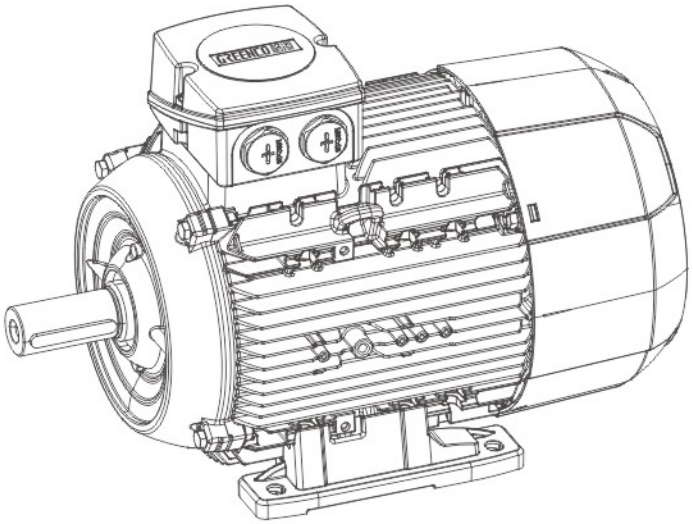
GREENCO 格凌

Develop And Produce Higher Quality Of Industrial Motor



浙江格凌实业有限公司

ZHEJIANG GREENCO INDUSTRY CO.,LTD.

About GREENCO

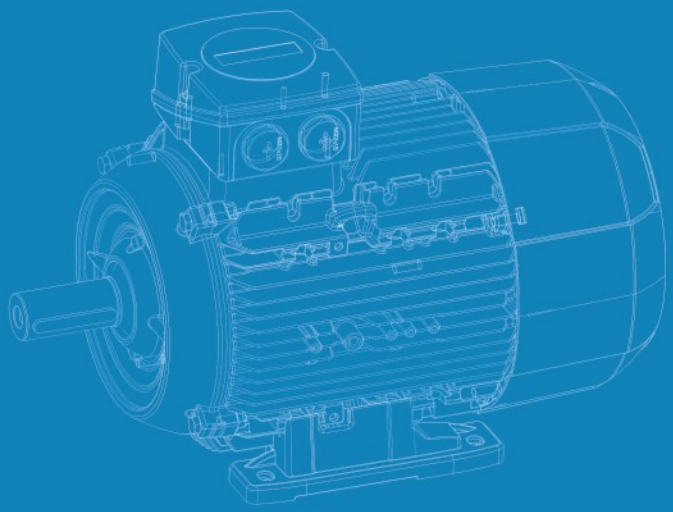
关于格凌

Zhejiang Greenco Industrial Co., Ltd. was founded in 2001, covering an area of 10,8000 square meters. It is a national high-tech enterprise specializing in the research, development, production and sales of industrial motors and air fluid equipment. The company is among the first batch of national "Specialized, Refined, Characteristic and Novel" Little Giant Enterprises and a provincial Hidden Champion Enterprise. It has established a provincial-level enterprise technology center, obtained 50 national patents (including 15 invention patents) through independent research and development, and participated in the formulation of 1 industry standard and 2 Zhejiang Manufacturing Group Standards.

The company has profound technical accumulation and strong comprehensive manufacturing capabilities. It owns a complete manufacturing industrial chain, ranging from stamping, casting, surface stress relief treatment, injection molding, precision machining, assembly to automatic spraying. This enables strict quality control over every part, and allows for quick response to customized needs.

The company has always been committed to providing customers with innovative, efficient and sustainable motor solutions. The new 1LE3、1LE4 series motor adopts an aluminum shell design, featuring a compact structure and excellent performance, which is suitable for installation in systems with limited space. It offers multiple installation methods and different protection levels, and has passed multiple certifications such as UL, ROHS and CE.

GREENCO 格凌



Develop And Produce Higher Quality Of Industrial Motor

www.greenco.cn

Green Power, Efficient Future

Polished in a fiercely competitive market, we strive to build an outstanding international brand and become a pacesetter for the sustainable development of the motor industry.

CONTENTS

Overview

Aluminum Housing Motor

Rated output:	0.18-22KW
Frame size:	63 ~ 180
Voltage and Frequency:	support multiple voltage and frequency
Cooling method:	IC411 as standard, IC416 is optional
Oiling device:	The sealed ball bearing as standard,no re-grease device
Degree of protection:	IP55
Degree of insulation:	F
Coolant temperature:	-15 ~ 40 °C
Site altitude above see level:	not exceed 1000 m

1LE3 series of motors is the newly designed high efficiency low voltage three phase asynchronous motor, the housing material have two options, cast iron or aluminum1) , is designed for continuous duty operation(S1). 1LE3 series of motors owns the features of high efficiency, novel structure, beautiful appearance, low noise, small vibration, high degree of insulation, etc, also can be used in the fields of fans, pump, compressors and textile machine.

Compared with cast iron frame motor, the quality of aluminum motor is lighter and the surface quality is better.

1) Please find the cast iron frame motor content in another catalog.

Construction and mounting type

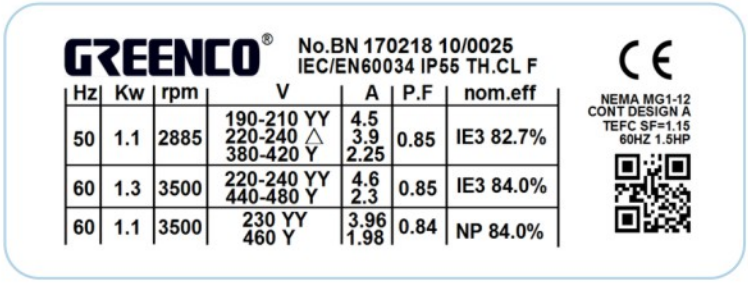
Construction type	With feet and without flange on the end-shield (DE)					
Mounting type	IM B3 FS[3] 80 ~ 160	IM B6 FS 80 ~ 160	IM B7 FS80 ~ 160	IM B8 FS 80 ~ 160	IM V5 [1] FS 80 ~ 160	IM V6 [2] FS 80 ~ 160
Diagram						
Letter, position 14th of Motor code	A	T	U	V	C	D

Construction type	Without feet and with flange on the end-shield (DE)			Without feet and with flange on the end-shield (DE)		
Mounting type	IM B5 FS 80 ~ 160	IM V1 [1] FS 80 ~ 160	IM V3 [2] FS 80 ~ 160	IM B35 FS 80 ~ 160	IM V15 [1] FS 80 ~ 160	IM V35 [2] FS 80 ~ 160
Diagram						
Letter, position 14th of Motor code	F	G	H	J	W	Y

Construction type	Without feet and with C-flange on the end-shield (DE)			Without feet and with C-flange on the end-shield (DE)
Mounting type	IM B14 FS 80 ~ 112	IM V18 [1] FS 80 ~ 112	IM V19 [2] FS 80 ~ 112	IM B34 FS80 ~ 112
Diagram				
Letter, position 14th of Motor code	K	M	L	N

1) At outdoor application, the using of protective cover (Option code H00) is recommended
2) At out door application the protection of shaft again jet-water is recommended.

Nameplate



Bearing system

1LE3 series AL frame motors are supplied with the sealed ball bearing as standard. And the floating bearings are assembled. The standard bearing can endure a maximum cantilever force, the increased cantilever bearing design (Option code: L22) should be considered.
the increased cantilever bearing design (Option code: L22)
Should be considered.

Bearing Assignment

Frame size	Pole	Standard design			Increased cantilever-bearing (Option code:L22)		
		DE bearing	NDE bearing (Horizontal mounting)	NDE bearing (Vertical mounting)	DE bearing	NDE bearing (Horizontal mounting)	NDE bearing (Vertical mounting)
63	2, 4, 6	6204 2RZ C3	6204 2RZ C3	6204 2RZ C3	-	-	-
71	2, 4, 6	6205 2RZ C3	6205 2RZ C3	6205 2RZ C3	-	-	-
80	2, 4, 6	6204 2RZ C3	6204 2RZ C3	6204 2RZ C3	-	-	-
90	2, 4, 6	6205 2RZ C3	6205 2RZ C3	6205 2RZ C3	-	-	-
100	2, 4, 6	6206 2RZ C3	6206 2RZ C3	6206 2RZ C3	-	-	-
112	2, 4, 6	6206 2RZ C3	6206 2RZ C3	6206 2RZ C3	6306 2RZ C3	6206 2RZ C3	6206 2RZ C3
132	2, 4, 6, 8	6208 2RZ C3	6208 2RZ C3	6208 2RZ C3	6308 2RZ C3	6208 2RZ C3	6208 2RZ C3
160	2 4, 6, 8	6209 2RZ C3	6209 2RZ C3	6209 2RZ C3	6309 2RZ C3	6209 2RZ C3	6209 2RZ C3
180	2, 4, 6, 8	6208 2RZ C3	6208 2RZ C3	6208 2RZ C3	6308 2RZ C3	6208 2RZ C3	6208 2RZ C3

Grease life and re-greasing interval

For permanent lubrication, the bearing grease lifetime is matched to the bearing lifetime. This can, however, only be achieved if the motor is operated in accordance with the catalog specifications.

For motors which can be regreased at defined regreasing intervals, the bearing lifetime can be extended and/or unfavorable factors such as temperature, mounting conditions, speed, bearing size and mechanical load can be compensated.

Grease life (Horizontal installation)

Frame size	Poles	Grease lifetime up to CT 40 °C [1]
Grease for permanent lubrication bearing		
63 ~ 180	2, 4, 6, 8	20000 or 40000

Note:

1) If the coolant temperature is increased by 10 K, the grease lifetime and regreasing interval are halved.

2) 40000 h apply to horizontally installed motors with coupling output without additional axial loads.

■ When motor runs beyond the rated speed, the increase of motor vibration will result in the extra radial and axial force on bearing. This will reduce the life of bearing;

■ When the motor vibration increase due to the environment or other equipment, the bearing also will endure more radial and axial force. This also will reduce the life of bearing;

■ If the coolant temperature is increased by 10 °C, the grease lifetime and regreasing interval is halved.

Connection boxes technical data

Frame size	Contact screw thread	Cable entry size
63-71	M4	M25 x 1.5+M16x1.5
80 ~ 90	M4	M25 x 1.5+M16x1.5
100-112	M4	M32 x 1.5 + M32 x 1.5
132	M4	M32 x 1.5 + M32 x 1.5
160-180	M5	M40x1.5 + M40x1.5

Vibration

1LE3 rotors are dynamically balanced to severity grade A using a half key.

Table below contains the effective vibration values for unloaded motors.

Vibration Grade	Frame size (mm)	56 ⩽ FS ⩽ 132		H>132	
	Mounting	Vibration displacement/um	Vibration velocity/(mm/s)	Vibration displacement/um	Vibration velocity/(mm/s)
A	Free suspension	45	2.8	45	2.8
	Rigid mounting	-	-	37	2.3
					2.8[1)]
B	Free suspension	18	1.1	29	1.8
	Rigid mounting	-	-	24	1.5
					1.8[1)]

Note:

1) The level are vibration velocity limit when the twice line frequency vibration level is dominant defined by GB/T 10068-2020, for 2p Motors that frame size bigger than 132mm.

Electrical design

Rated Output

1LE3 motors rated output powers means that the motor runs under continuous duty S1 (IEC 60034 - 1) operation when operated at ambient temperature from -15 °C to 40 °C and at altitudes of up to 1000 m over sea.

Voltage and Frequency

IEC 60034-1 differentiates between Category A (combination of voltage deviation ±5 % and frequency deviation ±2 %) and Category B (combination of voltage deviation ±10 % and frequency deviation +3 % / -5 %) for voltage and frequency fluctuations. The motors can supply their rated torque in both Category A and B. In Category A, the temperature rise is approximately 10 K higher than during normal operation.

Standard 60034 - 1	Category A	Category B
Voltage deviation	±5 %	±10 %
Frequency deviation	±2 %	+3 % / -5 %
According to the standard, longer operation is not recommended for Category B. ±2 % +3 % / -5 %		

Tolerance for electrical data

● Efficiencyηat

Prated ⩽ 150 kW: - 0.15 x (1 – η)

Prated > 150 kW: - 0.10 x (1 – η)

With η being a decimal number

●Power factor - (1 – cosφ) / 6

Minimum absolute value: 0.02

Maximum absolute value: 0.07

●Slip ±20 % (for motors < 1 kW ±30 % is admissible)

●Locked-rotor current +20 %

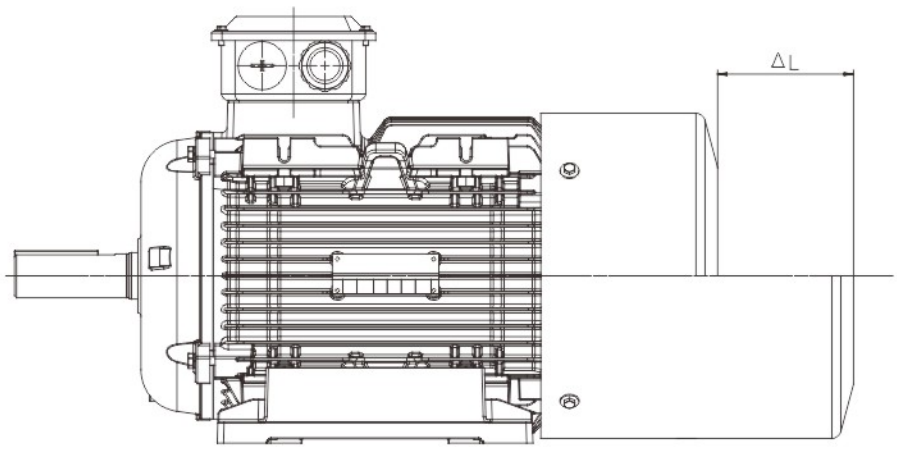
●Locked-rotor torque -15 % to +25 %

●Breakdown torque -10 %

●Moment of inertia ±10 %

The allowed maximum safe operating speed of 1LE3 motors shows the diagram

Frame size	2 pole		4 pole		6 pole		8 pole	
	Max.rpm	fmax	Max.rpm	fmax	Max.rpm	fmax	Max.rpm	fmax
63	5200	87	3600	120	2400	120	1800	120
71	5200	87	3600	120	2400	120	1800	120
80	5200	87	3600	120	2400	120	1800	120
90	5200	87	3600	120	2400	120	1800	120
100	5200	87	3600	120	2400	120	1800	120
112	5200	87	3600	120	2400	120	1800	120
132	4500	75	2700	90	2400	120	1800	120
160	4500	75	2700	90	2400	120	1800	120
180	4500	75	2700	90	2400	120	1800	120

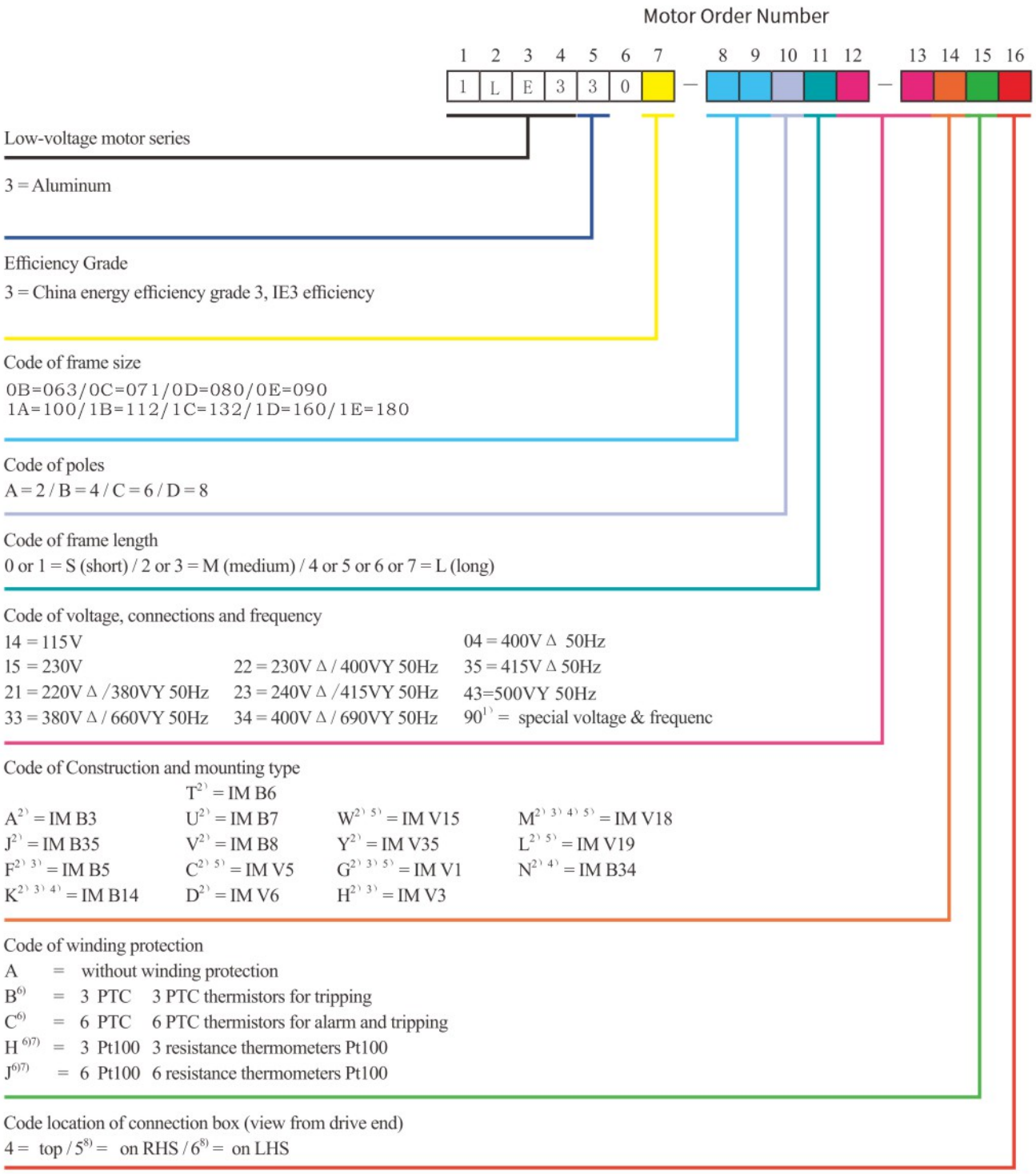


Technical data for separately fan

Motor frame size	rated voltage (V)	Rated frequency (Hz)	Rated output (W)	Current (A)	Speed (R/min)	ΔL
80	220V△/380Y	50	30	0.14/0.08	2800	60
90	220V△/380Y	50	30	0.14/0.08	2800	75
100	220V△/380Y	50	52	0.21/0.12	2800	65
112	220V△/380Y	50	52	0.21/0.12	2800	75
132	220V△/380Y	50	45	0.35/0.2	1400	75
160	220V△/380Y	50	45	0.35/0.2	1400	45

Note: The fan can be running with supply 210 ~ 240V△/360 ~ 420VY 50Hz, and also 220 ~ 260V△/380 ~ 480VY 60Hz. Other voltage supply, possible on Request.

Motor Type and Order No.



Foot note:

1) Order other voltages with voltage code 90 and the corresponding Option code (see under "Option") .

2) The type of construction is stamped on the rating plate. When ordering with condensation drainage holes (order code H03), it is absolutely necessary to specify the type of construction for the exact position of the condensation drainage holes during manufacture.

3) For motor with IM B5, IM V1, IM V3, IM B14, IM V18 and IM V19 construction and mounting type, the 16th digit of motor order No. must be "4";

4) Only for FS80 ~ 112.

5) Without canopy, for protective cover with canopy needed Option code H00.

6) Choose this option, the connection box will be changed to cast iron.

7) Only applicable for frame size 100~160.

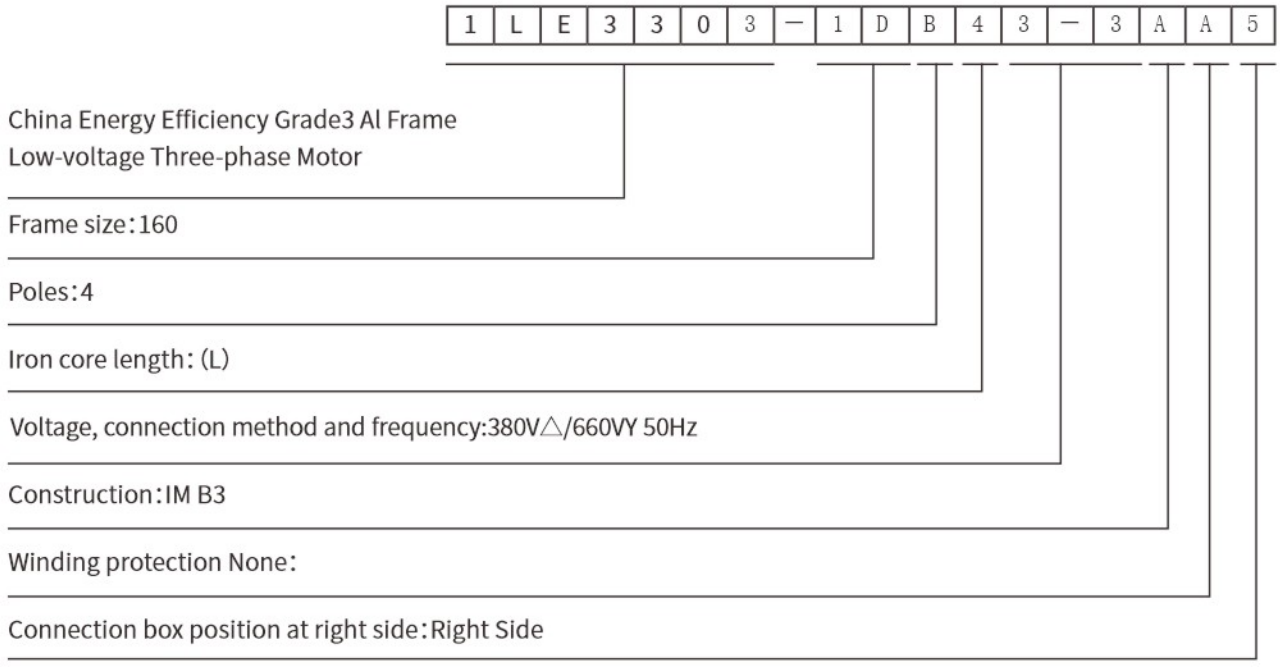
8) When connection box on the right or left side of motor, the cable entry from below as default.

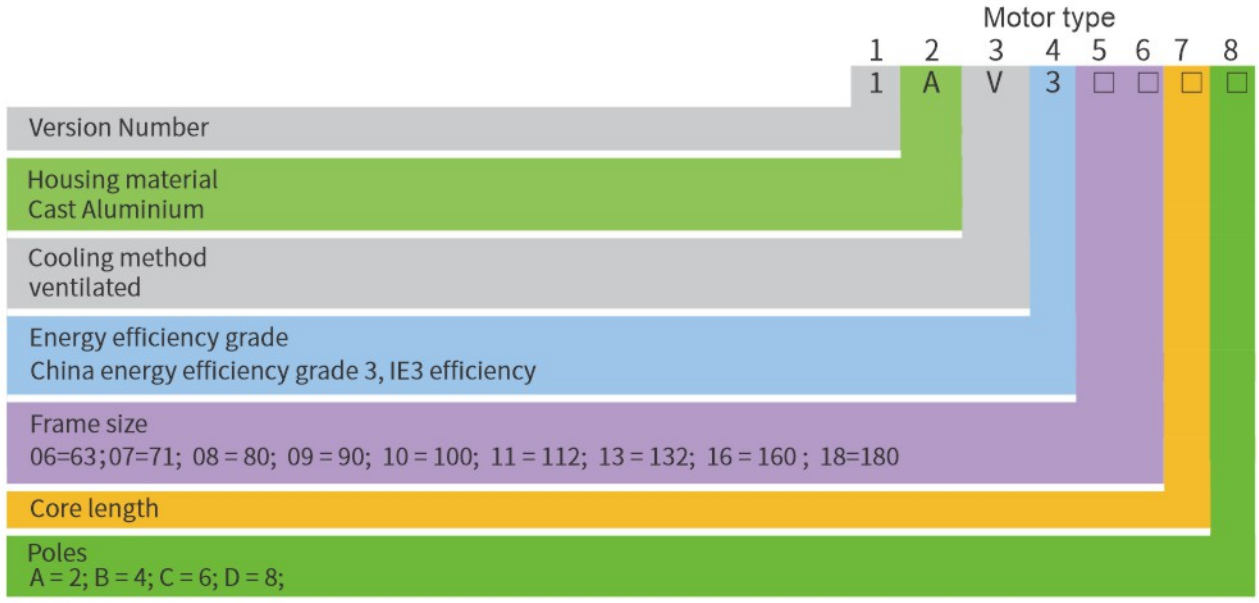
Order No. Example:

China Energy Efficiency Grade3 low voltage three phase asynchronous motor

4-pole, 15 kW, IM B3, 400V△/690VY 50 Hz, IP55,connection box at right side and cable entry at bottom (view from DE)

Motor order code: 1LE3303-1DB43-3AA5





Note:1) Motor type used to apply certificates and etc.

1LE3 Standard Motors

Motors with Premium Efficiency IE3

Self-ventilated motors
Aluminum series 1LE3303

IE3

Selection and ordering data

Operating values at rated output														Aluminum series		
P_{rated}, 50 Hz	P_{rated}, 60 Hz 1)	Frame size	n_{rated}, 50 Hz	T_{rated}, 50 Hz	IE class	η_{rated}, 50 Hz, 4/4	η_{rated}, 50 Hz, 3/4	cos-φ_{rated}, 50 Hz, 4/4	I_{rated}, 50 Hz, 400 V	T_{LR}/T_{rated}, 50 Hz	I_{LR}/I_{rated}, 50 Hz	T_B/T_{rated}, 50 Hz	L_{pfA}, 50 Hz	**1LE3303** – IE3 version in accordance with IEC 60034-30 Article No.	$m_{IM\ B3}$	J
kW	kW	FS	rpm	Nm		%	%			A			dB(A)	▲ New	kg	kgm^2
• Cooling: self-ventilated (IC 411) • Efficiency: Premium Efficiency IE3, service factor (SF) 1.15 • Insulation: thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																
2-pole: 3000 rpm at 50 Hz, 3600 rpm at 60 Hz 1)																
0.18	0.21	63M	2777	0.62	IE3	65.90	63.50	0.8	0.49	2.30	7.00	2.20	63	1LE3303-0BA2 ■-■■■■	4	0.000231
0.25	0.29	63M	2782	0.86	IE3	69.70	68.40	0.81	0.64	2.30	7.00	2.20	63	1LE3303-0BA3 ■-■■■■	5	0.000255
0.37	0.42	71M	2742	1.29	IE3	73.80	72.40	0.81	0.88	2.30	7.00	2.20	66	1LE3303-0CA2 ■-■■■■	7	0.000369
0.55	0.63	71M	2723	1.93	IE3	77.80	63.50	0.82	1.24	2.30	7.00	2.30	66	1LE3303-0CA3 ■-■■■■	8	0.000495
0.75	0.86	80M	2850	2.51	IE3	80.70	82.00	0.82	1.64	2.30	7.00	2.30	64	1LE3303-0DA2 ■-■■■■	11	0.001100
1.1	1.30	80M	2885	3.64	IE3	82.70	82.70	0.83	2.31	2.20	7.60	2.30	64	1LE3303-0DA3 ■-■■■■	13	0.001300
1.5	1.75	90S	2910	4.92	IE3	84.20	84.50	0.84	3.06	2.20	7.90	2.30	69	1LE3303-0EA0 ■-■■■■	17	0.002100
2.2	2.55	90L	2920	7.19	IE3	85.90	86.80	0.85	4.35	2.20	7.90	2.30	69	1LE3303-0EA4 ■-■■■■	21	0.003100
3	3.45	100L	2920	9.81	IE3	87.10	87.10	0.87	5.71	2.20	8.50	2.30	76	1LE3303-1AA4 ■-■■■■	27	0.005400
4	4.60	112M	2950	12.95	IE3	88.10	88.10	0.88	7.45	2.20	8.50	2.30	79	1LE3303-1BA2 ■-■■■■	33	0.012000
5.5	6.30	132S	2950	17.80	IE3	89.20	89.20	0.88	10.11	2.00	8.50	2.30	81	1LE3303-1CA0 ■-■■■■	48	0.024000
7.5	8.60	132M	2950	24.28	IE3	90.10	90.10	0.89	13.50	2.00	8.50	2.30	81	1LE3303-1CA2 ■-■■■■	56	0.031000
11	12.60	160M	2955	35.55	IE3	91.20	91.20	0.89	19.56	2.00	8.50	2.30	83	1LE3303-1DA2 ■-■■■■	80	0.053000
15	17.30	160M	2960	48.39	IE3	91.90	91.90	0.89	26.47	2.00	8.50	2.30	83	1LE3303-1DA3 ■-■■■■	91	0.061000
18.5	21.30	160L	2955	59.78	IE3	92.40	92.40	0.89	32.47	2.00	8.50	2.30	83	1LE3303-1DA4 ■-■■■■	108	0.068000
22	24.50	180M	2950	71.21	IE3	92.70	93.20	0.89	38.49	2.00	8.50	2.30	85	1LE3303-1EA2 ■-■■■■	140	0.080000

Voltages				Motor protection	No. of poles	Frame size	Motor type	Version				Order code(s)
Frame sizes 63 M to 90 L: use of the 360° freely rotatable connection box for 2 and 4-pole motors 2)												
50 Hz	230 V Δ/400 VY	60 Hz 1)	460 VY	PTC thermistor with 1 temp sensor	6	63 M ... 90 L	1LE3303-0D ··· -0E	**Standard**	2	2	B	–
50 Hz	400 V Δ/690 VY	60 Hz 1)	460 V Δ		6	63 M ... 90 L	1LE3303-0D ··· -0E	**Standard**	3	4	B	–
50 Hz	400 VY	60 Hz 1)	460 VY	Without	6	63 M ... 90 L	1LE3303-0D ... -0E	**Standard**	0	2	A	–
Frame sizes 100 L to 180 L: use of the 4 × 90° rotatable connection box												
50 Hz	230 V Δ/400 VY	60 Hz 1)	460 VY	Any	6	100 L ... 180 L	1LE3303-0D ... -0E	**Standard**	2	2		–
50 Hz	400 V Δ/690 VY	60 Hz 1)	460 V Δ	Any	6	100 L ... 180 L	1LE3303-0D ... -0E	**Standard**	3	4		–
50 Hz	500 VY			Any	6	100 L ... 180 L	1LE3303-0D ... -0E	Withoutadd. charge	2	7		–
50 Hz	500 V Δ			Any	6	100 L ... 180 L	1LE3303-0D ... -0E	Withoutadd. charge	4	0		–
Furthervoltages 1)									9	0		. . .

Types of construction		No. of poles	Frame size	Motor type	Version			Order code(s)
Without flange	IM B3 3)	6	63 M ... 180 L	1LE3303-0D ··· -0E	**Standard**		A	–
With flange	IM B5 3)	6	63 M ... 180 L	1LE3303-0D ··· -0E	With additional charge		F	–
With standard flange	IM B14 3)	6	63 M ... 180 L	1LE3303-0D ··· -0E	With additional charge		K	–
Further types of construction							■	. . .

Motor protection	No. of poles	Frame size	Motor type	Version				Order code(s)
Frame sizes 100 L to 180 L: use of the 4 × 90° rotatable connection box								
Without	6	80 L ... 180 L	1LE3303-0D ... -0E	**Standard**			A	–
PTC thermistor with 3 temperature sensors	6	80 L ... 180 L	1LE3303-0D ... -0E	With additional charge			B	–
Further motor protection							■	. . .

Connection box position	No. of poles	Frame size	Motor type	Version	Order code(s)
Connection box at top	6	63 M ... 180 L	1LE3303-0D ··· -0E	**Standard**	4 –
Further connection box positions					

Special versions	No. of poles	Frame size	Motor type		Order code(s)
Forced-air cooled motors without ext. fan/fan cover (IC 416	6	63 M ... 180 L	1LE3303-0D ... -0E	**1LE3303-** . . . ■-■■■■	-Z F90 +...+...+...
Options				**1LE3303-** . . . ■-■■■■	-Z ...+...+...+...

Self-ventilated motors
Aluminum series 1LE3303

IE3

Selection and ordering data

Operating values at rated output														Aluminum series 1LE3303 Article No.		$m_{IM\ B3}$	J
P_{rated}, 60 Hz P50	P_{rated}, 60 Hz P60	Frame size	n_{rated}, 60 Hz	T_{rated}, 60 Hz	IE Class	η_{rated}, 60 Hz, 4/4	η_{rated}, 60 Hz, 3/4	cos-φ_{Rated}, 60 Hz, 4/4	I_{Rated}, 60 Hz, 460 V	T_{LR}/T_{rated}, 60 Hz	I_{LR}/I_{rated}, 60 Hz	T_B/T_{rated}, 60 Hz	L_{pfA}, 60 Hz				
kW	kW	FS	rpm	Nm		%	%		A				dB(A)	▲ New		kg	kgm^2
• Cooling: Self-ventilated (IC411) or with order code F90 forced-air cooled without external fan and fan cover (IC418) • Efficiency according to IEC 60034-30-1: IE3 Premium Efficiency • Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																	
2-pole: 3000 rpm at 50 Hz, 3600 rpm at 60 Hz																	
0.18	0.21	63M	3401	0.59	IE3	65.50	64.00	0.8	0.47	2.30	7.00	2.20	63	1LE3303-0BA2	■-■■■■	4	0.000231
0.25	0.29	63M	3405	0.81	IE3	69.50	67.50	0.81	0.61	2.30	7.00	2.20	63	1LE3303-0BA3	■-■■■■	5	0.000255
0.37	0.42	71M	3370	1.19	IE3	73.40	71.80	0.81	0.86	2.30	7.00	2.20	66	1LE3303-0CA2	■-■■■■	7	0.000369
0.55	0.63	71M	3358	1.79	IE3	76.80	75.00	0.82	1.25	2.30	7.00	2.30	66	1LE3303-0CA3	■-■■■■	8	0.000495
0.75	0.86	80M	3485	2.36	IE3	77.50	82.00	0.82	1.70	2.30	7.00	2.30	64	1LE3303-0DA2	■-■■■■	11	0.001100
1.1	1.30	80M	3500	3.55	IE3	82.70	83.50	0.83	2.38	2.20	7.60	2.30	64	1LE3303-0DA3	■-■■■■	13	0.001300
1.5	1.75	90S	3500	4.77	IE3	85.50	84.80	0.84	3.06	2.20	7.90	2.30	69	1LE3303-0EA0	■-■■■■	17	0.002900
2.2	2.55	90L	3510	6.94	IE3	86.50	86.40	0.85	4.35	2.20	7.90	2.30	69	1LE3303-0EA4	■-■■■■	21	0.002100
3	3.45	100L	3510	9.39	IE3	88.50	87.50	0.87	5.62	2.20	8.50	2.30	76	1LE3303-1AA4	■-■■■■	27	0.003100
4	4.60	112M	3550	12.37	IE3	88.50	88.00	0.88	7.41	2.20	8.50	2.30	79	1LE3303-1BA2	■-■■■■	33	0.003600
5.5	6.30	132S	3555	16.92	IE3	89.50	89.40	0.88	10.04	2.00	8.50	2.30	81	1LE3303-1CA0	■-■■■■	48	0.004900
7.5	8.60	132M	3550	23.13	IE3	90.20	90.50	0.89	13.45	2.00	8.50	2.30	81	1LE3303-1CA2	■-■■■■	56	0.004000
11	12.60	160M	3555	33.85	IE3	91.00	90.40	0.89	19.53	2.00	8.50	2.30	83	1LE3303-1DA2	■-■■■■	80	0.005400
15	17.30	160M	3560	46.41	IE3	91.70	90.80	0.89	26.61	2.00	8.50	2.30	83	1LE3303-1DA3	■-■■■■	91	0.005400
18.5	21.30	160L	3560	57.13	IE3	91.70	91.10	0.89	32.76	2.00	8.50	2.30	83	1LE3303-1DA4	■-■■■■	108	0.014000
22	24.50	180M	3550	65.90	IE3	92.70	91.40	0.89	37.27	2.00	8.50	2.30	85	1LE3303-1EA2	■-■■■■	140	0.014000

Voltages		Version						Order code
50 Hz 230 V△/400 VY	60 Hz 460 VY	**Standard**	2	2				–
50 Hz 400 V△/690 VY	60 Hz 460 V△	**Standard**	3	4				–
50 Hz 500 VY		Without additional charge	2	7				–
50 Hz 500 V△		Without additional charge	4	0				–
			9	0				.. .
Types of construction		Version						Order code
Without flange	IM B3 [3]	**Standard**			A			–
With flange	IM B5 [3]	With additional charge			F			–
With flange	IM B14 [3]	With additional charge			K			–
					■			.. .
Motor protection		Version						Order code
Without		**Standard**				A		–
PTC thermistor with 1 or 3 temperature sensors (frame sizes 80, 90 or 100 to 200)		With additional charge				B		–
						■		.. .
Terminal box position		Version						
Terminal box at top		**Standard**					4	
							■	
Special versions								Order code(s)
Forced-air cooled motorsw/oext. fan/fancover (IC416)		1LE3303-. . . .	■	-■■■■			-Z	F90 .+ . .+. . .+. . .
		1LE3303-. . . .	■	-■■■■			-Z	. . .+. . .+. . .+. . .

Self-ventilated motors
Aluminum series 1LE3303

IE3

Selection and ordering data

Operating values at rated output														**Aluminum series**		
P_{rated}, 50 Hz	P_{rated}, 60 Hz 1)	Frame size	n_{rated}, 50 Hz	T_{rated}, 50 Hz	IE class	η_{rated}, 50 Hz, 4/4	η_{rated}, 50 Hz, 3/4	cos-ϕ_{rated}, 50 Hz, 4/4	I_{rated}, 50 Hz, 400 V	T_{LR}/T_{rated}, 50 Hz	I_{LR}/I_{rated}, 50 Hz	T_B/T_{rated}, 50 Hz	L_{pfA}, 50 Hz	**1LE3303** – IE3 version in accordance with IEC 60034-30 Article No.	$m_{IM\ B3}$	J
kW	kW	FS	rpm	Nm		%	%		A				dB(A)	▲ New	kg	kgm^2
• Cooling: self-ventilated (IC 411) • Efficiency: Premium Efficiency IE3, service factor (SF) 1.15 • Insulation: thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																
4-pole: 1500 rpm at 50 Hz, 3600 rpm at 60 Hz 1)																
0.12	0.14	63M	1360	0.84	IE3	64.80	63.70	0.72	0.37	2.10	6.60	2.20	57	1LE3303-0BB2 ■-■■■■	4	0.000305
0.18	0.21	63M	1400	1.23	IE3	69.90	69.60	0.73	0.51	2.10	6.60	2.20	57	1LE3303-0BB3 ■-■■■■	5	0.000399
0.25	0.29	71M	1410	1.69	IE3	73.50	73.20	0.74	0.66	2.10	6.60	2.20	60	1LE3303-0CB2 ■-■■■■	6	0.000717
0.37	0.42	71M	1420	2.49	IE3	77.30	77.10	0.75	0.92	2.10	6.60	2.20	60	1LE3303-0CB2 ■-■■■■	7	0.000965
0.55	0.63	80M	1432	3.67	IE3	81.30	82.00	0.75	1.30	2.40	6.60	2.30	61	1LE3303-0DB2 ■-■■■■	11	0.002100
0.75	0.86	80M	1437	4.98	IE3	82.50	82.30	0.75	1.75	2.30	6.60	2.30	61	1LE3303-0DB3 ■-■■■■	14	0.002900
1.1	1.25	90S	1443	7.28	IE3	84.10	84.60	0.76	2.48	2.30	6.80	2.30	64	1LE3303-0EB0 ■-■■■■	16	0.003600
1.5	1.75	90L	1439	9.95	IE3	85.30	85.90	0.77	3.30	2.30	7.00	2.30	64	1LE3303-0EB4 ■-■■■■	19	0.004900
2.2	2.55	100L	1442	14.57	IE3	86.70	86.70	0.81	4.52	2.30	7.60	2.30	69	1LE3303-1AB4 ■-■■■■	30	0.014000
3	3.45	100L	1452	19.73	IE3	87.70	87.70	0.82	6.02	2.30	7.60	2.30	69	1LE3303-1AB5 ■-■■■■	30	0.014000
4	4.60	112M	1453	26.29	IE3	88.60	88.60	0.82	7.95	2.20	7.80	2.30	70	1LE3303-1BB2 ■-■■■■	34	0.017000
5.5	6.30	132S	1465	35.85	IE3	89.60	89.60	0.83	10.68	2.00	7.90	2.30	76	1LE3303-1CB0 ■-■■■■	64	0.046000
7.5	8.60	132M	1463	48.95	IE3	90.40	90.40	0.84	14.26	2.00	7.50	2.30	76	1LE3303-1CB2 ■-■■■■	64	0.046000
11	12.60	160M	1471	71.41	IE3	91.40	91.40	0.85	20.44	2.20	7.70	2.30	78	1LE3303-1DB2 ■-■■■■	83	0.083000
15	17.30	160L	1473	97.24	IE3	92.10	92.10	0.86	27.34	2.20	7.80	2.30	78	1LE3303-1DB4 ■-■■■■	100	0.099000
18.50	21.30	180M	1470	120.18	IE3	92.60	93.10	0.86	33.53	2.00	7.80	2.30	80	1LE3303-1EB2 ■-■■■■	134	0.130000
22.00	25.30	180L	1470	142.91	IE3	93.00	93.70	0.86	39.70	2.00	7.80	2.30	80	1LE3303-1EB4 ■-■■■■	142	0.140000

Voltages				Motor protection	No. of poles	Frame size	Motor type	Version				Order code(s)
Frame sizes 63 M to 90 L: use of the 360° freely rotatable connection box for 2 and 4-pole motors 2)												
50 Hz	230 V Δ/400 VY	60 Hz 1)	460 VY	PTC thermis-	6	63 M ... 90 L	1LE3303-0D ··· -0E	**Standard**	2	2	B	–
50 Hz	400 V Δ/690 VY	60 Hz 1)	460 V Δ	tor with 1 temp	6	63 M ... 90 L	1LE3303-0D ··· -0E	**Standard**	3	4	B	–
50 Hz	400 VY	60 Hz 1)	460 VY	Without	6	63 M ... 90 L	1LE3303-0D ... -0E	**Standard**	0	2	A	–
Frame sizes 100 L to 180 L: use of the 4 × 90° rotatable connection box												
50 Hz	230 V Δ/400 VY	60 Hz 1)	460 VY	Any	6	100 L ... 180 L	1LE3303-0D ... -0E	**Standard**	2	2		–
50 Hz	400 V Δ/690 VY	60 Hz 1)	460 V Δ	Any	6	100 L ... 180 L	1LE3303-0D ... -0E	**Standard**	3	4		–
50 Hz	500 VY			Any	6	100 L ... 180 L	1LE3303-0D ... -0E	Withoutadd. charge	2	7		–
50 Hz	500 V Δ			Any	6	100 L ... 180 L	1LE3303-0D ... -0E	Withoutadd. charge	4	0		–
Furthervoltages 1)									9	0		. . .

Types of construction		No. of poles	Frame size	Motor type	Version			Order code(s)
Without flange	IM B3 3)	6	63 M ... 180 L	1LE3303-0D ··· -0E	**Standard**	A		–
With flange	IM B5 3)	6	63 M ... 180 L	1LE3303-0D ··· -0E	With additional charge	F		–
With standard flange	IM B14 3)	6	63 M ... 180 L	1LE3303-0D ··· -0E	With additional charge	K		–
Further types of construction						■		. . .

Motor protection	No. of poles	Frame size	Motor type	Version			Order code(s)
Frame sizes 100 L to 180 L: use of the 4 × 90° rotatable connection box							
Without	6	80 L ... 180 L	1LE3303-0D ... -0E	**Standard**	A		–
PTC thermistor with 3 temperature sensors	6	80 L ... 180 L	1LE3303-0D ... -0E	With additional charge	B		–
Further motor protection					■		. . .

Connection box position	No. of poles	Frame size	Motor type	Version			Order code(s)
Connection box at top	6	63 M ... 180 L	1LE3303-0D ··· -0E	**Standard**		4	–
Further connection box positions							

Special versions	No. of poles	Frame size	Motor type		Order code(s)
Forced-air cooled motors without ext. fan/fan cover (IC 416	6	63 M ... 180 L	1LE3303-0D ... -0E	**1LE3303-** . . . ■-■■■■	-Z F90 +...+...+...
Options				**1LE3303-** . . . ■-■■■■	-Z ...+...+...+...

Self-ventilated motors Aluminum series 1LE3303

IE3

Selection and ordering data

Operating values at rated output														Aluminum series 1LE3303 Article No.		
P_{rated}, 60 Hz P50	P_{rated}, 60 Hz P60	Frame size	n_{rated}, 60 Hz	T_{rated}, 60 Hz	IE Class	η_{rated}, 60 Hz, 4/4	η_{rated}, 60 Hz, 3/4	cos-ϕ_{Rated}, 60 Hz, 4/4	I_{Rated}, 60 Hz, 460 V	T_{LR}/T_{rated}, 60 Hz	I_{LR}/I_{rated}, 60 Hz	T_B/T_{rated}, 60 Hz	L_{pfA}, 60 Hz		$m_{IM\ B3}$	J
kW	kW	FS	rpm	Nm		%	%		A				dB(A)	▲ New	kg	kgm^2
• Cooling: Self-ventilated (IC411) or with order code F90 forced-air cooled without external fan and fan cover (IC418) • Efficiency according to IEC 60034-30-1: IE3 Premium Efficiency • Insulation: Thermal class 155 (temperature class F), IP55 degree of protection, utilization in accordance with thermal class 130 (temperature class B)																
4-pole: 1500 rpm at 50 Hz, 1800 rpm at 60 Hz																
0.12	0.14	63M	1720	0.67	IE3	66.00	64.50	0.72	0.43	2.10	6.60	2.20	57	1LE3303-0BB2 ■-■■■■	4	0.000305
0.18	0.21	63M	1720	1.00	IE3	69.50	68.00	0.73	0.60	2.10	6.60	2.20	57	1LE3303-0BB3 ■-■■■■	5	0.000399
0.25	0.29	71M	1735	1.38	IE3	73.40	72.00	0.74	0.77	2.10	6.60	2.20	60	1LE3303-0CB2 ■-■■■■	7	0.000717
0.37	0.42	71M	1735	2.04	IE3	78.20	76.80	0.75	1.03	2.10	6.60	2.20	60	1LE3303-0CB2 ■-■■■■	8	0.000965
0.55	0.63	80M	1732	3.47	IE3	83.50	82.00	0.75	1.45	2.30	6.60	2.30	61	1LE3303-0DB2 ■-■■■■	11	0.016000
0.75	0.86	80M	1737	4.73	IE3	86.50	84.00	0.75	1.91	2.40	6.60	2.30	61	1LE3303-0DB3 ■-■■■■	14	0.017000
1.1	1.25	90S	1742	6.85	IE3	86.50	84.00	0.76	2.74	2.30	6.80	2.30	64	1LE3303-0EB0 ■-■■■■	16	0.017000
1.5	1.75	90L	1737	9.62	IE3	89.50	88.00	0.77	3.67	2.30	7.00	2.30	64	1LE3303-0EB4 ■-■■■■	19	0.024000
2.2	2.55	100L	1741	13.99	IE3	89.50	88.00	0.81	5.08	2.30	7.60	2.30	69	1LE3303-1AB4 ■-■■■■	30	0.031000
3	3.45	100L	1751	18.81	IE3	89.50	88.00	0.82	6.79	2.30	7.60	2.30	69	1LE3303-1AB5 ■-■■■■	30	0.031000
4	4.60	112M	1751	25.09	IE3	91.70	90.00	0.82	8.83	2.20	7.80	2.30	70	1LE3303-1BB2 ■-■■■■	34	0.035000
5.5	6.30	132S	1764	34.10	IE3	91.70	90.00	0.83	11.95	2.00	7.90	2.30	76	1LE3303-1CB0 ■-■■■■	64	0.034000
7.5	8.60	132M	1761	46.63	IE3	92.40	91.00	0.84	15.99	2.00	7.50	2.30	76	1LE3303-1CB2 ■-■■■■	64	0.046000
11	12.60	160M	1771	67.94	IE3	93.00	91.50	0.85	23.01	2.20	7.70	2.30	78	1LE3303-1DB2 ■-■■■■	83	0.083000
15	17.30	160L	1771	93.28	IE3	93.60	92.00	0.86	31.02	2.20	7.80	2.30	78	1LE3303-1DB4 ■-■■■■	100	0.037000
18.50	21.30	180M	1775	114.59	IE3	93.60	92.00	0.86	38.19	2.00	7.80	2.30	80	1LE3303-1EB2 ■-■■■■	134	0.037000
22.00	25.30	180L	1775	136.11	IE3	94.10	92.50	0.86	45.13	2.00	7.80	2.30	80	1LE3303-1EA4 ■-■■■■	142	0.037000

Voltages		Version						Order code
50 Hz 230 V△/400 VY	60 Hz 460 VY	**Standard**	2	2				–
50 Hz 400 V△/690 VY	60 Hz 460 V△	**Standard**	3	4				–
50 Hz 500 VY		Without additional charge	2	7				–
50 Hz 500 V△		Without additional charge	4	0				–
			9	0				.. .
Types of construction		Version						Order code
Without flange	IM B3 [3]	**Standard**			A			–
With flange	IM B5 [3]	With additional charge			F			–
With flange	IM B14 [3]	With additional charge			K			–
					■			.. .
Motor protection		Version						Order code
Without		**Standard**				A		–
PTC thermistor with 1 or 3 temperature sensors (frame sizes 80, 90 or 100 to 200)		With additional charge				B		–
						■		.. .
Terminal box position		Version						
Terminal box at top		**Standard**					4	
							■	
Special versions								Order code(s)
Forced-air cooled motorsw/o ext. fan/fancover (IC416)			**1LE3303**-. . . . ■ -■■■■ -Z					F90 .+. .+. . .+. . .
			1LE3303-. . . . ■ -■■■■ -Z					. . .+. . .+. . .+. . .

1) Operating values at rated output for 60 Hz are available on request.

2) For converter-fed operation of shaft heights 80 and 90, ordering with PTC thermistors and their connection to the converter is recommended.

3) Types derived from IM B3 (IM B6/7/8, IM V6 and IM V5), from IM B5 (IM V3 and IM V1) and from IM B14 (IM V19 and IM V18) are possible, provided that no requirements exist for condensation drainage holes (H03) and stamping of the type on the rating plate. The basic type IM B3, IM B5 or IM B14 is stamped as standard on the rating plate. When ordering with condensation drainage holes (H03), the type must be specified.

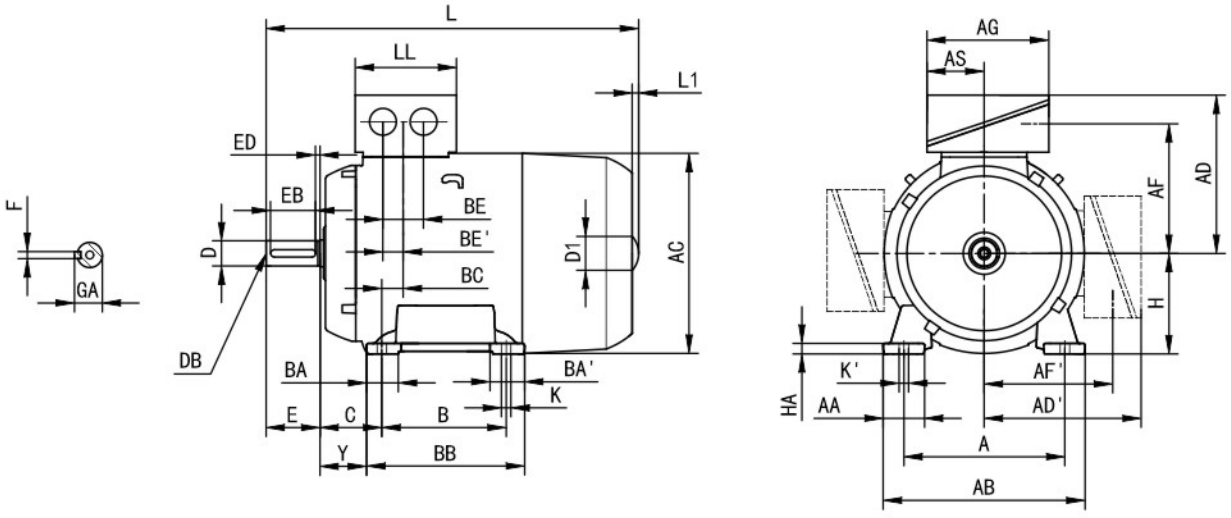
Options

Motor order code	Option Code	Description	Application Scope
Voltages and frequency			
1LE3303-□□□□9-0□□□	M2A[2)14)]	220V△/380VY 60Hz ，50Hz power output	FS63-180
	M2B[3)14)]	380V△/660VY 60Hz ，50Hz power output	FS63-180
	M2C[2)14)]	440VY 60Hz ，50Hz power output	FS63-180
	M2D[3)14)]	440V△ 60Hz ，50Hz power output	FS63-180
	M2E[2)14)]	460VY 60Hz ，50Hz power output	FS63-180
	M2F[3)14)]	460V△ 60Hz ，50Hz power output	FS63-180
Windings and insulation			
—	N01	Temperature class 155 (F), used according to 155 (F), with service factor (SF1.15)	FS63-180
—	N10	Temperature class 180 (H)	FS63-180
—	Q04[4)]	Anti-condensation heater for 220 VAC (spaces heater)	FS63-180
Motor connection box			
—	R10[5) 15)]	Rotation of the connection box through 90°, entry from DE	FS63-180
—	R11[6) 15)]	Rotation of the connection box through 90°, entry from NDE	FS63-180
—	R12[15)]	Rotation of the connection box through 180°	FS63-180
—	H04	External earthing	FS63-180
—	X07	Cast iron connection box	FS63-180
—	X47	Connection boxes of the motors include 2 self-locking cable gland	FS112 ~ 160
Bearings			
—	L79	NSK Bearing	FS63-180
—	L80	SKF Bearing	FS63-180
—	L81	Other import brand bearing	FS63-180
—	L82	Domestic Brand Bearings	FS63-180
—	L20	Located bearing at DE	FS63-180

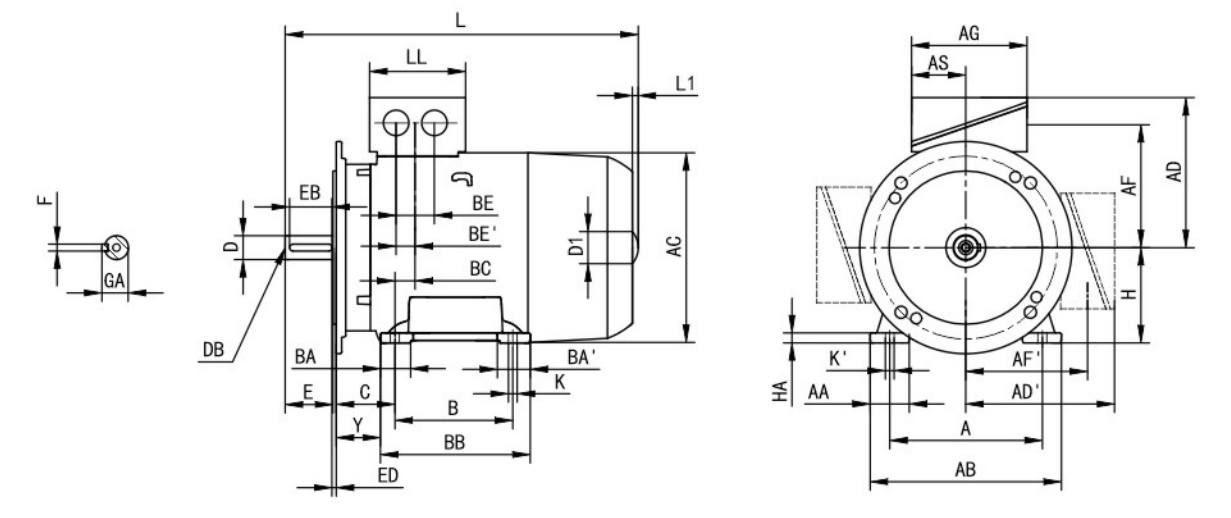
1) Order No. supplement Z with option code when ordering.
2) Only applicable to the motor whose power is 3kW and below.
3) Only applicable to the motor whose power is 3kW and above.
4) When choose these options, the connection boxes will be changed to cast iron shell.
5) Not applicable to the FS80~100 flange mounted motors.
6) Not applicable to the outlet on top.
7) H00、F70 can't be used with this option.
8) Second standard shaft extension on NDE is shown in the dimension Drawings.
9) Unable to be used with the option L72.
10) Only applicable to the vertical mounting motors. For the construction type of IM B5 and IM B14, when choose this option, it is necessary to ensure the connection box is on top of the frame. For other Construction types, please specially consult with GREENCO.

Dimension drawings

Type of construction IMB3

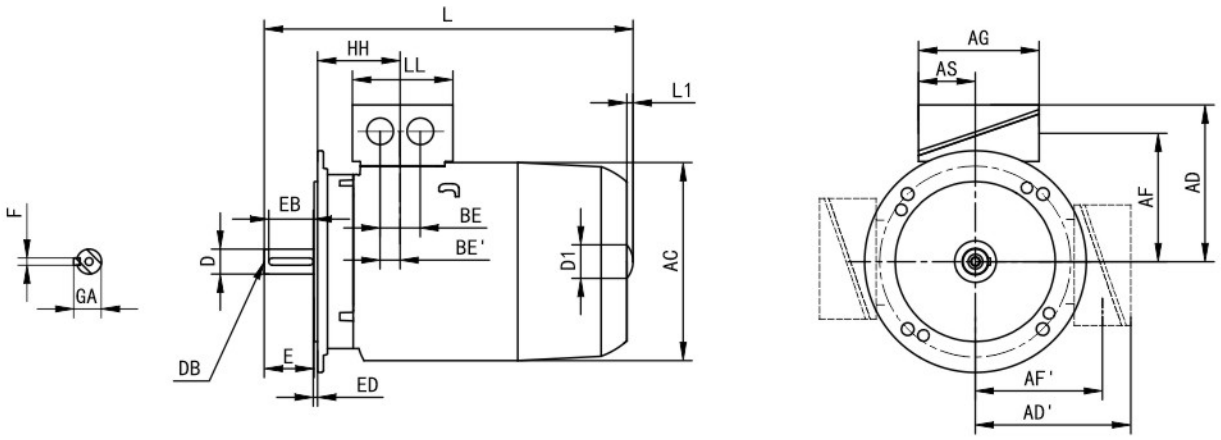


Type of construction IMB35

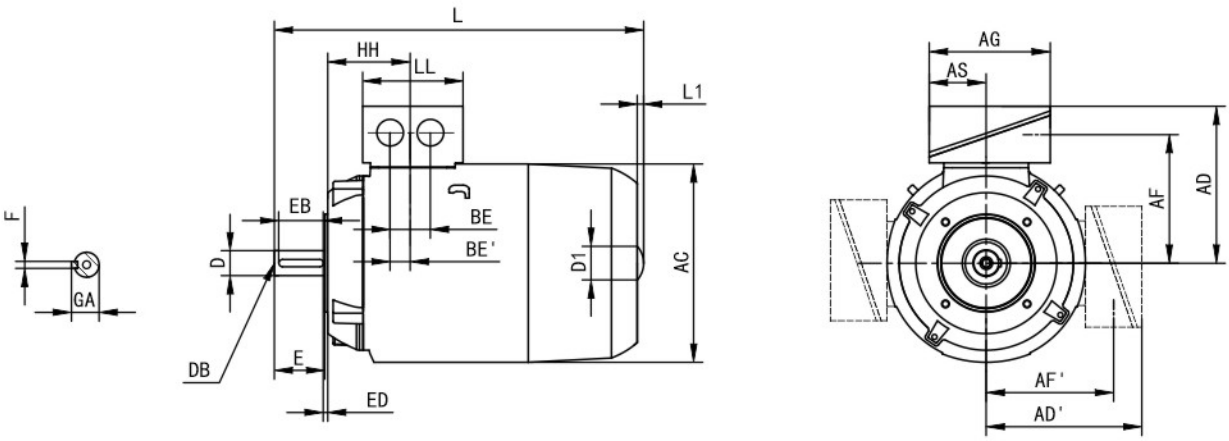


Dimension drawings

Type of construction IMB5 and IMV1



Type of construction IMB14



Dimension drawings

Frame size	Poles	Type	Dimension designation according to IEC standards														
			A	AA	AB	AC	AD	AD'	AF	AF'	AG	AS	B*	BA	BA'	BB	BC
63M	2, 4	1AV3062A	100	27.3	120	118	101	101	77.5	77.5	75	37.5	80	28.5	28.5	97	26.5
		1AV3063A															
		1AV3062B															
		1AV3063B															
71M	2, 4	1AV3072A	112	30.4	132	141	111	111	87.5	87.5	75	37.5	90	29.5	29.5	107.5	15.5
		1AV3073A															
		1AV3072B															
		1AV3073B															
80M	2,4	1AV3082A	125	30.5	150	159	149.5	149.5	113	113	119.5	61.5	100	32	32	118	23
		1AV3083A															
		1AV3082B															
		1AV3083B															
90S	2,4	1AV3090A	140	30.5	165	177.4	155	155	119	119	119.5	61.5	100	33.5	33.5	143	22.5
		1AV3090B															
90L	2,4	1AV3094A	140	30.5	165	177.4	155	155	118	118	119.5	61.5	125	33.5	33.5	143	22.5
		1AV3094B															

Frame size	Poles	Dimension designation according to IEC standards																		
		BE	BE'	C[1]	H	HA	Y[1]	HH	K	K'	L[1]	L1	D1	LL	D	DB	E	EB	ED	F	GA
63M	2, 4	29	14.5	40	63	6.6	31.5	66.5	7	10	228.3			75	11	M4	23	16	4	4	14.5
71M	2, 4	29	14.5	45	71	7	36.3	60.5	7	10	240			75	14	M4	30	22	4	5	17
80M	2,4	50	25	49.6	80	8	40.6	67.5	9.5	13.2	289.5			123	19	M6	40	32	4	6	21.5
90S	2,4	50	25	55.5	90	10	46.5	78	10	14.3	348.5			123	24	M8	50.5	40	5.5	8	27
90L	2,4	50	25	57.5	90	10	46.5	72.5	10	14.3	388			123	24	M8	50	40	5.5	8	27

Dimension drawings

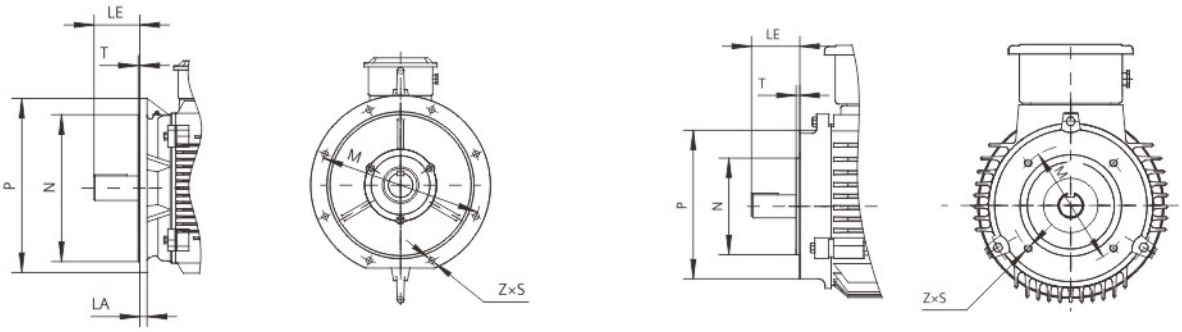
Frame size	Poles	Type	Dimension designation according to IEC standards														
			A	AA	AB	AC	AD	AD'	AF	AF'	AG	AS	B*	BA	BA'	BB	BC
100L	2,4	1AV3104A	160	42	195	198.5	166	166	125.5	125.5	136	64	140	38.5	38.5	176	33.4
		1AV3104B															
		1AV3105B															
112M	2,4	1AV3112A	190	46.5	225	223	177	177	136.7	136.7	136	64	140	35.4	35.4	176	25.7
		1AV3112B															
132S	2,4	1AV3130A	216	53	256	265	202	202	160	160	156	70.5	140	37.5	77	218	27
		1AV3130B											178				
132M	2,4	1AV3132A	216	53	256	265	202	202	160	160	156	70.5	178	37.5	77	218	27
		1AV3132B															
160M	2,4	1AV3162A	255	59.5	299	316	239	239	191	191	176	78	210	43.5	89	299	47
		1AV3163A															
		1AV3162B															
160L	2,4	1AV3164A	252	59.5	300	316	238	238	190	190	176	78	254	43.5	77.2	300	47
		1AV3164B															
180M	2,4	1AV3182A	279	65	339	355.6	261	261	213	213	176	78	240	57	89.5	327	29.8
		1AV3182B															
180L	2,4	1AV3184B	279	65	339	355.6	261	261	213	213	176	78	240	57	89.5	327	29.8

Frame size	Poles	Dimension designation according to IEC standards																		
		BE	BE'	C[1]	H	HA	Y[1]	HH	K	K'	L[1]	L1	D1	LL	D	DB	E	EB	ED	F	GA
100L	2,4	50	25	63	100	13	45	89.8	12	16	431	7	32	112	28	M10	60	50	5	8	31
112M	2,4	50	25	70	112	11.7	52	89.7	12	16	415	7	32	112	28	M10	60	50	5	8	31
132S	2,4	48	24	86.3	132	15	66.3	108	12	16	465	8	39	130	38	M12	82.7	70	7.7	10	41
132M	2,4	48	24	85.3	133	15	66.3	108	12	16	515	8	39	130	38	M12	82.7	70	7.7	10	41
160M	2,4	57	28.5	102.4	160	16.7	80.4	138	15	19	603	9	45	145	42	M14	114.6	90	9	12	45
160L	2,4	57	28.5	104	160	18	81	138	15	19	663			145	42	M14	113.6	90	13.6	12	45
180M	2,4	57	28.5	121	180	20	92.5	179.5	14.5	19	698			180	48	M14	113	100	8	14	51.5
180L	2,4	57	28.5	121	180	20	92.5	179.5	14.5	19	698			180	48	M14	113	100	8	14	51.5

Dimension drawings

Flange dimension

Type of construction IM B5, IM B35, IM V1, IM V3, IM B14, IM V18, IM V19



Frame size	Type of construction	Flange with through holes (FF/A) / tapped holes (FT/C)
		According to DIN EN 50347
80	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 165 FT 100
90	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 165 FT 115
100	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 215 FT 130
112	IM B5, IM B35, IMV1, IM V3 IM B14, IM V18, IM V19	FF 215 FT 130
132	IM B5, IM B35, IMV1, IM V3	FF 265
160	IM B5, IM B35, IMV1, IM V3	FF 300

Frame size	Dimension designation according to IEC standards							
	LA	LE	M	N	P	S	T	Z
80	12	40	165	130	200	12	3.5	4
	—	40	100	80	120	M 6	3	4
90	12	50	165	130	200	12	3.5	4
	—	50	115	95	140	M 8	3	4
100	13	60	215	180	250	14.5	4	4
	—	60	130	110	160	M 8	3.5	4
112	14	60	215	180	250	14.5	4	4
	—	60	130	110	160	M 8	3.5	4
132	14	80	265	230	300	14.5	4	4
160	14	110	300	250	350	18.5	5	4

卓越品质 精准服务

Excellent quality and Precision service

浙江格凌实业有限公司

地址：浙江省温岭市泽国镇丹崖工业新区

电话:0576-86428999

传真:0576-86409555

ZHEJIANG GREENCO INDUSTRY CO.,LTD.

ADD: Danya Industrial zone.zeguo.wenling zhejiang China.

Tel: +86-576-86428999

Fax:+86-576-86409555

E-mail: greenco@greenco.cn

www.greenco.cn