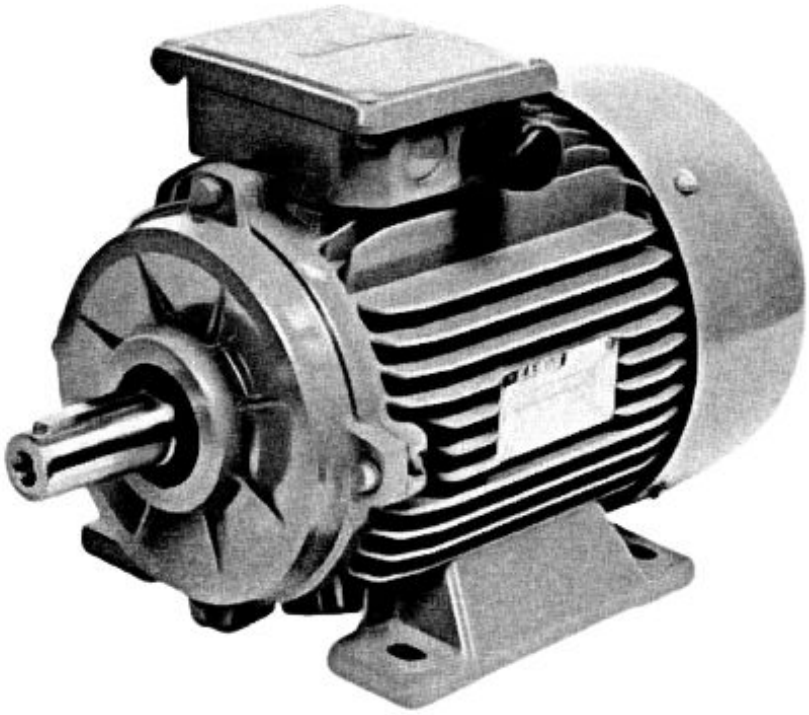


RotoMaq
Technical Catalog

IEC standard Gamak series

Our Factory

In our workshop founded on a 38,000-square-meter area in Topkapı, Istanbul, we manufactured Turkey's first electric motor with a 90-type frame and 1.5 kW power in the early 1960s. In 1965, when we started mass production, our production capacity was limited to only 1,000 units per year. We built a new factory in the mid-1970s on a 330,000-square-meter area in Dudullu and began to manufacture all parts used in the production of electric motors in our 50,000-square-meter facility. Certain processes in the production of electric motors that were done manually in the past have become automated over time. While we still have several departments where production is based on competent workforce, production is now mainly automated and carried out by modern machinery. Our factory is now equipped to carry out operations such as pressing, mechanical processing, winding, assembly, molding, repair and maintenance. We also have an aluminum injection section, where motors with lighter bodies can be manufactured, and a special production department for custom demands and needs. Our laboratory is one of the few test stations in Europe. As one of only two companies in the world that carry out its own copper wire production, we also have a wire enamel department in our factory.

With one of the world's biggest electric motor plants, where all production is gathered under one roof, we have the capacity to produce 1 million motors annually with power capacities ranging from 0.06 to 3000 kW and types ranging from 56 to 630. We take our production and quality to the next level with our competent workforce and state-of-the-art machinery.

As one of the few companies in the world that can manufacture its own wire, we use our own wire, which is thinned in the range of 2 mm to 0.2 mm. At one of Europe's leading laboratories at our facility, we bring our products to standards that meet the highest efficiency categories. While we continue to produce high efficiency motors (IE2 - IE3), we also work to establish the infrastructure necessary for the production of new generation high efficiency motors (IE4) through our R&D investments. Thanks to this potential, we carry out our production in a fast, dynamic and flexible structure. With our ability to produce custom motors tailored to specific demands and requirements — which is a need most other companies cannot fulfill — we take part in important projects in our country and around the world, especially in public spaces. Every day, we compete with our only real competitor in the world: ourselves.

PRODUCT CODING

2	1	Dual-wound two-speed motors
V.	2	Two-speed motors suitable for applications where load torque rises proportionally with the square of the speed (if not specified, the motor is suitable for constant torque applications)
C	3	Compact motor (Big power in a small frame)
A	4	Aluminum alloy (If not specified, cast iron)
G	5	3-phase, squirrel cage (cage rotor) induction motor
M	6	Totally enclosed, surface-cooled
M	7	Totally enclosed, surface-cooled+closed circuit internal cooling
2E / 2EL	8	2E : IE2 High efficiency motors 3E: IE3 Premium efficiency motors EL : Signifies Elit frame
D	9	Smoke Extraction Motors
PAD	10	Pad-Mounted Smoke Extraction Motors
100	11	Shaft height (mm) (IEC 60 072-1)
L	12	Frame length S: Short - M: Medium - L: Long
4	13	Number of poles: 2: 3000 m^{-1} | 4: 1500 m^{-1} | 6: 1000 m^{-1} | 8000: 750 m^{-1}
a	14	Iron core length

Bill of Materials

BEARING DESIGNATION

S F N *A G M E L* **B F**

Prefix

S : Special Bearing Arrangement (56…450)
F : Fixed non-drive ending bearing (56…132)
N : Greasing nipples for re-lubrication, non-drive end bearing fixed, drive end cylindrical roller bearing (132…450)

Suffix

B : Common drive and non-drive end bearing with non drive end bearing fixed (132…450)
F : Drive end bearing fixed (56…450)

SINGLE-PHASE MOTORS

M S K D EL 100 L 4 a

M : Single-phase, squirrel cage (cage rotor) induction motor, totally enclosed, surface cooled
S : Capacitor start/capacitor run design (with electronic relay)
K : Capacitor start/capacitor run design (with mechanical switch)
D : Permanent Split Capacitor Design
EL : Elit Frame
100 : Shaft height (mm) (IEC 60 072-1)
L : Frame length (S:Short - M: Medium - L: Long)
4 : Number of Poles: 2 and 4 poles
a : Iron core length

Standards and Recommendations

This catalog has been prepared in accordance with the recommendations of the Turkish Standards Institution (TSE) and the International Electrotechnical Commission (IEC) to provide the necessary information on the mechanical and electrical values of asynchronous, 3-phase, squirrel cage (cage rotor) induction motor, totally enclosed motors with frame sizes ranging from 56 to 450, which are manufactured for general use in the industry.

TS	IEC	DIN/EN	
TS EN 50 347	***60 072-1**	**DIN EN 50 437**	Dimensions and rated outputs of foot- and flange-mounted rotary electric machines
TS EN 50 347	**60 072-1**	**DIN EN 748-1**	Cylindrical shaft ends
TS EN 60 034-30-1	**60 034-30-1**	**DIN EN 60 034-1**	Rating and performance
TS EN 60 034-2	**60 034-2-1**	**DIN EN 60 034-2-1**	Methods for determining losses and efficiency of rotating electrical machinery from tests
TS 3209	**60 034-5**	**DIN EN 60 034-5**	Degrees of protection for enclosures
TS EN 60 034-6	**60 034-6**	**DIN EN 60 034-6**	Cooling methods
TS EN 60 034-7	**60 034-7**	**DIN EN 60 034-7**	Symbols for construction types and mounting arrangements
TS EN 60 034-8	**60 034-8**	**DIN EN 60 034-8**	Terminal markings and direction of rotation
TS EN 60 034-9	**60 034-9**	**DIN EN 60 034-9**	Noise limits
TS EN 60 034-11	**60 034-11**	**DIN EN 60 034-11**	Thermal protection rules
TS EN 60 034-12	**60 034-12**	**DIN EN 60 034-12**	Starting performance of 3-speed three-phase cage induction motors
TS EN 60 034-14	**60 034-14**	**DIN EN 60 034-14**	Mechanical vibration: Measurement, evaluation and limits of the vibration severity
TS EN 60 038	**60 038**	**DIN EN 60 038**	Electrical mains voltages
TS EN 60 085	**60 085**	**DIN EN 60 085**	Classification of materials used in insulation of electrical machinery according to their thermal stability properties in operation
TS EN 60 034-1	**60 034-1**	**DIN EN 60 034-1**	Rating and performance of rotating electrical machines
TS EN 60 034-26	**60 034-26**	**DIN EN 60 034-26**	Effects of voltage imbalance on 3-phase induction motors
TS EN 60 072-1	**60 072-1**	**DIN EN 748-1**	General Purpose 3-Phase Induction Motors with Standard Dimensions and Outputs. Frame Numbers 56 to 315 and Flange Numbers 65 to 740
-	**60 072-2**	**DIN EN 748-1**	General Purpose 3-Phase Induction Motors with Standard Dimensions and Outputs. Frame Numbers 355 to 1000 and Flange Numbers 1180 to 2360
-	**60 034-31**	**DIN IEC 60034-31**	Energy saving motor selection including variable-speed applications - Reference guide
TS EN 60 947-8	**60 947-8**	**-**	Control units for built-in thermal protection (PTC) for rotating electrical machines

(*) IEC 60 072-1 specifies only the dimensions and rated output of foot- and flange-mounted rotary electric machines, respectively, but does not associate the rated outputs with the frame sizes. However, TS EN 50 347 and DIN EN 50 347 specify the dimensions and rated outputs of foot- and flange-mounted rotary electric machines according to their frame sizes and also indicate the relationship between them.

MECHANICAL DESIGN

Motor Frames, End Shields and Flanges

Materials used in motors frames, end shields and flanges are given in the table below according to their frame sizes.

Frame Size	Motor Frame	End Shields	Flanges		
			B5	B14/Small	B14/Large
56...100	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
112	Aluminum	Aluminum	Aluminum	Aluminum	Cast Iron
132	Aluminum or Cast Iron	Aluminum or Cast Iron	Aluminum or Cast Iron	Aluminum	Cast Iron
160	Aluminum or Cast Iron	Aluminum or Cast Iron	Cast Iron	Cast Iron	Cast Iron
180	Aluminum or Cast Iron	Aluminum or Cast Iron	Cast Iron	-	-
200	Aluminum or Cast Iron	Cast Iron	Cast Iron	-	-
225...450	Cast Iron	Cast Iron	Cast Iron	-	-

Feet of all motors except aluminum Elit motors are cast fixed to the frame. Motors with a frame size 132 to 180 have two integrally cast lifting eyes. In addition, motors with a frame size of 160 to 180 can be equipped with an optional DIN 580-compliant lifting eye.

All motors with a frame size of 200 to 630 come with a lifting eye (DIN 580-compliant).

MECHANICAL DESIGN

Cable Entry

Cable entry to the terminal box is provided by cable glands manufactured in accordance with EN 60423 and DIN EN 50 262, or, if requested, by using etange (IP 68) cable glands.

Plastic Terminal Boxes

Frame Size	56-63	71-80-90	100-112	132	160-180
Cable Glands	M16	M20	M25	M32	M40
Number of Cable Glands	1	1	1	2	2
Cable Outer Diameter (mm)	5-10	10-14	13-18	18-25	22-32
Maximum Cable Cross Section (mm^2)	1.5	2.5	2.5	6	16

Aluminum Terminal Boxes

71-80-90-100-112	132	160-180	200-225	250-280- 315	355	400*-450*
M20	M25	M32	M50	M63	PQ70	PQ70
1	2	2	2	2	2	4
10-14	13-18	18-25	30 - 38	34 - 44	59	59
2.5	6	16	50	120	240	240

(*) The terminal box for 400 and 450 will be cast iron GG20.

Bearings

The motors are fitted with high quality noise tested single-row deep-groove radial ball-bearings (DIN 625) or cylindrical roller bearings (DIN 5412).

The single-row deep groove ball bearing design is offered as a standard for electric motors. The radialand axial loads of the standard design bearings in the bearing arrangement shown in Figure 1, Figure 2, Figure 3, and Figure 4 on the next page are shown on the charts on the following page. For motors of a frame size of 132 and above, if the radial load applied to the shaft extension is above the values given on page 22, a cylindrical roller bearing design with a higher radial load bearing capacity should be preferred (Figure 5). If the axial force applied to the motor shaft extension exceeds the values given in the tables, please consult us as a special design may be required.

MECHANICAL DESIGN

Standard Design with Single-Row Deep Groove Ball Bearing

Frame Size	Number of Poles	Drive End Bearing	Non-Drive End Bearing	Table No.
56	2-4	6200 ZZ		1
63	2-4	6201 ZZ		
71	2-4-6-8	6202 ZZ		
80	2-4-6-8	6204 ZZ		
90	2-4-6-8	6205 ZZ		
100-112	2-4-6-8	6206 ZZ		
132	2-4-6-8	6208 ZZ		
160	2-4-6-8	6309 ZZC3	6209 ZZC3	2-3
180	2-4-6-8	6310 ZZC3	6210 ZZC3	
200	2-4-6-8	6312 ZZC3	6212 ZZC3	
225	2-4-6-8	6313 ZZC3	6213 ZZC3	
250	2-4-6-8	6315 ZZC3	6215 ZZC3	
280	2	6315 ZZ C3		
	4-6-8	6316 ZZ C3		

Frame Size	Number of Poles	Drive End Bearing	Non-Drive End Bearing	Table No.
132	2-4-6-8	6208 C3		4
160	2-4-6-8	6309 C3		
180	2-4-6-8	6310 C3		
200	2-4-6-8	6312 C3		
225	2-4-6-8	6313 C3		
250	2-4-6-8	6315 C3		
280	2	6315 C3		
	4-6-8	6316 C3		
315	2	6316 C3		
	4-6-8	6318 C3		
355	2	6318 C3		
	4-6-8	6321 C3		
400	2	6318 C3		
	4-6-8	6324 C3		
450	2	6320 C3		
	4-6-8	6326 C3		

Bearing Arrangements

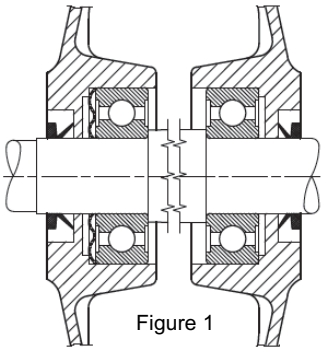


Figure 1

Drive End Floating Ball Bearing (Spring Loaded) — Non-Drive End Floating Ball Bearing

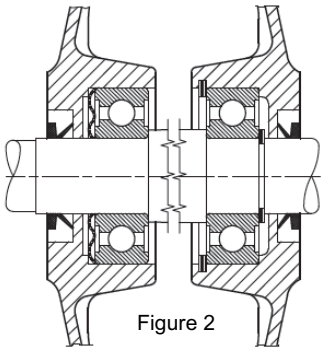


Figure 2

Drive End Floating Ball Bearing (Spring Loaded) — Non-Drive End Fixed Ball Bearing

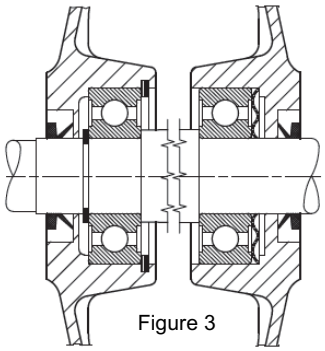


Figure 3

Drive End Fixed Bearing — Non-Drive End Floating Ball Bearing (Spring Loaded)

Greasing Nipples

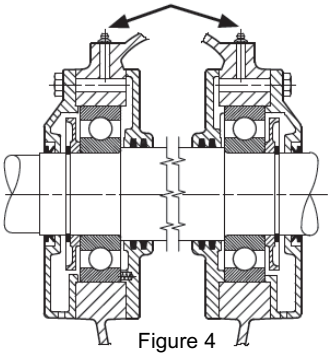


Figure 4

Drive End Floating Ball Bearing (Spring Loaded) — Non-Drive End Fixed Ball Bearing

- The axial clearance of bearings with single-row deep groove ball bearings is limited by the pre-stressed spring (bearing compression spring - Figure 1, 2, 3) or coil springs (Figure 4). This minimizes bearing vibrations and noise and increases bearing life.
- For motors with a frame size of 56…132 (Table 1) and 160…280 (Tables 2 and 3), permanently greased deep groove ball bearings with both sides enclosed (ZZ) are used by the manufacturer.
- In standard manufacturing, motors of 56…132 frame size are manufactured in non-locking style with ZZ enclosed bearings according to Table 1, and with the bearing compression spring positioned in the front as shown in Figure 1.
- In standard manufacturing, motors of 160…280 frame size are manufactured in rear-locking style with ZZ enclosed bearings according to Tables 2-3, and with the bearing compression spring positioned in the front as shown in Figure 2.
- In standard manufacturing, motors of 315…450 frame sizes are manufactured in rear- and front-locked type with locked front and rear oil dispensing disks and lubricating bearings according to Table 4. In type 315 and above, coil springs are used instead of bearing compression springs at the front. The bearings used are open-type ball bearings and have nipples for lubrication during operation.
- As per customer request, motors with a frame size of 56…280 can be manufactured using ZZ enclosed bearings with front-locking in accordance with Tables 1, 2 and 3, in shaft-down or mill-above mounting positions (V1-V3-V5-V6-V8-V9-V15-V18-V19-V36-V58-V69) and with the bearing compression spring positioned at the back as shown in Figure 3. The aim is to prevent the shaft from tilting in the axial direction in accordance with the requirements of the application. The bearing arrangement is expressed as a fixed bearing.
- As per customer request, motors of 132…280 frame sizes are manufactured in rear- and front-locked type with locked front and rear oil dispensing disks and lubricating bearings according to Table 4. The bearing compression spring is positioned at the front.
- Standard motors within 56...132 and 280...450 type groups are manufactured with paired bearings (either with an enclosed ZZ bearing structure or self-lubricating). The bearing used in the bearing arrangement with paired bearing is designed in a way to ensure that the bearing used in the back is identical to the one used on the front side.
- On request, paired bearing motors can be produced for 160…250 type motors to allow for higher permissible axial loads.
- If a customer requests a dual-outlet motor for 160...250 motor types, paired bearing design can be used in production.

MECHANICAL DESIGN

Reinforced Design with Cylindrical Roller Bearing (For Higher Radial Loads)

If a belt/pulley drive is used for motors with frame sizes of 132 and above, please consult us as you may need to choose a cylindrical roller bearing design.

Frame Size	Number of Poles	Drive End Bearing	Non-Drive End Bearing	Table No.
132	2-4-6-8	NU 208 E	6208 C3	5
160	2-4-6-8	NU 309 E	6309 C3	
180	2-4-6-8	NU 310 E	6310 C3	
200	2-4-6-8	NU 312 E	6312 C3	
225	2-4-6-8	NU 313 E	6313 C3	
250	2-4-6-8	NU 315 E	6315 C3	
280	2	NU 315 E	6315 C3	
	4-6-8	NU 316 E	6316 C3	
315	2	NU 316 E	6316 C3	
	4-6-8	NU 318 E	6318 C3	
355	2	NU 318 E	6318 C3	
	4-6-8	NU 321 E	6321 C3	
400	2	NU 318 E	6318 C3	
	4-6-8	NU 324 E	6324 C3	
450	2	NU 320 E	6320 C3	
	4-6-8	NU 326 E	6326 C3	

Bearing Arrangement
Greasing Nipples

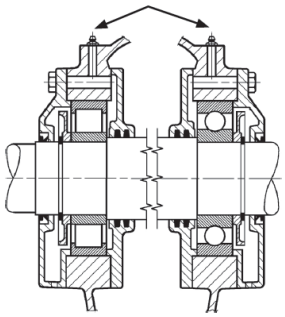


Figure 5

Drive End Cylindrical Roller bearing

Non-Drive End Fixed Ball Bearing

If the radial force is too small during operation in motors with a cylindrical roller bearing (NU series) design, there will be shifts between the rolling surfaces and rollers of the bearing, which can result in skidding of the rollers and thus shortening of the bearing life. Please consult us if radial load is very small or strong shock loads or vibration are expected as special bearing arrangements may be required. For motors with a frame size of 132…450, the reinforced design with cylindrical roller bearings is manufactured with greasing nipple (Figure 5). Permissible radial loads are given on page 22 and axial loads on page 25-26.

Bearing Maintenance

Lubricated Motor Relubrication Intervals (Hour)						
Number of Poles	Frame Size					
	132-160	80-200	225-250	280-315	355-400	50
2	5000	4000	3000	2500	2000	2000
4	10000	8000	6000	5000	4000	3000
≥6	15000	12000	9000	7000	5000	4000

The table given above is valid for motor lubricated bearings to be used in clean environments at -20 /+40°C operating temperature, ←80% RH and with the shaft in horizontal position. The lubrication intervalshould be halved in case of vertical motor shaft operation. If the environment is dusty, the lubrication frequency should also be reduced by half.

Lubricated Motor Relubrication Intervals (Hour)									
Number of Poles	Frame Size								
	132	160	180	200	225-250	280	315-355	400	450
2	10	15	20	25	40	35	45	50	-
4						70	90	90	110
≥6									

The type-based quantity of lubrication, depending on the motor structure and operating speeds, is listed above.

MECHANICAL DESIGN

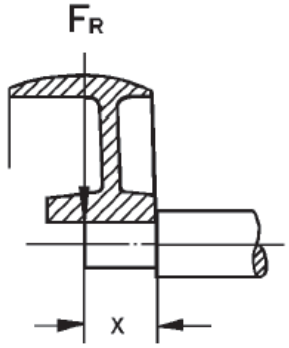
Permissible Radial Loads

Fr = Radial load (N)
X = Distance from the shoulder of the shaft to the line of application of the force (mm). Xmax is equal to shaft length. The pulley axis must remain within the shaft length.

P : Motor output (kW)
n : Full load speed (m^{-1})
D : Pulley diameter (mm)
k : Belt tension factor (approx.)

- k is 2 for flat belt with idler pulley drives
- k is 2.25 for V-belt drives
- k is 3 for flat and poly V-belt without ant idler pulley drive

$$F_r = 1{,}91 \frac{P.k}{D.n} 10^7 \quad (N)$$



MECHANICAL DESIGN

Shaft Extension

In our standard manufacturing, the shaft extension of the motors is single-sided and equipped with the appropriate key (TS EN 50 347 / IEC 60 072-1). The free shaft-ends have threaded center-bore to DIN 332-2 form D. Motors can be manufactured with double shaft extension upon request. The run-out of the shaft, concentricity of mounting spigot and the perpendicularity of the face flange are within the permissible limits (Normal class) according to TS EN 50 347 / IEC 60 072-1. Motors with increased accuracy (Precision class) may be supplied on request.

ELECTRICAL DESIGN

Voltage and Frequency

50 Hz	60 Hz								
Rated voltage V	Line voltage V	Full Load Performance Values							
		Output	Speed	I_N	M_N	I_A/I_N	M_A/M_N	M_K/M_N	I_0
230	230	1	1.2	1	0.83	0.87	0.75	0.85	0.73
	*230	1.15	1.2	1.15	0.96	0.98	0.93	1	1.12
	250	1.1	1.2	1	0.91	0.96	0.83	0.94	0.85
	264	1.15	1.2	1	0.96	1	0.93	1	0.93
400	400	1	1.2	1	0.83	0.87	0.75	0.85	0.73
	400	1.15	1.2	1.15	0.96	0.98	0.93	1	1.12
	440	1.1	1.2	1	0.91	0.96	0.83	0.94	0.85
	460	1.15	1.2	1	0.96	1	0.93	1	0.93
	480	1.2	1.2	1	1	1.03	0.98	1.03	0.98
415	415	1	1.2	1	0.83	0.87	0.75	0.85	0.73
	*415	1.15	1.2	1.15	0.96	0.98	0.93	1	1.12
	460	1.1	1.2	1	0.92	0.98	0.90	0.96	0.87
	480	1.15	1.2	1	0.96	1	0.93	1	0.93
500	500	1	1.2	1	0.83	0.87	0.75	0.85	0.73
	*500	1.15	1.2	1.15	0.96	0.98	0.93	1	1.12
	550	1.1	1.2	1	0.92	0.98	0.90	0.96	0.87
	575	1.15	1.2	1	0.96	1	0.93	1	0.93
	600	1.2	1.2	1	1	1.03	0.98	1.03	0.98

**Special winding for 60 Hz*

I_N: Rated Current I_0: No-Load Current M_A: Starting Torque I_A: Starting Current M_N: Rated Torque M_K: Breakdown Torque

The selection of motors specially wound according to the 60 Hz network should be based on the following standard forces. Up to 20% power increase is possible depending on the load and speed of the motors. Therefore, please consult us if higher outputs than the ones listed in the table below are required.

Standard Output (kW) at 50 Hz	Standard Output (kW) at 60 Hz	Standard Output (kW) at 50 Hz	Standard Output (kW) at 60 Hz	Standard Output (kW) at 50 Hz	Standard Output (kW) at 60 Hz
0.06	0.07	4	4.6	90	103
0.09	0.105	5.5	6.3	110	126
0.12	0.14	7.5	8.6	132	152
0.18	0.21	11	12.7	160	184
0.25	0.29	15	17.3	200	230
0.37	0.43	18.5	21.3	250	288
0.55	0.63	22	25.3	315	360
0.75	0.86	30	34.5	355	410
1.1	1.27	37	42.6	400	460
1.5	1.73	45	51.8	450	515
2.2	2.5	55	63.5	500	575
3	3.5	75	86.5		

Please consult us for output ratings to be attained above 500 kW rated output and for special windings at 60 Hz.

According to IEC Standard 60034-30, efficiency values for each power are determined in 50Hz and 60Hz operation. Please consult us about the efficiency rate of motors wound in 50Hz for 60Hz operation or if the motors are specially wound according to 60Hz.

Standard Series

3-Phase Motors

High Efficiency Motors IE2
2-pole-3000 m^{-1}

RATINGS AND PERFORMANCE
3-Phase, 400 V, 50 Hz | Duty Type: S1 (Continuous Running Duty)Degree of Protection: IP 55 | Insulation Class: F (155°C) | Temperature RiseLimit: B (80K)

ALUMINUM FRAME

Rated output	Type	At Rated Output							Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
		Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Current Ratio I		Locked-Rotor Torque Ratio M_A/M_N				
kW		m^{-1}	A	Nm		IEC 60034-2-1:2014			D.O.L.	Y/Δ	D.O.L.	Y/Δ	Mk/Mn	kgm^2	kg
						4/4	3/4	1/2							
0.09	AGM 56 2a	2800	0.26	0.31	0.79	63.4	63.1	55.8	4.1	-	2.7	-	2.8	0.00011	2.7
0.12	AGM 56 2b	2800	0.35	0.41	0.77	64.5	64.1	56.9	4.2	-	2.5	-	2.8	0.00012	2.8
0.18	AGM 63 2a	2820	0.50	0.61	0.81	64.4	64.2	57.7	4.6	-	2.9	-	2.9	0.00011	3.6
0.25	AGM 63 2b	2840	0.67	0.84	0.80	67.3	67.1	60.9	4.5	-	2.5	-	2.9	0.00013	4
0.37	C.AGM 63 2	2850	1.05	1.24	0.75	68.1	68.1	61.3	5.0	-	2.5	-	2.7	0.00018	4.7
0.37	AGM 71 2a	2800	1.05	1.26	0.74	68.9	68.7	66.7	5.0	-	2.4	-	2.6	0.00026	4.9
0.55	AGM 71 2b	2780	1.3	1.89	0.85	72.0	71.8	70.3	4.5	-	2.4	-	2.6	0.00034	6
0.75	C.AGM2E 71 2	2780	1.7	2.60	0.82	77.4	77.2	74.2	4.5	-	2.2	-	2.4	0.00039	7
0.75	AGM2E 80 2a	2860	1.7	2.60	0.82	77.8	77.7	74.6	6.2	-	2.5	-	3.0	0.00053	8
1.1	AGM2E 80 2b	2880	2.3	3.65	0.86	80.0	80.0	78.1	6.3	-	2.7	-	3.0	0.00066	8.8
1.5	AGM2E 90 S 2	2880	3.3	4.97	0.80	82.0	82.0	80.1	6.3	-	2.3	-	3.0	0.0011	11.5
2.2	AGM2E 90 L 2	2870	4.5	7.32	0.84	84.5	84.5	83.2	6.6	-	2.6	-	3.1	0.0014	13.9
3	AGM2E 100 L 2	2850	5.9	10.0	0.87	84.6	84.6	83.6	6.0	-	2.5	-	3.0	0.0025	20
4	AGM2E 112 M 2	2880	7.9	13.3	0.84	86.5	86.5	86.0	7.2	2.3	2.8	0.9	3.5	0.0039	21.5
5.5	AGM2E 132 S 2a	2900	10.3	18.1	0.88	87.3	87.3	86.5	7.3	2.4	2.5	0.8	3.1	0.011	37
7.5	AGM2E 132 S 2b	2910	13.6	24.6	0.90	88.5	88.5	87.9	7.2	2.3	3.0	1.0	3.4	0.014	44
11	AGM2E 160 M 2a	2945	19.5	35.7	0.91	89.5	89.5	88.6	7.7	2.5	3.4	1.1	3.6	0.030	67
15	AGM2E 160 M 2b	2945	26.5	48.6	0.90	90.4	90.4	89.7	7.5	2.4	3.0	1.0	3.5	0.041	81
18.5	AGM2E 160 L 2	2950	32.3	59.9	0.91	90.9	90.8	89.9	7.7	2.5	2.5	0.8	3.0	0.048	102
22	AGM2E 180 M 2	2950	38.3	71	0.91	91.3	91.3	90.8	8.2	2.6	3.0	1.0	3.5	0.066	135
30	AGM2E 200 L 2a	2970	52	96	0.91	92.0	92.0	91.2	8.3	2.7	2.7	0.9	3.0	0.13	160
37	AGM2E 200 L 2b	2970	65	119	0.89	92.6	92.6	91.7	8.3	2.7	2.7	0.9	3.0	0.15	190

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

CAST IRON FRAME

Rated output	At Rated Output								Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
	Type	Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A / M_N				
						IEC 60034-2-1:2014									
kW		m^{-1}	A	Nm		4/4	3/4	1/2	D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K / M_N	kgm^2	kg
5.5	GM2E 132 S 2a	2900	10.3	18.1	0.88	87.3	87.3	86.5	7.3	2.4	2.8	0.9	3.5	0.0108	59
7.5	GM2E 132 S 2b	2910	13.6	24.6	0.90	88.5	88.5	87.9	7.2	2.3	3.0	1.0	3.4	0.0140	60
11	GM2E 160 M 2a	2945	19.5	35.7	0.91	89.5	89.5	88.6	7.7	2.5	3.4	1.1	3.6	0.030	100
15	GM2E 160 M 2b	2945	26.5	48.6	0.90	90.4	90.4	89.7	7.5	2.4	3.0	1.0	3.5	0.041	112
18.5	GM2E 160 L 2	2950	32.3	59.9	0.91	90.9	90.8	90.1	7.7	2.5	2.5	0.8	3.0	0.048	133
22	GM2E 180 M 2	2950	38.3	71	0.91	91.3	91.3	90.8	8.2	2.6	3.0	1.0	3.5	0.066	157
30	GM2E 200 L 2a	2970	52	96	0.91	92.0	92.0	91.2	8.3	2.7	2.7	0.9	3.0	0.130	222
37	GM2E 200 L 2b	2970	65	119	0.89	92.6	92.6	91.7	8.3	2.7	2.7	0.9	3.0	0.150	248
45	GM2E 225 M 2	2975	77	144	0.91	92.9	93.0	91.8	8.0	2.6	2.4	0.8	2.9	0.230	299
55	GM2E 250 M 2	2980	94	176	0.91	93.2	93.2	92.2	7.6	2.5	2.6	0.8	2.7	0.410	401
75	GM2E 280 S 2	2980	127	240	0.91	93.9	94.1	92.5	7.0	2.3	2.4	0.8	2.5	0.530	512
90	GM2E 280 M 2	2980	151	288	0.91	94.2	94.2	92.7	8.5	2.7	2.7	0.9	3.0	0.620	580
110	GM2E 315 S 2	2980	192	352	0.88	94.3	94.3	92.8	7.0	2.3	2.5	0.8	3.0	1.0	700
132	GM2E 315 M 2a	2980	224	423	0.90	94.6	94.5	93.3	8.0	2.6	2.5	0.8	3.0	1.2	770
160	GM2E 315 M 2b	2980	266	513	0.92	94.8	94.8	93.4	7.8	2.5	2.5	0.8	3.2	1.4	838
185	GMM2E 315 L 2a	2980	307	593	0.92	95.0	95.0	93.6	8.0	2.6	2.5	0.8	3.0	1.5	882
200	GMM2E 315 L 2b	2980	330	641	0.92	95.0	95.0	93.6	8.0	2.6	2.5	0.8	3.0	1.5	980
250	GMM2E 315 L 2c	2971	420	803	0.90	95.0	95.0	93.6	7.4	2.6	2.5	0.8	2.9	1.6	1050
250	GMM2E 355 M 2a	2980	420	801	0.90	95.0	95.0	93.6	8.0	2.6	2.0	0.6	2.3	3.3	1170
315	GMM2E 355 M 2b	2980	530	1009	0.90	95.1	95.1	93.7	8.0	2.6	2.0	0.6	2.3	4.1	1300
355	GMM2E 355 M 2c	2980	600	1138	0.90	95.2	95.2	93.8	8.0	2.6	2.0	0.6	2.3	4.5	1414
400	GMM2E 355 L 2a	2980	670	1282	0.91	95.2	95.2	93.8	8.0	2.6	2.0	0.6	2.3	4.7	1520
450	GMM 355 L 2b	2980	750	1442	0.91	95.2	95.2	93.8	7.0	2.3	2.0	0.6	2.6	5.3	1630
500	GMM 355 L 2c	2980	830	1602	0.91	95.2	95.2	93.8	7.0	2.3	2.0	0.6	2.6	5.9	1740
450	GMM 400 L 2a	2985	741	1440	0.92	95.3	95.3	93.9	7.0	2.3	1.5	0.5	2.2	7.1	2210
500	GMM 400 L 2b	2985	822	1600	0.92	95.4	95.4	93.9	7.0	2.3	1.5	0.5	2.2	7.9	2450
560	GMM 400 L 2c	2985	907	1791	0.93	95.9	95.9	94.3	7.0	2.3	1.5	0.5	2.2	8.8	2600
630	GMM 400 L 2d	2985	1017	2015	0.93	95.9	95.9	94.3	7.0	2.3	1.5	0.5	2.2	9.9	2820
710	GMM 400 L 2e	2985	675*	2271	0.92	96.0	96.0	94.4	7.0	2.3	1.5	0.5	2.2	11.2	3000
800	GMM 450 L 2a	2986	760*	2558	0.92	96.0	96.0	94.4	7.0	2.3	1.0	0.3	2.8	21	3600
900	GMM 450 LH 2b	2986	842*	2878	0.93	96.1	96.1	94.5	7.0	2.3	1.0	0.3	2.8	23	3800
1000	GMM 450 LH 2c	2986	923*	3198	0.94	96.2	96.2	94.5	7.0	2.3	1.0	0.3	2.8	26	4000

*Rated current at 690 V

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

High Efficiency Motors IE2
4-pole-1500 m^{-1}

ALUMINUM FRAME

Rated output	At Rated Output								Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
	Type	Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A / M_N				
						IEC 60034-30-1:2014									
kW		m^{-1}	A	Nm		4/4	3/4	1/2	D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K / M_N	kgm^2	kg
0.06	AGM 56 4a	1370	0.25	0.42	0.61	56.9	56.8	52.2	3.0		2.4	-	2.6	0.00011	2.5
0.09	AGM 56 4b	1375	0.36	0.63	0.58	62.5	62.3	55.1	3.1		2.2	-	2.4	0.00012	2.7
0.12	AGM 63 4a	1365	0.41	0.84	0.74	57.1	57.1	53.3	3.1		2.0	-	2.2	0.00017	3.7
0.18	AGM 63 4b	1340	0.60	1.28	0.73	59.7	59.7	55.8	2.9		2.0	-	2.0	0.00021	4.1
0.25	C.AGM 63 4	1350	0.95	1.77	0.63	60.7	60.7	56.8	3.0		2.0	-	2.0	0.00026	5.0
0.25	AGM 71 4a	1380	0.81	1.73	0.72	61.9	61.8	58.2	2.9		1.8	-	2.2	0.00040	5.1
0.37	AGM 71 4b	1390	1.15	2.54	0.68	68.1	68.1	67.1	3.7		2.2	-	2.5	0.00054	6.0
0.37	C.AGM 71 4	1385	1.50	2.55	0.52	68.6	68.6	67.6	3.4		1.9	-	2.1	0.00062	6.5
0.55	AGM 80 4a	1365	1.60	3.85	0.72	69.1	69.0	65.2	3.5	-	1.9	-	2.0	0.00083	8
0.75	AGM2E 80 4b	1410	1.92	5.08	0.71	79.6	79.6	77.6	4.4		2.2	-	2.5	0.0014	11
1.1	AGM2E 90 S 4	1420	2.60	7.4	0.74	82.0	82.0	80.5	5.5	-	3.0	-	3.3	0.0022	14
1.5	AGM2E 90 L 4	1430	3.50	10.0	0.75	83.0	83.0	81.5	5.9	-	3.3	-	3.5	0.0030	16
2.2	AGM2E 100 L 4a	1430	4.90	14.7	0.77	84.5	84.6	82.5	5.0	-	2.0	-	2.4	0.0044	20
3	AGM2E 100 L 4b	1435	6.70	20.0	0.76	85.5	85.7	84.0	6.2	-	2.9	-	3.4	0.0057	23
4	AGM2E 112 M 4	1440	8.40	26.5	0.79	86.7	86.8	85.3	6.6	2.1	2.5	0.8	3.3	0.0106	28
5.5	AGM2E 132 S 4	1450	11.5	36.2	0.79	87.7	87.6	87.2	7.0	2.3	2.8	0.9	3.5	0.021	42
7.5	AGM2E 132 M 4	1455	16.0	49.2	0.76	88.7	88.1	88.7	7.1	2.3	2.7	0.9	3.4	0.026	49
11	AGM2E 160 M 4	1460	21.3	71.9	0.83	90.0	90.1	89.3	6.9	2.2	2.8	0.9	3.1	0.067	86
15	AGM2E 160 L 4	1455	29.4	98.4	0.81	90.6	90.7	89.7	7.5	2.4	2.6	0.8	3.5	0.088	100
18.5	AGM2E 180 M 4	1470	34.5	120	0.85	91.3	91.4	90.4	7.7	2.5	3.2	1.0	3.4	0.13	119
22	AGM2E 180 L 4	1470	42.5	143	0.81	91.7	91.7	90.6	8.3	2.7	3.7	1.2	3.8	0.15	135
30	AGM2E 200 L 4	1470	55.0	195	0.85	92.5	92.6	92.1	8.0	2.6	3.1	1.0	3.6	0.22	184

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

CAST IRON FRAME

Rated output	At Rated Output								Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
	Type	Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A/M_N				
						IEC 60034-30-1:2014									
kW		m^{-1}	A	Nm		4/4	3/4	1/2	D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K / M_N	kgm^2	kg
5.5	GM2E 132 S 4	1465	11.5	36.2	0.79	87.7	87.6	87.2	7.0	2.3	2.8	0.9	3.5	0.021	53
7.5	GM2E 132 M 4	1455	16	49.2	0.76	88.7	89.1	88.7	7.1	2.3	2.7	0.9	3.4	0.026	61
11	GM2E 160 M 4	1465	21.3	71.7	0.83	90.0	90.1	89.3	6.9	2.2	2.8	0.9	3.1	0.067	115
15	GM2E 160 L 4	1465	29.4	97.8	0.81	90.6	90.7	89.7	7.5	2.4	2.6	0.8	3.5	0.088	135
18.5	GM2E 180 M 4	1470	34.5	120	0.85	91.3	91.4	90.4	7.7	2.5	3.2	1.0	3.4	0.13	165
22	GM2E 180 L 4	1470	42.5	143	0.81	91.7	91.7	90.6	8.3	2.7	3.7	1.2	3.8	0.15	180
30	GM2E 200 L 4	1470	55	195	0.85	92.5	92.6	92.1	8.0	2.6	3.1	1.0	3.6	0.22	225
37	GM2E 225 S 4	1470	67	240	0.86	92.7	92.7	92.2	7.2	2.3	3.0	1.0	3.0	0.30	314
45	GM2E 225 M 4	1470	80	292	0.87	93.3	93.3	92.4	7.3	2.4	3.0	1.0	3.0	0.36	330
55	GM2E 250 M 4	1475	96	356	0.88	93.7	93.8	93.2	7.6	2.5	3.1	1.0	2.9	0.72	420
75	GM2E 280 S 4	1480	133	484	0.87	94.0	94.1	93.4	7.0	2.3	2.6	0.8	2.8	1.0	550
90	GM2E 280 M 4	1480	158	581	0.87	94.3	94.5	93.8	7.4	2.4	2.9	0.9	3.0	1.2	615
110	GM2E 315 S 4	1485	195	707	0.86	94.5	94.5	93.8	7.4	2.4	2.0	0.6	3.0	2.1	784
132	GM2E 315 M 4a	1485	230	849	0.87	94.7	94.5	93.8	7.4	2.4	2.1	0.7	3.0	2.5	861
160	GM2E 315 M 4b	1485	280	1029	0.87	94.9	94.9	94.0	7.0	2.3	2.0	0.6	2.9	2.8	882
185	GMM2E 315 L 4a	1485	323	1190	0.87	95.1	95.1	94.2	7.4	2.4	2.2	0.7	3.0	2.9	962
200	GMM2E 315 L 4b	1485	350	1286	0.87	95.1	95.1	94.2	8.0	2.6	2.5	0.8	3.0	3.1	1015
250	GM2E 315 LH 4c	1485	455	1608	0.83	95.1	95.1	94.2	6.4	2.1	2.1	0.7	2.8	5.5	1200
250	GMM2E 355 M 4a	1485	455	1608	0.83	95.1	95.1	94.2	6.4	2.1	2.1	0.7	2.8	5.5	1378
315	GMM2E 355 M 4b	1487	560	2023	0.85	95.4	95.1	94.2	6.4	2.1	2.0	0.6	2.8	6.0	1400
355	GMM2E 355 M 4c	1488	630	2278	0.85	95.4	95.2	94.3	7.0	2.3	2.0	0.6	2.8	6.5	1438
400	GMM2E 355 L 4a	1488	710	2567	0.85	95.4	95.2	94.3	7.0	2.3	2.0	0.6	2.8	7.2	1639
450	GMM 355 L 4b	1488	800	2888	0.85	95.4	95.1	94.5	7.0	2.3	2.5	0.8	2.6	8.2	1740
500	GMM 355 L 4c	1488	890	3209	0.85	95.4	95.1	94.5	7.0	2.3	2.4	0.8	2.6	9.1	1850
450	GMM 400 L 4a	1491	780	2882	0.87	95.6	95.5	94.8	7.0	2.3	1.9	0.6	2.6	14.7	2335
500	GMM 400 L 4b	1492	860	3200	0.88	95.6	95.6	94.8	7.0	2.3	1.9	0.6	2.6	16.9	2474
560	GMM 400 L 4c	1492	970	3586	0.87	95.6	95.6	95.1	7.0	2.3	1.9	0.6	2.6	20.0	2745
630	GMM 400 L 4d	1492	1090	4032	0.87	95.6	95.6	95.1	7.2	2.3	2.0	0.6	2.8	21.3	2814
710	GMM 400 L 4e	1492	710*	4544	0.87	96.0	96.0	95.2	7.2	2.3	2.0	0.6	3.0	23.8	3055
800	GMM 450 L 4a	1492	784*	5120	0.89	96.2	96.2	95.3	7.0	2.3	1.8	0.6	2.5	28.0	3700
900	GMM 450 LH 4b	1492	880*	5760	0.89	96.3	962	95.3	7.0	2.3	1.8	0.6	2.5	32.0	3900
1000	GMM 450 LH 4c	1492	976*	6400	0.89	96.4	96.4	95.3	7.0	2.3	1.8	0.6	2.5	35.0	4100

*Rated current at 690 V

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

High Efficiency Motors IE2
6-pole-1000 m^{-1}

ALUMINUM FRAME

Rated output	At Rated Output								Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
	Type	Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A/M_N				
kW		m^{-1}	A	Nm		IEC 60034-30-1:2014			D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K / M_N	kgm^2	kg
						4/4	3/4	1/2							
0.18	AGM 71 6a	915	0.61	1.88	0.68	63.0	62.9	58.7	3.2	-	1.7	-	2.1	0.00064	5
0.25	AGM 71 6b	915	0.83	2.61	0.68	63.8	63.7	59.6	3.2	-	1.7	-	2.1	0.00086	5.7
0.37	AGM 80 6a	910	1.1	3.88	0.67	72.9	72.8	70.1	3.6	-	2.1	-	2.4	0.0017	8.1
0.55	AGM 80 6b	890	1.5	5.90	0.75	70.4	70.3	68.2	3.5	-	1.9	-	2.0	0.0022	9.4
0.75	AGM2E 90 S 6	920	2.0	7.78	0.71	75.9	75.9	72.4	4.0	-	2.2	-	2.4	0.0034	12.2
1.1	AGM2E 90 L 6	930	2.9	11.3	0.70	78.1	78.1	75.1	4.0	-	2.2	-	2.4	0.0044	14
1.5	AGM2E 100 L 6	945	3.6	15.2	0.75	79.8	79.7	76.4	4.5	-	2.2	-	2.4	0.0077	19.1
2.2	AGM2E 112 M 6	950	5.4	22.1	0.72	81.8	81.7	78.5	4.7	-	2.2	-	2.5	0.013	26.5
3	AGM2E 132 S 6	960	6.9	29.8	0.75	83.3	83.2	80.4	5.0	1.6	2.2	0.7	2.6	0.028	44
4	AGM2E 132 M 6a	960	9.0	39.8	0.76	84.6	84.5	81.6	5.0	1.6	2.2	0.7	2.6	0.037	49
5.5	AGM2E 132 M 6b	960	12.3	54.7	0.75	86.0	86.0	83.1	5.0	1.6	2.2	0.7	2.6	0.060	62
7.5	AGM2E 160 M 6	960	15	74.6	0.83	87.2	87.2	84.5	6.5	2.1	2.5	0.8	3.0	0.08	75
11	AGM2E 160 L 6	965	22	109	0.81	88.7	88.7	85.7	6.5	2.1	2.5	0.8	3.0	0.12	102
15	AGM2E 180 L 6	965	29	148	0.83	89.7	89.7	86.8	6.5	2.1	2.4	0.8	3.0	0.20	165
18.5	AGM2E 200 L 6a	975	38	181	0.78	90.4	90.4	87.7	7.0	2.3	2.5	0.8	3.0	0.21	168
22	AGM2E 200 L 6b	975	43	215	0.81	90.9	90.9	88.4	7.0	2.3	2.5	0.8	3.0	0.26	185

CAST IRON FRAME

3	GM2E 132 S 6	960	6.9	29.8	0.75	83.3	83.2	80.4	5.0	1.6	2.2	0.7	2.6	0.028	56
4	GM2E 132 M 6a	960	9.0	39.8	0.76	84.6	84.5	81.6	5.0	1.6	2.2	0.7	2.6	0.037	62
5.5	GM2E 132 M 6b	960	12.3	54.7	0.75	86.0	86.0	83.1	5.0	1.6	2.2	0.7	2.6	0.06	75
7.5	GM2E 160 M 6	960	15	74.6	0.83	87.2	87.2	84.5	6.5	2.1	2.5	0.8	3.0	0.08	105
11	GM2E 160 L 6	965	22	109	0.81	88.7	88.7	85.7	6.5	2.1	2.5	0.8	3.0	0.12	132
15	GM2E 180 L 6	965	29	148	0.83	89.7	89.7	86.8	6.5	2.1	2.4	0.8	3.0	0.20	189
18.5	GM2E 200 L 6a	975	38	181	0.78	90.4	90.4	87.7	7.0	2.3	2.5	0.8	3.0	0.21	202
22	GM2E 200 L 6b	975	43	215	0.81	90.9	90.9	88.4	7.0	2.3	2.5	0.8	3.0	0.26	222
30	GM2E 225 M 6	980	58	292	0.81	91.7	91.7	89.6	7.0	2.3	3.0	1.0	2.6	0.57	285
37	GM2E 250 M 6	985	71	359	0.82	92.2	92.2	90.1	7.0	2.3	3.0	1.0	2.6	0.77	380
45	GM2E 280 S 6	989	87	434	0.80	92.7	92.7	90.9	7.0	2.3	3.3	1.1	2.6	1.2	500
55	GM2E 280 M 6	988	109	532	0.78	93.1	93.1	91.5	7.0	2.3	3.3	1.1	2.6	1.5	553
75	GM2E 315 S 6	990	139	723	0.83	93.7	93.7	92.4	7.0	2.3	2.0	0.6	2.5	2.4	727
90	GM2E 315 M 6a	990	166	868	0.83	94.0	94.0	92.6	7.0	2.3	2.0	0.6	2.5	2.9	805
110	GM2E 315 M 6b	990	198	1061	0.85	94.3	94.3	92.7	7.0	2.3	2.0	0.6	2.6	3.5	860
132	GMM2E 315 L 6a	990	240	1273	0.84	94.6	94.6	93.0	7.0	2.3	2.3	0.7	3.0	3.6	1020
160	GMM2E 315 L 6b	990	290	1543	0.84	94.8	94.8	93.2	7.0	2.3	2.3	0.7	2.7	4.2	1120
160	GMM2E 355 M 6a	990	305	1543	0.80	94.8	94.8	93.2	7.0	2.3	2.5	0.8	2.4	5.8	1035
200	GMM2E 355 M 6b	990	380	1929	0.80	95.0	95.0	93.5	7.0	2.3	2.5	0.8	2.4	6.8	1185
250	GMM2E 355 M 6c	990	470	2411	0.81	95.0	95.0	93.5	7.0	2.3	2.5	0.8	2.4	8.3	1390
315	GMM2E 355 L 6a	990	580	3038	0.83	95.0	95.0	93.5	7.0	2.3	2.5	0.8	2.4	10.7	1746
355	GMM2E 355 L 6b	990	650	3424	0.83	95.0	95.0	93.5	7.0	2.3	2.5	0.8	2.4	11.7	1890
355	GMM2E 400 L 6a	993	655	3414	0.82	95.4	95.0	93.5	7.0	2.3	2.0	0.6	2.6	19.6	2250
400	GMM2E 400 L 6b	993	740	3847	0.82	95.4	95.0	93.5	7.0	2.3	2.0	0.6	2.6	24.5	2575
450	GMM 400 L 6c	993	840	4327	0.81	95.4	95.4	93.9	6.5	2.1	1.8	0.6	2.6	26.6	2705
500	GMM 400 L 6d	993	920	4808	0.82	95.4	95.4	93.9	7.0	2.3	1.8	0.6	2.6	29.2	2855
560	GMM 400 L 6e	993	1010	5385	0.84	95.6	95.6	94.1	7.0	2.3	1.8	0.6	2.6	32.2	3030
630	GMM 450 L 6a	993	685*	6058	0.81	95.7	95.7	94.1	6.6	2.1	2.1	0.7	2.5	37.00	3800
710	GMM 450 L 6b	993	713*	6828	0.87	95.8	95.8	94.2	6.6	2.1	2.1	0.7	2.5	41.00	4000
800	GMM 450 LH 6c	993	794*	7963	0.88	96.0	96.0	94.4	6.6	2.1	2.1	0.7	2.5	46.00	4200

*Rated current at 690 V
Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

High Efficiency Motors IE2
8-pole-750 m^{-1}

ALUMINUM FRAME

Rated output	At Rated Output								Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
	Type	Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n % IEC 60034-2-1:2014			Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A/M_N				
kW		m^{-1}	A	Nm		4/4	3/4	1/2	D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K / M_N	kgm^2	kg
0.09	AGM 71 8a	690	0.4	1.25	0.56	56.5	56.5	47.4	2.3	-	1.7	-	1.9	0.00064	5.0
0.12	AGM 71 8b	670	0.6	1.71	0.51	56.7	56.7	47.7	2.2	-	1.9	-	2.0	0.00086	5.7
0.18	AGM 80 8a	695	0.9	2.47	0.48	60.3	60.3	54.7	3.0	-	2.8	-	3.0	0.0017	8.1
0.25	AGM 80 8b	680	1.1	3.51	0.50	63.0	63.0	57.6	2.9	-	2.6	-	2.8	0.0022	9.4
0.37	AGM 90 S 8	690	1.33	5.12	0.60	66.7	66.7	61.5	3.2	-	1.8	-	2.0	0.0029	11.3
0.55	AGM 90 L 8	670	1.82	7.8	0.63	69.6	69.6	64.6	3.0	-	1.4	-	1.7	0.0038	13.3
0.75	AGM 100 L 8a	700	2.4	10.2	0.62	72.2	72.2	67.3	3.4	-	1.8	-	2.1	0.0062	17.4
1.1	AGM 100 L 8b	700	3.3	15.0	0.67	72.2	72.2	67.4	3.2	-	1.7	-	1.8	0.008	19.1
1.5	AGM 112 M 8	700	4.4	20.5	0.65	75.8	75.7	71.7	3.6	-	1.9	-	2.2	0.013	21.5
2.2	AGM 132 S 8	700	5.4	30.0	0.76	77.2	77.1	73.1	3.8	1.2	2.2	0.7	2.4	0.024	32
3	AGM 132 M 8	690	7.3	41.5	0.76	78.1	78.0	74.2	3.6	1.2	2.2	0.7	2.2	0.033	40
4	AGM 160 M 8a	710	9.1	53.8	0.77	82.2	82.2	79.3	4.8	1.5	2.1	0.7	2.4	0.060	63
5.5	AGM 160 M 8b	720	12.5	72.9	0.77	82.6	82.6	79.6	5.3	1.7	2.2	0.7	2.7	0.083	73
7.5	AGM 160 L 8	715	17	100	0.75	84.6	84.6	81.5	5.8	1.9	2.4	0.8	2.9	0.12	102
11	AGM 180 L 8	720	24	146	0.78	85.2	85.2	82.1	6.8	2.2	2.7	0.9	3.0	0.20	138
15	AGM 200 L 8	725	32	198	0.78	87.2	87.2	84.2	6.0	1.9	2.1	0.7	2.9	0.29	155

CAST IRON FRAME

2.2	GM 132 S 8	700	5.4	30.0	0.76	77.2	77.1	73.1	3.8	1.2	2.1	0.7	2.4	0.024	47
3	GM 132 M 8	690	7.3	41.5	0.76	78.1	78.0	74.2	3.6	1.2	2.2	0.7	2.2	0.033	56
4	GM 160 M 8a	710	9.1	53.8	0.77	82.2	82.2	79.3	4.8	1.5	2.1	0.7	2.4	0.060	84
5.5	GM 160 M 8b	720	12.5	72.9	0.77	82.6	82.6	79.6	5.3	1.7	2.2	0.7	2.7	0.083	98
7.5	GM 160 L 8	715	17	100	0.75	84.6	84.6	81.5	5.8	1.9	2.4	0.8	2.9	0.12	120
11	GM 180 L 8	720	24	146	0.78	85.2	85.2	82.1	6.8	2.2	2.7	0.9	2.0	0.20	164
15	GM 200 L 8	725	32	198	0.78	87.2	87.2	84.2	6.0	1.9	2.1	0.7	2.9	0.29	205
18.5	GM 225 S 8	725	38	244	0.81	88.0	88.0	85.1	5.8	1.9	2.0	0.6	2.7	0.43	250
22	GM 225 M 8	725	45	290	0.81	87.1	87.1	84.8	5.8	1.9	2.0	0.6	2.6	0.52	277
30	GM 250 M 8	735	59	390	0.82	89.8	89.8	86.2	6.1	2.0	1.8	0.6	2.6	0.92	383
37	GM 280 S 8	730	73	484	0.82	89.8	89.8	86.2	4.7	1.5	2.0	0.6	2.0	1.3	465
45	GM 280 M 8	730	86	589	0.83	91.4	91.4	87.4	4.9	1.6	1.9	0.6	1.8	1.6	508
55	GM 315 S 8	740	110	710	0.78	92.2	91.4	87.4	5.7	1.8	1.8	0.6	1.9	2.0	708
75	GM 315 M 8a	740	150	968	0.78	91.6	91.4	87.4	5.9	1.9	1.9	0.6	2.0	2.5	745
90	GM 315 M 8b	740	171	1161	0.82	92.2	92.2	88.6	6.2	2.0	1.9	0.6	2.0	3.0	820
110	GMM 315 L 8a	740	209	1419	0.82	92.6	92.6	89.1	6.5	2.1	1.9	0.6	2.0	4.0	860
132	GMM 315 L 8b	740	265	1703	0.76	93.1	93.1	89.8	6.0	1.9	1.9	0.6	2.0	4.3	980
132	GMM 355 M 8a	740	270	1703	0.76	94.4	94.4	93.2	5.7	1.8	1.9	0.6	2.0	4.3	1222
160	GMM 355 M 8b	740	320	2065	0.77	94.4	94.4	93.2	5.9	1.9	1.9	0.6	2.0	8.9	1328
200	GMM 355 M 8c	740	420	2581	0.74	94.4	94.4	93.2	6.2	2.0	1.9	0.6	2.0	11	1590
250	GMM 355 L 8a	740	550	3226	0.70	94.0	94.0	93.4	6.5	2.1	1.9	0.6	2.0	13	2020
315	GMM 400 L 8a	745	660	4038	0.73	94.8	94.8	91.7	5.9	1.9	1.8	0.6	2.3	24.5	2555
355	GMM 400 L 8b	745	735	4550	0.73	95.0	95.0	91.9	6.0	1.9	1.8	0.6	2.3	26.6	2685
400	GMM 400 L 8c	745	810	5127	0.75	95.2	95.2	92.0	6.1	2.0	1.8	0.6	2.4	29	2835
450	GMM 400 L 8d	745	920	5768	0.74	95.2	95.2	92.0	6.2	2.0	1.8	0.6	2.5	32	3010
500	GMM 450 L 8a	744	541*	6418	0.81	95.4	95.4	93.9	6.6	2.1	2	0.6	2.4	37	3800
560	GMM 450 L 8b	744	603*	7188	0.81	95.6	95.6	94.1	6.6	2.1	2	0.6	2.4	41	4000
630	GMM 450 LH 8c	744	675*	8086	0.82	95.7	95.7	94.1	6.6	2.1	2	0.6	2.4	46	4200

*Rated current at 690 V

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

High Efficiency Motors IE3
2-pole-3000 m^{-1}

CAST IRON FRAME

Rated output	At Rated Output								Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
	Type	Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A / M_N				
kW		m^{-1}	A	Nm		IEC 60034-30-1:2014			D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K / M_N	kgm^2	kg
						4/4	3/4	1/2							
55	GM3E 250 M 2	2985	92	176	0.92	94.3	94.5	93.3	8.7	2.8	2.9	0.9	3.0	0.47	480
75	GM3E 280 S 2	2985	127	240	0.90	94.7	94.6	94.0	8.0	2.6	2.9	0.9	3.2	0.62	554
90	GM3E 280 M 2	2985	148	288	0.92	95.0	95.0	93.7	8.2	2.6	2.9	0.9	3.0	0.74	645
110	GM3E 315 S 2	2985	186	352	0.90	95.2	95.2	94.0	8.0	2.6	2.5	0.8	3.0	1.2	742
132	GM3E 315 M 2	2985	223	422	0.90	95.4	95.4	94.1	8.0	2.6	2.4	0.8	3.5	1.4	812
160	GM3E 315 L 2a	2985	265	512	0.91	95.6	95.6	94.2	8.0	2.6	2.5	0.8	3.0	1.5	912
185	GMM3E 315 L 2b	2985	304	592	0.92	95.7	95.7	94.2	7.5	2.4	2.5	0.8	2.8	1.8	1110
200	GMM3E 315 L 2c	2985	324	640	0.93	95.8	95.8	94.6	7.5	2.4	2.5	0.8	2.8	1.8	1140
250	GMM3E 355 M 2a	2990	413	798	0.91	95.8	95.8	94.6	7.0	2.3	2.0	0.6	2.5	3.6	1170
315	GMM3E 355 M 2b	2990	516	1006	0.92	95.8	95.8	94.7	7.0	2.3	2.0	0.6	2.5	4.5	1360
355	GMM3E 355 M 2c	2990	575	1134	0.93	95.8	95.7	94.8	7.2	2.3	2.0	0.6	2.5	4.7	1420
400	GMM3E 355 L 2a	2990	660	1277	0.91	95.8	95.8	94.9	7.0	2.3	2.0	0.6	2.5	5.3	1630

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

CAST IRON FRAME

Rated output	At Rated Output								Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
	Type	Speed	Current I_N	Moment M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A / M_N				
kW		m^{-1}	A	Nm		IEC 60034-30-1:2014			D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K / M_N	kgm^2	kg
						4/4	3/4	1/2							
55	GM3E 250 M 4	1480	96	355	0.87	94.6	94.7	94.0	7.7	2.5	3.2	1.0	3.0	0.78	445
75	GM3E 280 S 4	1485	133	482	0.86	95.0	94.9	94.4	7.6	2.5	2.9	0.9	3.0	1.11	605
90	GM3E 280 M 4	1485	158	579	0.86	95.2	95.2	94.8	7.4	2.4	2.9	0.9	3.0	1.32	665
110	GM3E 315 S 4	1487	194	706	0.86	95.4	95.2	95.0	7.4	2.4	2.4	0.8	3.0	2.5	861
132	GM3E 315 M 4	1488	226	847	0.88	95.6	95.4	95.3	7.4	2.4	2.4	0.8	3.0	2.8	882
160	GM3E 315 L 4a	1488	275	1027	0.88	95.8	95.6	95.6	6.9	2.2	2.2	0.7	2.9	3.0	930
185	GMM3E 315 L 4b	1488	321	1187	0.87	95.9	95.9	95.8	6.9	2.2	2.2	0.7	2.9	3.1	1015
200	GMM3E 315 L 4c	1488	350	1284	0.86	96.0	95.8	95.8	7.5	2.4	2.5	0.8	3.1	3.3	1100
200	GM3E 315 LH 4b	1489	350	1282	0.86	96.0	96.0	95.8	7.5	2.5	2.5	0.8	3.1	4.6	1100
250	GM3E 315 LH 4c	1489	440	1602	0.85	96.1	96.1	95.8	7.6	2.5	2.3	0.8	3.1	4.8	1300
250	GMM3E 355 M 4a	1490	440	1602	0.85	96.0	96.0	95.9	8.0	2.6	2.2	0.7	3.0	6.0	1400
315	GMM3E 355 M 4b	1490	560	2019	0.85	96.0	96.0	95.9	8.0	2.6	2.2	0.7	3.0	6.5	1438
355	GMM3E 355 L 4a	1490	620	2275	0.86	96.0	96.0	95.9	8.0	2.6	2.2	0.7	3.0	7.2	1490
400	GMM3E 355 L 4b	1490	690	2564	0.87	96.0	96.0	95.9	7.2	2.3	2.2	0.7	3.0	7.9	1720

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

High Efficiency Motors IE3
6-pole-1000 m^{-1}

CAST IRON FRAME

Rated output	Type	At Rated Output							Starting Data				Breakdown Torque Ratio	Moment of Inertia J	Weight (Approx.) B3
		Speed	Current I_N	Torque M_N	Power Factor (Cos φ)	Efficiency n %			Locked-Rotor Locked-Rotor Current Ratio I_A/I_N		Locked-Rotor Torque Ratio M_A/M_N				
kW		m^{-1}	A	Nm		IEC 60034-30-1:2014			D.O.L.	Y/Δ	D.O.L.	Y/Δ	M_K/M_N	kgm^2	kg
						4/4	3/4	1/2							
37	GM3E 250 M 6	987	70	358	0.82	93.3	93.2	92.9	7.0	2.3	2.8	0.9	2.6	0.99	440
45	GM3E 280 S 6	990	88	434	0.79	93.7	93.7	92.9	6.9	2.2	3.0	1.0	2.8	1.50	553
55	GM3E 280 M 6	990	107	531	0.79	94.1	94.1	92.8	7.3	2.4	3.3	1.1	3.2	1.70	578
75	GM3E 315 S 6	992	140	722	0.82	94.6	94.6	94.4	7.2	2.3	2.7	0.9	3.0	2.9	805
90	GM3E 315 M 6a	992	166	866	0.82	94.9	94.9	94.5	7.2	2.3	2.7	0.9	3.0	3.5	860
110	GM3E 315 M 6b	992	198	1059	0.84	95.1	95.1	94.9	7.2	2.3	2.7	0.9	3.0	4.2	980
132	GMM3E 315 L 6	992	235	1271	0.85	95.4	95.4	95.2	7.2	2.3	2.7	0.9	3.0	4.3	1150
160	GMM3E 355 M 6a	993	296	1539	0.82	95.6	95.6	95.0	7.0	2.3	2.4	0.8	3.2	6.8	1185
200	GMM3E 355 M 6b	993	365	1923	0.83	95.8	95.8	95.3	7.0	2.3	2.4	0.8	3.2	8.3	1390
250	GMM3E 355 L 6a	993	460	2404	0.82	95.8	95.8	95.4	7.0	2.3	2.4	0.8	3.2	10.4	1716
315	GMM3E 355 L 6b	993	580	3029	0.82	95.8	95.7	95.5	7.0	2.3	2.4	0.8	3.2	11.7	1890
355	GMM3E 400 L 6a	995	610	3407	0.88	95.9	95.9	95.7	6.8	2.2	2.2	0.7	2.9	23.6	2450
400	GMM3E 400 L 6b	995	690	3839	0.87	95.9	95.9	95.7	6.8	2.2	2.2	0.7	2.9	26.6	2705

Efficiency values are calculated using the indirect measuring method in accordance with IEC 60034-2-1:2014. Additional losses are determined according to the results of the tests conducted with variable load values.

3-Phase Squirrel Cage Induction Motors

	OPTIONS	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315	355	400	450
1	Mounting Arrangement																		
	B5, V1 (Aluminum)	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	B5 Cast Iron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	0	0	R
	B14 / B14-2	0	0	0	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	B14 / B14-2 - Cast Iron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	48.0	78.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Custom Winding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	R
3	Custom Shaft																		
	By sketch	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	Non-drive end shaft outlet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	R
4	IP 56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	R
5	Cylindrical Roller Bearing (NU) - 2 P*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	0	0	R
5	Cylindrical Roller Bearing (NU) - 4 6 8 P *	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	0	0	R
6	H Isolation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	S	S	S	R
7	Forced Cooling	N/A	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	R
8	Heater - 1AC 230 V - 1 AC 110 V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	R
9	Canopy	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	R	R
10	Motor Protection																		
	1 x PTC	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	2 x PTC	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	3 x PTC	0	0	0	0	0	0	0	0	S	S	S	S	S	S	S	S	S	S
	3 x NC Thermostat	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
	3 x PT 100 - in the winding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2 x PT100 - in the bearings	R	R	R	R	R	R	R	R	0	0	0	0	0	0	0	0	0	0
11	Greasable End Shield	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	S	S	S	S
12	Isolated Non-Drive End Cover	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0
13	Isolated Bearing	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
14	Paired Bearing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	S	S	S	S	S
15	Metal Terminal Box	N/A	N/A	0	0	0	0	0	0	0	0	S	S	S	S	S	S	S	S
16	Water Drain Holes	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
17	Oil Seal	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
19	Vibration Monitoring Point	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
20	Metal Cable Gland	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R
21	Encoder	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
22	Tropical Protection	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
25	Paint - with RAL code	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R

Note: Some variant codes cannot be used together.

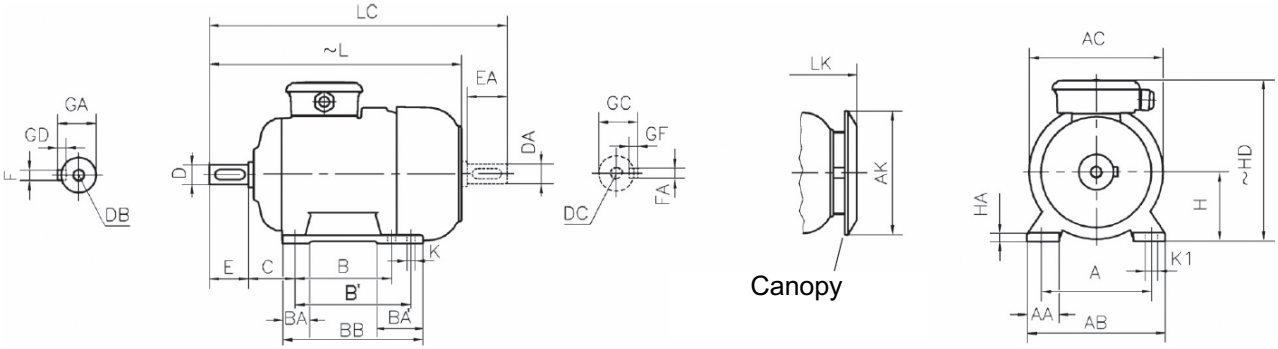
S = Standard feature

O = Optional feature

R = On request

N/A = Not applicable

FOOT-MOUNTED (B3)-ALUMINUM FRAME

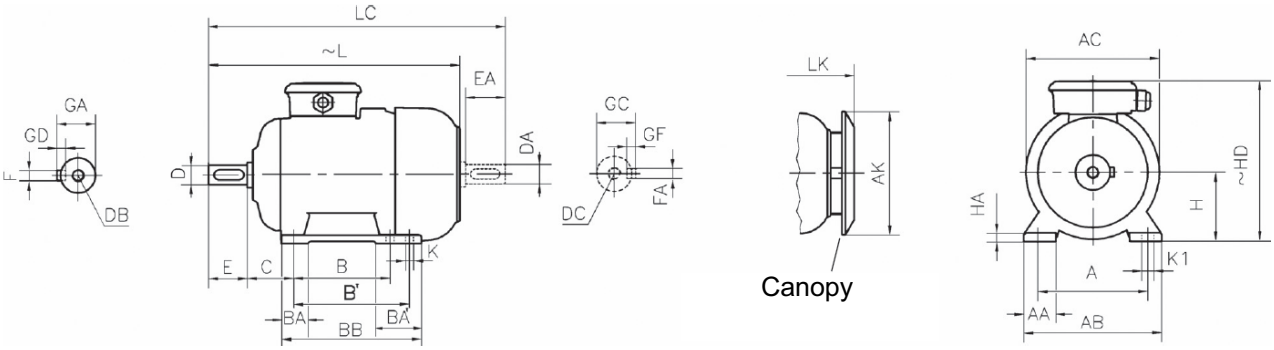


Frame size		Number of Poles	Foot-mounted motor dimensions: In B3, B6, B7, B8, B15, V5, V6 mounting arrangements																						
			H	HD ~	HA	A	AA	AB	ACØ	AKØ	K	K1	B	B'	BA	BA'	BB	L~	LC	LK~	C	E EA	DB DC	DØ DA0	GA GC	FxGD FAxGF
56		2-4	56	152	9	90	28	112	105	-	5.8	9	71	-	24	-	87	161	185	-	36	20	M4	9	10.2	3x3
63		2-4	63	160	10	100	31	125	121	116	7	11	80	-	27	-	103	216	243	245	40	23	M4	11	12.5	4x4
71		2-4-6-8	71	182	10	112	33	140	138	116	7	11	90	-	27	-	108	249	284	278	45	30	M5	14	16	5x5
80		2-4-6-8	80	198	10	125	38	160	156	151	10	15	100	-	33	-	125	279	324	308	50	40	M6	19	21.5	6x6
90	S	2-4-6-8	90	216	12	140	43	180	176	151	10	15	100	-	35	-	130	309	364	338	56	50	M8	24	27	8x7
	L												125	-			155	334	389	363						
100	L	2-4-6-8	100	234	13	160	47	200	194	189	12	18	140	-	39	-	175	376	442	413	63	60	M10	28	31	8x7
		421																406	472	443						
112	M	2-4-6-8	112	257	13	190	47	230	218	189	12	18	140	-	39	-	175	396	462	433	70	60	M10	28	31	8x7
132	S	2-4-6-8	132	300	15	216	49	260	257	239	12	18	140	-	46	-	180	460	546	497	89	80	M12	38	41	10x8
	M	2-4[4]											178	-			218	498	584	535						
																		523	614	560						
160	M	2-4-6-8	160	380	21.5	254	60	312	310	303	15	19	210	254	60	104	304	600	716	657	108	110	M16	42	45	12x8
	L	2-4[5]																644	760	701						
180	M	2-4-6-8	180	421	24	279	68	354	348	303	15	19	241	279	56	86	320	657	773	714	121	110	M16	48	51.5	14x9
	L																									
200	L	2-4-6-8	200	477	26	318	80	398	390	370	19	24	305	-	68	-	355	747	865	803	133	110	M20	55	59	16x10

[1] DB. DC: DIN 332-2 form D
[2] IE2 & IE3 motor type AGM2E 100 L 4b
[3] IE2 motor type AGM2E 132 M 6b
[4] IE2 motor type AGM2E 160 L 2, AGM2E 160 L 4

All dimensions are in millimeters.

FLANGE-MOUNTED (FORM A-B5)-CAST IRON FRAME

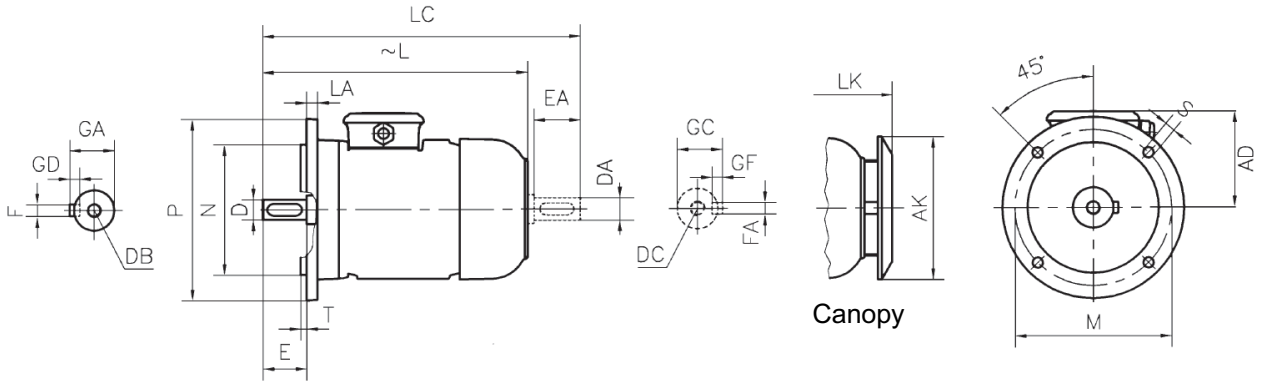


Frame size		Number of Poles	Foot-mounted motor dimensions: In B3, B6[1], B7[1], B8[1], B15, V5[1], V6[1] mounting arrangements																					
			H	HD ~	HA	A	AA	AB	ACØ	AKØ	KØ	B	B'	BA	BA'	BB	L ~	LC	LK ~	C	E EA	DB[2] DC	DØ DAØ	GA GC	FxGD FAxGF
132	S	2-4-6-8	132	300	15	216	52	260	257	239	12	140	-	46	84	218	498	584	535	89	80	M12	38	41	10x8
	M												178											
160	M	2-4-6-8	160	380	22	254	60	312	310	303	15	210	-	62	-	260	600	716	657	108	110	M16	42	45	12x8
	L											254	-			304	644	760	701					
180	M	2-4-6-8	180	421	24	279	68	354	348	303	15	241	279	57	85	319	657	773	714	121	110	M16	48	51.5	14x9
	L													62	-		660	811	752					
200	L	2-4-6-8	200	477	26	318	80	398	390	370	19	305	-	68	-	355	747	865	803	133	110	M20	55	59	16x10
225	S	4-8	225	510	30	356	82	438	434	370	19	286	311	76	92.5	363	795	943	851	149	140	M20	60	64	18x11
	M	2										311	-		-	371	790	908	846		110		55	59	16x10
		4-6-8															820	968	876		140		60	64	18x11
250	M	2	250	572	35	406	80	484	480	440	24	349	-	75	-	410	896	1044	952	168	140	M20	60	64	18x11
		4-6-8																					65	69	
280	S	2	280	630	40	457	120	550	544	440	24	368	419	85	128	474	958	1106	1014	190	140	M20	65	69	18x11
		4-6-8																					75	79.5	20x12
	M	2																					65	69	18x11
		4-6-8																					75	79.5	20x12
315	S	2	315	825	50	508	125	620	614	571	28	406	457	115	166	550	1120	1270	1197	216	140	M20	65	69	18x11
		4-6-8															1150	1330	1227		170		85	90	22x14
	M	2															1120	1270	1197		140		65	69	18x11
		4-6-8															1150	1330	1227		170		85	90	22x14
	L	2										508	-	125	-	600	1190	1340	1267		140		65	69	18x11
		4-6-8															1220	1400	1297		170		85	90	22x14
	LH	2		855													1270	855	1297		140		65	69	18x11
		4-6-8															1300	885	1327		170		85	90	22x14
355	M	2	355	980	50	610	150	740	732	571	28	560	-	140	-	680	1337	1517	1414	254	170	M20	80	85	22x14
		4-6-8															1377	1597	1454		210	M24	100	106	28x16
	L	2										630				750	1467	1647	1544		170	M20	80	85	22x14
		4-6-8															1507	1727	1584		210	M24	100	106	28x16
400	L	2	400	1100	50	686	165	860	850	571	35	800	-	170	-	934	1570	1740	1637	280	170	M20	80	85	22x14
		4-6-8															1610	1820	1677		210	M24	110	116	28x16
450	L	2	450	1201	62	800	180	975	960	571	45	900	-	200	-	1050	1768	1948	1845	280	170	M24	90	95	25x14
		4-6-8															1808	2028	1885		210		120	127	32x18
450	LH	2	450	1283	62	800	180	975	960	571	45	1250	-	300	-	1450	2268	2486	2345	280	170	M24	90	95	25x14
		4-6-8															2308	2528	2385		210		120	127	32x18

[1] Up to B6, B7, B8, V5 and V6 315 M Frame size.
[2] DB, DC: DIN 332-2 Form D

All dimensions are in millimeters.

FLANGE-MOUNTED (FORM A-B5)-ALUMINUM FRAME



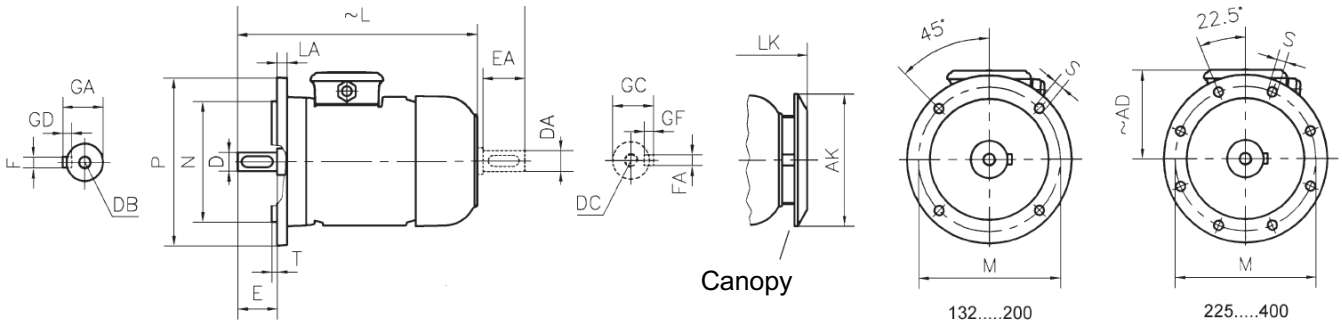
Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Flange-mounted motor dimensions: (Flange form A - DIN EN 50 347), in B5, V1, V3 mounting arrangements																
			Flange No.	ØM	ØN	ØP	Clearance Hole		T	LA	AD~	ØAK	L~	LC	LK~	E	DB[1]	ØD	GA	FxGD
							No.	ØS								EA	DC	ØDA	GC	FAxGF
56		2-4	FF100	100	80	120	4	7	3	8	96	-	161	185	-	20	M4	9	10.2	3x3
63		2-4	FF115	115	95	140	4	10	3	10	97	116	216	243	245	23	M4	11	12.5	4x4
71		2-4-6-8	FF 130	130	110	160	4	10	3.5	10	110	116	249	284	278	30	M5	14	16	5x5
80		2-4-6-8	FF 165	165	130	200	4	12	3.5	12	118	151	279	324	308	40	M6	19	21.5	6x6
90	S	2-4-6-8	FF 165	165	130	200	4	12	3.5	12	126	151	309	364	338	50	M8	24	27	8x7
	L												334	389	363					
100	L	2-4-6-8	FF 215	215	180	250	4	14.5	4	15	135	189	376	442	413	60	M10	28	31	8x7
		4[3]											406	472	443					
112	M	2-4-6-8	FF 215	215	180	250	4	14.5	4	15	146	189	396	462	433	60	M10	28	31	8x7
132	S	2-4-6-8	FF 265	265	230	300	4	14.5	4	20	168	239	460	546	497	80	M12	38	41	10x8
	M												498	584	535					
		6[5]											523	614	560					
160	M	2-4-6-8	FF300[2]	300	250	350	4	18.5	5	20	225	303	600	716	657	110	M16	42	45	12x8
	L	2-4[6]											644	760	701					
180	M L	2-4-6-8	FF300[2]	300	250	350	4	18.5	5	20	241	303	660	773	714	110	M16	48	51.5	14x9
200	L	2-4-6-8	FF350[2]	350	300	400	4	18.5	5	20	275	370	747	865	803	110	M20	55	59	16x10

[1] DB, DC: DIN 332-2 Form D
[2] Flanges are cast iron.
[3] IE2 Motor Type AGM2E 100 L 4b
[4] IE2 Motor Type AGM2E 132 M 6b
[5] IE2 Motor Type AGM2E 160 L 2, AGM2E 1 60 L 4

All dimensions are in millimeters.

FLANGE-MOUNTED (FORM A-B5)-CAST IRON FRAME



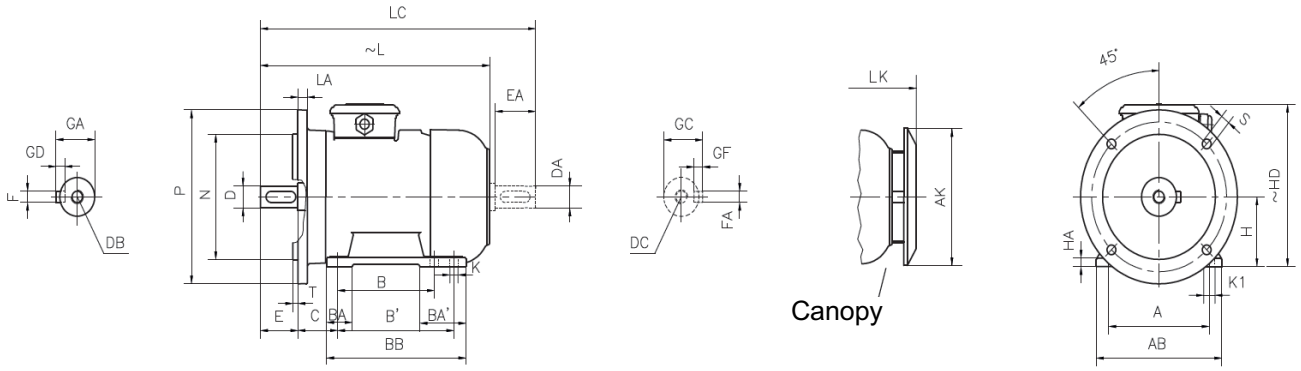
Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Flange-mounted motor dimensions: (Flange form A - DIN EN 50 347), in B5[1], V1, V3[1]) mounting arrangements																	
			Flange No.	ØM	ØN	ØP	Clearance Hole		T	LA	AD~	ØAK	L~	LC	LK~	E EA	DB[3] DC	ØD ØDA	GA GC	FxGD FAxGF
							No.	ØS												
132	S	2-4-6-8	FF 265	265	230	300	4	14.5	4	20	168	239	498	584	535	80	M12	38	41	10x8
	M																			
160	M	2-4-6-8	FF 300	300	250	350	4	18.5	5	20	225	303	600	716	657	110	M16	42	45	12x8
	L												644	760	701					
180	M	2-4-6-8	FF 300	300	250	350	4	18.5	5	20	241	303	659	773	714	110	M16	48	51.5	14x9
	L													811	752					
200	L	2-4-6-8	FF 350	350	300	400	4	18.5	5	20	275	370	747	865	803	110	M20	55	59	16x10
225	S	4-8	FF 400	400	350	450	8	18.5	5	20	285	370	795	943	851	140	M20	60	64	18x11
	M	2											790	908	846	110		55	59	16x10
		4-6-8											820	968	876	140		60	64	18x11
250	M	2	FF 500	500	450	550	8	18.5	5	24	322	440	896	1044	952	140	M20	60	64	18x11
		4-6-8																65	69	
280	S	2	FF 500	500	450	550	8	18.5	5	24	350	440	958	1106	1014	140	M20	65	69	18x11
		4-6-8																75	79.5	20x12
	M	2																65	69	18x11
		4-6-8																75	79.5	20x12
315	S	2	FF 600	600	550	660	8	24	6	24	510	571	1120	1270	1197	140	M20	65	69	18x11
		4-6-8											1150	1330	1227	170		85	90	22x14
	M	2											1120	1270	1197	140		65	69	18x11
		4-6-8											1150	1330	1227	170		85	90	22x14
	L	2											1190	1340	1267	140		65	69	18x11
		4-6-8											1220	1400	1297	170		85	90	22x14
	LH	2											1270	855	1297	140		65	69	18x11
		4-6-8											1300	885	1327	170		85	90	22x14
355		2	FF 740	740	680	800	8	24	6	32	625	571	1337	1517	1414	170	M20	80	85	22x14
	M	4-6-8											1377	1597	1454	210	M24	100	106	28x16
	L	2											1467	1647	1544	170	M20	80	85	22x14
		4-6-8											1507	1727	1584	210	M24	100	106	28x16
400	L	2	FF 940[3]	940	880	1000	8	28	6	32	700	571	1570	1740	1637	170	M20	80	85	22x14
		4-6-8											1610	1820	1677	210	M24	110	116	28x16
450	L	2	FF1080[3]	1080	1000	1150	8	28	6	32	751	571	1768	1948	1845	170	M24	90	95	25x14
		4-6-8											1808	2028	1885	210		120	127	32x18

[1] Up to B5 and V3, 315M Frame size.
[2] DB, DC: DIN 332-2 Form D
[3] IEC 60 072

All dimensions are in millimeters.

FOOT-AND FLANGE-MOUNTED (FORM C-B35)-ALUMINUM FRAME



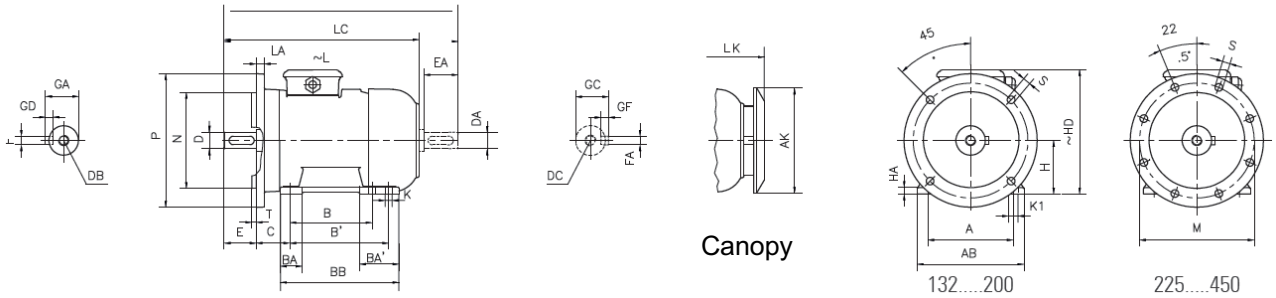
Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Foot- and flange-mounted motor dimensions: (Flange form A – DIN EN 50 347), in B35 structure form																												
			H	HD~	HA	A	AB	ØAK	K	K1	B	B'	BA	BA'	BB	Flange	ØM	ØN	ØP	No	ØS	T	LA	L~	LC	LK~	C	E EA	DB[1] DC	ØD ØDA	GA GC	FxGD FAxGF
56		2-4	56	152	9	90	112	-	5.8	9	71	-	24	-	87	FF100	100	80	120	4	7	3	8	161	185	-	36	20	M4	9	10.2	3x3
63		2-4	63	160	10	100	125	116	7	11	80	-	27	-	103	FF115	115	95	140	4	10	3	10	216	243	245	40	23	M4	11	12.5	4x4
71		2-4-6-8	71	182	10	112	140	116	7	11	90	-	27	-	108	FF130	130	110	160	4	10	3.5	10	249	284	278	45	30	M5	14	16	5x5
80		2-4-6-8	80	198	10	125	160	151	10	15	100	-	33	-	125	FF165	165	130	200	4	12	3.5	12	279	324	308	50	40	M6	19	21.5	6x6
90	S	2-4-6-8	90	216	12	140	180	151	10	15	100	-	35	-	130	FF165	165	130	200	4	12	3.5	12	309	364	338	56	50	M8	24	27	8x7
	L										125	-			155									334	389	363						
100	L	2-4-6-8	100	234	13	160	200	189	12	18	140	-	39	-	175	FF215	215	180	250	4	14.5	4	15	376	442	413	63	60	M10	28	31	8x7
		4[3]																						406	472	443						
112	M	2-4-6-8	112	257	13	190	230	189	12	18	140	-	39	-	175	FF215	215	180	250	4	14.5	4	15	396	462	433	70	60	M10	28	31	8x7
132	S	2-4-6-8	132	300	15	216	260	239	12	18	140	-	46	-	180	FF265	265	230	300	4	14.5	4	20	455	546	497	89	80	M12	38	41	10x8
	M	6[5]									178				218									498 523	584 614	535 560						
160	M	2-4-6-8	160	380	22	254	312	303	15	19	210	254	60	104	304	FF300[2]	300	250	350	4	18.5	5	20	600	716	657	108	110	M16	42	45	12x8
	L	2-4[6]																						644	760	701						
180	M L	2-4-6-8	180	421	24	279	354	303	15	19	241 -	279	56	86	320	FF300[2]	300	250	350	4	18.5	5	20	660	773	714	121	110	M16	48	51.5	14x9
200	L	2-4-6-8	200	477	26	318	398	370	19	24	305	-	68	-	355	FF350[2]	350	300	400	4	18.5	5	20	747	865	803	133	110	M20	55	59	16x10

1) DB, DC: DIN 332-2 Form D
2) Flanges are cast iron.
3) IE2 Motor Type AGM2E 100 L 4b
4) IE2 Motor Type AGM2E 132 M 6b
5) IE2 Motor Type AGM2E 160 L 2, AGM2E 160 L 4

All dimensions are in millimeters.

FOOT-AND FLANGE-MOUNTED (FORM C-B35)-CAST IRON FRAME



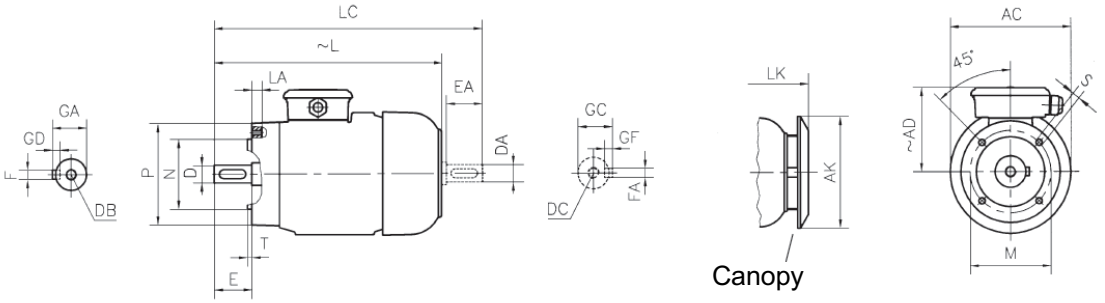
Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Foot- and flange-mounted motor dimensions: (Flange form A - DIN EN 50 347), in B35 structure form																												
			H	HD~	HA	A	AB	ØAK	ØK	K1	B	B'	BA	BA'	BB	Flange	ØM	ØN	ØP	No	ØS	T	LA	L~	LC	LK~	C	E EA	DB[1] DC	ØD ØDA	GA GC	FxGD FAxGF
132	S	2-4-6-8	132	300	15	216	260	239	12	-	140	-	46	84	218	FF265	265	230	300	4	14.5	4	20	498	584	535	89	80	M12	38	41	10x8
	M										-	178																			
160	M	2-4-6-8	160	380	22	254	312	303	15	-	210	-	62	-	260	FF300	300	250	350	4	18.5	5	20	600	716	657	108	110	M16	42	45	12x8
	L										254	-			304									644	760	701						
180	M	2-4-6-8	180	421	24	279	354	303	15	-	241	279	57	85	319	FF300	300	250	350	4	18.5	5	20	657	773	714	121	110	M16	48	51.5	14x9
	L														329									695	811	752						
200	L	2-4-6-8	200	477	26	318	398	370	19	-	305	-	68	-	355	FF350	350	300	400	4	18.5	5	20	747	865	803	133	110	M20	55	59	16x10
225	S	4-8	225	510	30	356	438	370	19	-	286	311	76	92.5	363	FF400	400	350	450	8	18.5	5	20	795	943	851	149	140	M20	60	64	18x11
	M	2									311	-		-	371									790	908	846		110		55	59	16x10
		4-6-8																						820	968	876		140		60	64	18x11
250	M	2	250	572	35	406	484	440	24	-	349	-	75	-	410	FF500	500	450	550	8	18.5	5	24	896	1044	952	168	140	M20	60	64	18x11
		4-6-8																												65	69	
280	S	2	280	630	40	457	550	440	24	-	368	419	85	128	474	FF500	500	450	550	8	18.5	5	24	958	1106	1014	190	140	M20	65	69	18x11
		4-6-8																												75	79.5	20x12
	M	2																												65	69	18x11
		4-6-8																												75	79.5	20x12
315	S	2	315	825	50	508	620	571	28	-	406	457	115	166	550	FF600	600	550	660	8	24	6	24	1120	1270	1197	216	140	M20	65	69	18x11
		4-6-8																						1150	1330	1227		170		85	90	22x14
	M	2																						1120	1270	1197		140		65	69	18x11
		4-6-8																						1150	1330	1227		170		85	90	22x14
	L	2									508	-	125	-	600									1190	1340	1267		140		65	69	18x11
		4-6-8																						1220	1400	1297		170		85	90	22x14
	LH	2																						1270	855	1297		140		65	69	18x11
		4-6-8																						1300	885	1327		170		85	90	22x14
355	M	2	355	980	50	610	740	571	28	-	560	-	140	-	680	FF740	740	680	800	8	24	6	32	1337	1517	1414	254	170	M20	80	85	22x14
		4-6-8																						1377	1597	1454		210	M24	100	106	28x16
	L	2									630	-			750									1467	1647	1544		170	M20	80	85	22x14
		4-6-8																						1507	1727	1584		210	M24	100	106	28x16
400	L	2	400	1100	50	686	850	571	35	-	800	-	170	-	934	FF940[2]	940	880	1000	8	28	6	32	1570	1740	1637	280	170	M20	80	85	22x14
		4-6-8																						1600	1820	1677		210	M24	110	116	28x16
450	L	2	450	1201	62	800	975	571	45	-	900	-	200	-	1050	FF1080[2]	1080	1000	1150	8	28	6	32	1768	1948	1845	280	170	M24	90	95	25x14
		4-6-8																						1808	2028	1885		210		120	127	32x18
450	LH	2	450	1283	62	800	975	571	45	-	1250	-	300	-	1450	FF1080[2]	1080	1000	1150	8	28	6	32	2268	2486	2345	280	170	M24	90	95	25x14
		4-6-8																						2308	2528	2385		210		120	127	32x18

[1] DB, DC: DIN 332-2 Form D
[2] IEC 60 072

All dimensions are in millimeters.

FLANGE-MOUNTED (FORM C-B14)-ALUMINUM FRAME



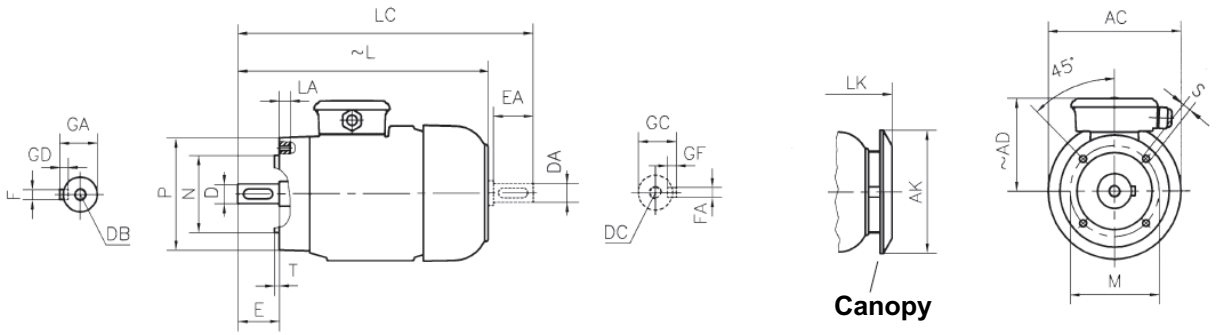
Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Flange-mounted motor dimensions: (Flange form C - DIN EN 50 347) in B14, V18, V19 mounting arrangements																	
			Flange No.	ØM	ØN	ØP	S	T	LA[4]	ØAC	ØAK	AD~	L~	LC	LK~	E EA	DB[1] DC	ØD ØDA	GA GC	FxGD FAxGF
56		2-4	FT 65	65	50	80	M5	2.5	10	105	-	96	161	185	-	20	M4	9	10.2	3x3
			FT 85	85	70	105	M6		12											
63		2-4	FT 75	75	60	90	M5	2.5	10	121	116	98	216	243	245	23	M4	11	12.5	4x4
			FT 100	100	80	120	M6	3	12											
71		2-4-6-8	FT 85	85	70	105	M6	2.5	12	138	116	110	249	284	278	30	M5	14	16	5x5
			FT 115	115	95	140	M8	3	16	-										
80		2-4-6-8	FT 100	100	80	120	M6	3	12	156	151	118	279	324	308	40	M6	19	21.5	6x6
			FT 130	130	110	160	M8	3.5	16	-										
90	S	2-4-6-8	FT 115	115	95	140	M8	3	16	176	151	126	309	364	338	50	M8	24	27	8x7
			FT 130	130	110	160		3.5												
	L	2-4-6-8	FT 115	115	95	140		3					334	389	363					
		2-4-6-8	FT 130	130	110	160		3.5												
100	L	2-4-6-8	FT 130	130	110	160	M8	3.5	16	194	189	135	376	442	413	60	M10	28	31	8x7
		4[3]											406	472	443					
		2-4-6-8	FT 165	165	130	200	M10		20	-			376	442	413					
		4[3]											406	472	443					
112	M	2-4-6-8	FT 130	130	110	160	M8	3.5	16	218	189	146	396	462	433	60	M10	28	31	8x7
		2-4-6-8	FT 165[2]	165	130	200	M10		20				396	462	433					
132	S	2-4-6-8	FT 165	165	130	200	M10	3.5	16	257	239	168	460	546	497	80	M12	38	41	10x8
			FT 215[2]	215	180	250	M12	4	18											
	M	2-4-6-8	FT 165	165	130	200	M10	3.5	16				493	584	535					
		6[5]	FT 215[2]	215	180	250	M12	4	18				523	614	560					
		2-4-6-8	FT 165	165	130	200	M10	3.5	16				493	584	535					
		6[5]	FT 215	215	180	250	M12	4	18				528	614	560					
160	M	2-4-6-8	FT 215	215[2]	180	250	M12	4	21	310	303	225	600	716	657	110	M16	42	45	12x8
	L	2-4-6-8																		
		2-4[6]											644	760	701					

[1] DB, DC: DIN 332-2 Form D
[2] Flanges are cast iron.
[3] IE2 Motor Type AGM2E 100 L 4b
[4] IE2 Motor Type AGM2E 160 L 2, AGM2E 1 60 L 4
[5] IE2 Motor Type AGM2E 160 L 2, AGM2E 1 60 L 4

All dimensions are in millimeters.

FLANGE-MOUNTED (FORM C-B14)-CAST IRON FRAME



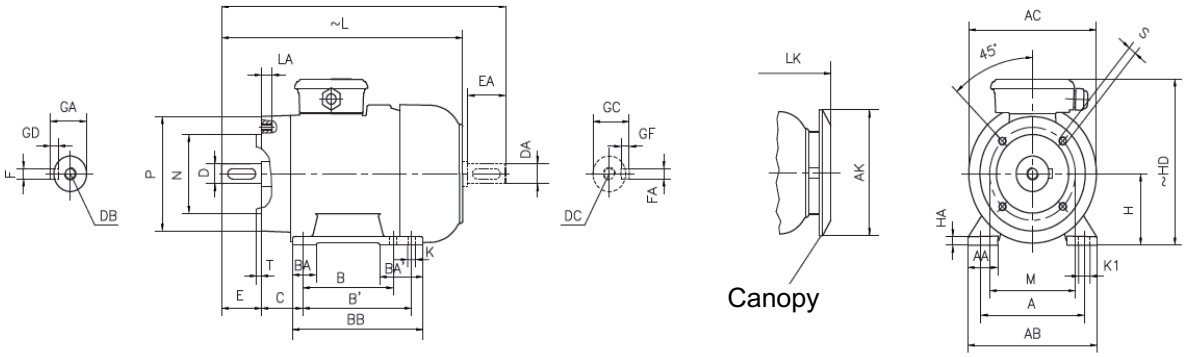
Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Flange-mounted motor dimensions: (Flange form A - DIN EN 50 347), in B5[1], V1, V3[1]) mounting arrangements																	
			Flange No.	MØ	NØ	PØ	S	T	LA[4]	ACØ	AKØ	AD~	L~	LC	LK~	E EA	DB[1] DC	DØ DAØ	GA GC	FxGD FAxGF
132	S	2-4-6-8	FT 165	165	130	200	M10	3.5	18	257	239	168	498	584	535	80	M12	38	41	10x8
	M		FT 215	215	180	250	M12	4												
	S		FT 165	165	130	200	M10	3.5												
	M		FT 215	215	180	250	M12	4												
160	M	2-4-6-8	FT 215	215	180	250	M12	4	21	310	303	225	600	716	657	110	M16	42	45	12x8
	L												644	760	701					

[1] DB, DC: DIN 332-2 Form D

All measurements are in millimeters.

FOOT-AND FLANGE-MOUNTED (FORM C-B34)-ALUMINUM FRAME



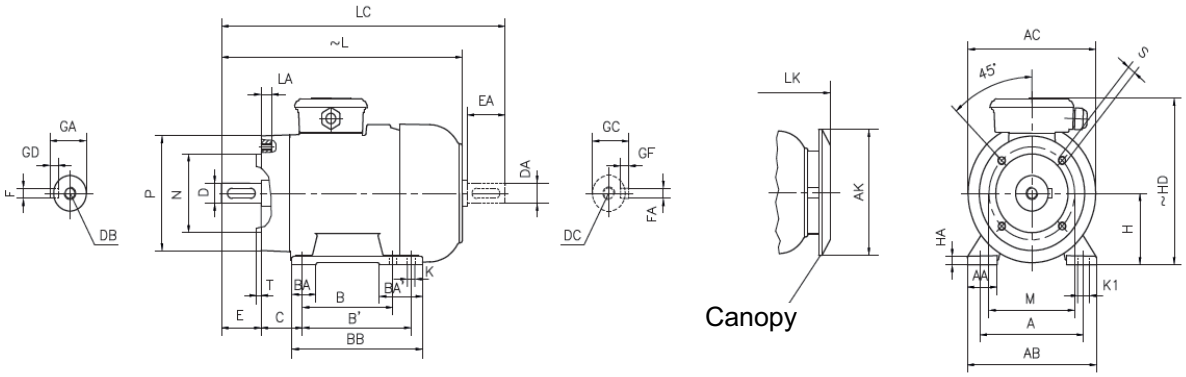
Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Foot- and flange-mounted motor dimensions: (Flange form C - DIN EN 50 347), in B34 structure form																															
			H	HD~	HA	A	AA	AB	ØAC	ØAK	K	K1	B	B'	BA	BA'	BB	Flange	ØM	ØN	ØP	S	T	LA[3]	L~	LC	LK~	C	E EA	DB DC	ØD ØDA	GA GC	FxGD FAxGF
56		2-4	56	152	9	90	28	112	105	-	5.8	9	71	-	24	-	87	FT65	65	50	80	M5	2.5	10	161	185	-	36	20	M4	9	10.2	3x3
																		FT85	85	70	105	M6		12									
63		2-4	63	161	10	100	31	125	121	116	7	11	80	-	27	-	103	FT75	75	60	90	M5	2.5	10	216	243	245	40	23	M4	11	12.5	4x4
																		FT100	100	80	120	M6	3	12									
71		2-4-6-8	71	181	10	112	33	140	138	116	7	11	90	-	27	-	108	FT85	85	70	105	M6	2.5	12	249	284	278	45	30	M5	14	16	5x5
									-									FT115	115	95	140	M8	3	16									
80		2-4-6-8	80	198	10	125	38	160	156	151	10	15	100	-	33	-	125	FT100	100	80	120	M6	3	12	279	324	308	50	40	M6	19	21.5	6x6
									-									FT130	130	110	160	M8	3.5	16									
90	S	2-4-6-8	90	216	12	140	43	180	176	151	10	15	100	-	35	-	130	FT115	115	95	140	M8	3	16	309	364	338	56	50	M8	24	27	8x7
																		FT130	130	110	160		3.5										
	L	2-4-6-8											125				155	FT115	115	95	140		3		334	389	363						
		2-4-6-8																FT130	130	110	160		3.5										
100	L	2-4-6-8 4[4]	100	234	13	160	47	200	194	189	12	18	140	-	39	-	175	FT130	130	110	160	M8	3.5	16	376	442	413	63	60	M10	28	31	8x7
																									406	472	443						
		2-4-6-8 4[4]							-									FT165	165	130	200	M10		20	376	442	413						
																									406	472	443						
112	M	2-4-6-8	112	257	13	190	47	230	218	189	12	18	140	-	39	-	175	FT130	130	110	160	M8	3.5	16	396	462	433	70	60	M10	28	31	8x7
		2-4-6-8																FT165[2]	165	130	200	M10		15	396	462	433						
132	S	2-4-6-8	132	300	15	216	49	260	257	239	12	18	140	-	46	-	180	FT165	165	130	200	M10	3.5	16	460	546	497	89	80	M12	38	41	10x8
																		FT215[2]	215	180	250	M12	4	18									
	M	2-4-6-8 6[5]											178				218	FT165	165	130	200	M10	3.5	16	498	584	535						
																									523	614	560						
		2-4-6-8 6[5]																FT215[2]	215	180	250	M12	4	18	498	584	535						
																									523	614	560						
160	M	2-4-6-8	160	380	22	254	60	312	310	303	15	19	210	- 254	60	104	304	FT215[2]	215	180	250	M12	4	21	600	716	657	108	110	M16	42	45	12x8
	L	2-4-6-8																							644	760	701						
		2-4[7]																															

[1] DB, DC: DIN 332-2 Form D
[2] Flanges are cast iron.
[3] Length of tapped hole
[4] IE2 Motor Type AGM2E 100 L 4b
[5] IE2 Motor Type AGM2E 132 M 6b
[6] IE2 Motor Type AGM2E 160 L 2, AGM2E 160 L 4

All dimensions are in millimeters.

FOOT-AND FLANGE-MOUNTED (FORM C-B34)-ALUMINUM FRAME



Note: The shaft shoulder and the flange seat are on the same plane.

Frame size		Number of Poles	Foot- and flange-mounted motor dimensions: (Flange form C - DIN EN 50 347), in B34 structure form																													
			H	HD~	HA	A	AA	AB	ACØ	AKØ	KØ	K1	B	B'	BA	BA'	BB	Flange	MØ	NØ	PØ	S	T	LA	L~	LC	LK~	C	E EA	DB2) DC	DØ DAØ	GA GC	FxGD FAxGF
132	S	2-4-6-8	132	300	15	216	52	260	257	239	12	-	140	-	46	84	218	FT165	165	130	200	M10	3.5	16	498	584	535	89	80	M12	38	41	10x8
																		FT215	215	180	250	M12	4	18									
	M											-		178				FT165	165	130	200	M10	3.5	16									
																		FT215	215	180	250	M12	4	18									
160	M	2-4-6-8	160	380	22	254	60	312	310	303	15	-	210	-	62	-	260	FT215	215	180	250	M12	4	21	600	716	657	108	110	M16	42	45	12x8
	L												254				304								644	760	701						

1) DB, DC: DIN 332-2 Form D
2) Length of tapped hole

All dimensions are in millimeters.