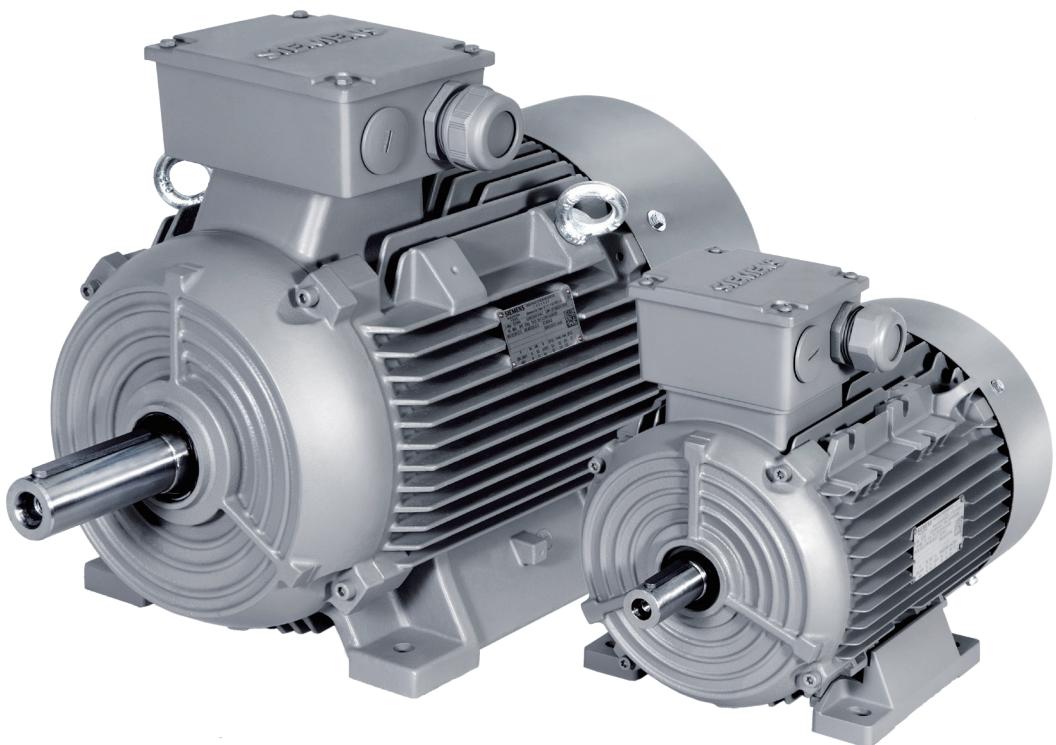


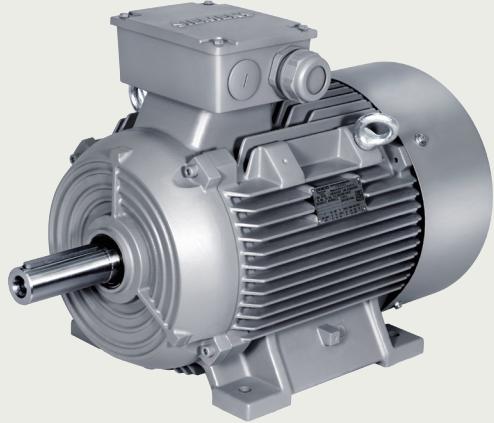
SIEMENS



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2022.06

SIMOTICS 1LE0 IE3 能效 低压交流异步电动机 IE3 Low-voltage Motors

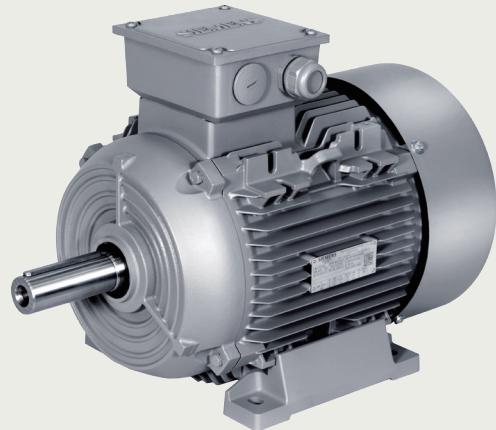
siemens.com.cn/SIMOTICS_GP_1LE0



铸铁壳电机

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铸铝壳电机

总体介绍 Overview

SIMOTICS 1LE0 系列电动机是通用型全封闭自扇冷却式三相异步电动机，其防护等级为 IP55，1LE0 系列电动机设计生产符合 ISO、IEC、GB 等相关标准的要求。

1LE0 系列电动机适用于连续工作制（S1）、恒转速或一定速度范围内的变频调速应用。

西门子 1LE0 系列电动机技术特性

- 机座材料：灰铸铁或铝合金；
- 标准颜色：石头灰（RAL 7030）；
- 额定功率：0.55 kW ~ 315 kW (50 Hz)；
- 0.75 kW 及以上的 2、4、6、8 极电动机达到 GB18613-2020 标准能效等级 3 级，且能满足 IEC 60034-30 标准中的 IE3 效率等级 (50Hz)；
- 优化的紧凑型结构；
- 标准安装结构类型（符合 IEC 60034-7 标准规定）：IM B3、IM B5、IM B35 等；
- 所有的电动机设计防护等级为 IP55（IEC 60034-5）；
- FS¹⁾ 280 ~ 355 标配再润滑装置，FS¹⁾ 100 ~ 250 的作为选项；
- 对于 FS 100 ~ 355 范围电动机，可选择增强悬臂力设计；
- 电动机可选 PTC 或 PT100 热敏电阻或 PT1000 进行绕组保护；

SIMOTICS 1LE0 series of 3 phase asynchronous motors is Totally Enclosed Fan Cooled (TEFC) with IP55 environmental protection, and applicable for general purpose use. These motors are designed and manufactured in accordance with ISO, IEC standards, GB standards.

The 1LE0 series motor is designed for constant or adjustable speed with continuous duty operation (S1) over a speed range.

Features of Siemens 1LE0 series

- Frame material: grey cast iron or aluminum alloy.
- Standard color: stone grey (RAL 7030).
- Rated power output: 0.55kW~315kW at 50Hz.
- Available in 2, 4, 6, 8 pole motor (0.75kW and up) with efficiency grade 3. according to GB18613-2020 and efficiency class IE3 (50Hz) according to IEC 60034-30.
- Optimized compact style construction.
- Standard mounting construction according to IEC 60034-7: IM B3, IM B5, IM B35 and etc.
- All motors are designed to IP55 degree of protection (IEC 60034-5) .
- Re-greasing devices for FS¹⁾ 280 ~ 355 as standard, and for FS100 ~ 250 as option.
- Reinforced bearings for increased cantilever forces for FS100 ~ 355 as option.
- Winding protections with PTC, PT100 and PT1000 as option.

¹⁾ FS, 机座的英文（Frame Size）缩写。

¹⁾ FS, Frame Size.

- 接线盒标准位置处于机座顶端，进线孔处于右侧（从驱动端看），选项中接线盒位置和进线方向可变化；
- 绝缘系统按 155 (F) 温度等级设计，在额定输出和直接供电时按 130 (B) 温度等级使用；
- 电动机标准冷却方式为自扇冷却 (IEC 60034-6 规定的 IC 411)，可提供独立驱动风扇强制冷却；
- 铸铁电动机 FS 80 没有吊环，FS 90 ~ 355 都有 2 个吊环；铝壳电动机 FS 80 ~ 90 没有吊环，FS 100 ~ 160 有 2 个吊环且吊环结构为铸造集成在机座上的。

运行环境

- 防护等级 IP55 (IEC 60034-5)；
- 高度不超过海拔 1000 m (IEC 60034-1)；
- 允许的环境温度在 -20 °C ~ 40 °C (IEC 60034-1)；
- 所允许的相对湿度：
 - -20 °C ≤ T ≤ 20 °C: 100 %
 - 20 °C < T ≤ 30 °C: 95 %
 - 30 °C < T ≤ 40 °C: 55 %

对于更高的环境温度、以及（或者）高于海拔 1000 m 的地点，电动机的额定功率换算系数为 k_{HT} 。所允许的功率值 (P_{adm})：

$$P_{adm} = P_{rated} \cdot k_{HT}$$

- Terminal box on top, and cable entry on right side (viewed from driven end). Variable location of connection boxes and cable entries as option.
- Insulation system is designed for temperature class 155 (F). At rated output with line-fed operation, the motors can be used in temperature class 130 (B).
- Self ventilated motors with radial-flow fans (cooling method IC 411 according to IEC 60034-6) as standard, forced air cool with external separately driven fans as option.
- For cast iron motor, FS 80 motor don't have eyebolt, FS 90 ~ 355 all motors have 2 eyebolts. Aluminum housing motors, FS80~90 don't have eyebolt, FS100 ~ 160 have integrated cast eyebolts.

Environmental

- Degrees of motor protection IP55 (IEC 60034-5).
- Altitude shall not exceed 1000 m above sea-level (IEC 60034-1).
- Allowed air temperature between -20 °C and 40 °C (IEC 60034-1).
- Permitted relative humidity:
 - -20 °C ≤ T ≤ 20 °C: 100 %
 - 20 °C < T ≤ 30 °C: 95 %
 - 30 °C < T ≤ 40 °C: 55 %

For higher coolant temperatures and / or site altitudes higher than 1000 m above sea level, the specified motor output must be reduced by using the factor k_{HT} . The results in an admissible output (P_{adm}) of the motor:

$$P_{adm} = P_{rated} \cdot k_{HT}$$

海拔高度 Site altitude above sea level	对应海拔高度的环境温度 Site altitude above sea level Coolant temperature					
	< 30 °C	30 ~ 40 °C	45 °C	50 °C	55 °C	60 °C
1000 m	1.07	1.00	0.96	0.92	0.87	0.82
1500 m	1.04	0.97	0.93	0.89	0.84	0.79
2000 m	1.00	0.94	0.90	0.86	0.82	0.77
2500 m	0.96	0.90	0.86	0.83	0.78	0.74
3000 m	0.92	0.86	0.82	0.79	0.75	0.70
3500 m	0.88	0.82	0.79	0.75	0.71	0.67
4000 m	0.82	0.77	0.74	0.71	0.67	0.63

参考标准 Reference standards

名称 Title		IEC 标准 IEC standard	中国国家标准 Chinese standard
旋转电动机定额和性能 Rotating electrical machines – Part 1: Rating and performance	IEC 60034-1	GB/T 755	
旋转电动机损耗与效率确定的标准测试方法 Rotating electrical machines – Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)	IEC 60034-2	GB/T 1032	
旋转电机整体结构的防护等级 (IP 代码) 分级 Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification	IEC 60034-5	GB/T 4942.1	
旋转电动机冷却方法 Rotating electrical machines – Part 6: Methods of cooling (IC Code)	IEC 60034-6	GB/T 1993	
旋转电动机结构型式、安装型式及接线盒位置的分类 (IM 代码) Rotating electrical machines – Part 7: Classification of types of construction, mounting arrangements and terminal box position (IM Code)	IEC 60034-7	GB/T 997	
旋转电动机旋转电机线端标志与旋转方向 Rotating electrical machines – Part 8: Terminal markings and direction of rotation	IEC 60034-8	GB/T 1971	
旋转电机噪声测定方法及限值 第 3 部分：噪声限值 Rotating electrical machines – Part 9: Noise limits	IEC 60034-9	GB 10069.3	
轴中心高为 56 mm 及以上电机的机械振动 振动的测量、评定及限值 Rotating electrical machines – Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher – Measurement, evaluation and limits of vibration severity	IEC 60034-14	GB 10068	
旋转电机尺寸和输出功率等级 第 1 部分：机座号 56 ~ 400 和凸缘号 55 ~ 1080 Rotating electrical machines – Part 1: Frame numbers 56 to 400 and flange numbers 55 to 1080	IEC 60072-1	GB/T 4772.1	
中小型旋转电机安全要求 Safety requirements of small and medium size rotating electrical machines		GB 14711	
电气绝缘 耐热性和表示方法 Electrical insulation – Thermal evaluation and designation	IEC 60085	GB/T 11021	
电工电子产品自然环境条件 温度和湿度 Classification of environmental conditions Part 2-1: Environmental conditions appearing in nature – Temperature and humidity	IEC 60721-2-1	GB/T 4797.1	
标准电压 Standard voltages	IEC 60038	GB/T 156	

噪声

噪声值

噪声值根据 DIN EN ISO 1680 标准在噪音室测得。表面声压级噪声 L_{pfa} 计算表示单位为 dB (A)。声压级噪声的空间平均值是在其测量面上测得的。测量面是距离电动机表面一立方米的地方。声功率级噪声用 L_{WA} 来表示，单位为 dB (A)。下面给出噪声值仅适用于全封闭自扇冷却 (冷却方式: IC411) 电动机在 50 Hz 电源供电空载运行时的情况，容差为 +3 dB。当在 60 Hz 电源下空载运行时，偏差值大约为 +4 dB。

振动

所有电动机转子都使用半键按照 A 级 (标准) 振动等级进行动态平衡。

电动机在空载时测得振动速度有效值不超过下表中的 A 级所列值。

Noise levels

Noise levels for mains-fed operation

The noise levels are measured in accordance with DIN EN ISO 1680 in a dead room. It is specified as the A-valued measuring-surface sound pressure level L_{pfa} in dB (A). This is the spatial mean value of the sound pressure levels measured on the measuring surface. The measuring surface is a cube 1 m away from the motor surface. The sound power level is also specified as L_{WA} in dB (A). The following specified values are only valid for totally enclosed fan cooling (cooling method: IC411) motor with no load at 50 Hz with no load, and the tolerance is +3 dB. While motor operating 60 Hz with no load, the values are approximately +4 dB (A) higher.

Vibration

1LE0 rotors are dynamically balanced to severity grade A using a half key.

Table below contains the effective vibration values for unloaded motors.

振动等级 Vibration Grade	机座号 Frame size (mm)	56 ≤ FS ≤ 132		H>132	
		安装方式 Mounting	位移 Vibration displacement/(μm)	速度 Vibration velocity/(mm/s)	位移 Vibration displacement/(μm)
A	自由悬置 Free suspension		45	2.8	45
	刚性安装 Rigid mounting		-	-	37
B	自由悬置 Free suspension		18	1.1	29
	刚性安装 Rigid mounting		-	-	24

注:

¹⁾ 该值为 GB/T 10068-2020 中定义的轴中心高 H>132 mm 的两极电机，当两倍电网频率占主导时的振动速度限值。

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.

铭牌信息 Nameplate

1LE0 铸铁系列电机铭牌 1LE0 Cast iron motor nameplate

(26)(25)(24)(23)(22)									
SIEMENS Made in P.R.China		THREE-PHASE ASYNCHRONOUS MOTOR 三相异步电动机							(21)
中国制造 Siemens Standard Motors Ltd. 西门子电机(中国)有限公司							(20)	(19)	(18)
(1)-	3~Mot. OCV3352A	1LE0003-3BA23-3JA5-Z	LMH- 2105 / 800003888993 / 001	(2)	(3)	(4)	(5)	(6)	(7)
(2)-	355M IMB35 IP55	1540 kg Th.Cl. 155(F)	Q/321081 KJA008-2020	(18)	(17)	(16)			
(3)-	BRG DE 6319 C3	BRG NDE 6319 C3	IEC60034-30						
(4)-	Grease: Unirex N3	GB18613-2020 Eff.-Grade3							
(5)-	Re-grease interval: 2000h								
(6)-	Quantity: 40g								
(7)-	V 380V△/660VY 440V△	Hz 50 60	kW 220 246	A 390/225 375	EFF. (%) 95.8 95.8	cosØ 0.90 0.90	r/min 2986 3585	EFF.CI. IE3	(15)
(8)	(9)	(10)	(11)	(12)	(13)	(14)			

1LE0 铝壳系列电机铭牌 1LE0 AL motor nameplate

(26)(25)(24)(23)(22)									
SIEMENS Made in P.R.China		THREE-PHASE ASYNCHRONOUS MOTOR 三相异步电动机							(21)
中国制造 Siemens Standard Motors Ltd. 西门子电机(中国)有限公司							(20)	(19)	(18)
3~Mot. OAV3162A	1LE0303-1DA23-3AA5-Z	LMH- 2105 / 800003888993 / 001	(2)	(3)	(4)	(5)	(6)	(7)	(8)
160M IMB3 IP55	84 kg Th.Cl. 155(F)	Q/321081 KJA012-2020	(18)	(17)	(16)				
BRG DE 6209 C3	BRG NDE 6209 C3	IEC60034-30							
Grease: Unirex N3	Quantity: 15g	GB18613-2020 Eff.-Grade3							
Re-grease interval: 8000h									
V 380/660△/Y 440△	Hz 50 60	kW 11 12.6	A 20.5/11.9 20.0	EFF. (%) 91.2 92.0	cosØ 0.89 0.89	r/min 2935 3520	EFF.CI. IE3	(15)	(16)
(8)	(9)	(10)	(11)	(12)	(13)	(14)			

1 电动机型号	Motor type	14 额定转速	Rated speed
2 电动机类别	Category of motor	15 能效等级 IEC	Efficiency class according to IEC standard
3 机座号	Frame size	16 能效等级 GB	Efficiency class according to GB standard
4 轴承型号	Bearing type	17 二维码	QR code
5 润滑脂型号	Bearing grease type	18 IEC 标准	IEC standard
6 再润滑周期	Re-grease interval	19 企业标准	Company standard
7 加注油脂量	Re-grease quantity	20 产品序列号	Product series number
8 额定电压和接线方式	Rated voltage and connection	21 平衡方式	Balance method
9 额定频率	Rated frequency	22 热分级	Thermal class
10 额定功率	Rated power	23 订货号	Order No.
11 额定电流	Rated current	24 电机重量	Motor weight
12 效率	Efficiency	25 IP 防护等级	IP protection class
13 功率因数	Power factor	26 安装结构形式	Mounting type

机械特性 Mechanical design

接线盒

接线盒标准位置处于机座顶端，且自身可 $4 \times 90^\circ$ 旋转安装，从而使电缆可以从各个方向进入。所有接线盒都有两个进线孔，其中一个进线孔采用葛兰密封，另一个进线孔采用螺塞密封。



Connection box

The connection box is located on the top of motor housing as standard, and can be rotated by $4 \times 90^\circ$ to allow for cable entry from each direction. All the connection box have 2 cable entries, one is sealed by the cable gland, and another sealed by screwed plug.



接线盒技术参数 Connection boxes technical data

机座号 Frame Size	主接线端子数 Number of main terminals	最多可容纳的 辅助端子数 Max. allowable auxiliary terminals	接线螺钉螺纹 Contact screw thread	引接线最大截面积 (mm ²) Max. connectable cross-section	外接电缆直径 (mm) Outer cable diameter (sealing range)	进线孔尺寸 (葛兰+螺塞) Cable entry size (Gland+Screwed plug)
80	6	12	M4	1.5	13 ~ 18	M25 × 1.5+M16 × 1.5
90	6	12		1.5		
100	6	12		4	18 ~ 25	
112	6	12		4	M32 × 1.5+M32 × 1.5	
132	6	12		6		
160 铸铁 Cast Iron	6	14	M5	16	22 ~ 32	M40 × 1.5+M40 × 1.5
160 铝壳 AL	6	12		16	18 ~ 25	M36 × 2+M36 × 2
180	6	14		16	22 ~ 32	M40 × 1.5+M40 × 1.5
200	6	14 ¹⁾	M6	25	32 ~ 38	M50 × 1.5+M50 × 1.5
225	6	14 ¹⁾	M8	35		
250	6	14 ¹⁾	M10	120		
280	6	14 ¹⁾		120	37 ~ 44	M63 × 1.5+M63 × 1.5
315	6	16 ¹⁾	M12	240		
355	6	24 ¹⁾	M16	240	44 ~ 57	M72 × 2+M72 × 2

注：¹⁾ 需要的辅助端子数若超过接线盒最多可容纳的辅助端子数时，须选择辅助接线盒（选件号：L97）

Note: ¹⁾ An auxiliary connection box (option code: L97) is required when the total number of auxiliary terminals exceeds the number of allowable terminals in main connection box.

接线盒位置

接线盒除标准位置外，还可处于电动机机座的左侧或右侧。电动机接线盒位置可以在电动机订货号的第 16 位用数字表示出。

接线盒的位置是指从电动机驱动端来看的位置。

- 标配接线盒在顶部，电动机订货号的第 16 位数字为 4；
- 接线盒在右边，电动机订货号的第 16 位数字为 5；
- 接线盒在左边，电动机订货号的第 16 位数字为 6。

Location of the connection box

Besides standard position, the connection box also can be on the right or left of motor housing. The position of terminal box can be indicated on the 16th digit of motor order code.

The position of connection box is described by viewed from drive end (DE).

- On top (Standard), 16th position of Motor Order No. digit 4.
- On RHS, 16th position of Motor Order No. digit 5.
- On LHS, 16th position of Motor Order No. digit 6.

当电动机的接线盒位置与其它部件冲突时，可以将接线盒从驱动端移到非驱动端（选件号：H08）。

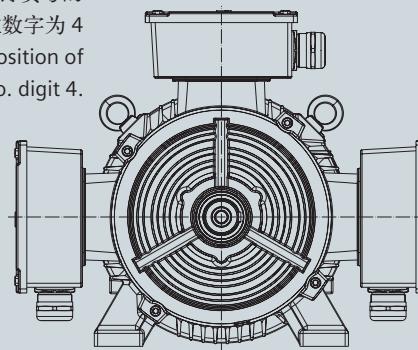
If there is interfere between the connection box and other components, the connection box can be moved from the drive end (DE) to non-drive end (NDE) (Option code: H08).

在顶部的（标配），电动机订货号的
第 16 位数字为 4

On top (Standard), 16th position of
Motor Order No. digit 4.

在左边（选配），电动机订货号的
第 16 位数字为 6

On LHS, 16th position of Motor
Order No. digit 6.



在右边（选配），电动机订货号的
第 16 位数字为 5

On RHS, 16th position of Motor
Order No. digit 5.

接线盒的进线孔

除非另作规定，否则进线孔的标准位置如下图所示。接线盒可以按照图示的位置旋转。

■ 朝向驱动端

接线盒旋转 90°，进线口朝向驱动端，选件号为 R10。

对于 FS80 ~ 112 的带法兰 (IM B5) 电动机，只有接线盒在非驱动 (选件号：H08) 时，才可以选择进线孔朝向驱动端。

■ 朝向非驱动端

接线盒旋转 90°，进线口朝向非驱动端，选件号为 R11。

■ 朝向左侧（与标准方向相反）

接线盒旋转 180°，进线口位置相反，选件号为 R12。

Cable entry on connection box

Unless stated, otherwise the cable entry is located in the standard position as show in the following illustration. The connection box can also be rotated such that the cable entry is located.

■ Towards the drive end (DE)

Rotation of connection box by 90°, entry from DE, Option code R10.
For flange motor (IM B5) from FS80 to FS100, only possible with connection box on NDE (Option code H08).

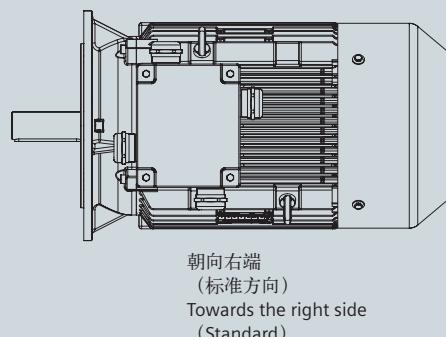
■ Towards the non-drive end (NDE)

Rotation of connection box by 90°, entry from NDE, Option code R11.

■ Towards the left side (opposite to Standard)

Rotation of connection box by 180°, entry from opposite end, Option code R12.

朝向左边（与标准位置相反）
选件号为 R12
Towards the left side (opposite to Standard)
Option code R12



朝向非驱动端
选件号为 R11
Towards the non-drive end (NDE)
Option code R11

NDE

如果接线盒的位置改变时（如右侧或左侧），须要检查进线孔的位置是否方便进线。必要时，可以同时订购其它选件 (R10, R11 和 R12)。

If the position of the connection box (connection box RHS or LHS) is changed, the position of the cable entry must be checked. If necessary, it can be ordered with the corresponding order codes (R10, R11 and R12).

安装结构型式 Construction and mounting type

结构型式 Construction type	机座带底脚，端盖无法兰 With feet and without flange on the end-shield (DE)					
安装型式 Mounting type	IM B3 FS 80 ~ 355	IM B6 FS 80 ~ 315	IM B7 FS 80 ~ 315	IM B8 FS 80 ~ 315	IM V5 ¹⁾³⁾ FS 80 ~ 315	IM V6 ²⁾³⁾ FS 80 ~ 315
示意图 Diagram						
电动机订货号第 14 位号上对应的字母 Letter, position 14 th of Motor code	A	T	U	V	C	D
结构型式 Construction type	机座不带底脚，端盖有法兰 Without feet and with flange on the end-shield (DE)			机座带底脚，端盖有法兰 With feet and with flange on the end-shield (DE)		
安装型式 Mounting type	IM B5 FS 80 ~ 315	IM V1 ¹⁾³⁾ FS 80 ~ 355	IM V3 ²⁾³⁾ FS 80 ~ 315	IM B35 FS 80 ~ 355	IM V15 ¹⁾³⁾ FS 80 ~ 315	IM V35 ²⁾³⁾ FS 80 ~ 315
示意图 Diagram						
电动机订货号第 14 位号上对应的字母 Letter, position 14 th of Motor code	F	G	H	J	W	Y
结构型式 Construction type	机座不带底脚，端盖有标准小法兰 Without feet and with C-flange on the end-shield (DE)			机座带底脚，端盖有标准小法兰 With feet and with C-flange on the end-shield (DE)		
安装型式 Mounting type	IM B14 FS 80 ~ 160	IM V18 ¹⁾³⁾ FS 80 ~ 160	IM V19 ²⁾³⁾ FS 80 ~ 160	IM B34 FS 80 ~ 160		
示意图 Diagram						
电动机订货号第 14 位号上对应的字母 Letter, position 14 th of Motor code	K	M	L	N		

¹⁾ 室外使用时推荐使用护罩（选件号 H00）；

²⁾ 当户外安装时，推荐对电动机轴采取防护措施，避免水直接喷射到电动机轴上；

³⁾ 当立式安装配独立风机时，请根据现场使用实际工况，与西门子咨询。

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;

³⁾ If vertical mounting with separate fan, please consult with Siemens refer to actual operation conditions on site.

冷却与通风

所有电动机标配装有径流（离心）式冷却风扇，其冷却效能与电动机的旋转方向无关（冷却方法符合 IEC60034-6 标准的 IC411）。

对于某些应用，可以考虑配置独立驱动风扇，如，

- 电动机在低速运行时，推荐使用独立驱动风扇，从而使电动机得到有效利用；
- 电动机在明显高于额定同步转速的速度运行时，同样推荐选用独立驱动风扇，这样有助于降低电动机噪声。

独立驱动风扇的选件号为 F70。当安装独立驱动风扇时，电动机的长度将增加 ΔL 。

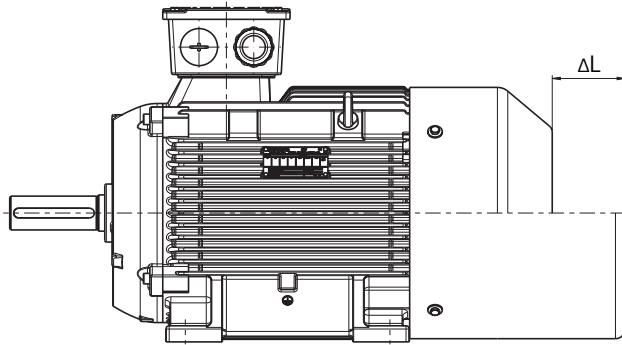
Cooling and ventilation

The 1LE0 standard motors are fitted with an radial flow fan for cooling in accordance with IEC 60034-6 cooling method.

For some special application, separately driven fan should be considered to be configurated.

- The use of a separately driven fan is recommended to increase motor utilization at low speed;
- When motor speed significantly higher than the synchronous speed, the separately fan is also recommended to be used. It can help reduce the motor noise.

The separately driven fan can be supplied already fitted, Option code F70. When the separately driven fan is mounted, the length of the motor increase by ΔL .



独立驱动风扇技术参数 Technical data for separately fan

对应电动机机座号 Motor frame size	电压 Voltage (V)	频率 Frequency (Hz)	功率 Rated output (W)	电流 Current (A)	转速 Speed (r/min)	ΔL (mm)
80	220 Δ / 380Y	50	30	0.14/0.08	2800	55
90	220 Δ / 380Y	50	30	0.14/0.08	2800	65
100	220 Δ / 380Y	50	52	0.21/0.12	2800	80
112	220 Δ / 380Y	50	52	0.21/0.12	2800	90
132	220 Δ / 380Y	50	45	0.35/0.2	1400	75
160	220 Δ / 380Y	50	45	0.35/0.2	1400	55
180	220 Δ / 380Y	50	120	1.04/0.6	1400	65
200	220 Δ / 380Y	50	120	1.04/0.6	1400	65
225	220 Δ / 380Y	50	120	1.04/0.6	1400	60
250	220 Δ / 380Y	50	230	1.73/1.0	1400	80
280	220 Δ / 380Y	50	230	1.73/1.0	1400	110
315	220 Δ / 380Y	50	370	1.91/1.1	1250	90
355	220 Δ / 380Y	50	550	2.18/1.26	1350	100

注：风扇可以在 210 ~ 240 VD/360 ~ 420VY 50Hz 电源供电下运行，也可以在 220 ~ 260 VD/380 ~ 480 VY 60 Hz 电源供电下运行。其他电源供电，须特殊询价。

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

风机电机参数

对于某些客户现场有外部冷却设备的应用，可以提供无风扇和风扇罩的风机电机，风机电机的选件号为 F90。当电机无风扇和风扇罩时，电动机的长度将减少 Δl。

Technical data for fan motor

For some special application with external cooling facility, we can provide motor without fan and fan cover, the option code is F90. When motor without fan and fan cover, the length will decrease Δl.

对应电动机机座号 motor frame size	F90 电机减少长度 Δl Length decrease of motor Δl	对应电动机机座号 motor frame size	F90 电机减少长度 Δl Length decrease of motor Δl
80	50	200	110
90	55	225	115
100	50	250	110
112	55	280	130
132	75	315	175
160	80	355	165
180	100		

轴承系统

1LE0 系列电动机标准配置深沟球轴承或角接触球轴承，这些轴承是密封的或可再润滑型的。

Bearing system

1LE0 series motors are supplied with the ball bearing as standard. These bearings are either of the sealed or regreasable type.

FS80 ~ 160 范围的 1LE0 电动机驱动端与非驱动端轴承浮动；FS180 ~ 355 电动机驱动端轴承浮动，非驱动端轴承固定。

For FS80 ~ 160, the floating bearings are assembled; for FS180 ~ 355, floating bearing at DE, and fixed bearing at NDE assembled.

标准配置的轴承可以承受一定的悬臂力，关于悬臂力可以参见第 11 页“电动机轴驱动端允许的最大悬臂力”。当电动机轴端承受的悬臂力较大时，可以考虑选择增强悬臂力的轴承设计（选件号：L22）。

The standard bearing can endure a maximum cantilever force, referred to page 11 - Permissible cantilever forces. If higher cantilever force on the shaft required, the increased cantilever bearing design (Option code: L22) should be considered.

FS80 ~ 250 范围电动机标配不带再润滑装置；FS280 ~ 355 范围的电动机标配可再润滑轴承，并标配再润滑装置。如果需要，FS100 ~ 250 范围的电动机也可选用可再润滑轴承和再润滑装置（选件号：L23）。

As standard, FS80 ~ 250 motors are not with regreasing device, but FS280 ~ 355 motors with regreasable bearing and regreasing device. If necessary, FS100 ~ 250 motor can be configured with regreasable bearing and regreasing device (Option code: L23).

轴承选配 Bearing Assignment

机座号 Frame size	极数 Pole	标准配置 Standard design			增强悬臂力设计轴承 (选件号 L22) Increased cantilever-bearing (Option code:L22)			再润滑轴承 (选件号: L23) Re-greasing bearing (Option code:L23)	
		驱动端轴承 DE bearing	非驱动端轴承 (水平安装) NDE bearing (Horizontal mounting)	非驱动端轴承 (立式安装) NDE bearing (Vertical mounting)	驱动端轴承 DE bearing	非驱动端轴承 (水平安装) NDE bearing (Horizontal mounting)	非驱动端轴承 (立式安装) NDE bearing (Vertical mounting)	驱动端轴承 DE bearing	非驱动端轴承 NDE bearing
80	2,4,6	6204 2Z C3	6204 2Z C3	6204 2Z C3	—	—	—	—	—
90	2,4,6	6205 2Z C3	6205 2Z C3	6205 2Z C3	—	—	—	—	—
100	2,4,6	6206 2Z C3	6206 2Z C3	6206 2Z C3	6306 2Z C3	6206 2Z C3	6206 2Z C3	6206 C3	6206 C3
112	2,4,6	6206 2Z C3	6206 2Z C3	6206 2Z C3	6306 2Z C3	6206 2Z C3	6206 2Z C3	6206 C3	6206 C3
132	2,4,6,8	6208 2Z C3	6208 2Z C3	6208 2Z C3	6308 2Z C3	6208 2Z C3	6208 2Z C3	6208 C3	6208 C3
160	2,4,6,8	6209 2Z C3	6209 2Z C3	6209 2Z C3	6309 2Z C3	6209 2Z C3	6209 2Z C3	6209 C3	6209 C3
180	2,4,6,8	6210 Z C3	6210 Z C3	6210 Z C3	NU210	6210 Z C3	6210 Z C3	6210 C3	6210 C3
200	2,4,6,8	6212 Z C3	6212 Z C3	6212 Z C3	NU212	6212 Z C3	6212 Z C3	6212 C3	6212 C3
225	2,4,6,8	6213 Z C3	6213 Z C3	6213 Z C3	NU213	6213 Z C3	6213 Z C3	6213 C3	6213 C3
250	2,4,6,8	6215 C3	6215 C3	6215 C3	NU215	6215 C3	6215 C3	6215 C3	6215 C3
280	2,4,6,8	6317 C3	6317 C3	6317 C3	NU317	6317 C3	6317 C3	□	□
315	2	6316 C3	6316 C3	6316 C3	NU316	6316 C3	6316 C3	□	□
	4,6,8	6319 C3	6319 C3	6319 C3	NU319	6319 C3	6319 C3	□	□
355	2	6317 C3	6317 C3	7317	NU317	6317 C3	O.R.	□	□
	4,6,8	6322 C3	6322 C3	7322	NU322	6322 C3	O.R.	□	□

注:

DE 驱动端
— 不能满足
O.R. 需要特殊询价

NDE 非驱动端
□ 标准配置

Note:

DE	Driven end	NDE	Non driven end
—	Not possible	□	Standard
O.R.	Possible on request		

轴承寿命 (标称寿命)

轴承的标称额定寿命可根据 ISO 281 标准规定的标准计算程序计算出来的。如果电动机在该样本中所规定条件下运行, 90 % 甚至更高比例的轴承的运行时间可达到标称寿命。通常, 轴承的使用寿命取决于轴承规格、轴承载荷、运行条件、转速以及润滑脂寿命。

当电动机水平安装, 且不受轴向力的情况下, 电动机的轴承寿命至少能够达到 40,000 小时。在承受最大容许载荷的情况下, 其寿命也至少有 20,000 小时, 这里所说的轴承寿命, 指的都是电动机在 50 Hz 下正常运行的情况。

当电动机在非正常的条件下运行时, 轴承的寿命会缩短。如下几种情况:

- 当电动机的运行速度高于额定速度时, 由于电动机的振动增大, 使得轴承受到额外的径向力和轴向力, 导致其寿命减少;
- 当环境或设备等因素引起电动机振动加大时, 同样轴承也会因此受到额外的径向力和轴向力, 而导致其寿命减少;
- 当环境温度每升高 10 °C, 润滑脂寿命以及再润滑时间缩短一半。

润滑脂寿命和再润滑周期

对于不可再润滑的轴承, 其润滑脂寿命与轴承寿命相当。但是, 这只能是在电机严格按照本样本中规定的技术数据运行。

对于以规定间隔再润滑的电机, 轴承寿命可以延长, 从而补偿不利因素, 诸如温度、安装条件、转速、轴承规格和机械载荷造成的影响。

Bearing life time (nominal lifetime)

The nominal bearing lifetime is defined according standardized calculation procedures (ISO 281) and is reached or even exceeded for 90% of the bearings when the motors are operated in compliance with the data provide in the catalog. Generally, the bearing lifetime is defined by the bearing size, the bearing load, the operating condition, the speed and the grease lifetime.

The bearing lifetime of motors with horizontal type of construction is at least 40,000 hours if there is no additional axial loading at the coupling output and at least 20,000 hours with the maximum admissible loads. This assumes that the motor is operated at 50Hz.

When the motor runs outside of normal conditions, the bearing life will be reduced, such as the following conditions.

- When 1LE0 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.

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.

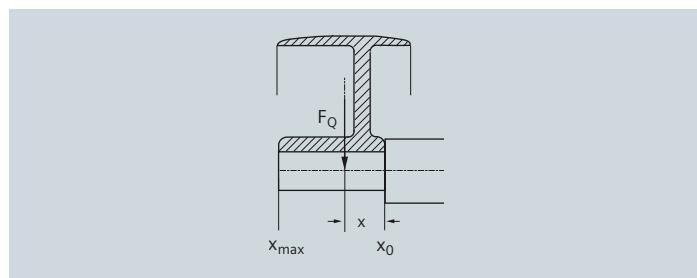
For motors which can be regreased at defined regreasing intervals, the bearing lifetime can be extended and/or unfavorable factors such as temperature, mounting conditions, speed, bearing size and mechanical load can be compensated.

润滑脂寿命和再润滑周期（电动机水平安装） Grease life (Horizontal installation)

机座号 Frame size	极数 Poles	润滑脂寿命 Grease lifetime up to CT 40 °C
持久润滑型轴承的润滑脂 Grease for permanent lubrication bearing		
80 ~ 250	2, 4, 6, 8	20000 或 (or) 40000 h
可再润滑型轴承的润滑脂 Grease for regreasable bearing		
100 ~ 160	2, 4, 6, 8	8000 h
180 ~ 250	2 4, 6, 8	4000 h 8000 h
280 ~ 315	2 4, 6, 8	3000 h 5000 h
355	2 4, 6, 8	3000 h 4000 h

电动机轴驱动端允许的最大悬臂力

Permissible cantilever forces on DE shaft



为了计算径向负载的最大悬臂力，据轴肩处的悬臂力 F_Q (N) 必须位于轴伸端以内，(长度为 x)。长度 x [mm] 是距离轴肩的距离。长度最长为 x_{max} ，与轴伸长度相同。总的悬臂力 F_Q 使用以下公式计算。

$$F_Q = c \cdot F_u$$

预紧力系数 c 是从皮带制造商那得到的经验数值，下面的估算值可以应用。

- 对于一般扁平的皮带， $c = 2$ ；
- 对于 V 型皮带， $c = 2 \sim 2.5$ ；
- 对于特殊的皮带（取决于皮带类型和负载）， $c = 2 \sim 2.5$ 。

计算切向力 F_u (N) 使用下列公式：

$$F_u = 2 \cdot 10^7 \frac{P}{n \times D}$$

F_u 切向力 (N)

P 额定功率 (kW)

n 额定转速

D 滑轮直径 (mm)

In order to calculate the admissible cantilever forces for a radial load, the line of force (i.e. the centerline of the pulley) of the cantilever force F_Q (N) must lie within the free shaft extension (dimension x). Dimension x [mm] is the distance between the point of application of force F_Q and the shaft shoulder. Dimension x_{max} . Corresponds to the length of the shaft extension. Total cantilever force is calculated using the following equation.

$$F_Q = c \cdot F_u$$

The pre-tension factor c is a value gained from experience from the belt manufacturer. The following approximate value can be assumed.

- For normal flat leather belts with an idler pulley, $c = 2$.
- For v-belts, $c = 2$ to 2.5.
- For special synthetic belts (depending on the type and load), $c = 2$ to 2.5.

The circumferential force F_u (N) is calculated using the following equation.

$$F_u = 2 \cdot 10^7 \frac{P}{n \times D}$$

F_u circumferential force in N

P rated motor power (transmitted power) in kW

n rated motor speed

D pulleys in mm.

电气特性 Electrical design

额定输出

1LEO电动机的额定功率是指电动机在连续运行的情况下 S1 (IEC 60034-1) , 此时周围环境温度为 -20 °C ~ 40 °C, 海拔高度不超过 1000 m。

电压、频率

IEC 60034-1 将电压和频率的偏差分为 A 类 (电压偏差 $\pm 5\%$, 频率偏差 $\pm 2\%$) 和 B 类 (电压偏差 $\pm 10\%$, 频率偏差 $+3\% / -5\%$)。电动机均能够在 A 类和 B 类提供额定转矩。在 A 类中, 温度比正常运行下温度大约提升 10 K。

Rated Output

1LEO motors rated output powers means that the motor runs under continuous duty S1 (IEC 60034 - 1) operation when operated at ambient temperature from -20 °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 $\pm 5\%$ and frequency deviation $\pm 2\%$) and Category B (combination of voltage deviation $\pm 10\%$ 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.

标准 Standard 60034 - 1	类别 Category A	类别 Category B
电压偏差 Voltage deviation	$\pm 5\%$	$\pm 10\%$
频率偏差 Frequency deviation	$\pm 2\%$	$+3\% / -5\%$

根据标准, 不推荐电动机在 B 类情况下长时间运行
According to the standard, longer operation is not recommended for Category B.

电气数据公差

■ 效率 η

$P_{rated} \leq 150 \text{ kW}$: $-0.15 \times (1 - \eta)$

$P_{rated} > 150 \text{ kW}$: $-0.10 \times (1 - \eta)$

效率 η 为小于 1 的值

■ 功率因数: $(1 - \cos \phi) / 6$

最小绝对值: 0.02

最大绝对值: 0.07

■ 转差率: $\pm 20\%$ (电动机的偏差 $< 1 \text{ kW} \pm 30\%$ 时是允许的)

■ 堵转电流: $+20\%$

■ 堵转转矩: $-15\% \sim +25\%$

■ 最大转矩: -10%

■ 转动惯量: $\pm 10\%$

过载倍数

根据 IEC60034 标准要求, 1LEO 系列电动机能够在额定电压和频率下承受 1.5 倍的额定电流达 2 分钟。

Tolerance for electrical data

■ Efficiency η at

$P_{rated} \leq 150 \text{ kW}$: $-0.15 \times (1 - \eta)$

$P_{rated} > 150 \text{ kW}$: $-0.10 \times (1 - \eta)$

With η being a decimal number

■ Power factor - $(1 - \cos \phi) / 6$

Minimum absolute value: 0.02

Maximum absolute value: 0.07

■ Slip $\pm 20\%$ (for motors $< 1 \text{ kW} \pm 30\%$ is admissible)

■ Locked-rotor current $+20\%$

■ Locked-rotor torque $-15\% \text{ to } +25\%$

■ Breakdown torque -10%

■ Moment of inertia $\pm 10\%$

Overload times

According to IEC60034, 1LEO series motors are designed to withstand overload capacity of 1.5 times rated current for 2 minutes at rated voltage and frequency.

绝缘系统

1LEO 电动机绝缘系统具有可靠性、耐用性好和寿命长、耐冲击能力强的特点。

1LEO 系列电动机标准设计温度等级为 155 (F)。当 1LEO 电动机直接供电，且输出额定功率时，其绝缘系统按 130 (B) 温度等级使用。

电动机保护

电动机过热保护

电动机热保护是指将温度保护传感器或温度检测传感器嵌入电动机定子绕组或其他适当的地方，从而使其不会因为过热而受到破坏。

不同的电动机热保护方式可以在 1LEO 电动机订货号的第 15 位采用不同的字母或者选件号来表示。下面是电动机的绕组保护和轴承保护的几种保护方式。

绕阻保护

■ PTC 热敏电阻温度保护

目前，最常用的电动机绕组过热保护方式是采用在电动机绕组中安装 PTC 热敏电阻进行保护。由于热敏电阻的热容量较低以及其在绕足间优良的热传导特性，绕组温度可被准确的监控。当达到极限温度时（标称跳闸温度），PTC 热敏电阻阻值会出现一个阶跃变化。这一变化被跳闸装置捕捉后，即可断开辅助回路。

PTC 热敏电阻本身不能耐受大电流和高电压。否则会导致半导体器件损坏。PTC 热敏电阻和跳闸装置的开关滞后效应小，因此可以实现快速重起。对于重载起动、起动频率高、负载变化大、环境温度高或电源波动大等应用场合，建议电动机使用该类保护。

Insulation system

The insulation system of 1LEO results in high reliability, a long service life and high resistance to stress, for example, during starting or under overload conditions.

1LEO series motors are designed for temperature class 155 (F). At rated output with line-fed operation, the motors can be used in temperature class 130 (B).

Motor protection

Motor thermal overload protection

Motor thermal protection means to use of thermal protectors and thermal detectors incorporated into the stator windings or placed in other suitable positions in motor in order to protect them against serious damage due to thermal overloads.

The order variants for motor protection are coded with letters in the 15th position of the Motor Order No., or ordered with Option code. Some protection method about winding protection and bearing protection are shown in the following.

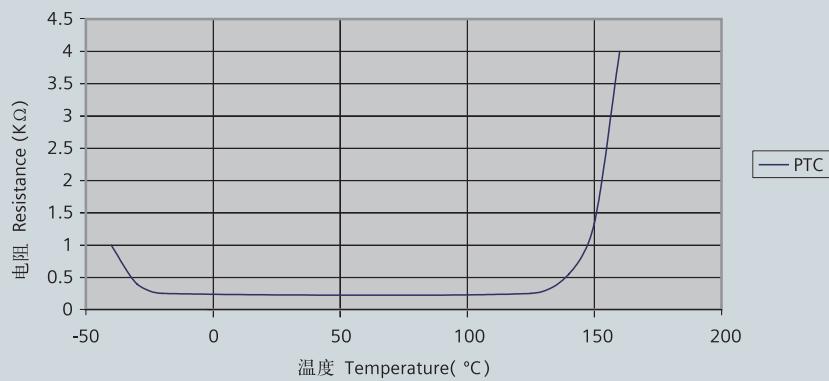
Winding protection

■ PTC thermistors protection

The most comprehensive protection against thermal overloading of the motor is provided by PTC thermistors (thermistor motor protection) installed in the motor winding. The temperature of the winding can be accurately monitored thanks to its low heating capacity and the excellent heat contact with the winding. When a limit temperature is reached (nominal tripping temperature), the resistance of PTC thermistors will have a step change. This is evaluated by a tripping unit and can be used to open auxiliary circuits.

The PTC thermistors themselves cannot be subjected to high currents and voltages. This would result in destruction of the semiconductor. The switching hysteresis of the PTC thermistor and tripping unit is low, which supports fast restarting of the drive. Motors with this type of protection are recommended for heavy duty starting, switching duty, extreme changes in load, high ambient temperatures or fluctuating supply systems.

PTC 曲线图
The graph of PTC



两种 PTC 热敏电阻温度保护

- 电动机绕组带一组三芯串联的 PTC 热敏电阻用于跳闸，跳闸温度为 155 °C，电动机订货号第 15 位字母为“B”，需 2 个辅助接线端子。
- 电动机绕组带两组三芯串联的 PTC 热敏电阻，其中一组用于在电动机跳闸前报警，一组用于跳闸，报警温度为 145 °C，跳闸温度为 155 °C，电动机订货号第 15 位字母为“C”，需 4 个辅助接线端子。

■ PT100 热敏电阻传感器温度保护

PT100 热敏电阻是一种精确高、灵敏度高的传感器，其线性温度阻值优于其他电阻式传感器，性能稳定、可靠性高，其特性曲线如下。

两种 PT100 热敏电阻温度保护

- 电动机绕组带 3 个 2 线制 PT100 测温元件，电动机订货号第 15 位字母为“H”，需 6 个辅助接线端子。
- 电动机绕组带 6 个 2 线制 PT100 测温元件，电动机订货号第 15 位字母为“J”，需 12 个辅助接线端子。

2 alternatives of PTC protection

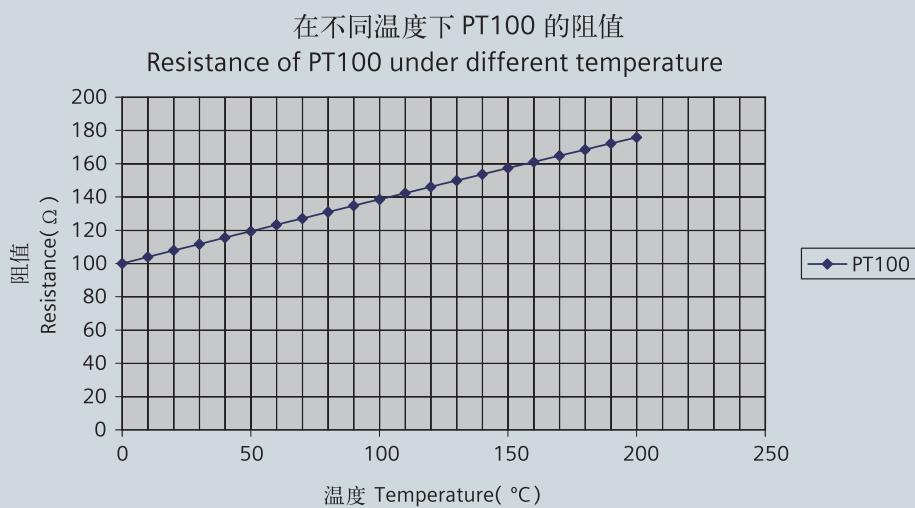
- Motor winding is protected with PTC thermistors with 3 embedded temperature sensors for tripping. Connection be done through 2 auxiliary terminals in the connection box. 15th position of Motor Order No. letter B.
- Motor winding is protected with two sets of three temperature sensors, one set is for warning, another set for tripping. The warning temperature is 145 °C, and tripping temperature is 155 °C. Connection be done through 4 auxiliary terminals in the connection box. 15th position of Motor Order No. letter C.

■ PT100 resistance thermometers protection

PT100 thermometers are a high precision, high sensitivity, better linear temperature resistance, more stable performance, and high reliability sensor, whose characteristics are as following.

2 alternatives of PT100

- Installation of 3 PT100 resistance thermometers. Connection be done through 6 auxiliary terminals in the connection box. 15th position of Motor Order No. letter H.
- Installation of 6 PT100 resistance thermometers. Connection be done through 12 auxiliary terminals in the connection box. 15th position of Motor Order No. letter J.



■ PT1000 热敏电阻传感器温度保护

PT1000 热敏电阻可对电机绕组温度进行更精确地监测。

- 绕组中带一个单支两线制 PT1000 测温元件，电机的铭牌编号 15 位数为 K，需 2 个辅助接线端子。

轴承保护

1LE0 电动机轴承标配不带任何保护。对于某些苛刻的应用，推荐对轴承采取保护措施。轴承保护是通过在电动机驱动端和非驱动端的轴承端盖拧入温度传感器来进行保护。温度传感器的引接线引入电动机主接线盒内。

1LE0 电动机轴承装两个 PT100 测温元件，选件号为 Q72，需 4 个辅助接线端子。

防潮加热保护

当电动机处于较为恶劣的环境时，比如湿度非常大或者昼夜温差比较大，电动机的绕组很可能出现凝露的现象，这样会带来电动机烧毁的风险。对于这种情况，建议对电动机绕组配置防潮加热带（选件号：Q04）进行保护，需 2 个辅助接线端子。

电动机防潮加热带必须在电动机工作过程中处于不工作状态；当电动机停机时，防潮加热带必须启动工作，为绕组加热。防潮加热带的电气参数如下表所示。

■ PT1000 resistance thermometers protection

The PT1000 thermistor can monitor the temperature of the motor winding more accurately.

- Installation of 1 single 2 wires PT1000 resistance thermometers. Connection be done through 2 auxiliary terminals in the connection box. 15th position of Motor Order No. letter K.

Bearing protection

1LE0 motors bearing has no protection as standard. For some severe application, such as high load, high coolant temperature and etc., the bearing is recommended to be protected. The bearing is protected through thermometers screwed into the bearing plates of motor driven end (DE) and non-drive-end (NDE). The wires are routed through the main connection box.

Installation of 2 PT100 screwed-in resistance thermometers for 1LE0 motor bearings, Option code: Q72. Connection be done through 4 auxiliary terminals in the connection box.

Anti-condensation heater

Motors whose windings are at risk of condensation due to the climatic conditions, e.g. inactive motors in humid atmospheres or motors that are subjected to widely fluctuating temperatures can be equipped with anti-condensation heaters (Option code: Q04), 2 auxiliary terminals in connection box are needed."

Anti-condensation heaters must be switched off during operation. When motor shut down, the heaters must be switched on.

防潮加热带电气参数 Electrical data of Anti-condensation heater

机座号 Frame size	功率 Power (W)	电压 Voltage
80 ~ 90	20	220 V
100 ~ 112	30	220 V
132 ~ 160	40	220 V
180 ~ 200	50	220 V
225 ~ 280	60	220 V
315	80	220 V
355	100	220 V

变频应用 Converter fed application

1LE0 电动机适于变转速、恒转速的各种应用，如风机、泵、压缩机、纺织机械等。

当变频器驱动电动机时，电磁干扰的程度大小取决于变频器的类型（种类，IGBT 数量，干扰控制措施及制造商）、布线、距离以及应用需求。在设计和应用阶段必须参考变频器制造商关于电磁兼容性的安装指导。

当 1LE0 电动机变频应用（变频器供电），且输出额定功率时，电动机的使用温度等级为 155 (F)。为了避免杂散电流对电动机轴承的损坏，推荐 FS250 ~ 355 电动机使用绝缘轴承。请向西门子咨询关于绝缘轴承的详细信息。

变频器驱动运行

1LE0 电动机的标准绝缘系统设计要求，能够保证其在变频器供电电压不超过 460 V 时正常运行。

1LE0 电动机带有特定的负载时能够使用变频器驱动，其特定的负载扭矩如以下图表所示：

1LE0 motors are suitable for pumps, fans, compressors, textile machine and mechanical machine applications where variable or constant speed is required.

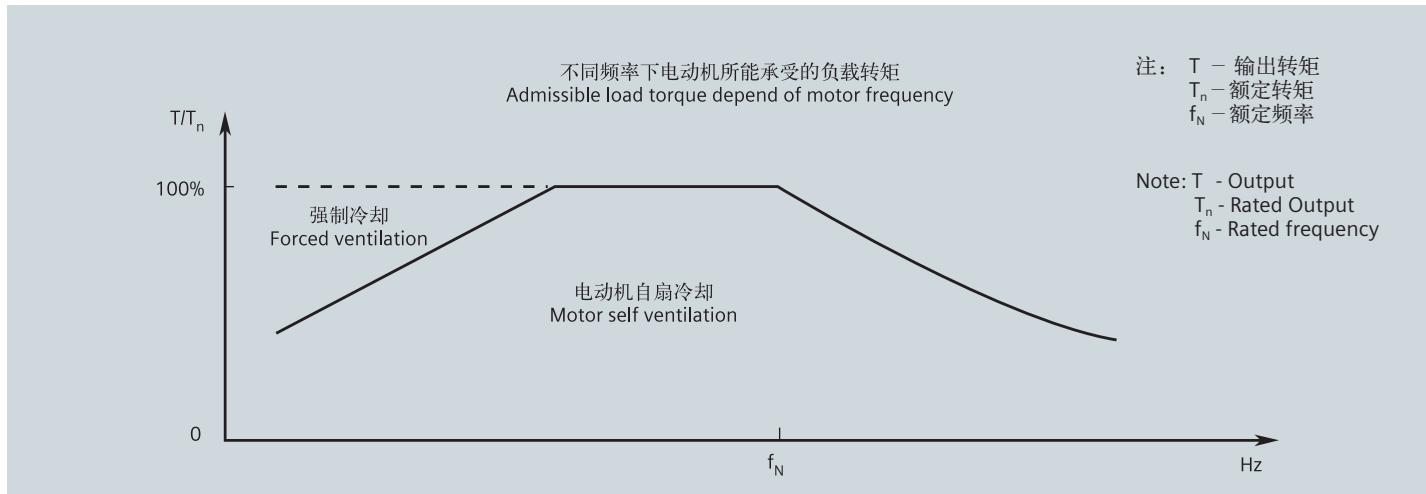
In application where the motor is driven by a converter, the degree of electrical interference depends on the type of converter used (type, number of IGBTs, interference suppression measures, and manufacturer), cabling, distance and application requirements. The installation guidelines of the converter manufacturer with regards to electromagnetic compatibility must be considered at all times during the design and implementation phases.

At rated output with converter fed operation, the motors will be used in temperature class 155 (F). To prevent damage as a result of bearing currents, insulated bearings are recommended to be assembled for frame size 250 and above. Please inquire Siemens about the detailed information of insulated bearing.

Converter-fed operation

The standard insulation of the 1LE0 motors is designed such that operation is possible on the converter at mains voltage up to 460 V.

1LE0 motors are capable for converter-fed operation with certain characteristics load, of which the load torque characteristics is referred in the following diagram:



当负载转矩在允许的转矩范围内时，电动机能够自扇冷却；当负载转矩超过所允许的转矩时，电动机需要强迫冷却。

在电动机运行速度超过额定转速时，噪声和振动值将增加，并且轴承的寿命将缩短。需要注意再润滑周期和润滑脂的寿命。

变频运行时当频率超过 60 Hz 时，必需按照特定的限值进行动平衡。

By usage with admissible torque and below, the motor can be operated with self cooling; by usage over the admissible torque line, the motor with forced ventilation is needed.

At operating speeds above rated speed the noise and vibration levels increase and the bearing life time reduce. Attention should be paid to the re-greasing intervals and the grease service life.

For converter-fed operation with frequencies greater than 60 Hz special balancing is required for compliance with the specified limit values.

1LE0 电动机所允许的最大安全转速如下表

The allowed maximum safe operating speed of 1LE0 motors shows the diagram

机座号 Frame Size	2 极 2 pole		4 极 4 pole		6 极 6 pole		8 极 8 pole	
	最高转速 Max. rpm	最大频率 fmax						
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
200	4500	75	2300	77	1800	90	1400	93
225	3600	60	2300	77	1800	90	1400	93
250	3600	60	2300	77	1800	90	1400	93
280	3600	60	2300	77	1800	90	1400	93
315	3600	60	2300	77	1800	90	1400	93
355	3600	60	2300	77	1800	90	1400	93

电压承受值

绕组绝缘的电介质应力决定于：

- 电压峰值，上升时间以及变频器产生的脉冲频率；
- 变频器与电动机连接电缆的特性和长度；
- 绕组结构和其他系统参数，尤其是绝缘系统中不同绕组的对地电压（代表了绝缘系统的电介质应力）。

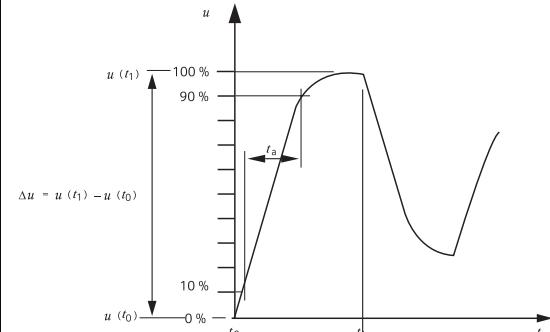
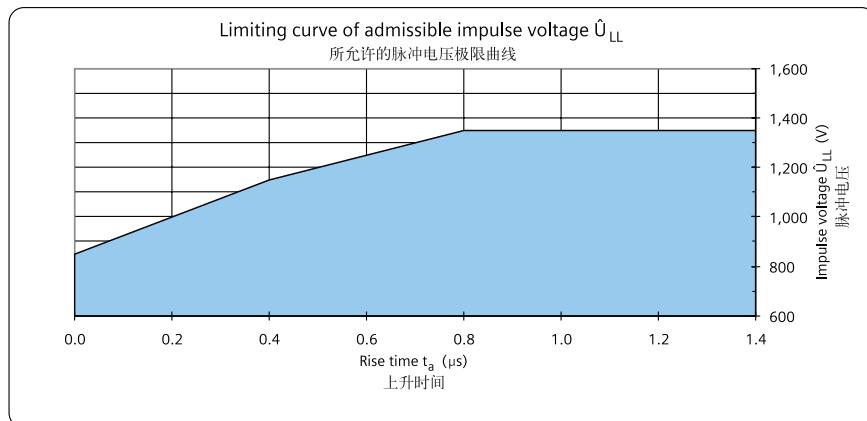
图表所示为 1LE0 电动机标准绝缘能承受电压的峰值和上升时间：

Voltage withstand levels

The dielectric stress of the winding insulation is determined by:

- the peak voltage, rise time and frequency of the impulses produced by the converter.
- the characteristics and the length of the connection leads between the converter and motor.
- the winding construction and other system parameters, especially the voltages between the different parts of the winding and the ground represent dielectric stress at the insulation system.

The standard insulation of the 1LE0 motors is designed to withstand voltage peak and rise time which is showed in the diagram:



数值参照 IEC 60034-17, GB/T 20161-2008 标准。

The values refer to standard IEC 60034-17 and GB/T 20161-2008.

订货号和型号 Order No. and Motor Type

订货号 Order No.



低压系列电动机 Low-voltage motor series

0 = 铸铁壳, 3 = 铝壳

0 = Cast Iron, 3 = Aluminium

3 = 超高效电动机, 中国能效等级 3 级

3 = Premium Efficiency, China Energy Efficiency Grade 3

机座号编号 Code of frame size

0D = 080; 0E = 090

1A = 100; 1B = 112; 1C = 132; 1D = 160; 1E = 180

2A = 200; 2B = 225; 2C = 250; 2D = 280

3A = 315; 3B = 355

极数编号 Code of poles

A = 2; B = 4; C = 6; D = 8

机座长度编号 Code of frame length

0 or 1 = S (短机座 short) ; 2 or 3 or 4 = M (中机座 medium) ; 4 or 5 or 6 or 7 = L (长机座 long)

电压, 连接方式和频率编号 Code of voltage, connections and frequency

04 = 400 VD 50 Hz

22 = 230 VD/400 VY 50Hz 35 = 415 VD 50 Hz

21 = 220 VD/380 VY 50Hz 23 = 240 VD/415 VY 50Hz 90¹⁾ = 特殊电压与频率

33 = 380 VD/660 VY 50Hz 34 = 400 VD/690 VY 50Hz special voltage & frequency

结构和安装方式编号 Code of Construction and mounting type

T²⁾ = IM B6

A²⁾ = IM B3

U²⁾ = IM B7

J²⁾ = IM B35

V²⁾ = IM B8

F²⁾ = IM B5

C²⁾ = IM V5

W²⁾ = IM V15

G²⁾ = IM V1

M²⁾ = IM V18

K²⁾ = IM B14

D²⁾ = IM V6

Y²⁾ = IM V35

H²⁾ = IM V3

L²⁾ = IM V19

N²⁾ = IM B34

绕组保护编号 Code of winding protection

A = 无绕组保护 without winding protection

B = 绕组带一组三芯串联的 PTC 热敏电阻用于跳闸 3 PTC thermistors for tripping

C = 绕组带两组三芯串联的 PTC 热敏电阻用于报警和跳闸 6 PTC thermistors for alarm and tripping

K = 绕组带 1 个单支两线制 PT1000 测温元件 1single 2 wires PT1000 resistance thermometers

H = 绕组带 3 个 Pt100 测温元件 3 resistance thermometers Pt100

J = 绕组带 6 个 Pt100 测温元件 6 resistance thermometers Pt100

Z = 其他绕组保护 Other temperature for winding protection

接线盒位置编号 (从驱动端看) Code of connection box location (view from drive end)

4 = 置顶 on top; 5⁶⁾ = 右侧 on RHS; 6⁶⁾ = 左侧 on LHS

附注:

¹⁾ 用电压编号 90 及相应选件号来定制其它电压 (参见选项描述) ;

Foot note:

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

- ²⁾ 铭牌上标有结构型式。若需要冷凝水排放孔（订货号：H03），则必须指明电机的安装结构型式，以便在制造过程中确定冷凝水排放孔的具体位置。
- ³⁾ 对于 IM B5、IM V1、IM V3、IM B14、IM V18 和 IM V19 安装结构型式电动机，须指定电动机订货号第 16 位数字为“4”；
- ⁴⁾ 只针对 FS80 ~ 160；
- ⁵⁾ 电动机标配无防雨罩，但如需要加带防雨罩用于防护时，须订购选件号 H00；
- ⁶⁾ FS80 ~ 132 进线孔的方向朝向非驱动端；
- 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 ~ 160.
- ⁵⁾ Without canopy, for protective cover with canopy needed Option code H00.
- ⁶⁾ Cable entry on connection box towards the non-drive.

电机型号 Motor type

1	2	3	4	5	6	7	8
0	<input type="checkbox"/>	V	3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

亚太系列 Asia pacific

机壳材料 Housing material

A = 铝壳 Aluminum; C = 铸铁 Cast iron

冷却方式 Cooling method

V = 空冷 ventilated

能效等级 Energy efficiency grade

3 = 中国能效等级 3 级, IE3 效率等级 3 = China energy efficiency grade 3, IE3 efficiency

机座号 Frame size

08 = 80; 09 = 90; 10 = 100; 11 = 112; 13 = 132; 16 = 160; 18 = 180;

20 = 200; 22 = 225; 25 = 250; 28 = 280; 31 = 315; 35 = 355

铁心长 Core length

极数 Poles

A = 2; B = 4; C = 6; D = 8;

订货号样例:

中国能效等级三级、铸铁低压三相交流电动机

4 极, 15 kW, IM B5, 380 VD/660 VY 50 Hz, IP55, 接线盒位置
处于顶端, 进线孔右侧 (从驱动端看), 带独立驱动风扇。

电动机订货号: 1LE0003-1DB43-3FA4-Z F70

Order No. example:

IE3, Low voltage three phase cast iron motor

4-pole, 15 kW, IM B5, 380 VD/660 VY 50 Hz, IP55, connection
box on top and cable entry at right side (view from DE), with
separately driven fan.

Motor order code: 1LE0003-1DB43-3FA4-Z F70

选型技术数据表 Technical data table

铸铁壳系列电机，Cast Iron Motors

IE3，中国能效等级 3 级

机座号 Frame Size	电动机型号 Motor Type	订货号 Order No.	额定功率 Rated Output	额定功率 (60Hz) Rated Output (60Hz)	额定转速 Rated Speed	效率 (100% 负载) Efficiency at (50HZ) 4/4 load	效率 (75% 负载) Efficiency at (50HZ) 3/4 load	功率因数 Power factor
			kW	kW	r/m	%	%	
3000rpm 2 极 2- pole 220VD/380VY 50HZ								
80M	OCV3082A	1LE0003-0DA22-1 □□□	0.75	0.86	2835	80.7	82.9	0.86
80M	OCV3083A	1LE0003-0DA32-1 □□□	1.1	1.3	2850	82.7	84.0	0.83
90S	OCV3090A	1LE0003-0EA02-1 □□□	1.5	1.75	2870	84.2	84.8	0.86
90L	OCV3094A	1LE0003-0EA42-1 □□□	2.2	2.55	2890	85.9	87.2	0.88
100L	OCV3104A	1LE0003-1AA42-1 □□□	3	3.45	2865	87.1	88.3	0.87
3000rpm 2 极 2- pole 380VD/660VY 50HZ								
112M	OCV3112A	1LE0003-1BA23-3 □□□	4	4.6	2915	88.1	89.6	0.90
132S	OCV3130A	1LE0003-1CA03-3 □□□	5.5	6.3	2930	89.2	90.2	0.89
132S	OCV3131A	1LE0003-1CA13-3 □□□	7.5	8.6	2930	90.1	91.5	0.90
160M	OCV3162A	1LE0003-1DA23-3 □□□	11	12.6	2935	91.2	92.0	0.89
160M	OCV3163A	1LE0003-1DA33-3 □□□	15	17.3	2935	91.9	92.6	0.89
160L	OCV3164A	1LE0003-1DA43-3 □□□	18.5	21.3	2935	92.4	93.0	0.89
180M	OCV3182A	1LE0003-1EA23-3 □□□	22	24.5	2950	92.7	93.0	0.89
200L	OCV3204A	1LE0003-2AA43-3 □□□	30	33.5	2955	93.3	93.4	0.89
200L	OCV3205A	1LE0003-2AA53-3 □□□	37	41.5	2955	93.7	93.9	0.89
225M	OCV3222A	1LE0003-2BA23-3 □□□	45	51	2960	94.0	94.3	0.89
250M	OCV3252A	1LE0003-2CA23-3 □□□	55	62	2975	94.3	94.1	0.89
280S	OCV3280A	1LE0003-2DA03-3 □□□	75	84	2975	94.7	94.8	0.89
280M	OCV3282A	1LE0003-2DA23-3 □□□	90	101	2975	95.0	95.3	0.90
315S	OCV3310A	1LE0003-3AA03-3 □□□	110	123	2985	95.2	95.1	0.90
315M	OCV3312A	1LE0003-3AA23-3 □□□	132	148	2982	95.4	95.3	0.90
315L	OCV3315A	1LE0003-3AA53-3 □□□	160	180	2982	95.6	95.7	0.91
315L	OCV3316A	1LE0003-3AA63-3 □□□	185	207	2978	95.7	95.9	0.92
315L	OCV3317A	1LE0003-3AA73-3 □□□	200	224	2982	95.8	95.9	0.92
355M	OCV3352A	1LE0003-3BA23-3 □□□	220	246	2986	95.8	95.4	0.90
355M	OCV3353A	1LE0003-3BA33-3 □□□	250	280	2985	95.8	95.7	0.90
355L	OCV3355A	1LE0003-3BA53-3 □□□	280	314	2988	95.8	95.7	0.90
355L	OCV3356A	1LE0003-3BA63-3 □□□	315	353	2982	95.8	95.8	0.90

永磁同步电机技术参数表								
	额定电流 Rated current	额定转矩 Rated torque	起动电流 / 额定电流 Starting Current/ Rated current	起动转矩 / 额定转矩 Starting torque/ Rated torque	最大转矩 / 额定转矩 Max torque/Rated torque	转动惯量 Moment of inertia (J)	重量 Weight IMB3	噪声 Noise
	A	Nm	I _{LR} /I _{rated}	T _{LR} /T _{rated}	T _{max} /T _{rated}	kgm ²	kg	L _{pfa} /L _{WA}
3000rpm 2 极 2- pole 220VD/380VY 50HZ								
	1.64	2.5	6.0	2.4	3.0	0.00103	16.0	54/65
	2.45	3.7	6.5	2.6	3.4	0.00129	17.5	54/65
	3.15	5.0	7.0	2.0	3.0	0.00229	23	57/69
	4.4	7.3	7.5	2.8	3.6	0.00305	27	57/69
	6	10.0	7.8	3.3	3.6	0.00446	37	62/74
3000rpm 2 极 2- pole 380VD/660VY 50HZ								
	7.7	13.1	7.8	2.6	3.6	0.0085	45	65/77
	10.5	17.9	7.5	2.3	3.6	0.0175	59	67/79
	14.1	24.4	7.5	2.3	3.6	0.0220	67	67/79
	20.5	35.8	7.5	2.3	3.4	0.0369	97	69/81
	28	48.8	7.5	2.4	3.4	0.0451	108	69/81
	34	60.2	7.8	2.4	3.4	0.0542	123	69/81
	40.5	71.2	7.8	2.4	3.4	0.0835	162	70/83
	55	97.0	7.8	2.4	3.4	0.146	219	71/84
	67	120	7.8	2.4	3.4	0.181	248	71/84
	82	145	7.8	2.4	3.2	0.301	322	72/85
	100	177	7.8	2.6	3.2	0.509	373	75/89
	135	241	7.5	2.8	3.0	0.87	515	77/91
	160	289	7.5	2.8	3.4	1.04	585	77/91
	195	352	7.9	2.3	2.6	1.57	795	78/92
	235	423	7.9	2.3	2.6	1.66	830	78/92
	280	512	7.9	2.3	2.6	1.98	955	78/92
	320	593	8.5	2.3	2.6	2.38	1070	78/92
	345	641	8.5	2.8	3.2	2.38	1080	81/95
	390	704	8.5	2.2	2.8	2.63	1360	85/100
	440	800	8.0	2.2	2.8	2.63	1370	85/100
	495	895	8.5	2.2	2.8	3.23	1600	85/100
	560	1009	8.0	2.2	2.8	3.23	1620	85/100

选型技术数据表 Technical data table

铸铁壳系列电机，Cast Iron Motors

IE3，中国能效等级 3 级

机座号 Frame Size	电动机型号 Motor Type	订货号 Order No.	额定功率 Rated Output	额定功率 (60Hz) Rated Output (60Hz)	额定转速 Rated Speed	效率 (100% 负载) Efficiency at (50HZ) 4/4 load	效率 (75% 负载) Efficiency at (50HZ) 3/4 load	功率因数 Power factor
			kW	kW	r/m	%	%	
1500rpm 4 极 4-pole 220VD/380VY 50HZ								
80M	OCV3082B	1LE0003-0DB22-1 □□□	0.55	0.63	1440	80.8	81.8	0.76
80M	OCV3083B	1LE0003-0DB32-1 □□□	0.75	0.86	1440	82.5	82.9	0.75
90S	OCV3090B	1LE0003-0EB02-1 □□□	1.1	1.3	1430	84.1	85.1	0.79
90L	OCV3094B	1LE0003-0EB42-1 □□□	1.5	1.75	1440	85.3	86.0	0.79
100L	OCV3104B	1LE0003-1AB42-1 □□□	2.2	2.55	1440	86.7	87.1	0.82
100L	OCV3105B	1LE0003-1AB52-1 □□□	3	3.45	1440	87.7	88.1	0.82
1500rpm 4 极 4-pole 380VD/660VY 50HZ								
112M	OCV3112B	1LE0003-1BB23-3 □□□	4	4.6	1450	88.6	89.6	0.82
132S	OCV3130B	1LE0003-1CB03-3 □□□	5.5	6.3	1455	89.6	90.9	0.84
132M	OCV3132B	1LE0003-1CB23-3 □□□	7.5	8.6	1455	90.4	91.7	0.85
160M	OCV3162B	1LE0003-1DB23-3 □□□	11	12.6	1465	91.4	92.4	0.86
160L	OCV3164B	1LE0003-1DB43-3 □□□	15	17.3	1465	92.1	92.9	0.86
180M	OCV3182B	1LE0003-1EB23-3 □□□	18.5	21.3	1470	92.6	93.0	0.83
180L	OCV3184B	1LE0003-1EB43-3 □□□	22	24.5	1470	93.0	93.7	0.83
200L	OCV3204B	1LE0003-2AB43-3 □□□	30	33.5	1475	93.6	94.3	0.84
225S	OCV3220B	1LE0003-2BB03-3 □□□	37	41.5	1482	93.9	94.1	0.85
225M	OCV3222B	1LE0003-2BB23-3 □□□	45	51	1482	94.2	94.2	0.85
250M	OCV3252B	1LE0003-2CB23-3 □□□	55	62	1485	94.6	95.0	0.86
280S	OCV3280B	1LE0003-2DB03-3 □□□	75	84	1485	95.0	95.3	0.86
280M	OCV3282B	1LE0003-2DB23-3 □□□	90	101	1485	95.2	95.6	0.87
315S	OCV3310B	1LE0003-3AB03-3 □□□	110	123	1488	95.4	95.7	0.87
315M	OCV3312B	1LE0003-3AB23-3 □□□	132	148	1488	95.6	95.9	0.87
315L	OCV3315B	1LE0003-3AB53-3 □□□	160	180	1488	95.8	96.1	0.87
315L	OCV3316B	1LE0003-3AB63-3 □□□	185	207	1488	95.9	96.2	0.87
315L	OCV3317B	1LE0003-3AB73-3 □□□	200	224	1490	96.0	96.3	0.88
355M	OCV3352B	1LE0003-3BB23-3 □□□	220	246	1490	96.0	96.0	0.88
355M	OCV3353B	1LE0003-3BB33-3 □□□	250	280	1490	96.0	96.0	0.88
355L	OCV3355B	1LE0003-3BB53-3 □□□	280	314	1490	96.0	96.1	0.88
355L	OCV3356B	1LE0003-3BB63-3 □□□	315	353	1490	96.0	96.1	0.88

	额定电流 Rated current	额定转矩 Rated torque	起动电流 / 额定电流 Starting Current/ Rated current	起动转矩 / 额定转矩 Starting torque/ Rated torque	最大转矩 / 额定转矩 Max torque/Rated torque	转动惯量 Moment of inertia (J)	重量 Weight IMB3	噪声 Noise
	A	Nm	I _{LR} /I _{rated}	T _{LR} /T _{rated}	T _{max} /T _{rated}	kgm ²	kg	L _{pfa} /L _{WA}
1500rpm 4 极 4-pole 220VD/380VY 50HZ								
	1.36	3.6	5.5	2.2	3.2	0.00207	17.0	45/56
	1.84	5.0	6.0	2.6	3.7	0.00242	18.0	45/56
	2.5	7.3	6.5	2.7	3.7	0.00377	23	47/59
	3.4	9.9	6.5	2.8	3.8	0.00484	27	47/59
	4.7	14.6	8.3	3.0	4.0	0.01030	40	52/64
	6.3	19.9	8.3	3.0	4.0	0.01273	44	52/64
1500rpm 4 极 4-pole 380VD/660VY 50HZ								
	8.4	26.3	8.3	3.7	4.6	0.0144	49	53/65
	11.1	36.1	7.8	2.4	3.8	0.0276	66	59/71
	14.8	49.2	7.8	2.4	3.8	0.0345	78	59/71
	21.5	71.7	7.8	2.6	3.8	0.0626	105	61/73
	29	97.8	8.2	2.6	3.8	0.0782	122	61/73
	36.5	120	7.8	2.6	3.6	0.1339	162	63/76
	43.5	143	7.8	2.6	3.6	0.1531	178	63/76
	58	194	7.8	2.6	3.6	0.245	234	63/76
	70	238	8.3	3.0	3.6	0.515	294	65/78
	85	290	8.3	3.0	3.6	0.548	322	65/78
	103	354	7.6	2.6	3.3	0.896	409	66/79
	139	482	7.6	2.8	3.0	1.47	550	66/80
	165	579	7.6	2.8	3.0	1.87	640	66/80
	200	706	7.9	3.0	3.0	2.39	745	74/88
	240	847	7.9	3.0	3.0	3.01	900	74/88
	290	1027	7.9	3.0	3.0	3.33	985	74/88
	335	1187	8.5	3.0	3.0	3.77	1060	74/88
	360	1282	8.5	3.0	3.0	4.13	1110	74/88
	395	1410	8.0	2.0	3.2	4.97	1530	81/95
	450	1602	7.8	1.8	2.9	4.97	1550	81/95
	500	1795	7.8	1.8	2.9	6.52	1680	81/95
	570	2019	8.0	1.8	2.9	7.06	1770	81/95

选型技术数据表 Technical data table

铸铁壳系列电机，Cast Iron Motors

IE3，中国能效等级 3 级

机座号 Frame Size	电动机型号 Motor Type	订货号 Order No.	额定功率 Rated Output	额定功率 (60Hz) Rated Output (60Hz)	额定转速 Rated Speed	效率 (100% 负载) Efficiency at (50HZ) 4/4 load	效率 (75% 负载) Efficiency at (50HZ) 3/4 load	功率因数 Power factor
			kW	kW	r/m	%	%	
1000rpm 6 极 6-pole 220VD/380VY 50HZ								
80M	OCV3083C	1LE0003-0DC32-1 □□□	0.55	0.63	935	77.2	77.5	0.67
90S	OCV3090C	1LE0003-0EC02-1 □□□	0.75	0.86	940	78.9	80.3	0.70
90L	OCV3094C	1LE0003-0EC42-1 □□□	1.1	1.3	945	81.0	81.6	0.69
100L	OCV3104C	1LE0003-1AC42-1 □□□	1.5	1.75	950	82.5	84.1	0.74
112M	OCV3112C	1LE0003-1BC22-1 □□□	2.2	2.55	945	84.3	86.1	0.74
132S	OCV3130C	1LE0003-1CC02-1 □□□	3	3.45	965	85.6	86.6	0.75
1000rpm 6 极 6-pole 380VD/660VY 50HZ								
132M	OCV3132C	1LE0003-1CC23-3 □□□	4	4.6	955	86.8	88.5	0.75
132M	OCV3133C	1LE0003-1CC33-3 □□□	5.5	6.3	960	88.0	89.2	0.76
160M	OCV3162C	1LE0003-1DC23-3 □□□	7.5	8.6	980	89.1	90.4	0.78
160L	OCV3164C	1LE0003-1DC43-3 □□□	11	12.6	980	90.3	90.3	0.77
180L	OCV3184C	1LE0003-1EC43-3 □□□	15	17.3	975	91.2	92.1	0.80
200L	OCV3204C	1LE0003-2AC43-3 □□□	18.5	21.3	978	91.7	92.5	0.80
200L	OCV3205C	1LE0003-2AC53-3 □□□	22	24.5	980	92.2	93.1	0.80
225M	OCV3222C	1LE0003-2BC23-3 □□□	30	33.5	982	92.9	93.9	0.83
250M	OCV3252C	1LE0003-2CC23-3 □□□	37	41.5	985	93.3	94.1	0.84
280S	OCV3280C	1LE0003-2DC03-3 □□□	45	51	988	93.7	94.5	0.84
280M	OCV3282C	1LE0003-2DC23-3 □□□	55	62	988	94.1	94.6	0.84
315S	OCV3310C	1LE0003-3AC03-3 □□□	75	84	990	94.6	95.0	0.84
315M	OCV3312C	1LE0003-3AC23-3 □□□	90	101	990	94.9	95.3	0.84
315L	OCV3315C	1LE0003-3AC53-3 □□□	110	123	991	95.1	95.3	0.85
315L	OCV3316C	1LE0003-3AC63-3 □□□	132	148	991	95.4	95.7	0.85
355M	OCV3352C	1LE0003-3BC23-3 □□□	160	180	994	95.6	95.7	0.84
355M	OCV3353C	1LE0003-3BC33-3 □□□	185	207	993	95.7	95.8	0.84
355M	OCV3354C	1LE0003-3BC43-3 □□□	200	224	993	95.8	95.9	0.84
355L	OCV3355C	1LE0003-3BC53-3 □□□	220	246	993	95.8	96.0	0.84
355L	OCV3356C	1LE0003-3BC63-3 □□□	250	280	992	95.8	96.1	0.84

永磁同步电机技术参数表								
	额定电流 Rated current	额定转矩 Rated torque	起动电流 / 额定电流 Starting Current/ Rated current	起动转矩 / 额定转矩 Starting torque/ Rated torque	最大转矩 / 额定转矩 Max torque/Rated torque	转动惯量 Moment of inertia (J)	重量 Weight IMB3	噪声 Noise
	A	Nm	I _{LR} /I _{rated}	T _{LR} /T _{rated}	T _{max} /T _{rated}	kgm ²	kg	L _{pfa} /L _{WA}
1000rpm 6 极 6-pole 220VD/380VY 50HZ								
	1.62	5.6	5.0	2.6	3.2	0.00298	19.0	44/55
	2.05	7.6	5.0	2.4	3.2	0.00422	24	45/57
	3	11.1	5.5	2.7	3.5	0.00497	27	45/57
	3.75	15.1	5.5	2.5	3.5	0.01107	41	49/61
	5.4	22.2	6.0	2.7	3.4	0.01414	48	53/65
	7.1	29.7	6.0	2.7	4.0	0.02333	59	57/69
1000rpm 6 极 6-pole 380VD/660VY 50HZ								
	9.3	40.0	6.0	2.7	3.4	0.0297	70	57/69
	12.5	54.7	6.5	2.7	4.0	0.0402	84	57/69
	16.4	73.1	7.0	2.7	3.6	0.1197	105	61/73
	24	107	7.0	2.7	3.6	0.1605	129	61/73
	31	147	7.0	2.3	3.0	0.2008	163	59/73
	38.5	181	7.0	2.3	3.0	0.312	212	59/73
	45.5	214	7.0	2.4	3.0	0.356	229	59/73
	59	292	7.6	2.4	3.0	0.740	321	60/74
	72	359	7.6	2.6	3.0	1.26	395	62/76
	87	435	7.8	3.2	3.0	1.45	494	64/78
	106	532	7.8	3.2	3.0	1.77	555	64/78
	143	723	7.8	2.4	3.0	2.75	725	69/83
	172	868	7.8	2.4	3.0	3.34	835	69/83
	205	1060	7.8	2.6	3.0	4.32	1010	69/83
	245	1272	7.8	2.6	3.0	4.62	1050	69/83
	305	1537	8.5	3.0	2.4	10.40	1640	71/85
	350	1779	8.5	3.0	2.4	10.40	1650	71/85
	380	1923	8.5	3.0	2.4	10.87	1700	71/85
	415	2116	8.5	3.0	2.4	12.86	1940	71/85
	470	2407	8.5	3.0	2.4	12.86	1970	71/85

选型技术数据表 Technical data table

铸铁壳系列电机，Cast Iron Motors

IE3，中国能效等级 3 级

机座号 Frame Size	电动机型号 Motor Type	订货号 Order No.	额定功率 Rated Output	额定功率 (60Hz) Rated Output (60Hz)	额定转速 Rated Speed	效率 (100% 负载) Effeciency at (50HZ) 4/4 load	效率 (75% 负载) Effeciency at (50HZ) 3/4 load	功率因数 Power factor	
			kW	kW	r/m	%	%		
750rpm 8 极 8- pole 220VD/380VY 50HZ									
132S	OCV3130D	1LE0003-1CD02-1 □□□	2.2	2.55	725	81.9	82.6	0.73	
132M	OCV3132D	1LE0003-1CD22-1 □□□	3	3.45	720	83.5	84.5	0.74	
750rpm 8 极 8- pole 380VD/660VY 50HZ									
160M	OCV3162D	1LE0003-1DD23-3 □□□	4	4.6	728	84.8	86.4	0.74	
160M	OCV3163D	1LE0003-1DD33-3 □□□	5.5	6.3	732	86.2	87.1	0.74	
160L	OCV3164D	1LE0003-1DD43-3 □□□	7.5	8.6	732	87.3	88.3	0.74	
180L	OCV3184D	1LE0003-1ED43-3 □□□	11	12.6	720	88.6	89.9	0.74	
200L	OCV3205D	1LE0003-2AD53-3 □□□	15	17.3	728	89.6	90.2	0.73	
225S	OCV3220D	1LE0003-2BD03-3 □□□	18.5	21.3	732	90.1	90.9	0.75	
225M	OCV3222D	1LE0003-2BD23-3 □□□	22	24.5	732	90.6	91.5	0.75	
250M	OCV3252D	1LE0003-2CD23-3 □□□	30	33.5	735	91.3	92.1	0.79	
280S	OCV3280D	1LE0003-2DD03-3 □□□	37	41.5	735	91.8	92.8	0.79	
280M	OCV3282D	1LE0003-2DD23-3 □□□	45	51	735	92.2	93.1	0.80	
315S	OCV3310D	1LE0003-3AD03-3 □□□	55	62	738	92.5	93.0	0.81	
315M	OCV3312D	1LE0003-3AD23-3 □□□	75	84	738	93.1	93.6	0.81	
315L	OCV3315D	1LE0003-3AD53-3 □□□	90	101	738	93.4	93.9	0.82	
315L	OCV3316D	1LE0003-3AD63-3 □□□	110	123	738	93.7	94.2	0.82	
355M	OCV3352D	1LE0003-3BD23-3 □□□	132	148	743	94.0	94.5	0.81	
355M	OCV3353D	1LE0003-3BD33-3 □□□	160	180	742	94.3	94.8	0.81	
355L	OCV3355D	1LE0003-3BD53-3 □□□	185	207	742	94.6	95.0	0.82	
355L	OCV3356D	1LE0003-3BD63-3 □□□	200	224	742	94.6	95.0	0.83	

	额定电流 Rated current	额定转矩 Rated torque	起动电流 / 额定电流 Starting Current/ Rated current	起动转矩 / 额定转矩 Starting torque/ Rated torque	最大转矩 / 额定转矩 Max torque/Rated torque	转动惯量 Moment of inertia (J)	重量 Weight IMB3	噪声 Noise
	A	Nm	I _{LR} /I _{rated}	T _{LR} /T _{rated}	T _{max} /T _{rated}	kgm ²	kg	L _{pfa} /L _{WA}
750rpm 8 极 8- pole 220VD/380VY 50HZ								
	5.6	29	5.5	1.8	3.0	0.0470	59	51/64
	7.4	39.8	5.5	1.8	3.0	0.0615	71	51/64
750rpm 8 极 8- pole 380VD/660VY 50HZ								
	9.7	52.5	5.5	1.7	2.8	0.0759	86	55/68
	13.1	71.8	6.0	1.7	3.0	0.1002	98	55/68
	17.6	97.8	6.0	1.8	3.0	0.1277	115	55/68
	25.5	146	5.5	2.0	3.0	0.2540	180	60/73
	35	197	6.5	2.5	3.5	0.411	245	61/74
	41.5	241	6.5	2.0	3.0	0.564	262	58/72
	49	287	6.5	2.0	2.5	0.595	286	58/72
	63	390	6.5	2.0	3.0	0.91	354	67/80
	78	481	5.5	2.4	2.5	1.17	455	69/82
	93	585	6.0	2.4	2.5	1.73	555	69/82
	112	710	6.2	1.8	2.9	2.09	630	70/83
	151	970	6.7	1.8	2.5	2.60	735	70/83
	179	1165	5.9	1.8	2.3	3.31	860	70/83
	220	1418	7.1	2.3	3.0	4.13	975	70/83
	265	1699	7.1	2.2	2.4	8.14	1440	77/90
	320	2059	7.1	2.2	2.4	9.53	1560	77/90
	360	2382	7.1	2.0	2.1	11.30	1810	77/90
	385	2576	7.4	2.0	2.1	12.70	1940	77/90

选型技术数据表 Technical data table

铝壳系列电机 Aluminum Motors

IE3，中国能效等级 3 级

机座号 Frame Size	电动机型号 Motor Type	订货号 Order No.	额定功率 Rated Output	额定功率 (60Hz) Rated Output (60Hz)	额定转速 Rated Speed	效率(100% 负载) Effeciency at (50HZ) 4/4 load	效率(75% 负载) Effeciency at (50HZ) 3/4 load	功率因数 Power factor
			kW	kW	r/m	%	%	
3000rpm 2 极 2- pole 220VD/380VY 50HZ								
80M	OAV3082A	1LE0303-0DA22-1 □□□	0.75	0.86	2835	80.7	82.9	0.86
80M	OAV3083A	1LE0303-0DA32-1 □□□	1.1	1.3	2850	82.7	84.0	0.83
90S	OAV3090A	1LE0303-0EA02-1 □□□	1.5	1.75	2870	84.2	84.8	0.86
90L	OAV3094A	1LE0303-0EA42-1 □□□	2.2	2.55	2890	85.9	87.2	0.88
100L	OAV3104A	1LE0303-1AA42-1 □□□	3	3.45	2865	87.1	88.3	0.87
380VD/660VY 50HZ								
112M	OAV3112A	1LE0303-1BA23-3 □□□	4	4.6	2915	88.1	89.6	0.90
132S	OAV3130A	1LE0303-1CA03-3 □□□	5.5	6.3	2930	89.2	90.2	0.89
132S	OAV3131A	1LE0303-1CA13-3 □□□	7.5	8.6	2930	90.1	91.5	0.90
160M	OAV3162A	1LE0303-1DA23-3 □□□	11	12.6	2935	91.2	92.0	0.89
160M	OAV3163A	1LE0303-1DA33-3 □□□	15	17.3	2935	91.9	92.6	0.89
160L	OAV3164A	1LE0303-1DA43-3 □□□	18.5	21.3	2935	92.4	93.0	0.89
1500rpm 4 极 4-pole 220VD/380VY 50HZ								
80M	OAV3082B	1LE0303-0DB22-1 □□□	0.55	0.63	1440	80.8	81.8	0.76
80M	OAV3083B	1LE0303-0DB32-1 □□□	0.75	0.86	1440	82.5	82.9	0.75
90S	OAV3090B	1LE0303-0EB02-1 □□□	1.1	1.3	1430	84.1	85.1	0.79
90L	OAV3094B	1LE0303-0EB42-1 □□□	1.5	1.75	1440	85.3	86.0	0.79
100L	OAV3104B	1LE0303-1AB42-1 □□□	2.2	2.55	1440	86.7	87.1	0.81
100L	OAV3105B	1LE0303-1AB52-1 □□□	3	3.45	1440	87.7	88.1	0.81
380VD/660VY 50HZ								
112M	OAV3112B	1LE0303-1BB23-3 □□□	4	4.6	1450	88.6	89.6	0.81
132S	OAV3130B	1LE0303-1CB03-3 □□□	5.5	6.3	1455	89.6	90.9	0.84
132M	OAV3132B	1LE0303-1CB23-3 □□□	7.5	8.6	1455	90.4	91.7	0.85
160M	OAV3162B	1LE0303-1DB23-3 □□□	11	12.6	1465	91.4	92.4	0.86
160L	OAV3164B	1LE0303-1DB43-3 □□□	15	17.3	1465	92.1	92.9	0.86

Performance Data Sheet								
	额定电流 Rated current	额定转矩 Rated torque	起动电流 / 额定电流 Starting Current/ Rated current	起动转矩 / 额定转矩 Starting torque/ Rated torque	最大转矩 / 额定转矩 Max torque/Rated torque	转动惯量 Moment of inertia (J)	重量 Weight IMB3	噪声 Noise
	A	Nm	I _{LR} /I _{rated}	T _{LR} /T _{rated}	T _{max} /T _{rated}	kgm ²	kg	L _{pfa} /L _{WA}
3000rpm 2 极 2- pole 220VD/380VY 50HZ								
	1.64	2.5	6.0	2.4	3.0	0.00208	12.0	54 / 65
	2.45	3.7	6.5	2.6	3.4	0.00154	14.0	54 / 65
	3.15	5.0	7	2.0	3.0	0.00276	17.5	58 / 70
	4.40	7.3	7.5	2.8	3.6	0.00356	21.5	58 / 70
	6.0	10.0	7.8	3.3	3.6	0.00462	29	60 / 72
380VD/660VY 50HZ								
	7.7	13.1	7.8	2.6	3.6	0.0088	37	62 / 74
	10.5	17.9	7.5	2.3	3.6	0.0185	48	65 / 77
	14.1	24.4	7.5	2.3	3.6	0.0232	56	65 / 77
	20.5	35.8	7.5	2.3	3.4	0.039	83	69 / 81
	28	48.8	7.5	2.4	3.4	0.0472	93	69 / 81
	34	60.2	7.8	2.4	3.4	0.0577	108	69 / 81
1500rpm 4 极 4-pole 220VD/380VY 50HZ								
	1.36	3.6	5.5	2.2	3.2	0.00216	13.0	45 / 56
	1.84	5.0	6.0	2.6	3.7	0.00250	14.0	45 / 56
	2.50	7.3	6.5	2.7	3.7	0.00389	18.0	47 / 59
	3.40	9.9	6.5	2.8	3.8	0.00499	22	47 / 59
	4.75	14.6	8.3	3.0	4.0	0.01125	31	52 / 64
	6.4	19.9	8.3	3.0	4.0	0.01313	36	52 / 64
380VD/660VY 50HZ								
	8.5	26.3	8.3	3.7	4.6	0.0149	41	53 / 65
	11.1	36.1	7.8	2.4	3.8	0.0285	55	59 / 71
	14.8	49.2	7.8	2.4	3.8	0.0356	65	59 / 71
	21.5	71.7	7.8	2.6	3.8	0.0648	91	61 / 73
	29	97.8	8.2	2.6	3.8	0.0811	107	61 / 73

选型技术数据表 Technical data table

铝壳系列电机 Aluminum Motors

IE3，中国能效等级 3 级

机座号 Frame Size	电动机型号 Motor Type	订货号 Order No.	额定功率 Rated Output	额定功率 (60Hz) Rated Output (60Hz)	额定转速 Rated Speed	效率(100% 负载) Effeciency at (50HZ) 4/4 load	效率(75% 负载) Effeciency at (50HZ) 3/4 load	功率因数 Power factor
			kW	kW	r/m	%	%	
1000rpm 6 极 6-pole 220VD/380VY 50HZ								
80M	0AV3083C	1LE0303-0DC32-1 □□□	0.55	0.63	935	77.2	77.5	0.67
90S	0AV3090C	1LE0303-0EC02-1 □□□	0.75	0.86	940	78.9	80.3	0.70
90L	0AV3094C	1LE0303-0EC42-1 □□□	1.1	1.3	945	81.0	81.6	0.69
100L	0AV3104C	1LE0303-1AC42-1 □□□	1.5	1.75	950	82.5	84.1	0.74
112M	0AV3112C	1LE0303-1BC22-1 □□□	2.2	2.55	945	84.3	86.1	0.74
132S	0AV3130C	1LE0303-1CC02-1 □□□	3	3.45	965	85.6	86.6	0.75
380VD/660VY 50HZ								
132M	0AV3132C	1LE0303-1CC23-3 □□□	4	4.6	955	86.8	88.5	0.75
132M	0AV3133C	1LE0303-1CC33-3 □□□	5.5	6.3	960	88.0	89.2	0.76
160M	0AV3162C	1LE0303-1DC23-3 □□□	7.5	8.6	980	89.1	90.4	0.78
160L	0AV3164C	1LE0303-1DC43-3 □□□	11	12.6	980	90.3	90.3	0.77
750rpm 8 极 8-pole 220VD/380VY 50HZ								
132S	0AV3130D	1LE0303-1CD02-1 □□□	2.2	2.55	725	81.9	82.6	0.73
132M	0AV3132D	1LE0303-1CD22-1 □□□	3	3.45	720	83.5	84.5	0.74
380VD/660VY 50HZ								
160M	0AV3162D	1LE0303-1DD23-3 □□□	4	4.6	728	84.8	86.4	0.74
160M	0AV3163D	1LE0303-1DD33-3 □□□	5.5	6.3	732	86.2	87.1	0.74
160L	0AV3164D	1LE0303-1DD43-3 □□□	7.5	8.6	732	87.3	88.3	0.74

永磁同步电机技术参数表									
	额定电流 Rated current	额定转矩 Rated torque	起动电流 / 额定电流 Starting Current/ Rated current	起动转矩 / 额定转矩 Starting torque/ Rated torque	最大转矩 / 额定转矩 Max torque/Rated torque	转动惯量 Moment of inertia (J)	重量 Weight IMB3	噪声 Noise	
A	Nm	I _{LR} /I _{rated}	T _{LR} /T _{rated}	T _{max} /T _{rated}		kgm ²	kg	L _{pfa} /L _{WA}	
		1000rpm 6 极 6-pole 220VD/380VY 50HZ							
1.62	5.6	5.0	2.6	3.2	0.00310	15.5	44 / 55		
2.05	7.6	5.0	2.4	3.2	0.00436	19.0	45 / 57		
3.00	11.1	5.5	2.7	3.5	0.00513	22	45 / 57		
3.75	15.2	5.5	2.5	3.5	0.01136	33	49 / 61		
5.4	22.2	6.0	2.7	3.4	0.01451	39	53 / 65		
7.1	29.7	6.0	2.7	4.0	0.02666	46	57 / 69		
		380VD/660VY 50HZ							
9.3	40.0	6.0	2.7	3.4	0.0305	57	57 / 69		
12.5	54.7	6.5	2.7	4.0	0.0413	69	57 / 69		
16.4	73.1	7.0	2.7	3.6	0.126	81	61 / 73		
24	107	7.0	2.7	3.6	0.1717	100	61 / 73		
		750rpm 8 极 8-pole 220VD/380VY 50HZ							
5.6	29	5.5	1.8	3.0	0.0470	57	51 / 64		
7.4	39.8	5.5	1.8	3.0	0.0615	69	51 / 64		
		380VD/660VY 50HZ							
9.7	52.5	5.5	1.7	2.8	0.0759	63	55 / 68		
13.1	71.8	6.0	1.7	3.0	0.1002	74	55 / 68		
17.6	97.8	6.0	1.8	3.0	0.1277	113	55 / 68		

选件 Options

电动机订货号 Motor order code	选件号 Option Code ¹⁾	描述 Description	应用范围 Application Scope
电压与频率 Voltages and frequency			
1LE0□03-□□□□□2-1□□□	—	220 VD / 380 VY 50 Hz (0.55 kW ~ 3 kW ²⁾)	FS80 ~ 280
1LE0□03-□□□□□3-3□□□	—	380 VD / 660 VY 50 Hz (4 kW ~ 315 kW ²⁾)	FS80 ~ 355
1LE0□03-□□□□□2-2□□□	—	230 VD / 400 VY 50 Hz	FS80 ~ 280
1LE0□03-□□□□□3-4□□□	—	400 VD / 690 VY 50 Hz	FS80 ~ 355
1LE0□03-□□□□□2-3□□□	—	240 VD / 415 VY 50 Hz	FS80 ~ 280
1LE0□03-□□□□□0-4□□□	—	400 VD 50 Hz	FS80 ~ 355
1LE0□03-□□□□□3-5□□□	—	415 VD 50 Hz	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M1A	220 VD / 380 VY 60 Hz (60 Hz output) 60 Hz 输出	FS80 ~ 280
1LE0□03-□□□□□9-0□□□	M1B	380 VD / 660 VY 60 Hz (60 Hz output) 60 Hz 输出	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M1C	440 VY 60 Hz (60 Hz output) 60Hz 输出	FS80 ~ 280
1LE0□03-□□□□□9-0□□□	M1D	440 VD 60 Hz (60 Hz output) 60Hz 输出	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M1E	460 VY 60 Hz (60 Hz output) 60 Hz 输出	FS80 ~ 280
1LE0□03-□□□□□9-0□□□	M1F	460 VD 60 Hz (60 Hz output) 60 Hz 输出	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M2A	220 VD/380 VY 60 Hz (50 Hz output, 50 Hz 功率输出)	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M2B	380 VD/660 VY 60 Hz (50 Hz output, 50 Hz 功率输出)	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M2C	440 VY 60 Hz (50 Hz output, 50 Hz 功率输出)	FS80 ~ 280
1LE0□03-□□□□□9-0□□□	M2D	440 VD 60 Hz (50 Hz output, 50 Hz 功率输出)	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M2E	460 VY 60 Hz (50 Hz output, 50 Hz 功率输出)	FS80 ~ 280
1LE0□03-□□□□□9-0□□□	M2F	460 VD 60 Hz (50 Hz output, 50 Hz 功率输出)	FS80 ~ 355
1LE0□03-□□□□□9-0□□□	M1K	480 VY 60 Hz (60 Hz output) 60 Hz 输出	FS80 ~ 280
1LE0□03-□□□□□9-0□□□	M1L	480 VD 60 Hz (60 Hz output) 60 Hz 输出	FS80 ~ 355
绕组保护 Motor protection			
1LE0□03-□□□□□-□□A□ ²⁾	—	无绕组保护 Without motor protection	FS80 ~ 355
1LE0□03-□□□□□-□□B□	—	绕组带一组三芯串联的 PTC 热敏电阻用于跳闸 Motor protection with PTC thermistors with three embedded temperature sensors for tripping	FS80 ~ 355

电动机订货号 Motor order code	选件号 Option Code ¹⁾	描述 Description	应用范围 Application Scope
绕组保护 Motor protection			
1LE0□03-□□□□□-□□C□	—	绕组带两组三芯串联的 PTC 热敏电阻用于报警和跳闸 Motor protection with PTC thermistors with six embedded temperature sensors for alarm & tripping	FS80 ~ 355
1LE0□03-□□□□□-□□K□	—	绕组带 1 个单支两线制 PT1000 测温元件 Installation of 1 single 2 wires PT1000 resistance thermometers	FS100 ~ 355
1LE0□03-□□□□□-□□H□	—	绕组带 3 个 Pt100 测温元件 Installation of three PT100 resistance thermometers	FS80 ~ 355
1LE0□03-□□□□□-□□J□	—	绕组带 6 个 Pt100 测温元件 Installation of six PT100 resistance thermometers	FS80 ~ 355
线圈和绝缘 Windings and insulation			
—	N01	温度等级 155 (F) , 使用 155 (F) , 带有服务系数 (SF1.15) Temperature class 155 (F), used according to 155 (F), with service factor (SF1.15)	FS80 ~ 355
—	N10	180 (H) 度温度等级绝缘 Temperature class 180 (H)	FS80 ~ 355
—	Q04	绕组带 220 V 防潮加热带 Anti-condensation heater for 220 V AC (spaces heater)	FS80 ~ 355
电动机接线盒 Motor connection box			
1LE0□0□-□□□□□-□□□4 ²⁾	—	接线盒在顶端 Connection box on top 进线孔在右侧 (从驱动端看) (标准电动机) cable entry on right (view from DE) (Standard version)	FS80 ~ 355
1LE0□0□-□□□□□-□□□5	—	接线盒在右边 (从驱动端看) Connection box on RHS (view from DE)	FS80 ~ 355
1LE0□0□-□□□□□-□□□6	—	接线盒在左边 (从驱动端看) Connection box on LHS (view from DE)	FS80 ~ 355
—	R10 ³⁾	接线盒直接旋转 90°, 进线口朝向驱动端 Rotation of the connection box through 90°, entry from DE	FS80 ~ 355
—	R11	接线盒直接旋转 90°, 进线口朝向非驱动端 Rotation of the connection box through 90°, entry from NDE	FS80 ~ 355
—	R12	接线盒直接旋转 180° Rotation of the connection box through 180°	FS80 ~ 355
—	H08	接线盒在非驱动端 Connection box on NDE	FS80 ~ 355
—	L97	辅助接线盒 Additional connection box	FS200 ~ 355

选件 Options

电动机订货号 Motor order code	选件号 Option Code ¹⁾	描述 Description	应用范围 Application Scope
轴承 Bearings			
—	L80	SKF 轴承 SKF Bearing	FS80 ~ 355
—	L22 ⁴⁾	增强悬臂力轴承设计 Bearing design for increased cantilever forces	FS100 ~ 355
—	L20	驱动端轴承固定 Located bearing at DE	FS80 ~ 160
—	L23 ⁵⁾	再润滑装置 Regreasing device	FS100 ~ 250
—	Q72	轴承带 2 个单支双线制 PT100 测温元件，需用 4 个辅助接线端子 Installation of 2 single 2 wires PT100 resistance thermometers for bearings, need 4 terminals	FS180 ~ 355
—	L27 ⁶⁾	绝缘轴承 Insulated bearing	FS250 ~ 355
—	L51	非驱动端轴承绝缘 Bearing insulation NDE	FS250 ~ 355
—	Q01	驱动端预留 SPM 测量接头 Measuring nipple for SPM shock pulse at DE measurement for bearing inspection	FS100 ~ 355
平衡 Balance and vibration quantity			
—	L00 ¹⁶⁾	B 级振动等级 Vibration quantity level B	FS80 ~ 355
机械设计和防护等级 Mechanical design and degrees of protection			
—	L05 ^{7) 8)}	第二标准轴伸 Second standard shaft extension	FS80 ~ 355
—	H00 ⁹⁾	电动机带防护罩 Motor with protective cover	FS80 ~ 355
—	H03 ¹⁰⁾	冷凝水排放孔 Condensation drainage holes	FS80 ~ 355
—	H04	外部接地 External earthing	FS80 ~ 280
—	H22	IP56 防护等级（非高海况） IP56 degree of protection (non-heavy-sea)	FS80 ~ 355
模块化技术 Modular technology			
—	F70 ¹¹⁾	IC 416 冷却方式（非自冷），电动机带独立驱动风扇 Mounting of separately driven fan	FS80 ~ 355
—	F90 ¹²⁾	风机电机（无风扇和风扇罩，非驱动端全封闭） Fan motor (Without fan and fan cover, NDE closed)	FS80 ~ 355
—	F76	金属风扇 Metal fan	FS80 ~ 355
—	X05	预留安装 LL861900220 编码器位置 Prepared for of LL861900220 encoder	FS112 ~ 355
—	G04	安装编码器 LL861900220 Mounting of LL861900220 rotary pulse encoder	FS112 ~ 355
—	X50 ¹³⁾	安装欧姆龙编码器（E6B2-CWZ6C-1024）和独立驱动风扇 Mounting of Omron rotary pulse encoder (E6B2-CWZ6C-1024) and separately driven fan	FS80 ~ 355
—	W74 ¹⁴⁾	安装欧姆龙编码器（E6B2-CWZ1X-1024）和独立驱动风扇 Mounting of Omron encoder (E6B2-CWZ1X-1024) and separated driven fan	FS80 ~ 355

电动机订货号 Motor order code	选件号 Option Code ¹⁾	描述 Description	应用范围 Application Scope
铭牌和测试证书 Rating plate and test certificates			
—	B02	出厂检验报告 Acceptance test certificate 3.1 in accordance with EN 10204	FS80 ~ 355
喷漆 Paint finish			
—	S01 ¹⁶⁾	不喷漆, 只带底漆 Unpainted, only primed	FS80 ~ 355
—	S80	标准喷漆, 颜色为 RAL 7032 Standard finish in RAL 7032	FS80 ~ 355
—	S81	标准喷漆, 颜色为 RAL 9006 Standard finish in RAL 9006	FS80 ~ 355
—	W88 ¹⁵⁾	适用 TH, W, F1, WF1 以及海洋性气候环境用电机 Design for TH, W, F1, WF1 and Sea air resistant	FS80 ~ 355
环境温度 Coolant temperature			
—	D03 ¹⁶⁾	用于环境温度 -40 °C ~ +40 °C 下使用的电机 Coolant temperature -40 °C to + 40 °C	FS80 ~ 355

¹⁾ 订货时, 电动机订货号需带“-Z”, 另外附带上选件号;

²⁾ 无需附加费用;

³⁾ 对于 FS80 ~ 112 电动机只有接线盒在非驱动端 (选件号: H08) 时, 才可以选此选件;

⁴⁾ 对于立式安装的 FS250 ~ FS355 电动机, 需要特殊咨询西门子;

⁵⁾ 对于 FS280, FS315 和 FS355, 加排油装置是标配;

⁶⁾ 只有当 FS355 立式安装, 后端是角接触轴承时, 绝缘轴承放置在驱动端; 其他情况均在非驱动端;

⁷⁾ 带防雨罩或独立驱动风扇的电动机不能选此选件;

⁸⁾ 非驱动端上的第二轴尺寸与驱动端轴伸不一致;

⁹⁾ 仅适用于 IM V5、IM V1、IMV15 以及 IM V18 安装结构型式。无法与选件号 L05 并用;

¹⁰⁾ 适用于水平安装电机; 对于立式安装的电机, 请向西门子咨询。电动机安装排水孔时, 需在购买电动机时注明其具体安装方式;

¹¹⁾ 当安装独立风机时, 电动机的长度将增加 ΔL 。具体的增加尺寸和技术数据请查看独立驱动风扇技术参数表;

¹²⁾ 无风扇和风罩时, 电动机的长度将减小 Δl 。按照铭牌上功率数值输出时, 电动机必须有外部冷却。客户应当采用正确的冷却方式, 没有或错误的冷却方式都将减少电动机的使用寿命, 甚至会损坏电动机;

¹³⁾ SINAMICS 变频器联结 Omron 编码器 (E6B2-CWZ6C-1024) 时, 变频器需要一些特殊配置。详细信息, 请咨询西门子热线;

¹⁴⁾ SINAMICS 变频器可以直接与 Omron 编码器 (E6B2-CWZ1X-1024) 联结;

¹⁵⁾ 可用于室内、或暴露环境中的的室外安装, 也可用于含有中等浓度 SO₂ 的工业环境中, 并可用于海洋性气候环境中, 但不适用于海上的应用;

¹⁶⁾ 不适用于 1LE0 铝壳电动机。

¹⁾ Order No. supplement Z with option code when ordering;

²⁾ Without additional charge;

³⁾ For FS80 ~ 112 motor, R10 only in combination with Option code H08 (Connection box on NDE) possible;

⁴⁾ For vertical mounting of FS250~FS355 motor, please specially consult with Siemens;

⁵⁾ FS280, FS315 and FS355 motor with the regrease device as standard;

⁶⁾ Only for FS355 with vertical mounting, insulated bearing located at DE. Otherwise insulated bearing located at NDE;

⁷⁾ Not possible in combination with canopy or separately driven fan (Order code: F70);

⁸⁾ Second standard shaft extension on NDE has allowed output from the next smaller frame size;

⁹⁾ Only applicable for the construction type IM V5, IM V1, IM V15 and IM V18. Not possible in combination with Option code L05;

¹⁰⁾ Applicable to motor of horizontal mounting. If vertical mounting motor required to be with condensation drainage holes, please inquiry Siemens specially. If condensation drainage holes are required, it is necessary to order the motors in their respective type of construction;

¹¹⁾ When the separately driven fan is mounted, the length of the motor increase by ΔL . For an explanation of the additional dimension please refer to technical data for separately fan;

¹²⁾ Without fan and fan cover, the length of the motor is decrease by Δl . By using the power output of rating plate, the motor must have external cooling by air flow. The correct motor cooling is in responsibility of customer. Missing or wrong cooling reduce the life time or damaged the motor;

¹³⁾ When SINAMICS inverter is connected with Omron encoder (E6B2-CWZ6C-1024), additional configuration on inverter is needed. For detailed information, please contact with Siemens hotline;

¹⁴⁾ Omron encoder (E6B2-CWZ1X-1024) can be directly connected with SINAMICS inverter;

¹⁵⁾ Recommended for indoor or outdoor installations exposed to direct weather conditions. Industrial environment with moderate SO₂, inshore maritime climate but not offshore;

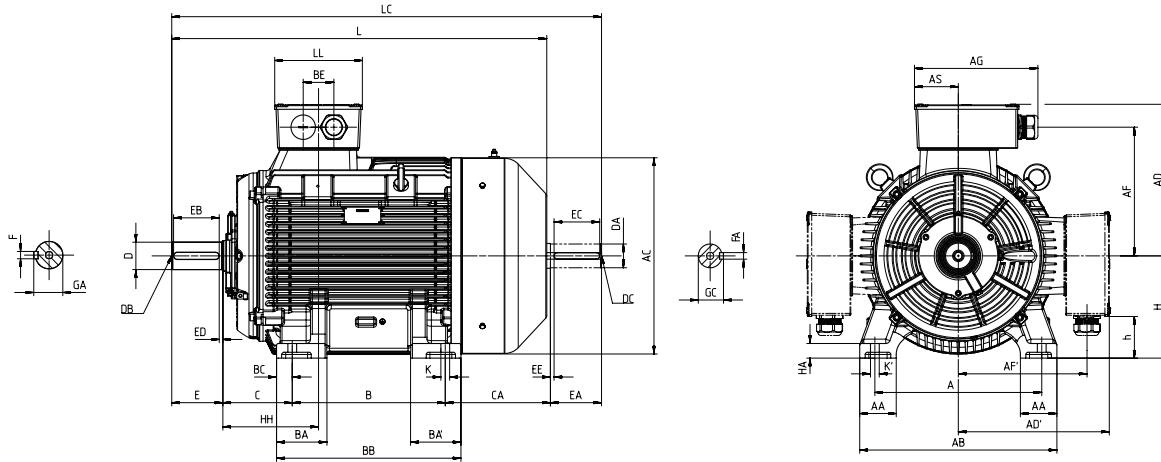
¹⁶⁾ Not applicable for 1LE0 Al motors.

外形尺寸 Dimension drawings

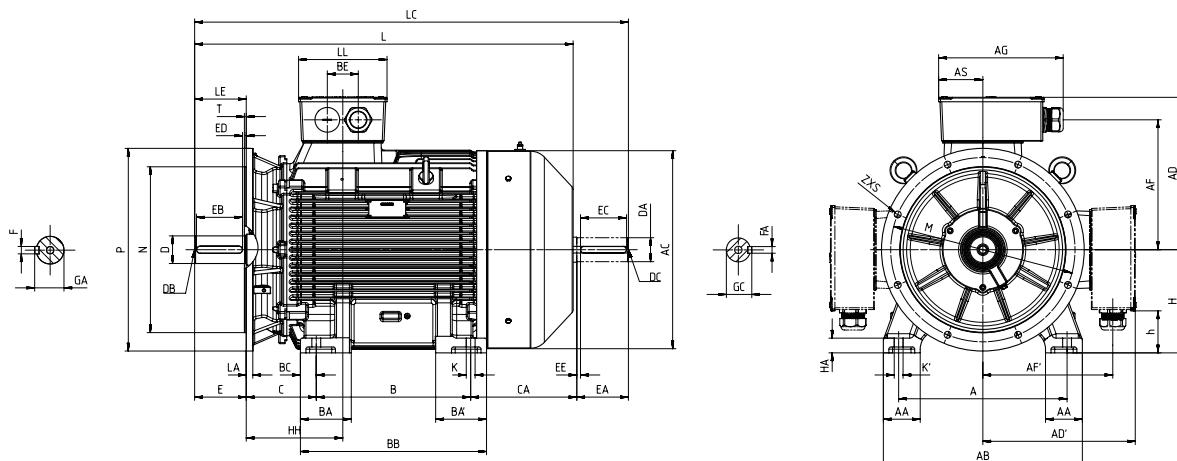
1LE0003、1LE0303 系列电机

机座号从 80M ~ 180L Frame sizes 80 M to 180L

IM B3 安装结构方式 Type of construction IM B3



IM B35 安装结构方式 Type of construction IM B35



机座号 Frame size	类型 Type 1LE0003-	极数 poles	尺寸图依据 IEC 标准 Dimension designation according to IEC standards																	
			A	AA	AB	AC ¹⁾	AD/AD'	AF/AF'	AG	AH	AS	B ²⁾	BA	BA'	BB	BC	BE	C	CA ³⁾	
80 M	OD □ 2	2,4	125	36	160	166	145	112	145	-	65.5	100	44	44	135	17.5	42	50/90 ³⁾	143	
	OD □ 3	2,4,6	125	36	160	166	145	112	145	-	65.5	100	44	44	135	17.5	42	50/90 ³⁾	143	
90 S	OE □ 0	2,4,6	140	36	175	184	155	120	145	262	65.5	100	46	46	140	20	42	56/106 ³⁾	140	
90 L	OE □ 4	2,4,6	140	36	175	184	155	120	145	262	65.5	125	46	46	165	20	42	56/106 ³⁾	165	
100 L	1A □ 4	2,4,6	160	40	200	205	180	142	163	276	70	140	45	45	176	18	54	63/148 ³⁾	203.5	
	1A □ 5	4	160	40	200	205	180	142	163	276	70	140	45	45	176	18	54	63/148 ³⁾	203.5	
112 M	1B □ 2	2,4,6	190	45	226	230	188.5	152	163	304	70	140	50	50	180	20	54	70/125 ³⁾	182	
132 S	1C □ 0	2,4,6,8	216	50	256	268	218	177	160	342	69	140	64	64	186	23	54	89/139 ³⁾	203	
	1C □ 1	2	216	50	256	268	218	177	160	342	69	140	64	64	186	23	54	89/139 ³⁾	203	
132 M	1C □ 2	4,6,8	216	50	256	268	218	177	160	342	69	178	64	64	224	23	54	89/146 ³⁾	220	
	1C □ 3	6,8	216	50	256	268	218	177	160	342	69	178	64	64	224	23	54	89/146 ³⁾	220	
160 M	1D □ 2	2,4,6,8	254	60	314	324	260	208	225	426	94	210	70	70	258	24	68	108/112 ³⁾	193	
	1D □ 3	2	254	60	314	324	260	208	225	426	94	210	70	70	258	24	68	108/112 ³⁾	193	
160 L	1D □ 4	2,4,6,8	254	60	314	324	260	208	225	426	94	254	70	70	302	24	68	108/108 ³⁾	190	
	1E □ 2	2,4	279	65/66 ⁴⁾	339	368	275	223	231	472	94	241	80/53 ⁴⁾	80/87 ⁴⁾	301/328 ⁴⁾	30/26 ⁴⁾	68	121/124 ³⁾	228	
180 L	1E □ 4	4,6,8	279	65/66 ⁴⁾	339	368	275	223	231	472	94	279	80/53 ⁴⁾	80/87 ⁴⁾	339/328 ⁴⁾	30/26 ⁴⁾	68	121/112 ³⁾	216	

¹⁾ 包含螺栓头的尺寸。

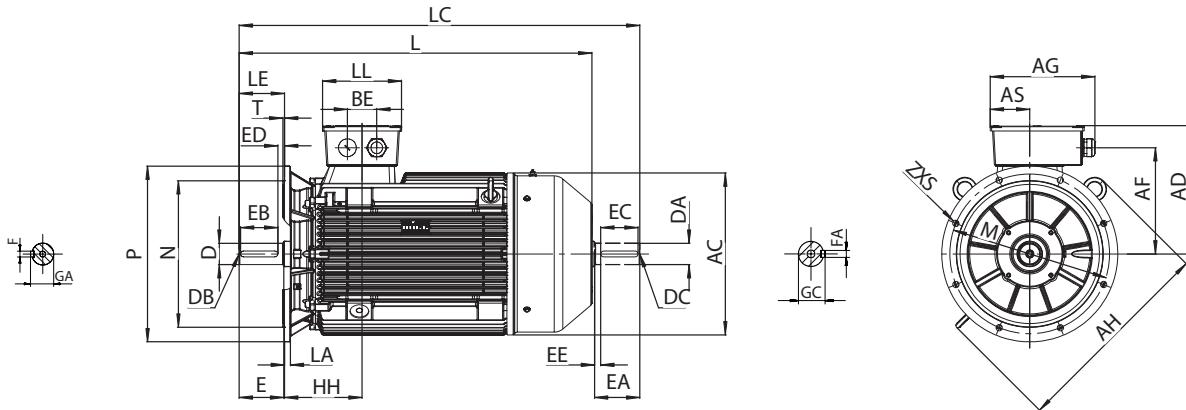
²⁾ 该尺寸为 DIN EN 50347 标准所列机座号对应尺寸。

³⁾ 仅适用于配置 H08 选件的电机。

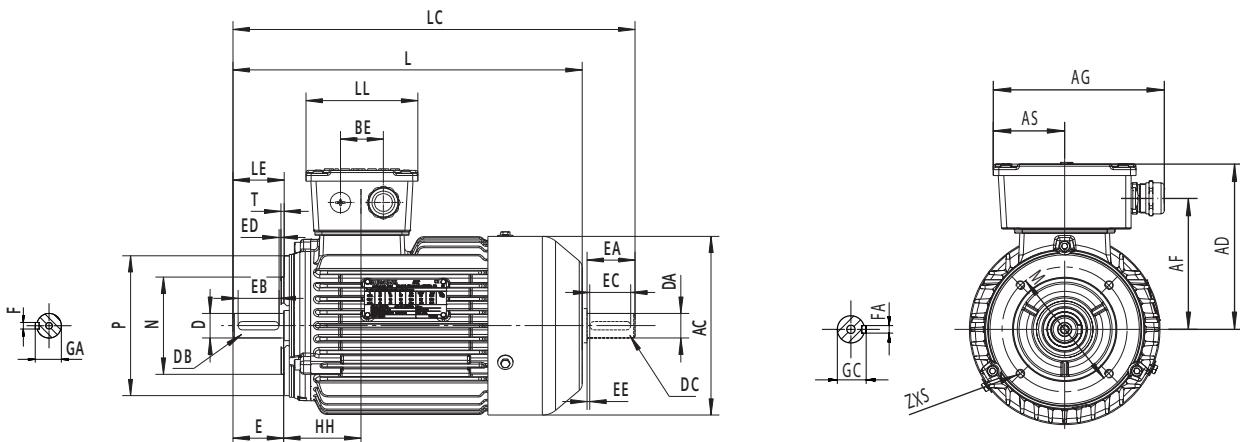
⁴⁾ 仅适用于左出线的电机。

⁵⁾ 此尺寸为 1LE0303 对应尺寸。

IM B5 以及 IM V1 安装方式 Type of construction IM B5 and IM V1



IM B14 安装方式 Type of construction IM B14



H	h	HA	HH	K/K'	K/K ⁵⁾	L	LC	LL	驱动端轴伸直径 DE shaft extensiion							非驱动端轴伸 (选件号为 L05) NDE shaft extension (option code L05)						
									D	DB	E	EB	ED	F	GA	DA	DC	EA	EC	EE	FA	GC
80	36	10	76	10	10/14	335	363	109	19	M6x16	40	32	4	6	21.5	14	M5x12.5	30	22	4	5	16
80	36	10	76	10	10/14	335	363	109	19	M6x16	40	32	4	6	21.5	14	M5x12.5	30	22	4	5	16
90	24.5	10	76	10	10/14	370	411	109	24	M8x19	50	40	5	8	27	19	M6x16	40	32	4	6	21.5
90	24.5	10	76	10	10/14	395	436	109	24	M8x19	50	40	5	8	27	19	M6x16	40	32	4	6	21.5
100	42	12	93.5	12	12/16	465	516.5	116	28	M10x22	60	50	5	8	31	24	M8x19	50	40	5	8	27
100	42	12	93.5	12	12/16	465	516.5	116	28	M10x22	60	50	5	8	31	24	M8x19	50	40	5	8	27
112	42	15	92	12	12/16	455	504.5	118	28	M10x22	60	50	5	8	31	24	M8x19	50	40	5	8	27
132	62	15	121.5	12	12/16	510/520 ⁵⁾	572/582 ⁵⁾	116	38	M12x28	80	70	5	10	41	28	M10x22	60	50	5	8	31
132	62	15	121.5	12	12/16	510/520 ⁵⁾	572/582 ⁵⁾	116	38	M12x28	80	70	5	10	41	28	M10x22	60	50	5	8	31
132	62	15	121.5	12	12/16	565	627	116	38	M12x28	80	70	5	10	41	28	M10x22	60	50	5	8	31
132	62	15	121.5	12	12/16	565	627	116	38	M12x28	80	70	5	10	41	28	M10x22	60	50	5	8	31
160	66	20	159	15	15/19	620	701	158	42	M16x36	110	100	5	12	45	38	M12x28	80	70	5	10	41
160	66	20	159	15	15/19	620	701	158	42	M16x36	110	100	5	12	45	38	M12x28	80	70	5	10	41
160	66	20	159	15	15/19	660/680 ⁵⁾	742/761 ⁵⁾	158	42	M16x36	110	100	5	12	45	38	M12x28	80	70	5	10	41
180	86	22/20 ⁴⁾	158	15	-	695	815	158	48	M16x36	110	100	5	14	51.5	42	M16x36	110	90	10	12	45
180	86	22/20 ⁴⁾	158	15	-	725	840	158	48	M16x36	110	100	5	14	51.5	42	M16x36	110	90	10	12	45

¹⁾ Measured across the bolt heads.

²⁾ This dimension is assigned in DIN EN 50347 to the frame size listed.

³⁾ Only for the motor configured with H08 option.

⁴⁾ Only for motor terminal box on left side.

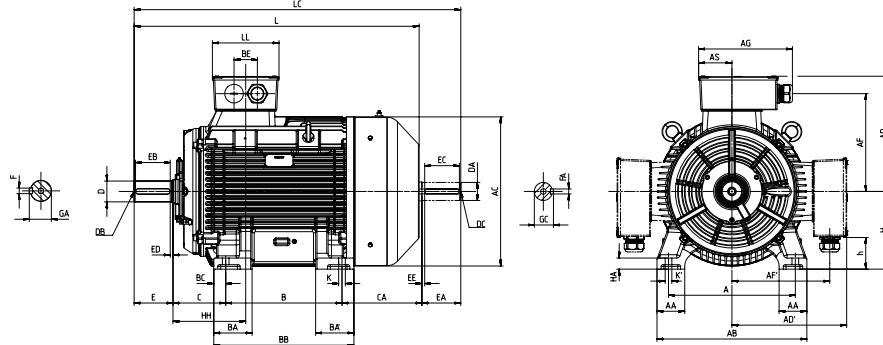
⁵⁾ This dimension is for 1LE0303.

外形尺寸 Dimension drawings

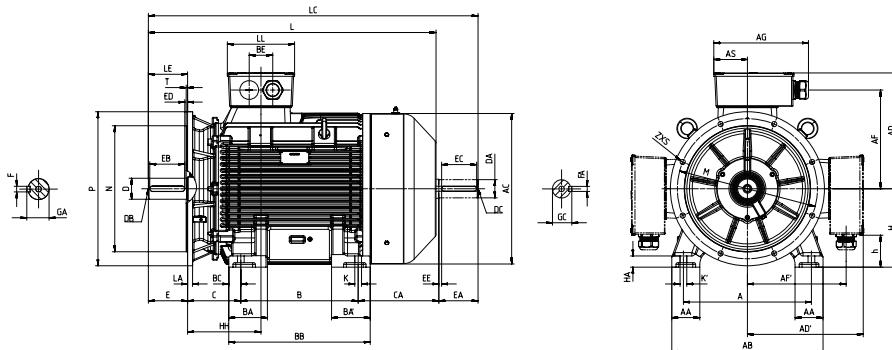
1LE0003 系列电机

机座号从 200L ~ 355L Frame sizes 200L ~ 355L

IM B3 安装结构方式 Type of construction IM B3



IM B35 安装结构方式 Type of construction IM B35



机座号 Frame size	类型 Type 1LE0003-	极数 poles	尺寸图依据 IEC 标准 Dimension designation according to IEC standards														
			A	AA	AB	AC ¹⁾	AD/AD'	AF/AF'	AG	AH	AS	B ²⁾	BA	BA'	BB	BC	BE
200 L	2A □ 4	2,4,6	318	70	378	410	305	250	288	540	107.5	305	80/65 ⁴⁾	80/65 ⁴⁾	369/355 ⁴⁾	32/25 ⁴⁾	85
	2A □ 5	2,6,8	318	70	378	410	305	250	288	540	107.5	305	80/65 ⁴⁾	80/65 ⁴⁾	369/355 ⁴⁾	32/25 ⁴⁾	85
225 S	2B □ 0	4	356	80	436	449	330	278	288	564	107.5	286	90/60 ⁴⁾	90/85 ⁴⁾	348/361 ⁴⁾	31/25 ⁴⁾	85
	2B □ 2	2 4,6,8	356	80	436	449	330	278	288	564	107.5	311	90/60 ⁴⁾	90/85 ⁴⁾	373/361 ⁴⁾	31/25 ⁴⁾	85
250 M	2C □ 2	2 4,6,8	406	90/100 ⁴⁾	490/496 ⁴⁾	503	373	310.5	342	610	123	349	100/97 ⁴⁾	100/97 ⁴⁾	421/409 ⁴⁾	36/30 ⁴⁾	84
280 S	2D □ 0	2 4,6,8	457	100	540	540	420	352.5	338	682	120	368	138/75 ⁴⁾	138/126 ⁴⁾	454/479 ⁴⁾	43/30 ⁴⁾	84
280 M	2D □ 2	2 4,6,8	457	100	540	540	420	352.5	338	682	120	419	138/75 ⁴⁾	138/126 ⁴⁾	505/479 ⁴⁾	43/30 ⁴⁾	84
315 S	3A □ 0	2 4,6,8	508	120	610	623	485	399	401	805	148	406/457	140/200 ⁴⁾	190/200 ⁴⁾	571	57	110
315 M	3A □ 2	2 4,6,8	508	120	610	623	485	399	401	805	148	406/457	140/200 ⁴⁾	190/200 ⁴⁾	510	57	110
315 L	3A □ 5/3A □ 6/3A □ 7	2 4,6,8	508	120	610	623	485	399	401	805	148	508	140/200 ⁴⁾	140/251 ⁴⁾	622	57	110
355 M	3B □ 2	2 4,6,8	610	120	730	712	650	542	464	935	173.5	560	153	153	696	68	130
	3B □ 3	2 4,6,8	610	120	730	712	650	542	464	935	173.5	560	153	153	696	68	130
	3B □ 4	6	610	120	730	712	650	542	464	935	173.5	560	153	153	696	68	130
355 L	3B □ 5	2 4,6,8	610	120	730	712	650	542	464	935	173.5	630	153	207	750	68	130
	3B □ 6	2 4,6,8	610	120	730	712	650	542	464	935	173.5	630	153	207	750	68	130

¹⁾ 包含螺栓头的尺寸。

²⁾ 该尺寸为 DIN EN 50347 标准所列机座号对应尺寸。

³⁾ 仅适用于配置 H08 选件的电机。

⁴⁾ 仅适用于左出线的电机。

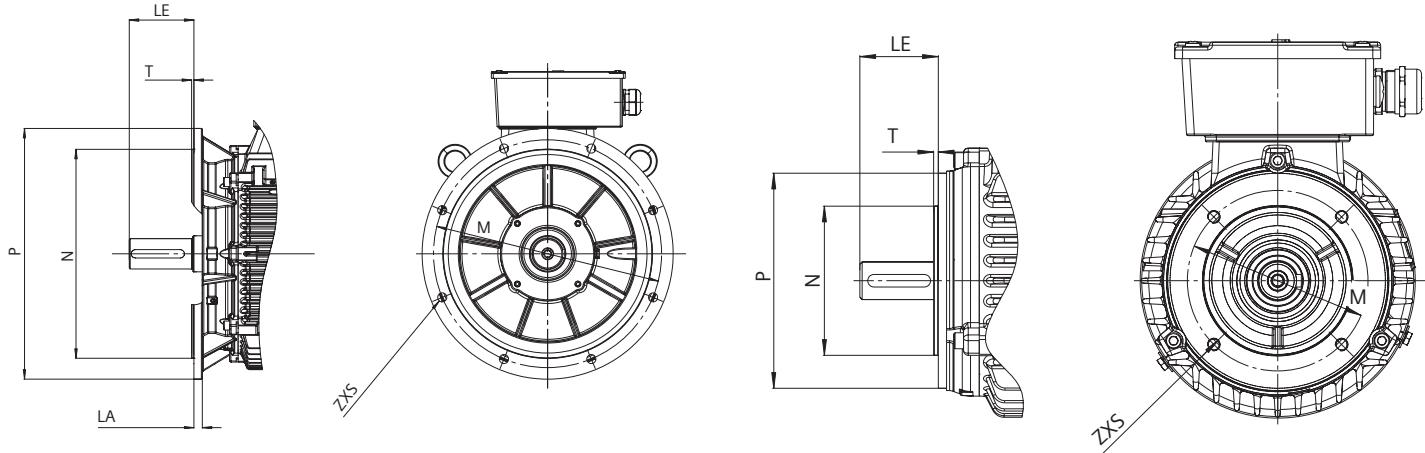
⁵⁾ 此尺寸为 1LE0303 对应尺寸。

外形尺寸 Dimension drawings

法兰尺寸 Flange dimension

IM B5、IM B35、IM V1、IM V3 安装结构型式
Type of construction IM B5, IM B35, IM V1, IM V3

IM B14、IM V18、IM V19 安装结构型式
Type of construction IM B14, IM V18, IM V19



机座号 Frame size	安装结构形式 Type of construction	法兰带通孔 (FF/A) / 带内螺纹孔 (FT/C) Flange with through holes (FF/A) / tapped holes (FT/C)	尺寸图依据 IEC 标准 Dimension designation according to IEC standards							
			LA ¹⁾	LE	M	N	P ²⁾	S	T	Z
80	IM B5, IM B35, IM V1, IM V3	FF 165	10	40	165	130	200	12	3.5	4
	IM B14, IM V18, IM V19	FT 100	—	40	100	80	120	M 6	3	4
90	IM B5, IM B35, IM V1, IM V3	FF 165	10	50	165	130	200	12	3.5	4
	IM B14, IM V18, IM V19	FT 115	—	50	115	95	140	M 8	3	4
100	IM B5, IM B35, IM V1, IM V3	FF 215	11	60	215	180	250	14.5	4	4
	IM B14, IM V18, IM V19	FT 130	—	60	130	110	160	M 8	3.5	4
112	IM B5, IM B35, IM V1, IM V3	FF 215	11	60	215	180	250	14.5	4	4
	IM B14, IM V18, IM V19	FT 130	—	60	130	110	160	M 8	3.5	4
132	IM B5, IM B35, IM V1, IM V3	FF 265	13	80	265	230	300	14.5	4	4
	IM B14, IM V18, IM V19	FT 165	—	80	165	130	200	M 10	3.5	4
160	IM B5, IM B35, IM V1, IM V3	FF 300	13	110	300	250	350	18.5	5	4
	IM B14, IM V18, IM V19	FT 215	—	110	215	180	250	M 12	4	4
180	IM B5, IM B35, IM V1, IM V3	FF 300	13	110	300	250	350	18.5	5	4
200	IM B5, IM B35, IM V1, IM V3	FF 350	15	110	350	300	400	18.5	5	4
225	IM B5, IM B35, IM V1, IM V3	FF 400	16	110/140	400	350	450	18.5	5	8
250	IM B5, IM B35, IM V1, IM V3	FF 500	18	140	500	450	550	18.5	5	8
280	IM B5, IM B35, IM V1, IM V3	FF 500	18	140	500	450	550	18.5	5	8
315	IM B5, IM B35, IM V1, IM V3	FF 600	22	140/170	600	550	660	24	6	8
355	IM B35, IM V1	FF 740	25	140/170	740	680	800	24	6	8

¹⁾ 法兰厚度 LA 尺寸是指法兰安装孔处的厚度。

²⁾ 请注意，IM B35 安装方式全圆法兰外圆可能会低于机座底脚。

¹⁾ Flange LA size refers to the thickness at the flange mounting hole.

²⁾ Please note, the outer circle dimension maybe lower than the base foot in IM B35.

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