.5	3500	20000	2.3	2900	0.77	3500	20000	
F 60 4_662.4	662.4	4.2	2900	1.4	3500	20000	2.1	2900	0.71	3500	20000	
F 60 4_756.0	756.0	3.7	2900	1.2	3500	20000	1.9	2900	0.62	3500	20000	
F 60 4_819.0	819.0	3.4	2900	1.1	3500	20000	1.7	2900	0.57	3500	20000	
F 60 4_885.1	885.1	3.2	2900	1.1	3500	20000	1.6	2900	0.53	3500	20000	
F 60 4_958.9	958.9	2.9	2900	0.98	3500	20000	1.5	2900	0.49	3500	20000	
F 60 4_1054	1054	2.7	2900	0.89	3500	20000	1.3	2900	0.45	3500	20000	
F 60 4_1141	1141	2.5	2900	0.83	3500	20000	1.2	2900	0.41	3500	20000	

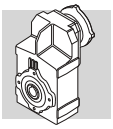
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



F 60 — 2900 Nm

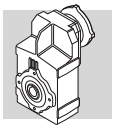
	i	n_1 = 900 min^{-1}					n_1 = 500 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 60 3_9.0	9.0	100	1340	15.1	—	18800	56	1630	10.2	—	20000	
F 60 3_9.7	9.7	93	1460	15.3	—	19000	52	1780	10.4	—	20000	
F 60 3_11.8	11.8	76	1500	12.9	—	20000	42	1830	8.8	—	20000	
F 60 3_12.7	12.7	71	1620	13.0	—	20000	39	1900	8.4	600	20000	
F 60 3_14.5	14.5	62	1620	11.4	—	20000	34	1900	7.4	490	20000	
F 60 3_15.7	15.7	57	1750	11.3	—	20000	32	1900	6.8	1630	20000	
F 60 3_19.1	19.1	47	1750	9.3	—	20000	26.2	1900	5.6	1660	20000	
F 60 3_20.7	20.7	43	1900	9.3	—	20000	24.2	1900	5.2	2700	20000	
F 60 3_23.5	23.5	38	1840	8.0	—	20000	21.3	1900	4.6	2340	20000	
F 60 3_25.4	25.4	35	1900	7.6	620	20000	19.7	1900	4.2	3330	20000	
F 60 3_29.6	29.6	30	2900	10.0	4220	20000	16.9	2900	5.5	4700	20000	
F 60 3_32.1	32.1	28.0	2900	9.2	4350	20000	15.6	2900	5.1	4700	20000	
F 60 3_38.8	38.8	23.2	2900	7.6	4420	20000	12.9	2900	4.2	4700	20000	
F 60 3_42.1	42.1	21.4	2900	7.0	4530	20000	11.9	2900	3.9	4700	20000	
F 60 3_47.8	47.8	18.8	2900	6.2	4530	20000	10.5	2900	3.4	4700	20000	
F 60 3_51.8	51.8	17.4	2900	5.7	4640	20000	9.7	2900	3.2	4700	20000	
F 60 3_63.0	63.0	14.3	2900	4.7	4660	20000	7.9	2900	2.6	4700	20000	
F 60 3_68.3	68.3	13.2	2900	4.3	4700	20000	7.3	2900	2.4	4700	20000	
F 60 3_77.6	77.6	11.6	2900	3.8	4700	20000	6.4	2900	2.1	4700	20000	
F 60 3_84.0	84.0	10.7	2900	3.5	4700	20000	6.0	2900	1.9	4700	20000	
F 60 3_98.2	98.2	9.2	2900	3.0	4700	20000	5.1	2900	1.7	4700	20000	
F 60 3_106.4	106.4	8.5	2900	2.8	4700	20000	4.7	2900	1.5	4700	20000	
F 60 3_120.5	120.5	7.5	2900	2.4	4700	20000	4.1	2900	1.4	4700	20000	
F 60 3_130.5	130.5	6.9	2900	2.3	4700	20000	3.8	2900	1.3	4700	20000	489
F 60 3_150.4	150.4	6.0	2900	2.0	4700	20000	3.3	2900	1.1	4700	20000	
F 60 3_162.9	162.9	5.5	2900	1.8	4700	20000	3.1	2900	1.0	4700	20000	
F 60 3_185.9	185.9	4.8	2900	1.6	4700	20000	2.7	2900	0.88	4700	20000	
F 60 3_201.4	201.4	4.5	2900	1.5	4700	20000	2.5	2900	0.81	4700	20000	
F 60 3_217.6	217.6	4.1	2900	1.4	4700	20000	2.3	2900	0.75	4700	20000	
F 60 3_235.8	235.8	3.8	2900	1.3	4700	20000	2.1	2900	0.69	4700	20000	
F 60 3_259.1	259.1	3.5	2900	1.1	4700	20000	1.9	2900	0.63	4700	20000	
F 60 3_280.7	280.7	3.2	2900	1.1	4700	20000	1.8	2900	0.58	4700	20000	
F 60 4_315.4	315.4	2.9	2900	0.96	3500	20000	1.6	2900	0.53	3500	20000	
F 60 4_341.7	341.7	2.6	2900	0.89	3500	20000	1.5	2900	0.49	3500	20000	
F 60 4_399.3	399.3	2.3	2900	0.76	3500	20000	1.3	2900	0.42	3500	20000	
F 60 4_432.6	432.6	2.1	2900	0.70	3500	20000	1.2	2900	0.39	3500	20000	
F 60 4_489.8	489.8	1.8	2900	0.62	3500	20000	1.0	2900	0.34	3500	20000	
F 60 4_530.7	530.7	1.7	2900	0.57	3500	20000	0.94	2900	0.32	3500	20000	
F 60 4_611.4	611.4	1.5	2900	0.50	3500	20000	0.82	2900	0.28	3500	20000	
F 60 4_662.4	662.4	1.4	2900	0.46	3500	20000	0.75	2900	0.25	3500	20000	
F 60 4_756.0	756.0	1.2	2900	0.40	3500	20000	0.66	2900	0.22	3500	20000	
F 60 4_819.0	819.0	1.1	2900	0.37	3500	20000	0.61	2900	0.21	3500	20000	
F 60 4_885.1	885.1	1.0	2900	0.34	3500	20000	0.56	2900	0.19	3500	20000	
F 60 4_958.9	958.9	0.94	2900	0.32	3500	20000	0.52	2900	0.18	3500	20000	
F 60 4_1054	1054	0.85	2900	0.29	3500	20000	0.47	2900	0.16	3500	20000	
F 60 4_1141	1141	0.79	2900	0.27	3500	20000	0.44	2900	0.15	3500	20000	

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



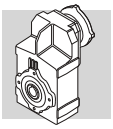
F 70 — 5000 Nm

	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	
F 70 3_10.0	10.0	280	2600	82	1410	14800	140	3200	51	1750	18200	493
F 70 3_10.9	10.9	257	2800	81	1510	14700	128	3450	50	1840	18100	
F 70 3_12.8	12.8	219	2900	72	860	15700	109	3600	44	880	19300	
F 70 3_13.9	13.9	201	3150	72	810	15600	101	3900	44	880	19100	
F 70 3_16.3	16.3	172	3250	63	570	16600	86	4000	39	710	20500	
F 70 3_17.7	17.7	158	3550	63	430	16400	79	4350	39	630	20200	
F 70 3_20.9	20.9	134	3450	52	690	18000	67	4000	30	2090	22700	
F 70 3_22.6	22.6	124	3750	52	640	17800	62	4350	30	2010	22500	
F 70 3_24.6	24.6	114	3550	46	560	19000	57	4000	26	2510	24200	
F 70 3_27.7	27.7	101	3750	43	5070	19600	51	4650	27	6410	24100	
F 70 3_30.0	30.0	93	4050	43	5080	19400	47	5000	26	6420	23900	
F 70 3_35.4	35.4	79	4150	37	5070	20900	40	5000	22	6440	25900	
F 70 3_38.4	38.4	73	4500	37	5060	20700	36	5000	21	6540	26500	
F 70 3_45.2	45.2	62	4600	32	5080	22200	31	5000	17.5	6590	28700	
F 70 3_49.0	49.0	57	4600	30	5170	22700	28.6	5000	16.1	6680	29300	
F 70 3_57.7	57.7	49	5000	27	5090	23800	24.3	5000	13.7	6680	31600	
F 70 3_62.5	62.5	45	5000	25	5170	24300	22.4	5000	12.7	6760	32300	
F 70 3_67.9	67.9	41	5000	23	5110	25500	20.6	5000	11.6	6710	33600	
F 70 3_73.6	73.6	38	5000	21	5190	26100	19.0	5000	10.7	6790	34400	
F 70 3_85.4	85.4	33	5000	18.5	5190	28000	16.4	5000	9.3	6780	35000	
F 70 3_92.5	92.5	30	5000	17.1	5260	28700	15.1	5000	8.5	6860	35000	
F 70 3_101.2	101.2	27.7	5000	15.6	5220	30000	13.8	5000	7.8	6820	35000	
F 70 3_109.6	109.6	25.5	5000	14.4	5290	30700	12.8	5000	7.2	6890	35000	
F 70 3_122.7	122.7	22.8	5000	12.9	5250	32300	11.4	5000	6.4	6850	35000	
F 70 3_133.0	133.0	21.1	5000	11.9	5320	33100	10.5	5000	5.9	6920	35000	
F 70 3_153.8	153.8	18.2	5000	10.3	5280	35000	9.1	5000	5.1	6880	35000	
F 70 3_166.7	166.7	16.8	5000	9.5	5350	35000	8.4	5000	4.7	6950	35000	
F 70 3_180.9	180.9	15.5	5000	8.7	5310	35000	7.7	5000	4.4	6910	35000	
F 70 3_196.0	196.0	14.3	5000	8.1	5370	35000	7.1	5000	4.0	6970	35000	
F 70 4_216.5	216.5	12.9	5000	7.5	2130	35000	6.5	5000	3.7	2860	35000	
F 70 4_234.6	234.6	11.9	5000	6.9	2130	35000	6.0	5000	3.5	2860	35000	
F 70 4_280.9	280.9	10.0	5000	5.8	2200	35000	5.0	5000	2.9	2940	35000	
F 70 4_304.3	304.3	9.2	5000	5.3	2200	35000	4.6	5000	2.7	2940	35000	
F 70 4_372.5	372.5	7.5	5000	4.4	2260	35000	3.8	5000	2.2	3000	35000	
F 70 4_403.5	403.5	6.9	5000	4.0	2260	35000	3.5	5000	2.0	3000	35000	
F 70 4_471.2	471.2	5.9	5000	3.4	2300	35000	3.0	5000	1.7	3040	35000	
F 70 4_510.4	510.4	5.5	5000	3.2	2300	35000	2.7	5000	1.6	3040	35000	
F 70 4_606.8	606.8	4.6	5000	2.7	2340	35000	2.3	5000	1.3	3070	35000	
F 70 4_657.4	657.4	4.3	5000	2.5	2340	35000	2.1	5000	1.2	3070	35000	
F 70 4_759.0	759.0	3.7	5000	2.1	2360	35000	1.8	5000	1.1	3090	35000	
F 70 4_822.2	822.2	3.4	5000	2.0	2360	35000	1.7	5000	1.0	3090	35000	
F 70 4_899.4	899.4	3.1	5000	1.8	2370	35000	1.6	5000	0.90	3110	35000	
F 70 4_974.4	974.4	2.9	5000	1.7	2370	35000	1.4	5000	0.83	3110	35000	
F 70 4_1091	1091	2.6	5000	1.5	2390	35000	1.3	5000	0.74	3120	35000	
F 70 4_1182	1182	2.4	5000	1.4	2390	35000	1.2	5000	0.69	3120	35000	
F 70 4_1368	1368	2.0	5000	1.2	2400	35000	1.0	5000	0.59	3130	35000	
F 70 4_1481	1481	1.9	5000	1.1	2400	35000	0.95	5000	0.55	3130	35000	
F 70 4_1585	1585	1.8	5000	1.0	2410	35000	0.88	5000	0.51	3140	35000	
F 70 4_1717	1717	1.6	5000	0.95	2410	35000	0.82	5000	0.47	3140	35000	
F 70 4_2019	2019	1.4	5000	0.80	2420	35000	0.69	5000	0.40	3150	35000	
F 70 4_2188	2188	1.3	5000	0.74	2420	35000	0.64	5000	0.37	3150	35000	



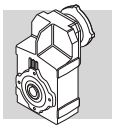
F 70 — 5000 Nm

	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	
F 70 3_10.0	10.0	90	3200	33	4870	21700	50	3200	18.1	7000	27000	493
F 70 3_10.9	10.9	83	3450	32	4970	21700	46	3450	17.9	7000	27200	
F 70 3_12.8	12.8	70	3850	31	2540	22500	39	3600	15.9	7000	28300	
F 70 3_13.9	13.9	65	4200	31	2380	22400	36	3900	15.8	7000	28300	
F 70 3_16.3	16.3	55	4000	25	3830	24500	31	4000	13.9	7000	30700	
F 70 3_17.7	17.7	51	4350	25	3750	24400	28.2	4350	13.9	7000	30800	
F 70 3_20.9	20.9	43	4000	19.5	5210	27000	23.9	4000	10.8	7000	33700	
F 70 3_22.6	22.6	40	4350	19.6	5130	26900	22.1	4350	10.9	7000	33800	
F 70 3_24.6	24.6	37	4000	16.5	5630	28700	20.3	4000	9.2	7000	35000	
F 70 3_27.7	27.7	32	5000	18.4	7000	28100	18.1	4650	9.5	7000	35000	
F 70 3_30.0	30.0	30	5000	16.9	7000	28800	16.7	5000	9.4	7000	35000	
F 70 3_35.4	35.4	25.4	5000	14.4	7000	31000	14.1	5000	8.0	7000	35000	
F 70 3_38.4	38.4	23.4	5000	13.2	7000	31700	13.0	5000	7.4	7000	35000	
F 70 3_45.2	45.2	19.9	5000	11.2	7000	34100	11.1	5000	6.2	7000	35000	
F 70 3_49.0	49.0	18.4	5000	10.4	7000	34900	10.2	5000	5.8	7000	35000	
F 70 3_57.7	57.7	15.6	5000	8.8	7000	35000	8.7	5000	4.9	7000	35000	
F 70 3_62.5	62.5	14.4	5000	8.1	7000	35000	8.0	5000	4.5	7000	35000	
F 70 3_67.9	67.9	13.3	5000	7.5	7000	35000	7.4	5000	4.2	7000	35000	
F 70 3_73.6	73.6	12.2	5000	6.9	7000	35000	6.8	5000	3.8	7000	35000	
F 70 3_85.4	85.4	10.5	5000	6.0	7000	35000	5.9	5000	3.3	7000	35000	
F 70 3_92.5	92.5	9.7	5000	5.5	7000	35000	5.4	5000	3.1	7000	35000	
F 70 3_101.2	101.2	8.9	5000	5.0	7000	35000	4.9	5000	2.8	7000	35000	
F 70 3_109.6	109.6	8.2	5000	4.6	7000	35000	4.6	5000	2.6	7000	35000	
F 70 3_122.7	122.7	7.3	5000	4.1	7000	35000	4.1	5000	2.3	7000	35000	
F 70 3_133.0	133.0	6.8	5000	3.8	7000	35000	3.8	5000	2.1	7000	35000	
F 70 3_153.8	153.8	5.9	5000	3.3	7000	35000	3.3	5000	1.8	7000	35000	
F 70 3_166.7	166.7	5.4	5000	3.0	7000	35000	3.0	5000	1.7	7000	35000	
F 70 3_180.9	180.9	5.0	5000	2.8	7000	35000	2.8	5000	1.6	7000	35000	
F 70 3_196.0	196.0	4.6	5000	2.6	7000	35000	2.6	5000	1.4	7000	35000	
F 70 4_216.5	216.5	4.2	5000	2.4	3430	35000	2.3	5000	1.3	3500	35000	
F 70 4_234.6	234.6	3.8	5000	2.2	3430	35000	2.1	5000	1.2	3500	35000	
F 70 4_280.9	280.9	3.2	5000	1.9	3500	35000	1.8	5000	1.0	3500	35000	
F 70 4_304.3	304.3	3.0	5000	1.7	3500	35000	1.6	5000	0.95	3500	35000	
F 70 4_372.5	372.5	2.4	5000	1.4	3500	35000	1.3	5000	0.78	3500	35000	
F 70 4_403.5	403.5	2.2	5000	1.3	3500	35000	1.2	5000	0.72	3500	35000	
F 70 4_471.2	471.2	1.9	5000	1.1	3500	35000	1.1	5000	0.62	3500	35000	
F 70 4_510.4	510.4	1.8	5000	1.0	3500	35000	0.98	5000	0.57	3500	35000	
F 70 4_606.8	606.8	1.5	5000	0.86	3500	35000	0.82	5000	0.48	3500	35000	
F 70 4_657.4	657.4	1.4	5000	0.79	3500	35000	0.76	5000	0.44	3500	35000	
F 70 4_759.0	759.0	1.2	5000	0.69	3500	35000	0.66	5000	0.38	3500	35000	
F 70 4_822.2	822.2	1.1	5000	0.63	3500	35000	0.61	5000	0.35	3500	35000	
F 70 4_899.4	899.4	1.0	5000	0.58	3500	35000	0.56	5000	0.32	3500	35000	
F 70 4_974.4	974.4	0.92	5000	0.54	3500	35000	0.51	5000	0.30	3500	35000	
F 70 4_1091	1091	0.82	5000	0.48	3500	35000	0.46	5000	0.27	3500	35000	
F 70 4_1182	1182	0.76	5000	0.44	3500	35000	0.42	5000	0.25	3500	35000	
F 70 4_1368	1368	0.66	5000	0.38	3500	35000	0.37	5000	0.21	3500	35000	
F 70 4_1481	1481	0.61	5000	0.35	3500	35000	0.34	5000	0.20	3500	35000	
F 70 4_1585	1585	0.57	5000	0.33	3500	35000	0.32	5000	0.18	3500	35000	
F 70 4_1717	1717	0.52	5000	0.30	3500	35000	0.29	5000	0.17	3500	35000	
F 70 4_2019	2019	0.45	5000	0.26	3500	35000	0.25	5000	0.14	3500	35000	
F 70 4_2188	2188	0.41	5000	0.24	3500	35000	0.23	5000	0.13	3500	35000	



F 80 — 8000 Nm

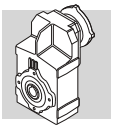
	i	n_1 = 2800 min^{-1}					n_1 = 1400 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 80 3_10.3	10.3	272	3250	100	610	17200	136	4100	63	220	21800	
F 80 3_11.2	11.2	250	3520	99	620	17800	125	4440	63	230	21700	
F 80 3_12.9	12.9	217	3560	87	670	18900	109	4480	55	350	23100	
F 80 3_14.0	14.0	200	3850	87	700	18800	100	4860	55	310	23000	
F 80 3_16.2	16.2	173	3760	73	760	20300	86	4740	46	430	24800	
F 80 3_17.6	17.6	159	4000	72	730	20300	80	5140	46	410	24700	
F 80 3_20.3	20.3	138	4060	63	780	21700	69	5120	40	440	26500	
F 80 3_22.0	22.0	127	4400	63	780	21600	64	5540	40	470	26400	
F 80 3_25.2	25.2	111	4230	53	700	23300	56	5330	33	360	28500	
F 80 3_28.8	28.8	97	6550	72	4590	20500	49	8000	44	5890	25400	
F 80 3_31.3	31.3	89	7100	72	4590	20000	45	8000	40	6040	26000	
F 80 3_36.0	36.0	78	7250	64	4560	21500	39	8000	35	6110	28100	
F 80 3_39.0	39.0	72	6700	54	4890	23000	36	8000	32	6240	28800	
F 80 3_45.3	45.3	62	7900	55	4440	22700	31	8000	28	6240	31100	
F 80 3_49.1	49.1	57	8000	52	4750	23200	28.5	8000	26	6360	31900	
F 80 3_56.7	56.7	49	8000	45	4780	25200	24.7	8000	22	6390	34300	
F 80 3_61.5	61.5	46	8000	41	4890	25800	22.8	8000	21	6500	35100	
F 80 3_70.4	70.4	40	8000	36	4850	27800	19.9	8000	18.0	6460	37500	
F 80 3_76.3	76.3	37	8000	33	4950	28500	18.3	8000	16.6	6560	38400	
F 80 3_85.2	85.2	33	8000	30	4940	30300	16.4	8000	14.8	6550	40500	
F 80 3_92.3	92.3	30	8000	27	5040	31000	15.2	8000	13.7	6640	41500	
F 80 3_105.0	105.0	26.7	8000	24	5000	33200	13.3	8000	12.0	6610	44000	
F 80 3_113.8	113.8	24.6	8000	22	5090	34000	12.3	8000	11.1	6700	45000	
F 80 3_122.5	122.5	22.9	8000	21	5020	35400	11.4	8000	10.3	6630	45000	
F 80 3_132.7	132.7	21.1	8000	19.1	5110	36200	10.6	8000	9.5	6720	45000	
F 80 3_147.9	147.9	18.9	8000	17.1	5060	38200	9.5	8000	8.6	6660	45000	496
F 80 3_160.2	160.2	17.5	8000	15.8	5140	39100	8.7	8000	7.9	6750	45000	
F 80 3_184.6	184.6	15.2	8000	13.7	5090	41800	7.6	8000	6.9	6700	45000	
F 80 3_200.0	200.0	14.0	8000	12.7	5180	42800	7.0	8000	6.3	6780	45000	
F 80 4_218.5	218.5	12.8	8000	11.9	1020	45000	6.4	8000	5.9	2400	45000	
F 80 4_273.9	273.9	10.2	8000	9.5	1470	45000	5.1	8000	4.7	2680	45000	
F 80 4_296.7	296.7	9.4	8000	8.8	1470	45000	4.7	8000	4.4	2680	45000	
F 80 4_353.7	353.7	7.9	8000	7.3	1850	45000	4.0	8000	3.7	2770	45000	
F 80 4_383.2	383.2	7.3	8000	6.8	1850	45000	3.7	8000	3.4	2770	45000	
F 80 4_451.5	451.5	6.2	8000	5.8	2040	45000	3.1	8000	2.9	2820	45000	
F 80 4_489.1	489.1	5.7	8000	5.3	2040	45000	2.9	8000	2.7	2820	45000	
F 80 4_563.9	563.9	5.0	8000	4.6	2130	45000	2.5	8000	2.3	2860	45000	
F 80 4_610.9	610.9	4.6	8000	4.3	2130	45000	2.3	8000	2.1	2860	45000	
F 80 4_714.9	714.9	3.9	8000	3.6	2160	45000	2.0	8000	1.8	2890	45000	
F 80 4_774.4	774.4	3.6	8000	3.4	2160	45000	1.8	8000	1.7	2890	45000	
F 80 4_897.3	897.3	3.1	8000	2.9	2200	45000	1.6	8000	1.4	2930	45000	
F 80 4_972.0	972.0	2.9	8000	2.7	2200	45000	1.4	8000	1.3	2930	45000	
F 80 4_1058	1058	2.6	8000	2.5	2210	45000	1.3	8000	1.2	2950	45000	
F 80 4_1146	1146	2.4	8000	2.3	2210	45000	1.2	8000	1.1	2950	45000	
F 80 4_1277	1277	2.2	8000	2.0	2230	45000	1.1	8000	1.0	2960	45000	
F 80 4_1384	1384	2.0	8000	1.9	2230	45000	1.0	8000	0.94	2960	45000	
F 80 4_1578	1578	1.8	8000	1.6	2240	45000	0.89	8000	0.82	2970	45000	
F 80 4_1709	1709	1.6	8000	1.5	2240	45000	0.82	8000	0.76	2970	45000	
F 80 4_1834	1834	1.5	8000	1.4	2250	45000	0.76	8000	0.71	2980	45000	
F 80 4_1987	1987	1.4	8000	1.3	2250	45000	0.70	8000	0.65	2980	45000	



F 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	
F 80 3_10.3	10.3	87	4740	47	—	24700	49	5770	32	—	29300	
F 80 3_11.2	11.2	80	5140	47	—	24600	45	6250	32	—	29200	
F 80 3_12.9	12.9	70	5200	41	—	26200	39	6320	28	—	31100	
F 80 3_14.0	14.0	64	5620	41	—	26100	36	6800	27	—	31000	
F 80 3_16.2	16.2	56	5490	34	—	28200	31	6250	22	1540	34200	
F 80 3_17.6	17.6	51	5960	34	—	28100	28.4	6800	22	1410	30000	
F 80 3_20.3	20.3	44	5930	30	—	30100	24.6	6250	17.4	3710	37300	
F 80 3_22.0	22.0	41	6420	30	—	30000	22.7	6800	17.5	3590	37200	
F 80 3_25.2	25.2	36	6175	25	—	32400	19.8	6250	14.0	4660	40500	
F 80 3_28.8	28.8	31	8000	28	7000	31000	17.4	8000	15.7	7000	39600	
F 80 3_31.3	31.3	28.8	8000	26	7000	31700	16.0	8000	14.4	7000	40600	
F 80 3_36.0	36.0	25.0	8000	23	7000	34100	13.9	8000	12.6	7000	43300	
F 80 3_39.0	39.0	23.1	8000	21	7000	34900	12.8	8000	11.6	7000	44300	
F 80 3_45.3	45.3	19.9	8000	18.0	7000	37500	11.0	8000	10.0	7000	45000	
F 80 3_49.1	49.1	18.3	8000	16.6	7000	38400	10.2	8000	9.2	7000	45000	
F 80 3_56.7	56.7	15.9	8000	14.3	7000	41100	8.8	8000	8.0	7000	45000	
F 80 3_61.5	61.5	14.6	8000	13.2	7000	42000	8.1	8000	7.3	7000	45000	
F 80 3_70.4	70.4	12.8	8000	11.6	7000	44700	7.1	8000	6.4	7000	45000	
F 80 3_76.3	76.3	11.8	8000	10.7	7000	45000	6.6	8000	5.9	7000	45000	
F 80 3_85.2	85.2	10.6	8000	9.5	7000	45000	5.9	8000	5.3	7000	45000	
F 80 3_92.3	92.3	9.8	8000	8.8	7000	45000	5.4	8000	4.9	7000	45000	
F 80 3_105.0	105.0	8.6	8000	7.7	7000	45000	4.8	8000	4.3	7000	45000	
F 80 3_113.8	113.8	7.9	8000	7.1	7000	45000	4.4	8000	4.0	7000	45000	
F 80 3_122.5	122.5	7.3	8000	6.6	7000	45000	4.1	8000	3.7	7000	45000	
F 80 3_132.7	132.7	6.8	8000	6.1	7000	45000	3.8	8000	3.4	7000	45000	
F 80 3_147.9	147.9	6.1	8000	5.5	7000	45000	3.4	8000	3.1	7000	45000	496
F 80 3_160.2	160.2	5.6	8000	5.1	7000	45000	3.1	8000	2.8	7000	45000	
F 80 3_184.6	184.6	4.9	8000	4.4	7000	45000	2.7	8000	2.4	7000	45000	
F 80 3_200.0	200.0	4.5	8000	4.1	7000	45000	2.5	8000	2.3	7000	45000	
F 80 4_218.5	218.5	4.1	8000	3.8	3130	45000	2.3	8000	2.1	3500	45000	
F 80 4_273.9	273.9	3.3	8000	3.0	3240	45000	1.8	8000	1.7	3500	45000	
F 80 4_296.7	296.7	3.0	8000	2.8	3240	45000	1.7	8000	1.6	3500	45000	
F 80 4_353.7	353.7	2.5	8000	2.4	3330	45000	1.4	8000	1.3	3500	45000	
F 80 4_383.2	383.2	2.3	8000	2.2	3330	45000	1.3	8000	1.2	3500	45000	
F 80 4_451.5	451.5	2.0	8000	1.8	3380	45000	1.1	8000	1.0	3500	45000	
F 80 4_489.1	489.1	1.8	8000	1.7	3380	45000	1.0	8000	0.95	3500	45000	
F 80 4_563.9	563.9	1.6	8000	1.5	3420	45000	0.89	8000	0.82	3500	45000	
F 80 4_610.9	610.9	1.5	8000	1.4	3420	45000	0.82	8000	0.76	3500	45000	
F 80 4_714.9	714.9	1.3	8000	1.2	3460	45000	0.70	8000	0.65	3500	45000	
F 80 4_774.4	774.4	1.2	8000	1.1	3460	45000	0.65	8000	0.60	3500	45000	
F 80 4_897.3	897.3	1.0	8000	0.93	3490	45000	0.56	8000	0.52	3500	45000	
F 80 4_972.0	972.0	0.93	8000	0.86	3490	45000	0.51	8000	0.48	3500	45000	
F 80 4_1058	1058	0.85	8000	0.79	3500	45000	0.47	8000	0.44	3500	45000	
F 80 4_1146	1146	0.79	8000	0.73	3500	45000	0.44	8000	0.40	3500	45000	
F 80 4_1277	1277	0.70	8000	0.65	3500	45000	0.39	8000	0.36	3500	45000	
F 80 4_1384	1384	0.65	8000	0.60	3500	45000	0.36	8000	0.34	3500	45000	
F 80 4_1578	1578	0.57	8000	0.53	3500	45000	0.32	8000	0.29	3500	45000	
F 80 4_1709	1709	0.53	8000	0.49	3500	45000	0.29	8000	0.27	3500	45000	
F 80 4_1834	1834	0.49	8000	0.46	3500	45000	0.27	8000	0.25	3500	45000	
F 80 4_1987	1987	0.45	8000	0.42	3500	45000	0.25	8000	0.23	3500	45000	

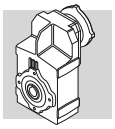
(—) Contact our technical service department advising radial load data (rotation direction, orientation, position)



F 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	
F 90 3_10.3	10.3	272	6500	200	5480	23800	136	8000	123	8000	29300	
F 90 3_11.1	11.1	252	7150	204	5280	23300	126	8800	125	7770	28700	
F 90 3_13.4	13.4	209	7550	178	4880	25000	104	9300	110	7280	30700	
F 90 3_14.5	14.5	193	8100	177	5000	24700	97	10000	109	7400	30300	
F 90 3_16.5	16.5	170	8400	161	4540	26000	85	10300	99	6960	32000	
F 90 3_17.9	17.9	156	8950	158	4560	25700	78	11000	97	7180	31700	
F 90 3_20.6	20.6	136	9200	141	3980	27400	68	11300	87	6260	33700	
F 90 3_22.3	22.3	126	9750	138	4280	27100	63	12000	85	6590	33400	
F 90 3_25.4	25.4	110	10050	125	3620	28700	55	12000	75	6310	36000	
F 90 3_28.6	28.6	98	9750	108	9800	30900	49	12000	66	12400	38000	
F 90 3_31.0	31.0	90	10550	108	9800	30300	45	13000	66	12400	37300	
F 90 3_37.4	37.4	75	10950	93	9820	32800	37	13500	57	12400	40400	
F 90 3_40.5	40.5	69	11900	93	9820	32100	35	14000	55	12500	40600	
F 90 3_46.1	46.1	61	12050	83	9840	34300	30	14000	48	12600	43600	
F 90 3_49.9	49.9	56	13050	83	9840	33500	28.1	14000	44	12700	44700	
F 90 3_57.3	57.3	49	13050	72	9810	36300	24.4	14000	39	12700	48100	
F 90 3_62.1	62.1	45	14000	71	9830	35600	22.5	14000	36	12800	49300	
F 90 3_70.8	70.8	40	14000	63	9830	38500	19.8	14000	31	12800	52700	
F 90 3_76.7	76.7	37	14000	58	9960	39500	18.3	14000	29	13000	54000	
F 90 3_88.4	88.4	32	14000	50	9930	42800	15.8	14000	25	12900	55000	
F 90 3_95.8	95.8	29.2	14000	46	10100	43800	14.6	14000	23	13100	55000	
F 90 3_103.3	103.3	27.1	14000	43	9960	45900	13.6	14000	21	13000	55000	
F 90 3_111.9	111.9	25.0	14000	40	10100	47100	12.5	14000	19.8	13100	55000	
F 90 3_126.8	126.8	22.1	14000	35	10000	50300	11.0	14000	17.5	13000	55000	
F 90 3_137.3	137.3	20.4	14000	32	10100	51500	10.2	14000	16.1	13100	55000	
F 90 3_150.3	150.3	18.6	14000	29	10100	54000	9.3	14000	14.7	13100	55000	
F 90 3_162.8	162.8	17.2	14000	27	10200	55000	8.6	14000	13.6	13200	55000	499
F 90 3_179.2	179.2	15.6	14000	25	10200	55000	7.8	14000	12.4	13100	55000	
F 90 3_194.2	194.2	14.4	14000	23	10200	55000	7.2	14000	11.4	13200	55000	
F 90 4_213.6	213.6	13.1	14000	21	—	55000	6.6	14000	10.6	—	55000	
F 90 4_231.4	231.4	12.1	14000	19.6	—	55000	6.1	14000	9.8	—	55000	
F 90 4_268.7	268.7	10.4	14000	16.9	—	55000	5.2	14000	8.5	420	55000	
F 90 4_291.1	291.1	9.6	14000	15.6	—	55000	4.8	14000	7.8	420	55000	
F 90 4_361.8	361.8	7.7	14000	12.6	—	55000	3.9	14000	6.3	990	55000	
F 90 4_392.0	392.0	7.1	14000	11.6	—	55000	3.6	14000	5.8	990	55000	
F 90 4_457.5	457.5	6.1	14000	9.9	—	55000	3.1	14000	5.0	1390	55000	
F 90 4_495.6	495.6	5.6	14000	9.2	—	55000	2.8	14000	4.6	1390	55000	
F 90 4_577.5	577.5	4.8	14000	7.9	—	55000	2.4	14000	3.9	1600	55000	
F 90 4_625.6	625.6	4.5	14000	7.3	—	55000	2.2	14000	3.6	1600	55000	
F 90 4_714.0	714.0	3.9	14000	6.4	—	55000	2.0	14000	3.2	1800	55000	
F 90 4_773.4	773.4	3.6	14000	5.9	—	55000	1.8	14000	2.9	1800	55000	
F 90 4_910.2	910.2	3.1	14000	5.0	—	55000	1.5	14000	2.5	2020	55000	
F 90 4_986.0	986.0	2.8	14000	4.6	—	55000	1.4	14000	2.3	2020	55000	
F 90 4_1112	1112	2.5	14000	4.1	—	55000	1.3	14000	2.0	2110	55000	
F 90 4_1205	1205	2.3	14000	3.8	—	55000	1.2	14000	1.9	2110	55000	
F 90 4_1318	1318	2.1	14000	3.4	—	55000	1.1	14000	1.7	2220	55000	
F 90 4_1428	1428	2.0	14000	3.2	—	55000	0.98	14000	1.6	2220	55000	
F 90 4_1571	1571	1.8	14000	2.9	—	55000	0.89	14000	1.4	2260	55000	
F 90 4_1702	1702	1.6	14000	2.7	—	55000	0.82	14000	1.3	2260	55000	
F 90 4_1937	1937	1.4	14000	2.3	—	55000	0.72	14000	1.2	2300	55000	
F 90 4_2099	2099	1.3	14000	2.2	—	55000	0.67	14000	1.1	2300	55000	

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



F 90 — 14000 Nm

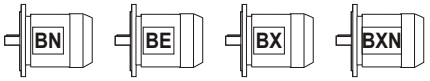
	i	n_1 = 900 min^{-1}					n_1 = 500 min^{-1}					
		n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	n_2 min^{-1}	M_{n2} Nm	P_{n1} kW	R_{n1} N	R_{n2} N	
F 90 3_10.3	10.3	87	9150	90	10000	33400	49	9600	53	15000	41900	499
F 90 3_11.1	11.1	81	10050	92	9780	32700	45	10400	53	15000	41600	
F 90 3_13.4	13.4	67	10600	80	9270	35100	37	12500	53	12700	42100	
F 90 3_14.5	14.5	62	11400	80	9390	34600	34	13550	53	12700	41400	
F 90 3_16.5	16.5	55	11750	72	8890	36600	30	12300	42	14600	46400	
F 90 3_17.9	17.9	50	12550	71	9140	36200	27.9	13150	41	14800	46200	
F 90 3_20.6	20.6	44	12200	60	9100	39700	24.3	12200	33	15000	51000	
F 90 3_22.3	22.3	40	13200	60	9120	39000	22.4	13200	33	15000	50700	
F 90 3_25.4	25.4	35	12000	48	10400	43800	19.7	12000	27	15000	55000	
F 90 3_28.6	28.6	31	13700	49	14400	43400	17.5	14000	28	15000	55000	
F 90 3_31.0	31.0	29.0	14000	46	14500	44000	16.1	14000	26	15000	55000	
F 90 3_37.4	37.4	24.1	14000	38	14700	48400	13.4	14000	21	15000	55000	
F 90 3_40.5	40.5	22.2	14000	35	14800	49600	12.3	14000	19.5	15000	55000	
F 90 3_46.1	46.1	19.5	14000	31	14900	53000	10.8	14000	17.2	15000	55000	
F 90 3_49.9	49.9	18.0	14000	29	15000	54200	10.0	14000	15.8	15000	55000	
F 90 3_57.3	57.3	15.7	14000	25	15000	55000	8.7	14000	13.8	15000	55000	
F 90 3_62.1	62.1	14.5	14000	23	15000	55000	8.1	14000	12.7	15000	55000	
F 90 3_70.8	70.8	12.7	14000	20	15000	55000	7.1	14000	11.2	15000	55000	
F 90 3_76.7	76.7	11.7	14000	18.6	15000	55000	6.5	14000	10.3	15000	55000	
F 90 3_88.4	88.4	10.2	14000	16.1	15000	55000	5.7	14000	8.9	15000	55000	
F 90 3_95.8	95.8	9.4	14000	14.9	15000	55000	5.2	14000	8.3	15000	55000	
F 90 3_103.3	103.3	8.7	14000	13.8	15000	55000	4.8	14000	7.7	15000	55000	
F 90 3_111.9	111.9	8.0	14000	12.7	15000	55000	4.5	14000	7.1	15000	55000	
F 90 3_126.8	126.8	7.1	14000	11.2	15000	55000	3.9	14000	6.2	15000	55000	
F 90 3_137.3	137.3	6.6	14000	10.4	15000	55000	3.6	14000	5.8	15000	55000	
F 90 3_150.3	150.3	6.0	14000	9.5	15000	55000	3.3	14000	5.3	15000	55000	
F 90 3_162.8	162.8	5.5	14000	8.7	15000	55000	3.1	14000	4.9	15000	55000	
F 90 3_179.2	179.2	5.0	14000	7.9	15000	55000	2.8	14000	4.4	15000	55000	
F 90 3_194.2	194.2	4.6	14000	7.3	15000	55000	2.6	14000	4.1	15000	55000	
F 90 4_213.6	213.6	4.2	14000	6.8	810	55000	2.3	14000	3.8	2350	55000	
F 90 4_231.4	231.4	3.9	14000	6.3	810	55000	2.2	14000	3.5	2350	55000	
F 90 4_268.7	268.7	3.3	14000	5.4	1390	55000	1.9	14000	3.0	2920	55000	
F 90 4_291.1	291.1	3.1	14000	5.0	1390	55000	1.7	14000	2.8	2920	55000	
F 90 4_361.8	361.8	2.5	14000	4.0	1960	55000	1.4	14000	2.2	3390	55000	
F 90 4_392.0	392.0	2.3	14000	3.7	1960	55000	1.3	14000	2.1	3390	55000	
F 90 4_457.5	457.5	2.0	14000	3.2	2360	55000	1.1	14000	1.8	3490	55000	
F 90 4_495.6	495.6	1.8	14000	2.9	2360	55000	1.0	14000	1.6	3490	55000	
F 90 4_577.5	577.5	1.6	14000	2.5	2570	55000	0.87	14000	1.4	3500	55000	
F 90 4_625.6	625.6	1.4	14000	2.3	2570	55000	0.80	14000	1.3	3500	55000	
F 90 4_714.0	714.0	1.3	14000	2.0	2770	55000	0.70	14000	1.1	3500	55000	
F 90 4_773.4	773.4	1.2	14000	1.9	2770	55000	0.65	14000	1.0	3500	55000	
F 90 4_910.2	910.2	0.99	14000	1.6	2840	55000	0.55	14000	0.89	3500	55000	
F 90 4_986.0	986.0	0.91	14000	1.5	2840	55000	0.51	14000	0.82	3500	55000	
F 90 4_1112	1112	0.81	14000	1.3	2860	55000	0.45	14000	0.73	3500	55000	
F 90 4_1205	1205	0.75	14000	1.2	2860	55000	0.41	14000	0.67	3500	55000	
F 90 4_1318	1318	0.68	14000	1.1	2890	55000	0.38	14000	0.62	3500	55000	
F 90 4_1428	1428	0.63	14000	1.0	2890	55000	0.35	14000	0.57	3500	55000	
F 90 4_1571	1571	0.57	14000	0.93	2900	55000	0.32	14000	0.52	3500	55000	
F 90 4_1702	1702	0.53	14000	0.86	2900	55000	0.29	14000	0.48	3500	55000	
F 90 4_1937	1937	0.46	14000	0.75	2910	55000	0.26	14000	0.42	3500	55000	
F 90 4_2099	2099	0.43	14000	0.70	2910	55000	0.24	14000	0.39	3500	55000	

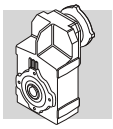
62 MOTOR AVAILABILITY

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 $S \geq f_s$.

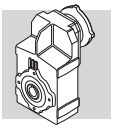
(D 56)

		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		
F 10 2	i =	7.4_127.1						7.4_91.5								7.4_91.5					
F 20 2		8.7_132.2 ⛀ (14.8_18.1)						6.4_114.3								6.4_114.3					
F 20 3		156.3_545.3						156.3_545.3								156.3_545.3					
F 25 2		9.4_44.4 ⛀ (10.6_13.0)						6.9_44.4								6.9_44.4					
F 25 3		50.8_333.1						45.6_288.1								45.6_288.1					
F 25 4		393.9_1374						393.9_1374								393.9_1374					
F 31 2		18.5_44.6						6.9_44.6								6.9_44.6					
F 31 3		69.1_374.4						47.5_374.4								47.5_374.4					
F 31 4		418.9_1539						418.9_1539								418.9_1539					
F 41 2		24.1_47.9						6.7_47.9								6.7_47.9					
F 41 3		84.9_344.8						51.5_344.8								51.5_344.8					
F 41 4		433.7_1411						433.7_1411								433.7_1411					
F 51 2		30.0_37.1						7.2_37.1								7.2_37.1					
F 51 3		105.1_352.5						48.9_352.5								48.9_352.5					
F 51 4		429.1_1439						429.1_1439								429.1_1439					
F 60 3		98.2_280.7						11.8_280.7 ⛀ (29.6_32.1)								11.8_280.7 ⛀ (29.6_32.1)					
F 60 4		315.4_1141						315.4_1141								315.4_1141					
F 70 3								85.4_196.0								85.4_196.0					
F 70 4		372.5_2188						216.5_2188								216.5_2188					
F 80 3								105.0_200.0								105.0_200.0					
F 80 4		451.5_1987						218.5_1987								218.5_1987					
F 90 3								126.8_194.2								126.8_194.2					
F 90 4		577.5_2099						213.6_2099								213.6_2099					



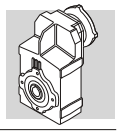
		IEC_     (IM B5)														
		BN	BE	BX	BN	BE	BX	BN	BE	BX	BN	BX	BX	IEC	BX	IEC
P_{n1}(#) [kW]	2p	9.2	9.2	—	18.5	18.5	—	22	—	—	30	—	—	45	—	55
	4p	9.2	9.2	7.5	15	15	15	22	22	22	30	30	45	45	55	55
	6p	5.5	4	—	11	7.5	—	15	—	—	18.5	—	—	30	—	37
		P132			P160			P180			P200		P225		P250	
F 10 2	i =															
F 20 2																
F 20 3																
F 25 2																
F 25 3																
F 25 4																
F 31 2		6.9_37.7														
F 31 3		47.5_140.7														
F 31 4																
F 41 2		6.7_47.9														
F 41 3		51.5_168.7														
F 41 4																
F 51 2		7.2_37.1			7.2_37.1			7.2_37.1								
F 51 3		48.9_202.4			48.9_202.4			48.9_202.4								
F 51 4																
F 60 3		9.0_201.4			9.0_201.4			9.0_201.4								
F 60 4																
F 70 3		16.3_196.0 ⛀ (27.7_38.4)			10.0_196.0			10.0_196.0			10.0_49.0 ⛀ (20.9_24.6)					
F 70 4		216.5_822.2														
F 80 3		20.3_200.0 ⛀ (28.8_49.1)			12.9_200.0 ⛀ (28.8_31.3)			10.3_200.0			10.3_132.7		10.3_132.7			
F 80 4		218.5_972.0														
F 90 3		25.4_194.2 ⛀ (28.6_62.1)			20.6_194.2 ⛀ (28.6_49.9)			10.3_194.2			10.3_162.8		10.3_162.8		10.3_162.8	
F 90 4		213.6_1205			213.6_1205			213.6_1205								

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



(D 57)

		M	ME	MX	MXN		
		M05 - ME05 - MXN05	M1 - M1 - MXN10	ME2 - MX2 - MXN20	ME3 - MX3	ME4 - MX4	ME5 - MX5
F 10 2		7.4_127.1	7.4_71.1	7.4_91.5	7.4_91.5		
F 20 2		8.7_132.2 ⛀ (14.8_18.1)	8.7_90.4 ⛀ (14.8_18.1)	6.4_114.3	6.4_114.3		
F 20 3		156.3_545.3	156.3_545.3	156.3_545.3	156.3_545.3		
F 25 2		9.4_44.4 ⛀ (10.6_13.0)	9.4_44.4 ⛀ (10.6_13.0)	6.9_44.4	6.9_44.4		
F 25 3		50.8_333.1	50.8_227.8	45.6_288.1	45.6_288.1		
F 25 4		393.9_1374	393.9_1374	393.9_1374	393.9_1374		
F 31 2			18.5_44.6	6.9_44.6	6.9_44.6	6.9_37.7	
F 31 3			69.1_293.8	47.5_374.4	47.5_374.4	47.5_140.7	
F 31 4		418.9_1539	418.9_1539	418.9_1539	418.9_1539		
F 41 2			24.1_47.9	6.7_47.9	6.7_47.9	6.7_47.9	
F 41 3			84.9_344.8	51.5_344.8	51.5_344.8	51.5_168.7	
F 41 4	i =	433.7_1411	433.7_1411	433.7_1411	433.7_1411		
F 51 2			30.0_37.1	7.2_37.1	7.2_37.1	7.2_37.1	7.2_37.1
F 51 3			105.1_352.5	48.9_352.5	48.9_352.5	48.9_202.4	48.9_202.4
F 51 4			429.1_1439	429.1_1439	429.1_1439		
F 60 3				11.8_280.7 ⛀ (29.6_32.1)	11.8_280.7 ⛀ (29.6_32.1)	9_201.4	9_201.4
F 60 4			315.4_1141	315.4_1141	315.4_1141		
F 70 3				85.4_196.0	85.4_196.0	16.3_196.0 ⛀ (27.7_38.4)	16.3_196.0 ⛀ (27.7_38.4)
F 70 4			372.5_2188	216.5_2188	216.5_2188	216.5_822.2	
F 80 3					105.0_200.0	20.3_200.0 ⛀ (28.8_49.1)	20.3_200.0 ⛀ (28.8_49.1)
F 80 4			451.5_1987	218.5_1987	218.5_1987	218.5_972.0	
F 90 3					126.8_194.2	25.4_194.2 ⛀ (28.6_62.1)	25.4_194.2 ⛀ (28.6_62.1)
F 90 4				213.6_2099	213.6_2099	213.6_1205	



Motor adapters matching the most popular brands of servomotors are available for units size F 10 … F 60. 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.

(D 58)

		SERVO INPUT							
		SK60A	SK60B	SK80A	SK80B	SK80C	SK95A	SK95B	SK95C
		SC60A	SC60B	SC80A	SC80B	SC80C	SC95A	SC95B	SC95C
F 10 2	i =	7.4_127.1	7.4_71.1	7.4_71.1		7.4_91.5	7.4_71.1	7.4_91.5	7.4_91.5
F 20 2		8.7_132.2 ⛀ (14.8_18.1)	8.7_90.4 ⛀ (14.8_18.1)	8.7_90.4 ⛀ (14.8_18.1)		6.4_114.3	8.7_90.4 ⛀ (14.8_18.1)	6.4_114.3	6.4_114.3
F 20 3		156.3_545.3	156.3_545.3	156.3_545.3		156.3_545.3	156.3_545.3	156.3_545.3	156.3_545.3
F 25 2		9.4_44.4 ⛀ (10.6_13.0)	9.4_44.4 ⛀ (10.6_13.0)	9.4_44.4 ⛀ (10.6_13.0)		6.9_44.4	9.4_44.4 ⛀ (10.6_13.0)	6.9_44.4	6.9_44.4
F 25 3		45.6_333.1	45.6_227.8	45.6_227.8		45.6_288.1	45.6_227.8	45.6_288.1	45.6_288.1
F 25 4		393.9_1374	393.9_1374	393.9_1374		393.9_1374	393.9_1374	393.9_1374	393.9_1374
F 31 2		18.5_44.6	18.5_44.6	18.5_44.6		6.9_44.6	18.5_44.6	6.9_44.6	6.9_44.6
F 31 3		69.1_374.4	69.1_293.8	69.1_293.8		47.5_374.4	69.1_293.8	47.5_374.4	47.5_374.4
F 31 4		418.9_1539	418.9_1539	418.9_1539		418.9_1539	418.9_1539	418.9_1539	418.9_1539
F 41 2					24.1_47.9	6.7_47.9	24.1_47.9	6.7_47.9	6.7_47.9
F 41 3					84.9_344.8	51.5_344.8	84.9_344.8	51.5_344.8	51.5_344.8
F 41 4		433.7_1411	433.7_1411	433.7_1411		433.7_1411	433.7_1411	433.7_1411	433.7_1411
F 51 2					30.0_37.1	7.2_37.1	30.0_37.1	7.2_37.1	7.2_37.1
F 51 3					105.1_352.5	48.9_352.5	105.1_352.5	48.9_352.5	48.9_352.5
F 51 4						429.1_1439	429.1_1439	429.1_1439	429.1_1439
F 60 3						11.8_280.7 ⛀ (29.6_32.1)	106.4_280.7	11.8_280.7 ⛀ (29.6_32.1)	11.8_280.7 ⛀ (29.6_32.1)
F 60 4					315.4_1141	315.4_1141	315.4_1141	315.4_1141	315.4_1141

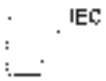
(D 59)

		SERVO INPUT					
		SK110A	SK110B	SK130A	SK130B	SK180A	SK180B
		SC110A	SC110B	SC130A	SC130B	SC180A	SC180B
F 10 2	i =	7.4_91.5	7.4_91.5				
F 20 2		6.4_114.3	6.4_114.3				
F 20 3		156.3_545.3	156.3_545.3				
F 25 2		6.9_44.4	6.9_44.4				
F 25 3		45.6_288.1	45.6_288.1				
F 25 4		393.9_1374	393.9_1374				
F 31 2		6.9_44.6	6.9_44.6	6.9_44.6			
F 31 3		47.5_374.4	47.5_374.4	47.5_374.4			
F 31 4		418.9_1539	418.9_1539				
F 41 2		6.7_47.9	6.7_47.9	6.7_47.9	6.7_47.9	6.7_47.9	6.7_47.9
F 41 3		51.5_344.8	51.5_344.8	51.5_344.8	51.5_168.7	51.5_168.7	51.5_168.7
F 41 4		433.7_1411	433.7_1411				
F 51 2		7.2_37.1	7.2_37.1	7.2_37.1	7.2_37.1	7.2_37.1	7.2_37.1
F 51 3		48.9_352.5	48.9_352.5	48.9_352.5	48.9_202.4	48.9_202.4	48.9_202.4
F 51 4		429.1_1439	429.1_1439	429.1_1439			
F 60 3		11.8_280.7 ⛀ (29.6_32.1)	11.8_280.7 ⛀ (29.6_32.1)	11.8_280.7 ⛀ (29.6_32.1)	9.0_201.4	9.0_201.4	9.0_201.4
F 60 4		315.4_1141	315.4_1141	315.4_1141			

63 MOMENT OF INERTIA

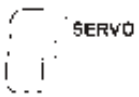
The following charts indicate moment of inertia values Jr [kgm²] referred to the gear unit high speed shaft. A key to the symbols used follows:

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.



Values under this symbol refer to gearboxes with IEC motor adaptor (IEC size...).

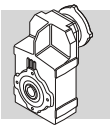
This symbol refers to gearbox values.



Values under this symbol refer to gear unit with servomotor input adapter.

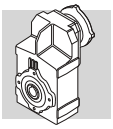
F 10

	i	**J** (•10-4) [kgm²]							
			IEC						
			63	**71**	**80**	**90**	**100**	**112**	
F 10 2_7.4	7.4	1.0	1.8	1.8	3.8	3.7	4.9	4.9	1.7
F 10 2_8.6	8.6	0.77	1.5	1.5	3.6	3.5	4.7	4.7	1.5
F 10 2_9.8	9.8	0.64	1.4	1.4	3.4	3.3	4.5	4.5	1.3
F 10 2_11.5	11.5	0.48	1.2	1.2	3.3	3.2	4.4	4.4	1.2
F 10 2_13.0	13.0	0.38	1.1	1.1	3.2	3.1	4.3	4.3	1.1
F 10 2_14.6	14.6	0.61	1.4	1.4	3.4	3.3	4.5	4.5	1.3
F 10 2_17.0	17.0	0.48	1.3	1.2	3.3	3.2	4.4	4.4	1.2
F 10 2_19.3	19.3	0.41	1.2	1.2	3.2	3.1	4.3	4.3	1.1
F 10 2_22.8	22.8	0.32	1.1	1.1	3.1	3.0	4.2	4.2	1.0
F 10 2_25.8	25.8	0.25	1.0	1.0	3.1	2.9	4.1	4.1	0.93
F 10 2_29.6	29.6	0.19	1.0	0.95	3.0	2.9	4.1	4.1	0.87
F 10 2_33.0	33.0	0.16	0.93	0.92	3.0	2.8	4.1	4.1	0.84
F 10 2_35.3	35.3	0.14	0.92	0.90	3.0	2.8	4.0	4.0	0.83
F 10 2_39.6	39.6	0.12	0.90	0.88	2.9	2.8	4.0	4.0	0.80
F 10 2_44.7	44.7	0.10	0.88	0.86	2.9	2.8	4.0	4.0	0.79
F 10 2_48.7	48.7	0.09	0.86	0.85	2.9	2.8	4.0	4.0	0.77
F 10 2_56.7	56.7	0.07	0.84	0.83	2.9	2.7	4.0	4.0	0.75
F 10 2_63.0	63.0	0.06	0.83	0.82	2.9	2.7	3.9	3.9	0.74
F 10 2_71.1	71.1	0.05	0.82	0.81	2.8	2.7	3.9	3.9	0.73
F 10 2_81.3	81.3	0.04	0.78	0.77	2.8	2.7	3.9	3.9	0.67
F 10 2_91.5	91.5	0.03	0.78	0.76	2.8	2.7	3.9	3.9	0.66
F 10 2_106.0	106.0	0.03	0.77	0.76	—	—	—	—	0.66
F 10 2_127.1	127.1	0.02	0.76	0.75	—	—	—	—	0.65



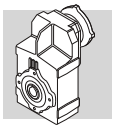
F 10

	i	J (•10-4) [kgm2]									
		SERVO									
		60A		60B 80A		95A		80C 95B 110A		95C 110B	
		SK	SC	SK	SC	SK	SC	SK	SC	SK	SC
F 10 2_7.4	7.4	1.3	1.5	1.3	1.7	3.8	4.3	3.8	4.3	3.7	4.7
F 10 2_8.6	8.6	1.0	1.3	1.1	1.5	3.6	4.0	3.6	4.1	3.5	4.5
F 10 2_9.8	9.8	0.91	1.2	0.93	1.4	3.5	3.9	3.4	3.9	3.3	4.3
F 10 2_11.5	11.5	0.75	1.0	0.77	1.2	3.3	3.7	3.3	3.8	3.2	4.2
F 10 2_13.0	13.0	0.65	0.91	0.67	1.1	3.2	3.6	3.2	3.7	3.1	4.1
F 10 2_14.6	14.6	0.88	1.1	0.91	1.3	3.4	3.9	3.4	3.9	3.3	4.3
F 10 2_17.0	17.0	0.75	1.0	0.77	1.2	3.3	3.7	3.3	3.8	3.2	4.2
F 10 2_19.3	19.3	0.68	0.94	0.70	1.1	3.2	3.7	3.2	3.7	3.1	4.1
F 10 2_22.8	22.8	0.59	0.85	0.61	1.0	3.1	3.6	3.1	3.6	3.0	4.0
F 10 2_25.8	25.8	0.52	0.78	0.54	0.98	3.1	3.5	3.1	3.6	2.9	3.9
F 10 2_29.6	29.6	0.46	0.72	0.48	0.92	3.0	3.4	3.0	3.5	2.9	3.9
F 10 2_33.0	33.0	0.43	0.69	0.45	0.89	3.0	3.4	3.0	3.5	2.8	3.8
F 10 2_35.3	35.3	0.41	0.67	0.43	0.87	3.0	3.4	3.0	3.5	2.8	3.8
F 10 2_39.6	39.6	0.39	0.65	0.41	0.85	2.9	3.3	2.9	3.4	2.8	3.8
F 10 2_44.7	44.7	0.37	0.63	0.39	0.83	2.9	3.4	2.9	3.4	2.8	3.8
F 10 2_48.7	48.7	0.36	0.62	0.38	0.82	2.9	3.3	2.9	3.4	2.8	3.8
F 10 2_56.7	56.7	0.34	0.60	0.36	0.80	2.9	3.3	2.9	3.4	2.7	3.7
F 10 2_63.0	63.0	0.33	0.59	0.35	0.79	2.9	3.3	2.9	3.4	2.7	3.7
F 10 2_71.1	71.1	0.32	0.58	0.34	0.78	2.9	3.3	2.8	3.3	2.7	3.7
F 10 2_81.3	81.3	0.31	0.57	—	—	—	—	2.8	3.3	2.7	3.7
F 10 2_91.5	91.5	0.30	0.56	—	—	—	—	2.8	3.3	2.7	3.7
F 10 2_106.0	106.0	0.30	0.56	—	—	—	—	—	—	—	—
F 10 2_127.1	127.1	0.29	0.55	—	—	—	—	—	—	—	—



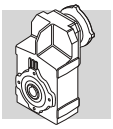
F 20

	i	J (•10-4) [kgm2]							
			IEC						
			63	71	80	90	100	112	
F 20 2_6.4	6.4	2.2	—	—	5.0	4.8	6.0	6.0	3.9
F 20 2_7.8	7.8	1.5	—	—	4.3	4.2	5.4	5.4	3.3
F 20 2_8.7	8.7	1.3	2.0	2.0	4.1	3.9	5.2	5.2	3.0
F 20 2_10.0	10.0	1.0	1.8	1.7	3.8	3.7	4.9	4.9	2.7
F 20 2_11.2	11.2	0.88	1.6	1.6	3.6	3.5	4.7	4.7	2.6
F 20 2_14.8	14.8	1.2	—	—	4.0	3.9	5.1	5.1	2.9
F 20 2_18.1	18.1	0.90	—	—	3.7	3.5	4.7	4.7	2.6
F 20 2_20.2	20.2	0.78	1.5	1.5	3.5	3.4	4.6	4.6	2.5
F 20 2_23.1	23.1	0.64	1.4	1.3	3.4	3.3	4.5	4.5	2.4
F 20 2_25.9	25.9	0.57	1.3	1.3	3.3	3.2	4.4	4.4	2.3
F 20 2_30.4	30.4	0.41	1.1	1.1	3.2	3.0	4.3	4.3	2.1
F 20 2_33.1	33.1	0.36	1.1	1.1	3.1	3.0	4.2	4.2	2.1
F 20 2_37.9	37.9	0.30	1.0	1.0	3.1	2.9	4.1	4.1	2.0
F 20 2_41.8	41.8	0.27	1.0	1.0	3.0	2.9	4.1	4.1	2.0
F 20 2_44.8	44.8	0.24	1.0	1.0	3.0	2.9	4.1	4.1	2.0
F 20 2_50.7	50.7	0.21	0.93	0.92	3.0	2.8	4.1	4.1	1.9
F 20 2_56.7	56.7	0.18	0.91	0.90	2.9	2.8	4.0	4.0	1.9
F 20 2_61.9	61.9	0.16	0.89	0.88	2.9	2.8	4.0	4.0	1.9
F 20 2_69.1	69.1	0.14	0.87	0.86	2.9	2.8	4.0	4.0	1.8
F 20 2_76.8	76.8	0.12	0.86	0.85	2.9	2.8	4.0	4.0	1.8
F 20 2_90.4	90.4	0.10	0.84	0.82	2.9	2.7	3.9	3.9	1.8
F 20 2_101.6	101.6	0.09	0.80	0.79	2.8	2.7	3.9	3.9	1.8
F 20 2_114.3	114.3	0.08	0.79	0.77	2.8	2.7	3.9	3.9	1.8
F 20 2_132.2	132.2	0.03	0.78	0.77	—	—	—	—	1.8
F 20 3_156.3	156.3	0.04	0.81	0.80	2.8	2.7	3.9	3.9	0.72
F 20 3_172.6	172.6	0.04	0.81	0.80	2.8	2.7	3.9	3.9	0.72
F 20 3_184.9	184.9	0.04	0.81	0.80	2.8	2.7	3.9	3.9	0.72
F 20 3_209.3	209.3	0.03	0.81	0.79	2.8	2.7	3.9	3.9	0.72
F 20 3_234.0	234.0	0.03	0.81	0.79	2.8	2.7	3.9	3.9	0.71
F 20 3_255.3	255.3	0.03	0.80	0.79	2.8	2.7	3.9	3.9	0.71
F 20 3_285.2	285.2	0.03	0.80	0.79	2.8	2.7	3.9	3.9	0.71
F 20 3_316.9	316.9	0.03	0.80	0.79	2.8	2.7	3.9	3.9	0.71
F 20 3_372.9	372.9	0.03	0.80	0.79	2.8	2.7	3.9	3.9	0.71
F 20 3_419.3	419.3	0.03	0.80	0.79	2.8	2.7	3.9	3.9	0.66
F 20 3_471.7	471.7	0.03	0.80	0.79	2.8	2.7	3.9	3.9	0.66
F 20 3_545.3	545.3	0.03	0.80	0.79	2.8	2.7	3.9	3.9	0.66



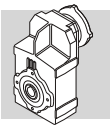
F 20

	i	J (•10-4) [kgm2]									
		SERVO									
		60A		60B 80A		95A		80C 95B 110A		95C 110B	
		SK	SC	SK	SC	SK	SC	SK	SC	SK	SC
F 20 2_6.4	6.4	—	—	—	—	—	—	5.0	5.5	4.8	5.8
F 20 2_7.8	7.8	—	—	—	—	—	—	4.3	4.8	4.2	5.2
F 20 2_8.7	8.7	1.6	1.8	1.6	2.0	4.1	4.6	4.1	4.6	3.9	4.9
F 20 2_10.0	10.0	1.3	1.5	1.3	1.7	3.8	4.3	3.8	4.3	3.7	4.7
F 20 2_11.2	11.2	1.2	1.4	1.2	1.6	3.7	4.1	3.6	4.1	3.5	4.5
F 20 2_14.8	14.8	—	—	—	—	—	—	4.0	4.5	3.9	4.9
F 20 2_18.1	18.1	—	—	—	—	—	—	3.7	4.2	3.5	4.5
F 20 2_20.2	20.2	1.1	1.3	1.1	1.5	3.6	4.0	3.5	4.0	3.4	4.4
F 20 2_23.1	23.1	0.91	1.2	0.93	1.4	3.5	3.9	3.4	3.9	3.3	4.3
F 20 2_25.9	25.9	0.84	1.1	0.86	1.3	3.4	3.8	3.3	3.8	3.2	4.2
F 20 2_30.4	30.4	0.68	0.94	0.70	1.1	3.2	3.7	3.2	3.7	3.0	4.0
F 20 2_33.1	33.1	0.63	0.89	0.65	1.1	3.2	3.6	3.1	3.6	3.0	4.0
F 20 2_37.9	37.9	0.47	0.83	0.59	1.0	3.1	3.6	3.1	3.6	2.9	3.9
F 20 2_41.8	41.8	0.44	0.80	0.56	1.0	3.1	3.5	3.0	3.5	2.9	3.9
F 20 2_44.8	44.8	0.41	0.77	0.53	0.97	3.1	3.5	3.0	3.5	2.9	3.9
F 20 2_50.7	50.7	0.48	0.74	0.50	0.94	3.0	3.5	3.0	3.5	2.8	3.8
F 20 2_56.7	56.7	0.45	0.71	0.47	0.91	3.0	3.4	2.9	3.4	2.8	3.8
F 20 2_61.9	61.9	0.43	0.69	0.45	0.89	3.0	3.4	2.9	3.4	2.8	3.8
F 20 2_69.1	69.1	0.41	0.67	0.43	0.87	3.0	3.4	2.9	3.4	2.8	3.8
F 20 2_76.8	76.8	0.39	0.65	0.41	0.85	2.9	3.4	2.9	3.4	2.8	3.8
F 20 2_90.4	90.4	0.37	0.63	0.39	0.83	2.9	3.4	2.9	3.4	2.7	3.7
F 20 2_101.6	101.6	0.36	0.62	—	—	—	—	2.8	3.3	2.7	3.7
F 20 2_114.3	114.3	0.35	0.61	—	—	—	—	2.8	3.3	2.7	3.7
F 20 2_132.2	132.2	0.30	0.56	—	—	—	—	—	—	—	—
F 20 3_156.3	156.3	0.31	0.57	0.33	0.77	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_172.6	172.6	0.31	0.57	0.33	0.77	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_184.9	184.9	0.31	0.57	0.33	0.77	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_209.3	209.3	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_234.0	234.0	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_255.3	255.3	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_285.2	285.2	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_316.9	316.9	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_372.9	372.9	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_419.3	419.3	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_471.7	471.7	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7
F 20 3_545.3	545.3	0.30	0.56	0.32	0.76	2.9	3.3	2.8	3.3	2.7	3.7



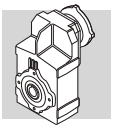
F 25

	i	J (•10-4) [kgm2]							
			IEC						
			63	71	80	90	100	112	
F 25 2_6.9	6.9	2.7	—	—	5.4	5.3	6.5	6.5	4.4
F 25 2_8.4	8.4	1.9	—	—	4.6	4.5	5.7	5.7	3.6
F 25 2_9.4	9.4	1.6	2.3	2.3	4.3	4.2	5.4	5.4	3.3
F 25 2_10.6	10.6	1.9	—	—	4.6	4.5	5.7	5.7	3.6
F 25 2_13.0	13.0	1.3	—	—	4.1	4.0	5.2	5.2	3.0
F 25 2_14.5	14.5	1.1	1.8	1.8	3.9	3.8	5.0	5.0	2.8
F 25 2_16.6	16.6	0.90	1.6	1.6	3.7	3.5	4.7	4.7	2.6
F 25 2_18.6	18.6	0.77	1.5	1.5	3.5	3.4	4.6	4.6	2.5
F 25 2_21.8	21.8	0.57	1.3	1.3	3.3	3.2	4.4	4.4	2.3
F 25 2_23.8	23.8	0.48	1.2	1.2	3.2	3.1	4.3	4.3	2.2
F 25 2_27.2	27.2	0.40	1.1	1.1	3.2	3.0	4.2	4.2	2.1
F 25 2_30.0	30.0	0.35	1.1	1.1	3.1	3.0	4.2	4.2	2.1
F 25 2_32.2	32.2	0.31	1.0	1.0	3.1	2.9	4.2	4.2	2.0
F 25 2_36.4	36.4	0.26	1.0	1.0	3.0	2.9	4.1	4.1	2.0
F 25 2_40.7	40.7	0.22	1.0	0.94	3.0	2.9	4.1	4.1	1.9
F 25 2_44.4	44.4	0.20	0.93	0.92	3.0	2.8	4.0	4.0	1.9
F 25 3_45.6	45.6	0.79	—	—	3.6	3.4	4.6	4.6	2.5
F 25 3_50.8	50.8	0.70	1.4	1.4	3.5	3.3	4.5	4.5	2.4
F 25 3_58.3	58.3	0.58	1.3	1.3	3.3	3.2	4.4	4.4	2.3
F 25 3_65.3	65.3	0.52	1.2	1.2	3.3	3.1	4.4	4.4	2.2
F 25 3_76.6	76.6	0.38	1.1	1.1	3.1	3.0	4.2	4.2	2.1
F 25 3_83.4	83.4	0.32	1.0	1.0	3.1	3.0	4.2	4.2	2.0
F 25 3_95.5	95.5	0.28	1.0	1.0	3.0	2.9	4.1	4.1	2.0
F 25 3_105.4	105.4	0.25	1.0	1.0	3.0	2.9	4.1	4.1	2.0
F 25 3_113.0	113.0	0.23	0.95	0.94	3.0	2.9	4.1	4.1	1.9
F 25 3_127.8	127.8	0.20	0.92	0.91	3.0	2.8	4.0	4.0	1.9
F 25 3_143.0	143.0	0.17	0.90	0.89	2.9	2.8	4.0	4.0	1.9
F 25 3_155.9	155.9	0.15	0.88	0.87	2.9	2.8	4.0	4.0	1.9
F 25 3_174.2	174.2	0.13	0.87	0.86	2.9	2.8	4.0	4.0	1.8
F 25 3_193.6	193.6	0.12	0.85	0.84	2.9	2.7	4.0	4.0	1.8
F 25 3_227.8	227.8	0.10	0.83	0.82	2.9	2.7	3.9	3.9	1.8
F 25 3_256.1	256.1	0.09	0.79	0.78	2.8	2.7	3.9	3.9	1.8
F 25 3_288.1	288.1	0.08	0.78	0.77	2.8	2.7	3.9	3.9	1.8
F 25 3_333.1	333.1	0.03	0.78	0.76	—	—	—	—	1.8
F 25 4_393.9	393.9	0.02	0.80	0.78	2.8	2.7	3.9	3.9	0.70
F 25 4_434.9	434.9	0.02	0.79	0.78	2.8	2.7	3.9	3.9	0.70
F 25 4_466.0	466.0	0.02	0.79	0.78	2.8	2.7	3.9	3.9	0.70
F 25 4_527.3	527.3	0.02	0.79	0.78	2.8	2.7	3.9	3.9	0.70
F 25 4_589.7	589.7	0.02	0.79	0.78	2.8	2.7	3.9	3.9	0.70
F 25 4_643.3	643.3	0.02	0.79	0.78	2.8	2.7	3.9	3.9	0.70
F 25 4_718.7	718.7	0.02	0.79	0.78	2.8	2.7	3.9	3.9	0.70
F 25 4_798.5	798.5	0.01	0.79	0.77	2.8	2.7	3.9	3.9	0.70
F 25 4_939.8	939.8	0.01	0.79	0.77	2.8	2.7	3.9	3.9	0.69
F 25 4_1057	1057	0.01	0.79	0.77	2.8	2.7	3.9	3.9	0.64
F 25 4_1189	1189	0.01	0.78	0.77	2.8	2.7	3.9	3.9	0.64
F 25 4_1374	1374	0.01	0.78	0.77	2.8	2.7	3.9	3.9	0.64



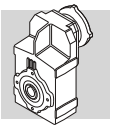
F 25

	i	J (•10-4) [kgm2]									
		SERVO									
		60A		60B 80A		95A		80C 95B 110A		95C 110B	
		SK	SC	SK	SC	SK	SC	SK	SC	SK	SC
F 25 2_6.9	6.9	—	—	—	—	—	—	5.4	5.9	5.3	6.3
F 25 2_8.4	8.4	—	—	—	—	—	—	4.6	5.1	4.5	5.5
F 25 2_9.4	9.4	1.9	2.1	1.9	2.3	4.4	4.9	4.3	4.8	4.2	5.2
F 25 2_10.6	10.6	—	—	—	—	—	—	4.6	5.1	4.5	5.5
F 25 2_13.0	13.0	—	—	—	—	—	—	4.1	4.6	4.0	5.0
F 25 2_14.5	14.5	1.4	1.6	1.4	1.8	3.9	4.4	3.9	4.4	3.8	4.8
F 25 2_16.6	16.6	1.2	1.4	1.2	1.6	3.7	4.2	3.7	4.2	3.5	4.5
F 25 2_18.6	18.6	1.0	1.3	1.1	1.5	3.6	4.0	3.5	4.0	3.4	4.4
F 25 2_21.8	21.8	0.84	1.1	0.86	1.3	3.4	3.8	3.3	3.8	3.2	4.2
F 25 2_23.8	23.8	0.75	1.0	0.77	1.2	3.3	3.7	3.2	3.7	3.1	4.1
F 25 2_27.2	27.2	0.67	0.93	0.69	1.1	3.2	3.7	3.2	3.7	3.0	4.0
F 25 2_30.0	30.0	0.62	0.88	0.64	1.1	3.2	3.6	3.1	3.6	3.0	4.0
F 25 2_32.2	32.2	0.58	0.84	1.4	1.8	3.1	3.6	3.1	3.6	2.9	3.9
F 25 2_36.4	36.4	0.53	0.79	0.55	0.99	3.1	3.5	3.0	3.5	2.9	3.9
F 25 2_40.7	40.7	0.49	0.75	0.51	0.95	3.0	3.5	3.0	3.5	2.9	3.9
F 25 2_44.4	44.4	0.47	0.73	0.49	0.93	3.0	3.5	3.0	3.5	2.8	3.8
F 25 3_45.6	45.6	1.1	1.3	1.1	1.5	3.6	4.0	3.6	4.1	3.4	4.4
F 25 3_50.8	50.8	0.97	1.2	0.99	1.4	3.5	4.0	3.5	4.0	3.3	4.3
F 25 3_58.3	58.3	0.85	1.1	0.87	1.3	3.4	3.8	3.3	3.8	3.2	4.2
F 25 3_65.3	65.3	0.79	1.1	0.84	1.2	3.3	3.8	3.3	3.8	3.1	4.1
F 25 3_76.6	76.6	0.65	0.91	0.67	1.1	3.2	3.6	3.1	3.6	3.0	4.0
F 25 3_83.4	83.4	0.59	0.85	0.61	1.0	3.1	3.6	3.1	3.6	3.0	4.0
F 25 3_95.5	95.5	0.55	0.81	0.57	1.0	3.1	3.5	3.0	3.5	2.9	3.9
F 25 3_105.4	105.4	0.52	0.78	0.54	0.98	3.1	3.5	3.0	3.5	2.9	3.9
F 25 3_113.0	113.0	0.50	0.76	0.52	0.96	3.1	3.5	3.0	3.5	2.9	3.9
F 25 3_127.8	127.8	0.47	0.73	0.49	0.93	3.0	3.5	3.0	3.5	2.8	3.8
F 25 3_143.0	143.0	0.44	0.70	0.46	0.90	3.0	3.4	2.9	3.4	2.8	3.8
F 25 3_155.9	155.9	0.42	0.68	0.44	0.88	3.0	3.4	2.9	3.4	2.8	3.8
F 25 3_174.2	174.2	0.40	0.66	0.42	0.86	3.0	3.4	2.9	3.4	2.8	3.8
F 25 3_193.6	193.6	0.39	0.65	0.41	0.85	2.9	3.4	2.9	3.4	2.7	3.7
F 25 3_227.8	227.8	0.37	0.63	0.39	0.83	2.9	3.4	2.9	3.4	2.7	3.7
F 25 3_256.1	256.1	0.36	0.62	—	—	—	—	2.8	3.3	2.7	3.7
F 25 3_288.1	288.1	0.35	0.61	—	—	—	—	2.8	3.3	2.7	3.7
F 25 3_333.1	333.1	0.30	0.56	—	—	—	—	—	—	—	—
F 25 4_393.9	393.9	0.29	0.55	0.31	0.75	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_434.9	434.9	0.29	0.55	0.31	0.75	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_466.0	466.0	0.29	0.55	0.31	0.75	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_527.3	527.3	0.29	0.55	0.31	0.75	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_589.7	589.7	0.29	0.55	0.31	0.75	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_643.3	643.3	0.29	0.55	0.31	0.75	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_718.7	718.7	0.29	0.55	0.31	0.75	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_798.5	798.5	0.28	0.54	0.30	0.74	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_939.8	939.8	0.28	0.54	0.30	0.74	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_1057	1057	0.28	0.54	0.30	0.74	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_1189	1189	0.28	0.54	0.30	0.74	2.8	3.3	2.8	3.3	2.7	3.7
F 25 4_1374	1374	0.28	0.54	0.30	0.74	2.8	3.3	2.8	3.3	2.7	3.7

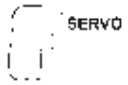


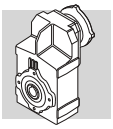
F 31

	i	J (•10-4) [kgm2]								
			IEC							
			63	71	80	90	100	112	132	
F 31 2_6.9	6.9	5.0	—	—	7.8	7.6	8.9	8.9	22	7.1
F 31 2_8.2	8.2	3.7	—	—	6.5	6.3	7.5	7.5	20	5.8
F 31 2_9.0	9.0	3.2	—	—	6.0	5.8	7.0	7.0	20	5.3
F 31 2_10.7	10.7	3.5	—	—	6.3	6.2	7.4	7.4	20	5.6
F 31 2_12.7	12.7	2.6	—	—	5.4	5.3	6.5	6.5	19	4.7
F 31 2_13.9	13.9	2.3	—	—	5.1	4.9	6.2	6.2	19	4.4
F 31 2_16.8	16.8	1.8	—	—	4.6	4.4	5.6	5.6	18	3.9
F 31 2_18.5	18.5	1.5	2.2	2.2	4.2	4.1	5.3	5.3	18	3.5
F 31 2_21.1	21.1	1.1	1.8	1.8	3.9	3.7	5.0	5.0	18	3.2
F 31 2_23.4	23.4	1.0	1.7	1.7	3.7	3.6	4.8	4.8	18	3.0
F 31 2_27.3	27.3	0.78	1.5	1.5	3.5	3.4	4.6	4.6	17	2.8
F 31 2_30.1	30.1	0.65	1.4	1.4	3.4	3.3	4.5	4.5	17	2.7
F 31 2_34.4	34.4	0.53	1.3	1.2	3.3	3.2	4.4	4.4	17	2.6
F 31 2_37.7	37.7	0.47	1.2	1.2	3.2	3.1	4.3	4.3	17	2.5
F 31 2_40.4	40.4	0.42	1.1	1.1	3.2	3.0	4.3	4.3	—	2.5
F 31 2_44.6	44.6	0.37	1.1	1.1	3.1	3.0	4.2	4.2	—	2.4
F 31 3_47.5	47.5	1.6	—	—	4.3	4.2	5.4	5.4	18	3.6
F 31 3_52.1	52.1	1.4	—	—	4.2	4.0	5.3	5.3	18	3.5
F 31 3_62.8	62.8	1.2	—	—	3.9	3.8	5.0	5.0	18	3.2
F 31 3_69.1	69.1	1.0	1.7	1.7	3.7	3.6	4.8	4.8	18	3.0
F 31 3_78.9	78.9	0.72	1.4	1.4	3.5	3.4	4.6	4.6	17	2.8
F 31 3_87.4	87.4	0.66	1.4	1.4	3.4	3.3	4.5	4.5	17	2.7
F 31 3_101.9	101.9	0.54	1.3	1.2	3.3	3.2	4.4	4.4	17	2.6
F 31 3_112.5	112.5	0.46	1.2	1.2	3.2	3.1	4.3	4.3	17	2.5
F 31 3_128.4	128.4	0.38	1.1	1.1	3.1	3.0	4.2	4.2	17	2.4
F 31 3_140.7	140.7	0.35	1.1	1.1	3.1	3.0	4.2	4.2	17	2.4
F 31 3_150.8	150.8	0.31	1.0	1.0	3.1	2.9	4.2	4.2	—	2.4
F 31 3_166.8	166.8	0.28	1.0	1.0	3.0	2.9	4.1	4.1	—	2.3
F 31 3_185.4	185.4	0.24	1.0	1.0	3.0	2.9	4.1	4.1	—	2.3
F 31 3_202.3	202.3	0.21	0.94	0.93	3.0	2.8	4.1	4.1	—	2.3
F 31 3_228.2	228.2	0.18	0.92	0.90	2.9	2.8	4.0	4.0	—	2.2
F 31 3_253.6	253.6	0.16	0.89	0.88	2.9	2.8	4.0	4.0	—	2.2
F 31 3_293.8	293.8	0.13	0.86	0.85	2.9	2.8	4.0	4.0	—	2.2
F 31 3_332.8	332.8	0.11	0.82	0.81	2.9	2.7	4.0	4.0	—	2.2
F 31 3_374.4	374.4	0.10	0.81	0.79	2.9	2.7	3.9	3.9	—	2.2
F 31 4_418.9	418.9	0.09	0.86	0.85	2.9	2.8	3.9	3.9	—	0.77
F 31 4_462.6	462.6	0.08	0.86	0.84	2.9	2.7	3.9	3.9	—	0.77
F 31 4_527.8	527.8	0.08	0.85	0.84	2.9	2.7	3.9	3.9	—	0.76
F 31 4_578.6	578.6	0.08	0.85	0.84	2.9	2.7	3.9	3.9	—	0.76
F 31 4_619.9	619.9	0.07	0.85	0.83	2.9	2.7	3.9	3.9	—	0.76
F 31 4_685.6	685.6	0.07	0.85	0.83	2.9	2.7	3.9	3.9	—	0.76
F 31 4_762.3	762.3	0.07	0.84	0.83	2.9	2.7	3.9	3.9	—	0.75
F 31 4_831.6	831.6	0.07	0.84	0.83	2.9	2.7	3.9	3.9	—	0.75
F 31 4_938.2	938.2	0.07	0.84	0.83	2.9	2.7	3.9	3.9	—	0.75
F 31 4_1042	1042	0.07	0.84	0.83	2.9	2.7	3.9	3.9	—	0.75
F 31 4_1208	1208	0.06	0.84	0.82	2.9	2.7	3.9	3.9	—	0.75
F 31 4_1368	1368	0.06	0.84	0.82	2.9	2.7	3.9	3.9	—	0.75
F 31 4_1539	1539	0.06	0.84	0.82	2.9	2.7	3.9	3.9	—	0.75



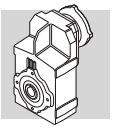
F 31

	i	J (•10-4) [kgm2]											
													
		60A		60B 80A		95A		80C 95B 110A		95C 110B		130A	
		SK	SC	SK	SC	SK	SC	SK	SC	SK	SC	SK	SC
F 31 2_6.9	6.9	—	—	—	—	—	—	7.8	8.3	7.6	8.6	7.6	8.6
F 31 2_8.2	8.2	—	—	—	—	—	—	6.5	7.0	6.3	7.3	6.3	7.3
F 31 2_9.0	9.0	—	—	—	—	—	—	6.0	6.5	5.8	6.8	5.8	6.8
F 31 2_10.7	10.7	—	—	—	—	—	—	6.3	6.8	6.2	7.2	6.2	7.2
F 31 2_12.7	12.7	—	—	—	—	—	—	5.4	5.9	5.3	6.3	5.3	6.3
F 31 2_13.9	13.9	—	—	—	—	—	—	5.1	5.6	4.9	5.9	4.9	5.9
F 31 2_16.8	16.8	—	—	—	—	—	—	4.6	5.1	4.4	5.4	4.4	5.4
F 31 2_18.5	18.5	1.8	2.0	1.8	2.2	4.3	4.8	4.2	4.7	4.1	5.1	4.1	5.1
F 31 2_21.1	21.1	1.4	1.6	1.4	1.8	3.9	4.3	3.9	4.4	3.7	4.7	3.7	4.7
F 31 2_23.4	23.4	1.3	1.5	1.3	1.7	3.8	4.3	3.7	4.2	3.6	4.6	3.6	4.6
F 31 2_27.3	27.3	1.1	1.3	1.1	1.5	3.6	4.0	3.5	4.0	3.4	4.4	3.4	4.4
F 31 2_30.1	30.1	0.92	1.2	0.94	1.4	3.5	3.9	3.4	3.9	3.3	4.3	3.3	4.3
F 31 2_34.4	34.4	0.80	1.1	0.82	1.3	3.4	3.8	3.3	3.8	3.2	4.2	3.2	4.2
F 31 2_37.7	37.7	0.74	1.0	0.76	1.2	3.3	3.7	3.2	3.7	3.1	4.1	3.1	4.1
F 31 2_40.4	40.4	0.69	0.95	0.71	1.1	3.2	3.7	3.2	3.7	3.0	4.0	3.0	4.0
F 31 2_44.6	44.6	0.64	0.90	0.66	1.1	3.2	3.6	3.1	3.6	3.0	4.0	3.0	4.0
F 31 3_47.5	47.5	—	—	—	—	—	—	4.3	4.8	4.2	5.2	4.2	5.2
F 31 3_52.1	52.1	—	—	—	—	—	—	4.2	4.7	4.0	5.0	4.0	5.0
F 31 3_62.8	62.8	—	—	—	—	—	—	3.9	4.4	3.8	4.8	3.8	4.8
F 31 3_69.1	69.1	1.3	1.5	1.3	1.7	3.8	4.3	3.7	4.2	3.6	4.6	3.6	4.6
F 31 3_78.9	78.9	0.99	1.3	1.0	1.4	3.5	4.0	3.5	4.0	3.4	4.4	3.4	4.4
F 31 3_87.4	87.4	0.93	1.2	0.95	1.4	3.5	3.9	3.4	3.9	3.3	4.3	3.3	4.3
F 31 3_101.9	101.9	0.81	1.1	0.83	1.3	3.4	3.8	3.3	3.8	3.2	4.2	3.2	4.2
F 31 3_112.5	112.5	0.73	0.99	0.75	1.2	3.3	3.7	3.2	3.7	3.1	4.1	3.1	4.1
F 31 3_128.4	128.4	0.65	0.91	0.67	1.1	3.2	3.6	3.1	3.6	3.0	4.0	3.0	4.0
F 31 3_140.7	140.7	0.62	0.88	0.64	1.1	3.2	3.6	3.1	3.6	3.0	4.0	3.0	4.0
F 31 3_150.8	150.8	0.58	0.84	0.60	1.0	3.1	3.6	3.1	3.6	2.9	3.9	2.9	3.9
F 31 3_166.8	166.8	0.55	0.81	0.57	1.0	3.1	3.5	3.0	3.5	2.9	3.9	2.9	3.9
F 31 3_185.4	185.4	0.51	0.77	0.53	0.97	3.1	3.5	3.0	3.5	2.9	3.9	2.9	3.9
F 31 3_202.3	202.3	0.48	0.74	0.50	0.93	3.0	3.5	3.0	3.5	2.8	3.8	2.8	3.8
F 31 3_228.2	228.2	0.45	0.71	0.47	0.91	3.0	3.4	2.9	3.4	2.8	3.8	2.8	3.8
F 31 3_253.6	253.6	0.43	0.69	0.45	0.89	3.0	3.4	2.9	3.4	2.8	3.8	2.8	3.8
F 31 3_293.8	293.8	0.40	0.66	0.42	0.86	3.0	3.4	2.9	3.4	2.8	3.8	2.8	3.8
F 31 3_332.8	332.8	0.38	0.64	—	—	—	—	2.9	3.4	2.7	3.7	2.7	3.7
F 31 3_374.4	374.4	0.37	0.63	—	—	—	—	2.9	3.4	2.7	3.7	2.7	3.7
F 31 4_418.9	418.9	0.36	0.62	0.38	0.82	2.9	3.3	2.9	3.4	2.8	3.8	—	—
F 31 4_462.6	462.6	0.35	0.61	0.37	0.81	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_527.8	527.8	0.35	0.61	0.37	0.81	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_578.6	578.6	0.35	0.61	0.37	0.81	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_619.9	619.9	0.34	0.60	0.36	0.80	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_685.6	685.6	0.34	0.60	0.36	0.80	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_762.3	762.3	0.34	0.60	0.36	0.80	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_831.6	831.6	0.34	0.60	0.36	0.80	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_938.2	938.2	0.34	0.60	0.36	0.80	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_1042	1042	0.34	0.60	0.36	0.80	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_1208	1208	0.33	0.59	0.35	0.79	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_1368	1368	0.33	0.59	0.35	0.79	2.9	3.3	2.9	3.4	2.7	3.7	—	—
F 31 4_1539	1539	0.83	0.59	0.35	0.79	2.9	3.3	2.9	3.4	2.7	3.7	—	—



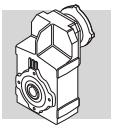
F 41

	i	J (•10-4) [kgm2]								
			IEC							
			63	71	80	90	100	112	132	
F 41 2_6.7	6.7	12	—	—	15	15	18	18	29	21
F 41 2_9.1	9.1	7.2	—	—	10	9.8	13	13	24	16
F 41 2_10.8	10.8	8.0	—	—	11	11	13	13	25	17
F 41 2_14.6	14.6	5.0	—	—	7.7	7.6	10	10	21	14
F 41 2_17.1	17.1	3.5	—	—	6.3	6.2	8.9	8.9	20	12
F 41 2_18.9	18.9	3.1	—	—	5.8	5.7	8.5	8.5	20	12
F 41 2_24.1	24.1	2.1	2.8	2.8	4.9	4.8	7.5	7.5	19	11
F 41 2_30.1	30.1	1.5	2.2	2.2	4.3	4.2	6.9	6.9	18	10
F 41 2_38.2	38.2	0.95	1.7	1.7	3.7	3.6	6.3	6.3	17	9.7
F 41 2_47.9	47.9	0.67	1.4	1.4	3.4	3.3	6.0	6.0	17	9.5
F 41 3_51.5	51.5	3.0	—	—	5.7	5.6	8.4	8.4	19	12
F 41 3_60.2	60.2	2.1	—	—	4.9	4.7	7.5	7.5	19	11
F 41 3_66.5	66.5	1.9	—	—	4.7	4.5	7.3	7.3	18	11
F 41 3_84.9	84.9	1.4	2.1	2.1	4.2	4.0	6.8	6.8	18	10
F 41 3_106.0	106.0	1.1	1.8	1.7	3.8	3.7	6.4	6.4	18	9.8
F 41 3_134.4	134.4	0.66	1.4	1.4	3.4	3.3	6.0	6.0	17	9.4
F 41 3_168.7	168.7	0.49	1.2	1.2	3.2	3.1	5.9	5.9	17	9.3
F 41 3_180.7	180.7	0.43	1.1	1.1	3.2	3.1	5.8	5.8	—	9.2
F 41 3_198.9	198.9	0.39	1.1	1.1	3.1	3.0	5.8	5.8	—	9.2
F 41 3_220.1	220.1	0.36	1.1	1.1	3.1	3.0	5.7	5.7	—	9.1
F 41 3_240.1	240.1	0.31	1.0	1.0	3.1	2.9	5.7	5.7	—	9.1
F 41 3_266.9	266.9	0.28	1.0	1.0	3.0	2.9	5.7	5.7	—	9.1
F 41 3_296.6	296.6	0.23	1.0	1.0	3.0	2.9	5.6	5.6	—	9.0
F 41 3_344.8	344.8	0.19	0.92	0.91	2.9	2.8	5.6	5.6	—	9.0
F 41 4_433.7	433.7	0.21	0.94	0.93	3.0	2.8	4.1	4.1	—	1.9
F 41 4_549.8	549.8	0.19	0.92	0.90	2.9	2.8	4.0	4.0	—	1.9
F 41 4_690.1	690.1	0.18	0.91	0.89	2.9	2.8	4.0	4.0	—	1.9
F 41 4_739.4	739.4	0.17	0.90	0.89	2.9	2.8	4.0	4.0	—	1.9
F 41 4_813.8	813.8	0.17	0.90	0.89	2.9	2.8	4.0	4.0	—	1.9
F 41 4_900.5	900.5	0.17	0.90	0.89	2.9	2.8	4.0	4.0	—	1.9
F 41 4_982.4	982.4	0.17	0.90	0.88	2.9	2.8	4.0	4.0	—	1.9
F 41 4_1092	1092	0.16	0.89	0.88	2.9	2.8	4.0	4.0	—	1.9
F 41 4_1213	1213	0.16	0.89	0.88	2.9	2.8	4.0	4.0	—	1.9
F 41 4_1411	1411	0.16	0.89	0.88	2.9	2.8	4.0	4.0	—	1.9



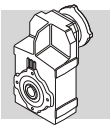
F 41

	i	J (•10-4) [kgm2]																	
		SERVO																	
		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
F 41 2_6.7	6.7	—	—	—	—	—	—	—	—	15	16	15	16	15	16	29	31	29	34
F 41 2_9.1	9.1	—	—	—	—	—	—	—	—	10	11	9.8	11	9.8	11	24	27	24	29
F 41 2_10.8	10.8	—	—	—	—	—	—	—	—	11	12	11	12	11	12	25	27	25	30
F 41 2_14.6	14.6	—	—	—	—	—	—	—	—	7.7	8.2	7.6	8.6	7.6	8.6	22	24	21	26
F 41 2_17.1	17.1	—	—	—	—	—	—	—	—	6.3	6.8	6.2	7.2	6.2	7.2	20	23	20	25
F 41 2_18.9	18.9	—	—	—	—	—	—	—	—	5.8	6.3	5.7	6.7	5.7	6.7	20	23	20	25
F 41 2_24.1	24.1	—	—	—	—	4.9	5.4	4.9	5.4	4.9	5.4	4.8	5.8	4.8	5.8	19	22	19	24
F 41 2_30.1	30.1	—	—	—	—	4.3	4.8	4.3	4.8	4.3	4.8	4.2	5.2	4.2	5.2	18	21	18	23
F 41 2_38.2	38.2	—	—	—	—	3.8	4.2	3.8	4.2	3.7	4.2	3.6	4.6	3.6	4.6	18	20	17	22
F 41 2_47.9	47.9	—	—	—	—	3.5	3.9	3.5	3.9	3.4	3.9	3.3	4.3	3.3	4.3	18	20	17	22
F 41 3_51.5	51.5	—	—	—	—	—	—	—	—	5.7	6.2	5.6	6.6	5.6	6.6	20	22	19	24
F 41 3_60.2	60.2	—	—	—	—	—	—	—	—	4.9	5.4	4.7	5.7	4.7	5.7	19	22	19	24
F 41 3_66.5	66.5	—	—	—	—	—	—	—	—	4.7	5.2	4.5	5.5	4.5	5.5	19	21	18	23
F 41 3_84.9	84.9	—	—	—	—	4.2	4.7	4.2	4.7	4.2	4.7	4.0	5.0	4.0	5.0	18	21	18	23
F 41 3_106.0	106.0	—	—	—	—	3.9	4.4	3.9	4.4	3.8	4.3	3.7	4.7	3.7	4.7	18	21	18	23
F 41 3_134.4	134.4	—	—	—	—	3.5	3.9	3.5	3.9	3.4	3.9	3.3	4.3	3.3	4.3	18	20	17	22
F 41 3_168.7	168.7	—	—	—	—	3.3	3.7	3.3	3.7	3.2	3.7	3.1	4.1	3.1	4.1	17	20	17	22
F 41 3_180.7	180.7	—	—	—	—	3.3	3.7	3.3	3.7	3.2	3.7	3.1	4.1	3.1	4.1	—	—	—	—
F 41 3_198.9	198.9	—	—	—	—	3.2	3.6	3.2	3.6	3.1	3.6	3.0	4.0	3.0	4.0	—	—	—	—
F 41 3_220.1	220.1	—	—	—	—	3.2	3.6	3.2	3.6	3.1	3.6	3.0	4.0	3.0	4.0	—	—	—	—
F 41 3_240.1	240.1	—	—	—	—	3.1	3.6	3.1	3.6	3.1	3.6	2.9	3.9	2.9	3.9	—	—	—	—
F 41 3_266.9	266.9	—	—	—	—	3.1	3.5	3.1	3.5	3.0	3.5	2.9	3.9	2.9	3.9	—	—	—	—
F 41 3_296.6	296.6	—	—	—	—	3.1	3.5	3.1	3.5	3.0	3.5	2.9	3.9	2.9	3.9	—	—	—	—
F 41 3_344.8	344.8	—	—	—	—	3.0	3.4	3.0	3.4	2.9	3.4	2.8	3.8	2.8	3.8	—	—	—	—
F 41 4_433.7	433.7	0.48	0.74	0.50	0.94	—	—	3.0	3.5	3.0	3.5	2.8	3.8	—	—	—	—	—	—
F 41 4_549.8	549.8	0.46	0.72	0.48	0.92	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_690.1	690.1	0.45	0.71	0.47	0.91	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_739.4	739.4	0.44	0.70	0.46	0.90	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_813.8	813.8	0.44	0.70	0.46	0.90	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_900.5	900.5	0.44	0.70	0.46	0.90	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_982.4	982.4	0.44	0.70	0.46	0.90	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_1092	1092	0.43	0.69	0.45	0.89	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_1213	1213	0.43	0.69	0.45	0.89	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—
F 41 4_1411	1411	0.43	0.69	0.45	0.89	—	—	3.0	3.4	2.9	3.4	2.8	3.8	—	—	—	—	—	—



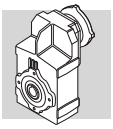
F 51

	i	J (•10-4) [kgm2]										
			IEC									
			63	71	80	90	100	112	132	160	180	
F 51 2_7.2	7.2	25	—	—	28	28	30	30	42	101	103	34
F 51 2_9.1	9.1	17	—	—	20	19	22	22	33	92	94	26
F 51 2_11.1	11.1	16	—	—	19	19	22	22	33	92	94	25
F 51 2_14.0	14.0	11	—	—	14	14	17	17	28	87	89	20
F 51 2_18.8	18.8	7.0	—	—	9.8	9.6	12	12	24	83	85	16
F 51 2_23.8	23.8	4.5	—	—	7.3	7.2	9.9	9.9	21	80	82	13
F 51 2_30.0	30.0	3.1	3.8	3.8	5.9	5.8	8.5	8.5	20	79	81	12
F 51 2_37.1	37.1	2.2	3.0	3.0	5.0	4.9	7.6	7.6	19	78	80	11
F 51 3_48.9	48.9	6.2	—	—	8.9	8.8	12	12	23	82	84	15
F 51 3_65.8	65.8	4.2	—	—	6.9	6.8	9.6	9.6	21	80	82	13
F 51 3_83.2	83.2	2.7	—	—	5.5	5.4	8.1	8.1	19	78	80	12
F 51 3_105.1	105.1	2.0	2.7	2.7	4.8	4.6	7.4	7.4	19	78	80	11
F 51 3_129.9	129.9	1.5	2.2	2.2	4.3	4.1	6.9	6.9	18	77	79	10
F 51 3_165.6	165.6	0.95	1.7	1.7	3.7	3.6	6.3	6.3	17	76	78	9.7
F 51 3_202.4	202.4	0.72	1.4	1.4	3.5	3.3	6.1	6.1	17	76	78	9.5
F 51 3_216.9	216.9	0.64	1.4	1.3	3.4	3.3	6.0	6.0	—	—	—	9.4
F 51 3_239.8	239.8	0.60	1.3	1.3	3.4	3.2	6.0	6.0	—	—	—	9.4
F 51 3_262.1	262.1	0.53	1.3	1.3	3.3	3.2	5.9	5.9	—	—	—	9.3
F 51 3_285.9	285.9	0.46	1.2	1.2	3.2	3.1	5.8	5.8	—	—	—	9.2
F 51 3_317.3	317.3	0.39	1.1	1.1	3.2	3.0	5.8	5.8	—	—	—	9.2
F 51 3_352.5	352.5	0.28	1.1	1.1	3.1	3.0	5.7	5.7	—	—	—	9.1
F 51 4_429.1	429.1	0.36	1.1	1.1	3.1	3.0	5.7	5.7	—	—	—	2.4
F 51 4_530.5	530.5	0.33	1.1	1.0	3.1	3.0	5.7	5.7	—	—	—	2.4
F 51 4_676.3	676.3	0.30	1.0	1.0	3.1	2.9	5.7	5.7	—	—	—	2.4
F 51 4_826.4	826.4	0.28	1.0	1.0	3.0	2.9	5.7	5.7	—	—	—	2.3
F 51 4_885.5	885.5	0.28	1.0	1.0	3.0	2.9	5.7	5.7	—	—	—	2.3
F 51 4_979.4	979.4	0.28	1.0	1.0	3.0	2.9	5.7	5.7	—	—	—	2.3
F 51 4_1070	1070	0.27	1.0	1.0	3.0	2.9	5.6	5.6	—	—	—	2.3
F 51 4_1168	1168	0.27	1.0	1.0	3.0	2.9	5.6	5.6	—	—	—	2.3
F 51 4_1296	1296	0.26	1.0	1.0	3.0	2.9	5.6	5.6	—	—	—	2.3
F 51 4_1439	1439	0.26	1.0	1.0	3.0	2.9	5.6	5.6	—	—	—	2.3



F 51

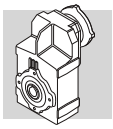
	i	J (•10-4) [kgm2]											
		SERVO											
		80B		95A		80C 95B 110A		95C 110B 130A		130B 180A		180B	
		SK	SC	SK	SC	SK	SC	SK	SC	SK	SC	SK	SC
F 51 2_7.2	7.2	—	—	—	—	28	29	28	23	42	44	42	47
F 51 2_9.1	9.1	—	—	—	—	20	21	19	20	34	36	33	38
F 51 2_11.1	11.1	—	—	—	—	19	20	19	20	33	35	33	38
F 51 2_14.0	14.0	—	—	—	—	14	15	14	15	28	30	28	33
F 51 2_18.8	18.8	—	—	—	—	9.8	10	9.6	11	24	26	24	29
F 51 2_23.8	23.8	—	—	—	—	7.3	7.8	7.2	8.2	21	24	21	26
F 51 2_30.0	30.0	5.9	6.4	5.9	6.4	5.9	6.4	5.8	6.8	20	23	20	25
F 51 2_37.1	37.1	5.0	5.5	5.0	5.5	5.0	5.5	4.9	5.9	19	22	19	24
F 51 3_48.9	48.9	—	—	—	—	8.9	9.4	8.8	9.8	23	26	23	28
F 51 3_65.8	65.8	—	—	—	—	6.9	7.4	6.8	7.8	21	24	21	26
F 51 3_83.2	83.2	—	—	—	—	5.5	6.0	5.4	6.4	20	22	19	24
F 51 3_105.1	105.1	4.8	5.3	4.8	5.3	4.8	5.3	4.6	5.6	19	21	19	24
F 51 3_129.9	129.9	4.3	4.8	4.3	4.8	4.3	4.8	4.1	5.1	18	21	18	23
F 51 3_165.6	165.6	3.8	4.2	3.8	4.2	3.7	4.2	3.6	4.6	18	20	17	22
F 51 3_202.4	202.4	3.5	4.0	3.5	4.0	3.5	4.0	3.3	4.3	18	20	17	22
F 51 3_216.9	216.9	3.5	3.9	3.5	3.9	3.4	3.9	3.3	4.3	—	—	—	—
F 51 3_239.8	239.8	3.4	3.9	3.4	3.9	3.4	3.9	3.2	4.2	—	—	—	—
F 51 3_262.1	262.1	3.4	3.8	3.4	3.8	3.3	3.8	3.2	4.2	—	—	—	—
F 51 3_285.9	285.9	3.3	3.7	3.3	3.7	3.2	3.7	3.1	4.1	—	—	—	—
F 51 3_317.3	317.3	3.2	3.6	3.2	3.6	3.2	3.7	3.0	4.0	—	—	—	—
F 51 3_352.5	352.5	3.1	3.5	3.1	3.5	3.1	3.6	3.0	4.0	—	—	—	—
F 51 4_429.1	429.1	—	—	3.2	3.6	3.1	3.6	3.0	4.0	—	—	—	—
F 51 4_530.5	530.5	—	—	3.2	3.6	3.1	3.6	3.0	4.0	—	—	—	—
F 51 4_676.3	676.3	—	—	3.1	3.6	3.1	3.6	2.9	3.9	—	—	—	—
F 51 4_826.4	826.4	—	—	3.1	3.5	3.0	3.5	2.9	3.9	—	—	—	—
F 51 4_885.5	885.5	—	—	3.1	3.5	3.0	3.5	2.9	3.9	—	—	—	—
F 51 4_979.4	979.4	—	—	3.1	3.5	3.0	3.5	2.9	3.9	—	—	—	—
F 51 4_1070	1070	—	—	3.1	3.5	3.0	3.5	2.9	3.9	—	—	—	—
F 51 4_1168	1168	—	—	3.1	3.5	3.0	3.5	2.9	3.9	—	—	—	—
F 51 4_1296	1296	—	—	3.1	3.5	3.0	3.5	2.9	3.9	—	—	—	—
F 51 4_1439	1439	—	—	3.1	3.5	3.0	3.5	2.9	3.9	—	—	—	—



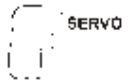
F 60

	i	J (•10-4) [kgm2]										
			IEC									
			63	71	80	90	100	112	132	160	180	
F 60 3_9.0	9.0	40	—	—	—	—	—	—	59	118	116	61
F 60 3_9.7	9.7	38	—	—	—	—	—	—	57	116	114	59
F 60 3_11.8	11.8	25	—	—	28	28	29	29	44	103	101	46
F 60 3_12.7	12.7	24	—	—	27	27	28	28	43	102	100	45
F 60 3_14.5	14.5	18	—	—	21	20	22	22	37	96	94	39
F 60 3_15.7	15.7	17	—	—	20	20	21	21	36	95	93	38
F 60 3_19.1	19.1	10	—	—	13	13	14	14	29	89	86	31
F 60 3_20.7	20.7	9.9	—	—	13	13	14	14	29	88	86	31
F 60 3_23.5	23.5	7.3	—	—	10	10	11	11	26	86	83	28
F 60 3_25.4	25.4	7.1	—	—	9.9	9.9	11	11	26	85	83	28
F 60 3_29.6	29.6	15	—	—	—	—	—	—	34	93	91	36
F 60 3_32.1	32.1	15	—	—	—	—	—	—	34	93	91	36
F 60 3_38.8	38.8	11	—	—	14	13	15	15	30	89	87	32
F 60 3_42.1	42.1	11	—	—	13	13	15	15	29	89	87	31
F 60 3_47.8	47.8	8.2	—	—	11	11	12	12	27	86	84	29
F 60 3_51.8	51.8	8.1	—	—	11	11	12	12	27	86	84	29
F 60 3_63.0	63.0	4.9	—	—	7.7	7.6	8.9	8.9	24	83	81	26
F 60 3_68.3	68.3	4.8	—	—	7.7	7.6	8.9	8.9	24	83	81	26
F 60 3_77.6	77.6	3.7	—	—	6.6	6.5	7.8	7.8	23	82	80	25
F 60 3_84.0	84.0	3.7	—	—	6.5	6.5	7.8	7.8	23	82	80	25
F 60 3_98.2	98.2	2.7	4.2	4.2	5.6	5.5	6.8	6.8	22	81	79	24
F 60 3_106.4	106.4	2.7	4.2	4.2	5.5	5.4	6.8	6.8	22	81	79	24
F 60 3_120.5	120.5	1.8	3.2	3.2	4.6	4.6	5.9	5.9	21	80	78	23
F 60 3_130.5	130.5	1.8	3.2	3.2	4.6	4.6	5.8	5.8	21	80	78	23
F 60 3_150.4	150.4	1.3	2.7	2.7	4.1	4.1	5.4	5.4	20	80	77	22
F 60 3_162.9	162.9	1.3	2.7	2.7	4.1	4.1	5.4	5.4	20	80	77	22
F 60 3_185.9	185.9	0.90	2.4	2.4	3.8	3.7	5.0	5.0	20	79	77	22
F 60 3_201.4	201.4	0.90	2.4	2.4	3.8	3.7	5.0	5.0	20	79	77	22
F 60 3_217.6	217.6	0.70	2.2	2.2	3.6	3.5	4.8	4.8	—	—	—	22
F 60 3_235.8	235.8	0.70	2.2	2.2	3.6	3.5	4.8	4.8	—	—	—	22
F 60 3_259.1	259.1	0.50	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	22
F 60 3_280.7	280.7	0.50	2.0	2.0	3.4	3.3	4.6	4.6	—	—	—	22

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



F 60

	i	J (•10-4) [kgm2]									
		 SERVO									
		95A		80C 95B 110A		95C 110B 130A		130B 180A		180B	
		SK	SC	SK	SC	SK	SC	SK	SC	SK	SC
F 60 3_9.0	9.0	—	—	—	—	—	—	57	59	59	64
F 60 3_9.7	9.7	—	—	—	—	—	—	55	57	57	62
F 60 3_11.8	11.8	—	—	28	29	28	29	42	44	44	49
F 60 3_12.7	12.7	—	—	27	28	27	28	41	43	43	48
F 60 3_14.5	14.5	—	—	21	22	20	21	35	37	37	42
F 60 3_15.7	15.7	—	—	20	21	20	21	34	36	36	41
F 60 3_19.1	19.1	—	—	13	14	13	14	27	29	29	34
F 60 3_20.7	20.7	—	—	13	14	13	14	27	29	29	34
F 60 3_23.5	23.5	—	—	10	11	10	11	24	27	26	31
F 60 3_25.4	25.4	—	—	9.9	10	9.9	11	24	27	26	31
F 60 3_29.6	29.6	—	—	—	—	—	—	32	34	34	39
F 60 3_32.1	32.1	—	—	—	—	—	—	32	34	34	39
F 60 3_38.8	38.8	—	—	14	15	13	14	28	30	30	35
F 60 3_42.1	42.1	—	—	13	14	13	14	28	30	29	34
F 60 3_47.8	47.8	—	—	11	12	11	12	25	28	27	32
F 60 3_51.8	51.8	—	—	11	12	11	12	25	28	27	32
F 60 3_63.0	63.0	—	—	7.7	8.2	7.6	8.6	22	24	24	29
F 60 3_68.3	68.3	—	—	7.7	8.2	7.6	8.6	22	24	24	29
F 60 3_77.6	77.6	—	—	6.6	7.1	6.5	7.5	21	23	23	28
F 60 3_84.0	84.0	—	—	6.5	7.0	6.5	7.5	21	23	23	28
F 60 3_98.2	98.2	—	—	5.6	6.1	5.5	6.5	20	22	22	27
F 60 3_106.4	106.4	5.5	6.0	5.5	6.0	5.4	6.4	20	22	22	27
F 60 3_120.5	120.5	2.2	2.7	4.6	5.1	4.6	5.6	19	21	21	26
F 60 3_130.5	130.5	2.2	2.7	4.6	5.1	4.6	5.6	19	21	21	26
F 60 3_150.4	150.4	4.1	4.6	4.1	4.6	4.1	5.1	18	21	20	25
F 60 3_162.9	162.9	4.1	4.6	4.1	4.6	4.1	5.1	18	21	20	25
F 60 3_185.9	185.9	3.7	4.2	3.8	4.3	3.7	4.7	18	20	20	25
F 60 3_201.4	201.4	3.7	4.2	3.8	4.3	3.7	4.7	18	20	20	25
F 60 3_217.6	217.6	3.5	4.0	3.6	4.1	3.5	4.5	—	—	—	—
F 60 3_235.8	235.8	3.5	4.0	3.6	4.1	3.5	4.5	—	—	—	—
F 60 3_259.1	259.1	3.3	3.8	3.4	3.9	3.3	4.3	—	—	—	—
F 60 3_280.7	280.7	3.3	3.8	3.4	3.9	3.3	4.3	—	—	—	—

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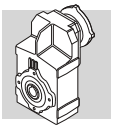
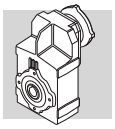


F 70

	i	J (•10-4) [kgm2]									
			IEC								
			80	90	100	112	132	160	180	200	
F 70 3_10.0	10.0	—	—	—	—	—	—	169	167	176	133
F 70 3_10.9	10.9	—	—	—	—	—	—	166	163	173	129
F 70 3_12.8	12.8	—	—	—	—	—	—	139	137	146	102
F 70 3_13.9	13.9	—	—	—	—	—	—	137	135	144	100
F 70 3_16.3	16.3	39	—	—	—	—	58	117	115	124	80
F 70 3_17.7	17.7	37	—	—	—	—	56	116	113	123	79
F 70 3_20.9	20.9	26	—	—	—	—	45	105	102	—	68
F 70 3_22.6	22.6	26	—	—	—	—	44	104	102	—	67
F 70 3_24.6	24.6	21	—	—	—	—	40	99	97	—	62
F 70 3_27.7	27.7	—	—	—	—	—	—	128	126	135	73
F 70 3_30.0	30.0	—	—	—	—	—	—	127	125	134	73
F 70 3_35.4	35.4	—	—	—	—	—	—	114	112	121	77
F 70 3_38.4	38.4	—	—	—	—	—	—	114	111	121	77
F 70 3_45.2	45.2	23	—	—	—	—	42	101	99	108	65
F 70 3_49.0	49.0	23	—	—	—	—	42	101	99	108	65
F 70 3_57.7	57.7	17	—	—	—	—	36	95	93	—	58
F 70 3_62.5	62.5	17	—	—	—	—	36	95	93	—	58
F 70 3_67.9	67.9	14	—	—	—	—	33	92	90	—	55
F 70 3_73.6	73.6	14	—	—	—	—	33	92	90	—	55
F 70 3_85.4	85.4	9.0	11	11	13	13	28	87	85	—	50
F 70 3_92.5	92.5	9.0	11	11	13	13	28	87	85	—	50
F 70 3_101.2	101.2	6.3	8.9	8.8	10	10	25	85	82	—	47
F 70 3_109.6	109.6	6.3	8.9	8.8	10	10	25	85	82	—	47
F 70 3_122.7	122.7	5.1	7.9	7.8	9.1	9.1	24	83	81	—	46
F 70 3_133.0	133.0	5.1	7.9	7.8	9.1	9.1	24	83	81	—	46
F 70 3_153.8	153.8	3.2	6.0	6.0	7.3	7.3	22	81	79	—	44
F 70 3_166.7	166.7	3.2	6.0	6.0	7.3	7.3	22	81	79	—	44
F 70 3_180.9	180.9	2.3	5.1	5.1	6.3	6.3	21	81	78	—	43
F 70 3_196.0	196.0	2.3	5.1	5.0	6.3	6.3	21	81	78	—	43

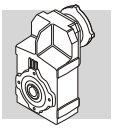
For the values of the moment of inertia of 4-stage gearboxes, please contact our Technical Service department.



F 80

	i	J (•10-4) [kgm2]										
			IEC									
			80	90	100	112	132	160	180	200	225	
F 80 3_10.3	10.3	—	—	—	—	—	—	—	286	300	578	252
F 80 3_11.2	11.2	—	—	—	—	—	—	—	277	291	569	244
F 80 3_12.9	12.9	—	—	—	—	—	—	217	218	231	509	184
F 80 3_14.0	14.0	—	—	—	—	—	—	212	212	226	504	178
F 80 3_16.2	16.2	—	—	—	—	—	—	173	171	180	464	136
F 80 3_17.6	17.6	—	—	—	—	—	—	170	167	177	461	133
F 80 3_20.3	20.3	60	—	—	—	—	79	139	136	146	431	102
F 80 3_22.0	22.0	58	—	—	—	—	77	136	134	143	429	100
F 80 3_25.2	25.2	43	—	—	—	—	62	121	119	150	413	84
F 80 3_28.8	28.8	—	—	—	—	—	—	—	189	203	480	155
F 80 3_31.3	31.3	—	—	—	—	—	—	—	188	201	479	154
F 80 3_36.0	36.0	—	—	—	—	—	—	155	155	169	447	121
F 80 3_39.0	39.0	—	—	—	—	—	—	154	154	168	446	121
F 80 3_45.3	45.3	—	—	—	—	—	—	133	132	141	425	97
F 80 3_49.1	49.1	—	—	—	—	—	—	133	131	140	425	97
F 80 3_56.7	56.7	35	—	—	—	—	54	113	111	120	406	77
F 80 3_61.5	61.5	35	—	—	—	—	54	113	111	120	406	76
F 80 3_70.4	70.4	27	—	—	—	—	46	105	103	133	397	68
F 80 3_76.3	76.3	27	—	—	—	—	45	105	103	133	396	68
F 80 3_85.2	85.2	20	—	—	—	—	39	99	96	126	389	62
F 80 3_92.3	92.3	20	—	—	—	—	39	99	96	126	389	61
F 80 3_105.0	105.0	14	16	16	17	17	32	92	90	119	383	55
F 80 3_113.8	113.8	14	16	16	17	17	32	92	90	119	382	55
F 80 3_122.5	122.5	13	15	15	17	17	32	91	89	118	381	54
F 80 3_132.7	132.7	13	15	15	16	16	31	91	89	118	381	54
F 80 3_147.9	147.9	8.5	11	11	13	13	27	87	85	—	—	50
F 80 3_160.2	160.2	8.5	11	11	13	13	27	87	84	—	—	50
F 80 3_184.6	184.6	5.1	7.9	7.8	9.1	9.1	24	83	81	—	—	46
F 80 3_200.0	200.0	5.0	7.9	7.8	9.1	9.1	24	83	81	—	—	46

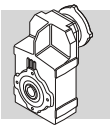
For the values of the moment of inertia of 4-stage gearboxes, please contact our Technical Service department.



F 90

	i	J (•10-4) [kgm2]											
			IEC										
			80	90	100	112	132	160	180	200	225	250	
F 90 3_10.3	10.3	—	—	—	—	—	—	—	549	559	843	870	850
F 90 3_11.1	11.1	—	—	—	—	—	—	—	529	539	823	850	830
F 90 3_13.4	13.4	—	—	—	—	—	—	—	373	383	667	694	674
F 90 3_14.5	14.5	—	—	—	—	—	—	—	361	371	655	682	662
F 90 3_16.5	16.5	—	—	—	—	—	—	—	286	296	580	607	587
F 90 3_17.9	17.9	—	—	—	—	—	—	—	278	288	572	599	579
F 90 3_20.6	20.6	—	—	—	—	—	—	224	222	232	516	542	513
F 90 3_22.3	22.3	—	—	—	—	—	—	220	217	227	511	537	508
F 90 3_25.4	25.4	103	—	—	—	—	122	181	179	188	474	500	471
F 90 3_28.6	28.6	—	—	—	—	—	—	—	291	301	585	613	593
F 90 3_31.0	31.0	—	—	—	—	—	—	—	289	299	583	610	590
F 90 3_37.4	37.4	—	—	—	—	—	—	—	222	232	516	543	523
F 90 3_40.5	40.5	—	—	—	—	—	—	—	220	230	514	541	521
F 90 3_46.1	46.1	—	—	—	—	—	—	—	186	196	480	507	487
F 90 3_49.9	49.9	—	—	—	—	—	—	—	185	195	479	506	486
F 90 3_57.3	57.3	—	—	—	—	—	—	161	158	168	452	479	450
F 90 3_62.1	62.1	—	—	—	—	—	—	160	158	167	451	478	449
F 90 3_70.8	70.8	61	—	—	—	—	80	139	137	146	432	458	429
F 90 3_76.7	76.7	60	—	—	—	—	79	139	136	146	431	458	429
F 90 3_88.4	88.4	44	—	—	—	—	63	123	120	151	414	441	412
F 90 3_95.8	95.8	44	—	—	—	—	63	122	120	151	414	441	412
F 90 3_103.3	103.3	41	—	—	—	—	59	119	117	146	410	436	408
F 90 3_111.9	111.9	40	—	—	—	—	59	119	116	146	409	436	407
F 90 3_126.8	126.8	26	29	29	30	30	45	105	102	132	395	422	393
F 90 3_137.3	137.3	26	29	29	30	30	45	104	102	132	395	422	393
F 90 3_150.3	150.3	21	24	24	25	25	40	100	97	127	390	417	388
F 90 3_162.8	162.8	21	24	24	25	25	40	100	97	127	390	417	388
F 90 3_179.2	179.2	14	16	16	18	18	33	92	90	—	—	—	381
F 90 3_194.2	194.2	14	16	16	17	17	33	92	90	—	—	—	381

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



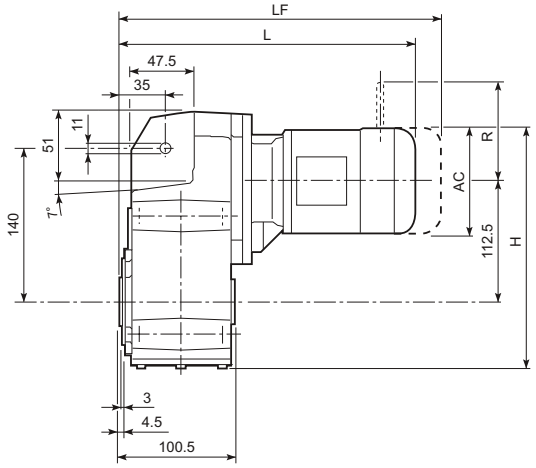
64 EXACT RATIOS

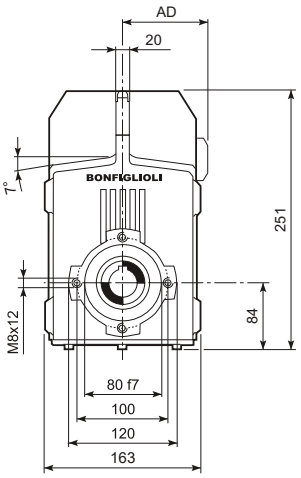
i_N	F 10	F 20	F 25	F 31	F 41	F 51	F 60	F 70	F 80	F 90
6.3		6.41210								
7.1	7.40443		6.86957	6.94907	6.72727	7.19408				
8.0		7.83478	8.39375	8.22917						
9.0	8.58204	8.73227	9.35526	9.01630	9.13580	9.05114	8.96000			
10.0	9.76974	10.03069	10.62451	10.74747			9.70667	10.01538	10.33846	10.26577
11.2	11.53759	11.23370			10.77273	11.11005	11.75320	10.85000	11.20000	11.12125
12.5	13.02632		12.98182	12.72727		13.97796	12.73263	12.81731	12.90240	13.41346
14.0	14.64777	14.79842	14.46890	13.94466	14.62963		14.47385	13.88542	13.97760	14.53125
16.0	16.97738		16.62032	16.80000	17.11667		15.68000	16.34455	16.24615	16.52538
18.0		18.08182	18.61364	18.48804	18.89130	18.82155	19.06872	17.70660	17.60000	17.90250
20.0	19.32692	20.15311	21.81818	21.11230			20.65778	20.86538	20.33231	20.56731
22.4	22.82418	23.14973	23.75758	23.38636		23.79447	23.46381	22.60417	22.02667	22.28125
25.0	25.76923	25.92614	27.20455	27.27273	24.11579		25.41913	24.55695	25.22585	25.38622
28.0	29.63462	30.38961	30.03636	30.12121	30.11875	30.03828	29.61538	27.69231	28.84615	28.61169
31.5	32.98462	33.09091	32.18182	34.36364			32.08333	30.00000	31.25000	30.99600
35.5	35.34066	37.89205	36.41958	37.67273	38.18333	37.13636	38.84771	35.43956	36.00000	37.38462
40.0	39.64497	41.83636	40.72727	40.36364			42.08502	38.39286	39.00000	40.50000
45.0	44.66667	44.82468	45.56607	44.64336	47.92667		47.84024	45.19231	45.32967	46.05785
50.0	48.72727	50.72727	50.78571	47.54630	51.49270	48.89965	51.82692	48.95833	49.10714	49.89600
56.0	56.69231	56.72727	58.33718	52.09420	60.24646		63.02761	57.69231	56.73077	57.32308
63.0	62.99145	61.88430	65.33371	62.76111	66.49275	65.84416	68.27991	62.50000	61.45833	62.10000
71.0	71.12308	69.13636	76.58163	69.06725			77.55467	73.55769	70.38462	70.75385
80.0	81.31624	76.81818	83.38889	78.87092	84.88166	83.24111	84.01756	85.38462	76.25000	76.65000
90.0	91.48077	90.40909	95.48772	87.36632			98.19838	92.50000	92.30769	88.39385
100.0	106.02198	101.63636	105.42738	101.88492	106.01061	105.08407	106.38158	101.18343	105.00000	103.33491
112.2		114.34091	112.95791	112.52623			120.45488	109.61538	113.75000	111.94615
125.5	127.12821	132.19481	127.83242	128.37500	134.39596	129.91558	130.49279	122.72727	122.48521	126.77538
140.0		156.30469	142.95238	140.73704			150.35503	132.95455	132.69231	150.30533
160.0		172.57500	155.94805	166.77778	168.69010	165.62338	162.88462	166.66667	160.22727	162.83077
180.0		184.90179	174.22321	185.43056	180.73939	202.39481	185.89349	180.94406	184.61538	179.21958
200.0		209.25000	193.58135	202.28788	198.92028	216.85158	201.38462	196.02273	200.00000	194.15455
225.0		234.00000	227.83036	228.22222	220.13131	239.84416	217.64679	216.52422	218.49174	213.59178
250.0		255.27273	256.12302	253.58025	240.14325	262.11039	259.08284	234.56790	273.89277	231.39109
280.0		285.18750	288.13839	293.83611	266.93818	285.93861	280.67308	280.93645	296.71717	268.72770
315.0		316.87500	333.13010	332.82407	296.59798	317.26753	315.38899	304.34783	353.67893	291.12168
355.0		372.93750		374.42708	344.79515	352.51948	341.67140	372.46964	383.15217	361.84615
400.0		419.25000	393.88686	418.86023		429.09330	399.34008	403.50877	451.49061	392.00000
450.0		471.65625	434.88795	462.60785	433.67975		432.61842	471.15385	489.11483	457.45099
500.0			465.95137	527.76389			489.84985	510.41667	563.87675	495.57191
560.0		545.30357	527.30872	578.58560	549.80165	530.48864	530.67067	606.83761	610.86648	577.48888
630.0			589.67857	619.91314	690.09587	676.29545	611.44379	657.40741	714.86014	625.61296
710.0			643.28571	685.64198	739.38843	826.44545	755.96686	758.97436	774.43182	713.95030
800.0			718.67076	762.32562	813.76478	885.47727	818.96410	822.22222	897.27273	773.44615
900.0			798.52307	831.62795	900.53719	979.36364	885.09695	899.40828	972.04545	910.18225
1000.0			939.80022	938.24691	982.40421	1070.28409	958.85503	974.35897	1058.06885	986.03077
1125.0			1056.50744	1042.49657	1092.01983	1167.58264	1053.60355	1090.90909	1146.24126	1112.25941
1250.0			1188.57087	1207.99290	1213.35537	1295.50909	1141.40385	1181.81818	1277.33630	1204.94769
1400.0			1374.16167	1368.27675	1410.52562	1439.45455		1367.52137	1383.78099	1427.90059
1600.0				1539.31134				1584.61538	1577.62238	1571.37386
1800.0								1716.66667	1709.09091	1702.32168
2000.0								2019.23077	1833.98601	1937.26864
2250.0								2187.50000	1986.81818	2098.70769

2x 3x 4x

65 DIMENSIONS

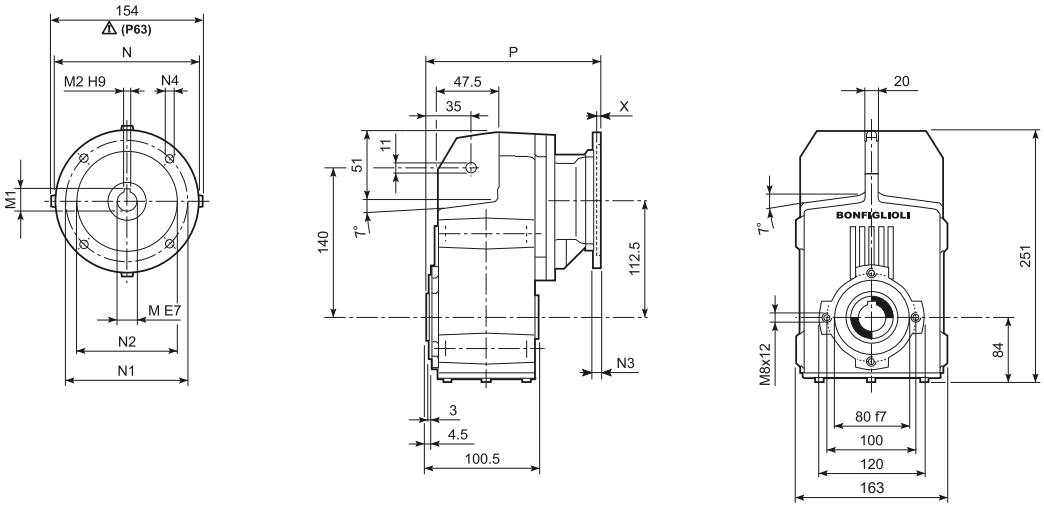
F 10...M/ME/MX/MXN





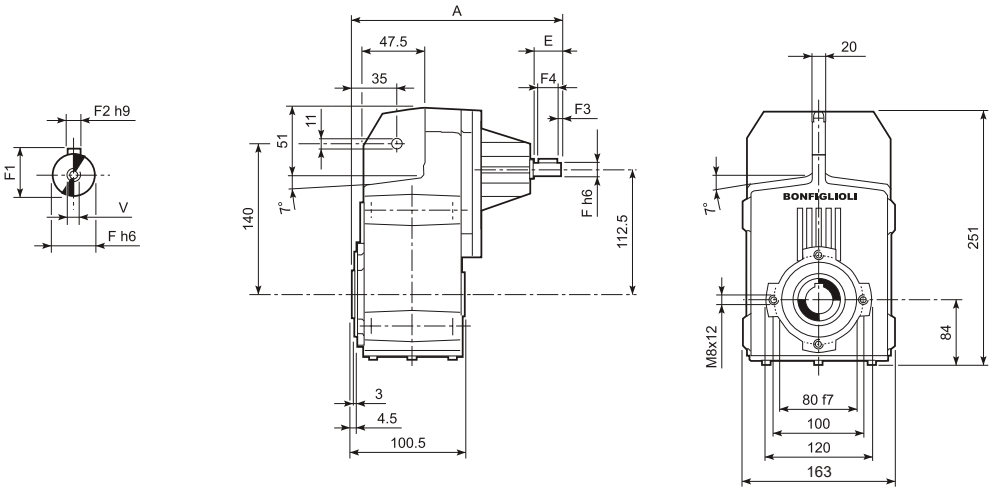
								M...FD M...FA		M...FD		M...FA	
			AC	H	L	AD		LF		R	AD	R	AD
F 10 2	**S05**	**M05**	121	220.5	311.5	95	12	377.5	13	96	122	116	95
F 10 2	**S05**	**ME05**	121	220.5	311.5	95	12	377.5	13	96	119	116	119
F 10 2	**S05**	**MXN05**	123	221.5	358	136	13.8	405	14.9	96	136	116	136
F 10 2	**S1**	**M1**	138	265.5	340.5	108	14	401.5	17	103	135	124	108
F 10 2	**S1**	**ME1**	138	265.5	340.5	108	14	401.5	17	103	135	124	135
F 10 2	**S10**	**MXN10**	138	265.5	369.5	137	16.4	428.5	18.8	103	138	121	138
F 10 2	**S2**	**ME2S**	156	274.5	369.5	119	18	439.5	20.1	129	143	134	143
F 10 2	**S2**	**MX2S**	156	274.5	413.5	119	23	485.5	27.3	129	143	134	143
F 10 2	**S20**	**MXN20**	158	275.5	467	146	25.2	538	27.4	129	148	131	148
F 10 2	**S3**	**ME3S**	195	294	412.5	142	22	508.5	29.4	160	155	160	155
F 10 2	**S3**	**MX3S**	195	294	444.5	142	25	534.5	34.4	160	155	160	155
F 10 2	**S3**	**ME3L**	195	294	444.5	142	24	535.5	35.9	160	155	160	155
F 10 2	**S3**	**MX3L**	195	294	488.5	142	30	580.5	43.4	160	155	160	155

F 10...P(IEC)

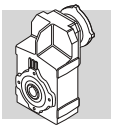


		M	M1	M2	N	N1	N2	N3	N4	X	P	kg
F 10 2	**P63**	11	12.8	4	140	115	95	—	M8x19	4	185.5	8
F 10 2	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	185.5	8
F 10 2	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	205	9
F 10 2	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	205	9
F 10 2	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	215	13
F 10 2	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	215	13

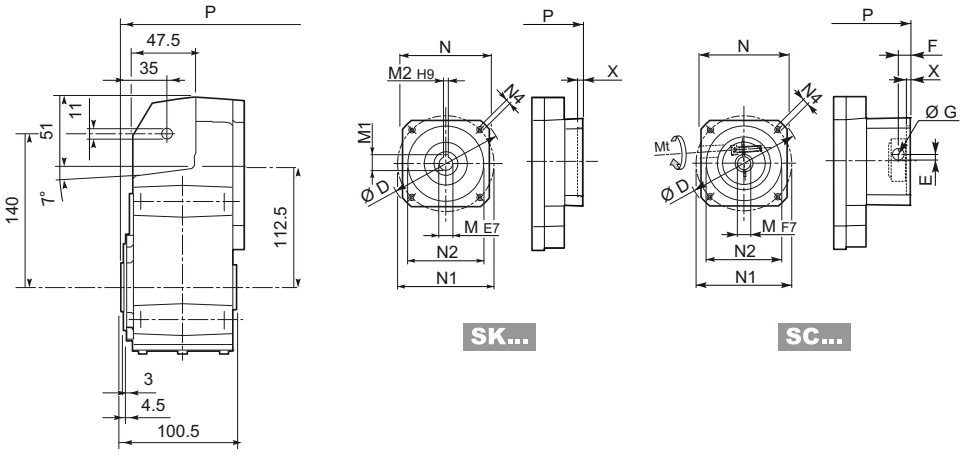
F 10...HS



		A	E	F	F1	F2	F3	F4	V	kg
F 10 2	**HS**	192	40	16	18	5	2.5	35	M6x16	7.5



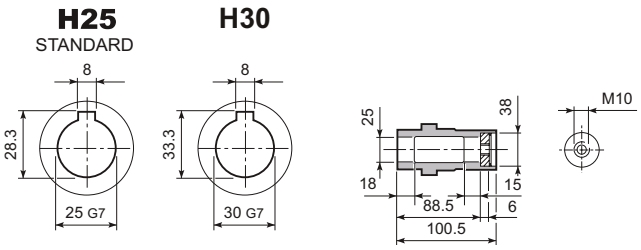
F 10...SK / SC

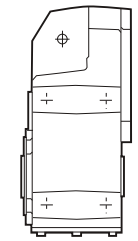


		D	M	M1	M2	N	N1	N2	N4	X	P	kg
F 10 2	**SK 60A**	102	11	12.8	4	82	75	60	M5x10	3.5	157	8
F 10 2	**SK 60B**	102	14	16.3	5	82	75	60	M5x10	4	164	8
F 10 2	**SK 80A**	115	14	16.3	5	90	100	80	M6x12	4	164	8
F 10 2	**SK 80C**	120	19	21.8	6	96	100	80	M6x12	4	205	9
F 10 2	**SK 95A**	130	14	16.3	5	102	115	95	M8x12	4	205	9
F 10 2	**SK 95B**	130	19	21.8	6	102	115	95	M8x12	4	205	9
F 10 2	**SK 95C**	130	24	27.3	8	102	115	95	M8x12	4	205	9
F 10 2	**SK 110A**	150	19	21.8	6	120	130	110	M8x12	5	205	9
F 10 2	**SK 110B**	150	24	27.3	8	120	130	110	M8x12	5	205	9

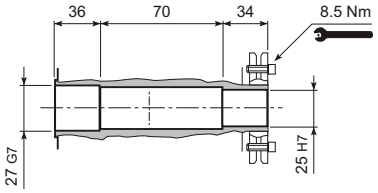
			Mt [Nm]	D	E	F	G	M	N	N1	N2	N4	X	P	kg
F 10 2	**SC 60A**	M6	15	102	7	12.5	12.5	11	82	75	60	M5x10	4	184	8
F 10 2	**SC 60B**	M6	15	102	7	12.5	12.5	14	82	75	60	M5x10	4	184	9
F 10 2	**SC 80A**	M6	15	115	6	12.5	12.5	14	90	100	80	M6x12	4	184	9
F 10 2	**SC 80C**	M6	15	120	15.5	14.5	17.75	19	96	100	80	M6x12	4	228.5	10
F 10 2	**SC 95A**	M6	15	130	16.5	15	17.75	14	102	115	95	M8x16	4	228.5	10
F 10 2	**SC 95B**	M6	15	130	16.5	15	17.75	19	102	115	95	M8x16	4	228.5	10
F 10 2	**SC 95C**	M6	15	130	16.5	15	17.75	24	102	115	95	M8x16	4	228.5	10
F 10 2	**SC 110A**	M6	15	150	16.5	16	17.75	19	120	130	110	M8x16	5	228.5	11
F 10 2	**SC 110B**	M6	15	150	16.5	16	17.75	24	120	130	110	M8x16	5	228.5	11

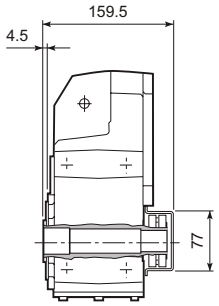
F 10...H



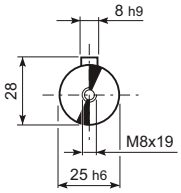


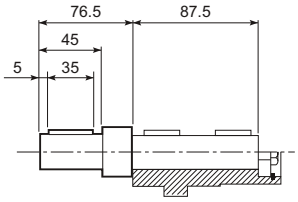
F 10...S

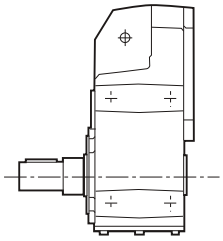




F 10...R

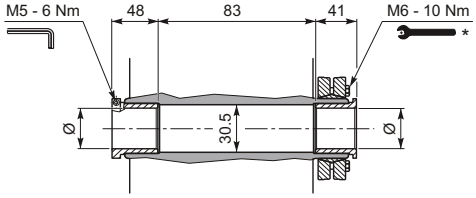


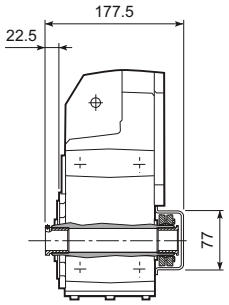




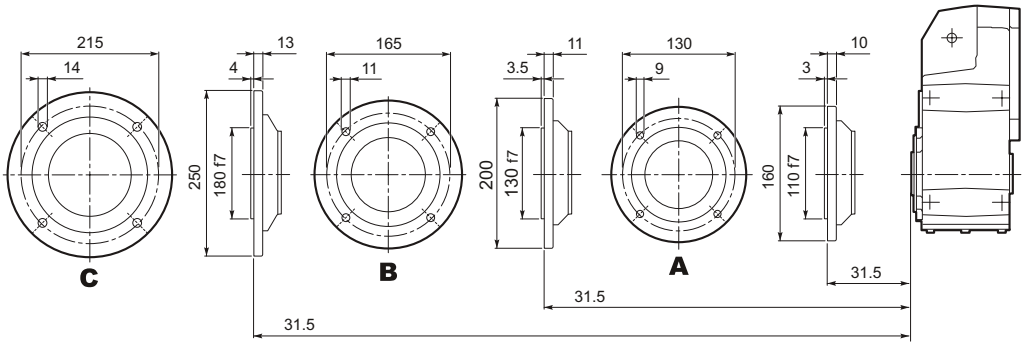
F 10...QF

	Ø
QF25	25
QF30	30



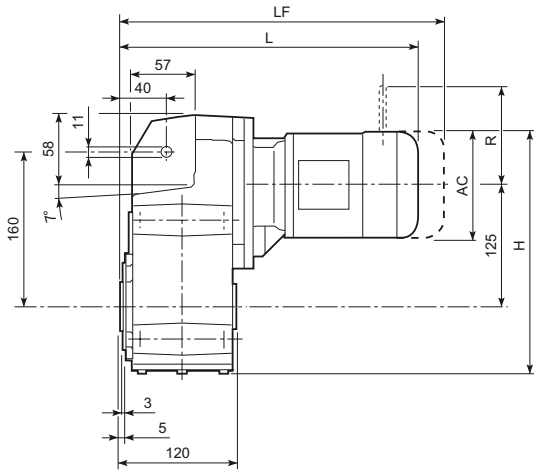


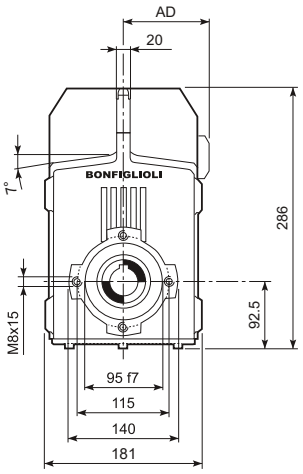
F 10...F...



* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.

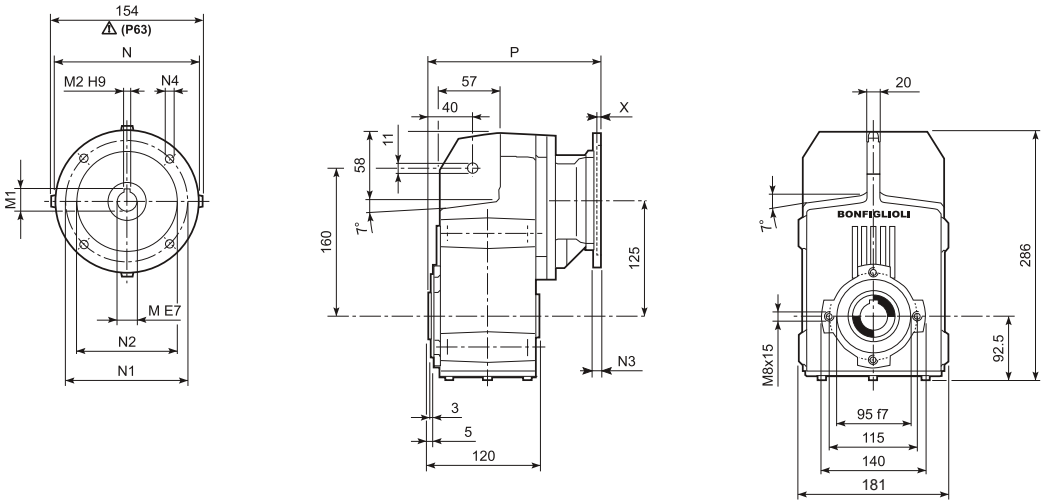
F 20...M/ME/MX/MXN





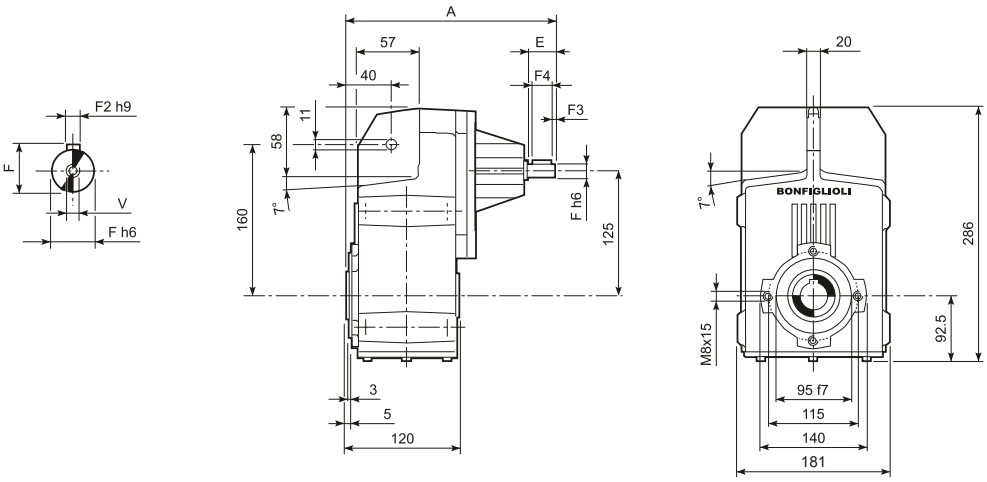
								M...FD M...FA		M...FD		M...FA	
			AC	H	L	AD		LF		R	AD	R	AD
F 20 2	**S05**	**M05**	121	278.2	323.5	95	15	389.5	17	96	122	116	95
F 20 2	**S05**	**ME05**	121	278.2	323.5	95	15	389.5	17	96	119	116	119
F 20 2	**S05**	**MXN05**	123	279.2	370	136	16.8	417	17.9	96	136	116	136
F 20 2	**S1**	**M1**	138	286.7	352.5	108	17	413.5	20	103	135	124	108
F 20 2	**S1**	**ME1**	138	286.7	352.5	108	17	413.5	20	103	135	124	135
F 20 2	**S10**	**MXN10**	138	286.7	381.5	137	19.4	440.5	21.8	103	138	121	138
F 20 2	**S2**	**ME2S**	156	295.7	381.5	119	21	451.5	22.8	129	143	135	143
F 20 2	**S2**	**MX2S**	156	295.7	425.5	119	26	497.5	30	129	143	135	143
F 20 2	**S20**	**MXN20**	158	296.7	479	146	28.2	550	30.4	129	148	131	148
F 20 2	**S3**	**ME3S**	195	315.2	424.5	142	26	520.5	32.1	160	155	160	155
F 20 2	**S3**	**MX3S**	195	315.2	456.5	142	29	546.5	37.1	160	155	160	155
F 20 2	**S3**	**ME3L**	195	315.2	456.5	142	33	547.5	38.6	160	155	160	155
F 20 2	**S3**	**MX3L**	195	315.2	500.5	142	39	592.5	46.1	160	155	160	155
F 20 3	**S05**	**M05**	121	278.2	379	95	17	445	18	96	122	116	95
F 20 3	**S05**	**ME05**	121	278.2	379	95	17	445	18	96	119	116	119
F 20 3	**S05**	**MXN05**	121	278.2	425	95	18.8	472	19.9	96	136	116	136
F 20 3	**S1**	**M1**	138	286.7	408	108	19	469	21	103	135	124	108
F 20 3	**S1**	**ME1**	138	286.7	408	108	19	469	21	103	135	124	108
F 20 3	**S10**	**MXN10**	138	286.7	437	108	21.4	496	23.8	103	138	121	138
F 20 3	**S2**	**ME2S**	156	295.7	437	119	22	507	24.8	129	143	135	143
F 20 3	**S2**	**MX2S**	156	295.7	481	119	27	553	32	129	143	135	143
F 20 3	**S20**	**MXN20**	156	295.7	534.5	119	29.2	605.5	31.4	129	148	131	148
F 20 3	**S3**	**ME3S**	195	315.2	480	142	27	576	34.1	160	155	160	155
F 20 3	**S3**	**MX3S**	195	315.2	512	142	30	602	39.1	160	155	160	155
F 20 3	**S3**	**ME3L**	195	315.2	512	142	34	603	40.6	160	155	160	155
F 20 3	**S3**	**MX3L**	195	315.2	556	142	40	648	48.1	160	155	160	155

F 20...P(IEC)



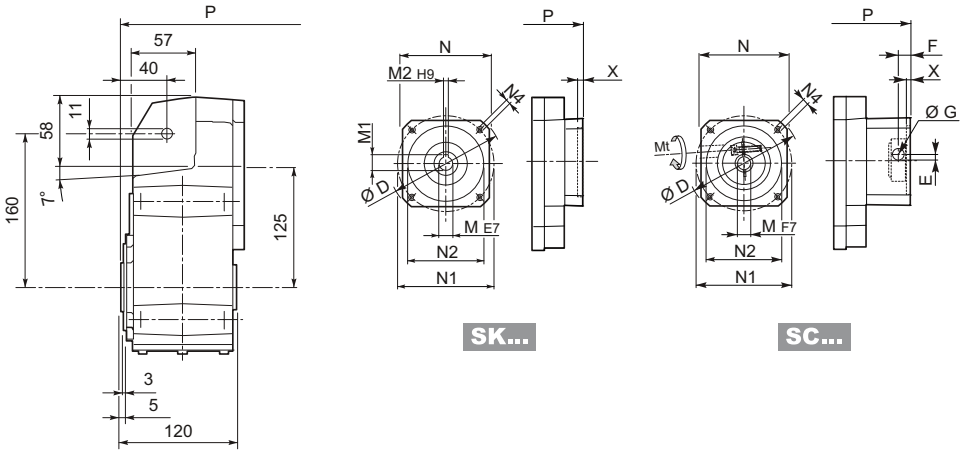
		M	M1	M2	N	N1	N2	N3	N4	X	P	
F 20 2	**P63**	11	12.8	4	140	115	95	—	M8x19	4	197.5	12
F 20 2	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	197.5	12
F 20 2	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	217	13
F 20 2	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	217	12
F 20 2	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	227	16
F 20 2	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	227	16
F 20 3	**P63**	11	12.8	4	140	115	95	—	M8x19	4	253	13
F 20 3	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	253	13
F 20 3	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	272.5	14
F 20 3	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	272.5	14
F 20 3	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	282.5	18
F 20 3	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	282.5	18

F 20...HS



		A	E	F	F1	F2	F3	F4	V	
F 20 2	**HS**	247.5	40	19	21.5	6	2.5	35	M6x16	11.5
F 20 3		260	40	16	18	5	2.5	35	M6x16	12.4

F 20...SK / SC

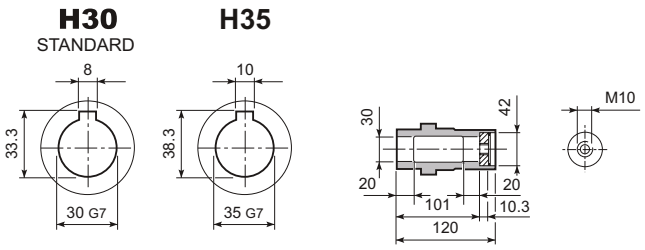


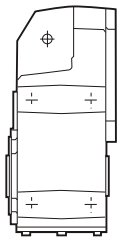
											2x		3x	
		D	M	M1	M2	N	N1	N2	N4	X	P		P	
F 20 2/3	**SK 60A**	102	11	12.8	4	82	75	60	M5x10	3.5	169	11	224.5	12
F 20 2/3	**SK 60B**	102	14	16.3	5	82	75	60	M5x10	4	176	12	231.5	13
F 20 2/3	**SK 80A**	115	14	16.3	5	90	100	80	M6x12	4	217	12	231.5	13
F 20 2/3	**SK 80C**	120	19	21.8	6	96	100	80	M6x12	4	217	13	272.5	14
F 20 2/3	**SK 95A**	130	14	16.3	5	102	115	95	M8x12	4	217	13	272.5	14
F 20 2/3	**SK 95B**	130	19	21.8	6	102	115	95	M8x12	4	217	13	272.5	14
F 20 2/3	**SK 95C**	130	24	27.3	8	102	115	95	M8x12	4	217	13	272.5	14
F 20 2/3	**SK 110A**	150	19	21.8	6	120	130	110	M8x12	5	217	13	272.5	14
F 20 2/3	**SK 110B**	150	24	27.3	8	120	130	110	M8x12	5	217	13	272.5	14

														2x		3x	
			Mt [Nm]	**D**	**E**	**F**	**G**	**M**	**N**	**N1**	**N2**	**N4**	**X**	**P**		**P**	
F 20 2/3	**SC 60A**	M6	15	102	7	12.5	12.5	11	82	75	60	M5x10	4	196	12	251.5	13
F 20 2/3	**SC 60B**	M6	15	102	7	12.5	12.5	14	82	75	60	M5x10	4	196	13	251.5	14
F 20 2/3	**SC 80A**	M6	15	115	6	12.5	12.5	14	90	100	80	M6x12	4	196	13	251.5	14
F 20 2/3	**SC 80C**	M6	15	120	15.5	14.5	17.75	19	96	100	80	M6x12	4	240.5	14	296	15
F 20 2/3	**SC 95A**	M6	15	130	16.5	15	17.75	14	102	115	95	M8x16	4	240.5	14	296	15
F 20 2/3	**SC 95B**	M6	15	130	16.5	15	17.75	19	102	115	95	M8x16	4	240.5	14	296	15
F 20 2/3	**SC 95C**	M6	15	130	16.5	15	17.75	24	102	115	95	M8x16	4	240.5	14	296	15
F 20 2/3	**SC 110A**	M6	15	150	16.5	16	17.75	19	120	130	110	M8x16	5	240.5	15	296	16
F 20 2/3	**SC 110B**	M6	15	150	16.5	16	17.75	24	120	130	110	M8x16	5	240.5	15	296	16

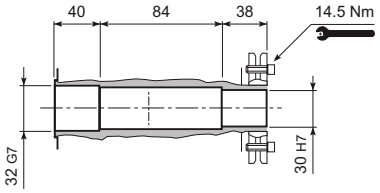
F 20

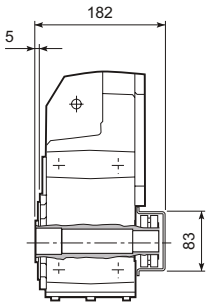
F 20...H



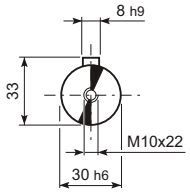


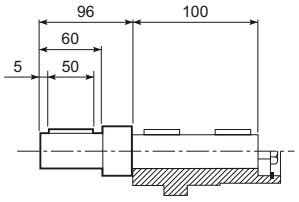
F 20...S

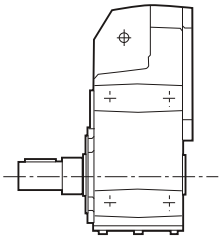




F 20...R

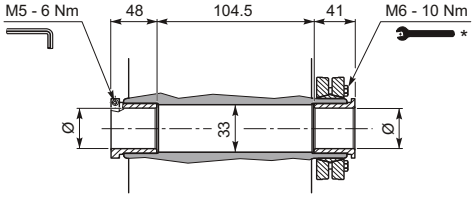


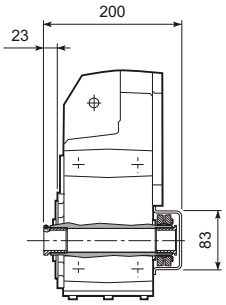




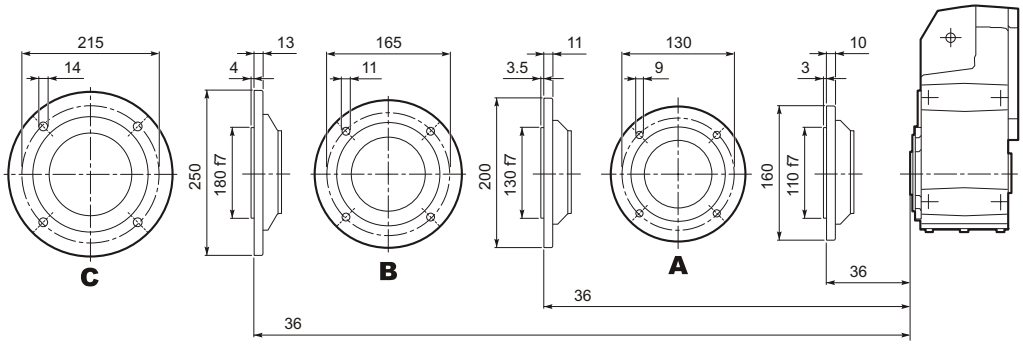
F 20...QF

	Ø
QF25	25
QF30	30



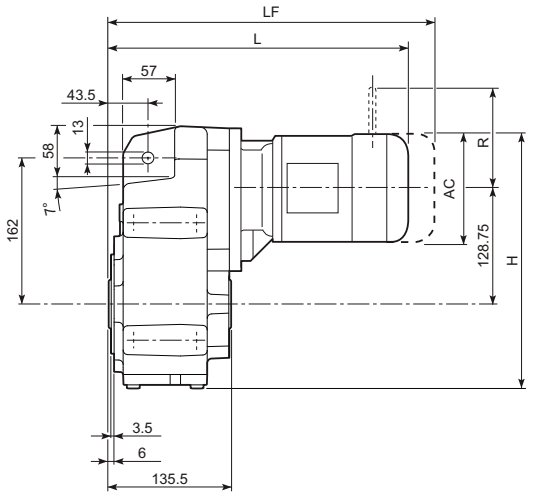


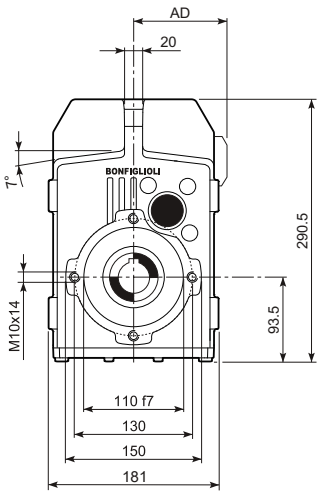
F 20...F...



* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.

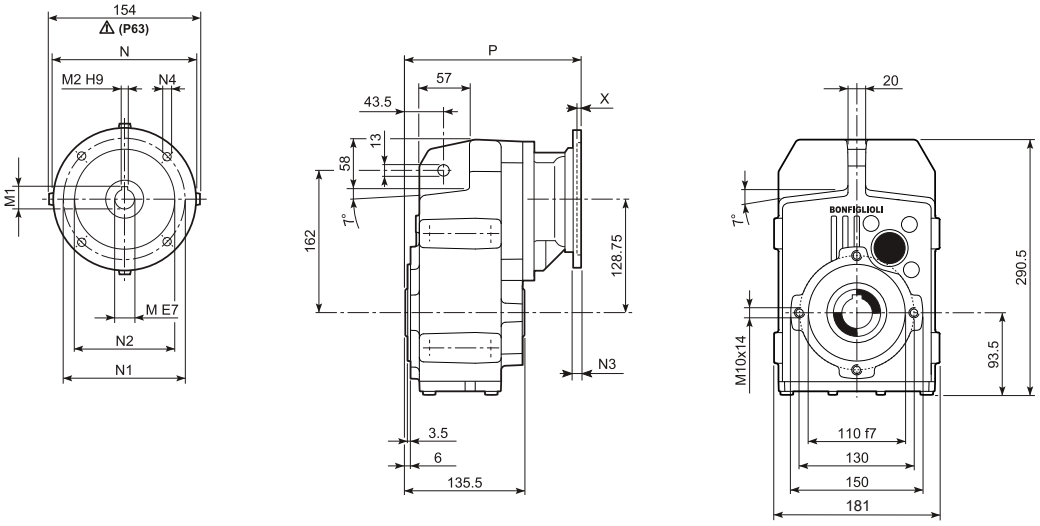
F 25...M/ME/MX/MXN





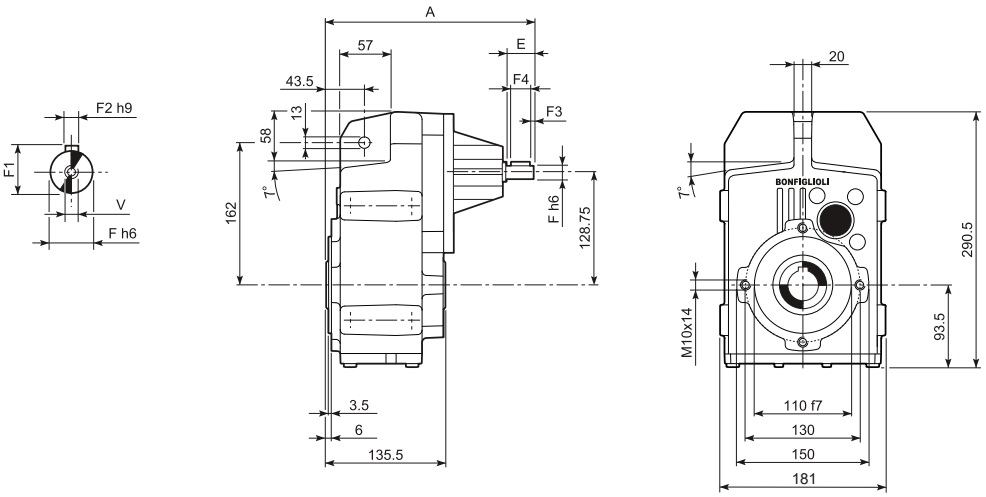
								M...FD M...FA		M...FD		M...FA	
			AC	H	L	AD		LF		R	AD	R	AD
F 25 2/3	**S05**	**M05**	121	283	339	95	15	405	17	96	122	116	95
F 25 2/3	**S05**	**ME05**	121	283	339	95	15	405	17	96	119	116	119
F 25 2/3	**S05**	**MXN05**	123	284	385.5	136	16.8	432.5	17.9	96	136	116	136
F 25 2/3	**S1**	**M1**	138	291.5	368	108	17	429	20	103	135	124	108
F 25 2/3	**S1**	**ME1**	138	291.5	368	108	17	429	20	103	135	124	135
F 25 2/3	**S10**	**MXN10**	138	291.5	397	137	19.4	456	21.8	103	138	121	138
F 25 2/3	**S2**	**ME2S**	156	300.5	397	119	21	467	22.8	129	143	134	143
F 25 2/3	**S2**	**MX2S**	156	300.5	441	119	26	513	30	129	143	134	143
F 25 2/3	**S20**	**MXN20**	158	301.5	494.5	146	28.2	565.5	30.4	129	148	131	148
F 25 2/3	**S3**	**ME3S**	195	320	440	142	26	536	32.1	160	155	160	155
F 25 2/3	**S3**	**MX3S**	195	320	472	142	29	562	37.1	160	155	160	155
F 25 2/3	**S3**	**ME3L**	195	320	472	142	33	563	38.6	160	155	160	155
F 25 2/3	**S3**	**MX3L**	195	320	516	142	39	608	46.1	160	155	160	155
F 25 4	**S05**	**M05**	121	283	394.5	95	17	460.5	18	96	122	116	95
F 25 4	**S05**	**ME05**	121	283	394.5	95	17	460.5	18	96	119	116	119
F 25 4	**S05**	**MXN05**	123	284	441	136	18.8	488	19.9	96	136	116	136
F 25 4	**S1**	**M1**	138	291.5	423.5	108	19	484.5	21	103	135	124	108
F 25 4	**S1**	**ME1**	138	291.5	423.5	108	19	484.5	21	103	135	124	135
F 25 4	**S10**	**MXN10**	138	291.5	452.5	137	21.4	511.5	23.8	103	138	121	138
F 25 4	**S2**	**ME2S**	156	300.5	452.5	119	22	495.5	24.8	129	143	134	143
F 25 4	**S2**	**MX2S**	156	300.5	496.5	119	27	568.5	32	129	143	134	143
F 25 4	**S20**	**MXN20**	158	301.5	550	146	29.2	621	31.4	129	148	131	148
F 25 4	**S3**	**ME3S**	195	320	495.5	142	27	591.5	34.1	160	155	160	155
F 25 4	**S3**	**MX3S**	195	320	527.5	142	30	617.5	39.1	160	155	160	155
F 25 4	**S3**	**ME3L**	195	320	527.5	142	34	618.5	40.6	160	155	160	155
F 25 4	**S3**	**MX3L**	195	320	571.5	142	40	663.5	48.1	160	155	160	155

F 25...P(IEC)



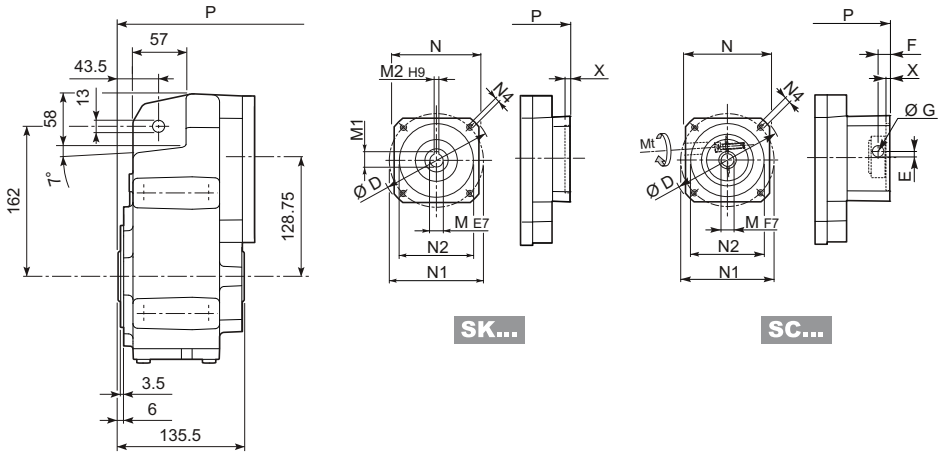
		M	M1	M2	N	N1	N2	N3	N4	X	P	kg
F 25 2/3	**P63**	11	12.8	4	140	115	95	—	M8x19	4	213	12
F 25 2/3	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	213	12
F 25 2/3	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	232.5	13
F 25 2/3	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	232.5	13
F 25 2/3	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	242.5	16
F 25 2/3	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	242.5	16
F 25 4	**P63**	11	12.8	4	140	115	95	—	M8x19	4	268.5	13
F 25 4	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	268.5	13
F 25 4	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	288	14
F 25 4	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	288	14
F 25 4	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	298	18
F 25 4	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	298	18

F 25...HS



		A	E	F	F1	F2	F3	F4	V	kg
F 25 2		263	40	19	21.5	6	2.5	35	M6x16	11.5
F 25 3	**HS**	263	40	19	21.5	6	2.5	35	M6x16	11.5
F 25 4		275.5	40	16	18	5	2.5	35	M6x16	12.5

F 25...SK / SC

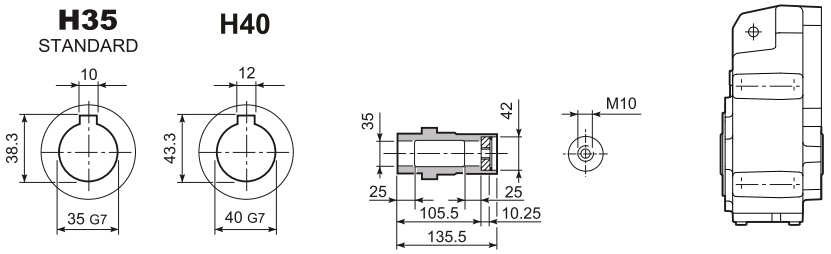


											2/3x		4x	
		D	M	M1	M2	N	N1	N2	N4	X	P		P	
F 25 2/3/4	**SK 60A**	102	11	12.8	4	82	75	60	M5x10	3.5	184.5	11	240	12
F 25 2/3/4	**SK 60B**	102	14	16.3	5	82	75	60	M5x10	4	191.5	12	247	13
F 25 2/3/4	**SK 80A**	115	14	16.3	5	90	100	80	M6x12	4	191.5	12	247	13
F 25 2/3/4	**SK 80C**	120	19	21.8	6	96	100	80	M6x12	4	232.5	13	288	14
F 25 2/3/4	**SK 95A**	130	14	16.3	5	102	115	95	M8x12	4	232.5	13	288	14
F 25 2/3/4	**SK 95B**	130	19	21.8	6	102	115	95	M8x12	4	232.5	13	288	14
F 25 2/3/4	**SK 95C**	130	24	27.3	8	102	115	95	M8x12	4	232.5	13	288	14
F 25 2/3/4	**SK 110A**	150	19	21.8	6	120	130	110	M8x12	5	232.5	13	288	14
F 25 2/3/4	**SK 110B**	150	24	27.3	8	120	130	110	M8x12	5	232.5	13	288	14

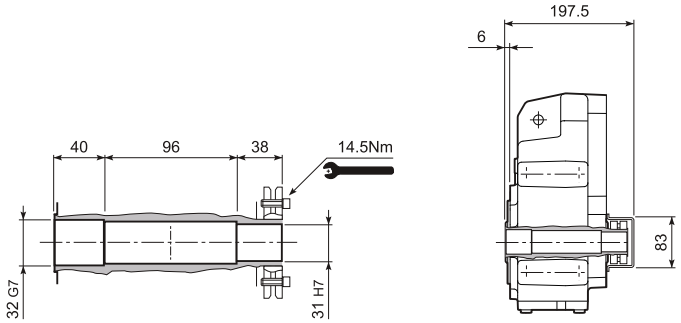
														2/3x		4x	
			Mt [Nm]	D	E	F	G	M	N	N1	N2	N4	X	P		P	
F 25 2/3/4	**SC 60A**	M6	15	102	7	12.5	12.5	11	82	75	60	M5x10	4	211.5	12	267	13
F 25 2/3/4	**SC 60B**	M6	15	102	7	12.5	12.5	14	82	75	60	M5x10	4	211.5	13	267	14
F 25 2/3/4	**SC 80A**	M6	15	115	6	12.5	12.5	14	90	100	80	M6x12	4	211.5	13	267	14
F 25 2/3/4	**SC 80C**	M6	15	120	15.5	14.5	17.75	19	96	100	80	M6x12	4	256	14	311.5	15
F 25 2/3/4	**SC 95A**	M6	15	130	16.5	15	17.75	14	102	115	95	M8x16	4	256	14	311.5	15
F 25 2/3/4	**SC 95B**	M6	15	130	16.5	15	17.75	19	102	115	95	M8x16	4	256	14	311.5	15
F 25 2/3/4	**SC 95C**	M6	15	130	16.5	15	17.75	24	102	115	95	M8x16	4	256	14	311.5	15
F 25 2/3/4	**SC 110A**	M6	15	150	16.5	16	17.75	19	120	130	110	M8x16	5	256	15	311.5	16
F 25 2/3/4	**SC 110B**	M6	15	150	16.5	16	17.75	24	120	130	110	M8x16	5	256	15	311.5	16

F 25

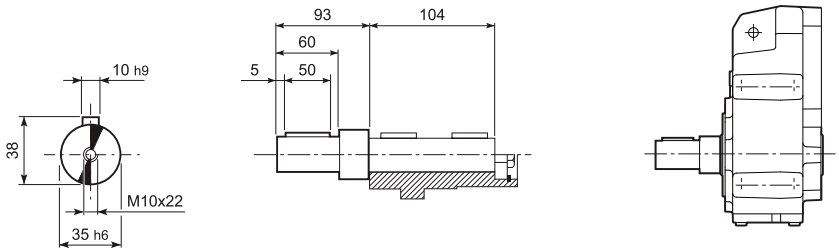
F 25...H



F 25...S



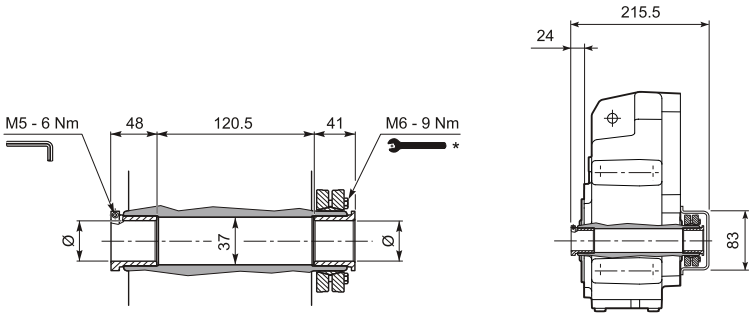
F 25...R



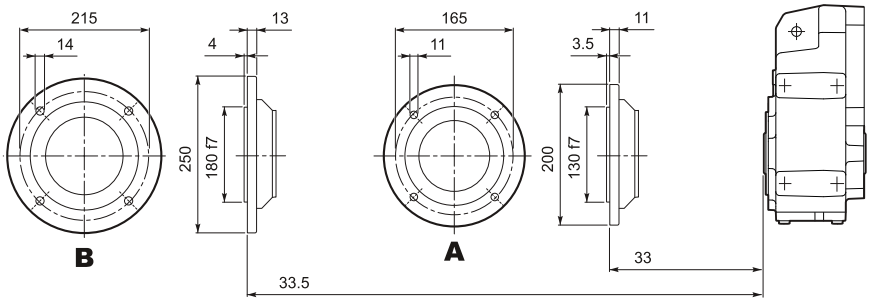
F 25...QF

	Ø
QF30	30
QF32	32

$M_{n2\ max}$ [Nm]	
F 25 QF30	350

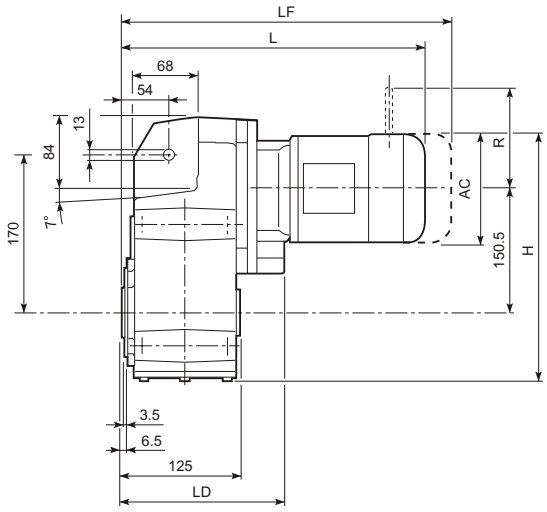


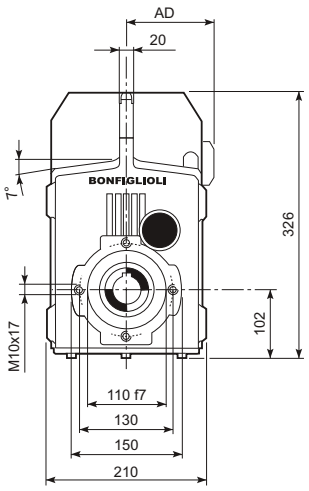
F 25...F...



* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.

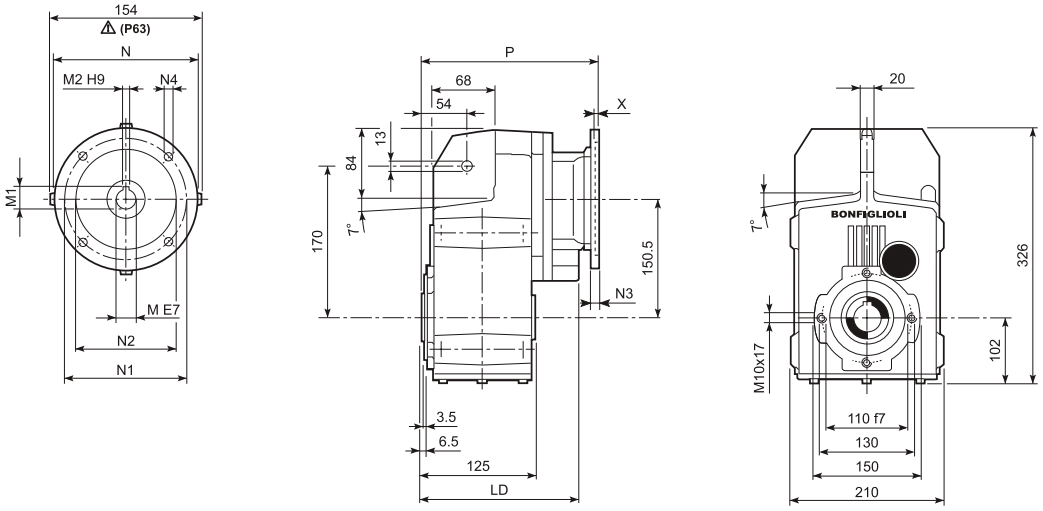
F 31...M/ME/MX/MXN





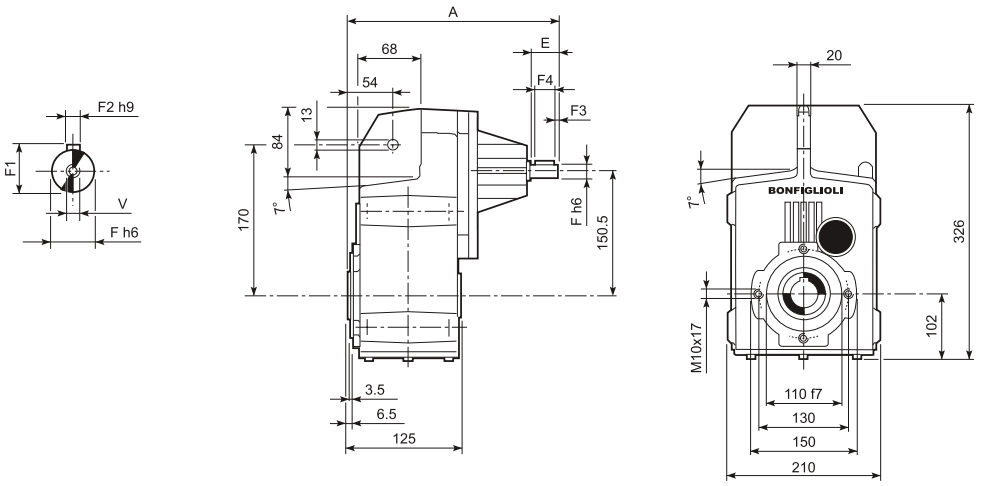
												M...FD M...FA		M...FD		M...FA	
				AC	H	L	LD	AD		LF		R	AD	R	AD
F 31 2/3	**S1**	**M1**		138	321.3	380.5	183.5	108	22	441.5	25	103	135	124	108
F 31 2/3	**S1**	**ME1**		138	321.3	380.5	183.5	108	22	441.5	25	103	135	124	135
F 31 2/3	**S10**	**MXN10**		138	350.3	380.5	183.5	137	24.4	439.5	26.8	103	138	121	138
F 31 2/3	**S2**	**ME2S**		156	330.3	409.5	195.5	119	26	479.5	27.8	129	143	134	143
F 31 2/3	**S2**	**MX2S**		156	330.3	453.5	195.5	119	31	525.5	35	129	143	134	143
F 31 2/3	**S3**	**ME3S**		195	349.8	452.5	205.5	142	31	548.5	37.1	160	155	160	155
F 31 2/3	**S3**	**MX3S**		195	349.8	484.5	205.5	142	34	574.5	42.1	160	155	160	155
F 31 2/3	**S3**	**ME3L**		195	349.8	484.5	205.5	142	40	575.5	43.6	160	155	160	155
F 31 2/3	**S3**	**MX3L**		195	349.8	528.5	205.5	142	46	620.5	51.1	160	155	160	155
F 31 2/3	**S4**	**ME4**	**MX4**	258	381.3	592.5	—	193	72	701.5	81.1	204	210	200	210
F 31 2/3	**S4**	**ME4LA**	**MX4LA**	258	381.3	592.5	—	193	78	690.5	95.1	226	210	217	210
F 31 4	**S05**	**M05**		121	312.8	409	—	95	20	475	22	96	122	116	95
F 31 4	**S05**	**ME05**		121	312.8	409	—	95	20	475	22	96	119	116	119
F 31 4	**S05**	**MXN05**		123	360.3	409	—	136	21.8	456	22.9	96	136	116	136
F 31 4	**S1**	**M1**		138	321.3	438	—	108	22	499	25	103	135	124	108
F 31 4	**S1**	**ME1**		138	321.3	438	—	108	22	499	25	103	135	124	135
F 31 4	**S10**	**MXN10**		138	350.3	438	—	137	24.4	497	26.8	103	138	121	138
F 31 4	**S2**	**ME2S**		156	330.3	467	—	119	26	537	27.8	129	143	134	143
F 31 4	**S2**	**MX2S**		156	330.3	511	—	119	31	583	35	129	143	134	143
F 31 4	**S20**	**MXN20**		158	368.8	511	—	146	33.3	582	35.5	129	148	131	148
F 31 4	**S3**	**ME3S**		195	349.8	510	—	142	31	606	37.1	160	155	160	155
F 31 4	**S3**	**MX3S**		195	349.8	542	—	142	34	632	42.1	160	155	160	155
F 31 4	**S3**	**ME3L**		195	349.8	542	—	142	41	633	43.6	160	155	160	155
F 31 4	**S3**	**MX3L**		195	349.8	586	—	142	47	678	51.1	160	155	160	155

F 31...P(IEC)



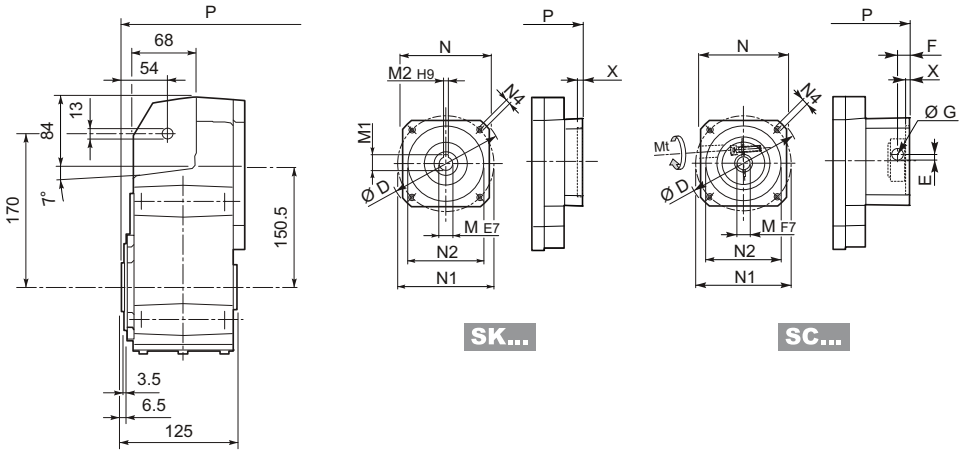
		LD	M	M1	M2	N	N1	N2	N3	N4	X	P	
F 31 2/3	**P63**	195.5	11	12.8	4	140	115	95	—	M8x19	4	225.5	17
F 31 2/3	**P71**	195.5	14	16.3	5	160	130	110	—	M8x16	4.5	225.5	17
F 31 2/3	**P80**	205.5	19	21.8	6	200	165	130	—	M10x14.5	4	245	18
F 31 2/3	**P90**	205.5	24	27.3	8	200	165	130	—	M10x14.5	4	245	17
F 31 2/3	**P100**	205.5	28	31.3	8	250	215	180	—	M12x16	4.5	255	21
F 31 2/3	**P112**	205.5	28	31.3	8	250	215	180	—	M12x16	4.5	255	21
F 31 2/3	**P132**	—	38	41.3	10	300	265	230	—	14	5	291.5	24
F 31 4	**P63**	—	11	12.8	4	140	115	95	—	M8x19	4	283	17
F 31 4	**P71**	—	14	16.3	5	160	130	110	—	M8x16	4.5	283	17
F 31 4	**P80**	—	19	21.8	6	200	165	130	—	M10x14.5	4	302.5	18
F 31 4	**P90**	—	24	27.3	8	200	165	130	—	M10x14.5	4	302.5	18
F 31 4	**P100**	—	28	31.3	8	250	215	180	—	M12x16	4.5	312.5	22
F 31 4	**P112**	—	28	31.3	8	250	215	180	—	M12x16	4.5	312.5	22

F 31...HS



		A	E	F	F1	F2	F3	F4	V	
F 31 2		275.5	40	19	21.5	6	2.5	35	M6x16	16.7
F 31 3	**HS**	275.5	40	19	21.5	6	2.5	35	M6x16	16.7
F 31 4		290	40	16	18	5	2.5	35	M6x16	16.5

F 31...SK / SC

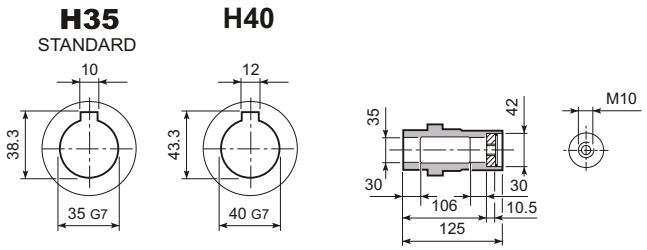


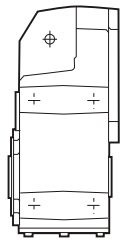
											2/3x		4x	
		D	M	M1	M2	N	N1	N2	N4	X	P		P	
F 31 2/3/4	**SK 60A**	102	11	12.8	4	82	75	60	M5x10	3.5	197	16	254.5	16
F 31 2/3/4	**SK 60B**	102	14	16.3	5	82	75	60	M5x10	4	204	17	261.5	17
F 31 2/3/4	**SK 80A**	115	14	16.3	5	90	100	80	M6x12	4	204	17	261.5	17
F 31 2/3/4	**SK 80C**	120	19	21.8	6	96	100	80	M6x12	4	245	18	302.5	18
F 31 2/3/4	**SK 95A**	130	14	16.3	5	102	115	95	M8x12	4	245	18	302.5	18
F 31 2/3/4	**SK 95B**	130	19	21.8	6	102	115	95	M8x12	4	245	18	302.5	18
F 31 2/3/4	**SK 95C**	130	24	27.3	8	102	115	95	M8x12	4	245	18	302.5	18
F 31 2/3/4	**SK 110A**	150	19	21.8	6	120	130	110	M8x12	5	245	18	302.5	18
F 31 2/3/4	**SK 110B**	150	24	27.3	8	120	130	110	M8x12	5	245	18	302.5	18
F 31 2/3	**SK 130A**	188	24	27.3	8	142	165	130	M10x20	5	245	18	—	—

														2/3x		4x	
			Mt [Nm]	**D**	**E**	**F**	**G**	**M**	**N**	**N1**	**N2**	**N4**	**X**	**P**		**P**	
F 31 2/3/4	**SC 60A**	M6	15	102	7	12.5	12.5	11	82	75	60	M5x10	4	224	17	281.5	17
F 31 2/3/4	**SC 60B**	M6	15	102	7	12.5	12.5	14	82	75	60	M5x10	4	224	18	281.5	18
F 31 2/3/4	**SC 80A**	M6	15	115	6	12.5	12.5	14	90	100	80	M6x12	4	224	18	281.5	18
F 31 2/3/4	**SC 80C**	M6	15	120	15.5	14.5	17.75	19	96	100	80	M6x12	4	268.5	19	326	19
F 31 2/3/4	**SC 95A**	M6	15	130	16.5	15	17.75	14	102	115	95	M8x16	4	268.5	19	326	19
F 31 2/3/4	**SC 95B**	M6	15	130	16.5	15	17.75	19	102	115	95	M8x16	4	268.5	19	326	19
F 31 2/3/4	**SC 95C**	M6	15	130	16.5	15	17.75	24	102	115	95	M8x16	4	268.5	19	326	19
F 31 2/3/4	**SC 110A**	M6	15	150	16.5	16	17.75	19	120	130	110	M8x16	5	268.5	20	326	20
F 31 2/3/4	**SC 110B**	M6	15	150	16.5	16	17.75	24	120	130	110	M8x16	5	268.5	20	326	20
F 31 2/3	**SC 130A**	M6	15	188	19	16	17.75	24	142	165	130	M10x20	5	268.5	21	—	—

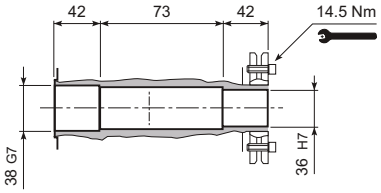
F 31

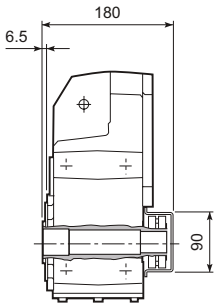
F 31...H



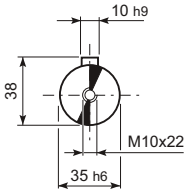


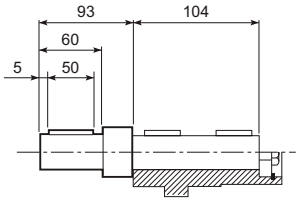
F 31...S

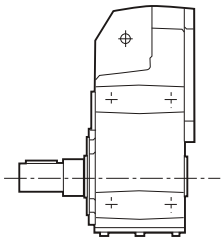




F 31...R

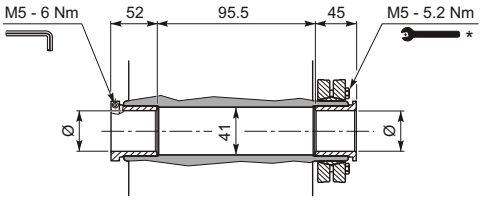


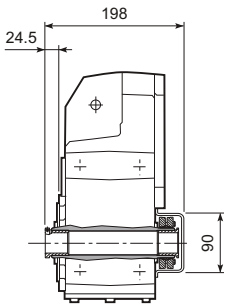




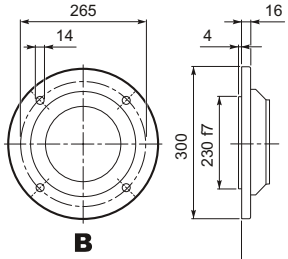
F 31...QF

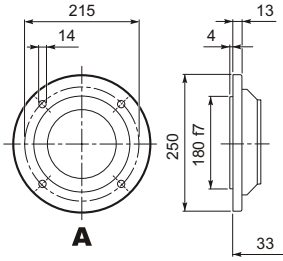
	Ø
QF35	35
QF40	40

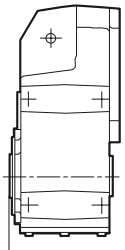




F 31...F...

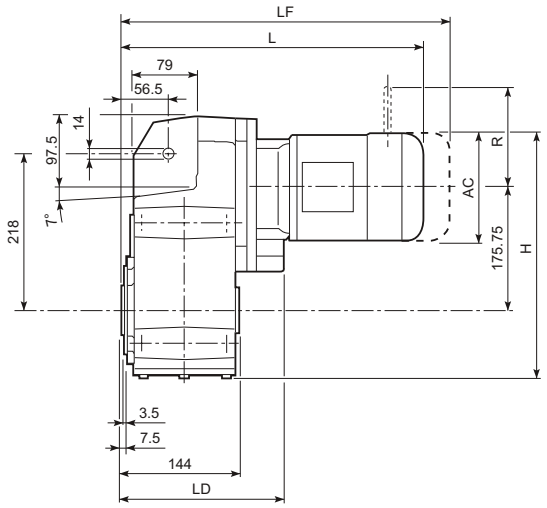


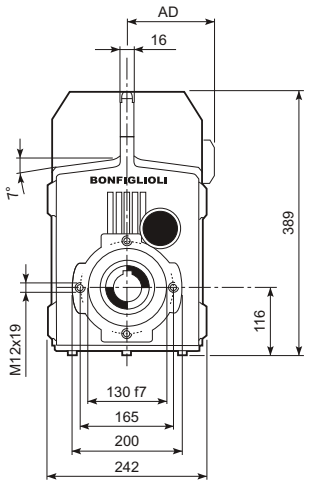




* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.

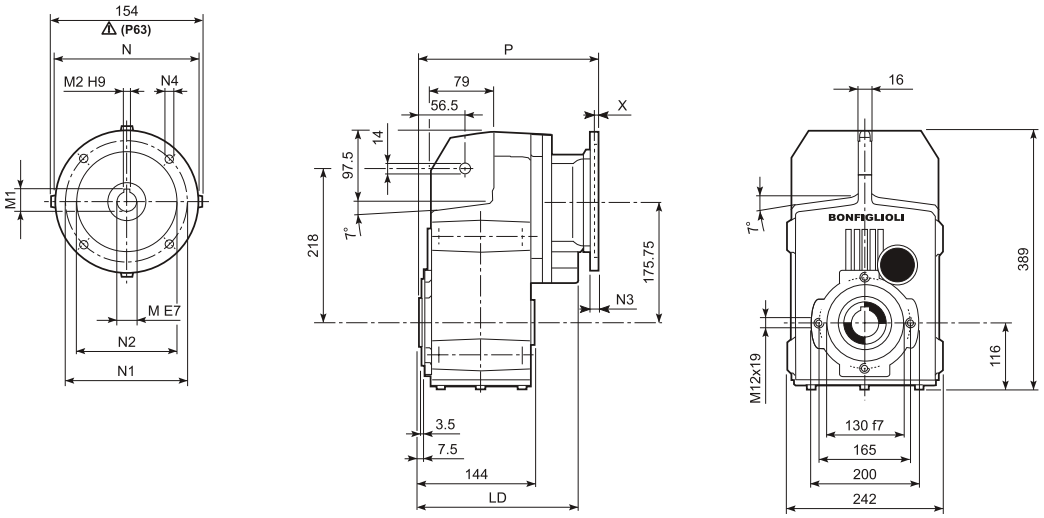
F 41...M/ME/MX/MXN





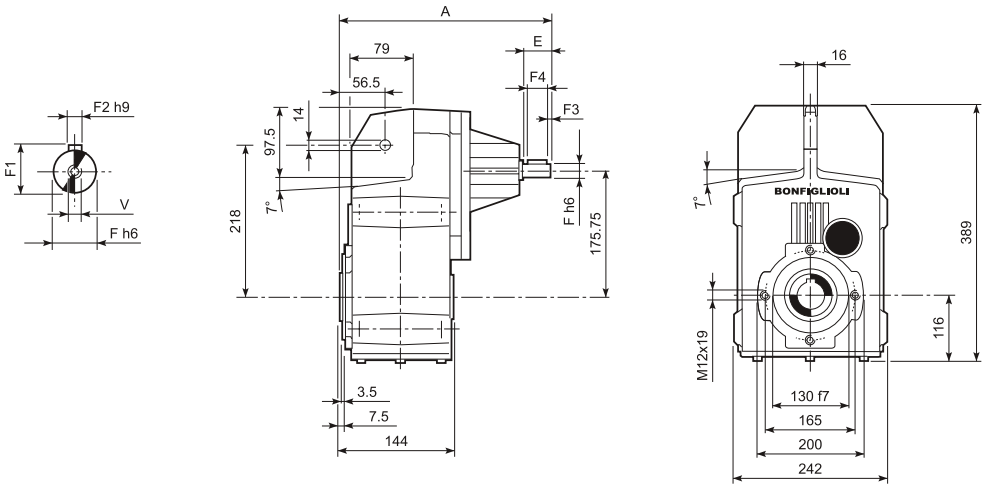
										M...FD M...FA		M...FD		M...FA	
				AC	H	L	LD	AD		LF		R	AD	R	AD
F 41 2/3	**S1**	**M1**		138	360.8	401	199.5	108	46	462	48	103	135	124	108
F 41 2/3	**S1**	**ME1**		138	360.8	401	199.5	108	46	462	48	103	135	124	135
F 41 2/3	**S2**	**ME2S**		156	369.8	430	215	119	49	500	51.8	129	143	134	143
F 41 2/3	**S2**	**MX2S**		156	369.8	474	215	119	54	604	59	129	143	134	143
F 41 2/3	**S3**	**ME3S**		195	389.3	473	231	142	54	569	61.1	160	155	160	155
F 41 2/3	**S3**	**MX3S**		195	389.3	505	231	142	57	595	66.1	160	155	160	155
F 41 2/3	**S3**	**ME3L**		195	389.3	505	231	142	64	596	67.6	160	155	160	155
F 41 2/3	**S3**	**MX3L**		195	389.3	549	231	142	70	641	75.1	160	155	160	155
F 41 2/3	**S4**	**ME4**	**MX4**	258	420.8	613	—	193	96	722	105.1	204	210	200	210
F 41 2/3	**S4**	**ME4LB**	**MX4LA**	258	420.8	648	—	193	104	746	119.1	226	210	217	210
F 41 4	**S05**	**M05**		121	352.3	433.5	—	95	45	499.5	46	96	122	116	95
F 41 4	**S05**	**ME05**		121	352.3	433.5	—	95	45	499.5	46	96	119	116	119
F 41 4	**S05**	**MXN05**		123	353.3	480	—	136	46.8	527	47.9	96	136	116	136
F 41 4	**S1**	**M1**		138	360.8	462.5	—	108	47	523.5	49	103	135	124	108
F 41 4	**S1**	**ME1**		138	360.8	462.5	—	108	47	523.5	49	103	135	124	135
F 41 4	**S10**	**MXN10**		138	360.8	491.5	—	137	49.4	521.5	51.8	103	138	121	138
F 41 4	**S2**	**ME2S**		156	369.8	491.5	—	119	50	561.5	52.8	129	143	134	143
F 41 4	**S2**	**MX2S**		156	369.8	535.5	—	119	55	607.5	60	129	143	134	143
F 41 4	**S20**	**MXN20**		158	370.8	589	—	146	57.2	660	59.4	129	148	131	148
F 41 4	**S3**	**ME3S**		195	389.3	534.5	—	142	55	630.5	62.1	160	155	160	155
F 41 4	**S3**	**MX3S**		195	389.3	566.5	—	142	58	656.5	67.1	160	155	160	155
F 41 4	**S3**	**ME3L**		195	389.3	566.5	—	142	65	657.5	68.6	160	155	160	155
F 41 4	**S3**	**MX3L**		195	389.3	610.5	—	142	71	702.5	76.1	160	155	160	155

F 41...P(IEC)



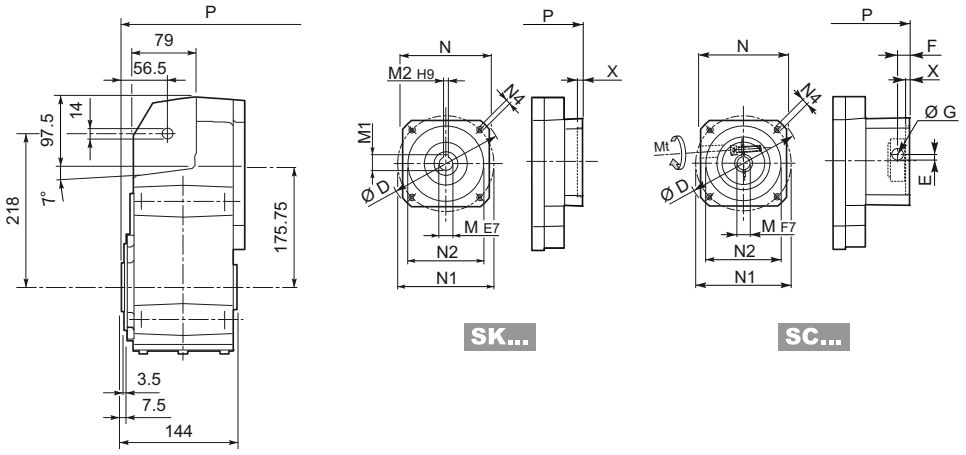
		LD	M	M1	M2	N	N1	N2	N3	N4	X	P	
F 41 2/3	**P63**	215	11	12.8	4	140	115	95	—	M8x19	4	246	42
F 41 2/3	**P71**	215	14	16.3	5	160	130	110	—	M8x16	4.5	246	42
F 41 2/3	**P80**	231	19	21.8	6	200	165	130	—	M10x14.5	4	265.5	43
F 41 2/3	**P90**	231	24	27.3	8	200	165	130	—	M10x14.5	4	265.5	43
F 41 2/3	**P100**	231	28	31.3	8	250	215	180	—	M12x16	4.5	275.5	47
F 41 2/3	**P112**	231	28	31.3	8	250	215	180	—	M12x16	4.5	275.5	47
F 41 2/3	**P132**	—	38	41.3	10	300	265	230	16	14	5	312	50
F 41 4	**P63**	—	11	12.8	4	140	115	95	—	M8x19	4	307.5	44
F 41 4	**P71**	—	14	16.3	5	160	130	110	—	M8x16	4.5	307.5	44
F 41 4	**P80**	—	19	21.8	6	200	165	130	—	M10x14.5	4	327	45
F 41 4	**P90**	—	24	27.3	8	200	165	130	—	M10x14.5	4	327	45
F 41 4	**P100**	—	28	31.3	8	250	215	180	—	M12x16	4.5	337	49
F 41 4	**P112**	—	28	31.3	8	250	215	180	—	M12x16	4.5	337	49

F 41...HS



		A	E	F	F1	F2	F3	F4	V	
F 41 2	**HS**	335.5	50	24	27	8	2.5	45	M8x19	44.9
F 41 3		335.5	50	24	27	8	2.5	45	M8x19	46.4
F 41 4		357.5	40	19	21.5	6	2.5	35	M6x16	43.5

F 41...SK / SC

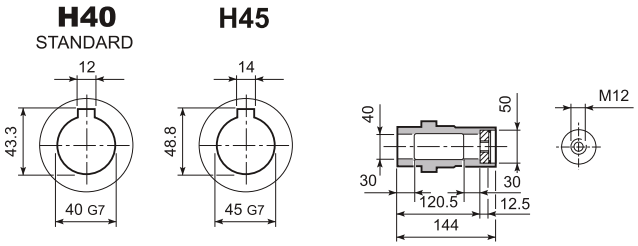


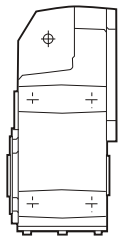
											2/3x		4x	
		D	M	M1	M2	N	N1	N2	N4	X	P		P	
F 41 4	**SK 60A**	102	11	12.8	4	82	75	60	M5x10	3.5	—	—	279	43
F 41 4	**SK 60B**	102	14	16.3	5	82	75	60	M5x10	4	—	—	286	44
F 41 4	**SK 80A**	115	14	16.3	5	90	100	80	M6x12	4	—	—	286	44
F 41 2/3	**SK 80B**	120	14	16.3	5	96	100	80	M6x12	4	265.5	43	—	—
F 41 2/3/4	**SK 80C**	120	19	21.8	6	96	100	80	M6x12	4	265.5	43	327	45
F 41 2/3/4	**SK 95A**	130	14	16.3	5	102	115	95	M8x12	4	265.5	43	327	45
F 41 2/3/4	**SK 95B**	130	19	21.8	6	102	115	95	M8x12	4	265.5	43	327	45
F 41 2/3/4	**SK 95C**	130	24	27.3	8	102	115	95	M8x12	4	265.5	43	327	45
F 41 2/3/4	**SK 110A**	150	19	21.8	6	120	130	110	M8x12	5	265.5	43	327	45
F 41 2/3/4	**SK 110B**	150	24	27.3	8	120	130	110	M8x12	5	265.5	43	327	45
F 41 2/3	**SK 130A**	188	24	27.3	8	142	165	130	M10x20	5	265.5	45	—	—
F 41 2/3	**SK 130B**	189	32	35.3	10	160	165	130	M10x20	5	312	47	—	—
F 41 2/3	**SK 180A**	240	32	35.3	10	192	215	180	M12x19	5	312	47	—	—
F 41 2/3	**SK 180B**	240	38	41.3	10	192	215	180	M12x19	5	312	47	—	—

														2/3x		4x	
			Mt [Nm]	D	E	F	G	M	N	N1	N2	N4	X	P		P	
F 41 4	**SC 60A**	M6	15	102	7	12.5	12.5	11	82	75	60	M5x10	4	—	—	306	44
F 41 4	**SC 60B**	M6	15	102	7	12.5	12.5	14	82	75	60	M5x10	4	—	—	306	45
F 41 4	**SC 80A**	M6	15	115	6	12.5	12.5	14	90	100	80	M6x12	4	—	—	306	45
F 41 2/3	**SC 80B**	M6	15	120	15.5	14.5	17.75	14	96	100	80	M6x12	4	289	44	—	—
F 41 2/3/4	**SC 80C**	M6	15	120	15.5	14.5	17.75	19	96	100	80	M6x12	4	289	44	350.5	46
F 41 2/3/4	**SC 95A**	M6	15	130	16.5	15	17.75	14	102	115	95	M8x16	4	289	44	350.5	46
F 41 2/3/4	**SC 95B**	M6	15	130	16.5	15	17.75	19	102	115	95	M8x16	4	289	44	350.5	46
F 41 2/3/4	**SC 95C**	M6	15	130	16.5	15	17.75	24	102	115	95	M8x16	4	289	44	350.5	46
F 41 2/3/4	**SC 110A**	M6	15	150	16.5	16	17.75	19	120	130	110	M8x16	5	289	45	350.5	47
F 41 2/3/4	**SC 110B**	M6	15	150	16.5	16	17.75	24	120	130	110	M8x16	5	289	45	350.5	47
F 41 2/3	**SC 130A**	M6	15	188	19	16	17.75	24	142	165	130	M10x20	5	289	46	—	—
F 41 2/3	**SC 130B**	M8	36	189	20	17	17.75	32	160	165	130	M10x20	5	335	50	—	—
F 41 2/3	**SC 180A**	M8	36	240	20	17.5	17.75	32	192	215	180	M12x24	5	339	50	—	—
F 41 2/3	**SC 180B**	M8	36	240	20	17.5	17.75	38	192	215	180	M12x24	5	339	50	—	—

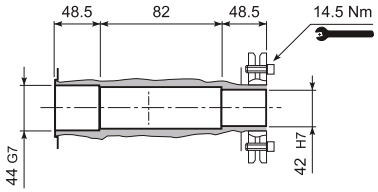
F 41

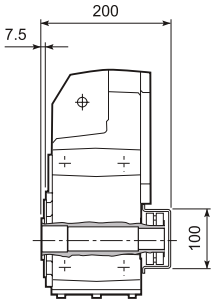
F 41...H



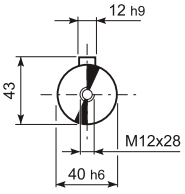


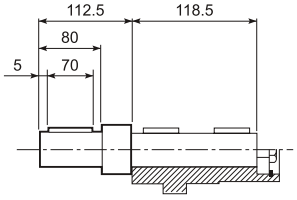
F 41...S

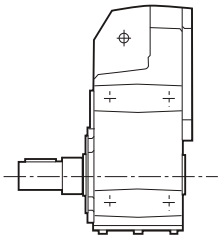




F 41...R



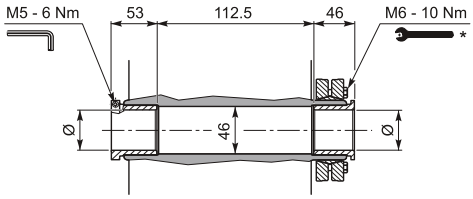


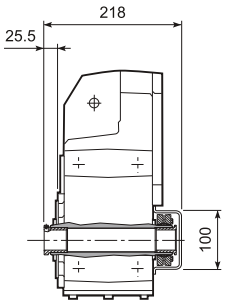


F 41...QF

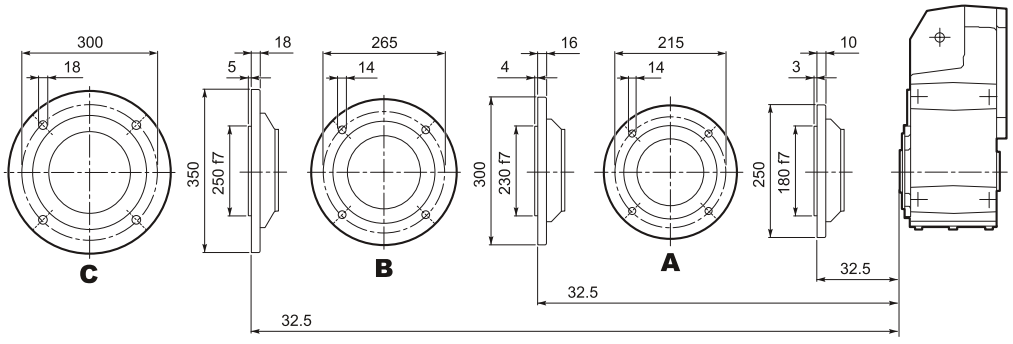
	Ø
QF42	42
QF45	45

$M_{n2\ max}$ [Nm]	
F 41 QF42	850
F 41 QF45	1000



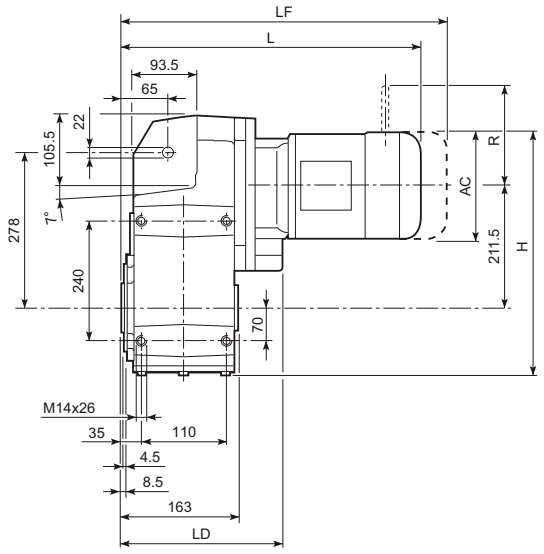


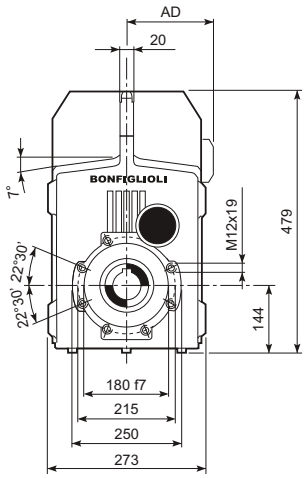
F 41...F...



* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.

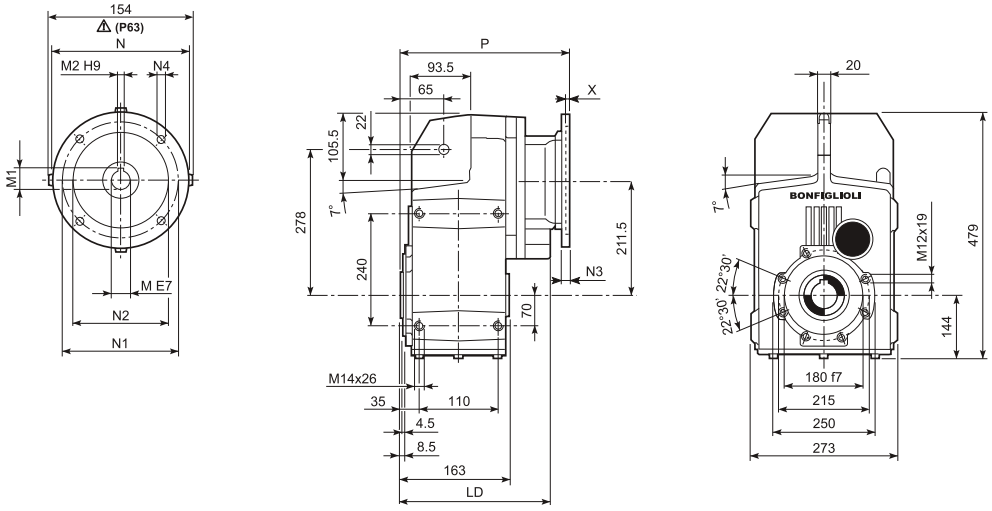
F 51...M/ME/MX/MXN





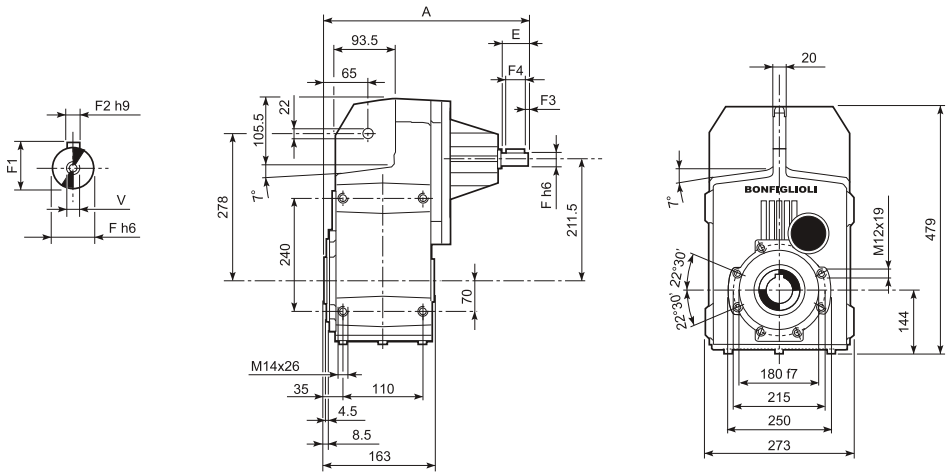
										M...FD M...FA		M...FD		M...FA	
				AC	H	L	LD	AD		LF		R	AD	R	AD
F 51 2/3	**S1**	**M1**		138	424	423	—	108	73	484	76	103	135	124	108
F 51 2/3	**S1**	**ME1**		138	424	423	—	108	73	484	75	103	135	124	135
F 51 2/3	**S2**	**ME2S**		156	433	452	238	119	73	522	78.8	129	143	124	143
F 51 2/3	**S2**	**MX2S**		156	433	496	238	119	78	568	86	129	143	124	143
F 51 2/3	**S3**	**ME3S**		195	452.5	495	253	142	77	591	88.1	160	155	160	155
F 51 2/3	**S3**	**MX3S**		195	452.5	527	253	142	80	617	93.1	160	155	160	155
F 51 2/3	**S3**	**ME3L**		195	452.5	527	253	142	87	618	94.6	160	155	160	155
F 51 2/3	**S3**	**MX3L**		195	452.5	571	253	142	93	663	102.1	160	155	160	155
F 51 2/3	**S4**	**ME4**	**MX4**	258	484	635	238	193	119	744	132.1	204	210	200	210
F 51 2/3	**S4**	**ME4LB**	**MX4LA**	258	484	670	238	193	127	768	146.1	226	210	217	210
F 51 2/3	**S5**	**ME5S**	**MX5S**	310	510	721.5	—	245	153	861.5	206.1	266	245	247	245
F 51 2/3	**S5**	**ME5L**	**MX5L**	310	510	765.5	—	245	169	899.5	217.1	266	245	247	245
F 51 4	**S1**	**M1**		138	424	494.5	—	108	75	555.5	78	103	135	124	108
F 51 4	**S1**	**ME1**		138	424	494.5	—	108	75	555.5	77	103	135	124	135
F 51 4	**S10**	**MXN10**		138	424	523.5	—	137	77.4	582.5	79.8	103	138	121	138
F 51 4	**S2**	**ME2S**		156	433	523.5	—	119	79	593.5	80.8	129	143	124	143
F 51 4	**S2**	**MX2S**		156	433	567.5	—	119	79	639.5	88	129	143	124	143
F 51 4	**S3**	**ME3S**		195	452.5	566.5	—	142	84	662.5	90.1	160	155	160	155
F 51 4	**S3**	**MX3S**		195	452.5	598.5	—	142	84	688.5	95.1	160	155	160	155
F 51 4	**S3**	**ME3L**		195	452.5	598.5	—	142	93	689.5	96.6	160	155	160	155
F 51 4	**S3**	**MX3L**		195	452.5	642.5	—	142	93	734.5	104.1	160	155	160	155

F 51...P(IEC)



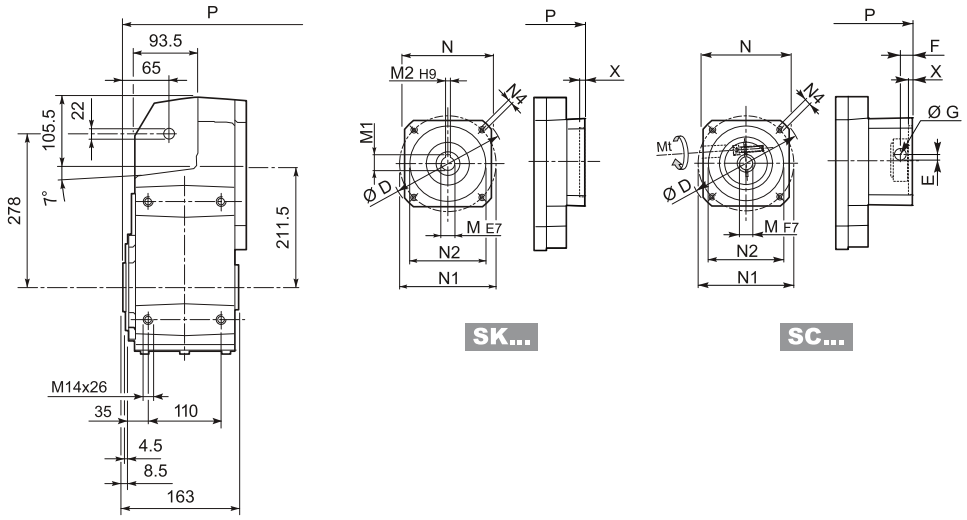
		LD	M	M1	M2	N	N1	N2	N3	N4	X	P	
F 51 2/3	**P63**	238	11	12.8	4	140	115	95	—	M8x19	4	268	65
F 51 2/3	**P71**	238	14	16.3	5	160	130	110	—	M8x16	4.5	268	65
F 51 2/3	**P80**	253	19	21.8	6	200	165	130	—	M10x14.5	4	287.5	67
F 51 2/3	**P90**	253	24	27.3	8	200	165	130	—	M10x14.5	4	287.5	67
F 51 2/3	**P100**	238	28	31.3	8	250	215	180	—	M12x16	4.5	297.5	71
F 51 2/3	**P112**	238	28	31.3	8	250	215	180	—	M12x16	4.5	297.5	71
F 51 2/3	**P132**	238	38	41.3	10	300	265	230	16	14	5	334	74
F 51 2/3	**P160**	—	42	45.3	12	350	300	250	23	18	5.5	384.5	78
F 51 2/3	**P180**	—	48	51.8	14	350	300	250	23	18	5.5	384.5	78
F 51 4	**P63**	—	11	12.8	4	140	115	95	—	M8x19	4	339.5	70
F 51 4	**P71**	—	14	16.3	5	160	130	110	—	M8x16	4.5	339.5	70
F 51 4	**P80**	—	19	21.8	6	200	165	130	—	M10x14.5	4	359	71
F 51 4	**P90**	—	24	27.3	8	200	165	130	—	M10x14.5	4	359	71
F 51 4	**P100**	—	28	31.3	8	250	215	180	—	M12x16	4.5	369	75
F 51 4	**P112**	—	28	31.3	8	250	215	180	—	M12x16	4.5	369	75

F 51...HS



		A	E	F	F1	F2	F3	F4	V	
F 51 2		357.5	50	24	27	8	2.5	45	M8x19	65
F 51 3	**HS**	357.5	50	24	27	8	2.5	45	M8x19	68
F 51 4		389.5	40	19	21.5	6	2.5	35	M6x16	70

F 51...SK / SC

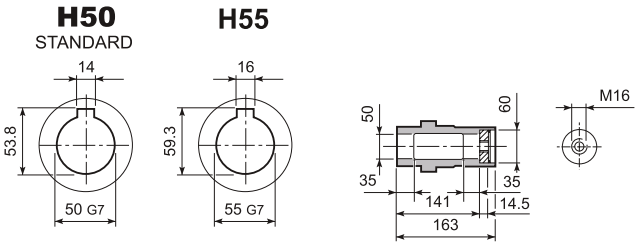


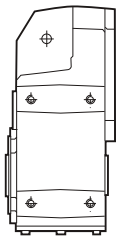
											2/3x		4x	
		D	M	M1	M2	N	N1	N2	N4	X	P		P	
F 51 2/3	**SK 80B**	120	14	16.3	5	96	100	80	M6x12	4	287.5	67	—	—
F 51 2/3/4	**SK 80C**	120	19	21.8	6	96	100	80	M6x12	4	287.5	67	359	71
F 51 2/3/4	**SK 95A**	130	14	16.3	5	102	115	95	M8x12	4	287.5	67	359	71
F 51 2/3/4	**SK 95B**	130	19	21.8	6	102	115	95	M8x12	4	287.5	67	359	71
F 51 2/3/4	**SK 95C**	130	24	27.3	8	102	115	95	M8x12	4	287.5	67	359	71
F 51 2/3/4	**SK 110A**	150	19	21.8	6	120	130	110	M8x12	5	287.5	67	359	71
F 51 2/3/4	**SK 110B**	150	24	27.3	8	120	130	110	M8x12	5	287.5	67	359	71
F 51 2/3/4	**SK 130A**	188	24	27.3	8	142	165	130	M10x20	5	287.5	69	359	73
F 51 2/3	**SK 130B**	189	32	35.3	10	160	165	130	M10x20	5	334	75	—	—
F 51 2/3	**SK 180A**	240	32	35.3	10	192	215	180	M12x19	5	334	75	—	—
F 51 2/3	**SK 180B**	240	38	41.3	10	192	215	180	M12x19	5	334	75	—	—

														2/3x		4x	
			Mt [Nm]	**D**	**E**	**F**	**G**	**M**	**N**	**N1**	**N2**	**N4**	**X**	**P**		**P**	
F 51 2/3	**SC 80B**	M6	15	120	15.5	14.5	17.75	14	96	100	80	M6x12	4	311	70	—	—
F 51 2/3/4	**SC 80C**	M6	15	120	15.5	14.5	17.75	19	96	100	80	M6x12	4	311	70	382.5	74
F 51 2/3/4	**SC 95A**	M6	15	130	16.5	15	17.75	14	102	115	95	M8x16	4	311	70	382.5	74
F 51 2/3/4	**SC 95B**	M6	15	130	16.5	15	17.75	19	102	115	95	M8x16	4	311	70	382.5	74
F 51 2/3/4	**SC 95C**	M6	15	130	16.5	15	17.75	24	102	115	95	M8x16	4	311	70	382.5	74
F 51 2/3/4	**SC 110A**	M6	15	150	16.5	16	17.75	19	120	130	110	M8x16	5	311	71	382.5	75
F 51 2/3/4	**SC 110B**	M6	15	150	16.5	16	17.75	24	120	130	110	M8x16	5	311	71	382.5	75
F 51 2/3/4	**SC 130A**	M6	15	188	19	16	17.75	24	142	165	130	M10x20	5	311	72	382.5	76
F 51 2/3	**SC 130B**	M8	36	189	20	17	17.75	32	160	165	130	M10x20	5	357	75	—	—
F 51 2/3	**SC 180A**	M8	36	240	20	17.5	17.75	32	192	215	180	M12x24	5	361	75	—	—
F 51 2/3	**SC 180B**	M8	36	240	20	17.5	17.75	38	192	215	180	M12x24	5	361	75	—	—

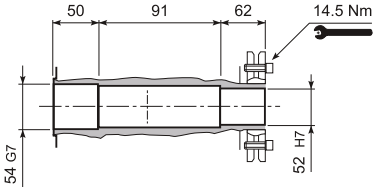
F 51

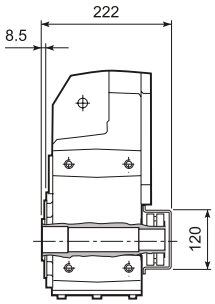
F 51...H



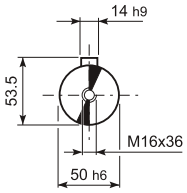


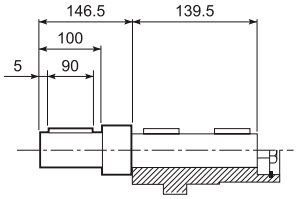
F 51...S

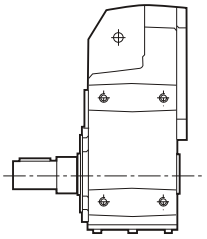




F 51...R



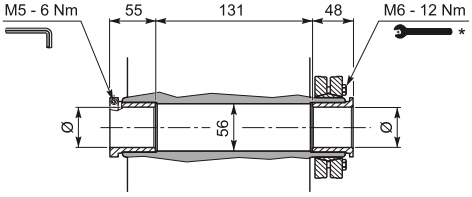


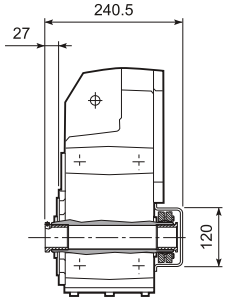


F 51...QF

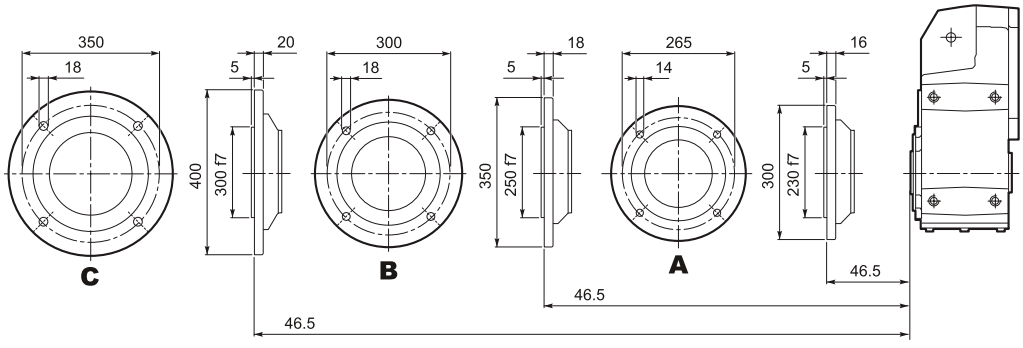
	Ø
QF50	50
QF55	55

$M_{n2\ max}$ [Nm]	
F 51 QF50	1750



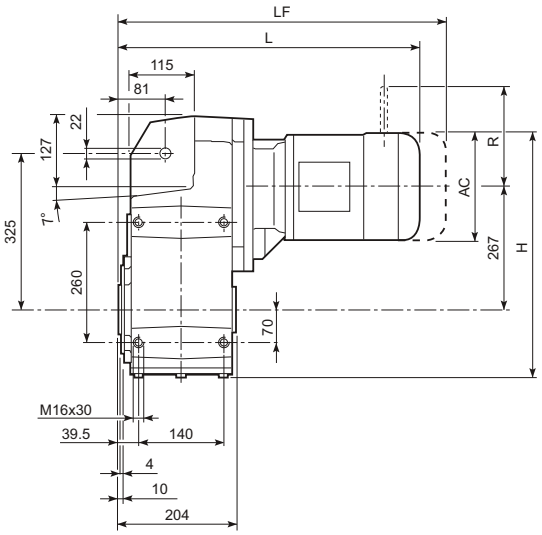


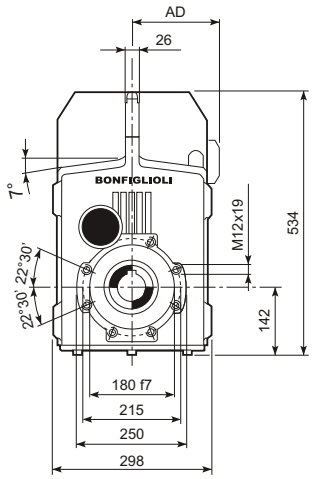
F 51...F...



* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.

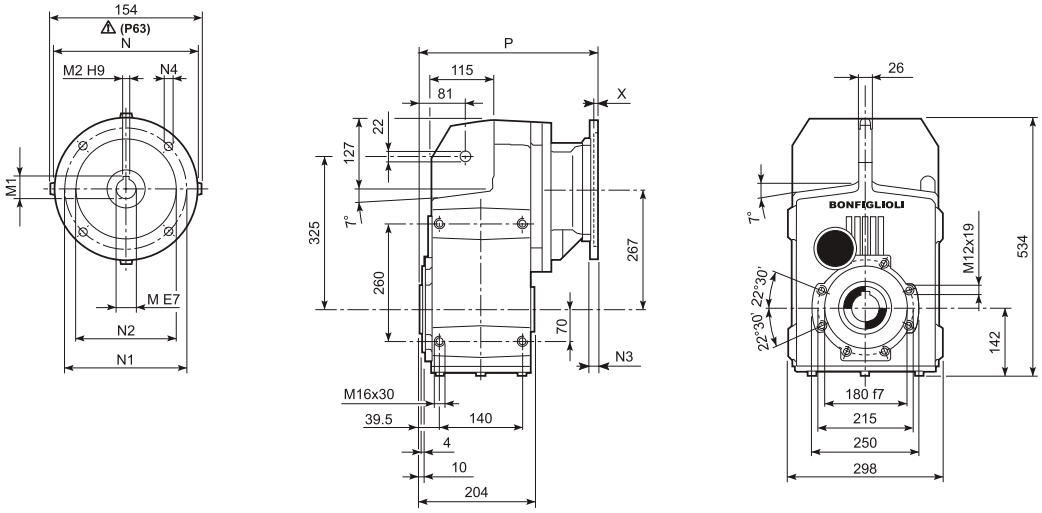
F 60...M/ME/MX





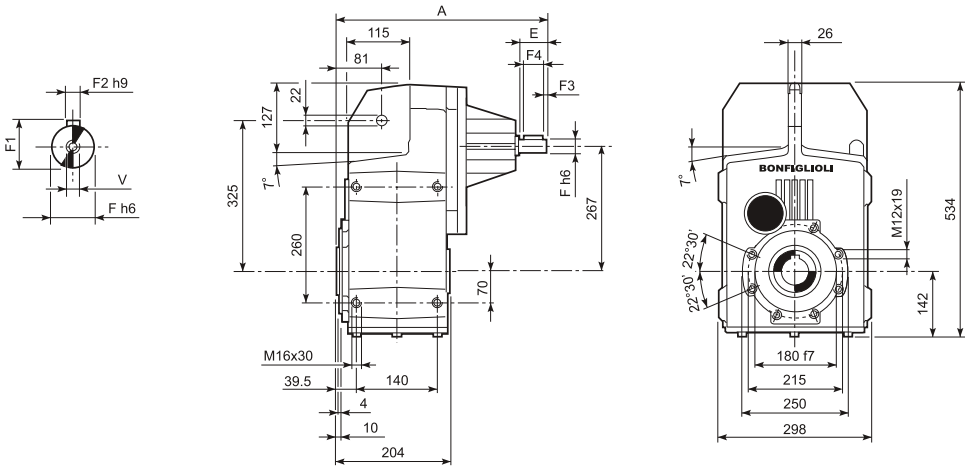
									M...FD M...FA		M...FD		M...FA	
				AC	H	L	AD		LF		R	AD	R	AD
F 60 3	**S2**	**ME2S**		156	487	486.5	119	114	556.5	116.1	129	143	134	143
F 60 3	**S2**	**MX2S**		156	487	530.5	119	119	602.5	123.3	129	143	134	143
F 60 3	**S3**	**ME3S**		195	506.5	529.5	142	119	625.5	125.4	160	155	160	155
F 60 3	**S3**	**MX3S**		195	506.5	561.5	142	122	639.5	130.4	160	155	160	155
F 60 3	**S3**	**ME3L**		195	506.5	561.5	142	124	652.5	131.9	160	155	160	155
F 60 3	**S3**	**MX3L**		195	506.5	605.5	142	130	681.5	139.4	160	155	160	155
F 60 3	**S4**	**ME4**	**MX4**	258	538	669.5	193	156	754.5	169.4	204	210	200	210
F 60 3	**S4**	**ME4LB**	**MX4LA**	258	538	704.5	193	164	779.5	183.4	226	210	217	210
F 60 3	**S5**	**ME5S**	**MX5S**	310	564	756	245	184	842.5	243.4	266	245	247	245
F 60 3	**S5**	**ME5L**	**MX5L**	310	564	800	245	200	886.5	254.4	266	245	247	245
F 60 4	**S1**	**M1**		138	478	528	108	113	589	116	103	135	124	108
F 60 4	**S1**	**ME1**		138	478	528	108	113	589	116	103	135	124	135
F 60 4	**S2**	**ME2S**		156	487	557	119	117	627	118.8	129	143	134	143
F 60 4	**S2**	**MX2S**		156	487	601	119	122	659	126	129	143	134	143
F 60 4	**S3**	**ME3S**		195	506.5	600	142	122	696	128.1	160	155	160	155
F 60 4	**S3**	**MX3S**		195	506.5	632	142	125	696	133.1	160	155	160	155
F 60 4	**S3**	**ME3L**		195	506.5	632	142	131	723	134.6	160	155	160	155
F 60 4	**S3**	**MX3L**		195	506.5	676	142	137	738	142.1	160	155	160	155
F 60 4	**S4**	**ME4**	**MX4**	258	538	740	193	156	811	172.1	204	210	200	210
F 60 4	**S4**	**ME4LB**	**MX4LA**	258	538	775	193	164	836	186.1	226	210	217	210

F 60...P(IEC)



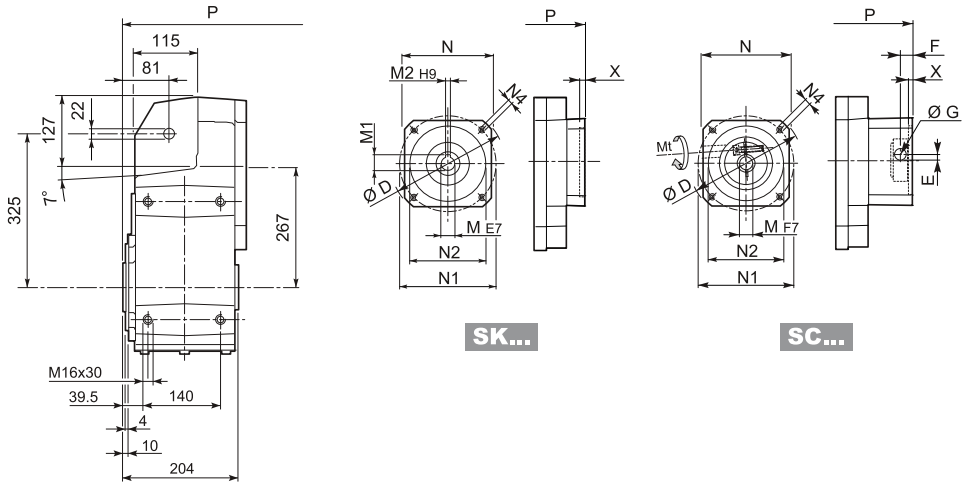
		M	M1	M2	N	N1	N2	N3	N4	X	P	
F 60 3	**P63**	11	12.8	4	140	115	95	—	M8x19	4	302.5	103
F 60 3	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	302.5	103
F 60 3	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	322	104
F 60 3	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	322	104
F 60 3	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	331	108
F 60 3	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	331	108
F 60 3	**P132**	38	41.3	10	300	265	230	16	14	5	367.5	111
F 60 3	**P160**	42	45.3	12	350	300	250	23	18	5.5	419	116
F 60 3	**P180**	48	51.8	14	350	300	250	23	18	5.5	419	116
F 60 4	**P63**	11	12.8	4	140	115	95	—	M8x19	4	373	108
F 60 4	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	373	108
F 60 4	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	392.5	110
F 60 4	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	392.5	110
F 60 4	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	402.5	114
F 60 4	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	402.5	114

F 60...HS



		A	E	F	F1	F2	F3	F4	V	
F 60 3	**HS**	419	60	28	31	8	5.0	50	M10x22	108
F 60 4		462.5	50	24	27	8	2.5	45	M8x19	105

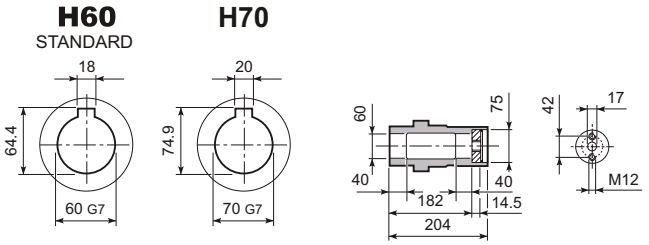
F 60...SK / SC

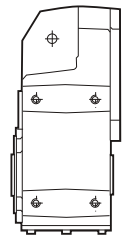


											2/3x		4x	
		D	M	M1	M2	N	N1	N2	N4	X	P		P	
F 60 4	**SK 80B**	120	14	16.3	5	96	100	80	M6x12	4	—	—	392.5	109
F 60 3/4	**SK 80C**	120	19	21.8	6	96	100	80	M6x12	4	322	106	392.5	112
F 60 3/4	**SK 95A**	130	14	16.3	5	102	115	95	M8x12	4	322	106	392.5	112
F 60 3/4	**SK 95B**	130	19	21.8	6	102	115	95	M8x12	4	322	106	392.5	112
F 60 3/4	**SK 95C**	130	24	27.3	8	102	115	95	M8x12	4	322	106	392.5	112
F 60 3/4	**SK 110A**	140	19	21.8	6	120	130	110	M8x12	5	322	106	392.5	112
F 60 3/4	**SK 110B**	140	24	27.3	8	120	130	110	M8x12	5	322	106	392.5	112
F 60 3/4	**SK 130A**	188	24	27.3	8	142	165	130	M10x20	5	322	108	392.5	112
F 60 3	**SK 130B**	189	32	35.3	10	160	165	130	M10x20	5	368.5	109	—	—
F 60 3	**SK 180A**	240	32	35.3	10	192	215	180	M12x19	5	368.5	109	—	—
F 60 3	**SK 180B**	240	38	41.3	10	192	215	180	M12x19	5	368.5	109	—	—

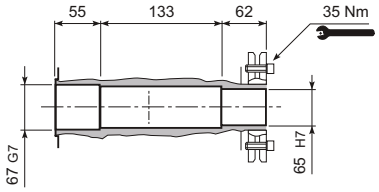
														2/3x		4x	
			Mt [Nm]	**D**	**E**	**F**	**G**	**M**	**N**	**N1**	**N2**	**N4**	**X**	**P**		**P**	
F 60 4	**SC 80B**	M6	15	120	15.5	14.5	17.75	14	96	100	80	M6x12	4	—	—	416	113
F 60 3/4	**SC 80C**	M6	15	120	15.5	14.5	17.75	19	96	100	80	M6x12	4	345.5	107	416	113
F 60 3/4	**SC 95A**	M6	15	130	16.5	15	17.75	14	102	115	95	M8x16	4	345.5	107	416	113
F 60 3/4	**SC 95B**	M6	15	130	16.5	15	17.75	19	102	115	95	M8x16	4	345.5	107	416	113
F 60 3/4	**SC 95C**	M6	15	130	16.5	15	17.75	24	102	115	95	M8x16	4	345.5	107	416	113
F 60 3/4	**SC 110A**	M6	15	140	16.5	16	17.75	19	120	130	110	M8x16	5	345.5	108	416	113
F 60 3/4	**SC 110B**	M6	15	140	16.5	16	17.75	24	120	130	110	M8x16	5	345.5	108	416	113
F 60 3/4	**SC 130A**	M6	15	188	19	16	17.75	24	142	165	130	M10x20	5	345.5	109	416	115
F 60 3	**SC 130B**	M8	36	189	20	17	17.75	32	160	165	130	M10x20	5	390.5	112	—	—
F 60 3	**SC 180A**	M8	36	240	20	17.5	17.75	32	192	215	180	M12x24	5	394.5	112	—	—
F 60 3	**SC 180B**	M8	36	240	20	17.5	17.75	38	192	215	180	M12x24	5	394.5	112	—	—

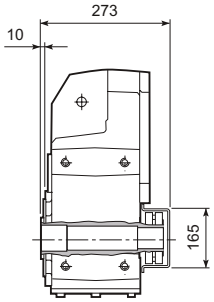
F 60...H



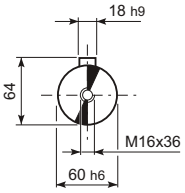


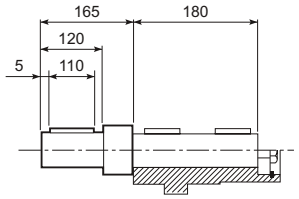
F 60...S

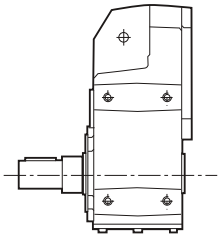




F 60...R

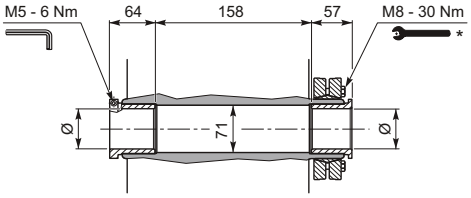


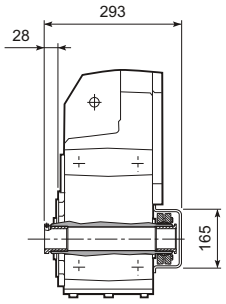




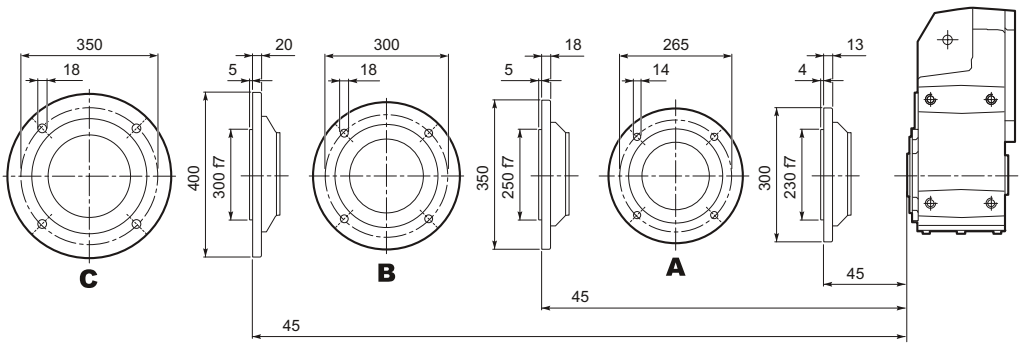
F 60...QF

	Ø
QF60	60
QF65	65
QF70	70



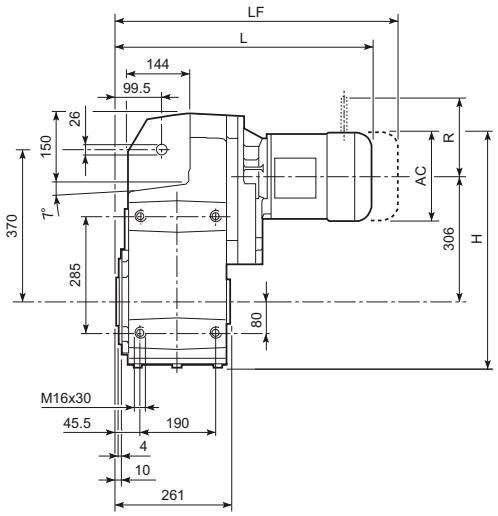


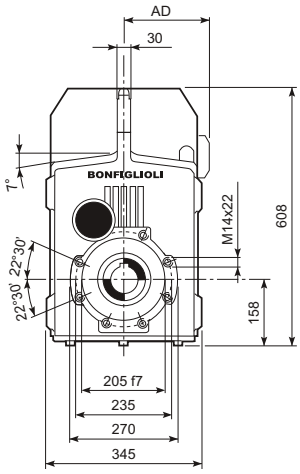
F 60...F...



* Follow the MOUNTING INSTRUCTIONS supplied with the gearbox.

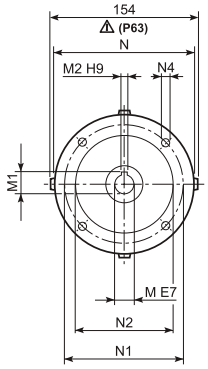
F 70...M/ME/MX

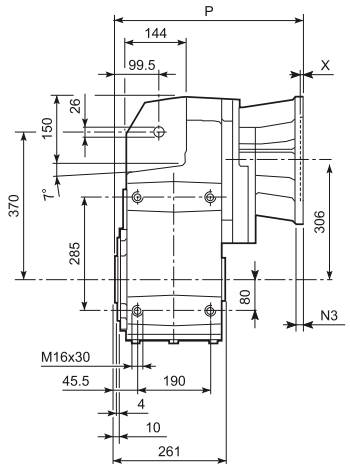


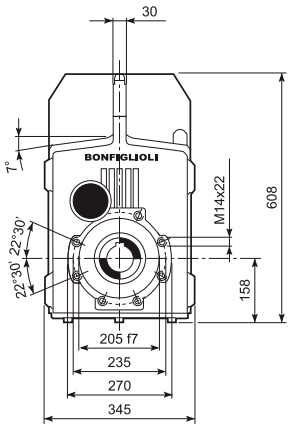


									M...FD M...FA		M...FD		M...FA	
				AC	H	L	AD		LF		R	AD	R	AD
F 70 3	**S2**	**ME2S**		156	542	552	119	173	622	175.1	129	143	134	143
F 70 3	**S2**	**MX2S**		156	542	596	119	178	668	182.3	129	143	134	143
F 70 3	**S3**	**ME3S**		195	561.5	595	142	178	691	184.4	160	155	160	155
F 70 3	**S3**	**MX3S**		195	561.5	627	142	181	717	189.4	160	155	160	155
F 70 3	**S3**	**ME3L**		195	561.5	627	142	188	718	190.9	160	155	160	155
F 70 3	**S3**	**MX3L**		195	561.5	671	142	194	763	198.4	160	155	160	155
F 70 3	**S4**	**ME4**	**MX4**	258	593	735	193	220	844	228.4	204	210	200	210
F 70 3	**S4**	**ME4LB**	**MX4LA**	258	593	770	193	228	868	242.4	226	210	217	210
F 70 3	**S5**	**ME5S**	**MX5S**	310	619	821.5	245	248	961.5	302.4	266	245	247	245
F 70 3	**S5**	**ME5L**	**MX5L**	310	619	865.5	245	264	999.5	313.4	226	245	247	245
F 70 4	**S1**	**M1**		138	533	574	108	173	635	176	103	135	124	108
F 70 4	**S1**	**ME1**		138	533	574	108	173	635	176	103	135	124	135
F 70 4	**S2**	**ME2S**		156	542	603	119	177	673	179.1	129	143	134	143
F 70 4	**S2**	**MX2S**		156	542	647	119	182	719	186.3	129	143	134	143
F 70 4	**S3**	**ME3S**		195	561.5	646	142	181	742	188.4	160	155	160	155
F 70 4	**S3**	**MX3S**		195	561.5	678	142	184	768	193.4	160	155	160	155
F 70 4	**S3**	**ME3L**		195	561.5	678	142	191	769	194.9	160	155	160	155
F 70 4	**S3**	**MX3L**		195	561.5	722	142	197	814	202.4	160	155	160	155
F 70 4	**S4**	**ME4**	**MX4**	258	593	786	193	223	895	232.4	204	210	200	210
F 70 4	**S4**	**ME4LB**	**MX4LA**	258	593	821	193	231	919	246.4	226	210	217	210

F 70...P(IEC)

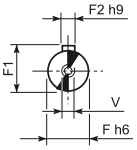


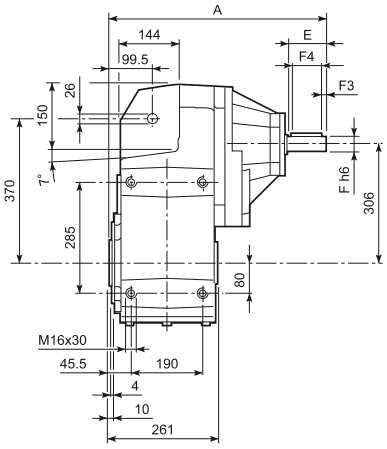


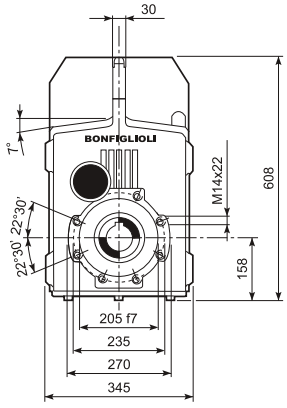


		M	M1	M2	N	N1	N2	N3	N4	X	P	
F 70 3	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	387.5	167
F 70 3	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	387.5	167
F 70 3	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	397.5	171
F 70 3	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	397.5	171
F 70 3	**P132**	38	41.3	10	300	265	230	16	14	5	434	173
F 70 3	**P160**	42	45.3	12	350	300	250	23	18	6	489.5	185
F 70 3	**P180**	48	51.8	14	350	300	250	23	18	6	489.5	185
F 70 3	**P200**	55	59.3	16	400	350	300	—	M16x25	7	514.5	206
F 70 4	**P63**	11	12.8	4	140	115	95	—	M8x19	4	419	168
F 70 4	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	419	168
F 70 4	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	438.5	170
F 70 4	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	438.5	170
F 70 4	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	446.5	174
F 70 4	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	446.5	174
F 70 4	**P132**	38	41.3	10	300	265	230	16	14	5	482	176

F 70...HS



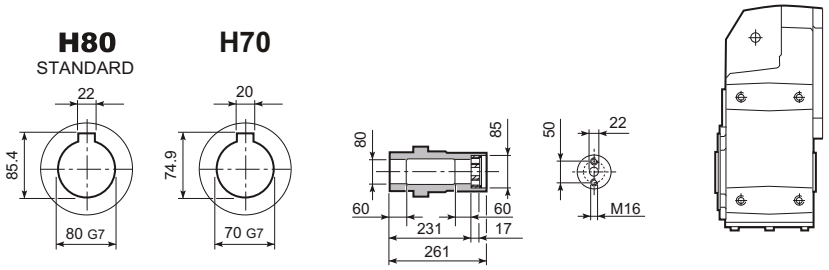




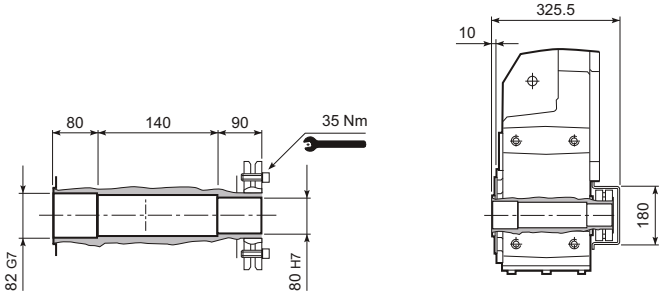
		A	E	F	F1	F2	F3	F4	V	
F 70 3	**HS**	572	110	42	45	12	10	90	M12x28	186
F 70 4		508.5	50	24	27	8	2.5	45	M8x19	174

F 70

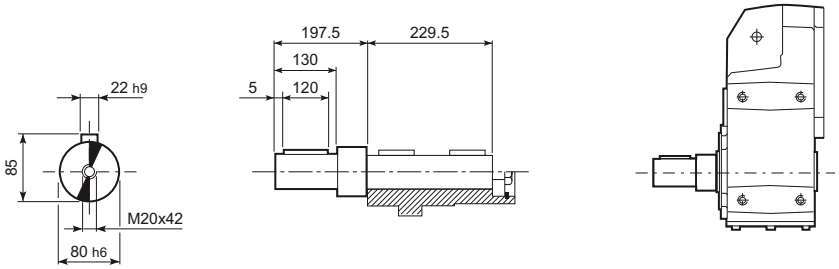
F 70...H



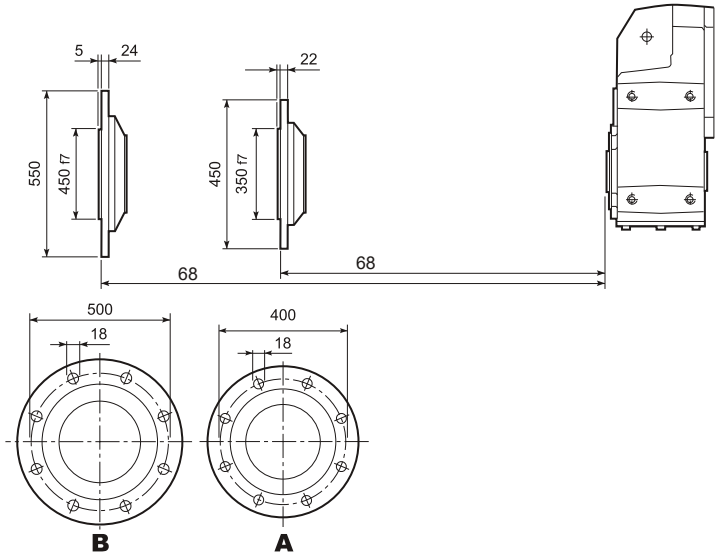
F 70...S



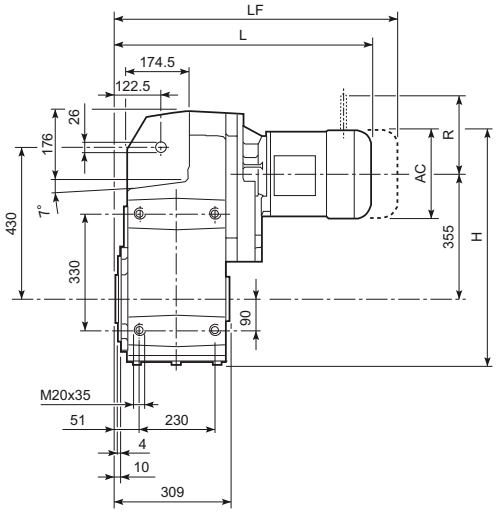
F 70...R

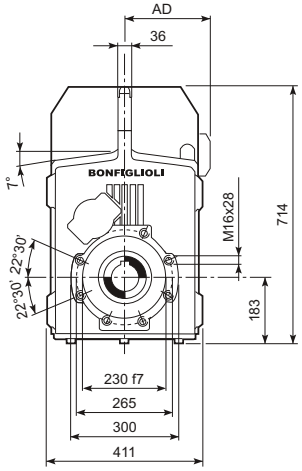


F 70...F...

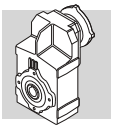


F 80...M/ME/MX

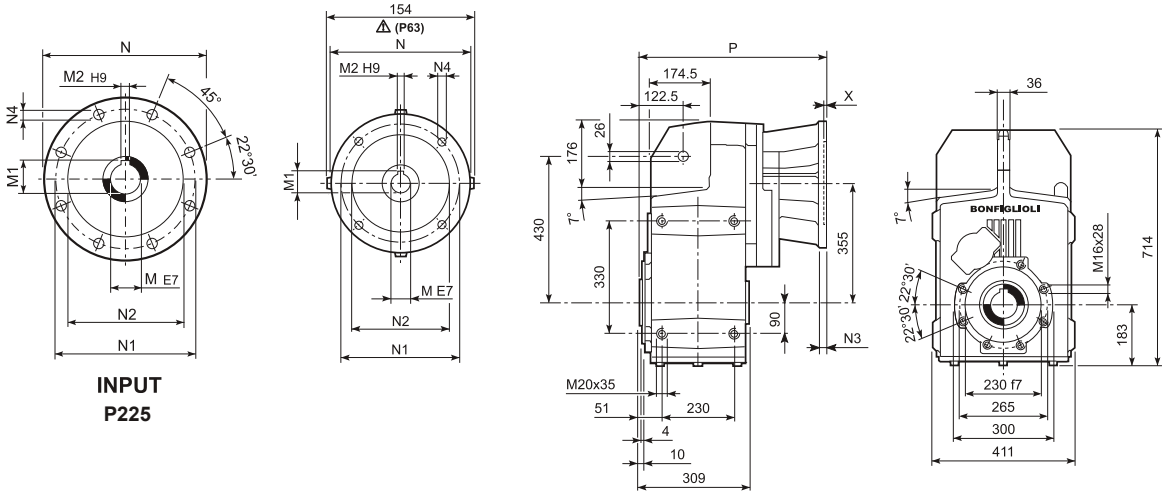




									M...FD M...FA		M...FD		M...FA	
				AC	H	L	AD		LF		R	AD	R	AD
F 80 3	**S3**	**ME3S**		195	635.5	653	142	266	749	272.5	160	155	160	155
F 80 3	**S3**	**MX3S**		195	635.5	685	142	269	775	277.5	160	155	160	155
F 80 3	**S3**	**ME3L**		195	635.5	685	142	275	776	279	160	155	160	155
F 80 3	**S3**	**MX3L**		195	635.5	729	142	281	821	286.5	160	155	160	155
F 80 3	**S4**	**ME4**	**MX4**	258	667	793	193	307	902	316.5	204	210	200	210
F 80 3	**S4**	**ME4LB**	**MX4LA**	258	667	828	193	315	926	330.5	226	210	217	210
F 80 3	**S5**	**ME5S**	**MX5S**	310	693	879.5	245	335	1019.5	390.5	266	245	247	245
F 80 3	**S5**	**ME5L**	**MX5L**	310	693	923.5	245	351	1057.5	401.5	266	245	247	245
F 80 4	**S1**	**M1**		138	607	644	108	262	705	265	103	135	124	108
F 80 4	**S1**	**ME1**		138	607	644	108	262	705	265	103	135	124	135
F 80 4	**S2**	**ME2S**		156	616	673	119	266	743	263.2	129	143	134	143
F 80 4	**S2**	**MX2S**		156	616	717	119	271	789	270.4	129	143	134	143
F 80 4	**S3**	**ME3S**		195	635.5	716	142	271	812	272.5	160	155	160	155
F 80 4	**S3**	**MX3S**		195	635.5	748	142	274	838	277.5	160	155	160	155
F 80 4	**S3**	**ME3L**		195	635.5	748	142	280	839	279	160	155	160	155
F 80 4	**S3**	**MX3L**		195	635.5	792	142	286	884	286.5	160	155	160	155
F 80 4	**S4**	**ME4**	**MX4**	258	667	856	193	312	965	316.5	204	210	200	210
F 80 4	**S4**	**ME4LB**	**MX4LA**	258	667	891	193	320	989	330.5	226	210	217	210

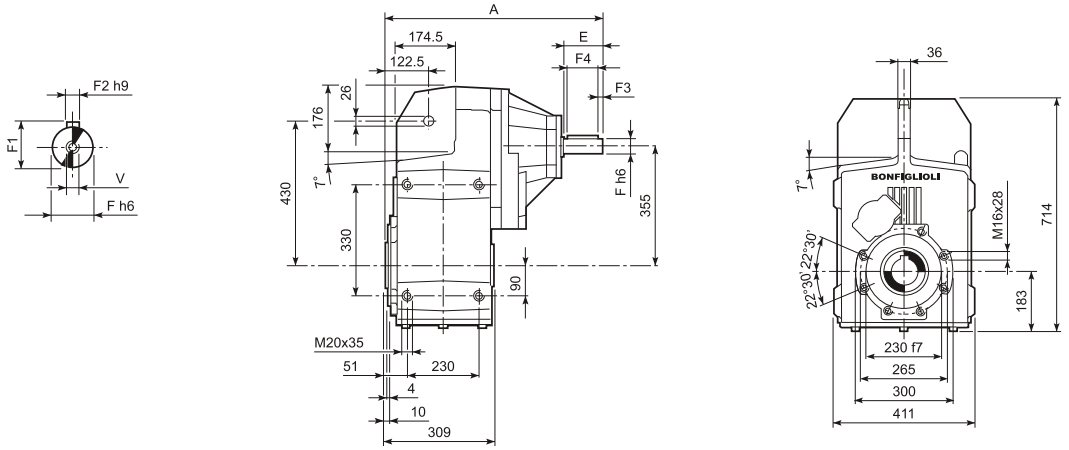


F 80...P(IEC)



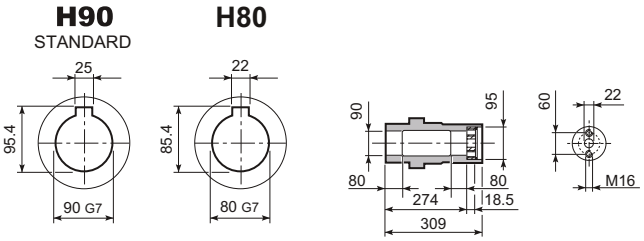
		M	M1	M2	N	N1	N2	N3	N4	X	P	
F 80 3	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	445.5	255
F 80 3	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	445.5	255
F 80 3	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	455.5	259
F 80 3	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	455.5	259
F 80 3	**P132**	38	41.3	10	300	265	230	16	14	5	492	261
F 80 3	**P160**	42	45.3	12	350	300	250	23	18	6	547.5	276
F 80 3	**P180**	48	51.8	14	350	300	250	23	18	6	547.5	276
F 80 3	**P200**	55	59.3	16	400	350	300	—	M16x25	7	572.5	298
F 80 3	**P225**	60	64.4	18	450	400	350	25	18	6	618	298
F 80 4	**P63**	11	12.8	4	140	115	95	—	M8x19	4	489	258
F 80 4	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	489	258
F 80 4	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	508.5	260
F 80 4	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	508.5	260
F 80 4	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	518.5	264
F 80 4	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	518.5	264
F 80 4	**P132**	38	41.3	10	300	265	230	16	14	5	552	266

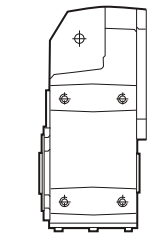
F 80...HS



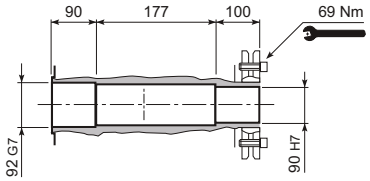
		A	E	F	F1	F2	F3	F4	V	
F 80 3	**HS**	630	110	42	45	12	10	90	M12x28	273
F 80 4		575.5	50	24	27	8	2.5	45	M8x19	263

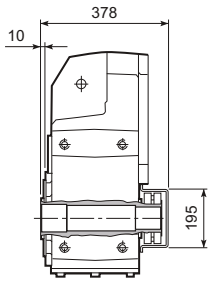
F 80...H



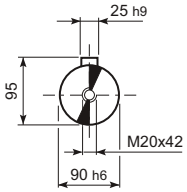


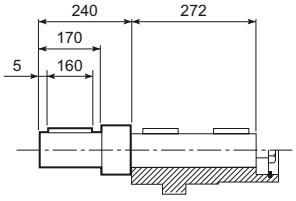
F 80...S

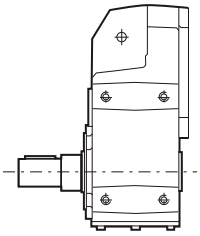




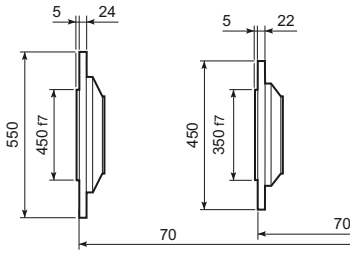
F 80...R

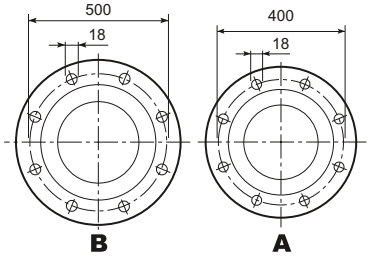


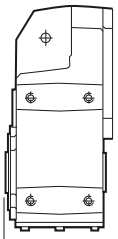




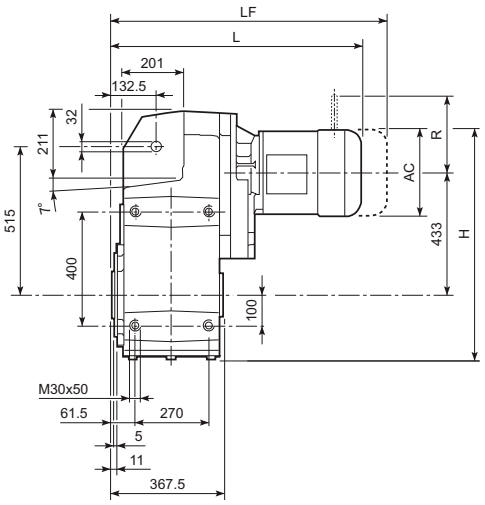
F 80...F...

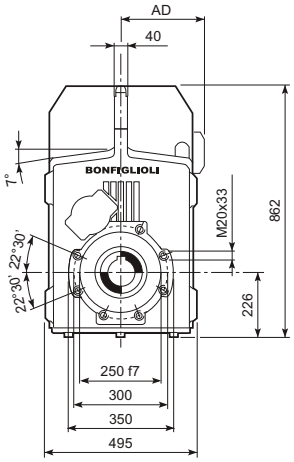






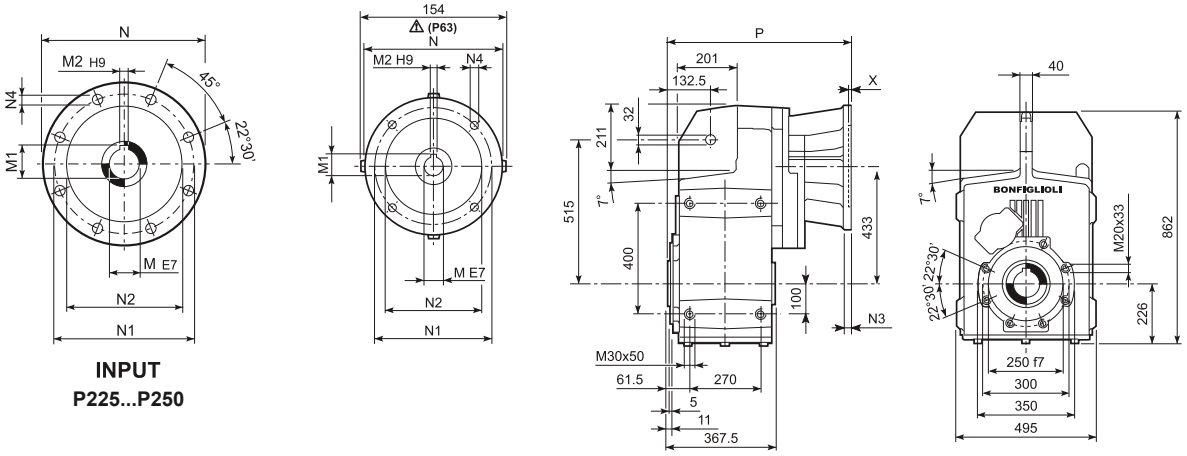
F 90...M/ME/MX





									M...FD M...FA		M...FD		M...FA	
				AC	H	L	AD		LF		R	AD	R	AD
F 90 3	**S3**	**ME3S**		195	756	728	142	453	824	459.5	160	155	160	155
F 90 3	**S3**	**MX3S**		195	756	760	142	456	850	464.5	160	155	160	155
F 90 3	**S3**	**ME3L**		195	756	760	142	462	851	466	160	155	160	155
F 90 3	**S3**	**MX3L**		195	756	804	142	468	896	473.5	160	155	160	155
F 90 3	**S4**	**ME4**	**MX4**	258	787.5	868	193	494	977	503.5	204	210	200	210
F 90 3	**S4**	**ME4LB**	**MX4LA**	258	787.5	894	193	504	992	517.5	226	210	217	210
F 90 3	**S5**	**ME5S**	**MX5S**	310	813.5	998.5	245	538	1138.5	577.5	266	245	247	245
F 90 3	**S5**	**ME5L**	**MX5L**	310	813.5	998.5	245	549	1132.5	588.5	266	245	247	245
F 90 4	**S2**	**ME2S**		156	736.5	768	119	456	838	457.2	129	143	134	143
F 90 4	**S2**	**MX2S**		156	736.5	812	119	461	884	464.4	129	143	134	143
F 90 4	**S3**	**ME3S**		195	756	811	142	460	907	466.5	160	155	160	155
F 90 4	**S3**	**MX3S**		195	756	843	142	463	933	471.5	160	155	160	155
F 90 4	**S3**	**ME3L**		195	756	843	142	470	934	473	160	155	160	155
F 90 4	**S3**	**MX3L**		195	756	887	142	476	979	480.5	160	155	160	155
F 90 4	**S4**	**ME4**	**MX4**	258	787.5	951	193	502	1060	510.5	204	210	200	210
F 90 4	**S4**	**ME4LB**	**MX4LA**	258	787.5	986	193	510	1084	524.5	226	210	217	210

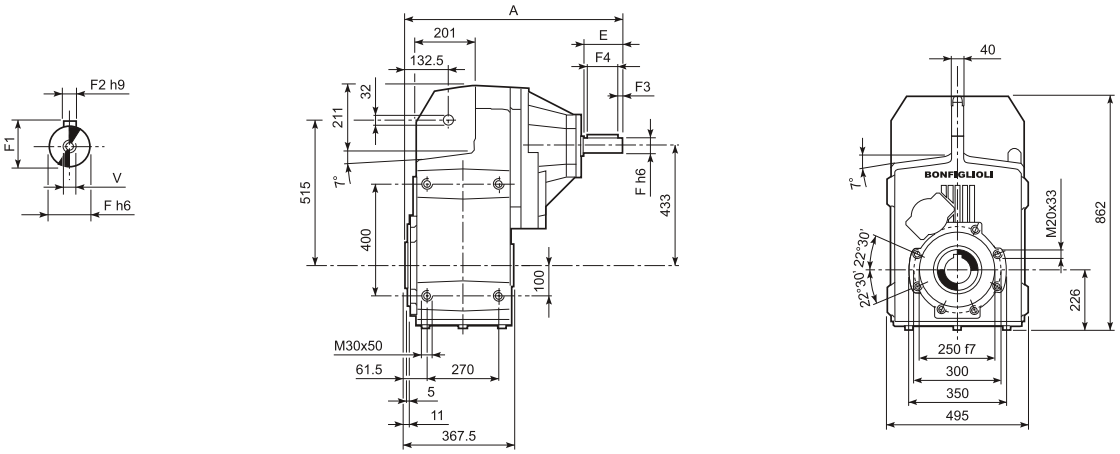
F 90...P(IEC)



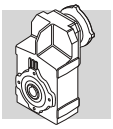
INPUT
P225...P250

		M	M1	M2	N	N1	N2	N3	N4	X	P	
F 90 3	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	520.5	442
F 90 3	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	520.5	442
F 90 3	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	530.5	446
F 90 3	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	530.5	446
F 90 3	**P132**	38	41.3	10	300	265	230	16	14	5	567	449
F 90 3	**P160**	42	45.3	12	350	300	250	23	18	6	622.5	463
F 90 3	**P180**	48	51.8	14	350	300	250	23	18	6	622.5	463
F 90 3	**P200**	55	59.3	16	400	350	300	—	M16x25	7	647.5	485
F 90 3	**P225**	60	64.4	18	450	400	350	30	18	6	693	485
F 90 3	**P250**	65	69.4	18	550	500	450	30	18	6	723	507
F 90 4	**P63**	11	12.8	4	140	115	95	—	M8x19	4	584	448
F 90 4	**P71**	14	16.3	5	160	130	110	—	M8x16	4.5	584	448
F 90 4	**P80**	19	21.8	6	200	165	130	—	M10x14.5	4	603.5	450
F 90 4	**P90**	24	27.3	8	200	165	130	—	M10x14.5	4	603.5	450
F 90 4	**P100**	28	31.3	8	250	215	180	—	M12x16	4.5	613.5	454
F 90 4	**P112**	28	31.3	8	250	215	180	—	M12x16	4.5	613.5	454
F 90 4	**P132**	38	41.3	10	300	265	230	16	14	5	650	455
F 90 4	**P160**	42	45.3	12	350	300	250	23	18	5.5	700.5	461
F 90 4	**P180**	48	51.8	14	350	300	250	23	18	5.5	700.5	461

F 90...HS

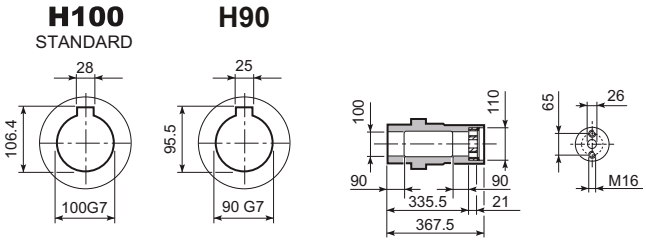


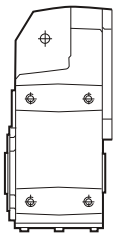
		A	E	F	F1	F2	F3	F4	V	
F 90 3	**HS**	806.5	140	60	64	18	10	120	M16x36	485
F 90 4		673.5	50	24	27	8	2.5	45	M8x19	452



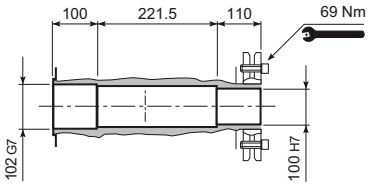
F 90

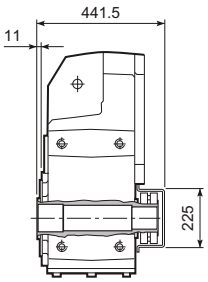
F 90...H



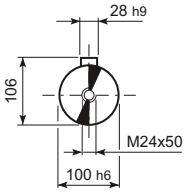


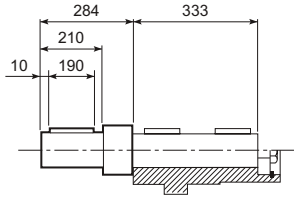
F 90...S

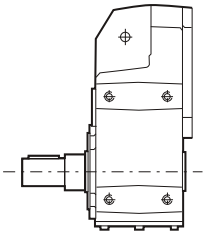




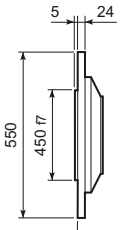
F 90...R

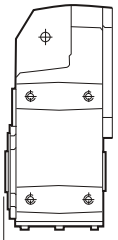


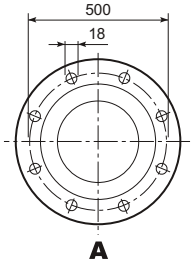




F 90...F...



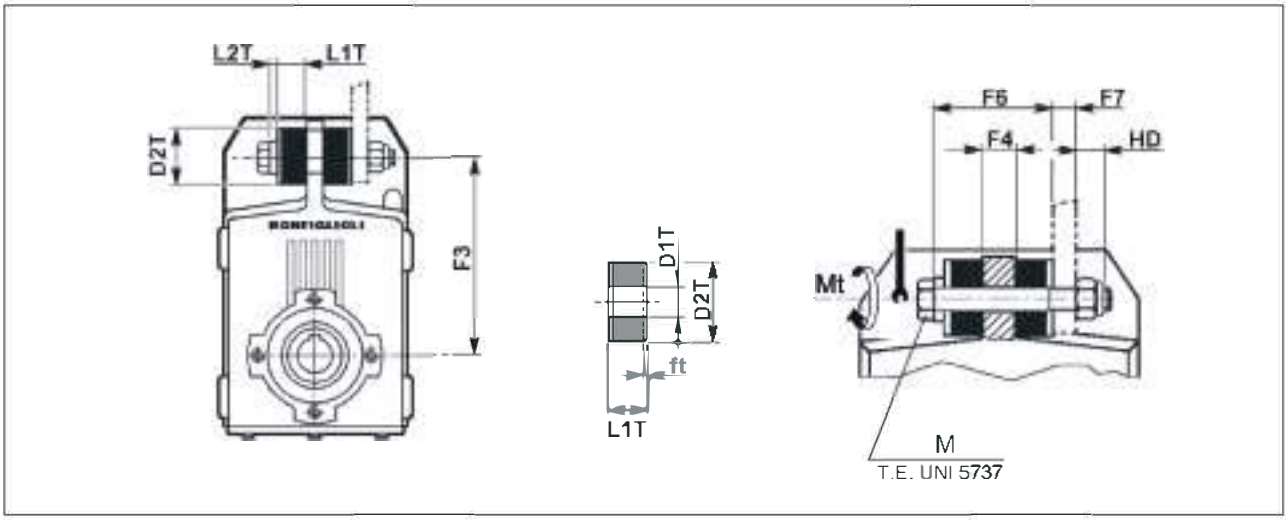




66 ACCESSORIES

Anti-vibration kit

The gearboxes of the F series are supplied with an anti-vibration kit at customer request.
The kit includes all components required for shaft mounting (torque arm is out of scope). Dimensions are shown in the following table.



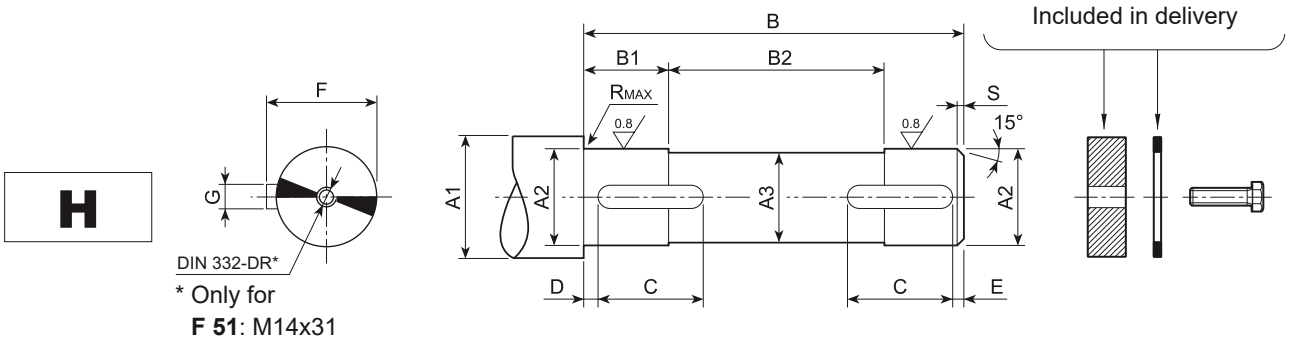
	F3	F4	F6	F7 (max.)	HD	L1T	L2T	D1T	D2T	M	Mt [Nm]	ft
F 10	140	20	55	10	12.3	15	5	11	30	M10x80	10	1.5
F 20	160	20	55	10	12.3	15	5	11	30	M10x80	10	1.5
F 25	162	20	65	20	14.8	20	5	12.5	40	M12x100	20	1.5
F 31	170	20	65	20	14.8	20	5	12.5	40	M12x100	20	1.5
F 41	218	16	61	24	14.8	20	5	12.5	40	M12x100	20	2.3
F 51	278	20	90	47	23	30	10	21	60	M20x160	50	3.0
F 60	325	26	96	41	23	30	10	21	60	M20x160	50	4.0
F 70	370	30	122	50	28	40	12	25	80	M24x200	100	4.0
F 80	430	36	128	44	28	40	12	25	80	M24x200	100	6.0
F 90	515	40	175	40	33.2	60	15	32	100	M30x260	200	9.0

f_t = shortening of the rubber buffer under rated torque transmission.

67 CUSTOMER' SHAFT

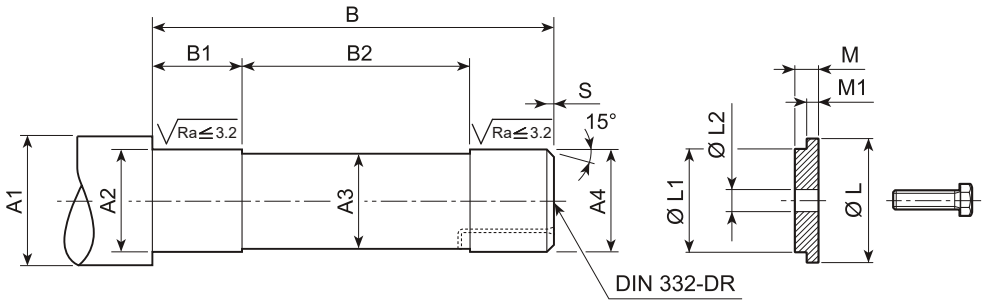
Make the driven shaft to be coupled to the gear unit's output shaft from a good quality steel, respecting the dimensions given in the table.

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.



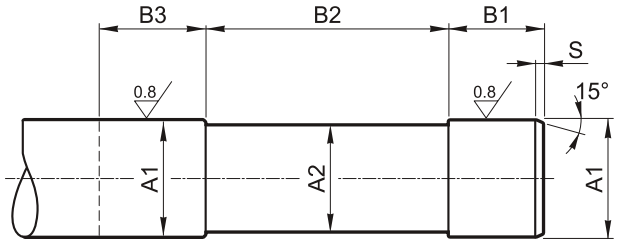
	A1	A2	A3	B	B1	B2	C	D	E	F	G	R	S	UNI 6604	UNI 5739
F 10	≥ 35	30 h7	29	87.5	15.5	56.5	20	2	2	33	8 h9	0.5	1.5	8x7x20 A	M8x25
	≥ 30	25 h7	24	87.5	15.5	56.5	20	2	2	28	8 h9	0.5	1.5	8x7x20 A	
F 20	≥ 42	35 h7	34	99	18	63	22	2	2	38	10 h9	0.5	1.5	10x8x22 A	M8x30
	≥ 35	30 h7	29	99	18	63	22	2	2	33	8 h9	0.5	1.5	8x7x22 A	
F 25	≥ 47	40 h7	39	104	23	58	30	2	2	43	12 h9	0.5	1.5	12x8x30 A	M8x30
	≥ 42	35 h7	34	104	23	58	30	2	2	38	10 h9	0.5	1.5	10x8x30 A	
F 31	≥ 47	40 h7	39	104	28	48	30	2	2	43	12 h9	0.5	1.5	12x8x30 A	M8x30
	≥ 42	35 h7	34	104	28	48	30	2	2	38	10 h9	0.5	1.5	10x8x30 A	
F 41	≥ 52	45 h7	44	118	27.5	63	45	2.5	2.5	48.5	14 h9	1	2.0	14x9x45 A	M10x30
	≥ 47	40 h7	39	118	27.5	63	45	2.5	2.5	43	12 h9	1	2.0	12x8x45 A	
F 51	≥ 63	55 h7	54	139	33	73	50	2.5	2.5	59	16 h9	1	2.0	16x10x50 A	M14x45
	≥ 57	50 h7	49	139	33	73	50	2.5	2.5	53.5	14 h9	1	2.0	14x9x50 A	
F 60	≥ 78	70 h7	69	180	38	104	70	2.5	2.5	74.5	20 h9	1	2.0	20x12x70 A	M16x45
	≥ 68	60 h7	59	180	38	104	70	2.5	2.5	64	18 h9	1	2.0	18x11x70 A	
F 70	≥ 89	80 h7	79	229	58	113	75	3	3	85	22 h9	2.5	2.5	22x14x75 A	M20x55
	≥ 78	70 h7	69	229	58	113	75	3	3	74.5	20 h9	2.5	2.5	20x12x75 A	
F 80	≥ 99	90 h7	89	272	78	116	100	3	3	95	25 h9	2.5	2.5	25x14x100 A	M20x55
	v 89	80 h7	79	272	78	116	100	3	3	85	22 h9	2.5	2.5	22x14x100 A	
F 90	≥ 111	100 h7	99	333	87.5	158	110	3	3	106	28 h9	2.5	2.5	28x16x110 A	M24x65
	≥ 99	90 h7	89	333	87.5	158	110	3	3	95	25 h9	2.5	2.5	25x14x110 A	

S

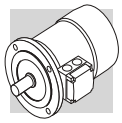


	A1	A2	A3	A4	B	B1	B2	R	S	L	L1	L2	M	M1	UNI 5739
F 10	≥ 36	27 h7	24	25 h6	138	34	70	0.5	1.5	29.5	25 d9	9	7	5.5	M8x25
F 20	≥ 42	32 h7	29	30 h6	160	38	84	0.5	1.5	35.5	30 d9	9	7	5.5	M8x25
F 25	≥ 42	32 h7	30	31 h6	172	38	96	0.5	1.5	35.5	31 d9	9	7	5.5	M8x25
F 31	≥ 50	38 h7	35	36 h6	155	40	73	1	2	43	36 d9	9	7	5.5	M8x25
F 41	≥ 58	44 h7	41	42 h6	177	46.5	82	1	2	49	42 d9	11	8.5	7	M10x30
F 51	≥ 68	54 h7	51	52 g6	201	48	91	1	2	61	52 d9	18	9	7.5	M16x45
F 60	≥ 84	67 h7	64	65 g6	248	53	133	1.5	2	80	65 d9	18	9	7.5	M16x45
F 70	≥ 104	82 h7	79	80 g6	308	78	140	2.5	2.5	95	80 d9	22	13.5	12	M20x55
F 80	≥ 114	92 h7	89	90 g6	365	88	177	2.5	2.5	105	90 d9	22	13.5	12	M20x55
F 90	≥ 126	102 h7	99	100 g6	429.5	98	221.5	2.5	2.5	120	100 d9	26	20	18.5	M24x70

QF



		A1	A2	B1	B2	B3	S
F 10	**QF25**	25 h6	24	41	83	≥ 50	1.5
	QF30	30 h6	29				
F 20	**QF25**	25 h6	24	41	104.5	≥ 50	1.5
	QF30	30 h6	29				
F 25	**QF30**	30 h6	29	41	120.5	≥ 50	1.5
	QF32	32 h6	31				
F 31	**QF35**	35 h6	34	45	95.5	≥ 54	1.5
	QF40	40 h6	39				
F 41	**QF42**	42 h6	41	46	112.5	≥ 55	2
	QF45	45 h6	44				
F 51	**QF50**	50 h6	49	48	131	≥ 57	2
	QF55	55 h6	54				
F 60	**QF60**	60 h6	59	57	158	≥ 66	2.5
	QF65	65 h6	64				
	QF70	70 h6	69				



ELECTRIC MOTORS

M1 SYMBOLS AND UNITS OF MEASUREMENT

Symbols	Units of Measure	Description
cosφ	–	Power factor
η	–	Efficiency
f_m	–	Power adjusting factor
I	–	Cyclic duration factor
I_N	[A]	Rated current
I_S	[A]	Locked rotor current
J_C	[Kgm^2]	Load moment of inertia
J_M	[Kgm^2]	Moment of inertia
K_c	–	Torque factor
K_d	–	Load factor
K_J	–	Inertia factor
M_A	[Nm]	Mean breakaway torque
M_B	[Nm]	Brake torque
M_N	[Nm]	Rated torque
M_L	[Nm]	Counter-torque during acceleration
M_S	[Nm]	Starting torque

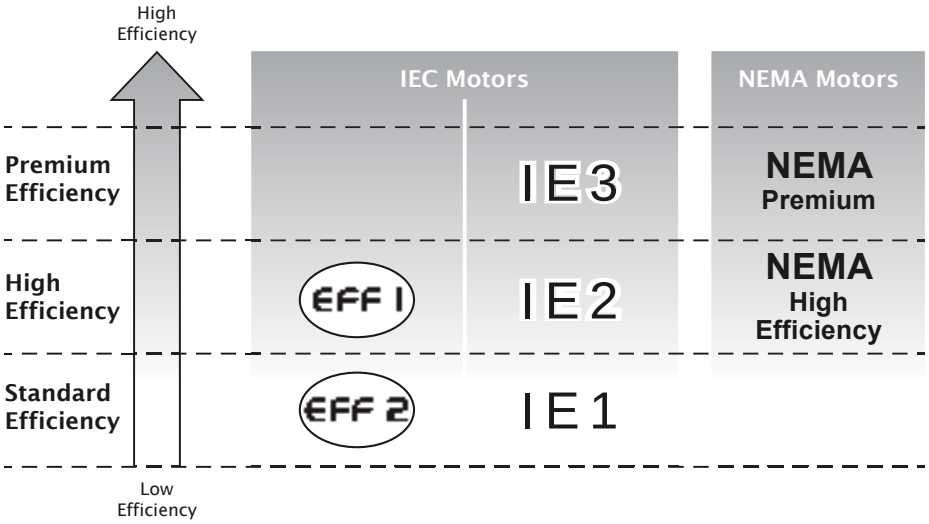
Symbols	Units of Measure	Description
n	[min^{-1}]	Rated speed
P_B	[W]	Power drawn by the brake at 20°C
P_n	[kW]	Motor rated power
P_r	[kW]	Required power
t_1	[ms]	Brake response time with one-way rectifier
t_{1s}	[ms]	Brake response time with electronic-controlled rectifier
t_2	[ms]	Brake reaction time with a.c. disconnect
t_{2c}	[ms]	Brake reaction time with a.c. and d.c. disconnect
t_a	[°C]	Ambient temperature
t_f	[min]	Work time at constant load
t_r	[min]	Rest time
W	[J]	Braking work between service interval
W_{max}	[J]	Maximum brake work for each braking
Z	[1/h]	Permissible starting frequency, loaded
Z_0	[1/h]	Max. permissible unloaded starting frequency (I = 50%)

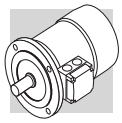
Efficiency classes and test methods

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.;

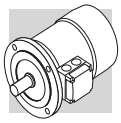
▪ in ambient temperatures above 60 °C;

▪ 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 BONFIGLIOLI RIDUTTORI's production, are available in basic design IMB5 and derived versions.
Motors are the enclosed type with outer fan and cage-tipe 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 ±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 ±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 ±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)

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.

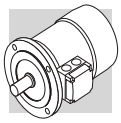
M3.5 Tolerances

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

(F03)

-0.15 (1 - η) P ≤ 50kW	Efficiency
-(1 - cosφ)/6 min 0.02 max 0.07	Power factor
±20% *	Slip
+20%	Locked rotor current
-15% +25%	Locked rotor torque
-10%	Max. torque

(*) ± 30% for motors with Pn < 1 kW



M4 MOTOR DESIGNATION

MOTOR BRAKE

BXN 80 4 WD1 60 IP55 CLF B5 W FD 7.5 R AA SB SA 220 .....

OPTIONS

BRAKE SUPPLY

RECTIFIER TYPE
AC/DC
NB, **SB**

RELEASE LEVER ORIENTATION
AA, AB (standard)**, AC, AD**

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
IM B5 - IEC motor

INSULATION CLASS
CL F standard
CL H option

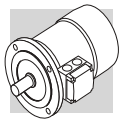
DEGREE OF PROTECTION
IP55 standard (IP56 - option)
IP54, **IP55** brake motor

VOLTAGE - FREQUENCY
(See Paragraph M7.1)

POLE NUMBER
4

MOTOR SIZE
63MA ... 90L (IEC motor)
05MA...25L (Compact motor)

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



MOTOR | BRAKE

BX 132SB 4 230/400-50 IP55 CLF B5 W FD 7.5 R AA SB SA 220 .....

OPTIONS

BRAKE SUPPLY

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

RELEASE LEVER ORIENTATION
AA, AB (standard)**, AC, AD**

BRAKE HAND RELEASE
R, RM

BRAKE TORQUE

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

TERMINAL BOX POSITION
(compact motor only)
W (default), **N**, **E**, **S**

MOTOR MOUNTING
− compact motor
IM B5 - IEC motor

INSULATION CLASS
CL F standard
CL H option

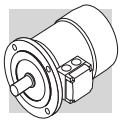
DEGREE OF PROTECTION
IP55 standard (IP56 - option)
IP54, **IP55** brake motor

VOLTAGE - FREQUENCY
(See Paragraph M7.1)

POLE NUMBER
4

MOTOR SIZE
80B ... 355 (IEC motor)
2SB ... 5LA (compact motor)

MOTOR TYPE
BX = IEC 3-phase, class IE3 **MX** = compact 3-phase, class IE3



MOTORE | BRAKE

BE 90LA 4 230/400-50 IP55 CLF B5 W FD 7.5 R AA SB SA 220 .....

OPTIONS

BRAKE SUPPLY

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

RELEASE LEVER ORIENTATION
AA, AB (standard)**, AC, AD**

BRAKE HAND RELEASE
R, RM

BRAKE TORQUE

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

TERMINAL BOX POSITION
(compact motor only)
W (default), **N**, **E**, **S**

MOTOR MOUNTING
− compact motor
IM B5 - IEC motor

INSULATION CLASS
CL F standard
CL H option

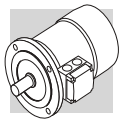
DEGREE OF PROTECTION
IP55 standard (IP56 - option)
IP54, **IP55** brake motor

VOLTAGE - FREQUENCY
(See Paragraph M7.1)

POLE NUMBER
2, **4**, **6**

MOTOR SIZE
63A ... 180L (IEC motor)
05A ... 5L (compact motor)

MOTOR TYPE
BE = IEC 3-phase, class IE2 **ME** = compact 3-phase, class IE2



MOTOR | BRAKE

BN 90LA 4 230/400-50 IP55 CLF B5 W FD 7.5 R AA SB SA 220 .....

OPTIONS

BRAKE SUPPLY

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

RELEASE LEVER ORIENTATION
AA, AB (standard)**, AC, AD**

BRAKE HAND RELEASE
R, RM

BRAKE TORQUE

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

TERMINAL BOX POSITION
(compact motor only)
W (default), **N**, **E**, **S**

MOTOR MOUNTING
− compact motor
IM B5 - IEC motor

INSULATION CLASS
CL F standard
CL H option

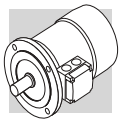
DEGREE OF PROTECTION
IP55 standard (IP56 - option)
IP54, **IP55** brake motor

VOLTAGE - FREQUENCY
(See Paragraph M7.1)

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

MOTOR SIZE
56A ... 200LA (IEC motor)
0B ... 5SB (compact motor)

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

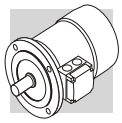
M5.2 Options

(F05)

Description	Catalogue numbers								Availability	Page
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

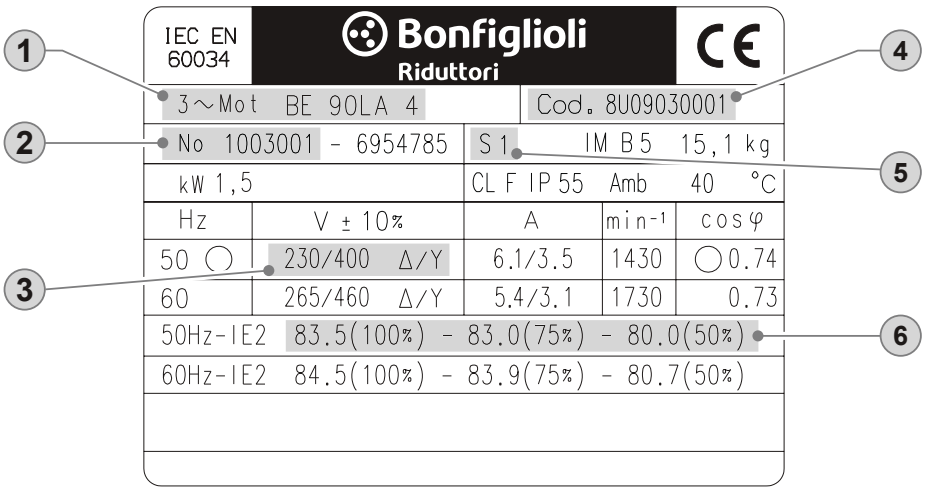
(F06)

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 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 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

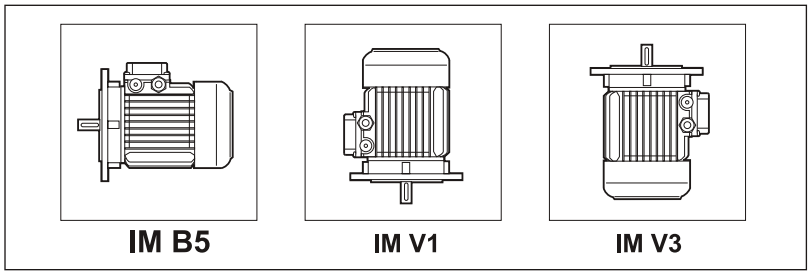
M6.1 Versions

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**).

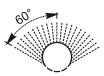
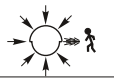
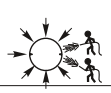
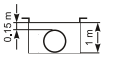
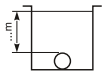
(F09)

		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
1		Protected against extraneous solid bodies having Ø ≥ 50 mm
2		Protected against extraneous solid bodies having Ø ≥ 12.5 mm
3		Protected against extraneous solid bodies having Ø ≥ 2.5 mm
4		Protected against extraneous solid bodies having Ø ≥ 1.0 mm
5		Protected against dust
6		No dust ingress

0		Not protected
1		Protected against vertical water drips
2		Protected against vertical water drips inclined up to 15°
3		Protected against rain
4		Protected against water splashes
5		Protected against jets of water
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

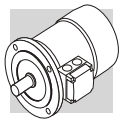
The motors are externally ventilated (IC 411 to CEI EN 60034-6) and are equipped with a plastic fan working in both directions.
The motors must be installed allowing sufficient space between fan cowl and the nearest wall to ensure free air intake and allow access for maintenance purposes on motor and 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)

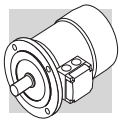
		No. of terminals	Terminal threads
BXN 63 ... BXN 90	**MXN05 ... MXN25**	9	M4
BX 80, BX 90 **BE 63 ... BE 90** **BN 56 ... BN 90**	**MX2, MX3** **ME05 ... ME3** **M05 ... M2**	6	M4
BX 100 ... BX 132 **BE 100 ... BE 132** **BN 100 ... BN 160MR**	**MX3, MX4** **ME3, ME4** **M3 ... M4**	6	M5
BX 160 - BE 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		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		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		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

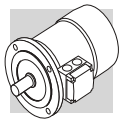
(F12)

	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 pubblication 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) STD	— (CE) FD / FA	CCC	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	✓	✓	✗	✓

Double speed motors at 50Hz

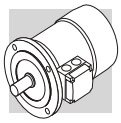
Motor power supply voltage	— (CE)	CCC	CUS
380 - 50	✓	✗	✓
400 - 50	✓	✓	✓
415 - 50	✓	✗	✓
500 - 50	✓	✗	✓

Single speed motors at 60Hz

Motor power supply voltage	— (CE) STD	— (CE) FD / FA	CCC	CUS
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
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) STD	— (CE) FD / FA	CCC	BIS	CUS
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)

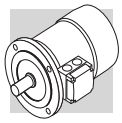
Single speed motors at 50Hz

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) STD	— (CE) FD / FA	CCC	CEL	NBR (*)	BIS	CUS
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**	Δ / 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/ Δ or YY / Y (except 6 pole BN 63 Δ / Y)

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

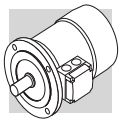
Rated output power BN / M for 60 Hz operation is shown in the following diagram.

(F16)

		P_n [kW]			
		2P	**4P**	**6P**	**8P (*)**
BN 56A	**–**	–	0.07	–	–
BN 56B	**M0B**	–	0.1	–	–
BN 63A	**M05A**	0.21	0.14	0.1	–
BN 63B	**M05B**	0.3	0.21	0.14	–
BN 63C	**M05C**	0.45	0.3	–	–
BN 71A	**–**	0.45	0.3	0.21	0.1
–	**M1SC**	–	–	0.21	–
BN 71B	**M05SD**	0.65	0.45	0.3	0.14
BN 71C	**M1LA**	0.9	0.65	0.45	–
BN 80A	**–**	0.9	0.65	0.45	0.21
BN 80B	**M2SA**	1.3	0.9	0.65	0.30
BN 80C	**M2SB**	1.8	1.3	0.9	–
BN 90S		–	1.3	0.9	0.45
BN 90SA	**–**	1.8	–	–	–
BN 90SB		2.2	–	–	–
BN 90L	**M3SA**	2.5	–	1.3	0.65
BN 90LA		–	1.8	–	–
BN 90LB	**–**	–	2.2	–	–

		P_n [kW]			
		2P	**4P**	**6P**	**8P (*)**
BN 100L	**M3LA**	3.5	–	–	–
BN 100LA		–	2.5	1.8	0.9
BN 100LB	**M3LB**	4.7	3.5	2.2	1.3
BN 112M	**–**	4.7	4.7	2.5	1.8
–	**M3LC**	–	4.7	2.5	–
BN 132S	**M4SA**	–	6.5	3.5	2.5
BN 132SA		6.5	–	–	–
BN 132SB	**M4SB**	8.7	–	–	–
BN 132M	**M4LA**	11	–	–	3.5
BN 132MA		–	8.7	4.7	–
BN 132MB	**M4LB**	–	11	6.5	–
BN 160MR	**M4LC**	12.5	12.5	–	–
BN 160M	**M5SA**	–	–	8.7	–
BN 160MB	**–**	17.5	–	–	–
–	**M5SB**	17.5	17.5	–	–
BN 160L	**–**	21.5	17.5	12.5	–
–	**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	**Pn** - 60 Hz	$\mathbf{M_n}$, $\mathbf{M_a/M_n}$ - 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	1.15	1	1.2
		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)

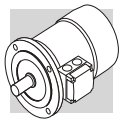
Ambient temperature (°C)	40°	45°	50°	55°	60°
Permitted power as a % of rated power	100%	95%	90%	85%	80%

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 >= 0,75kW and BX/MX >= 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.

ENERGY

CC320B

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

ENERGY

CC320B

BX≥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.

CERTIFIED SAFETY US:CA E473868

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≥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 ≥0.12kW 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 avaiable 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 ≥0.75kW 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 applyed 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

Brazilan 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 ≥ 200K	440/760 - 60 HZ

M7.10 Motors certified for Australia

EECA

Electric motor covered by Australian/NewZeland's energy regulation must be listed in the national database Energyratig. Mootr with EECA option are registered in the previously mentioned database and can be sold in Australia and New Zeland.
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 ≥ 200K	400/690 - 50 Hz

M7.11 Insulation class

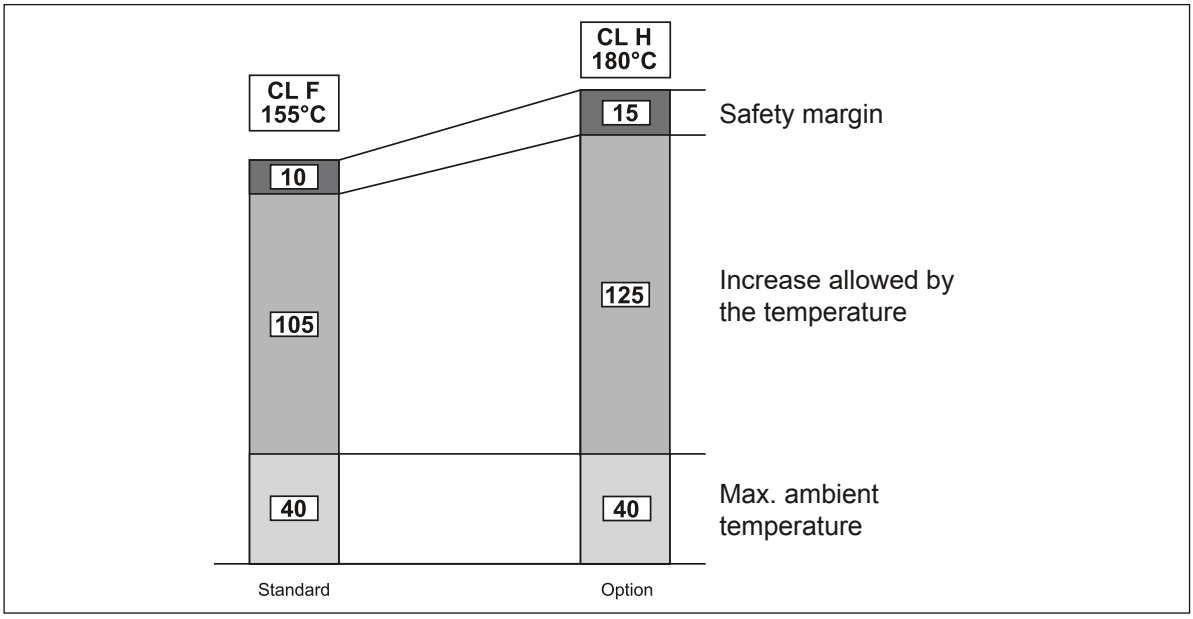
CL F

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≥200 and BX≥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						
	S2			**S3 ***			**S4 - S9**
	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).

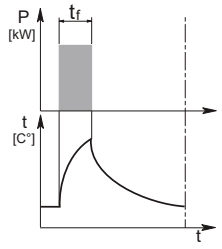
Cyclic duration factor:

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

t_f = work time under constant load
t_r = rest time

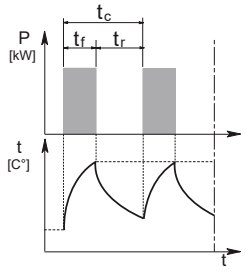
Limited duration duty S2

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:

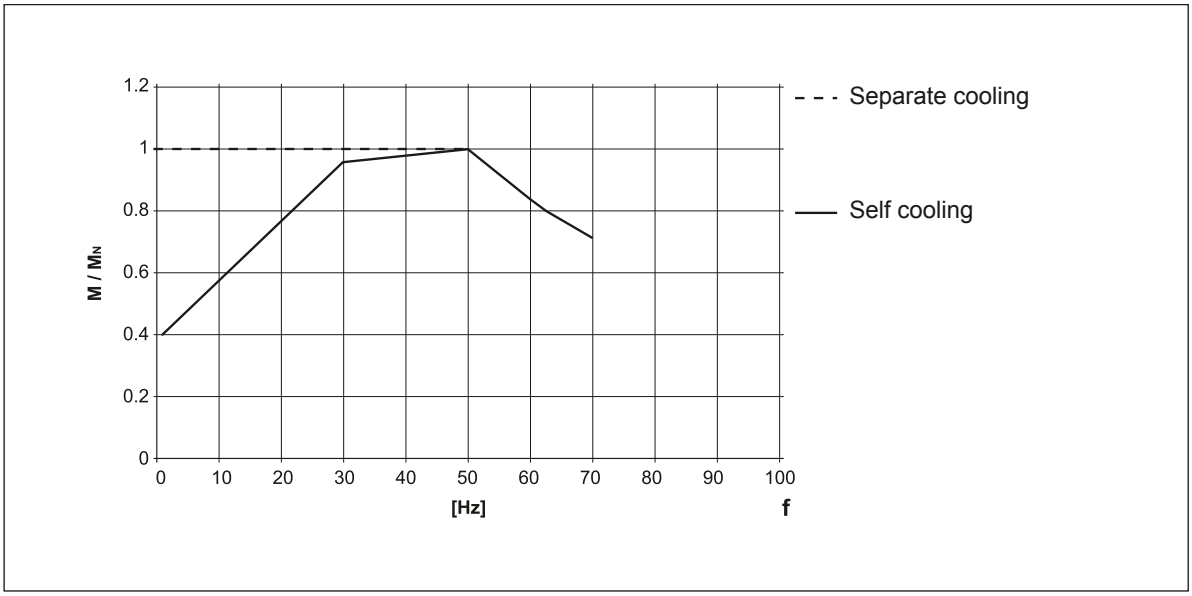
This type of duty is characterized by a sequence of identical operation cycles, each including a constant load operation period and a rest period.
For this type of duty, the starting current does not significantly influence overtemperature.



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 > 0.1µs at motor terminals). Typical torque/speed curves referred to S1 duty for motors with base frequency f_b = 50 Hz is are 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 ($f/_{fb}$). As motor maximum torque decreases with $(f/_{fb})^2$, 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

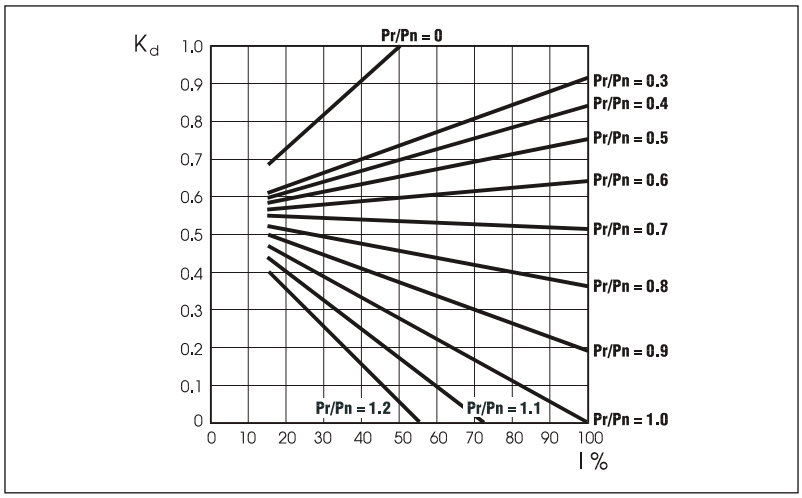
The rating charts of brakemotors lend the permitted number of starts Z_0, based on 50% intermittence and for unloaded operation.
The catalogue value represents the maximum number of starts per hour for the motor without exceeding the rated temperature for the insulation class F.
To give a practical example 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:

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

where:

$K_J = \frac{J_m + J_c}{J_m}$	inertia factor
$K_c = \frac{M_a - M_L}{M_a}$	torque factor
$K_d =$	load factor, see the following table

(F28)



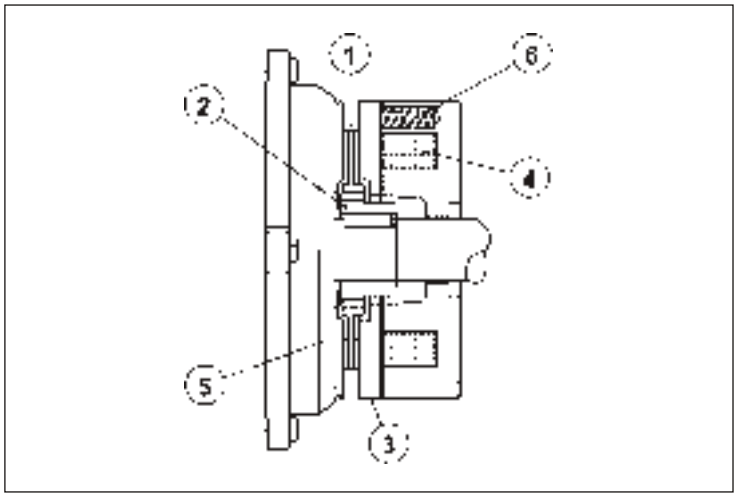
If actual starts per hour is within permitted value (Z) it may be worth checking that braking work is compatible with brake (thermal) capacity Wmax also given in tables (F38), (F41) and dependent on the number of switches (c/h).

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.

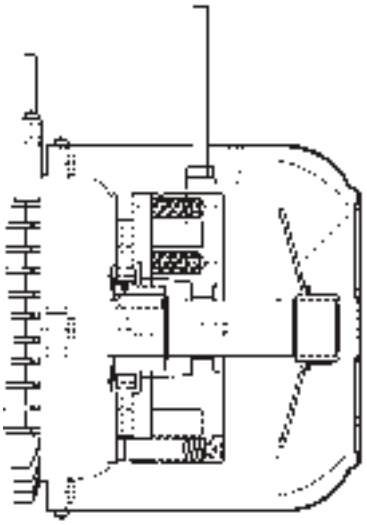
M8.2 Most significant features

- 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

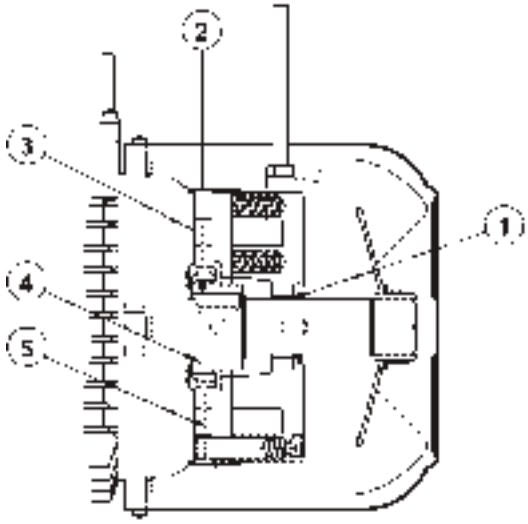
Frame sizes: BXN 63 ... BXN 90, BX 80 ... BX 355M, BX200LAK … BX 355MCK - BE 63 ... BE 180L - BN 63 … BN 200L / MXN 05 ... MXN 25 - MX2SB ... MX5LA - ME05 ... ME5 - M05 ... M5

(F30)



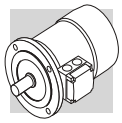
IP 54

(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 degtree 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 shieldand 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)

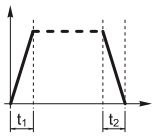
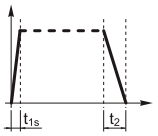
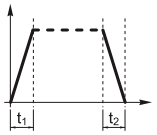
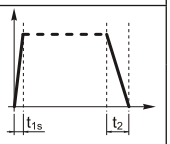
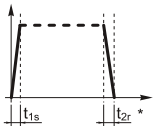
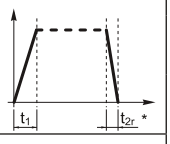
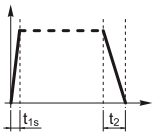
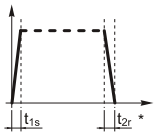
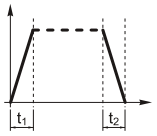
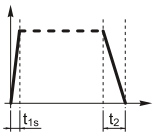
FD brake supply voltages			
Brake power supply voltage V	FD brake		
	Power supply from the motor with rectifier	Separate power supply with rectifier	Power supply without rectifier
24	✗	✗	✓
100	✗	✗	✓
110	✗	✓	✗
115	✗	✓	✗
120	✗	✓	✗
127	✗	✓	✗
180	✗	✗	✓
208	✓	✓	✗
220	✓	✓	✗
230	✓	✓	✓
240	✓	✓	✗
255	✓	✗	✗
265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

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:

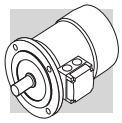
The diode half-wave rectifier (VDC ≈ 0,45 x VAC) is available in versions **NB, SB, NBR** e **SBR**, as detailed in the table below:

(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**		**NBR** 
BX 100 - BE 100 - BN 100	**MX3 - ME3 - M3**	**FD 15**		
—		**FD 55**	**SB** 	**SBR** 
BX 112 - BE 112 - BN 112	**—**	**FD 06S**		
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**		
BX 200LA	**—**	**FD 20**	**NB** 	**SB** 
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**	⛔	

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

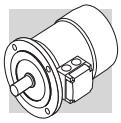
For BXN motors see the “Brake section” on the EVOX catalogue.



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 ±10%, 400Vac ± 10%, 50/60 Hz (with power supply); 100Vdc ±10%, 180Vdc ± 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
				t_1	t_{1s}	t_2	t_{2c}					
	6	4	2	[ms]	[ms]	[ms]	[ms]	10 s/h	100 s/h	1000 s/h	[MJ]	[W]
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 (±15%
s/h = starts per hour

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

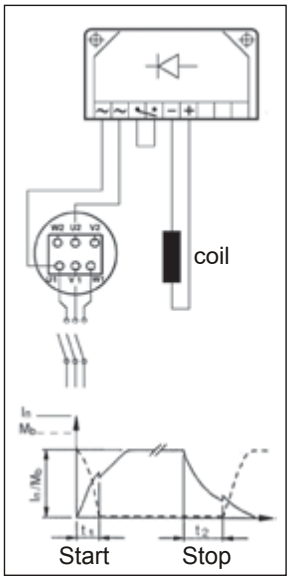
M9.4 FD brake connections

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 VB 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.

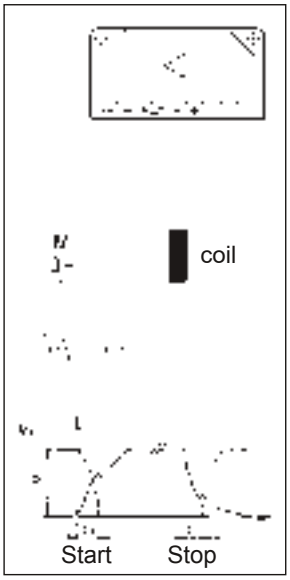
Table (F35+F39) – Brake coil with power supply from motor terminals (DIR) and AC line interruption.
Delayed stop time t_2 and function of motor time constants.
Mandatory when soft-start/stops are required.
Table (F36+F40) – Brake coil with separate power supply (SA) and AC line interruption.
Normal stop 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.

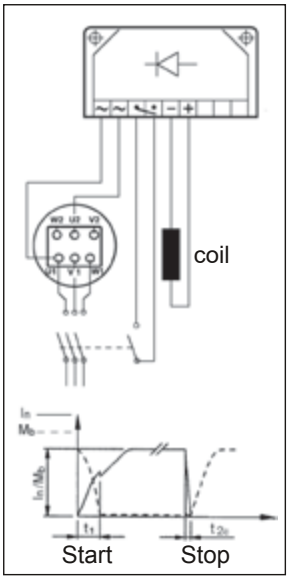
(F35)



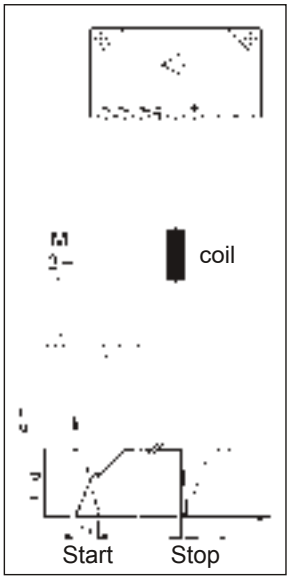
(F36)



(F37)

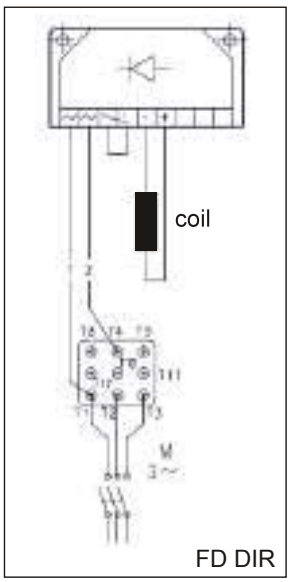


(F38)

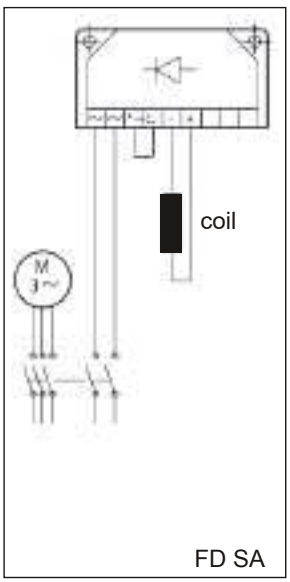


For BXN and MXN motors the FD brake connection scheme is as follows:

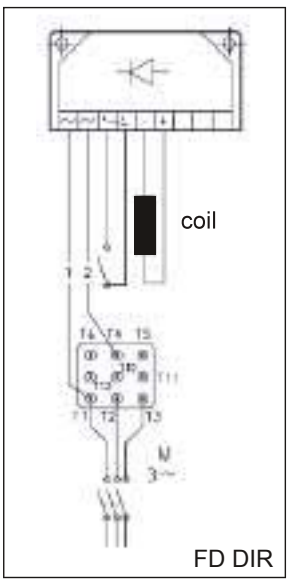
(F39)



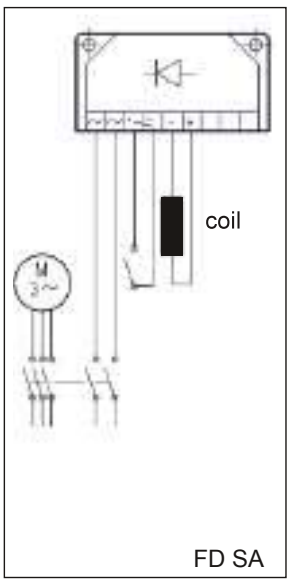
(F40)



(F41)



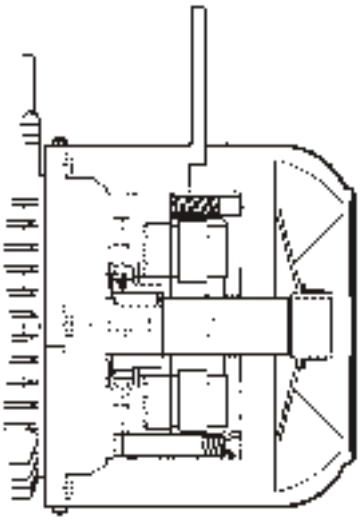
(F42)



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

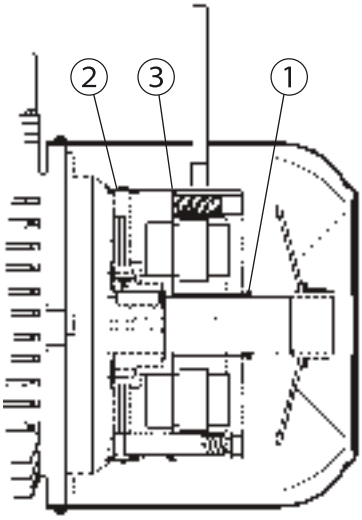
Frame sizes: BXN 63 ... BXN 90, BX 80 ... BX 160L - BE 63 … BE 160L - BN 63 … BN 180M / MXN 05 ... MXN 25 - MX2SB ... MX5LA - ME05 … ME5 - M05 ... M5

(F43)



IP 54

(F44)



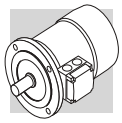
IP 55

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)

FA brake supply voltages		
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 (±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

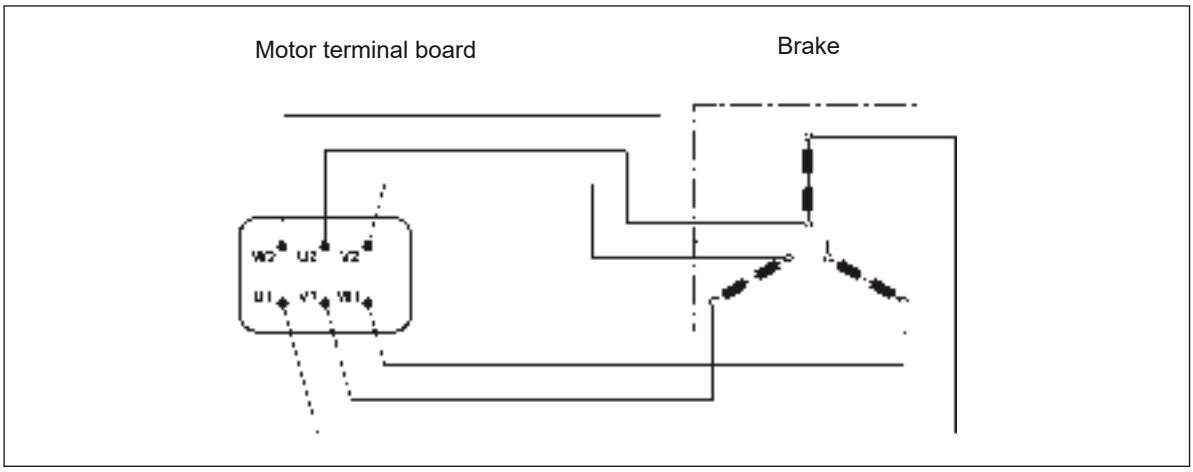
NOTE
Values t_1 and t_2 in the table refer to a brake set at rated torque, medium air gap and rated voltage.

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

M10.4 FA brake connections

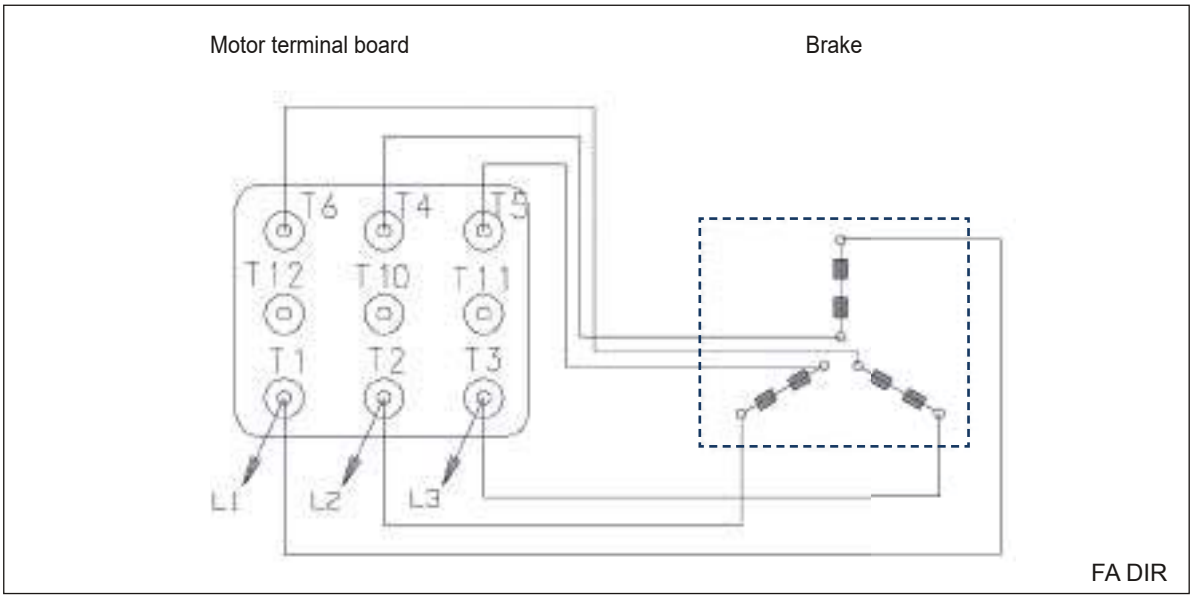
The diagram below shows the wiring when brake is connected directly to same power supply of the motor:

(F47)



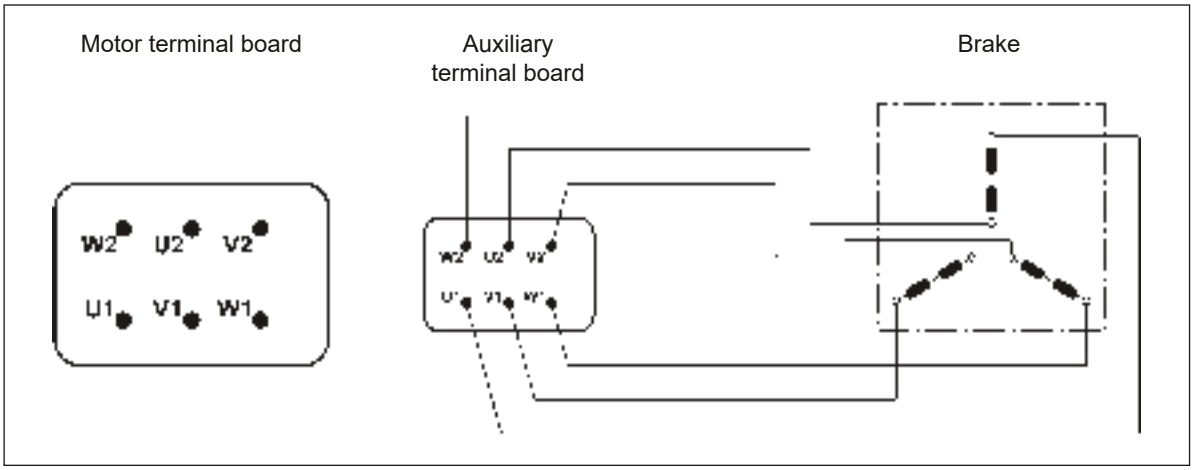
For BXN and MXN motors the FA brake connection scheme is as follows:

(F48)



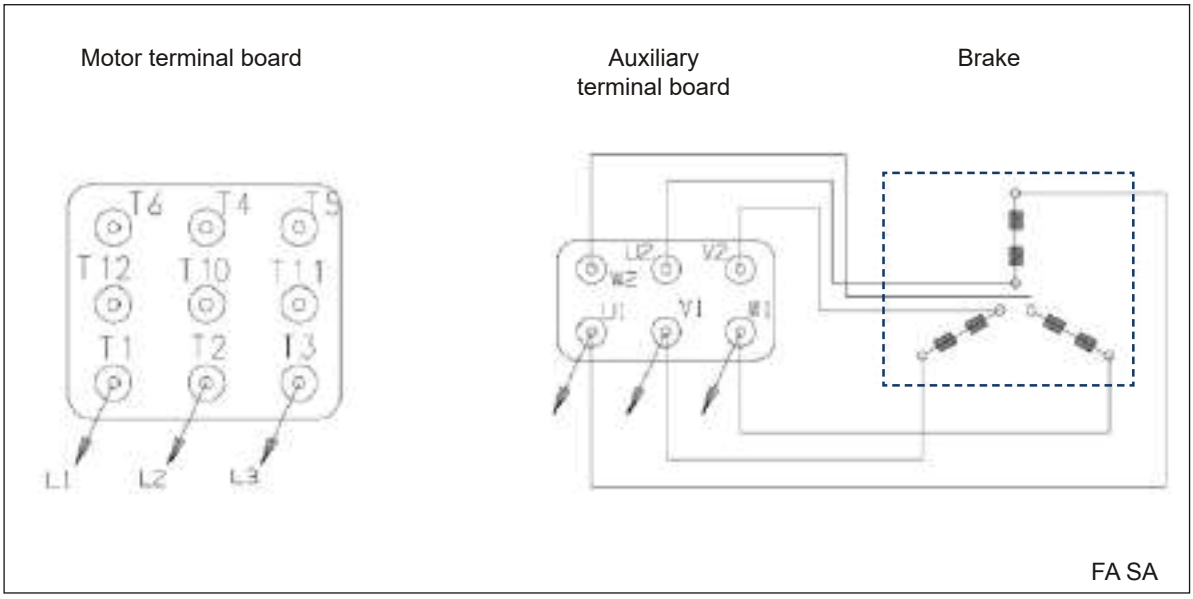
Switch-pole motors and, at request, single-pole motors with separate power supply are equipped with an auxiliary terminal board with 6 terminals for brake connection.
In this version, motors feature a larger terminal box. See diagram below:

(F49)



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

(F50)

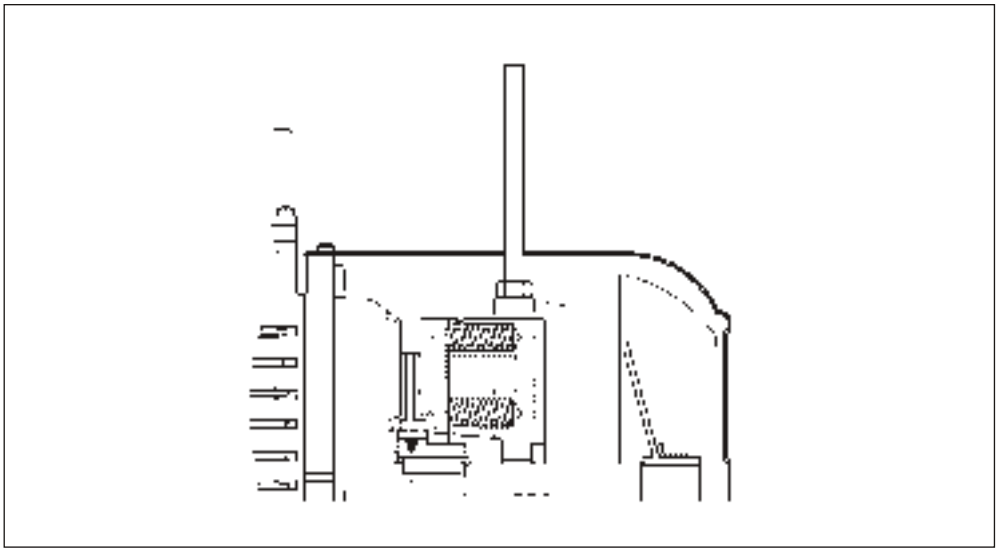


M11 BRAKE RELEASE SYSTEMS

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.

(F51)

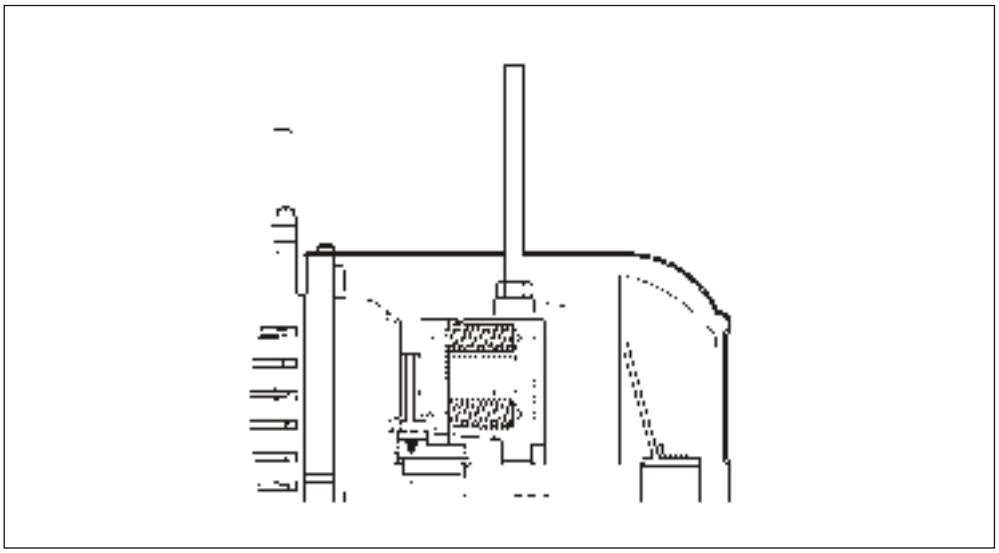
R



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

(F52)

RM



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:

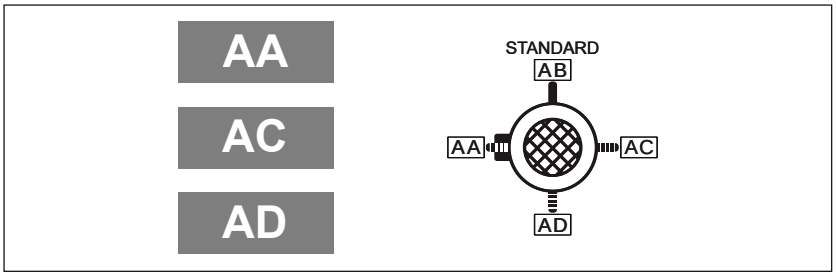
(F53)

	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

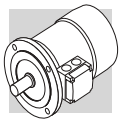
Separate AC brake supply

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."

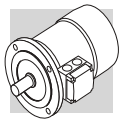
M12.3 Thermal protective devices

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 +-0,3°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.

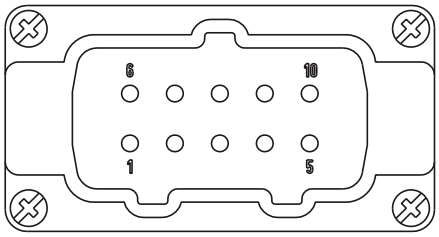
M12.7 Plug connector

CON

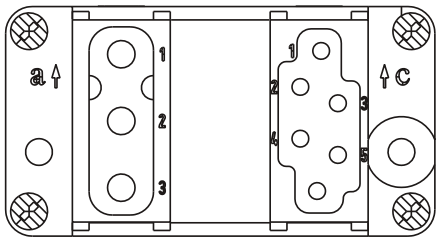
Three types of connectors (CON 1, CON 2, CON 3) are provided; they can be mounted in two different positions: right side of terminal box cover (C1D, C2D, C3D); left side of terminal box cover (C1S, C2S, C3S).
The option CON is applicable to single speed BN and M motors (2, 4, 6, 8 poles), and BX / BE 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

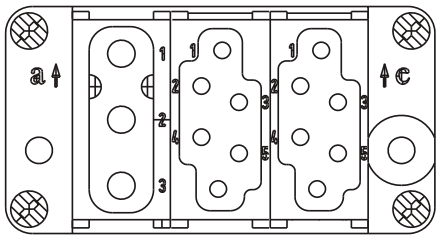
(F56)

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)

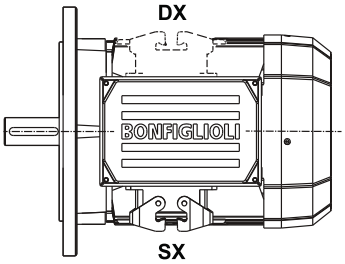
Option	CON 2
Motor size	**BX 80 ... BX 132 / MX2, MX3 / BE 63 ... BE 132 / ME05 ... ME4 BN 63 … BN 160MR / M05 ... M4**
Connector view	
Type of connector	Harting Han Modular
Housing	Han EMC 10B with 2 levers
Module type	Module C + Module E + Module E
Numbers of pins - nominal current	3 x 36A / 6 x 16A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

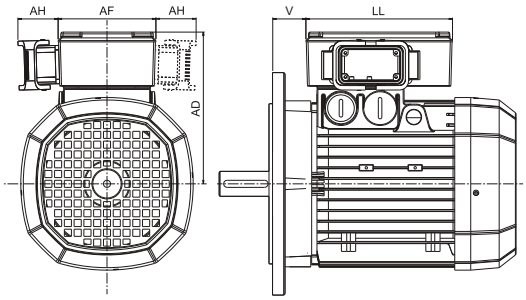
(F59)

Connector orientation



(F60)

Motors without brake dimensions

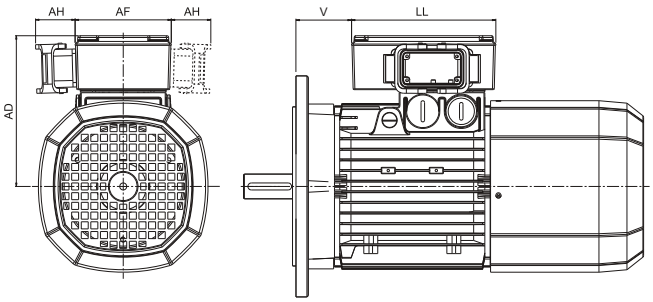


		AD (mm)	**AF** (mm)	**AH** (mm)	**LL** (mm)	**V**(*) (mm)
BE 63 - BN 63	**ME05 - M05**	136	110	45	165	4.5
BE 71 - BN 71	**ME1 - M1**	149	110	45	165	15.5
BX 80 - BE 80 - BN 80	**MX2 - ME2 - M2**	160	110	45	165	16.5
BX 90 - BE 90 - BN 90	**MX3**	162	110	45	165	31.5
BX 100 - BE 100 - BN 100	**MX3 - ME3 - 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

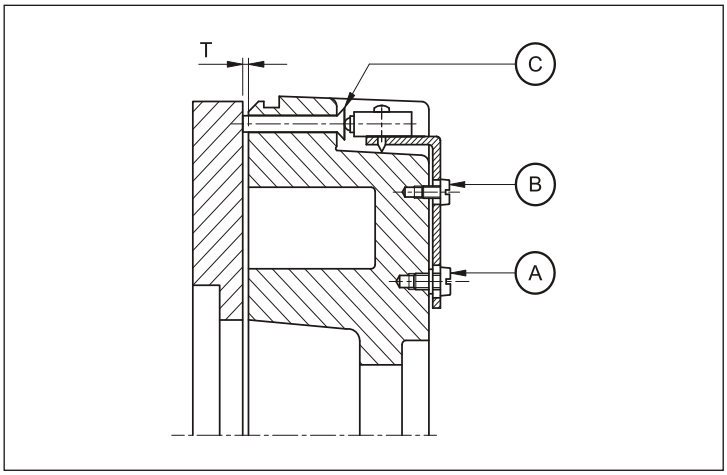
(*) Dimension valid only for motors BN.and BX

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 f xing 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

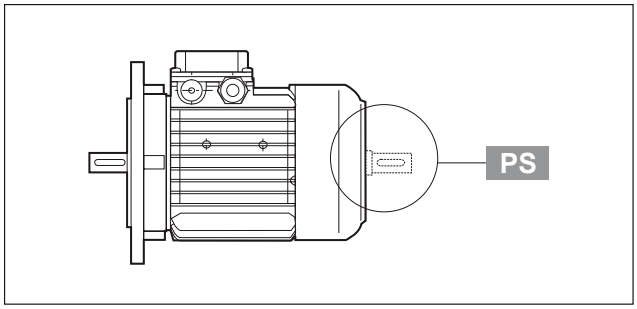
When option **TP** is specified, motor windings receive additional protection for operation in high humidity and temperature conditions.

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

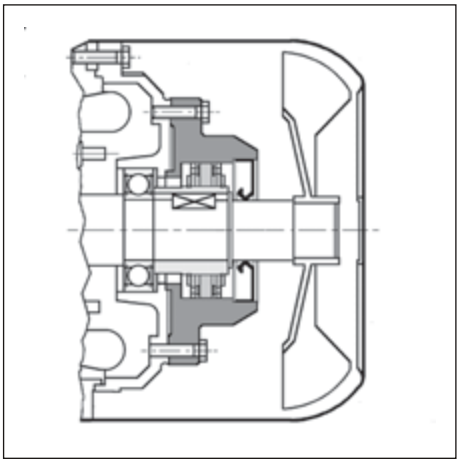
AL **AR**

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 dimensis 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

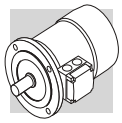
RV

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 noload 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			
		Δ L_1	**Δ L_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 **BE 160 - BE 180** **BN 160 - BN 180 - BN 200**	**MX5** **ME5** **M5**	184	184
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 ≥ 200 and BX ≥ 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	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**		50	180	1.25 / 0.72
BX 180 - BE 180 **BN 180L ... BN 200L**	**–**			250	1.51 / 0.87
BX 200 ... BX 250 **BX 200K ... BX 250K**	**–**	3 ~ 400Δ / 690Y		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)

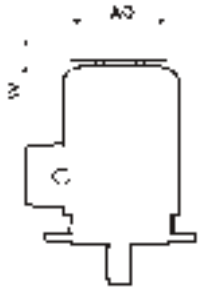
		V a.c. ±10%	Hz	P [W]	I [A]
BN 71	**M1**	1 ~ 230	50 / 60	22	0.12
BN 80	**M2**			22	0.12
BN 90	**–**			40	0.30
BN 100	**M3**	3 ~ 230Δ / 400Y		40	0.26 / 0.09
BN 112	**–**			50	0.26 / 0.15
BN 132 ... BN 160MR	**M4L**			110	0.38 / 0.22

M12.16 Rain canopy

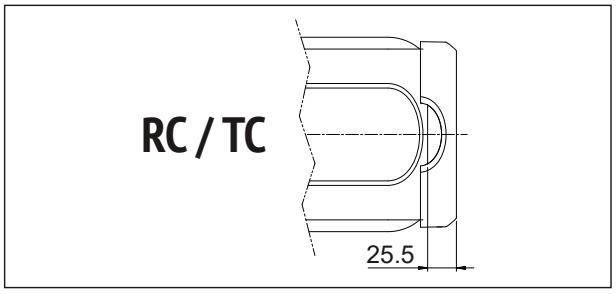
RC

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.



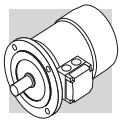
M12.17 Textile canopy

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.

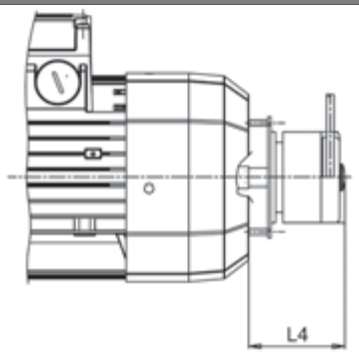
Note: EN7 and EN8 available only for BX≥200

(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, $\overline{Z}$)	—	—	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)

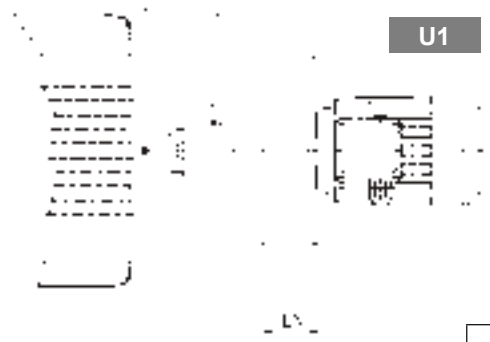
EN1, EN2, EN3, EN4, EN5, EN6, EN7, EN8



		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)

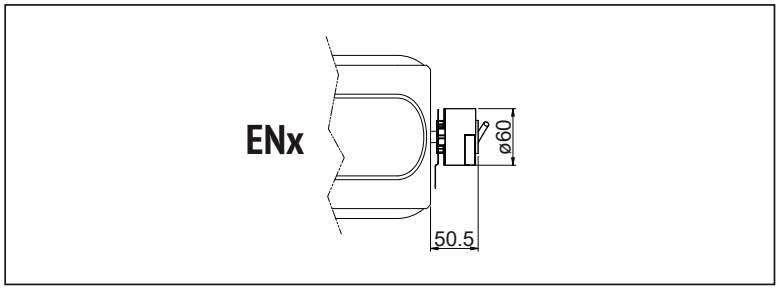
EN_ + U1



		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.

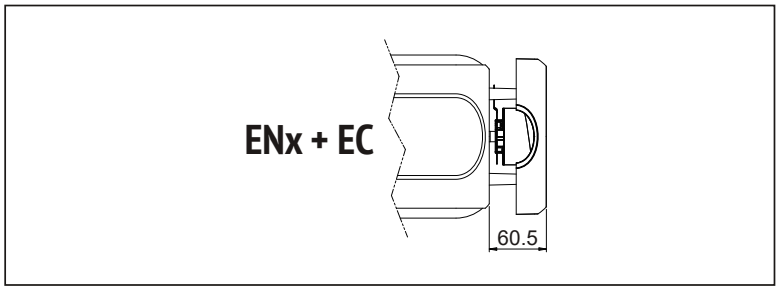
For EN on BXN/MXN motors see the scheme below.

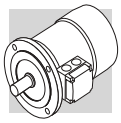


M12.19 EC - Encoder canopy

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

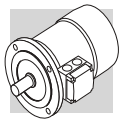
C_

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 ≥ 200 and BX ≥ 200K Motors are standardly supplied in this colour with C3 protection unless specified diffrently.

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

M12.24 Certificates

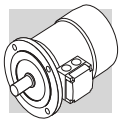
ACM

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≥200 and BX≥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

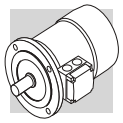
(F77)

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		
	5.5	BN 132SA 2	BE 132SA 2		M 4SA 2	ME 4SA 2	
	7.5	BN 132SB 2	BE 132SB 2		M 4SB 2	ME 4LA 2	
	9.2	BN 132M 2	BE 132MB 2		M 4LA 2	ME 4LB 2	
	11	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
	0.18	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
	0.55	BN 71C 4				M 1LA 4			
		BN 80A 4	BE 80A 4		BXN 80MA 4				MXN 20MA 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



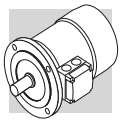
(F79)

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					

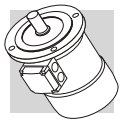


(F81)

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
	0.55	BN 71C 4				M 1LA 4			
		BN 80A 4	BE 80A 4		BXN 80MA 4				MXN 20MA 4
	0.75	BN 80B 4	BE 80B 4	BX 90SR 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	
	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	
	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 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		
	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			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						



4 P	1500 min^{-1} - S1	50 Hz - IE3

CE

															d.c. brake						a.c. brake				
															FD						FA				
P_n		n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA code	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.12	**BXN 63MA 4**	1407	0.8	0.47	64.8	60.3	52.5	0.58	3.4	2.9	1.7	H	1.82	4.6	**FD 02**	1.8	8900	11000	2.4	6.3	**FA 02**	1.8	11000	2.4	6.1
0.18	**BXN 63MB 4**	1373	1.3	0.61	69.9	68.8	63.3	0.61	3.5	3.1	1.8	G	2.92	5.7	**FD 02**	3.5	7000	9000	3.5	7.4	**FA 02**	3.5	9000	3.5	7.2
0.25	**BXN 71MA 4**	1388	1.7	0.67	73.5	72.8	67.9	0.74	4.8	1.6	2.4	H	6.28	6.5	**FD 53**	5	5700	8100	7.4	9.2	**FA 03**	5	8100	7.4	8.9
0.37	**BXN 71MB 4**	1429	2.5	1.05	77.3	76.0	70.8	0.66	6.3	2.6	2.5	L	9.70	8.3	**FD 53**	5	6400	9900	10.8	11.0	**FA 03**	5	9900	10.8	10.7
0.55	**BXN 80MA 4**	1447	3.6	1.31	80.8	80.9	77.4	0.75	6.1	1.9	1.6	J	17.78	10.7	**FD 04**	10	2500	5200	19.8	14.6	**FA 04**	10	5200	19.8	14.5
0.75	**BXN 80MB 4**	1451	4.9	1.63	82.5	85.1	82.5	0.78	7.4	2.4	2.0	K	28.89	14.4	**FD 04**	15	2000	4100	30.8	18.3	**FA 04**	15	4100	30.8	18.2
1.1	**BXN 90S 4**	1448	7.3	2.38	84.1	85.9	83.5	0.78	7.3	2.4	3.4	J	31.76	15.6	**FD 05**	26	2800	6600	35.8	21.6	**FA 05**	26	6600	35.8	22.3
1.5	**BXN 90L 4**	1441	9.9	3.44	85.3	84.3	81.7	0.75	6.7	2.6	2.4	J	34.96	16.6	**FD 05**	26	1400	3100	39.1	22.6	**FA 05**	26	3100	39.1	23.3

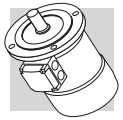
Note: for more details on the available energy certifications look at the catalog's dedicated section.

4 P	1500 min^{-1} - S1	50 Hz - IE3

CE

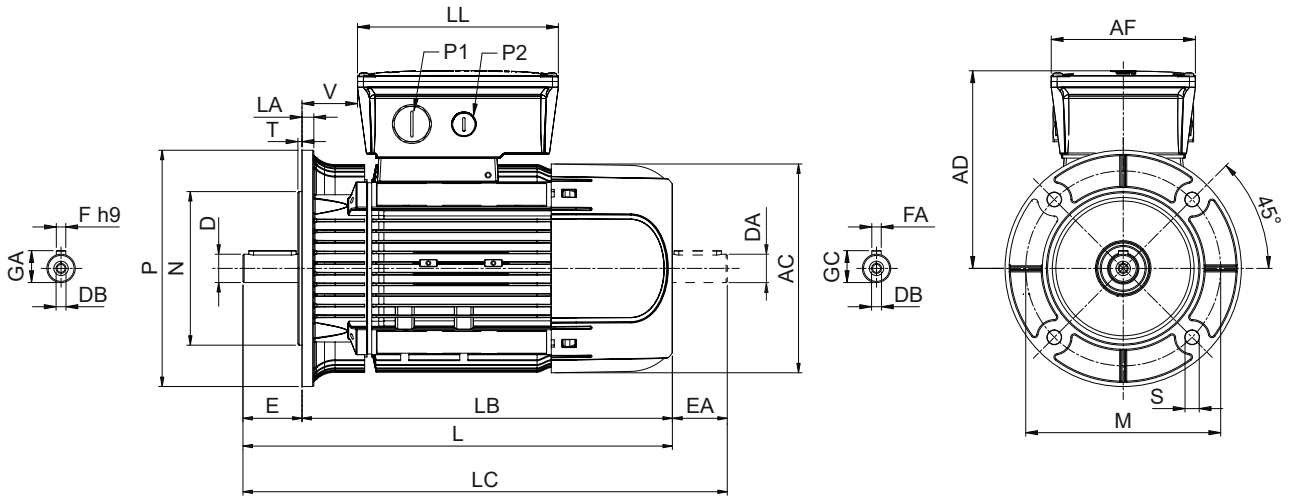
															d.c. brake						a.c. brake				
															FD						FA				
P_n		n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA code	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.12	**MXN 05MA 4**	1407	0.8	0.47	64.8	60.3	52.5	0.58	3.4	2.9	1.7	H	1.82	4.6	**FD 02**	1.8	8900	11000	2.4	6.3	**FA 02**	1.8	11000	2.4	6.1
0.18	**MXN 05MB 4**	1373	1.3	0.61	69.9	68.8	63.3	0.61	3.5	3.1	1.8	G	2.92	5.7	**FD 02**	3.5	7000	9000	3.5	7.4	**FA 02**	3.5	9000	3.5	7.2
0.25	**MXN 10MA 4**	1388	1.7	0.67	73.5	72.8	67.9	0.74	4.8	1.6	2.4	H	6.28	6.5	**FD 53**	5	5700	8100	7.4	9.2	**FA 03**	5	8100	7.4	8.9
0.37	**MXN 10MB 4**	1429	2.5	1.05	77.3	76.0	70.8	0.66	6.3	2.6	2.5	L	9.70	8.3	**FD 53**	5	6400	9900	10.8	11.0	**FA 03**	5	9900	10.8	10.7
0.55	**MXN 20MA 4**	1447	3.6	1.31	80.8	80.9	77.4	0.75	6.1	1.9	1.6	J	17.78	10.7	**FD 04**	10	2500	5200	19.8	14.6	**FA 04**	10	5200	19.8	14.5
0.75	**MXN 20MB 4**	1451	4.9	1.63	82.5	85.1	82.5	0.78	7.4	2.4	2.0	K	28.89	14.4	**FD 04**	15	2000	4100	30.8	18.3	**FA 04**	15	4100	30.8	18.2

Note: for more details on the available energy certifications look at the catalog's dedicated section.



M15 MOTORS DIMENSIONS BXN-MXN

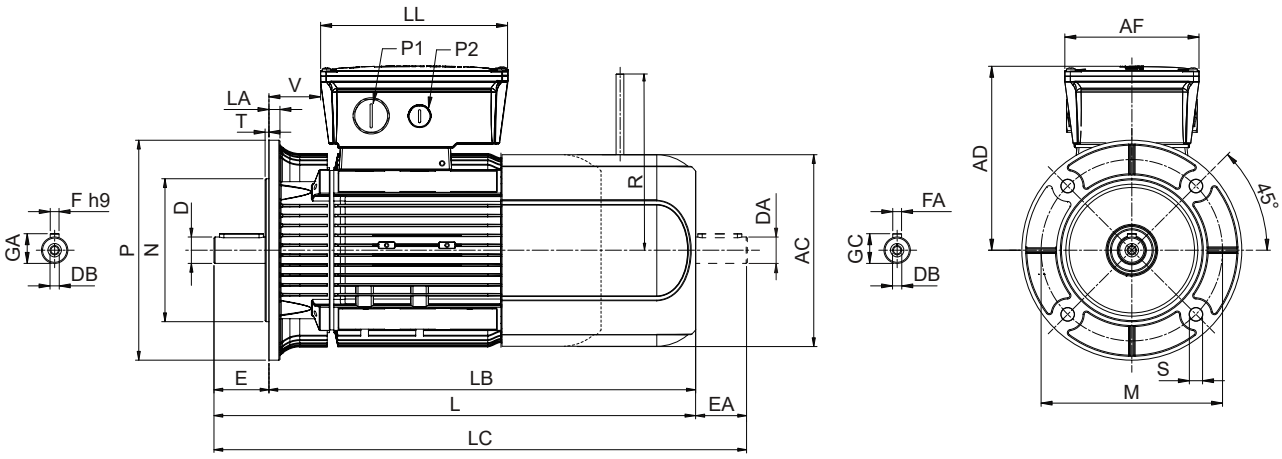
BXN - IM B5 - CE CUS/UKCA



	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		3.5		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		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	43

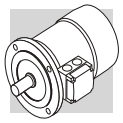
N.B.: 1) These values refer to the rear shaft end (PS).

BXN - IM B5 - FD/FA - CE - CUS/UKCA

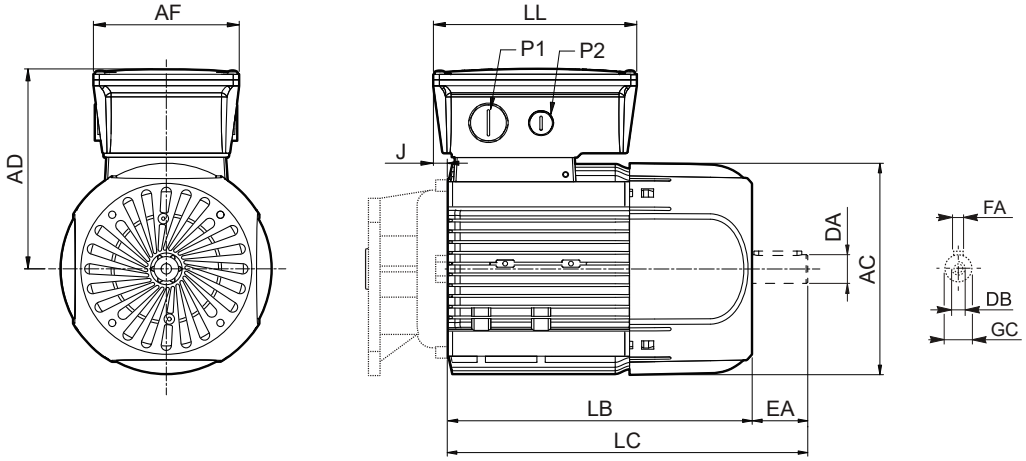


	Shaft					Housing						Motor									
	D **DA**	**E** **EA**	**DB**	**GA** **GC**	**F** **FA**	**M**	**N**	**P**	**S**	**T**	**LA**	**AC**	**L**	**LB**	**LC**	**AD**	**AF**	**LL**	**V**	**R**	
																				FD	**FA**
BXN 63	11 9(1)	23 20(1)	M4 M3(1)	12.5 10.2(1)	4 3(1)	115	95	140	9.5	3	9	122	328	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		3.5		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		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).

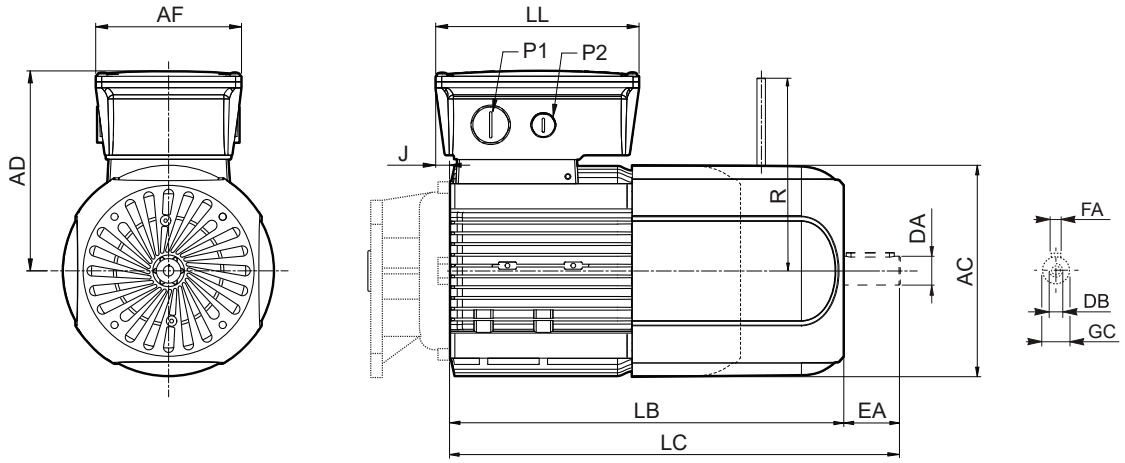


MXN

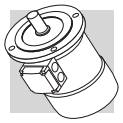


	Rear shaft end					Motor						
	DA	**EA**	**DB**	**FA**	**GC**	**AC**	**LB**	**LC**	**AF**	**LL**	**J**	**AD**
MXN 05	9	20	M3	3	10.2	123	211.5	231.5	112	165	9.5	136
MXN 10	11	23	M4	4	12.5	138	216	239	112	165	11.5	137
MXN 20	14	30	M5	5	16	158	255.5	285.5	112	165	10.5	146

MXN_FD/FA



	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



4 P	1500 min^{-1} - S1	50 Hz - IE3

CE

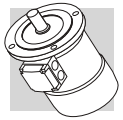
															d.c. brake				a.c. brake			
															FD				FA			
P_n		n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA code	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	kgm^2			Nm	kgm^2	
0.75	**BX 80B 4**	1425	5.0	1.61	82.5	83.9	83.2	0.81	6.5	2.0	1.8	J	35	16	**FD 04**	15	37	19.9	**FA 04**	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	2.2	J	27	16	**FD 14**	15	29	20.2	**FA 14**	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	1.9	J	31	17	**FD 05**	26	35	23	**FA 05**	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	2.4	K	58	24	**FD 15**	40	62	31	**FA 15**	40	62	31
3	**BX 100LB 4**	1445	19.8	6.7	87.7	87.7	86.0	0.74	7.6	3.9	2.6	K	73	29	**FD 15**	40	77	36	**FA 15**	40	77	36
4	**BX 112M 4**	1445	26	8.1	88.6	88.9	87.6	0.8	8.1	3.8	2.5	J	130	38	**FD 06S**	60	139	48	**FA 06S**	60	139	50
5.5	**BX 132SB 4**	1460	36	10.6	89.6	89.2	88.8	0.83	8.2	3.6	2.3	J	310	57	**FD 56**	75	320	70	**FA 06**	75	320	71
7.5	**BX 132MA 4**	1460	49	15.0	90.4	90.9	90.2	0.80	8.4	3.8	2.5	K	360	67	**FD 06**	100	370	80	**FA 07**	100	370	85
9.2	**BX 160MA 4**	1465	60	17.8	91.0	92.1	91.7	0.82	7.9	3.6	2.1	J	650	95	**FD 08**	170	725	125	**FA 08**	170	725	124
11	**BX 160MB 4**	1465	72	20.5	91.4	92.9	92.5	0.84	7.8	3.4	1.9	J	780	110	**FD 08**	170	855	140	**FA 08**	170	855	139
15	**BX 160L 4**	1465	98	28.1	92.1	93.2	92.6	0.82	9.0	4.1	2.3	K	890	121	**FD 08**	200	965	151	**FA 08**	200	965	150
18.5	**BX 180M 4**	1480	119	32.9	92.6	94.1	93.1	0.85	11.3	2.6	2.3	M	1560	155	**FD 09**	300	1760	195				
22	**BX 180L 4**	1475	142	38.2	93.0	93.6	92.8	0.88	10.2	2.5	2.0	L	1660	163	**FD 09**	300	1860	203				

Note: for more details on the available energy certifications look at the catalog's dedicated section.

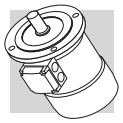
4 P	1500 min^{-1} - S1	50 Hz - IE3

															d.c. brake				a.c. brake			
															FD				FA			
P_n kW		n min^{-1}	M_n Nm	In 400V A	η% 100%	η% 75%	η% 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	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	193.2	54.8	93.6	93.9	93.4	0.84	7.5	2.7	3.2	N/A	3850	292	**FD20**	260	3910	317				
37	**BX 225SA 4**	1482	238.6	68.9	93.9	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	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	0.84	7.1	2.9	3.4	N/A	6940	406	**FD30**	1000	7540	452				
75	**BX 280SA 4**	1485	483	133	95	95.2	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	95.5	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	95.5	95	0.84	7	2.1	3	N/A	24300	930	**FD30**	1000	24900	976				
132	**BX 315SB 4**	1488	847	231	95.6	95.9	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	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	0.86	6.8	2.4	3	N/A	39000	1220	**FD250**	2500	41400	1390				
250	**BX 355MA 4**	1491	1601	435	96	96	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	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	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.



4 P	1500 min^{-1} - S1	50 Hz - IE3



EECA

															d.c. brake				a.c. brake			
															FD				FA			
P_n kW		n min^{-1}	M_n Nm	In 400V A	η% 100%	η% 75%	η% 50%	cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	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
30	**BX 200LAK 4**	1483	193	55.7	94.7	95.1	95	0.82	8.3	3	3.3	N/A	3660	319	**FD 8**	400	3940	337				
37	**BX 225SAK 4**	1482	238	65.9	95.1	95.5	95.4	0.85	7.7	2.8	3.1	N/A	5360	398	**FD 9**	600	5720	426				
45	**BX 225SBK 4**	1481	290	80.4	95.2	95.6	95.6	0.85	7.9	2.8	3.2	N/A	5360	398	**FD 9**	600	5720	426				
55	**BX 250MAK 4**	1485	354	98.9	95.6	95.8	95.5	0.84	7.9	3	3.3	N/A	9330	476	**FD 10**	800	10080	521				
75	**BX 280SAK 4**	1487	482	134	95.9	96.2	96.1	0.84	7.3	2.5	2.8	N/A	15000	665	**FD 1000**	1000	15360	771				
90	**BX 280SBK 4**	1487	578	161	96.2	96.4	96.1	0.84	7.9	2.9	3	N/A	18500	725	**FD 1000**	1000	18860	831				
110	**BX 315SAK 4**	1491	704	194	96.8	97	96.7	0.84	8.3	2.4	3.1	N/A	29000	1000	**FD 1000**	1000	29360	1106				
132	**BX 315SBK 4**	1490	846	234	96.9	97.1	96.8	0.84	8.1	2.6	3.2	N/A	32000	1065	**FD 1600**	1600	32500	1233				
160	**BX 315SCK 4**	1490	1025	279	96.7	96.9	96.6	0.86	8.2	2.7	3	N/A	39000	1220	**FD 1600**	1600	39500	1388				
200	**BX 355SAK 4**	1491	1281	345	96.6	96.7	96.4	0.87	7.3	2.1	2.7	N/A	59000	1610	**FD 2500**	2500	59500	1778				
250	**BX 355MAK 4**	1491	1601	435	96	96	95.6	0.86	6.4	2.1	2.9	N/A	69000	1780	**FD 2500**	2500	69500	1948				
315	**BX 355MBK 4**	1491	2017	550	96	96.1	95.7	0.85	7.3	2.4	3.3	N/A	72000	1820	**FD 2500**	2500	72500	1988				
355	**BX 355MCK 4**	1490	2275	616	96	96.2	95.8	0.86	6.3	2.3	2.8	N/A	84000	2140	**FD 2500**	2500	84500	2308				

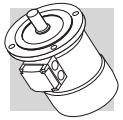
Note: for more details on the available energy certifications look at the catalog's dedicated section.

4 P	1800 min^{-1} - S1	60 Hz - Nema Premium

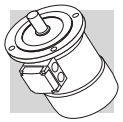
ENERGY

															d.c. brake				a.c. brake			
															FD				FA			
P_n		n	M_n	In 460V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA code	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	kgm^2			Nm	kgm^2	
0.75	**BX 90SR 4**	1755	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	**BX 90S 4**	1740	6.0	2.15	86.5	85.9	83.0	0.74	8.2	4.1	2.8	K	27	16	**FD 14**	15	29	20.2	**FA 14**	15	29	20.1
1.5	**BX 90LA 4**	1735	8.3	2.91	86.5	86.5	84.4	0.75	7.4	3.6	2.5	K	31	17	**FD 05**	26	35	23	**FA 05**	26	35	23.7
2.2	**BX 100LA 4**	1760	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	**BX 100LB 4**	1750	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	**BX 112M 4**	1760	20	6.7	89.5	89.5	89.1	0.77	10.4	4.7	3.4	M	130	38	**FD 06S**	60	139	48	**FA 06S**	60	139	50
5.5	**BX 132SB 4**	1770	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	**BX 132MA 4**	1770	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	**BX 160MA 4**	1770	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	**BX 160MB 4**	1770	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	**BX 160L 4**	1770	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
18.5	**BX 180M 4**	1780	99	28.6	93.6	94.5	93.2	0.85	13.0	2.9	2.7	N	1560	155	**FD 09**	300	1760	195				
22	**BX 180L 4**	1775	118	33.1	93.6	94.2	93.1	0.87	11.5	2.8	2.4	M	1660	163	**FD 09**	300	1860	203				

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

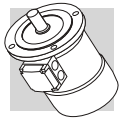


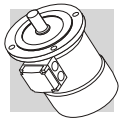
															d.c. brake				a.c. brake			
															FD				FA			
P_n		n	M_n	In 460V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA code	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	kgm^2			Nm	kgm^2	
30	**BX 200LAK 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				
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				
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				
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				
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				
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				
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				
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				
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				
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				
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				
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				
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				

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	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA code	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	kgm^2			Nm	kgm^2	
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	**FD 04**	15	37	19.9	**FA 04**	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	**FD 15**	15	26	24	**FA 15**	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	**FD 15**	26	47	27	**FA 15**	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	**FD 15**	40	62	31	**FA 15**	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	**FD 15**	40	77	36	**FA 15**	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	**FD 56**	75	235	58	**FA 06**	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	**FD 56**	75	320	70	**FA 06**	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	**FD 06**	100	370	80	**FA 07**	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	**FD 08**	170	725	125	**FA 08**	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	**FD 08**	170	855	140	**FA 08**	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	**FD 08**	200	965	151	**FA 08**	200	965	150



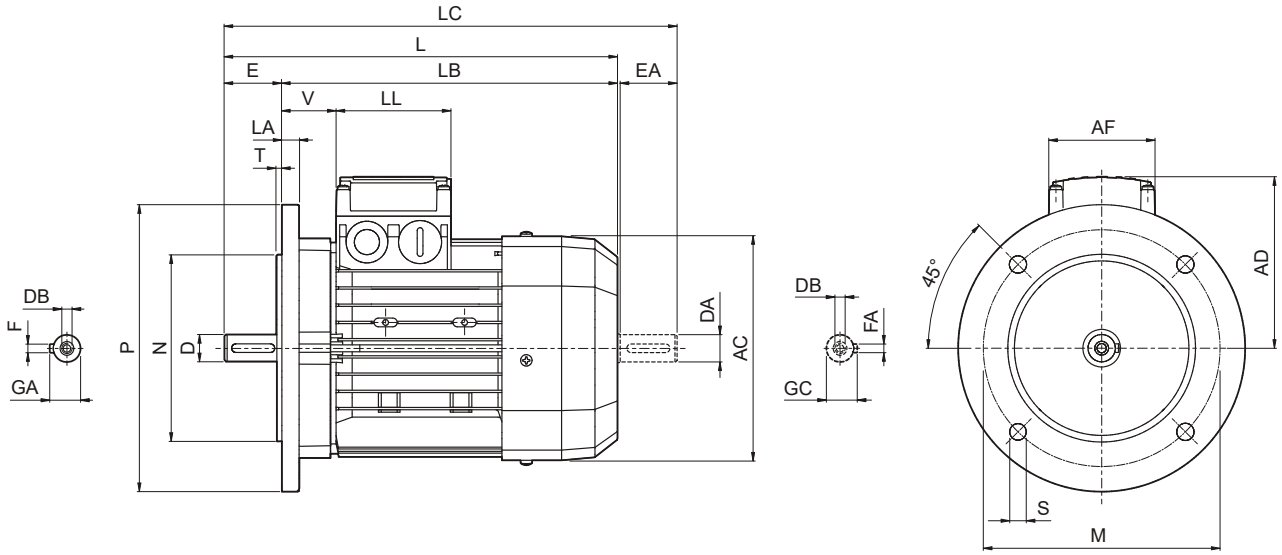


4 P	1800 min^{-1} - S1	60 Hz - IE3

															d.c. brake				a.c. brake			
															FD				FA			
P_n	—	n	M_n	In 460V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA code	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5	Mod	M_b	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	kgm^2			Nm	kgm^2	
0.75	**MX 2SB 4**	1755	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**	1755	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**	1755	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**	1760	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**	1750	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**	1770	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**	1770	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**	1770	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**	1770	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**	1770	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**	1770	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

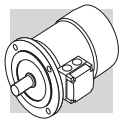
M17 MOTORS DIMENSIONS BX-MX

BX - IM B5 - CE/CCC

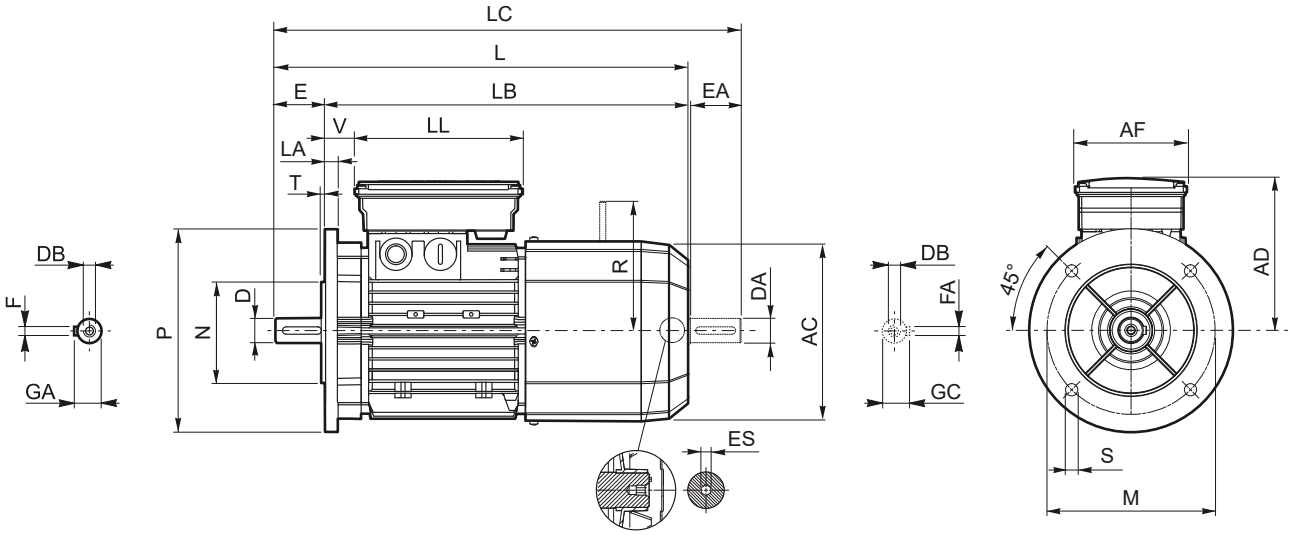


	Shaft					Flange						Motor							
	D **DA**	**E** **EA**	**DB**	**GA** **GC**	**F** **FA**	**M**	**N**	**P**	**S**	**T**	**LA**	**AC**	**L**	**LB**	**LC**	**AD**	**AF**	**LL**	**V**
BX 80 B	19 14(1)	40 30(1)	M6 M5(1)	21.5 16(1)	6 5(1)	165	130	200	11.5	3.5	11.5	156	320	280	351	119	74	80	38
BX 90 S	24 19(1)	50 40(1)	M8 M6(1)	27 21.5 (1)	8 6(1)							176	326	276	368	133	98	98	44
BX 90 LA																			
BX 100 LA	28 24(1)	60 50(1)	M10 M8(1)	31 27(1)	8 8(1)	215	180	250	14	4	14	195	410	350	462	142			50
BX 100 LB																			
BX 112 M											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	493	413	556	193	118	118	58
BX 132 MA													528	448	591				
BX 160 MA	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
BX 160 MB													640	530	724				
BX 160 L																			
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 200LA	55 45(1)		M20 M20(1)	59 48.5(1)	16 14(1)	350	300	400	19		20	423	821	711	934	328	300	311	55
BX 225SA	60 55(1)	140 110(1)		64 59(1)	18 16(1)	400	350	450				465	879	739	1001	348			48
BX 225SB																			
BX 250MA	65 55(1)			69 59(1)		500	450	550			24	514	884	744	1010	376			
BX 280SA	75 65(1)	140 140(1)		79.5 69(1)	20 18(1)				18		23	567	1088	948	1238	482	434	306	43
BX 280SB																			
BX 315SA	80 75(1)	170 140(1)		85 79.5(1)	22 20(1)	600	550	660	23	6	25	645	1204	1034	1352	537	473	347	42
BX 315SB																			
BX 315SC																			
BX 315MA	90 75(1)		M24 M20(1)	95 79.5(1)	25 20(1)								1315	1145	1463				
BX 355MA	100 75(1)	210 170(1)		106 79.5(1)	28 20(1)	740	680	800				740	1479	1269	1659	603	694	413	50
BX 355MB																			
BX 355MC																			

N.B.: 1) These values refer to the rear shaft end (PS).



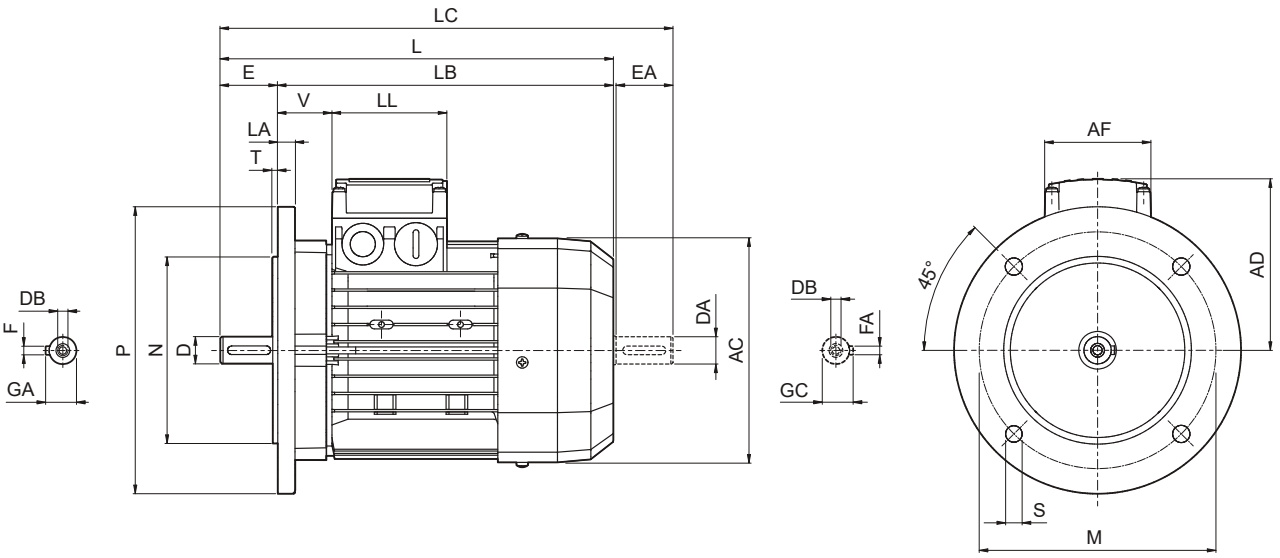
BX - IM B5 - FD/FA - CE/CCC



	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	R FD	R FA	ES (2)
BX 80 B	19 14(1)	40 30(1)	M6 M5(1)	21.5 16(1)	6 5(1)	165	130	200	11.5	3.5	11.5	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)							176	410	360	452	146	110	165	32			6
BX 90 LA																				160	160	
BX 100 LA	28 24(1)	60 50(1)	M10 M8(1)	31 27(1)	8 8(1)	215	180	250	14	4	14	195	502	442	554	155			37			
BX 100 LB											15	219	527	467	579	170			39	199	198	
BX 112 M																						
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	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	—
BX 160 MB													780	670	864							
BX 160 L																						
BX 180 M	48 42(1)	110 110(1)	M16 M16(1)	51.5 45(1)	14 12(1)						18	348	866	756	981	261			52	305	—	
BX 180 L																						
BX 200LA	55 45(1)		M20 M20(1)	59 48.5(1)	16 14(1)	350	300	400	19	5	20	423	982	872	1095	328	300	311	55	275		
BX 225SA	60 55(1)	140 110(1)		64 59(1)	18 16(1)	400	350	450				465	1058	918	1180	348			48	308		
BX 225SB																						
BX 250MA	65 55(1)			69 59(1)		500	450	550			24	514	1099	959	1225	376				313		
BX 280SA	75 65(1)	140 140(1)		79.5 69(1)	20 18(1)				18		23	567	1340	1200	1490	482	434	306	43	500	—	
BX 280SB																						
BX 315SA	80 75(1)	170 140(1)		85 79.5(1)	22 20(1)	600	550	660	23	6	25	645	1452	1282	1600	537	473	347	42			
BX 315SB													1497	1327	1645							
BX 315SC																						
BX 315MA	90 75(1)		M24 M20(1)	95 79.5(1)	25 20(1)								1607	1437	1755							
BX 355MA	100 75(1)	210 170(1)		106 79.5(1)	28 20(1)	740	680	800				740	1790	1580	1970	603	694	413	50	—		
BX 355MB													1825	1615	2005							
BX 355MC																						

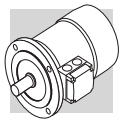
N.B.: 1) These values refer to the rear shaft end (PS). 2) “ES” hexagon is not present with PS option

BX - IM B5 - CUS/NBR/EECA

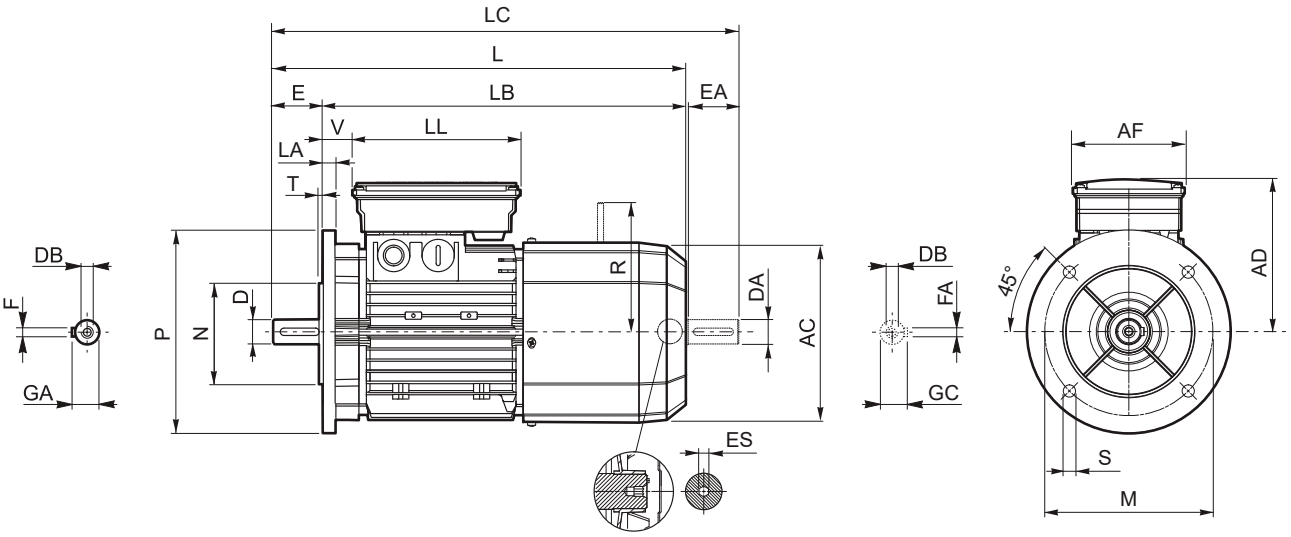


	Shaft					Flange						Motor							
	D DA	**E EA**	**DB**	**GA GC**	**F FA**	**M**	**N**	**P**	**S**	**T**	**LA**	**AC**	**L**	**LB**	**LC**	**AD**	**AF**	**LL**	**V**
BX 90 SR	19 19(1)	40 40(1)	M6 M6(1)	21.5 21.5(1)	6 6(1)	165	130	200	11.5	3.5	11.5	176	316	276	358	133	98	98	44
BX 90 S	24 19(1)	50 40(1)	M8 M6(1)	27 21.5(1)	8 6(1)								326		368				
BX 90 LA																			
BX 100 LA	28 24(1)	60 50(1)	M10 M8(1)	31 27(1)	8 8(1)	215	180	250	14	4	14	195	410	350	462	142			50
BX 100 LB																			
BX 112 M											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)	300	250	350	18.5	5	15	310	596	486	680	245	187	187	51
BX 160 MB													640	530	724				
BX 160 L																			
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).



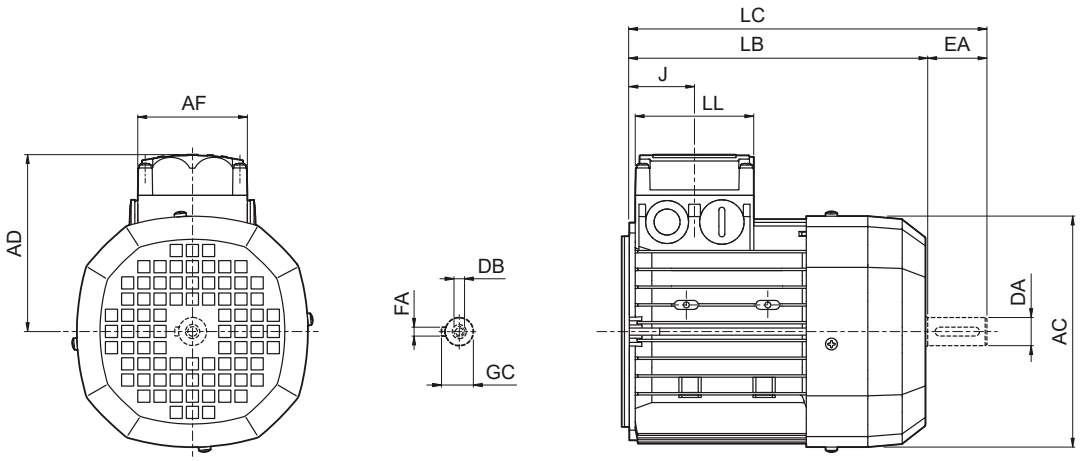
BX - IM B5 - FD/FA - CUS/NBR/EECA



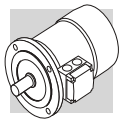
	Shaft					Flange						Motor										
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V	R FD	R FA	ES (2)
BX 90 SR	19 19(1)	40 40(1)	M6 M6(1)	21.5 21.5(1)	6 6(1)	165	130	200	11.5	3.5	11.5	176	400	360	442	146	110	165	32	129	134	6
BX 90 S	24 19(1)	50 40(1)	M8 M6(1)	27 21.5(1)	8 6(1)								410		452							
BX 90 LA																				160	160	
BX 100 LA	28 24(1)	60 50(1)	M10 M8(1)	31 27(1)	8 8(1)	215	180	250	14	4	14	195	502	442	554	155			37			
BX 100 LB																						
BX 112 M											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	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	—
BX 160 MB													780	670	864							
BX 160 L																						
BX 180 M	48 42(1)	110 110(1)	M16 M16(1)	51.5 45(1)	14 12(1)						18	348	866	756	981	261			52	305	—	
BX 180 L																						
BX 200LAK	55 45(1)		M20 M16(1)	59 48.5(1)	16 14(1)	350	300	400	19	5	20	417	967	857	1082	328	300	311	55	275		
BX 225SAK	60 55(1)	140 110(1)	M20 M20(1)	64 59(1)	18 16(1)	400	350	450				460	1065	925	1180	348			48	308		
BX 225SBK																						
BX 250MAK	65 55(1)			69 59(1)		500	450	550			24	510	1070	930	1240	376				313		
BX 280SAK	75 65(1)	140 140(1)		79.5 69(1)	20 18(1)				18		23	564	1284	1144	1379	482	434	306	43	500	—	
BX 280SBK																						
BX 315SAK	80 75(1)	170 140(1)		85 79.5(1)	22 20(1)	600	550	660	23	6	25	639	1493	1323	1643	537	473	347	42			
BX 315SBK													1530	1360	1680							
BX 315SCK													1604	1434	1791							
BX 355SAK	100 90(1)	210 170(1)	M24 M24(1)	106 95(1)	28 25(1)	740	680	800				725	1722	1512	1902	603	694	413	50	—		
BX 355MAK																						
BX 355MBK																						
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

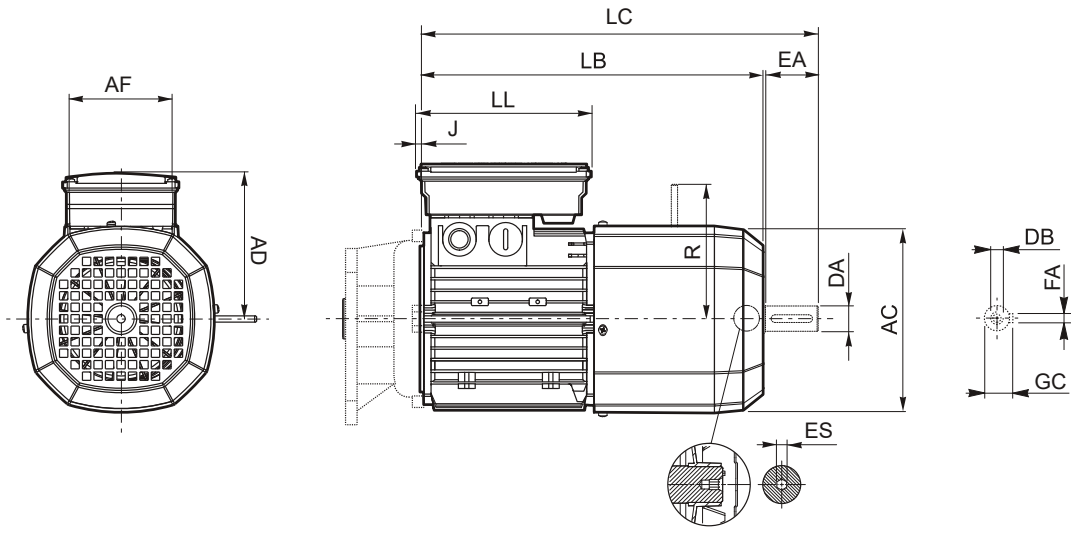
MX



	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												
MX 3LA							305	357				
MX 3LB												
MX 4SA	28	60	M10	31		258	361	424	118	118	64.5	193
MX 4SB												
MX 4LA							396	459				
MX 5SA	38	80	M12	41	10	310	418	502	187	187	77	245
MX 5SB							462	546				
MX 5LA												



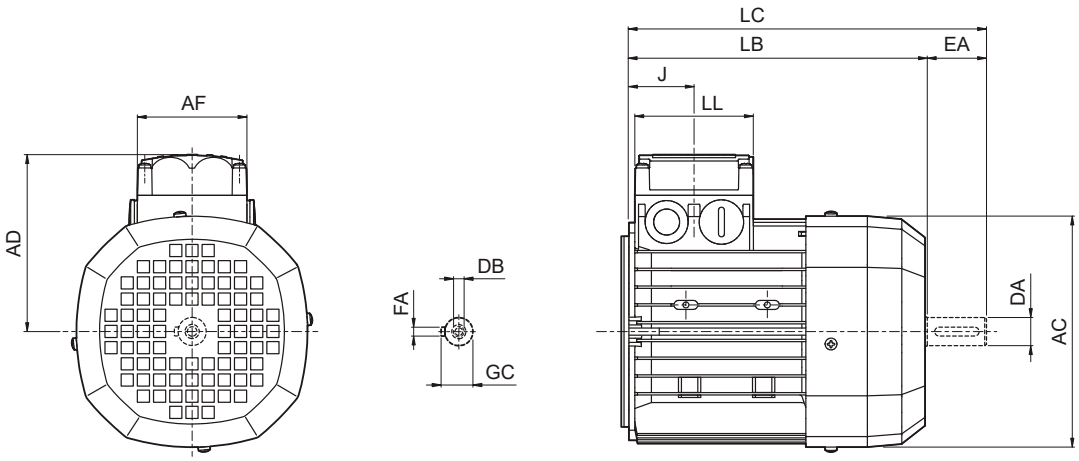
MX_FD/FA



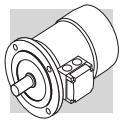
	Rear shaft end					Motor									
	DA	**EA**	**DB**	**GC**	**FA**	**AC**	**LB**	**LC**	**AF**	**LL**	**J**	**AD**	**R FD**	**R FA**	**ES (1)**
MX 2SB	14	30	M5	16	5	156	318	349	98	133	9	143	129	134	5
MX 3SA	24	50	M8	27	8	195	355	407	110	165	7	155	160	160	6
MX 3SB															
MX 3LA							397	450							
MX 3LB															
MX 4SA	28	60	M10	31		258	470	534	140	188		210	204	200	
MX 4SB															
MX 4LA							494	558						226	
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

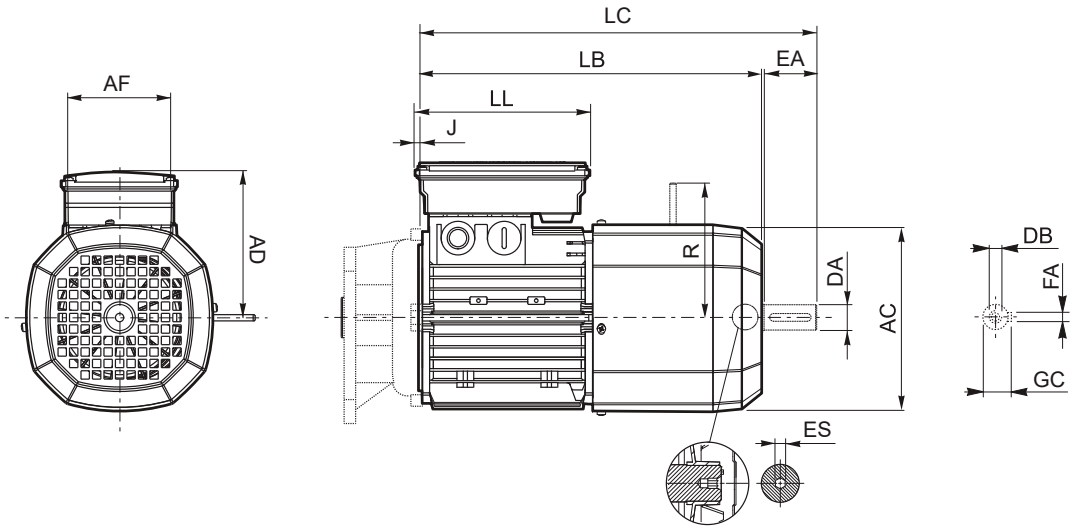
MX CUS



	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												
MX 3LA							305	357				
MX 3LB												
MX 4SA	28	60	M10	31		258	361	424	118	118	64.5	193
MX 4SB							420	483				
MX 4LA												
MX 5SA	38	80	M12	41	10	310	418	502	187	187	77	245
MX 5SB							462	546				
MX 5LA												



MX_FD/FA CUS



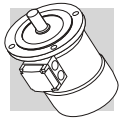
	Rear shaft end					Motor									
	DA	**EA**	**DB**	**GC**	**FA**	**AC**	**LB**	**LC**	**AF**	**LL**	**J**	**AD**	**R FD**	**R FA**	**ES** [1]
MX 2SB	14	30	M5	16	5	176	347	379	110	165	-17	146	129	134	6
MX 3SA	24	50	M8	27	8	195	355	407			7	155	160	160	
MX 3SB															
MX 3LA							397	450							
MX 3LB															
MX 4SA	28	60	M10	31		258	470	534	140	188		210	204	200	
MX 4SB							528	592							
MX 4LA														226	
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

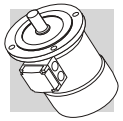
2 P	3000 min^{-1} - S1	50 Hz - IE2

A068744

														d.c. brake						a.c. brake				
														FD						FA				
P_n		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}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	**BE 80A 2**	2860	2.5	1.65	80	79.6	76.4	0.83	6.8	3.8	3.5	9	9.5	**FD 04**	5	1700	3200	9.4	13.4	**FA 04**	5	3200	9.4	13.3
1.1	**BE 80B 2**	2845	3.7	2.35	81.5	82.2	79.9	0.83	6.9	3.8	3.1	11.4	11.3	**FD 04**	10	1500	3000	10.6	15.2	**FA 04**	10	3000	10.6	15.1
1.5	**BE 90SA 2**	2865	5	3.2	81.3	80.7	78.1	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**	2870	7.3	4.7	83.2	83.1	80.8	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	**BE 100L 2**	2880	9.9	6.2	84.6	84.6	83.7	0.83	7.3	3.5	3.1	39	23	**FD 15**	26	700	1600	35	29	**FA 15**	26	1600	35	30
4	**BE 112M 2**	2920	13.1	8.2	85.8	85.5	84.3	0.82	7.9	3.5	3.1	57	28	**FD 06S**	40	—	950	66	39	**FA 06S**	40	950	66	40
5.5	**BE 132SA 2**	2925	18	10.6	87	85	81.7	0.86	8.5	3.6	3.3	145	42	**FD 06**	50	—	600	112	55	**FA 06**	50	600	112	56
7.5	**BE 132SB 2**	2935	24	14.3	88.1	87.4	84.7	0.86	8.8	3.9	3.6	178	53	**FD 06**	50	—	550	154	66	**FA 06**	50	550	154	67
9.2	**BE 132MB 2**	2920	30	16.4	88.8	86.5	84.2	0.91	8.4	3.7	3.3	210	65	**FD 56**	75	—	430	189	78	**FA 06**	75	430	189	79
11	**BE 160MA 2**	2940	36	20	89.4	89.5	88	0.89	8.1	3	2.9	340	84	—	—	—	—	—	—	—	—	—	—	—
15	**BE 160MB 2**	2950	49	27.2	90.5	90.5	89.5	0.88	8.5	3	2.8	420	97	—	—	—	—	—	—	—	—	—	—	—
18.5	**BE 160L 2**	2945	60	32	90.9	90.5	89.8	0.91	7.7	2.9	2.7	490	109	—	—	—	—	—	—	—	—	—	—	—



4 P	1500 min^{-1} - S1	50 Hz - IE2



A068744

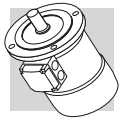
														d.c. brake						a.c. brake					
														FD						FA					
P_n		n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5	
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2		
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	2.6	5.2	**FA 02**	1.75	13000	2.6	5
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	3	5.6	**FA 02**	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	6.9	7.8	**FA 03**	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	16.6	13.8	**FA 04**	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	22	16.1	**FA 04**	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	32	17.8	**FA 14**	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	34	21.1	**FA 05**	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	44	29	**FA 15**	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	58	31	**FA 15**	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	107	42	**FA 06S**	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	223	66	**FA 06**	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	280	72	**FA 06**	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	342	86	**FA 07**	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	655	129	**FA 08**	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	725	129	**FA 08**	200	750	710	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	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	1850	197	**—**	—	—	—	—

6 P	1000 min^{-1} - S1	50 Hz - IE2

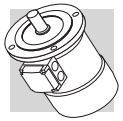
A068744

														d.c. brake						a.c. brake					
														FD						FA					
P_n		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}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	**BE 90S 6**	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	19.2	**FA 14**	15	6500	28	19.1
1.1	**BE 100M 6 (*)**	945	11.1	2.75	78.1	76.2	73	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	**BE 100LA 6**	945	15.2	3.9	79.8	77.5	74	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	**BE 112M 6**	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	**BE 132S 6**	955	30	6.6	83.3	83.3	82.4	0.79	6.1	2.1	1.9	295	44	**FD 56**	75	—	1400	226	57	**FA 06**	75	1400	226	58
4	**BE 132MA 6**	965	40	8.7	84.6	85	83.1	0.79	6.9	2.2	2	383	56	**FD 06**	100	—	1200	305	69	**FA 07**	100	1200	318	74
5.5	**BE 160MA 6 (*)**	965	54	11.6	87	87	86.4	0.79	6.6	2.5	2.3	740	83	**FD 08**	170	—	1000	700	112	**FA 08**	170	1000	700	113
7.5	**BE 160MB 6 (*)**	965	74	15	88	88	87.2	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



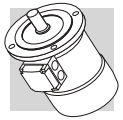
2 P	3000 min^{-1} - S1	50 Hz - IE2



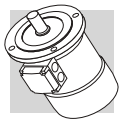
														d.c. brake						a.c. brake				
														FD						FA				
P_n		n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	**BE 80A 2**	2860	2.5	1.65	80	79.6	76.4	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**	2845	3.7	2.35	81.5	82.2	79.9	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**	2865	5	3.2	81.3	80.7	78.1	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**	2870	7.3	4.7	83.2	83.1	80.8	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**	2930	12.1	7.8	85.5	83	81.2	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

														d.c. brake						a.c. brake					
														FD						FA					
P_n		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}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5	
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2		
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	**FD 03**	5	6000	9400	8	8.6	**FA 03**	5	9400	8	8.3
0.55	**BE 80A**	**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	13.7
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	22	16.1	**FA 04**	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	32	17.8	**FA 14**	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	34	21.1	**FA 05**	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	44	29	**FA 15**	40	4700	44	29
3.7	**BE 112M**	**4**	1445	27	8.2	86.3	87	84.3	0.76	6.5	2.8	2.8	105	32	**FD 06S**	60	—	1400	107	42	**FA 06S**	60	2100	107	44



6 P	1000 min^{-1} - S1	50 Hz - IE2



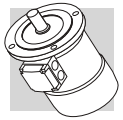
														d.c. brake						a.c. brake					
														FD						FA					
P_n		n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5	
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2		
0.75	**BE 90S 6**	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	**BE 100M 6 (*)**	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	**BE 100LA 6**	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	**BE 112M 6**	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	**BE 132MA 6**	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

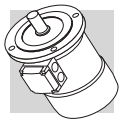
4 P	1800 min^{-1} - S1	60 Hz - IE2

c UL us

																d.c. brake						a.c. brake				
																FD						FA				
P_n			n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA Code	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
HP	kW		min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	0.55	**BE 80A 4**	1740	3	1.23	75.5	73.1	66.8	0.74	8.7	3.8	3.0	N	19	9.9	**FD 04**	10	4100	8000	16.6	13.8	**FA 04**	10	8000	16.6	13.7
1	0.75	**BE 80B 4**	1745	4.1	1.46	82.5	81.1	77.6	0.78	7.6	3.5	3.2	K	28	12.2	**FD 04**	15	4100	7800	22	16.1	**FA 04**	15	7800	22	16
1.5	1.1	**BE 90S 4**	1740	6	2.25	84	82.7	79	0.73	7.7	3.5	3.2	L	28	13.6	**FD 14**	15	4800	8000	32	17.8	**FA 14**	15	8000	32	17.7
2	1.5	**BE 90LA 4**	1740	8.2	3.1	84.5	83.9	80.7	0.73	7.1	3.6	3.4	K	34	15.1	**FD 05**	26	3400	6000	34	21.1	**FA 05**	26	6000	34	21.8
3	2.2	**BE 100LA 4**	1745	12	4.2	87.5	85.5	83.2	0.76	7	3.3	2.9	J	54	22	**FD 15**	40	2600	4700	44	29	**FA 15**	40	4700	44	29
4	3	**BE 100LB 4**	1735	16.5	5.9	87.5	87.7	86.3	0.76	7	3.2	2.9	K	61	24	**FD 15**	40	2400	4400	58	31	**FA 15**	40	4400	58	31
5	3.7	**BE 112M 4**	1750	20	6.6	87.5	87.5	86.1	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	**BE 132S 4**	1760	30	9.3	89.5	89.5	87.7	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	**BE 132MA 4**	1760	43	12.7	89.5	89.5	87.9	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	**BE 132MB 4**	1760	50	15.6	90	90	88.6	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	**BE 160M 4**	1765	60	18.7	91	91	90	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	**BE 160L 4**	1770	81	25.5	91	90.5	89.5	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	**BE 180M 4**	1765	100	30.3	92.4	91.9	90.5	0.83	7.3	2.7	2.5	H	1250	135	**FD 09**	300	—	400	1450	175	—	—	—	—	—
30	22	**BE 180L 4**	1770	119	36	92.4	92.5	92.2	0.83	8.1	3.3	3.2	J	1650	157	**FD 09**	300	—	300	1850	197	—	—	—	—	—



2 P	3000 min^{-1} - S1	50 Hz - IE2



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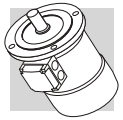
														d.c. brake						a.c. brake				
														FD						FA				
P_n	—	n	M_n	In 400V	η%			cos φ	I_s/I_n	M_s/M_n	M_a/M_n	J_m x 10^{-4}	IM B5	Mod	M_b	Z_O 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_O 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	**ME 2SA 2**	2860	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	9.4	12.7	**FA 04**	5	3200	9.4	12.6
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	13	14.5	**FA 04**	10	3000	13	14.4
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	22	22	**FA 15**	26	2600	22	23
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	28	25.2	**FA 15**	26	2400	28	26.2
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	107	46	**FA 06**	50	2100	107	47
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	112	48	**FA 06**	50	600	112	49
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	—	550	154	55	**FA 06**	50	550	154	56
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	—	430	189	66	**FA 06**	75	430	189	67
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											

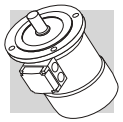
4 P	1500 min^{-1} - S1	50 Hz - IE2

A068744

															d.c. brake						a.c. brake				
															FD						FA				
P_n	—	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}	IM B5	Mod	M_b	Z_O 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_O 1/h	J_m x 10^{-4}	IM B5	
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		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
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	5.4
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	7.5
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	8.3
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	13.7
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
1.1	**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	22.5
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	24
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	28
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	30
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	56
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	65
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	75
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	83
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	114
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	710	130



6 P	1000 min^{-1} - S1	50 Hz - IE2

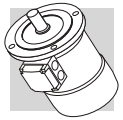


A068744

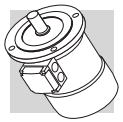
															d.c. brake						a.c. brake				
															FD						FA				
P_n	—		n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW			min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	**ME 3SA**	**6**	940	7.6	1.98	75.9	75.0	70.7	0.72	4.7	2.2	2	33	17	**FD 15**	26	3400	6500	28	21	**FA 15**	26	6500	28	22
1.1	**ME 3LA**	**6 (*)**	945	11.1	2.75	78.1	76.2	73.0	0.74	4.9	2.2	1.9	82	21	**FD 15**	26	2700	5000	37	27	**FA 15**	26	5000	37	28
1.5	**ME 3LB**	**6**	945	15.2	3.8	79.8	77.5	74.0	0.72	5.6	2.5	2.3	95	23	**FD 15**	40	1900	4100	86	29	**FA 15**	40	4100	86	30
2.2	**ME 4SA**	**6**	955	22	4.9	81.8	81.8	80.0	0.80	5.7	1.9	1.7	216	34	**FD 06**	50	—	2100	177	47	**FA 06**	50	2100	177	48
3	**ME 4SB**	**6**	955	30	6.6	83.3	83.3	82.4	0.79	6.1	2.1	1.9	295	43	**FD 56**	75	—	1400	226	56	**FA 06**	75	1400	226	57
4	**ME 4LA**	**6**	965	40	8.6	84.6	85.0	83.1	0.79	6.9	2.2	2.0	383	54	**FD 06**	100	—	1200	305	70	**FA 07**	100	1200	305	72
5.5	**ME 5SA**	**6 (*)**	965	54	11.6	87.0	87.0	86.4	0.79	6.6	2.5	2.3	740	69	**FD 08**	170	—	1050	406	99	**FA 08**	170	1050	406	98
7.5	**ME 5SB**	**6 (*)**	965	74	15.0	88.0	88.0	87.2	0.82	6.6	2.3	2.1	970	89	**FD 08**	170	—	900	815	119	**FA 08**	170	900	815	118

2 P	3000 min^{-1} - S1	50 Hz - IE2

														d.c. brake						a.c. brake					
														FD						FA					
P_n	—	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}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
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	9.4	12.7	**FA 04**	5	3200	9.4	12.6
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	10.6	14.5	**FA 04**	10	3000	10.6	14.4
1.5	**ME 3SA 2**	2845	5	3.2	81.3	79	76	0.81	6.1	2.9	2.7	24	15.5	**FD 15**	13	4800	8000	32	22.5	**FA 15**	26	8000	32	22.5
2.2	**ME 3LA 2**	2895	7.3	4.7	83.2	83.1	80.8	0.82	6.9	3.1	2.9	16.7	18.7	**FD 15**	26	3400	6000	34	25.7	**FA 15**	26	6000	34	25.7
3.7	**ME 4SA 2**	2930	12.1	7.8	84.7	83	81.2	0.79	7.9	3.5	3.1	57	33	**FD 56**	75	—	1400	107	46	**FA 06**	75	2100	107	47



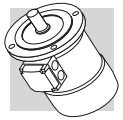
4 P	1500 min^{-1} - S1	50 Hz - IE2



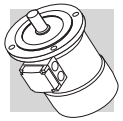
														d.c. brake						a.c. brake				
														FD						FA				
P_n	—	n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
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	8.6	**FA 03**	5	9400	8	8.3
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	13.7
0.75	**ME 2SB 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	22	16.1	**FA 04**	15	7800	22	16
1.1	**ME 3SA 4**	1430	7.4	2.6	82.5	82	79	0.74	5.5	2.5	2.8	34	15.5	**FD 15**	26	4800	8000	32	22.5	**FA 15**	26	8000	32	22.5
1.5	**ME 3SB 4**	1420	10.1	3.48	84	84	83	0.74	6.2	2.9	2.9	40	17	**FD 15**	26	3400	6000	34	24	**FA 15**	26	6000	34	24
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	28	**FA 15**	40	4700	44	28
3.7	**ME 4SA 4**	1440	27	8.25	87.5	86.8	84	0.80	7.1	3	3.1	213	42	**FD 56**	75	—	1400	107	55	**FA 06**	75	2100	107	56

6 P	1000 min^{-1} - S1	50 Hz - IE2

														d.c. brake						a.c. brake					
														FD						FA					
P_n	—	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}	IM B5	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	A	100%	75%	50%					kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	**ME 3SA 6**	940	7.6	1.98	75.9	75	70.7	0.72	4.7	2.2	2	33	17	**FD 15**	26	3400	6500	28	21	**FA 15**	26	6500	28	22
1.1	**ME 3LA 6 (*)**	945	11.1	2.75	78.1	76.2	73	0.74	4.9	2.2	1.9	82	21	**FD 15**	26	2700	5000	37	27	**FA 15**	26	5000	37	28
1.5	**ME 3LB 6**	945	15.2	3.8	79.8	77.5	74	0.72	5.6	2.5	2.3	95	23	**FD 15**	40	1900	4100	86	29	**FA 15**	40	4100	86	30
2.2	**ME 4SA 6**	955	22	4.9	81.8	81.8	80	0.8	5.7	1.9	1.7	216	34	**FD 56**	75	—	2100	177	47	**FA 06**	60	2100	177	48
3.7	**ME 4LA 6**	970	36.1	8.3	83.5	83.6	81.3	0.76	6.9	2.2	2	383	54	**FD 06**	100	—	1200	305	70	**FA 06**	100	1200	305	72



4 P	1800 min^{-1} - S1	60 Hz - IE2



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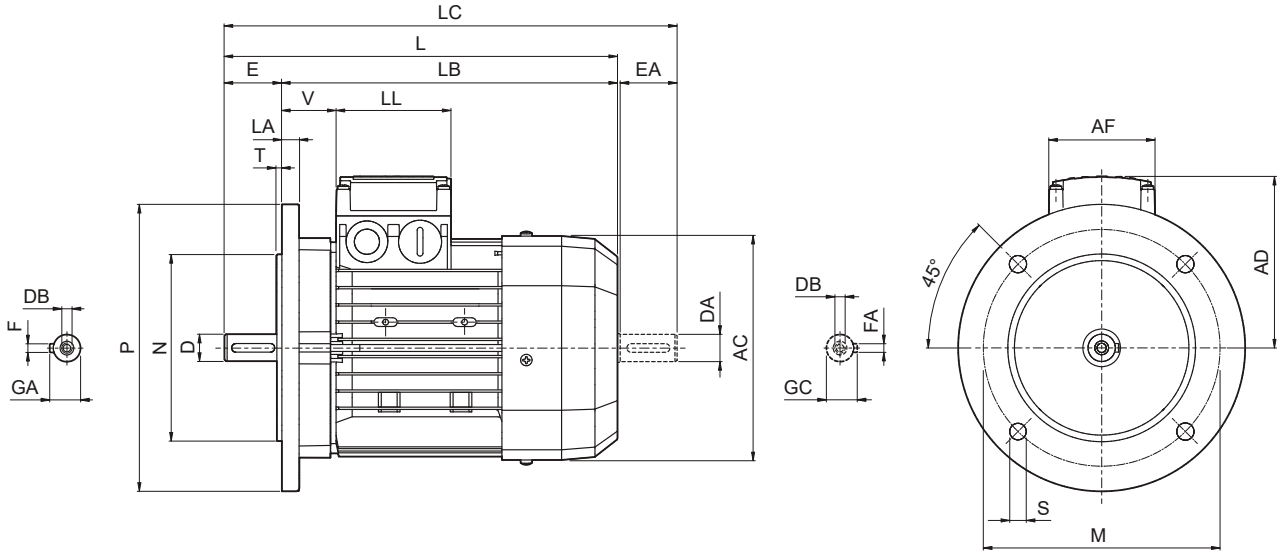
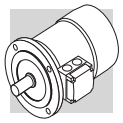
P_n				n	M_n	In 400V	η%			cos φ	$\frac{I_s}{I_n}$	$\frac{M_s}{M_n}$	$\frac{M_a}{M_n}$	KVA Code	J_m x 10^{-4}	IM B5	d.c. brake FD						a.c. brake FA				
																	Mod	M_b	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	M_b	Z_o 1/h	J_m x 10^{-4}	IM B5
HP	kW			min^{-1}	Nm	A	100%	75%	50%						kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.75	0.55	**ME 2SA**	**4**	1740	3	1.23	75.5	73.1	66.8	0.74	8.7	3.8	3.0	N	19	9.9	**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	82.5	81.1	77.6	0.78	7.6	3.5	3.2	K	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	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	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	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	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	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	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	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	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	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	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

BE - IM B5- CE/CUS/BIS/CCC

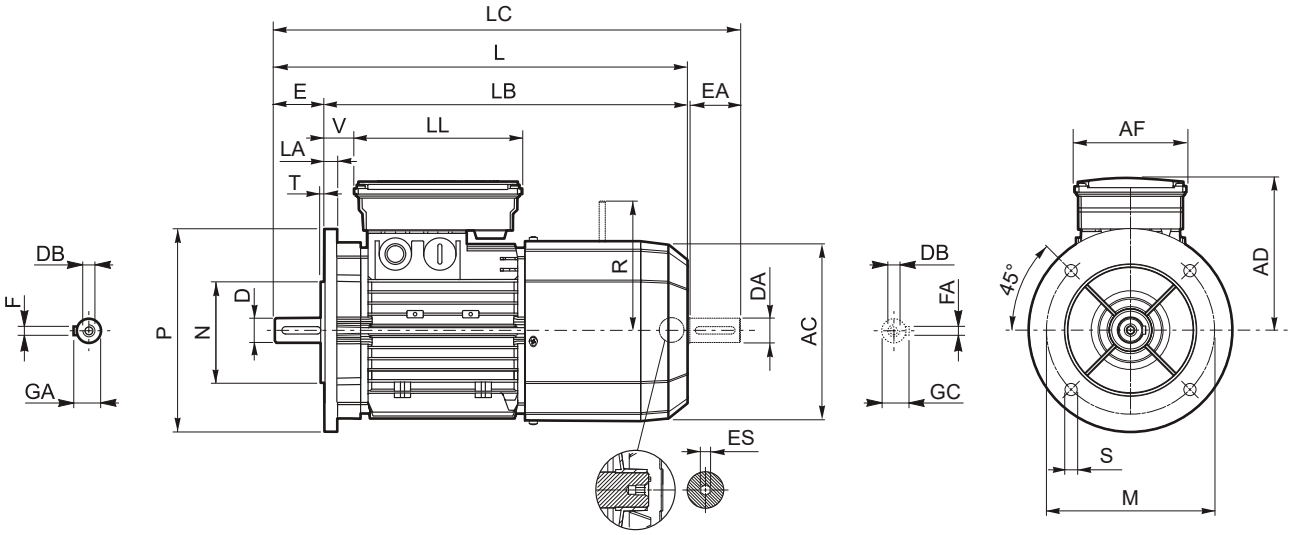


	Shaft					Flange						Motor							
	D DA	**E EA**	**DB**	**GA GC**	**F FA**	**M**	**N**	**P**	**S**	**T**	**LA**	**AC**	**L**	**LB**	**LC**	**AD**	**AF**	**LL**	**V**
BE 63	11	23	M4	12.5	4	115	95	140	9.5	3	10	121	207	184	232	95	74	80	26
BE 71	14	30	M5	16	5	130	110	160		3.5		138	249	219	281	108			37
BE 80	19	40	M6	21.5	6	165	130	200	11.5		11.5	156	274	234	315	119			38
BE 90 S	24	50	M8	27	8							176	326	276	378	133	98	98	44
BE 90 L																			
BE 100	28	60	M10	31		215	180	250	14	4	14	195	367	307	429	142			50
BE 112											15	219	385	325	448	157			52
BE 132 S	38	80	M12	41	10	265	230	300			20	258	493	413	576	193	118	118	58
BE 132 MA																			
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				
BE 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
BE 180 L																			

N.B.:
1) These values refer to the rear shaft end.



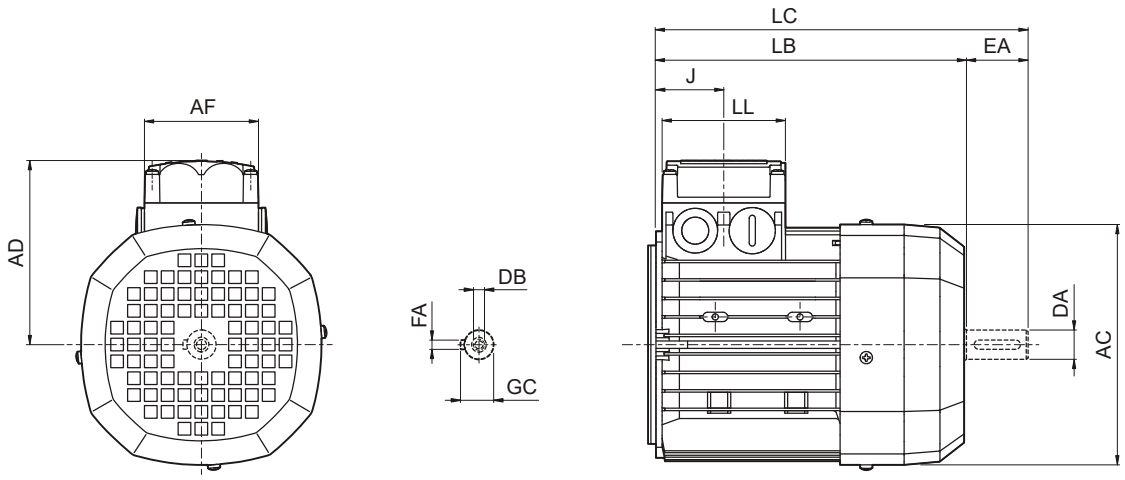
BE - IM B5 - FD/FA - CE/CUS/BIS



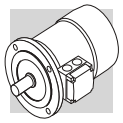
	Shaft					Flange						Motor										
	D DA	E EA	DB	GA GC	F FA	M	N	P	S	T	LA	AC	L	LB	LC	AD	AF	LL	V	R FD	R FA	ES (2)
BE 63	11	23	M4	12.5	4	115	95	140	9.5	3	10	121	272	249	297	122			14	96	116	
BE 71	14	30	M5	16	5	130	110	160		3.5		138	313	283	345	135	98	133	24	103	124	5
BE 80	19	40	M6	21.5	6	165	130	200	11.5		11.5	156	348	308	390	143			25	129	134	
BE 90 S	24	50	M8	27	8							176	411	361	463	146	110	165	32			6
BE 90 L																				160	160	
BE 100	28	60	M10	31		215	180	250	14	4	14	195	458	398	521	155			37			
BE 112											15	219	484	424	547	170			39	199	198	
BE 132 S	38	80	M12	41	10	265	230	300			20	258	603	523	686	193	140	188	46	204	200	
BE 132 MA																						
BE 132 MB													628	548	711					226	217	—
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)						18	348	866	756	981	261			52	305	—	
BE 180 L																						

N.B.: 1) These values refer to the rear shaft end (PS). 2) “ES” hexagon is not present with PS option

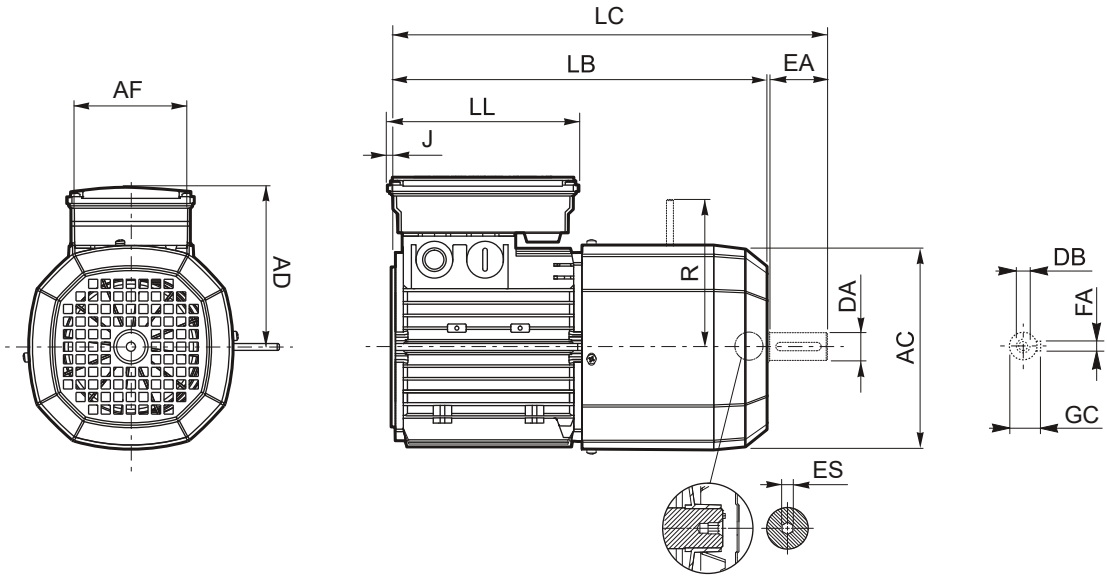
ME - CE/CUS/BIS/CCC



	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												
ME 4LB							396	479				
ME 5S	38	80	M12	41	10	310	418	502	187	187	77	245
ME 5L							462	546				



ME_FD/FA - CE/CUS/BIS



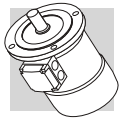
	Rear shaft end					Motor									
	DA	**EA**	**DB**	**GC**	**FA**	**AC**	**LB**	**LC**	**AF**	**LL**	**J**	**AD**	**R FD**	**R FA**	**ES** [1]
ME 05	11	23	M4	12.5	4	121	231	256	98	133	-4.5	119	96	116	5
ME 1S	14	30	M5	16	5	138	248	280			-8	135	103	124	
ME 2S	19	40	M6	21.5	6	156	272	314			-17	143	129	134	
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															
ME 4LB							495	578					226	217	
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

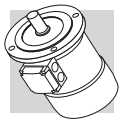
2P	3000 min^{-1} - S1	50 Hz

																d.c. brake						a.c. brake				
																FD						FA				
P_n		n	M_n	IE1	η (100%)	η (75%)	η (50%)	cosφ	In 400V	Is / In	Ms / Mn	Ma / Mn	J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm		%	%	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.18	**BN 63A 2**	2730	0.63	○	59.9	56.9	51.9	0.77	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	5.0
0.25	**BN 63B 2**	2740	0.87	○	66.0	64.8	64.8	0.76	0.72	3.3	2.3	2.3	2.3	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	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	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	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	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	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	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	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	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	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	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	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	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	6.9	3.0	2.9	57	28	**FD 06S**	40	—	950	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	5.9	2.6	2.2	101	35	**FD 06**	50	—	600	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	6.4	2.6	2.2	145	42	**FD 06**	50	—	550	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	6.7	2.8	2.3	178	53	**FD 56**	75	—	430	189	66	**FA 06**	75	430	189	67
11	**BN 160MR 2**	2920	36	•	87.6	87.0	86.0	0.88	20.6	6.9	2.9	2.5	210	65											
15	**BN 160MB 2**	2930	49	•	89.6	89.4	88.0	0.86	28.1	7.1	2.6	2.3	340	84											
18.5	**BN 160L 2**	2930	60	•	90.4	90.1	89.0	0.86	34	7.6	2.7	2.3	420	97											
22	**BN 180M 2**	2930	72	•	89.9	89.7	89.5	0.88	40	7.8	2.6	2.4	490	109											
30	**BN 200LA 2**	2930	98	•	90.7	90.1	87.6	0.89	54	7.8	2.7	2.9	770	140											

○ = n.a. • = IE1



4P — **1500 min^{-1}** - S1 — **50 Hz**

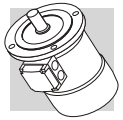


															d.c. brake						a.c. brake				
															FD						FA				
P_n		n	M_n	IE1	η (100%)	η (75%)	η (50%)	cosφ	In 400V	Is / In	Ms / Mn	Ma / Mn	J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm		%	%	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.06	**BN 56A** 4	1340	0.43	○	46.8	44.2	41.3	0.65	0.28	2.6	2.3	2.0	1.5	3.1											
0.09	**BN 56B** 4	1350	0.64	○	51.7	47.6	42.9	0.60	0.42	2.6	2.5	2.4	1.5	3.1											
0.12	**BN 63A** 4	1350	0.85	○	59.8	56.2	47.0	0.62	0.47	2.6	1.9	1.8	2.0	3.5	**FD 02**	1.75	10000	13000	2.6	5.2	**FA 02**	1.75	13000	2.6	5.0
0.18	**BN 63B** 4	1320	1.30	○	54.8	52.9	52.5	0.67	0.71	2.6	2.2	2.0	2.3	3.9	**FD 02**	3.5	10000	13000	3.0	5.6	**FA 02**	3.5	13000	3.0	5.4
0.25	**BN 63C** 4	1340	1.78	○	65.3	65.0	57.9	0.69	0.80	2.7	2.1	1.9	3.3	5.1	**FD 02**	3.5	7800	10000	3.9	6.8	**FA 02**	3.5	10000	3.9	6.6
0.25	**BN 71A** 4	1380	1.73	○	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	6.9	7.8	**FA 03**	3.5	11000	6.9	7.5
0.37	**BN 71B** 4	1370	2.6	○	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	8.0	8.6	**FA 03**	5.0	9400	8.0	8.3
0.55	**BN 71C** 4	1380	3.8	○	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	10.2	10.0	**FA 03**	7.5	8700	10.2	9.7
0.55	**BN 80A** 4	1390	3.8	○	72.0	71.3	69.7	0.77	1.43	4.1	2.3	2.0	15	8.2	**FD 04**	10	4100	8000	16.6	12.1	**FA 04**	10	8000	16.6	12.0
0.75	**BN 80B** 4	1400	5.1	•	75.0	74.5	69.3	0.78	1.85	4.9	2.7	2.5	20	9.9	**FD 04**	15	4100	7800	22	13.8	**FA 04**	15	7800	22	13.7
1.1	**BN 80C** 4	1400	7.5	•	75.5	76.2	70.4	0.78	2.7	5.1	2.8	2.5	25	11.3	**FD 04**	15	2600	5300	27	15.2	**FA 04**	15	5300	27	15.1
1.1	**BN 90S** 4	1390	7.6	•	76.5	76.2	72.2	0.77	2.70	4.6	2.6	2.2	21	12.2	**FD 14**	15	4800	8000	23	16.4	**FA 14**	15	8000	23	16.3
1.5	**BN 90LA** 4	1410	10.2	•	78.7	78.5	74.9	0.77	3.6	5.3	2.8	2.4	28	13.6	**FD 05**	26	3400	6000	32	19.6	**FA 05**	26	6000	32	20.3
1.85	**BN 90LB** 4	1390	12.7	•	78.6	78.9	77.2	0.79	4.3	5.1	2.8	2.6	30	15.1	**FD 05**	26	3200	5900	34	21.1	**FA 05**	26	5900	34	21.8
2.2	**BN 100LA** 4	1410	14.9	•	81.1	81.4	79.9	0.75	5.2	4.5	2.2	2.0	40	18	**FD 15**	40	2600	4700	44	25	**FA 15**	40	4700	44	25
3	**BN 100LB** 4	1410	20	•	82.6	83.8	83.7	0.77	6.8	5.0	2.3	2.2	54	22	**FD 15**	40	2400	4400	58	28	**FA 15**	40	4400	58	29
4	**BN 112M** 4	1430	27	•	84.4	84.2	81.6	0.81	8.4	5.6	2.7	2.5	98	30	**FD 06S**	60	—	1400	107	40	**FA 06S**	60	2100	107	42
5.5	**BN 132S** 4	1440	36	•	84.7	84.8	82.5	0.81	11.6	5.5	2.3	2.2	213	44	**FD 56**	75	—	1050	223	57	**FA 06**	75	1200	223	58
7.5	**BN 132MA** 4	1440	50	•	86.0	86.3	85.3	0.81	15.5	5.7	2.5	2.4	270	53	**FD 06**	100	—	950	280	66	**FA 07**	100	1000	280	71
9.2	**BN 132MB** 4	1440	61	•	88.4	88.6	87.5	0.81	18.8	5.9	2.7	2.5	319	59	**FD 07**	150	—	900	342	75	**FA 07**	150	900	342	77
11	**BN 160MR** 4	1440	73	•	87.6	87.8	86.0	0.81	22.4	6.0	2.7	2.5	360	70	**FD 07**	150	—	850	382	86	**FA 07**	150	850	382	88
15	**BN 160L** 4	1460	98	•	88.7	88.5	88.4	0.81	30	6.0	2.3	2.1	650	99	**FD 08**	200	—	750	725	129	**FA 08**	200	750	710	128
18.5	**BN 180M** 4	1460	121	•	89.3	89.5	89.2	0.81	37	6.2	2.6	2.5	790	115	**FD 08**	250	—	700	865	145	**FA 08**	250	700	850	144
22	**BN 180L** 4	1460	144	•	89.9	90.0	90.0	0.80	44	6.4	2.5	2.5	1250	135	**FD 09**	300	—	400	1450	175					
30	**BN 200L** 4	1460	196	•	91.4	91.7	91.0	0.80	59	7.1	2.7	2.8	1650	157	**FD 09**	400	—	300	1850	197					

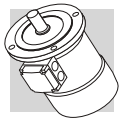
○ = n.a. • = IE1

6P	1000 min^{-1} - S1	50 Hz

																d.c. brake						a.c. brake				
																FD						FA				
P_n		n	M_n	IE1	η (100%)	η (75%)	η (50%)	cosφ	In 400V	Is / In	Ms / Mn	Ma / Mn	J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm		%	%	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.09	BN 63A 6	880	0.98	○	41.0	41.0	32.9	0.53	0.60	2.1	2.1	1.8	3.4	4.6	FD 02	3.5	9000	14000	4.0	6.3	FA 02	3.5	14000	4.0	6.1
0.12	BN 63B 6	870	1.32	○	45.0	44.0	41.8	0.60	0.64	2.1	1.9	1.7	3.7	4.9	FD 02	3.5	9000	14000	4.3	6.6	FA 02	3.5	14000	4.3	6.4
0.18	BN 71A 6	900	1.91	○	55.0	55.5	51.0	0.69	0.68	2.6	1.9	1.7	8.4	5.5	FD 03	5	8100	13500	9.5	8.2	FA 03	5.0	13500	9.5	7.9
0.25	BN 71B 6	900	2.70	○	62.0	58.5	51.4	0.71	0.82	2.6	1.9	1.7	10.9	6.7	FD 03	5	7800	13000	12	9.4	FA 03	5.0	13000	12	9.1
0.37	BN 71C 6	910	3.9	○	66.0	60.0	53.3	0.69	1.17	3.0	2.4	2.0	12.9	7.7	FD 53	7.5	5100	9500	14	10.4	FA 03	7.5	9500	14	10.1
0.37	BN 80A 6	910	3.9	○	68.0	67.4	63.3	0.68	1.15	3.2	2.2	2.0	21	9.9	FD 04	10	5200	8500	23	13.8	FA 04	10	8500	23	13.7
0.55	BN 80B 6	920	5.7	○	70.0	69.8	64.3	0.68	1.67	3.9	2.6	2.2	25	11.3	FD 04	15	4800	7200	27	15.2	FA 04	15	7200	27	15.1
0.75	BN 80C 6	920	7.8	•	70.0	70.0	64.4	0.65	2.38	3.8	2.5	2.2	28	12.2	FD 04	15	3400	6400	30	16.1	FA 04	15	6400	30	16.0
0.75	BN 90S 6	920	7.8	•	70.0	69.0	64.2	0.68	2.27	3.8	2.4	2.2	26	12.6	FD 14	15	3400	6500	28	16.8	FA 14	15	6500	28	16.7
1.1	BN 90L 6	920	11.4	•	72.9	72.6	69.1	0.69	3.2	3.9	2.3	2.0	33	15	FD 05	26	2700	5000	37	21	FA 05	26	5000	37	22
1.5	BN 100LA 6	940	15.2	•	75.2	74.2	70.3	0.72	4.0	4.1	2.1	2.0	82	22	FD 15	40	1900	4100	86	28	FA 15	40	4100	86	29
1.85	BN 100LB 6	930	19.0	•	76.6	72.8	62.6	0.73	4.8	4.6	2.1	2.0	95	24	FD 15	40	1700	3600	99	30	FA 15	40	3600	99	31
2.2	BN 112M 6	940	22	•	78.5	79.0	76.5	0.73	5.5	4.8	2.2	2.0	168	32	FD 06S	60	—	2100	177	42	FA 06S	60	2100	177	44
3	BN 132S 6	940	30	•	79.7	77.0	75.1	0.76	7.1	5.1	1.9	1.8	216	36	FD 56	75	—	1400	226	49	FA 06	75	1400	226	50
4	BN 132MA 6	950	40	•	81.4	81.5	79.5	0.77	9.2	5.5	2.0	1.8	295	45	FD 06	100	—	1200	305	58	FA 07	100	1200	318	63
5.5	BN 132MB 6	945	56	•	83.1	80.9	79.1	0.78	12.2	6.1	2.1	1.9	383	56	FD 07	150	—	1050	406	72	FA 07	150	1050	406	74
7.5	BN 160M 6	955	75	•	85.0	85.0	84.8	0.81	15.7	5.9	2.2	2.0	740	83	FD 08	170	—	900	815	112	FA 08	170	900	815	113
11	BN 160L 6	960	109	•	86.4	86.5	85.9	0.81	22.7	6.6	2.5	2.3	970	103	FD 08	200	—	800	1045	133	FA 08	200	800	1045	133
15	BN 180L 6	970	148	•	87.7	88.0	87.3	0.82	30	6.2	2.0	2.4	1550	130	FD 09	300	—	600	1750	170					
18.5	BN 200LA 6	960	184	•	88.6	88.0	87.3	0.81	37	5.9	2.0	2.3	1700	145	FD 09	400	—	450	1900	185					



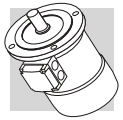
○ = n.a. • = IE1

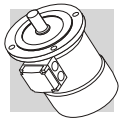


8P	750 min^{-1} - S1	50 Hz

													d.c. brake						a.c. brake				
													FD						FA				
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5		Mod	Mb	Z_o 1/h		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V	In	Mn	Mn	x 10^{-4}							x 10^{-4}				1/h	x 10^{-4}	
kW		min^{-1}	Nm	%		A				kgm^2				Nm	NB	SB	kgm^2			Nm		kgm^2	
0.09	**BN 71A**	**8**	680	1.26	47	0.59	0.47	2.3	2.4	2.3	10.9	6.7	**FD 03**	3.5	9000	16000	12.0	9.4	**FA 03**	3.5	16000	12.0	9.1
0.12	**BN 71B**	**8**	680	1.69	51	0.59	0.58	2.1	2.3	2.2	12.9	7.7	**FD 03**	5.0	9000	16000	14.0	10.4	**FA 03**	5.0	16000	14.0	10.1
0.18	**BN 80A**	**8**	690	2.49	51	0.60	0.85	2.4	2.2	2.2	15	8.2	**FD 04**	5.0	6500	11000	16.6	12.1	**FA 04**	5.0	11000	16.6	12.0
0.25	**BN 80B**	**8**	680	3.51	54	0.63	1.06	2.4	2.0	1.9	20	9.9	**FD 04**	10.0	6000	10000	22	13.8	**FA 04**	10.0	10000	23	13.7
0.37	**BN 90S**	**8**	675	5.2	58	0.60	1.53	2.6	2.3	2.1	26	12.6	**FD 14**	15.0	4800	7500	28	16.8	**FA 14**	15.0	7500	28	16.7
0.55	**BN 90L**	**8**	670	7.8	62	0.60	2.13	2.6	2.2	2.0	33	15	**FD 05**	26	4000	6400	37	21	**FA 05**	26	6400	37	22
0.75	**BN 100LA**	**8**	700	10.2	68	0.63	2.53	3.4	1.9	1.7	82	22	**FD 15**	26	2800	4800	86	28	**FA 15**	26	4800	86	29
1.1	**BN 100LB**	**8**	700	15.0	68	0.64	3.65	3.2	1.7	1.7	95	24	**FD 15**	40	2500	4000	99	30	**FA 15**	40	4000	99	31
1.5	**BN 112M**	**8**	710	20.2	71	0.66	4.6	3.7	1.8	1.9	168	32	**FD 06S**	60	—	3000	177	42	**FA 06S**	60	3000	177	44
2.2	**BN 132S**	**8**	710	29.6	75	0.66	6.4	3.8	1.8	2.0	295	45	**FD 56**	75	—	2300	305	58	**FA 06**	75	2300	305	56
3	**BN 132MA**	**8**	710	40.4	76	0.69	8.3	3.9	1.6	1.8	370	53	**FD 06**	100	—	1900	394	69	**FA 07**	100	1900	406	74

2/4P			3000/1500 min^{-1} - S1										50 Hz									
													d.c. brake						a.c. brake			
													FD						FA			
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5	Mod	Mb	Z_o		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V		Mn	Mn	x 10^{-4}				1/h		x 10^{-4}				1/h	x 10^{-4}	
kW		min^{-1}	Nm	%		A	In			kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.20	**BN 63B** **2**	2700	0.71	55	0.82	0.64	3.5	2.1	1.9	2.9	4.4	**FD 02**	3.5	2200	2600	3.5	6.1	**FA 02**	3.5	2600	3.5	5.9
0.15	**4**	1350	1.06	49	0.67	0.66	2.6	1.8	1.7					4000	5100					5100		
0.28	**BN 71A** **2**	2700	0.99	56	0.82	0.88	2.9	1.9	1.7	4.7	4.4	**FD 03**	3.5	2100	2400	5.8	7.1	**FA 03**	3.5	2400	5.8	6.8
0.20	**4**	1370	1.39	59	0.72	0.68	3.1	1.8	1.7					3800	4800					4800		
0.37	**BN 71B** **2**	2740	1.29	56	0.82	1.16	3.5	1.8	1.8	5.8	5.1	**FD 03**	5.0	1400	2100	6.9	7.8	**FA 03**	5.0	2100	6.9	7.5
0.25	**4**	1390	1.72	60	0.73	0.82	3.3	2.0	1.9					2900	4200					4200		
0.45	**BN 71C** **2**	2780	1.55	63	0.85	1.21	3.8	1.8	1.8	6.9	5.9	**FD 03**	5.0	1400	2100	8.0	8.6	**FA 03**	5.0	2100	8.0	8.3
0.30	**4**	1400	2.0	63	0.73	0.94	3.6	2.0	1.9					2900	4200					4200		
0.55	**BN 80A** **2**	2800	1.9	63	0.85	1.48	3.9	1.7	1.7	15	8.2	**FD 04**	5.0	1600	2300	17	12.1	**FA 04**	5.0	2300	16.6	12.0
0.37	**4**	1400	2.5	67	0.79	1.01	4.1	1.8	1.9					3000	4000					4000		
0.75	**BN 80B** **2**	2780	2.6	65	0.85	1.96	3.8	1.9	1.8	20	9.9	**FD 04**	10	1400	1600	22	13.8	**FA 04**	10	1600	22	13.7
0.55	**4**	1400	3.8	68	0.81	1.44	3.9	1.7	1.7					2700	3600					3600		
1.1	**BN 90S** **2**	2790	3.8	71	0.82	2.73	4.7	2.3	2.0	21	12.2	**FD 14**	10	1500	1600	23	16.4	**FA 14**	10	1600	23	16.3
0.75	**4**	1390	5.2	66	0.79	2.08	4.6	2.4	2.2					2300	2800					2800		
1.5	**BN 90L** **2**	2780	5.2	70	0.85	3.64	4.5	2.4	2.1	28	14.0	**FD 05**	26	1050	1200	32	20	**FA 05**	26	1200	32	21
1.1	**4**	1390	7.6	73	0.81	2.69	4.7	2.5	2.2					1600	2000					2000		
2.2	**BN 100LA** **2**	2800	7.5	72	0.85	5.2	4.5	2.0	1.9	40	18.3	**FD 15**	26	600	900	44	25	**FA 15**	26	900	44	25
1.5	**4**	1410	10.2	73	0.79	3.8	4.7	2.0	2.0					1300	2300					2300		
3.5	**BN 100LB** **2**	2850	11.7	80	0.84	7.5	5.4	2.2	2.1	61	25	**FD 15**	40	500	900	65	31	**FA 15**	40	900	65	32
2.5	**4**	1420	16.8	82	0.80	5.5	5.2	2.2	2.2					1000	2100					2100		
4	**BN 112M** **2**	2880	13.3	79	0.83	8.8	6.1	2.4	2.0	98	30	**FD 06S**	60	—	700	107	40	**FA 06S**	60	700	107	42
3.3	**4**	1420	22.2	80	0.80	7.4	5.1	2.1	2.0					—	1200					1200		
5.5	**BN 132S** **2**	2890	18.2	80	0.87	11.4	5.9	2.4	2.0	213	44	**FD 56**	75	—	350	223	57	**FA 06**	75	350	223	58
4.4	**4**	1440	29	82	0.84	9.2	5.3	2.2	2.0					—	900					900		
7.5	**BN 132MA** **2**	2900	25	82	0.87	15.2	6.5	2.4	2.0	270	53	**FD 06**	100	—	350	280	66	**FA 07**	100	350	293	71
6	**4**	1430	40	84	0.85	12.1	5.8	2.3	2.1					—	900					900		
9.2	**BN 132MB** **2**	2920	30	83	0.86	18.6	6.0	2.6	2.2	319	59	**FD 07**	150	—	300	342	75	**FA 07**	150	300	342	77
7.3	**4**	1440	48	85	0.85	14.6	5.5	2.3	2.1					—	800					800		

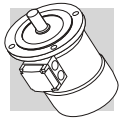


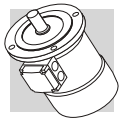


2/6P	3000/1000 min^{-1} - S3 60/40%	50 Hz

													d.c. brake						a.c. brake				
													FD						FA				
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5		Mod	Mb	Z_o 1/h		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V	In	Mn	Mn	x 10^{-4}							x 10^{-4}				1/h	x 10^{-4}	
kW			min^{-1}	Nm	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.25	**BN 71A**	**2**	2850	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**	910	0.84	43	0.70	0.38	2.1	1.4	1.5					10000	13000					13000		
0.37	**BN 71B**	**2**	2880	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**	900	1.27	44	0.73	0.54	2.4	1.4	1.5					9000	11000					11000		
0.55	**BN 80A**	**2**	2800	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**	930	1.85	52	0.65	0.77	3.3	2.0	1.9					4100	6300					6300		
0.75	**BN 80B**	**2**	2800	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**	930	2.6	54	0.67	1.00	3.2	1.7	1.8					3800	6000					6000		
1.10	**BN 90L**	**2**	2860	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**	920	3.8	59	0.71	1.27	3.3	1.6	1.6					3400	5200					5200		
1.5	**BN 100LA**	**2**	2880	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**	940	5.6	64	0.67	1.85	3.5	1.7	1.8					2900	4000					4000		
2.2	**BN 100LB**	**2**	2900	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**	950	7.5	67	0.64	2.5	3.3	1.9	1.8					2100	3000					3000		
3	**BN 112M**	**2**	2900	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**	950	11.1	72	0.64	3.4	3.9	1.8	1.8					—	2600					2600		
4.5	**BN 132S**	**2**	2910	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**	960	14.9	74	0.67	4.4	4.2	1.9	2.0					—	2100					2100		
5.5	**BN 132M**	**2**	2920	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**	960	22	77	0.71	5.8	4.3	2.1	2.0					—	1900					1900		

2/8P			3000/750 min^{-1} - S3 60/40%										50 Hz									
													d.c. brake						a.c. brake			
													FD						FA			
P_n		n	M_n	η	cosφ	In	Is/In	Ms/Mn	Ma/Mn	J_m	IM B5	Mod	Mb	Z_o 1/h		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
kW		min^{-1}	Nm	%		400V A				x 10^{-4} kgm^2			Nm	NB	SB	x 10^{-4} kgm^2			Nm	1/h	x 10^{-4} kgm^2	
0.25	**BN 71A** **2**	2790	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	12	9.1
0.06	**8**	680	0.84	31	0.61	0.46	2.0	1.8	1.9					10000	13000					13000		
0.37	**BN 71B** **2**	2800	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	14	10.1
0.09	**8**	670	1.28	34	0.75	0.51	1.8	1.4	1.5					9500	13000					13000		
0.55	**BN 80A** **2**	2830	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	22	13.7
0.13	**8**	690	1.80	41	0.64	0.72	2.3	1.6	1.7					5600	8000					8000		
0.75	**BN 80B** **2**	2800	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	27	15.1
0.18	**8**	690	2.5	43	0.66	0.92	2.3	1.6	1.7					4800	7300					7300		
1.10	**BN 90L** **2**	2830	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	32	21
0.28	**8**	690	3.9	48	0.63	1.34	2.4	1.8	1.9					3400	5100					5100		
1.5	**BN 100LA** **2**	2880	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	44	25
0.37	**8**	690	5.1	46	0.63	1.84	2.1	1.6	1.6					3300	5000					5000		
2.4	**BN 100LB** **2**	2900	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	65	32
0.55	**8**	700	7.5	54	0.58	2.5	2.6	1.8	1.8					2000	3500					3500		
3	**BN 112M** **2**	2900	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	107	42
0.75	**8**	690	10.4	60	0.65	2.8	2.5	1.6	1.6					—	2900					2900		
4	**BN 132S** **2**	2870	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	223	58
1	**8**	690	13.8	66	0.62	3.5	2.9	1.9	1.8					—	3500					3500		
5.5	**BN 132M** **2**	2870	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	280	67
1.5	**8**	690	21	68	0.63	5.1	2.9	1.9	1.9					—	2400					2400		

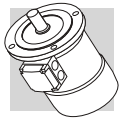


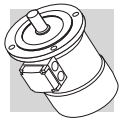


2/12P	3000/500 min^{-1} - S3 60/40%	50 Hz

													d.c. brake						a.c. brake				
													FD						FA				
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5		Mod	Mb	Z_o 1/h		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V	In	Mn	Mn	x 10^{-4}							x 10^{-4}				1/h	x 10^{-4}	
kW			min^{-1}	Nm	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.55	**BN 80B**	**2**	2820	1.86	64	0.89	1.39	4.2	1.6	1.7	25	11.3	**FD 04**	5.0	1000	1300	27	15.2	**FA 04**	5.0	1300	27	15.1
0.09		**12**	430	2.0	30	0.63	0.69	1.8	1.9	1.8					8000	12000					12000		
0.75	**BN 90L**	**2**	2790	2.6	56	0.89	2.17	4.2	1.8	1.7	26	12.6	**FD 05**	13	1000	1150	30	18.6	**FA 05**	13	1150	30	19.3
0.12		**12**	430	2.7	26	0.63	1.06	1.7	1.4	1.6					4600	6300					6300		
1.10	**BN 100LA**	**2**	2850	3.7	65	0.85	2.87	4.5	1.6	1.8	40	18.3	**FD 15**	13	700	900	44	25	**FA 15**	13	900	44	25
0.18		**12**	430	4.0	26	0.54	1.85	1.5	1.3	1.5					4000	6000					6000		
1.5	**BN 100LB**	**2**	2900	4.9	67	0.86	3.76	5.6	1.9	1.9	54	22	**FD 15**	13	700	900	58	28	**FA 15**	13	900	58	29
0.25		**12**	440	5.4	36	0.46	2.18	1.8	1.7	1.8					3800	5000					5000		
2	**BN 112M**	**2**	2900	6.6	74	0.88	4.43	6.5	2.1	2.0	98	30	**FD 06S**	20	—	800	107	40	**FA 06S**	20	800	107	42
0.3		**12**	460	6.2	46	0.43	2.19	2.0	2.1	2.0					—	3400					3400		
3	**BN 132S**	**2**	2920	9.8	74	0.87	6.7	6.8	2.3	1.9	213	44	**FD 56**	37	—	450	223	57	**FA 06**	37	450	223	58
0.5		**12**	470	10.2	51	0.43	3.3	2.0	1.7	1.6					—	3000					3000		
4	**BN 132M**	**2**	2920	13.1	75	0.89	8.6	5.9	2.4	2.3	270	53	**FD 56**	37	—	400	280	66	**FA 06**	37	400	280	67
0.7		**12**	460	14.5	53	0.44	4.3	1.9	1.7	1.6					—	2800					2800		

4/6P			1500/1000 min^{-1} - S1											50 Hz								
													d.c. brake						a.c. brake				
													FD						FA				
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5	Mod	Mb	Z_o		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V		Mn	Mn	x 10^{-4}				1/h		x 10^{-4}					x 10^{-4}	
kW		min^{-1}	Nm	%		A	In			kgm^2			Nm	NB	SB	kgm^2			Nm	1/h	kgm^2	
0.22	**BN 71B** **4**	1410	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	9.7
0.13	**6**	920	1.4	43	0.67	0.65	2.3	1.6	1.7					5000	9000					9000		
0.30	**BN 80A** **4**	1410	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	12.0
0.20	**6**	930	2.1	54	0.66	0.81	3.2	1.9	2.0					4000	6000					6000		
0.40	**BN 80B** **4**	1430	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	13.7
0.26	**6**	930	2.7	55	0.70	0.97	2.7	1.5	1.6					3600	5500					5500		
0.55	**BN 90S** **4**	1420	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	16.3
0.33	**6**	930	3.4	62	0.70	1.10	3.7	2.3	2.0					2500	4100					4100		
0.75	**BN 90L** **4**	1420	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	21
0.45	**6**	920	4.7	66	0.71	1.39	3.3	2.0	1.9					2300	3600					3600		
1.1	**BN 100LA** **4**	1450	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	29
0.8	**6**	950	8.0	65	0.69	2.57	4.1	1.9	2.1					2100	3300					3300		
1.5	**BN 100LB** **4**	1450	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	32
1.1	**6**	950	11.1	72	0.68	3.24	4.3	2.0	2.1					2000	3000					3000		
2.3	**BN 112M** **4**	1450	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	44
1.5	**6**	960	14.9	73	0.72	4.1	4.9	2.0	2.0					—	2400					2400		
3.1	**BN 132S** **4**	1460	20	83	0.83	6.5	5.9	2.1	2.0	213	44	**FD 56**	37	—	1200	223	57	**FA 06**	37	1200	223	58
2	**6**	960	20	77	0.75	4.9	4.5	2.1	2.1					—	1900					1900		
4.2	**BN 132MA** **4**	1460	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	67
2.6	**6**	960	26	79	0.72	6.6	4.3	2.0	2.0					—	1500					1500		



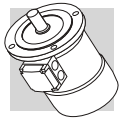


4/8P	1500/750 min^{-1} - S1	50 Hz

													d.c. brake						a.c. brake				
													FD						FA				
P_n		n	M_n	η	cosφ	In 400V	Is / In	Ms / Mn	Ma / Mn	J_m x 10^{-4}	IM B5		Mod	Mb	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	Mb	Z_o	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm	%		A				kgm^2				Nm	NB	SB	kgm^2			Nm	1/h	kgm^2	
0.37	BN 80A	4	1400	2.5	63	0.82	1.03	3.3	1.4	1.4	15	8.2	FD 04	10	2300	3500	16.6	12.1	FA 04	10	3500	16.6	12.0
0.18		8	690	2.5	44	0.60	0.98	2.2	1.5	1.6					4500	7000					7000		
0.55	BN 80B	4	1390	3.8	65	0.86	1.42	3.8	1.7	1.6	20	9.9	FD 04	10	2200	2900	22	13.8	FA 04	10	2900	22	13.7
0.30		8	670	4.3	49	0.65	1.36	2.3	1.7	1.8					4200	6500					6500		
0.65	BN 90S	4	1390	4.5	73	0.85	1.51	4.0	1.9	1.9	28	13.6	FD 14	15	2300	2800	30	17.8	FA 14	15	2800	30	17.7
0.35		8	690	4.8	49	0.57	1.81	2.5	2.1	2.2					3500	6000					6000		
0.9	BN 90L	4	1370	6.3	73	0.87	2.05	3.8	1.8	1.8	30	15.1	FD 05	26	1700	2100	34	21	FA 05	26	2100	34	22
0.5		8	670	7.1	57	0.62	2.04	2.4	2.1	2.0					2500	4200					4200		
1.30	BN 100LA	4	1420	8.7	72	0.83	3.14	4.3	1.7	1.8	82	22	FD 15	40	1300	1700	86	28	FA 15	40	1700	86	29
0.70		8	700	9.6	58	0.64	2.72	2.8	1.8	1.8					2000	3400					3400		
1.8	BN 100LB	4	1420	12.1	69	0.87	4.3	4.2	1.6	1.7	95	25	FD 15	40	1200	1700	99	31	FA 15	40	1700	99	32
0.9		8	700	12.3	62	0.63	3.3	3.2	1.7	1.8					1600	2600					2600		
2.2	BN 112M	4	1440	14.6	77	0.85	4.9	5.3	1.8	1.8	168	32	FD 06S	60	—	1200	177	42	FA 06S	60	1200	177	43
1.2		8	710	16.1	70	0.63	3.9	3.3	1.9	1.8					—	2000					2000		
3.6	BN 132S	4	1440	24	80	0.82	7.9	6.5	2.1	1.9	295	45	FD 56	75	—	1000	305	58	FA 06	75	1000	305	59
1.8		8	720	24	72	0.55	6.6	4.6	1.9	2.0					—	1400					1400		
4.6	BN 132M	4	1450	30	81	0.83	9.9	6.5	2.2	1.9	383	56	FD 06	100	—	1000	393	69	FA 07	100	1000	406	74
2.3		8	720	31	73	0.54	8.4	4.4	2.3	2.0					—	1300					1300		

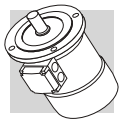
2P	3000 min^{-1} - S1	50 Hz

															d.c. brake						a.c. brake				
															FD						FA				
P_n		n	M_n	IE1	η (100%)	η (75%)	η (50%)	cosφ	In 400V	Is / In	Ms / Mn	Ma / Mn	J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm		%	%	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.18	**M 05A 2**	2730	0.63	○	59.9	56.9	51.9	0.77	0.56	3.0	2.1	2.0	2.0	3.2	**FD 02**	1.75	3900	4800	2.6	4.9	**FA 02**	1.75	4800	2.6	4.7
0.25	**M 05B 2**	2740	0.87	○	66.0	64.8	64.8	0.76	0.72	3.3	2.3	2.3	2.3	3.6	**FD 02**	1.75	3900	4800	3.0	5.3	**FA 02**	1.75	4800	3.0	5.1
0.37	**M 05C 2**	2800	1.26	○	69.1	66.8	66.8	0.78	0.99	3.9	2.6	2.6	3.3	4.8	**FD 02**	3.5	3600	4500	3.9	6.5	**FA 02**	3.5	4500	3.9	6.3
0.55	**M 1SD 2**	2820	1.86	○	76.0	75.8	74.8	0.76	1.37	5.0	2.9	2.8	4.1	5.8	**FD 03**	5	2900	4200	5.3	8.5	**FA 03**	5	4200	5.3	8.2
0.75	**M 1LA 2**	2810	2.6	○	76.6	76.2	76.2	0.76	1.86	5.1	3.1	2.8	5.0	6.9	**FD 03**	5	1900	3300	6.1	9.6	**FA 03**	5	3300	6.1	9.3
1.1	**M 2SA 2**	2800	3.8	•	76.4	76.2	75.0	0.81	2.57	4.8	2.8	2.4	9.0	8.8	**FD 04**	10	1500	3000	10.6	11.9	**FA 04**	10	3000	10.6	12.6
1.5	**M 2SB 2**	2800	5.1	•	79.1	79.5	77.2	0.81	3.4	4.9	2.7	2.4	11.4	10.6	**FD 04**	15	1300	2600	13.0	9.9	**FA 04**	15	2600	13.0	14.4
2.2	**M 3SA 2**	2880	7.3	•	82.7	82.1	81.0	0.80	4.8	6.3	2.9	2.7	24	15.5	**FD 15**	26	1100	2400	28	22	**FA 15**	26	2400	28	23
3	**M 3LA 2**	2860	10.0	•	81.5	81.3	77.4	0.79	6.7	5.6	2.6	2.2	31	18.7	**FD 15**	26	700	1600	35	25	**FA 15**	26	1600	35	26
4	**M 3LB 2**	2870	13.3	•	83.1	83.0	77.8	0.80	8.7	5.8	2.7	2.5	39	22	**FD 15**	40	450	900	43	28	**FA 15**	40	900	43	29
5.5	**M 4SA 2**	2890	18.2	•	84.7	84.5	81.2	0.84	11.2	5.9	2.6	2.2	101	33	**FD 06**	50	—	600	112	46	**FA 06**	50	600	112	47
7.5	**M 4SB 2**	2900	25	•	86.5	86.3	84.4	0.85	14.7	6.4	2.6	2.2	145	40	**FD 06**	50	—	550	154	53	**FA 06**	50	550	154	54
9.2	**M 4LA 2**	2930	30	•	87.0	86.5	83.6	0.86	17.7	6.7	2.8	2.3	178	51	**FD 56**	75	—	430	189	64	**FA 06**	75	430	189	65
11	**M 4LC 2**	2920	36	•	87.6	87.0	86.0	0.88	20.6	6.9	2.9	2.5	210	60											
15	**M 5SB 2**	2930	49	•	89.6	89.4	88.0	0.86	28.1	7.1	2.6	2.3	340	70											
18.5	**M 5SC 2**	2930	60	•	90.4	90.1	89.0	0.86	34	7.6	2.7	2.3	420	83											
22	**M 5LA 2**	2930	72	•	89.9	89.7	89.5	0.88	40	7.8	2.6	2.4	490	95											



○ = n.a. • = IE1

4P | **1500 min^{-1}** - S1 | **50 Hz**

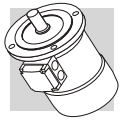


															d.c. brake						a.c. brake				
															FD						FA				
P_n		n	M_n	IE1	η (100%)	η (75%)	η (50%)	cosφ	In 400V	Is / In	Ms / Mn	Ma / Mn	J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm		%	%	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.09	**M 0B** **4**	1350	0.64	○	51.7	47.6	42.9	0.60	0.42	2.6	2.5	2.4	1.5	2.9											
0.12	**M 05A** **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**	1.75	10000	13000	2.6	4.9	**FA 02**	1.75	13000	2.6	4.7
0.18	**M 05B** **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	10000	13000	3.0	5.3	**FA 02**	3.5	13000	3.0	5.1
0.25	**M 05C** **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 02**	3.5	7800	10000	3.9	6.5	**FA 02**	3.5	10000	3.9	6.3
0.37	**M 1SD** **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 03**	5	6000	9400	8.0	8.2	**FA 03**	5	9400	8.0	7.9
0.55	**M 1LA** **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 53**	7.5	4300	8700	10.2	9.6	**FA 03**	7.5	8700	10.2	9.3
0.75	**M 2SA** **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	4100	7800	22	13.1	**FA 04**	15	7800	22	13.0
1.1	**M 2SB** **4**	1400	7.5	•	76.4	76.2	70.4	0.78	2.66	5.1	2.8	2.5	25	10.6	**FD 04**	15	2600	5300	27	14.5	**FA 04**	15	5300	27	14.4
1.5	**M 3SA** **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**	26	2800	4900	38	22	**FA 15**	26	4900	38	23
2.2	**M 3LA** **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	2600	4700	44	24	**FA 15**	40	4700	44	24
3	**M 3LB** **4**	1410	20	•	82.6	83.8	83.7	0.77	6.8	5.0	2.3	2.2	54	21	**FD 15**	40	2400	4400	58	27	**FA 15**	40	4400	58	28
4	**M 3LC** **4**	1400	27	○	82.7	83.1	80.5	0.78	9.0	4.7	2.3	2.2	61	23	**FD 55**	55	—	1300	65	29	**FA 15**	40	1300	65	30
5.5	**M 4SA** **4**	1440	36	•	84.7	84.8	82.5	0.81	11.6	5.5	2.3	2.2	213	42	**FD 56**	75	—	1050	223	55	**FA 06**	75	1050	223	56
7.5	**M 4LA** **4**	1440	50	•	86.0	86.3	85.3	0.81	15.5	5.7	2.5	2.4	270	51	**FD 06**	100	—	950	280	64	**FA 07**	100	950	280	65
9.2	**M 4LB** **4**	1440	61	•	88.4	88.6	87.5	0.81	18.8	5.9	2.7	2.5	319	57	**FD 07**	150	—	900	342	73	**FA 07**	150	900	342	75
11	**M 4LC** **4**	1440	73	•	87.6	87.8	86.0	0.81	22.4	6.0	2.7	2.5	360	65	**FD 07**	150	—	850	382	81	**FA 07**	150	850	382	83
15	**M 5SB** **4**	1460	98	•	88.7	88.5	88.4	0.81	30.1	6.0	2.3	2.1	650	85	**FD 08**	200	—	750	725	115	**FA 08**	200	750	710	114
18.5	**M 5LA** **4**	1460	121	•	89.3	89.5	89.2	0.81	37	6.2	2.6	2.5	790	101	**FD 08**	250	—	700	865	131	**FA 08**	250	700	850	130

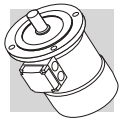
○ = n.a. • = IE1

6P	1000 min^{-1} - S1	50 Hz

															d.c. brake						a.c. brake				
															FD						FA				
P_n		n	M_n	IE1	η (100%)	η (75%)	η (50%)	cosφ	In 400V	Is / In	Ms / Mn	Ma / Mn	J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h		J_m x 10^{-4}	IM B5	Mod	Mb	Z_o 1/h	J_m x 10^{-4}	IM B5
kW		min^{-1}	Nm		%	%	%		A				kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.09	**M 05A 6**	880	0.98	○	41.0	41.0	32.9	0.53	0.60	2.1	2.1	1.8	3.4	4.3	**FD 02**	3.5	9000	14000	4.0	6.0	**FA 02**	3.5	14000	4.0	5.8
0.12	**M 05B 6**	870	1.32	○	45.0	44.0	41.8	0.60	0.64	2.1	1.9	1.7	3.7	4.6	**FD 02**	3.5	9000	14000	4.3	6.3	**FA 02**	3.5	14000	4.3	6.1
0.18	**M 1SC 6**	900	1.91	○	55.0	55.5	51.0	0.69	0.68	2.6	1.9	1.7	8.4	5.1	**FD 03**	5	8100	13500	9.5	7.8	**FA 03**	5	13500	9.5	7.5
0.25	**M 1SD 6**	900	2.7	○	62.0	58.5	51.4	0.71	0.82	2.6	1.9	1.7	10.9	6.3	**FD 03**	5	7800	13000	12	9.0	**FA 03**	5	13000	12	8.7
0.37	**M 1LA 6**	910	3.9	○	66.0	60.0	53.3	0.69	1.17	3.0	2.4	2.0	12.9	7.3	**FD 53**	7.5	5100	9500	14	10.0	**FA 03**	7.5	9500	14	9.7
0.55	**M 2SA 6**	920	5.7	○	70.0	69.8	64.3	0.68	1.67	3.9	2.6	2.2	25	10.6	**FD 04**	15	4800	7200	27	14.5	**FA 04**	15	7200	27	14.4
0.75	**M 2SB 6**	920	7.8	•	70.0	70.0	64.4	0.65	2.38	3.8	2.5	2.2	28	11.5	**FD 04**	15	3400	6400	30	15.4	**FA 04**	15	6400	30	15.3
1.1	**M 3SA 6**	920	11.4	•	75.0	74.0	72.0	0.72	2.9	4.3	2.0	1.8	33	17	**FD 15**	26	2700	5000	37	23	**FA 15**	26	5000	37	24
1.5	**M 3LA 6**	940	15.2	•	75.2	74.2	70.3	0.72	4.0	4.1	2.1	2.0	82	21	**FD 15**	40	1900	4100	86	27	**FA 15**	40	4100	86	28
1.85	**M 3LB 6**	930	19.0	•	76.6	72.8	62.6	0.73	4.8	4.6	2.1	2.0	95	23	**FD 15**	40	1700	3600	99	29	**FA 15**	40	3600	99	30
2.2	**M 3LC 6**	930	23	•	77.7	76.8	72.4	0.71	5.8	4.7	2.3	2.1	95	23	**FD 55**	55	—	1900	99	29	**FA 15**	40	1900	99	30
3	**M 4SA 6**	940	30	•	79.7	77.0	75.1	0.76	7.1	5.1	1.9	1.8	216	34	**FD 56**	75	—	1400	226	47	**FA 06**	75	1400	226	48
4	**M 4LA 6**	950	40	•	81.4	81.5	79.5	0.77	9.2	5.5	2.0	1.8	295	43	**FD 06**	100	—	1200	305	56	**FA 07**	100	1200	305	57
5.5	**M 4LB 6**	945	56	•	83.1	80.9	79.1	0.78	12.2	6.1	2.1	1.9	383	54	**FD 07**	150	—	1050	406	70	**FA 07**	150	1050	406	72
7.5	**M 5SA 6**	955	75	•	85.0	85.0	84.8	0.81	15.7	5.9	2.2	2.0	740	69	**FD 08**	170	—	900	815	98	**FA 08**	170	900	800	98
11	**M 5SB 6**	960	109	•	86.4	86.5	85.9	0.81	22.7	6.6	2.5	2.3	970	89	**FD 08**	200	—	800	1045	119	**FA 08**	200	800	1030	118



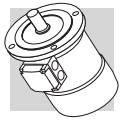
○ = n.a. • = IE1

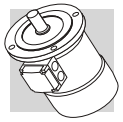


2/4P	3000/1500 min^{-1} - S1	50 Hz

													d.c. brake						a.c. brake				
													FD						FA				
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5		Mod	Mb	Z_o 1/h		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V	In	Mn	Mn	x 10^{-4}							x 10^{-4}				1/h	x 10^{-4}	
kW		min^{-1}	Nm	%		A				kgm^2				Nm	NB	SB	kgm^2			Nm		kgm^2	
0.20	**M 05A**	**2**	2700	0.71	55	0.82	0.64	3.5	2.1	1.9	2.9	4.1	**FD 02**	3.5	2200	2600	3.5	5.8	**FA 02**	3.5	2600	3.5	5.6
0.15		**4**	1350	1.06	49	0.67	0.66	2.6	1.8	1.7					4000	5100					5100		
0.28	**M 1SB**	**2**	2700	0.99	56	0.82	0.88	2.9	1.9	1.7	4.7	4.0	**FD 03**	3.5	2100	2400	5.8	6.7	**FA 03**	3.5	2400	5.8	6.4
0.20		**4**	1370	1.39	59	0.68	1.02	3.1	1.8	1.7					3800	4800					4800		
0.37	**M 1SC**	**2**	2740	1.29	56	0.82	1.16	3.5	1.8	1.8	5.8	4.7	**FD 03**	5	1400	2100	6.9	7.4	**FA 03**	5	2100	6.9	7.1
0.25		**4**	1390	1.72	60	0.73	0.82	3.3	2.0	1.9					2900	4200					4200		
0.45	**M 1SD**	**2**	2780	1.55	63	0.85	1.21	3.8	1.8	1.8	6.9	5.5	**FD 03**	5	1400	2100	8.0	8.2	**FA 03**	5	2100	8.0	7.9
0.30		**4**	1400	2.0	63	0.74	0.93	3.8	2.1	1.9					2900	4200					4200		
0.55	**M 1LA**	**2**	2800	1.9	73	0.79	1.38	4.2	2.0	1.8	9.1	6.9	**FD 03**	5	1600	2200	10.2	9.6	**FA 03**	5	2200	10.2	9.3
0.37		**4**	1400	2.5	68	0.72	1.09	3.9	2.2	2.0					3300	4600					4600		
0.75	**M 2SA**	**2**	2780	2.6	65	0.85	1.96	3.8	1.9	1.8	20	9.2	**FD 04**	10	1400	1600	22	13.1	**FA 04**	10	1600	22	13.0
0.55		**4**	1400	3.8	68	0.81	1.44	3.9	1.7	1.7					2700	3600					3600		
1.1	**M 2SB**	**2**	2730	3.9	65	0.86	2.84	3.9	2.0	1.9	25	10.7	**FD 04**	10	1200	1500	27	14.5	**FA 04**	10	1500	27	14.5
0.75		**4**	1410	5.1	75	0.81	1.78	4.5	2.1	2.0					2300	3100					3100		
1.5	**M 3SA**	**2**	2830	5.1	74	0.83	3.5	4.7	2.1	2.0	34	15.5	**FD 15**	26	700	1000	38	22	**FA 15**	26	1000	38	23
1.1		**4**	1420	7.4	77	0.78	2.6	4.3	2.1	2.0					1600	2600					2600		
2.2	**M 3LA**	**2**	2800	7.5	72	0.85	5.2	4.5	2.0	1.9	40	17	**FD 15**	26	600	900	44	24	**FA 15**	26	900	44	24
1.5		**4**	1410	10.2	73	0.79	3.8	4.7	2.0	2.0					1300	2300					2300		
3.5	**M 3LB**	**2**	2850	11.7	80	0.84	7.5	5.4	2.2	2.1	61	23	**FD 15**	40	500	900	65	29	**FA 15**	40	900	65	30
2.5		**4**	1420	16.8	82	0.80	5.5	5.2	2.2	2.2					1000	2100					2100		
4.8	**M 4 SA**	**2**	2900	15.8	81	0.88	9.7	6.0	2.0	1.9	213	42	**FD 06**	50	—	400	233	55	**FA 06**	50	400	233	56
3.8		**4**	1430	25.4	81	0.84	8.1	5.2	2.1	2.1					—	950					950		
5.5	**M 4SB**	**2**	2890	18.2	80	0.87	11.4	5.9	2.4	2.0	213	42	**FD 56**	75	—	350	223	55	**FA 06**	75	350	223	56
4.4		**4**	1440	29	82	0.84	9.2	5.3	2.2	2.0					—	900					900		
7.5	**M 4LA**	**2**	2900	25	82	0.87	15.2	6.5	2.4	2.0	270	51	**FD 06**	100	—	350	280	64	**FA 07**	100	350	280	65
6		**4**	1430	40	84	0.85	12.1	5.8	2.3	2.1					—	950					950		
9.2	**M 4LB**	**2**	2920	30	83	0.86	18.6	6.0	2.6	2.2	319	57	**FD 07**	150	—	300	342	73	**FA 07**	150	300	342	75
7.3		**4**	1440	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										
												d.c. brake						a.c. brake				
												FD						FA				
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5	Mod	Mb	Z_o		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V		Mn	Mn	x 10^{-4}				1/h		x 10^{-4}					x 10^{-4}	
kW		min^{-1}	Nm	%		A	In			kgm^2			Nm	NB	SB	kgm^2			Nm		kgm^2	
0.25	**M 1SA** **2**	2850	0.84	60	0.82	0.73	4.3	1.9	1.8	6.9	5.5	**FD 03**	1.75	1500	1700	8.0	8.2	**FA 03**	1.75	1700	8.0	7.9
0.08	**6**	910	0.84	43	0.70	0.38	2.1	1.4	1.5					10000	13000					13000		
0.37	**M 1LA** **2**	2880	1.23	62	0.80	1.08	4.4	1.9	1.8	9.1	6.9	**FD 03**	3.5	1000	1300	10.2	9.6	**FA 03**	3.5	1300	10.2	9.3
0.12	**6**	900	1.27	44	0.73	0.54	2.4	1.4	1.5					9000	11000					11000		
0.55	**M 2SA** **2**	2800	1.88	63	0.86	1.47	4.5	1.9	1.7	20	9.2	**FD 04**	5	1500	1800	22	13.1	**FA 04**	5	1800	22	13.0
0.18	**6**	930	1.85	52	0.65	0.77	3.3	2.0	1.9					4100	6300					6300		
0.75	**M 2SB** **2**	2800	2.6	66	0.87	1.89	4.3	1.8	1.6	25	10.6	**FD 04**	5	1700	1900	27	14.5	**FA 04**	5	1900	27	14.4
0.25	**6**	930	2.6	54	0.67	1.00	3.2	1.7	1.8					3800	6000					6000		
1.1	**M 3SA** **2**	2870	3.7	71	0.82	2.73	4.9	1.8	1.9	34	15.5	**FD 15**	13	1000	1300	38	22	**FA 15**	13	1300	38	23
0.37	**6**	930	3.8	63	0.70	1.21	3.1	1.5	1.8					3500	5000					5000		
1.5	**M 3LA** **2**	2880	5.0	73	0.84	3.53	5.1	1.9	2.0	40	17	**FD 15**	13	1000	1200	44	24	**FA 15**	13	1200	44	24
0.55	**6**	940	5.6	64	0.67	1.85	3.5	1.7	1.8					2900	4000					4000		
2.2	**M 3LB** **2**	2900	7.2	77	0.85	4.9	5.9	2.0	2.0	61	23	**FD 15**	26	700	900	65	29	**FA 15**	26	900	65	30
0.75	**6**	950	7.5	67	0.64	2.5	3.3	1.9	1.8					2100	3000					3000		
3	**M 4SA** **2**	2910	9.9	74	0.88	6.6	5.6	2.0	2.1	170	36	**FD 56**	37	—	600	182	48	**FA 06**	37	600	182	50
1.1	**6**	960	10.9	73	0.68	3.2	4.5	2.2	2.0					—	2200					2200		
4.5	**M 4SB** **2**	2910	14.8	78	0.84	9.9	5.8	1.9	1.8	213	42	**FD 56**	37	—	500	223	55	**FA 06**	37	500	223	56
1.5	**6**	960	14.9	74	0.67	4.4	4.2	1.9	2.0					—	2100					2100		
5.5	**M 4LA** **2**	2920	18.0	78	0.87	11.7	6.2	2.1	1.9	270	51	**FD 06**	50	—	400	280	64	**FA 06**	50	400	280	65
2.2	**6**	960	22	77	0.71	5.8	4.3	2.1	2.0					—	1900					1900		

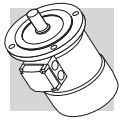


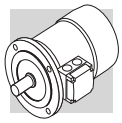


2/8P — **3000/750 min^{-1}** - S3 60/40% — **50 Hz**

													d.c. brake						a.c. brake				
													FD						FA				
P_n		n	M_n	η	cosφ	In	Is	Ms	Ma	J_m	IM B5		Mod	Mb	Z_o 1/h		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
						400V		Mn	Mn	x 10^{-4}							x 10^{-4}				1/h	x 10^{-4}	
kW		min^{-1}	Nm	%		A	In			kgm^2				Nm	NB	SB	kgm^2			Nm		kgm^2	
0.37	**M 1LA**	**2**	2800	1.26	63	0.86	0.99	3.9	1.8	1.9	12.9	7.3	**FD 03**	3.5	1200	1300	14	10.0	**FA 03**	3.5	1300	14	9.7
0.09		**8**	670	1.28	34	0.75	0.51	1.8	1.4	1.5					9500	13000					13000		
0.55	**M 2SA**	**2**	2830	1.86	66	0.86	1.40	4.4	2.1	2.0	20	9.2	**FD 04**	5	1500	1800	22	13.1	**FA 04**	5	1800	22	13.0
0.13		**8**	690	1.80	41	0.64	0.72	2.3	1.6	1.7					5600	8000					8000		
0.75	**M 2SB**	**2**	2800	2.6	68	0.88	1.81	4.6	2.1	2.0	25	10.6	**FD 04**	10	1700	1900	27	14.5	**FA 04**	10	1900	27	14.4
0.18		**8**	690	2.5	43	0.66	0.92	2.3	1.6	1.7					4800	7300					7300		
1.1	**M 3SA**	**2**	2870	3.7	69	0.84	2.74	4.6	1.8	1.7	34	15.5	**FD 15**	13	1000	1300	38	22	**FA 15**	13	1300	38	23
0.28		**8**	690	3.9	44	0.56	1.64	2.3	1.4	1.7					3400	5000					5000		
1.5	**M 3LA**	**2**	2880	5.0	69	0.85	3.69	4.7	1.9	1.8	40	17	**FD 15**	13	1000	1200	44	24	**FA 15**	13	1200	44	24
0.37		**8**	690	5.1	46	0.63	1.84	2.1	1.6	1.6					3300	5000					5000		
2.4	**M 3LB**	**2**	2900	7.9	75	0.82	5.6	5.4	2.1	2.0	61	23	**FD 15**	26	550	700	65	29	**FA 15**	26	700	65	30
0.55		**8**	700	7.5	54	0.58	2.5	2.6	1.8	1.8					2000	3500					3500		
3	**M 4SA**	**2**	2920	9.8	72	0.85	7.1	5.6	2.0	1.8	162	36	**FD 56**	37	—	600	182	48	**FA 06**	37	600	182	50
0.75		**8**	710	10.1	61	0.64	2.8	3.0	1.7	1.8					—	3400					3400		
4	**M 4SB**	**2**	2870	13.3	73	0.84	9.4	5.6	2.3	2.4	213	42	**FD 56**	37	—	500	223	55	**FA 06**	37	500	223	56
1		**8**	690	13.8	66	0.62	3.5	2.9	1.9	1.8					—	3500					3500		
5.5	**M 4LA**	**2**	2870	18.3	75	0.84	12.6	6.1	2.4	2.5	270	51	**FD 06**	50	—	400	280	64	**FA 06**	50	400	280	65
1.5		**8**	690	21	68	0.63	5.1	2.9	1.9	1.9					—	2400					2400		

2/12P			3000/500 min^{-1} - S3 60/40%										50 Hz									
													d.c. brake						a.c. brake			
													FD						FA			
P_n			n	M_n	η	cosφ	In	Is/In	Ms/Mn	Ma/Mn	J_m	IM B5	Mod	Mb	Z_o 1/h		J_m	IM B5	Mod	Mb	Z_o	J_m	IM B5
kW			min^{-1}	Nm	%		400V A				x 10^{-4} kgm^2			Nm	NB	SB	x 10^{-4} kgm^2			Nm	1/h	x 10^{-4} kgm^2	
0.55	**M 2SA**	**2**	2820	1.86	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**	430	2.0	30	0.63	0.69	1.8	1.9	1.8					8000	12000					12000		
0.75	**M 3SA**	**2**	2900	2.5	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**	460	2.5	33	0.43	1.22	1.9	1.3	1.6					5000	7000					7000		
1.1	**M 3LA**	**2**	2850	3.7	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**	430	4.0	26	0.54	1.85	1.5	1.3	1.5					4000	6000					6000		
1.5	**M 3LB**	**2**	2900	4.9	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**	440	5.4	36	0.46	2.18	1.8	1.7	1.8					3800	5000					5000		
2	**M 3LC**	**2**	2850	6.7	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**	450	6.4	38	0.47	2.4	1.7	1.6	1.7					—	3500					3500		
3	**M 4SA**	**2**	2920	9.8	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**	470	10.2	51	0.43	3.3	2.0	1.7	1.6					—	3000					3000		
4	**M 4LA**	**2**	2920	13.1	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**	460	14.5	53	0.44	4.3	1.9	1.7	1.6					—	2800					2800		





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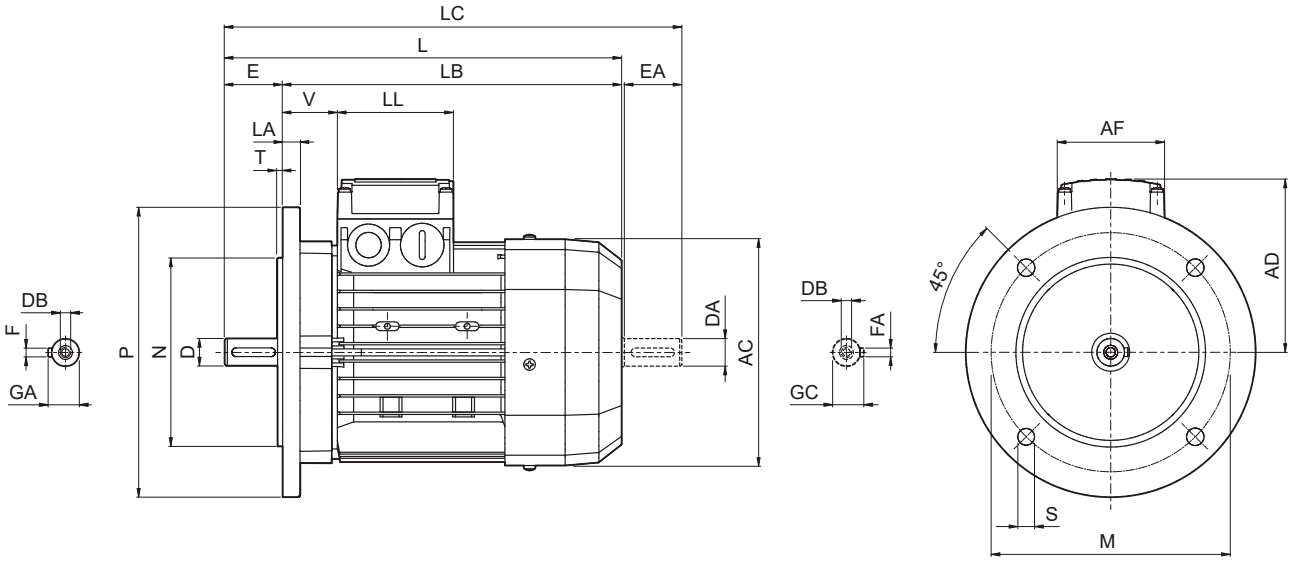
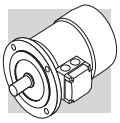
BN - IM B5

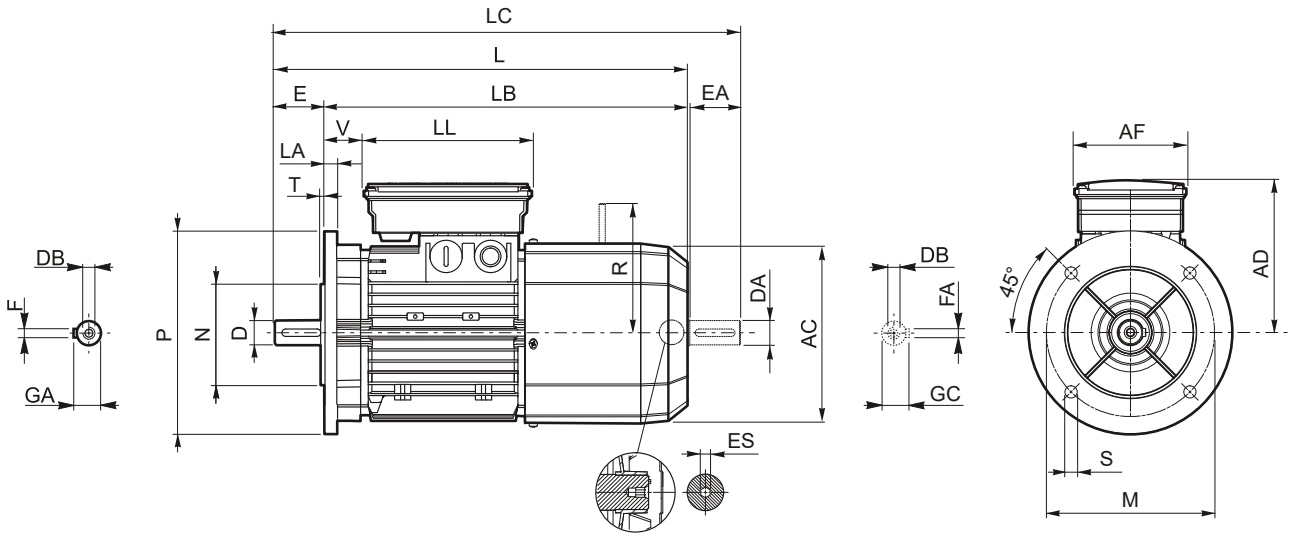


	Shaft					Flange						Motor							
	D DA	**E EA**	**DB**	**GA GC**	**F FA**	**M**	**N**	**P**	**S**	**T**	**LA**	**AC**	**L**	**LB**	**LC**	**AD**	**AF**	**LL**	**V**
BN 56	9	20	M3	10.2	3	100	80	120	7	3	8	110	185	165	207	91	74	80	34
BN 63	11	23	M4	12.5	4	115	95	140	9.5		10	121	207	184	232	95			26
BN 71	14	30	M5	16	5	130	110	160		3.5		138	249	219	281	108			37
BN 80	19	40	M6	21.5	6	165	130	200	11.5		11.5	156	274	234	315	119			38
BN 90	24	50	M8	27	8							176	326	276	378	133	98	98	44
BN 100	28	60	M10	31		215	180	250	14	4	14	195	367	307	429	142			50
BN 112											15	219	385	325	448	157			52
BN 132	38	80	M12	41	10	265	230	300			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	18.5	5	15		562	452	645				218
BN 160 M												310	596	486	680	245	187	187	51
BN 160 L																			
BN 180 M	48 38(1)	110 110(1)		51.5 41(1)	14 10(1)							310	640	530	724				
BN 180 L	48 42(1)		M16 M16(1)	51.5 45(1)	14 12(1)						18	348	708	598	823	261			52
BN 200 L	55 42(1)		M20 M16(1)	59 45(1)	16 12(1)	350	300	400					722	612	837				66

NOTE:
1) These values refer to the rear shaft end.



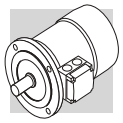
BN_FD ; IM B5



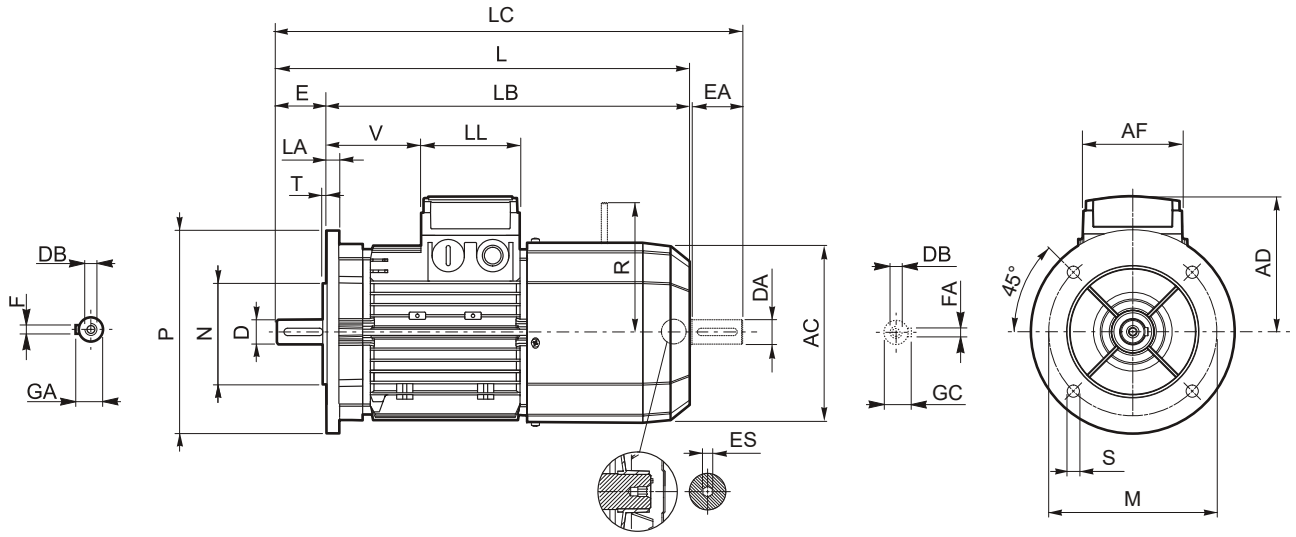
	Shaft					Flange						Motor									
	D DA	**E EA**	**DB**	**GA GC**	**F FA**	**M**	**N**	**P**	**S**	**T**	**LA**	**AC**	**L**	**LB**	**LC**	**AD**	**AF**	**LL**	**V**	**R**	**ES**
BN 63	11	23	M4	12.5	4	115	95	140	9.5	3	10	121	272	249	297	122	98	133	14	96	5
BN 71	14	30	M5	16	5	130	110	160	9.5	3.5		138	310	280	342	135			25	103	
BN 80	19	40	M6	21.5	6	165	130	200	11.5		11.5	156	346	306	388	146			41	129	
BN 90 S	24	50	M8	27	8							176	409	359	461	149	110	165	39	160	6
BN 90 L																146					
BN 100	28	60	M10	31		215	180	250	14	4	14	195	458	398	521	158		165	62		
BN 112											15	219	484	424	547	173		165	73	199	
BN 132	38	80	M12	41	10	265	230	300			20	258	603	523	686	210	140	188	46	204[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		672	562	755				161	226	
BN 160 M												310	736	626	820	245	187	187	51	266	—
BN 160 L	42 38[1]																				
BN 180 M	48 38[1]			51.5 41[1]	14 10[1]								780	670	864						
BN 180 L	48 42[1]	110 110[1]	M16 M16[1]	51.5 45[1]	14 12[1]						18	348	866	756	981	261			52	305	
BN 200 L	55 42[1]		M20 M16[1]	59 45[1]	16 12[1]	350	300	400	18.5				878	768	993				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



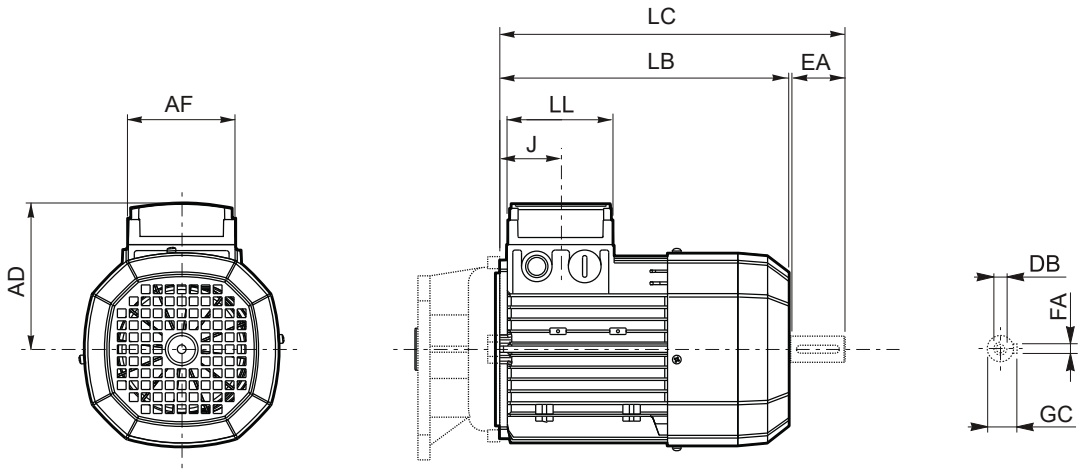
	Shaft					Flange						Motor									
	D DA	**E EA**	**DB**	**GA GC**	**F FA**	**M**	**N**	**P**	**S**	**T**	**LA**	**AC**	**L**	**LB**	**LC**	**AD**	**AF**	**LL**	**V**	**R**	**ES**
BN 63	11	23	M4	12.5	4	115	95	140	9.5	3	10	121	272	249	297	95	74	80	26	116	5
BN 71	14	30	M5	16	5	130	110	160		3.5		138	310	280	342	108			68	124	
BN 80	19	40	M6	21.5	6	165	130	200	11.5		11.5	156	346	306	388	119			83	134	
BN 90	24	50	M8	27	8							176	409	359	461	133	98	98	95	160	6
BN 100	28	60	M10	31		215	180	250	14	4	14	195	458	398	521	142			119		
BN 112											15	219	484	424	547	157			128	198	
BN 132	38	80	M12	41	10	265	230	300			20	258	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		672	562	755	193	118	118	218	217	
BN 160 M												310	736	626	820	245	187	187	51	247	—
BN 160 L																					
BN 180 M	48 38[1]			51.5 41[1]	14 10[1]								780	670	864						

NOTE:
1) These values refer to the rear shaft end.
2) For FA07 brake value R=217.

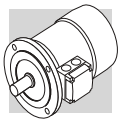
Dimensions AD, AF, LL and V, relevant to terminal box of motors BN…FA featuring the separate brake supply (option SA), are coincident with corresponding dimensions of same-size BN…FD motors

ES hexagon is not supplied with PS option.

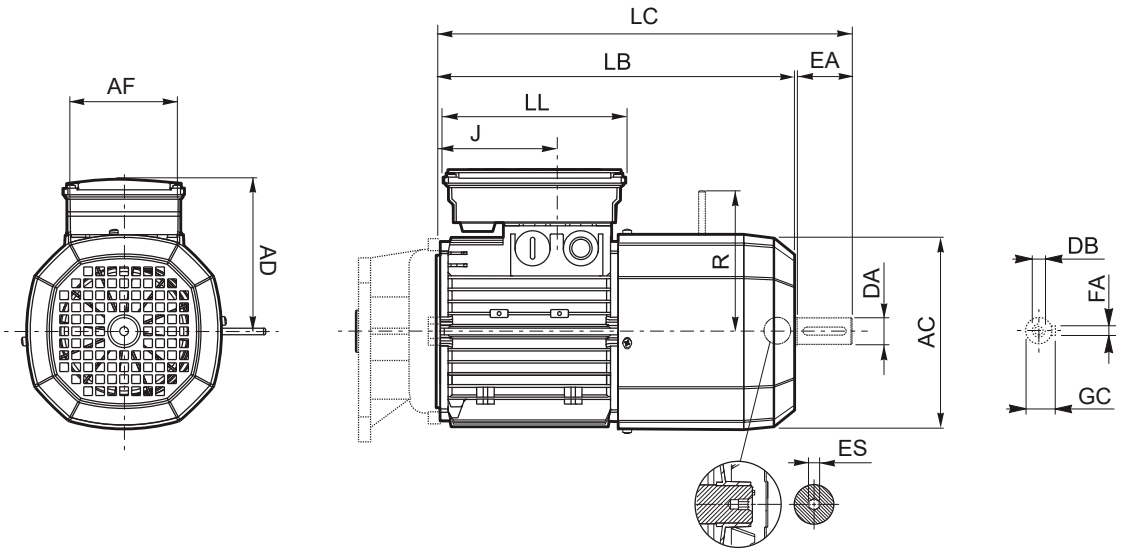
M



	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



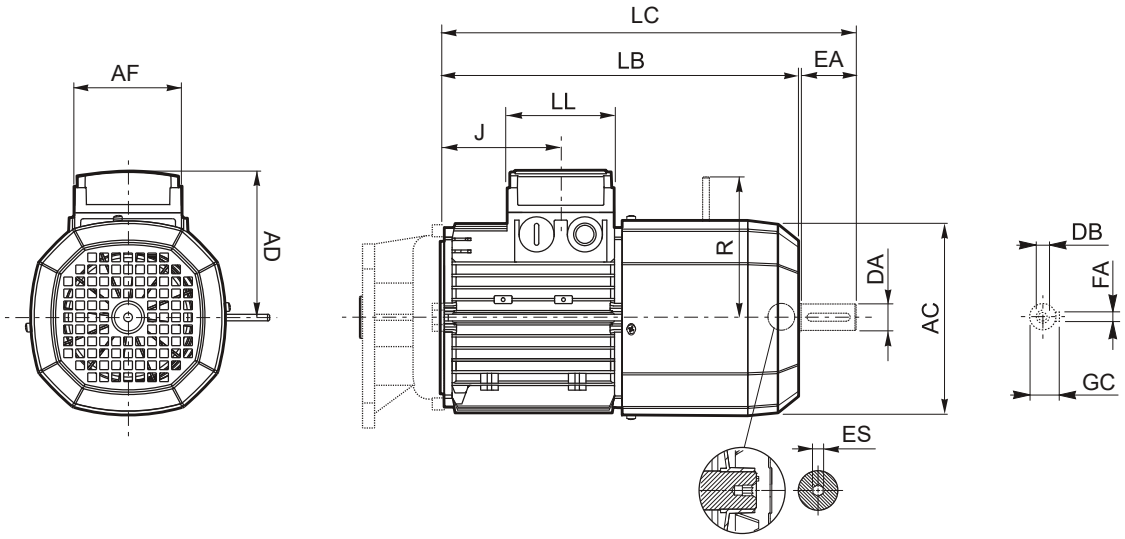
BN-M

	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



	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							602	686						

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

Bonfiglioli

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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