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低压高性能过程用途铝壳电机

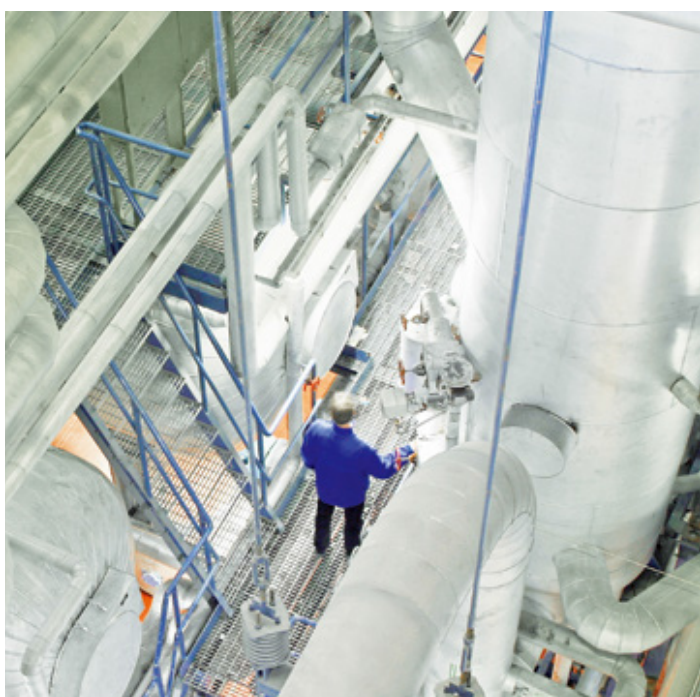
Low voltage

Process performance aluminum motors



我们提供电机、发电机、机械传动产品、各项相应服务及专门技术，帮助客户在产品的整个使用周期及更长的期限内，实现节能及工艺改进。

We provide motors, generators and mechanical power transmission products, services and expertise to save energy and improve customers' processes over the total life cycle of our products, and beyond.



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ABB 低压电机拥有了 ABB 的一流品质和雄厚支持，这些电机的性能得到大量客户和 OEM（原始设备制造商）的认可。电机达到 IE2, IE3 效率。

ABB's Low voltage motors are with ABB quality and support. These motors have the features appreciated by volume customers and serial OEMs. Motors achieve IE2, IE3 efficiency.

产品概述

General information

标准

ABB 电机采用全封闭三相鼠笼型设计，其工艺符合 IEC 和 EN 国际标准。同时，可按要求提供符合其他国家规范的电机。

所有生产厂家均通过 ISO 9001 国际质量认证及 ISO 14000 环境标准，并符合所有适用的欧盟指令。



产品优点

- 外形美观，表现光洁
- 重量轻巧，强度可靠
 - 整机重量是同型号铸铁电机的 70%
 - 采用国际标准牌号铝铸件，强度达到铸铁水平
- 防腐性强，低污染
 - 铝壳材质本身防腐能力较强，适用于环境要求较高的场合
- 适用于变频控制
- 低振动，低噪音

技术参数

机座号	71-280
输出功率	0.12-90kW
极数	2/4/6/8
安装方式	B3/B5/B35...
机座材料	铝
电压	≤690V
频率	50Hz，可变频使用
绝缘等级及温升	F/B
防护等级	IP55/IP56/IP65
标准	IEC, GB

客户获得的利益

- 低故障率，提升生产率
- 减少电能支出，降低运营成本
- 全球的售后服务网络
- 3 年的质保期
- 更长的使用寿命
- 适用于对外观，重量要求高的行业应用
- 减少电机维修费用

Standards

ABB motors are of the totally enclosed, three phase squirrel cage type, built to comply with international IEC and EN standards. Motors conforming to other national and international specifications are also available on request.

All production units are certified to ISO 9001 international quality standard as well ISO 14000 environmental standard and conform to all applicable EU Directives.

IEC/EN

电气 Electrical	机械 Mechanical
IEC/EN 60034-1	IEC 60072
IEC/EN 60034-2-1	IEC/EN 60034-5
IEC/EN 60034-30	IEC/EN 60034-6
IEC/EN 60034-8	IEC/EN 60034-7
IEC/EN 60034-12	IEC/EN 60034-8
	IEC 60034-14

Product Advantages

- Smooth appearance
- Light but robust
 - 30% weight reduction compared with cast iron motors of same type
 - Utilize international standard material, same strength level with cast iron
- Corrosion resistance, low pollution
 - Suitable for occasions with high environmental requirements
- Applicable to VSD
- Low vibration, low noise

Technical Features

Framesize	71-280
Output power	0.12-90kW
Poles	2/4/6/8
Mounting arrangement	B3/B5/B35...
Frame material	Aluminum
Voltage	≤690V
Frequency	50Hz, VSD use available
Insulation Class & Temperature Rise	F/B
Degrees of protection	IP55/IP56/IP65
Standard	IEC, GB

Benefits

- Low failure rate, improve productivity
- Reduce energy and operating costs
- Global service network
- 3 years warranty
- Longer life cycle
- Suitable for industry applications with high requirements in appearance and motor weight
- Saving in maintenance cost

为您提供个性化解决方案

Provide customized solutions

工业应用

食品饮料

M3AA 电机因其铝壳外形美观，重量轻巧，低污染的特性广泛应用于食品饮料行业，在粮食加工，酒类制造，饲料加工，肉类加工等多种加工环节中配套流体系，搅拌机械等多种应用，其出众的高可靠性能受到了全球食品饮料行业客户的青睐，也是 ABB 低压电机在该行业的主打产品系列。

轨道交通

轨道交通是 ABB 低压电机的核心市场领域之一，该行业对于产品的可靠性和质量要求尤其高，对于电机重量也有限制，因此 M3AA 铝壳电机作为重量轻，高可靠的特性在列车的各环节应用中，包括制动及电压传动系统，牵引变频器冷却系统，牵引变压器冷却系统，空调通风系统都得以广泛的使用，是全球享有高口碑的产品。

风电行业

风电行业是全球 ABB 持续关注 and 重点发展的行业，ABB 全球低压电机多年来在其偏航，变桨，液压不同的应用中均扮演重要的角色。尤其是 M3AA 该款电机根据客户需求提供多种定制化和客户化产品，包括制动应用。M3AA 系列电机以其稳定、可靠、轻巧、灵活的形象在该行业备受青睐。

纺织机械

M3AA 是全球低压电机在纺织机械行业中的主推产品。由于纺织行业设备的特殊性，要求配套重量轻，外形轻巧的电机产品。因此 M3AA 长期以来都是该行业首选的 ABB 低压电机系列，并提供纺织行业要求的特殊定制要求，使客户满意放心。

暖通空调

暖通空调是低压电机的基础行业。ABB 从低压电机制造开始即广泛应用在该行业。100 多年以来，ABB 电机遍布在全球各种楼宇，工厂，配套风机，水泵等应用提供高可靠，设计寿命长达 30 年的产品。M3AA 在该行业被广泛使用，过程用途的高性能，高效为客户节省了大量的维修费用，降低运营成本。

Industry Application

Food & Beverage

M3AA is widely applied in food and beverage industry because of its features in appearance and weight. Equipped with fluid pump, mixing machinery, and other applications in food processing, alcoholic beverages manufacturing, feed processing, meat processing, etc. M3AA's high reliability is well appreciated by industry customers in global range.

Railway

Railway transportation is one of the core markets for ABB's low voltage motors, which has particularly high requirements in reliability and quality. There is also a limit to the weight of motors, so M3AA aluminum motors is a great solution. M3AA can be applied to brake and transmission systems, traction converter cooling systems, traction transformer cooling systems, HVAC.

Wind Power

ABB's global low-voltage motors have played an important role in yaw, pitch system and hydraulic applications for many years. In particular, the M3AA motor offers a wide range of applications based on customer requirements. Customized products can be offered on M3AA platform, including brake applications. M3AA series motors enjoy good reputation in industries for its stability, reliability, light weight and flexibility.

Textile Machinery

Textile industry has special requirements of equipment weight and shape. Therefore, M3AA has always been the industry's preferred ABB low-voltage motor series. Customized products can be offered on M3AA platform for textile industry requirements.

HVAC

HVAC is the basic industry of low-voltage motor. ABB motors are widely used in HVAC industry from the beginning of low-voltage motor manufacturing. For over 100 years, ABB motors power-up variety of buildings, factories, supporting fans, pumps and other applications all over the world. M3AA motors, with long design life up to 30 years and high-performance, help customers reduce maintenance costs and operating costs.



产品概述 - 安装结构形式

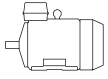
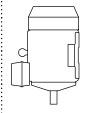
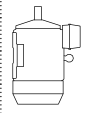
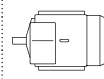
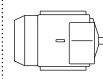
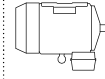
General information - Mounting arrangements

底脚安装型电机

Foot-mounted motor

代码 I / 代码 II
Code I / code II

产品代码位置 12
Product code pos. 12

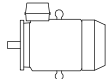
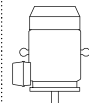
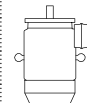
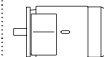

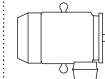
						M000007	A = 底脚安装型, 接线盒在顶部 foot-mounted, term.box top
IM B3 IM 1001	IM V5 IM 1011	IM V6 IM 1031	IM B6 IM 1051	IM B7 IM 1061	IM B8 IM 1071		

凸缘安装型电机, 大凸缘

Flange-mounted motor, large flange

代码 I / 代码 II
Code I / code II

产品代码位置 12
Product code pos. 12

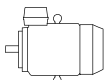
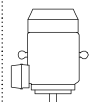
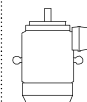
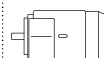
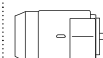
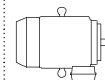
						M000008	B = 凸缘安装型, 大凸缘 flange mounted, large flange
IM B5 IM 3001	IM V1 IM 3011	IM V3 IM 3031	*) IM 3051	*) IM 3061	*) IM 3071		

凸缘安装型电机, 小凸缘

Flange-mounted motor, small flange

代码 I / 代码 II
Code I / code II

变量代码
variant code

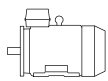
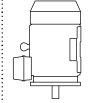
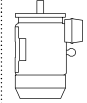
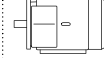

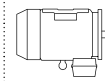
						M000009	047 = B5 派生出 B14 B14 from B5
IM B14 IM 3601	IM V18 IM 3611	IM V19 IM 3631	*) IM 3651	*) IM 3661	*) IM 3671		

底脚和凸缘安装型电机, 大凸缘

Foot- and flange-mounted motor with feet, large flange

代码 I / 代码 II
Code I / code II

变量代码
variant code


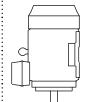
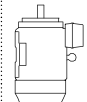

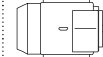
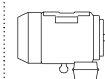
						M000010	009 = B3 派生出 B35 B35 from B3
IM B35 IM 2001	IM V15 IM 2011	IM V35 IM 2031	*) IM 2051	*) IM 2061	*) IM 2071		

底脚和凸缘安装型电机, 大凸缘

Foot- and flange-mounted motor with feet, large flange

代码 I / 代码 II
Code I / code II

变量代码
variant code

						M000011	008 = B3 派生出 B34 B34 from B3
IM B34 IM 2101	IM V17 IM 2111	IM 2131	IM 2151	IM 2161	IM 2171		

产品概述 - 防护等级：IP 代码 / IK 代码

General information - Degrees of protection: IP code/IK code

按旋转电机外壳提供的防护等级分类符合

- 对于 IP 代码，适用 IEC 60034-5 或 EN 60529
- 对于 IK 代码，适用 EN 50102

IP 防护

防止人员接触（或接近）带电部件，以及机壳内的运转部件。同时避免外界固体异物侵入机器内，保护机器，避免进水防止受到有害影响。

IK 代码

机壳保护电机不受外部机械冲击不利影响的程度分级。

Classification of degrees of protection provided by enclosures of rotating machines refers to:

- Standard IEC 60034-5 or EN 60529 for IP code
- Standard EN 50102 for IK code

IP protection

Protection of persons against getting in contact with (or approaching) live parts and against contact with moving parts inside the enclosure. Also protection of the machine against ingress of solid foreign objects. Protection of machines against the harmful effects due to the ingress of water.

IK code

Classification of degrees of protection provided by enclosure for motors against external mechanical impacts.

IP 代码说明

Explanation of the IP code

特征字母 Ingress protection	对人和机壳内电机部件的保护程度 Degree of protection to persons and to parts of the motors inside the enclosure	机壳防止机器进水，遭受有害影响的防水程度 Degree of protection provided by the enclosure with respect to harmful effects due to ingress of water
IP	5	5
	1	2

位置1

Position 1

2: 防止大于 12mm 的固体进入机壳
Motors protected against solid objects greater than 12 mm

4: 防止大于 1mm 的固体进入机壳
Motors protected against solid objects greater than 1 mm

5: 防尘保护电机
Dust-protected motors

6: 隔尘电机
Dust-tight motors

位置2

Position 2

3: 使电机被溅水后不受损害
Motors protected against spraying water

4: 使电机被淋水后不受损害
Motors protected against splashing water

5: 使电机被喷水后不受损害
Motors protected against water jets

6: 使电机遭大浪后不受损害
Motors protected against heavy seas

IK 代码说明

Explanation of the IK code

国际机械保护 International mechanical protection	特征组 Characteristic group
IK	08
	1

位置1

Position 1

IK代码和冲击能量之间的关系：
Relation between IK code and impact energy:

IK代码 冲击能量焦耳
IK code Impact energy/Joule

0: 不按照EN 50102提供保护
Not protected according to EN 50102

01: 0.15

02: 0.2

03: 0.35

04: 0.5

05: 0.7

06: 1

07: 2

08: 5 (ABB 标准)
5 (ABB Standard)

09: 10

10: 20

订购信息

Ordering information

订购时，请按照示例在订单中说明以下数据。
电机产品代码根据以下示例编写。

When placing an order, please state the following minimum data in the order, as in the example. The product code of the motor is composed in accordance with the following example.

示例	
电机型号	M3AA 112 MB
极数	4
安装方式 (IM 代码)	IM B3 (IM1001)
额定输出	4 kW
产品代码	3GAA112320-ADE
附加代码 (如需)	

Example	
Motor type	M3AA 112 MB
Pole number	4
Mounting arrangement (IM-code)	IM B3 (IM1001)
Rated output	4 kW
Product code	3GAA112320-ADE
Variant codes if needed	

产品代码说明

Explanation of the product code

电机型号 Motor type	电机尺寸 Motor size	产品代码 Product code	安装方式代码, 电压及频率代码, 产品族代码 Mounting arrangement, voltage and frequency code, generation codes	变量代码 Variant codes
M3AA	112MB	3GAA 112 320 - ADE	1 2 3 4 5 6 7 8 9 10 11 12 13 14	002, etc

位置 1-4 3GAA = 全封闭铸铝机座电机
位置 5-6 IEC 机座
07 = 71 11 = 112 20 = 200 08 = 80 13 = 132 22 = 225 09 = 90 16 = 160 25 = 250 10 = 100 18 = 180 28 = 280
位置 7 极对数
1=2 极 2=4 极 3=6 极 4=8 极
位置 8 -10 序列号
位置 11 -(破折号)
位置 12 安装方式
A = 底脚安装型电机 B = 凸缘安装型电机带通孔的大凸缘。
位置 13 电压和频率
D 380 V Δ, 400 V Δ, 660 VY 50 Hz S 220 V Δ, 380 VY, 400 VY 50 Hz
位置 14 产品族代码

Positions 1 to 4 3GAA = Totally enclosed motor with aluminum frame
Positions 5 to 6 IEC size
07 = 71 11 = 112 20 = 200 08 = 80 13 = 132 22 = 225 09 = 90 16 = 160 25 = 250 10 = 100 18 = 180 28 = 280
Positions 7 Speed (pole pairs)
1=2 poles 2=4 poles 3=6 poles 4=8 poles
Positions 8 to 10 Serial number
Positions 11 -(dash)
Position 12 Mounting arrangement
A = Foot-mounted motor B = Flange-mounted motor. Large flange with clearance holes.
Position 13 Voltage and frequency
D 380 V Δ, 400 V Δ, 660 VY 50 Hz S 220 V Δ, 380 VY, 400 VY 50 Hz
Position 14 Generation code

铭牌

Rating plates

电机的主铭牌显示电机在额定转速下，不同连接方式对应的性能值。铭牌也显示能效等级（IE2/IE3/IE4），制造年份，以及100%，75%，50% 额定负载下的最低标称效率。标配铭牌材质为铝。

The motor's main rating plate shows the motor's performance values with various connections at nominal speed. The rating plate also shows the efficiency level (IE2, IE3, or IE4), year of manufacture, and the lowest nominal efficiency at 100, 75, and 50 % nominal load. The material of the rating plate is aluminum as standard.

铭牌示例

Rating plate sample

机座号 71-80
Motor sizes 71 to 80

ABB		3~Motor M3AA 80 C 2				IE2 CE	
3GAA081313-ASE		No.		CL.F		IP 55	
6204-2Z/C3		6203-2Z/C3				11 kg	
V	Hz	r/min	kW	A		Cos φ	
230 D / 400 Y	50	2870	1,10	4,30 / 2,50		0,78	
460 Y	60	3485	1,10	2,20		0,75	
IE2-50Hz-80,9(100%)-81,7(75%)-79,8(50%)							
IE2-60Hz-82,8(100%)							
		2017		IEC 60034-1			

机座号 90-132
Motor sizes 90 to 132

ABB		3~Motor M3AA 100 LB 2				IE2 CE	
3GAA101520-ASE		CL.F		IP 55		IEC60034-1	
No.						2017	
V	Hz	r/min	kW	A		Cos φ	
230 D	50	2920	3,00	10,00		0,86	
400 Y	50	2920	3,00	5,80		0,86	
460 Y	60	3530	3,00	5,10		0,84	
IE2-50Hz-86,4(100%)-86,0(75%)-83,9(50%)							
IE2-60Hz-87,5(100%)							
6306-2Z/C3		6205-2Z/C3				24 kg	

机座号 160-280
Motor sizes 160 to 280

ABB		3~ Motor M3AA 225 SMB 4				IE3 CE	
No.						IP 55	
		Ins. cl.F					
V	Hz	kW	r/min	A		cos φ duty	
400	Δ	50	45	14.82 80.2		0.85 S1	
690	Y	50	45	14.82 46.5		0.85 S1	
415	Δ	50	45	14.83 78.3		0.84 S1	
460	Δ	60	45	17.85 70.5		0.84 S1	
50 Hz: IE3-93.3(100%)-94.0(75%)-93.8(50%)							
60 Hz: IE3-93.8(100%)-94.2(75%)-93.7(50%)							
3GAA 222 220-ADK							
6313/C3		6212/C3				316 kg	
spare-parts@www.abb.com/partsonline						IEC 60034-1	

电气特性

Electrical design

额定输出

M3AA 系列电机的额定功率是指电机运行在 S1- 连续工作制的情况下 (IEC 60034-1)，此时周围环境温度范围为 $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$ ，海拔高度不超过 1000m。

电压、频率

IEC 60034-1 定义了电压和频率的波动对温升的影响。标准将电压和频率的综合变化分为 A 和 B 两个区域。区域 A 是电压偏差 $\pm 5\%$ 和频率偏差 $\pm 2\%$ 的情况；区域 B 是电压偏差 $\pm 10\%$ 和频率偏差 $\pm 3\%$ 的情况。

电机均能在 A 和 B 两区域内提供额定转矩，但温升会高于在额定电压和频率情况下的值。电机只允许在区域 B 中短时间运行。

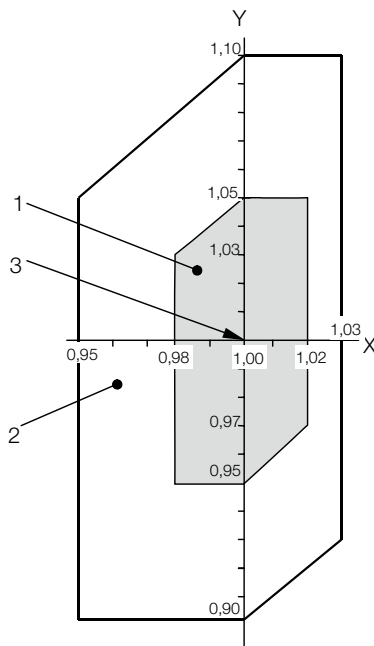
Rated Output

M3AA motors rated outputs means that the motor runs under continuous duty S1 (IEC 60034-1) operation at ambient temperature from $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$ and at altitudes of up to 1000 m above sea level.

Voltage and Frequency

The impact on temperature rise caused by voltage and frequency fluctuation is defined in IEC 60034-1. The standard divides the combinations into two zones, zone A and B. Zone A is the combination of voltage deviation $\pm 5\%$ and frequency deviation $\pm 2\%$. Zone B is the combination of voltage deviation $\pm 10\%$ and frequency deviation $\pm 3\%$.

The motors are capable of supplying the rated torque in both zone A and B, but the temperature rise will be higher than at rated voltage and frequency. The motors are to be in operation only for a short period of time in zone B.



- X 轴 频率标么值
- Y 轴 电压标么值
- 1 区域 A
- 2 区域 B (区域 A 外)
- 3 额定点

- X axis frequency p.u.
- Y axis voltage p.u.
- 1 zone A
- 2 zone B (outside zone A)
- 3 rating point

电气特性

Electrical design

绝缘系统

ABB 采用 F 级绝缘材料，B 级温升，是当今业界最通用的要求。

F 级绝缘系统 B 级温升的采用，使 ABB 产品可获得 25°C 的安全裕度。这使电机在短时间内过载使用，或在较高环境温度和海拔，或在高电压和频率容差下使用成为可能。这一设计同样可用于延长绝缘寿命。例如，温度降低 10K，绝缘寿命延长。

B 级绝缘 (130°C)

- 额定环境温度 40°C
- 最大允许温升 80K
- 热点温升裕度 10K

F 级绝缘 (155°C)

- 额定环境温度 40°C
- 最大允许温升 105K
- 热点温升裕度 10K

H 级绝缘 (180°C)

- 额定环境温度 40°C
- 最大允许温升 125K
- 热点温升裕度 10K

Insulation

ABB uses class F insulation, which, with temperature rise B, is the most common requirement among industry today. The use of class F insulation with class B temperature rise gives ABB products a 25°C safety margin. This can be used to increase the loading for limited periods, to operate at higher ambient temperatures or altitudes, or with greater voltage and frequency tolerances. It can also be used to extend insulation. For instance, a 10 K temperature reduction will extend the insulation life.

Thermal class 130 (B)

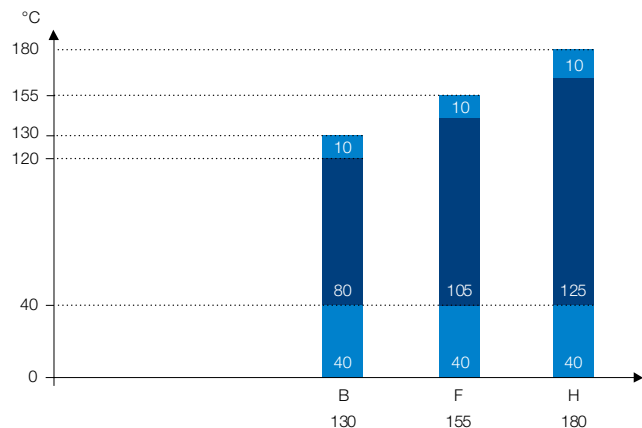
- Nominal ambient temperature 40°C
- Max permissible temperature rise 80K
- Hot spot temperature margin 10K

Thermal class 155 (F)

- Nominal ambient temperature 40°C
- Max permissible temperature rise 105K
- Hot spot temperature margin 10K

Thermal class 180 (H)

- Nominal ambient temperature 40°C
- Max permissible temperature rise 125K
- Hot spot temperature margin 10K



各绝缘等级的安全裕度
Safety margins per thermal class

电气特性

Electrical design

运行环境

根据 IEC 60034-1 规定，容差是指测试值与铭牌（或样本）标称值之间的最大允许偏差。测试结果基于按照 IEC 60034-2-1, IEC 60034-9, IEC 60034-12 所规定的测试。

过载倍数

根据 IEC 60034, M3AA 系列电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。

电气数据容差

Tolerance for electrical data

	效率 Efficiency	功率因数* Power factor	启动电流 Locked rotor current I_s / I_N	堵转转矩 Locked rotor torque T_l / T_N	最大转矩 Breakdown torque T_b / T_N	转动惯量 Moment of inertia	噪声等级 Noise level
PN (kW) ≤ 150	-15 % (1-η)	-1/6 (1-cosφ)	+20 % of the current	[-15 % + 25 %] of the torque	-10 % of the value	± 10 % of the value	+3 dB(A)
PN (kW) > 150	-10 % (1-η)						
	转差率 Slip						
PN (kW) < 1	± 30 %						
PN (kW) < 1	± 20 %						

* 功率因数容差最小绝对值：0.02，最大绝对值：0.07。

* Power factor minimum absolute value 0.02, maximum absolute value 0.07.

环境温度及海拔高度

标准电机设计的最大环境温度为 40°C，最高海拔为 1000m。如果当电机在较高的环境温度或海拔下运行，输出功率相应降低。详情请咨询 ABB。

对于不同高度和（或）不同环境温度的功率换算系数 kHT

Factor kHT for different site altitudes and / or coolant temperature

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

Environmental

In accordance with IEC 60034-1, tolerance is the maximum allowed deviation between the test result and the declared value on the rating plate (or in the catalog). Test results are based on test procedures in accordance with IEC 60034-2-1, IEC 60034-9, and IEC 60034-12.

Overload times

According to IEC 60034, M3AA motors are designed to withstand overload capacity of 1.5 times rated current for 2 minutes at rated voltage and frequency.

Ambient temperatures and high altitudes

Normal motors are designed for operation at a maximum ambient temperature of 40°C and at a maximum altitude of 1000 meters above sea level. If a motor is operated at higher ambient temperatures or altitude, it should be derated. Detailed information, please contact your ABB sales office.

机械设计

Mechanical design

机座

机座材料为铝合金。
机座号 71-180 配有铝质底脚。
机座号 200-280 配有铸铁底脚。

排水孔

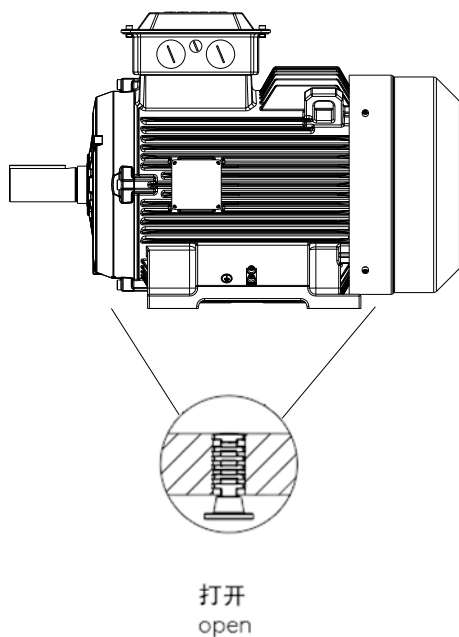
如果在非常湿润或潮湿的环境下,特别是在断续负载下操作电机,则应设置排水孔。根据电机安装方法,指定相应的 IM 标号,如 IM 3031。

机座号为 71 到 280 的电机安装了排水孔及闭合塞。孔塞在出厂时打开。安装电机时,确保排水孔朝下。

垂直安装时,上塞必须完全闭合。在灰尘过多的环境中,两个塞都应闭合。

安装方式不同于底脚安装型 IM B3 时,请在订购时使用变量代码 066。

请参阅“排水孔”标题下的变量代码 066。



Motor frame

The motor frame is made of aluminum, and the standard design includes aluminum feet for motor sizes 71-180, cast iron feet for motor sizes 200-280.

Drain holes

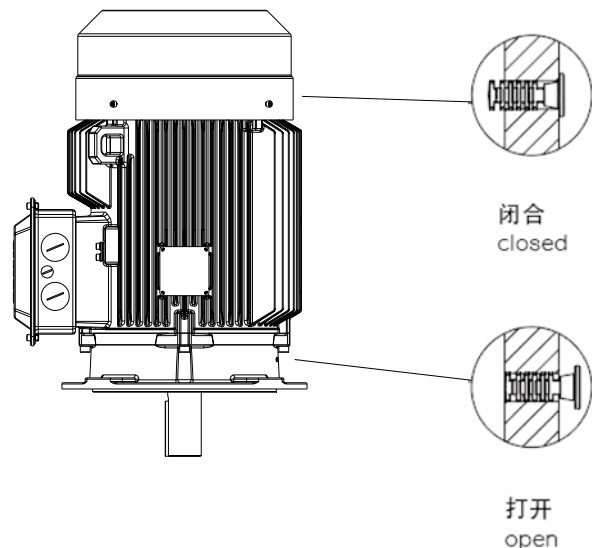
Motors that will be operated in very humid or wet environments, and especially under intermittent duty, should be provided with drain holes. The IM designation, such as IM 3031, determines the intended mounting arrangement for the motor.

Motor sizes 71 - 280 are fitted with drain holes and closable plugs. The plugs are open on delivery. When mounting the motors, ensure that the drain holes face downwards.

In the case of vertical mounting, the upper plug must be hammered home completely. In very dusty environments, both plugs should be hammered home.

When mounting arrangement differs from foot mounted IM B3, mention variant code 066 when ordering.

See variant codes 066 under the heading “Drain holes”.



机座号 71-280
标准情况下配备排水孔及闭合塞

As standard, motor sizes 71 - 280
are delivered with drain holes and
closable plugs.

机械设计

Mechanical design

轴承

过程用途电机通常安装以下单列深沟球轴承。

如果 D 端轴承更换为圆柱滚子轴承 (NU- 或 NJ-)，可承受更大的径向力。圆柱滚子轴承适合皮带传动应用，可使用变量代码 037 订购。

轴向力大时，应使用角接触球轴承。订购角接触球轴承电机时，必须指定安装方法以及轴向力的方向和大小。角接触球轴承可使用变量代码 058 和 059 订购。

标准设计

Standard designs

机座号 Motor size	极数 Number of poles	标准设计 Standard design	
		深沟球轴承 Deep groove ball bearings	
		D 端 D-end	N 端 N-end
71	2-8	6203-2Z/C3	6202-2Z/C3
80	2-8	6204-2Z/C3	6203-2Z/C3
90	2-8	6205-2Z/C3	6204-2Z/C3
100	2-8	6306-2Z/C3	6205-2Z/C3
112 ¹⁾	2-8	6306-2Z/C3	6205-2Z/C3
112 ²⁾	2-8	6206-2Z/C3	6205-2Z/C3
132 ³⁾	2-8	6208-2Z/C3	6206-2Z/C3
132 ⁴⁾	2-8	6308-2Z/C3	6206-2Z/C3

¹⁾ 除 ²⁾ 112 J 代 以外所有 112 型号

¹⁾ All 112 types except ²⁾ 112 J-Gen

³⁾ 除 ⁴⁾ 132 SM_ 以外所有 132 型号

³⁾ All 132 types except ⁴⁾ SM_

可选设计

Alternative designs

机座号 Motor size	极数 Number of Poles	可选设计 Alternative designs			
		圆柱滚子轴承 (VC037) Roller bearings (VC037)		角接触球轴承 (VC058, 059) Ang. contact ball bearings (VC058, 059)	
		D 端 D-end	N 端 N-end	D 端 D-end	N 端 N-end
71	2-8	-	6202-2Z/C3	-	-
80	2-8	-	6203-2Z/C3	-	-
90	2-8	NU 205	6204-2Z/C3	7205 B	7204 B
100	2-8	NU 306	6205-2Z/C3	7306 B	7205 B
112 ¹⁾	2-8	NU 306	6205-2Z/C3	7306 B	7205 B
112 ²⁾	2-8	NU 206	6205-2Z/C3	7206 B	7205 B
132 ³⁾	2-8	NU 208	6206-2Z/C3	7208 B	7206 B
132 ⁴⁾	2-8	NU 308	6206-2Z/C3	7308 B	7206 B
160	2-8	NU 309 ECP	6209-2Z/C3	7309 BEP	7209 BEP
180	2-8	NU 310 ECP	6209-2Z/C3	7310 BEP	7209 BEP
200	2-8	NU 312 ECP	6210-2Z/C3	7312 BEP	7210 BEP
225	2-8	NU 313 ECP	6212-2Z/C3	7313 BEP	7212 BEP
250	2	NU 315 ECP	6213-2Z/C3	7315 BEP	7213 BEP
280	4-8	NU 315 ECP	6213/C3	7315 BEP	7213 BEP
280	4-6	NU 316 ECP	6213/C3	7316 BEP	7213 BEP

¹⁾ 除 ²⁾ 112 J 代 以外所有 112 型号 ¹⁾ All 112 types except ²⁾ 112 J-Gen

³⁾ 除 ⁴⁾ 132 SM_ 以外所有 132 型号 ³⁾ All 132 types except ⁴⁾ SM_

Bearings

Process performance motors are normally fitted with single-row deep-groove ball bearings, as shown in the table below.

If the bearing at the D-end is replaced with a roller bearing (NU- or NJ-), higher radial forces can be handled. Roller bearings are suitable for belt-drive applications and can be ordered with variant code 037.

When high axial forces are involved, angular-contact ball bearings should be used. When ordering a motor with an angular-contact ball bearing, specify also the method of mounting and the direction and magnitude of axial force. The variant codes for ordering angular-contact ball bearings are 058 and 059.

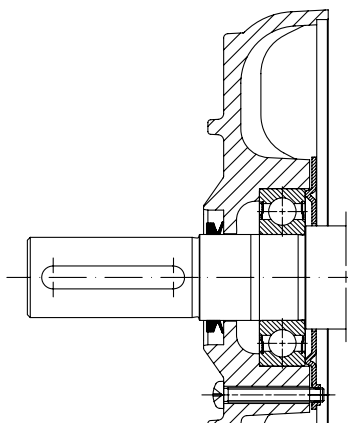
机械设计

Mechanical design

轴密封件

密封件尺寸和类型符合下表：

机座号	极数	标准设计 轴向密封件		可选设计 径向密封件 (VC072)
		D 端	N 端	
71	2-8	V-16A	迷宫式密封	17x28x7
80	2-8	V-20A	迷宫式密封	20x40x7
90	2-8	V-25A	迷宫式密封	25x42x7
100	2-8	V-30A	迷宫式密封	30x47x7
112	2-8	V-30A	迷宫式密封	30x47x7
132	2-8	V-40A	迷宫式密封	40x62x7
160	2-8	V-45A	V-45A	45x65x8
180	2-8	V-50A	V-45A	50x72x8
200	2-8	V-60A	V-50A	60x80x8
225	2-8	V-65A	V-60A	65x85x8
250	2-8	V-75A	V-65A	75x95x8
280	2	V-75A	V-65A	75x95x8
	4-8	V-80A	V-65A	80x95x10

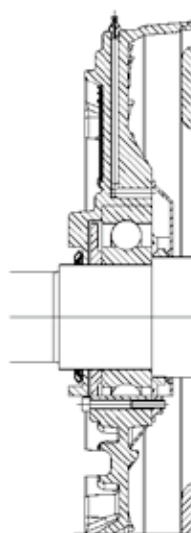


机座号 71 - 132
Motor sizes 71 - 132

Bearing seals

This table presents the standard sizes and types of bearing seals per motor size.

Motor size	Number of poles	Standard design Axial seal		Alternative design Radial seal (VC072)
		D-end	N-end	
71	2-8	V-16A	Labyrinth seal	17x28x7
80	2-8	V-20A	Labyrinth seal	20x40x7
90	2-8	V-25A	Labyrinth seal	25x42x7
100	2-8	V-30A	Labyrinth seal	30x47x7
112	2-8	V-30A	Labyrinth seal	30x47x7
132	2-8	V-40A	Labyrinth seal	40x62x7
160	2-8	V-45A	V-45A	45x65x8
180	2-8	V-50A	V-45A	50x72x8
200	2-8	V-60A	V-50A	60x80x8
225	2-8	V-65A	V-60A	65x85x8
250	2-8	V-75A	V-65A	75x95x8
280	2	V-75A	V-65A	75x95x8
	4-8	V-80A	V-65A	80x95x10



机座号 160 - 280
Motor sizes 160 - 280

机械设计

Mechanical design

轴承寿命

根据 ISO 281，轴承的正常寿命 L_{10h} 定义为在特定条件下 90% 的相同轴承在一系列测试中所达到或超过的运行小时数。50% 的轴承至少达到这一数字的五倍。

润滑

机座号为 71-250 的电机采用封闭式轴承。封闭式轴承中装有优质的润滑脂。铭牌上印有轴承型号。

以下数值可作为轴承使用寿命指导值，具体寿命取决于应用和负载情况：2-6 极电机约为 40,000 小时

皮带轮直径

所需轴承寿命确定后，最小允许皮带轮直径可使用 F_R 计算，如下所示：

$$D = \frac{1.9 \cdot 107 \cdot K \cdot P}{n \cdot F_R}$$

其中：

D:	带轮直径，单位 (mm)
P:	功率要求，kW
n:	电机转速，r/min
K:	皮带张力因数，取决于皮带类型和负载类型。 V 形皮带通用值为 2.5。
F_R :	允许径向力

Bearing life

The nominal life L_{10h} of a bearing is defined according to ISO 281 as the number of operating hours achieved or exceeded by 90% of identical bearings in a large test series under specified conditions. 50% of bearings achieve at least five times this lifetime.

Lubrication

Motors in frame sizes 71-250 are equipped with bearings greased for life. Bearings are lubricated with high-quality grease. Bearing types are stated on the rating plate.

The following values can be used as a guide for bearing lifetime, depending on application and load conditions: 2-6 pole motors about 40,000h.

Pulley diameter

When the desired bearing life has been determined, the minimum permissible pulley diameter can be calculated with F_R as follows:

$$D = \frac{1.9 \cdot 107 \cdot K \cdot P}{n \cdot F_R}$$

Where:

D:	Pulley diameter, mm
P:	Power requirement, kW
n:	Motor speed, r/min
K:	Belt tension factor, dependent on belt type and type of duty A common value of V-belts is 2.5
F_R :	Permissible radial force

轴承寿命

Grease lifetime

环境温度（额定输出功率）

Ambient temperature and rated output

机座号 Motor sizes	转速 r/min	25 °C		40 °C		50 °C		60 °C		70 °C		80 °C	
		标准 Basic	高温 High	标准 Basic	高温 High	标准 Basic	高温 High	标准 Basic	高温 High	标准 Basic	高温 High	标准 Basic	高温 High
63	3000	40 000	40 000	40 000	40 000	40 000	40 000	31 000	31 000	17 000	17 000	9000	9000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
71	3000	40 000	40 000	40 000	40 000	40 000	40 000	27 000	27 000	15 000	15 000	8000	8000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
80	3000	40 000	40 000	40 000	40 000	39 000	39 000	23 000	23 000	13 000	13 000	7000	7000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
90	3000	40 000	40 000	40 000	40 000	33 000	33 000	20 000	20 000	11 000	11 000	6000	6000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
100	3000	40 000	40 000	39 000	39 000	25 000	25 000	15 000	15 000	8000	8000	4000	4000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	30 000	30 000	17 000	17 000	9000	9000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
112 ¹⁾	3000	40 000	40 000	39 000	39 000	25 000	25 000	15 000	15 000	8000	8000	4000	4000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	30 000	30 000	17 000	17 000	9000	9000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
112 ²⁾	3000	40 000	40 000	40 000	40 000	40 000	30 000	26 000	17 000				
	1500	40 000	40 000	40 000	40 000	40 000		27 000					
	1000	40 000	40 000	40 000	35 000	40 000		40 000					
	750	40 000	40 000	40 000	35 000	40 000		40 000					
132 ³⁾	3000	40 000	40 000	33 000	33 000	21 000	21 000	13 000	13 000	7000	7000	4000	4000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	26 000	26 000	14 000	14 000	7000	7000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
132 ⁴⁾	3000	40 000	40 000	31 000	31 000	20 000	20 000	12 000	12 000	6000	6000	3000	3000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	24 000	24 000	13 000	13 000	7000	7000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
	750	40 000	40 000	40 000	40 000	40 000	40 000	33 000	33 000	18 000	18 000	9000	9000
160	3000	40 000	40 000	40 000	36 000	40 000	19 000	26 000	9000	14 000	5000	8000	2000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	40 000	38 000	40 000	20 000	37000	10 000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	24 000	40 000	12 000
	750	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	24 000	40 000	12 000
180	3000	38 000	38 000	38 000	38 000	38 000	38 000	38 000	23 000	23 000	12 000	13 000	7000
	1500	40 000	40 000	40 000	40 000	40 000	24 000	40 000	12 000	26 000	6000	13 000	3000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	24 000	29 000	12 000
	750	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	37000	21 000	21 000	7000
200	3000	27 000	27 000	27 000	27 000	27 000	18 000	24 000	10 000	14 000	5000	8000	3000
	1500	40 000	40 000	40 000	40 000	40 000	40 000	40 000	32000	40 000	18 000	30 000	10 000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	30 000	38 000	17 000
	750	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	30 000	38 000	17 000
225	3000	23 000	23 000	23 000	18 000	23 000	10 000	20 000	6000	12 000	3000	7000	1000
	1500	40 000	40 000	40 000	40 000	40 000	23 000	40 000	12 000	40 000	6000	25 000	3000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	27 000
	750	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	27 000
250	3000	16 000	16 000	16 000	13 000	16 000	7000	12 000	4000	7000	2000	4000	1000
	1500	40 000	40 000	40 000	39 000	40 000	21 000	40 000	11 000	33 000	6000	19 000	3000
	1000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	25 000	36 000	13 000
	750	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	40 000	25 000	36 000	13 000

除²⁾112 J代以外的 ¹⁾所有型号

¹⁾all types except ²⁾112 J-gen

除⁴⁾SM_以外的 ³⁾所有型号

³⁾all types except ⁴⁾SM_

封闭式深沟球轴承在水平安装时，连续工作制条件下的L₁₀ 轴承寿命。

Grease lifetime L₁₀ in deep groove ball bearings of type 2Z in horizontally mounted motors in continuous running duty.

机械设计

Mechanical design

轴上允许负载

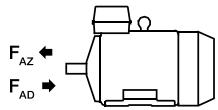
允许轴向力

表中提供了环境温度为 25°C 时，50Hz 的正常条件下，径向力为零时的轴伸允许轴向力 (N)。分别对轴承寿命满足 20000 和 40000 小时进行计算。

在 60 Hz 时，数值将相应减少 10%。对于双速电机，数值将以较高的速度为准。

需提供同时存在径向力和轴向力的允许负载值，请联系 ABB。

给定轴向力 F_{AD} ，假设 D 端轴承由锁环锁定。



安装方式 IM B3

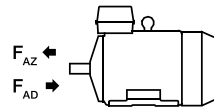
Permissible loading on the shaft

Permissible axial forces

The following table gives the permissible axial forces on shaft in Newton, assuming zero radial force, ambient temperature of 25°C, and normal conditions at 50Hz. The values are given for calculated bearing life of 20000 and 40000 hours per motor size.

At 60 Hz, the values must be reduced by 10 percent, and for two-speed motors, the higher speed determines permissible axial force. Permissible loads of simultaneous radial and axial forces can be supplied on request.

For axial force F_{AD} , it is assumed that the D-bearing is locked with a locking ring.



Mounting arrangement IM B3

允许轴向力

Permissible axial forces

电机尺寸 Motor size	极数 Poles	安装形式 IM B3, 深沟球轴承 Mounting arrangement IM B3, deep groove ball bearings				安装形式 IM V1, 深沟球轴承 Mounting arrangement IM V1, deep groove ball bearings			
		20 000 小时 20 000 hours		40 000 小时 40 000 hours		20 000 小时 20 000 hours		40 000 小时 40 000 hours	
		F_{AD} (N)	F_{AZ} (N)	F_{AD} (N)	F_{AZ} (N)	F_{AD} (N)	F_{AZ} (N)	F_{AD} (N)	F_{AZ} (N)
71	2	625	325	515	215	640	315	530	200
	4	780	480	630	330	800	470	650	320
	6	890	590	710	410	925	570	745	390
	8	985	685	780	480	1020	665	815	455
80	2	810	470	650	315	845	450	690	290
	4	1015	675	810	470	1075	640	865	430
	6	1170	830	925	595	1225	795	980	550
	8	1300	960	1015	675	1350	925	1070	645
90	2	885	485	720	320	945	450	775	280
	4	1170	650	945	425	1245	600	1020	375
	6	1270	870	1005	605	1360	815	1095	550
	8	1410	1010	1110	710	1485	960	1185	660
100	2	1620	1120	1280	780	1710	1060	1370	715
	4	2065	1565	1615	1115	2180	1485	1735	1035
	6	2390	1890	1860	1360	2510	1815	1980	1285
	8	2660	2160	2065	1565	2780	2080	2185	1485
112 M, MB	2	1615	1115	1275	775	1725	1040	1385	700
	4	2060	1560	1610	1110	2210	1460	1110	1010
	6	2385	1885	1860	1360	2540	1785	2010	1260
	8	2655	2155	2060	1560	2790	2055	2195	1475
112 J-gen	2	1500	1000	1160	660	1610	1010	1260	675
	4	1600	1100	2160	760	2100	1430	985	885
	6	1720	1220	1380	880	2430	1760	1885	1135
	8	1760	1260	1420	920	2880	1740	2075	1325

电机尺寸 Motor size	极数 Poles	安装形式 IM B3, 深沟球轴承 Mounting arrangement IM B3, deep groove ball bearings				安装形式 IM V1, 深沟球轴承 Mounting arrangement IM V1, deep groove ball bearings			
		20 000 小时 20 000 hours		40 000 小时 40 000 hours		20 000 小时 20 000 hours		40 000 小时 40 000 hours	
		F _{AD} (N)	F _{AZ} (N)	F _{AD} (N)	F _{AZ} (N)	F _{AD} (N)	F _{AZ} (N)	F _{AD} (N)	F _{AZ} (N)
132 M, MA	4	2245	1645	1760	1160	2460	1505	1970	1015
	6	2595	1980	2025	1425	2815	1850	2245	1280
	8	2875	2270	2240	1640	3130	2115	2490	1470
132 MC	6	2580	1980	2010	1410	2885	1780	2315	1210
132 MBA	4	2235	1635	1750	1150	2495	1465	2010	980
132 S	6	2600	2000	2030	1435	2780	1885	2210	1315
	8	2885	2285	2245	1645	3100	2145	2460	1505
132 SB	2	1760	1160	1400	800	1910	1075	1540	705
132 SBB, SC	2	1760	1160	1395	795	1945	1045	1575	670
132 SMB, SMC	2	2210	1610	1740	1140	2435	1470	1950	985
	4	2840	2240	2205	1605	3150	2035	2515	1400
132 SMD	4	2830	2200	2230	1595	3195	1995	2560	1355
132 SME	2	2210	1610	1730	1130	2490	1425	2005	940
160	2	4160	4160	3425	3425	4560	3810	3860	3110
	4	4740	4740	3920	3920	5260	4310	4440	3490
	6	4840	4840	4000	4000	5400	4420	4540	3560
	8	5980	5980	4920	4920	6560	5580	5460	4480
180	2	5480	5480	4600 ¹⁾	4600 ¹⁾	5920	5115	5060 ¹⁾	4255 ¹⁾
	4	4360	4360	3540	3540	5080	3860	4240	3020
	6	5980	5980	4940	4630	6000	5445	5600	4385
	8	6000	6620	5460	5460	6000	6120	6000	4900
200	2	5000	6880	5000 ²⁾	5700 ²⁾	5000	6350	5000 ²⁾	5230 ²⁾
	4	5000	7660	5000	6340	5000	6950	5000	5650
	6	5000	8300	5000	6880	5000	7505	5000	6025
	8	5000	9880	5000	8160	5000	9215	5000	7435
225	2	5000	7380	5000 ³⁾	6120 ³⁾	5000	6770	5000 ³⁾	5490 ³⁾
	4	5000	7600	5000	6220	5000	6795	5000	5475
	6	5000	10140	5000	8420	5000	9270	5000	7490
	8	5000	11 420	5000	9460	5000	10 595	5000	8535
250	2	6000 ⁴⁾	9020 ⁴⁾	6000 ⁴⁾	7500 ⁴⁾	6000 ⁴⁾	8335 ⁴⁾	6000 ⁴⁾	6755 ⁴⁾
	4	6000	9800	6000	8040	6000	8820	6000	7120
	6	6000	11520	6000	9520	6000	10 275	6000	8235
	8	6000	13 700	6000	11 380	6000	12 645	6000	10 205
280	2	5260	5260	4220	4220	6400	4400	5420	3420
	4	6500	6500	5160	5160	7920	5400	6640	4120
	6	7500	7500	6040	6040	8500	6180	7840	4640
	8	7740	7740	6180	6180	8500	6435	7980	4775

¹⁾最大油脂寿命38 000小时

¹⁾ The maximum lifetime of the grease is 38 000 h

²⁾最大油脂寿命27 000小时

²⁾ The maximum lifetime of the grease is 27 000 h

³⁾最大油脂寿命23 000小时

³⁾ The maximum lifetime of the grease is 23 000 h

⁴⁾最大油脂寿命16 000小时

⁴⁾ The maximum lifetime of the grease is 16 000 h

允许径向力

表中提供了环境温度为 25°C 时，50Hz 的正常条件下，轴向力为零时的轴伸允许径向力（N）。分别对轴承寿命满足 20,000 小时和 40,000 小时进行计算。

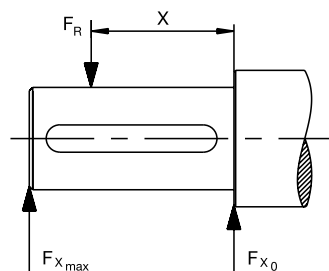
电机为底座安装型 IM B3，并且含横向力。在某些情况下，轴的强度影响允许负载力。在 60Hz 时，数值将相应减少 10%。对于双速电机，数值应以较高的速度为准。

需提供同时存在径向力和轴向力的允许负载值，请联系 ABB。

如果径向力作用于点 X_0 和 X_{max} 之间，则允许负载力 F_R 可以通过以下公式计算：

$$F_R = F_{X_0} - \frac{X}{E} (F_{X_0} - F_{X_{max}})$$

E：基本型号中的轴伸长度



Permissible radial forces

The following table gives the permissible radial forces on shaft in Newton, assuming zero axial force, ambient temperature of 25°C, and normal conditions at 50Hz. The values are given for calculated bearing life of 20,000 and 40,000 hours per motor size.

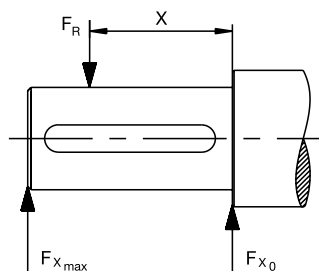
These calculated values further assume mounting position IM B3 (foot-mounted), with force directed sideways. In some cases, the strength of the shaft affects permissible forces.

Permissible loads of simultaneous radial and axial forces can be supplied on request.

If the radial force is applied between points X_0 and X_{max} , the permissible force F_R can be calculated with the following formula:

$$F_R = F_{X_0} - \frac{X}{E} (F_{X_0} - F_{X_{max}})$$

E：Length of the shaft extension in the standard version



允许径向力

Permissible radial forces

机座号 71-132

Motor sizes 71 to 132

电机尺寸 Motor size	极数 Poles	轴伸长度 Length of shaft extension E (mm)	标准设计-深沟球轴承 Basic design with deep groove ball bearings			
			25 000 小时 25 000 hours		40 000 小时 40 000 hours	
			F_{X_0} (N)	$F_{X_{max}}$ (N)	F_{X_0} (N)	$F_{X_{max}}$ (N)
71	2-8	30	680	570	680	570
80	2	40	630	750	930	750
80	4-8	40	930	750	930	750
90	2-8	50	1010	810	1010	810
100	2-8	60	2280	1800	2280	1800
112	2-8	60	2280	1800	2280	1800
112 ¹⁾	2-6	60	1770	1430	1560	1260
132 ²⁾	2-8	80	2120	1610	2120	1610
132 ³⁾	2-8	80	2600	2100	2600	2100

¹⁾ 112 J代

¹⁾ 112 J-gen

²⁾ 62系列轴承

²⁾ 62-series bearings

³⁾ 63系列轴承

³⁾ 63-series bearings

机座号 160-280
Motor sizes 160 to 280

电机尺寸 Motor size	极数 Poles	轴伸长度 Length of shaft extension E (mm)	标准设计-深沟球轴承 Basic design with deep groove ball bearings				可选设计-滚柱轴承 Alternative design with roller bearings			
			20 000 小时 20 000 hours		40 000 小时 40 000 hours		20 000 小时 20 000 hours		40 000 小时 40 000 hours	
			F_{X0} (N)	F_{Xmax} (N)	F_{X0} (N)	F_{Xmax} (N)	F_{X0} (N)	F_{Xmax} (N)	F_{X0} (N)	F_{Xmax} (N)
160	2	110	4760	3860	4100	3320	6580	4300	5620	4300
	4	110	5180	4200	4380	3545	7340	4300	6180	4300
	6	110	5160	4180	4360	3540	7780	4300	6500	4300
	8	110	6280	4300	5320	4300	8860	4300	7440	4300
180	2	110	6060	4960	5280 ¹⁾	4305 ¹⁾	7600	5500	6560	5500
	4	110	4800	3940	4020	3300	7280	5500	6140	5500
	6	110	6280	5140	5280	4380	8680	5500	7280	5500
	8	110	6960	5500	5880	4800	9440	5500	7920	5500
200	2	110	7800	6500	6760 ²⁾	5640 ²⁾	10 360	8640	8880	7400
	4	110	8400	7020	7180	5980	11 560	9550	9800	8180
	6	110	8960	7480	7600	6340	12 480	9550	10 520	8780
	8	110	10480	8740	8940	7400	14 100	9550	11 920	9550
225	2	110	8520	7180	7360 ³⁾	6200 ³⁾	12 320	10 380	10 560	8900
	4	140	8380	6780	7200	5820	13 380	10 250	11 320	9160
	6	140	10 960	8860	9360	7560	15 860	10 250	13 420	10 250
	8	140	12 100	9780	10 340	8360	17 220	10 250	14 580	10 250
250	2	140	10 480 ⁴⁾	8500 ⁴⁾	9080 ⁴⁾	7360 ⁴⁾	16 220	10 900	13 960	10 900
	4	140	10 840	8780	9380	7600	18 020	13 800	15 320	13 800
	6	140	12 600	10 220	10 700	8680	20 240	13 800	17 140	13 800
	8	140	14 660	11 880	12 540	10 160	22 680	13 800	19 220	13 800
280	2	140	6780	5500	5680	4600	16 280	13 200	14 000	11 360
	4	140	8060	6540	6640	5380	19 480	15 780	16 540	13 400
	6	140	8980	7280	7360	5960	21 920	17 760	18 580	15 060
	8	140	9180	7460	7460	6060	22 240	18 020	18 860	15 300

¹⁾最大油脂寿命38 000小时

¹⁾ The maximum lifetime of the grease is 38000 h

²⁾最大油脂寿命27 000小时

²⁾ The maximum lifetime of the grease is 27000 h

³⁾最大油脂寿命23 000小时

³⁾ The maximum lifetime of the grease is 23000 h

⁴⁾最大油脂寿命16 000小时

⁴⁾ The maximum lifetime of the grease is 16000 h

机械设计

Mechanical design

机座号 63-180

位于机座顶部的接线盒由铝合金制成。接线盒两侧均有两个出线孔。机座号132_SM, 160, 180 额外设有一个小出线孔。不包含出线葛兰。

机座号 200-280

位于机座顶部的接线盒座及接线盒盖均由钢板制成。接线盒通过螺栓固定在机座上，无法转动。对应机座号200-280，接线盒尺寸是一致的。

电机可以选配加大号的接线盒（对S电压及机座号为280的电机为标配）；可使用变量代码019订购。

接线盒可以选择安装在机座的左侧或右侧；可使用变量代码 021 及 变量代码180 订购。

接线盒尺寸

机座号	尺寸		
	HB	HD	HE
变量代码019: 加大接线盒			
200 ML	332.5	603	240
225 SM	353	578	260.5
250 SM	376	626	283.5
变量代码021: 左侧接线盒(从D端看)			
变量代码180: 右侧接线盒(从D端看)			
200 ML	332	532	239
225 SM	354	579	260.5
250 SM	377	627	284
变量代码467: 接线盒低于标准接线盒,橡胶加长电缆, 电缆长度2 m			
160	211.5	371.5	
180	226.5	406.5	
200 ML	248	448	
225 SM	269	494	
250 SM	292	542	
280	292	572	

HB, HD, HE尺寸可详细参见外形尺寸图部分。

Sizes 63 to 180

The terminal box is made of aluminum alloy and is located on top of the stator. The lower part of the box is integrated with the stator. It is provided with two knockout openings on each side. Sizes 132 SM_ and 160 - 180 also have a third smaller opening. Cable glands are not included.

Sizes 200 to 280

The terminal box and cover are made of deep drawn steel and mounted on top of the stator. The box is bolted to the stator and is not rotatable. The size of the box is the same for all frame sizes.

The motors can also be provided with an extra large terminal box, standard for voltage code S and frame size 280. See variant code 019 under the heading "Terminal box".

When new motors are manufactured the terminal box can be mounted on the left or the right side. See variant codes 021 and 180 under the heading "Terminal box".

Dimensions for terminal box

Motor size	Dimensions		
	HB	HD	HE
Code 019: Larger than standard terminal box			
200 ML	332.5	603	240
225 SM	353	578	260.5
250 SM	376	626	283.5
Code 021: Terminal box on left-hand side seen from D end			
Code 180: Terminal box on right-hand side seen from D end			
200 ML	332	532	239
225 SM	354	579	260.5
250 SM	377	627	284
Code 467: Lower than standard terminal box without screw terminals and extended rubber connection cable 2 m.			
160	211.5	371.5	
180	226.5	406.5	
200 ML	248	448	
225 SM	269	494	
250 SM	292	542	
280	292	572	

Refer to the Dimension drawings section for dimensions HB, HD and HE.

变频器驱动

Variable speed drives

鼠笼式感应电机具有无与伦比的可用性、可靠性与效率。通过变频器——一种变速驱动器（VSD），该电机的性能将更优异。电机不是一直处于全速运转状态，相反，变速驱动器能够根据实际需要调节速度。这样，就能够准确地控制工艺过程，在某些情况下，甚至可以达到比标称速度更快的运转速度，从而提高产能。

与传统的全压启动（DOL）不同，变速驱动器（VSD）能够平滑地进行启动。这样就大大地减少了电机及驱动应用中的压力。平滑启动还意味着供电网络不受高启动电流的影响。在电网设计时，应将该因素纳入考虑。

由于在速度和工艺用电方面的优化，ABB 低压过程用途电机以及变频器的使用，尤其是 ABB 变频器的使用，通常能够在很大程度上实现节能。节能不仅能够产生环境效益，还能够带来经济效益。ABB 低压过程用途电机适用于 DOL 运行，也适用于变速运行。选择面广，电机能够适应甚至是最苛刻的应用要求。

在为变速驱动器选择低压过程用途电机时，应考虑以下方面：

1. 确定规格

变频器所馈送的电压（或电流）并非完全是正弦的。这可能会增加电机的损耗、振动以及噪音等级。此外，这些损耗分布的变化可能影响电机的温升。因此，在任何情况下，需要根据特定的变频器说明书正确选择电机规格。

使用 ABB 变频器时，请使用 ABB 的 DriveSize 程序来确定电机规格。该工具利用的是基本综合性组合型式试验的规格确定规则。

当手动确定规格时，请注意，此目录中以及相关手册中给出的负载率（负载能力）曲线仅供参考。可根据要求提供针对各个电机和变频器的精确数值。除确定热容量外，必须保持一个转矩裕度，以保持稳定。电机的最大转矩在整个工作周期内应至少高于负载转矩 30%。

尤其是在使用较长的供电电缆时，还必须考虑供电电缆的压降。

Squirrel cage induction motors offer excellent availability, reliability and efficiency. With a variable speed drive (VSD) – a frequency converter – the motor performance can be further improved. Instead of running the motor continuously at full speed, the VSD enables speed adjustment according to actual need. The VSD makes it possible to control the process accurately and in some cases even to improve the capacity of the process by operating at higher than nominal speeds.

In contrast with conventional applications operating with a direct-on-line (DOL) supply, a VSD makes smooth starting possible. This significantly reduces the stress on the motor and driven application. Smooth starting also means that the supply network will not be affected by high starting current transients, a fact that can be taken into account in the design of the network.

The use of ABB industrial drives together with Process performance motors usually provides substantial energy savings as the speed and therefore the power required by the process can be optimized. Process performance motors are designed for both DOL and variable speed operation. A wide range of options is available, so motors can be adapted to the most demanding applications.

When selecting Process performance motors for VSDs, the following points must be taken into consideration.

1. Dimensioning

The voltage (or current) fed by the VSD is not purely sinusoidal. This may increase motor losses, vibration, and noise level. Further, a change in the distribution of losses may affect the motor's temperature rise. In each case, the motor must be correctly sized according to the instructions supplied for the frequency converter.

ABB's DriveSize program utilizes dimensioning rules that are based on comprehensive motor and drive type tests. Please use DriveSize for selecting the correct motor and drive combination for a desired load profile.

In case of manual dimensioning, note that the loadability (or load capacity) curves provided in this catalog and in the respective manuals are indicative only. Values for a specific motor and drive are available on request. In addition to thermal dimensioning, an adequate torque margin must be maintained for stability. The maximum torque of the motor must be at least 30 % higher than the load torque over the whole duty range.

Voltage drop in the supply cable must also be taken into consideration, especially in cases where long supply cables are needed.

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2. 工作转速、振动及轴密封

低压过程用途电机设计可以在宽转速范围下工作，在大多数情况下，也可以显著高于额定转速（即铭牌上印制的转速）的较高转速运行。可以通过铭牌或 DriveSize 工具获知最大转速。除电机转速范围外，请确保不超出整个应用的最大或临界转速。

下表 1 给出了低压过程用途电机的最大规定转速值。

表 1 低压过程用途电机的最大规定转速值

机座号	转速 r/min	
	2 电极	4 电极
71-80	6000	4500
90-100	6000	6000
112-200	4500	4500
225-250	3600	3600
280	3600	2600

3. 通风

电机低速运行时，风扇的冷却能力下降，进而降低电机的负载能力。可以另外使用一个独立的恒速风扇（变量代码 183）来提升冷却能力。

高速运行时，应考虑使用金属风扇在（变量代码 068），而不是塑料风扇。

4. 润滑

在变速应用场合中，轴承温度的变化是由于速度和电机负载变化的结果。这时，在正常工作条件下，通过测量轴承温度，可以得到最精确的润滑间隔时间。如果测量温度高于 +80°C，则需要缩短在润滑铭牌或电机手册中规定的润滑间隔时间，或使用适用于高温工况的润滑脂。请参见 ABB 低压电机手册。

在非常低的速度和温度（低于 20°C）下连续工作时，标准润滑脂的润滑能力可能不足，而需要使用含添加剂的特定润滑脂。更多详情，请联系 ABB。

如果电机配备密封轴承，即一次性润滑轴承，则务必注意，当工作温度与设计温度不同时，轴承的工作寿命也会与设计值不同。有关轴承工作寿命的详细信息，请参见本目录及相关手册中与产品相关的章节。

我们不建议使用所谓的导电润滑脂来消除轴承电流，因为此类产品的润滑性能不良，因此导电性很弱。

2. Operating speed, vibrations and shaft seals

Process performance motors are designed to work over a wide speed range and also at significantly higher than nominal speeds. The maximum speeds can be found on motor rating plates or in DriveSize. In addition to motor speed, make sure that the maximum or critical speed of the entire application is not exceeded.

Guideline maximum speed values for Process performance motors are shown in Table 1.

Table 1. Guideline maximum speed values for Process performance Aluminum motors.

Motor size	Maximum speed, r/min	
	2-pole motors	4-pole motors
71-80	6000	4500
90-100	6000	6000
112-200	4500	4500
225-250	3600	3600
280	3600	2600

3. Ventilation

When the motor is operated at low speeds, the cooling capacity of the fan decreases, which again reduces the motor's load capacity. A separate constant speed fan (variant codes 183) can be used to increase cooling capacity.

At high speeds, the use of metal fans (variant code 068) instead of plastic ones should be considered.

4. Lubrication

In variable speed applications, bearing temperature varies as a function of speed and motor load. In such cases, the most accurate relubrication intervals can be obtained by measuring the bearing temperature under normal operating conditions. If the measured temperature is higher than +80°C, the relubrication intervals specified on the lubrication plate or in the maintenance manual must be shortened, or lubricants suitable for high operating temperatures must be used. See ABB low voltage motor manual.

In case of continuous operation at very low speeds and at very low temperatures (below -20°C), the lubrication properties of standard greases may not be sufficient, and special greases with additives are needed.

Operating temperatures also affect bearing life. When motors are equipped with sealed bearings, that is, bearings greased for life, it must be noted that if the operating temperature differs from the design temperature, the bearing life will also be different. More information on bearing lifetimes can be found in section Mechanical design of this catalog and in the relevant manuals.

The use of so-called conductive greases for elimination of bearing currents is not recommended because of their poor lubrication characteristics and low conductivity.

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5. 绕组绝缘

为确保电机的可靠性，当为电机选择正确的绝缘系统和为变频器选择正确的输出滤波器时，必须考虑变频器的非正弦输出电压的影响。

当使用具有非受控直流电压的变频器时，应根据表 2 选择绝缘和滤波器。

表 2 变频器（其具有非受控直流电压）电机的绕组绝缘及变频器输出滤波器选择

所要求的绕组绝缘和滤波器	
$U_N \leq 500V$	ABB 变频绝缘
$U_N \leq 600V$	ABB 变频绝缘 +dU/dt 滤波器 或 ABB 变频加强绝缘（变量代码 405）
$U_N \leq 690V$	ABB 变频加强绝缘（变量代码 405） 及 变频器输出端的 dU/dt 滤波器
$600V < U_N \leq 690V$	ABB 变频加强绝缘（变量代码 405）

GB14711-2013 新增变频电源供电绝缘结构要求

dU/dt 滤波器的详细信息，请参见相关的 ABB 驱动目录。

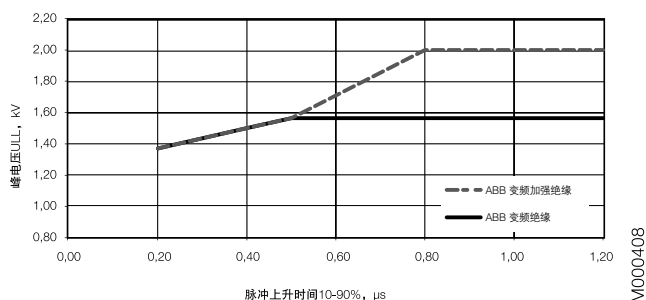
如果表 2 中的内容不适用，以及对于其它类型的变频器，则应根据电机端子电压进行选择。

电机端子处允许的相对地电压峰值为：

- ABB 变频绝缘 1300V
- ABB 变频加强绝缘（变量代码 405）1800V

受脉冲上升时间的影响，电机端子处允许的最大相对地电压峰值见图 1。最高的曲线（即“ABB 变频加强绝缘”）适用于变频器电源采用特殊绕组绝缘的电机，变量代码为 405。“ABB 变频绝缘”适用于具有标准设计的电机。

图 1 受脉冲上升时间的影响，电机端子处允许的最大相对地电压峰值



5. Winding insulation

To ensure that motors operate reliably, the effects of non-sinusoidal output voltages from the converter must be taken into consideration when selecting the correct insulation system for the motor and output filters for the converter.

Insulation and filters must be selected according to Table 2.

Table 2. Selection of motor winding insulation and converter output filters

Winding insulation and filters required	
$U_N \leq 500V$	VSD insulation
$U_N \leq 600V$	VSD insulation + dU/dt filters OR VSD reinforced insulation (variant code 405)
$U_N \leq 690V$	VSD reinforced insulation (variant code 405) AND dU/dt filters at converter output
$600V < U_N \leq 690V$	VSD reinforced insulation (variant code 405)

GB14711-2013 added insulation specification for frequency converter

For more information on dU/dt filters, see the relevant ABB drives catalogs.

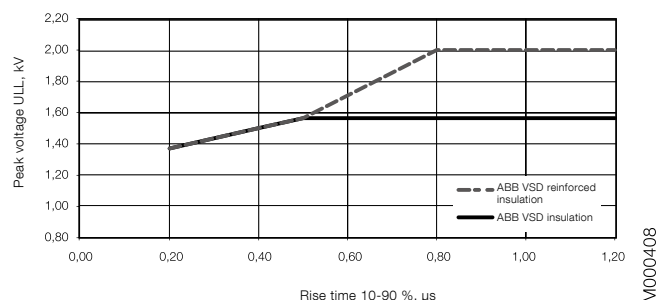
For other converters and cases where the guidelines shown in Table 2 cannot be applied, selection must be based on the voltages present at motor terminals. The allowed.

phase-to-ground voltage peaks at motor terminals:

- 1300 V peak: VSD insulation
- 1800 V peak: VSD reinforced insulation, variant code 405

The maximum allowed phase-to-phase voltage peaks at the motor terminals as a function of pulse rise time are shown in Figure 1. The higher curve, VSD reinforced insulation, applies to motors with special winding insulation for frequency converter supply, variant code 405. VSD insulation applies to motors with standard design.

Figure 1. Maximum allowed phase-to-phase voltage peaks at motor terminals, as a function pulse rise time



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6. 轴承电流

必须在所有电机中消除轴承电压和电流，确保整项工作的可靠开展。如果使用具有非受控直流电压的 ABB ACS800 或 ACS550 驱动器，则必须按照下表 3 所示，使用绝缘轴承（变量代码 701）和 / 或在变频器输出上加上适当规格的滤波器。有关其它代替产品和变频器类型，请联系 ABB。订购时，请明确注明将使用的代替产品。

有关轴承电流和电压的详细资料，请参见“AC 驱动系统中的轴承电流”工厂文件或联系 ABB。

表 3 与变频器（其具有非受控直流电压）配合使用的电机中的轴承电流防护。

标称功率 (PN) 及 / 或机座号 (IEC)	防护措施
$P_N \leq 100 \text{ kW}$	无需采取措施
$P_N \geq 100 \text{ kW}$ 或 $IEC 315 \leq \text{机座号} \leq IEC 355$	非驱动端绝缘轴承
$P_N \geq 350 \text{ kW}$	非驱动端绝缘轴承，关在变频器中设置共模滤波器

共模滤波器

共模滤波器减少了共模电流，从而减少了出现轴承电流的风险。共模滤波器不会严重影响电机接线端子的相电压或电源电压。更多详情，请参见 ABB 驱动器目录。

绝缘轴承

ABB 使用带绝缘内圈或外圈的轴承。所谓混合轴承，也就是带非导电性陶瓷滚动元件的轴承，也可用于特定用途。

7. 电缆敷设、接地及 EMC

变频器对驱动系统的电缆铺设和接地提出了更高的要求。应使用屏蔽对称电缆和提供 360° 接头的电缆接头（也称为 EMC 接头，变量代码 704）来连接电机。对于输出功率不高于 30kW 的电机，可使用非对称电缆，但始终建议使用屏蔽电缆，尤其在驱动应用中存在敏感部件时。

对于机座号为 IEC 280 及以上的电机，除非在一个公共的金属底座上安装电机和驱动机器，否则需要在电机机座和机器之间另外进行电位均衡处理。当使用一个金属底座来实现电位均衡时，应检查此连接的高频导电性。有关变速驱动器的接地和电缆敷设的更多信息，请参见手册“驱动系统的接地和电缆敷设”（编号：3AFY 61201998 R0125 REV B）。

为满足 EMC 的要求，除安装正确的电缆接头外，还必须使用专用的 EMC 电缆（另外具有专用接地件）。请参见变频器手册。

6. Bearing currents

Bearing voltages and currents must be avoided in all motors to ensure reliable operation of the entire application. With ACS800 or ACS550 drives and uncontrolled DC voltage, insulated bearings (variant code 701) and/or properly dimensioned filters at the converter must be used, as indicated in Table 3.

For information on other converter types, contact ABB Sales. When ordering, clearly state which alternative will be used.

Table 3. Precautionary measures to avoid bearing currents in variable speed drives.

	Precautionary measures
$P_N \leq 100 \text{ kW}$	No action needed
$P_N \geq 100 \text{ kW}$ OR $IEC 315 \leq \text{Frame size} \leq IEC 355$	Insulated non-drive end bearing
$P_N \geq 350 \text{ kW}$	Insulated non-drive end bearing AND Common mode filter at the converter

Common mode filters

Common mode filters reduce common mode currents and so decrease the risk of bearing currents. Common mode filters do not significantly affect the phase of main voltages on motor terminals. For more information, see ABB drives catalogs.

Insulated bearings

ABB uses bearings with insulated inner or outer races. Hybrid bearings, that is, bearings with non-conductive ceramic rolling elements, can also be used in special applications.

7. Cabling, grounding, and EMC

The use of a variable speed drive sets higher demands on the cabling and grounding of the drive system. The motor must be cabled using shielded symmetrical cables and cable glands providing 360° bonding (EMC glands, variant code 704). For motors up to 30 kW, asymmetrical cables can be used, but shielded cables are always recommended, especially if there are sensitive components in the driven application.

For motor sizes IEC 280 and above, additional potential equalization is needed between the motor frame and the machinery, unless the motor and the driven machine are installed on a common steel base. When a steel base is used for potential equalization, high frequency conductivity of the connection must be checked.

To meet EMC requirements, special EMC cables must be used in addition to appropriate cable gland mounting with special earthing pieces. Refer to ABB drives manuals for more information.

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8. 变频器的电机负载能力

图 2、图 3 所示的负载能力曲线具有指导意义。欲知精确数值，请联系 ABB。这些负载能力曲线还可以用于其它变频器的初步规格确定，但必须注意的是，不同变频器的谐波分量和控制算法互不相同，因此电机的温升也会不同。

8. Motor loadability with frequency converter drives

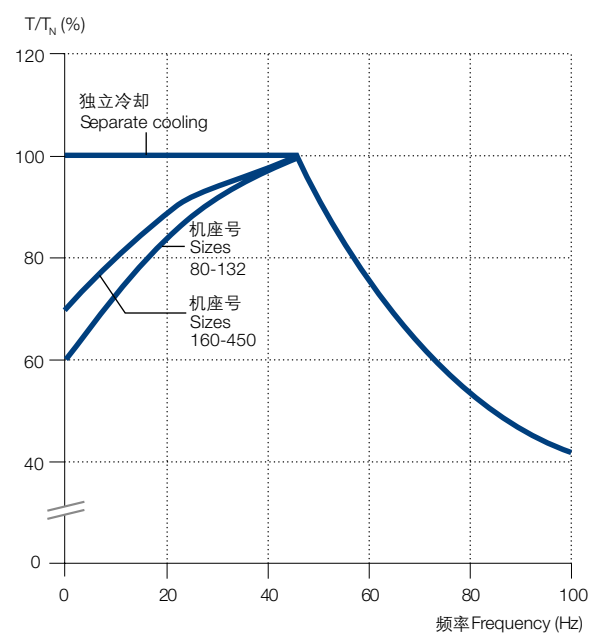
The loadability curves shown in Figures 2 and 3 are indicative guidelines and do not present exact values. These loadability curves can also be used for preliminary dimensioning of motors used at frequency converter duty, but it must be noted that the harmonic content and control algorithms vary between frequency converters, so the motor temperature rise will also be different.

图 2 具有 DTC 控制的变频器负载曲线

Figure 2. Loadability curves for frequency converters with DTC control

B 级温升

Temperature rise B



F 级温升

Temperature rise F

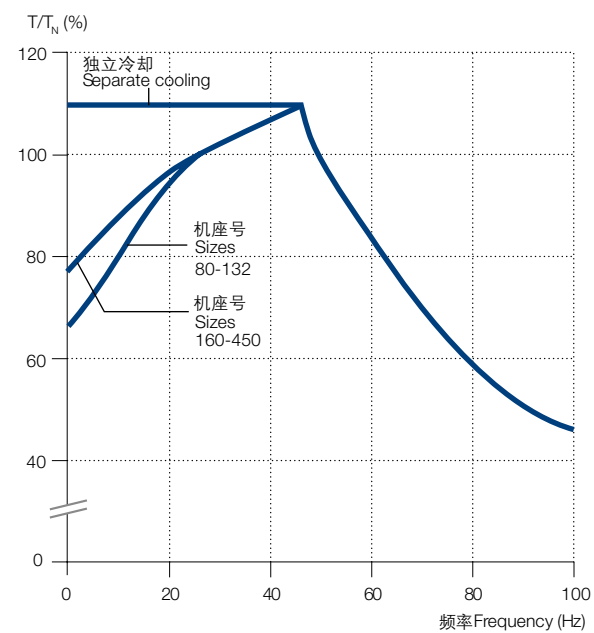
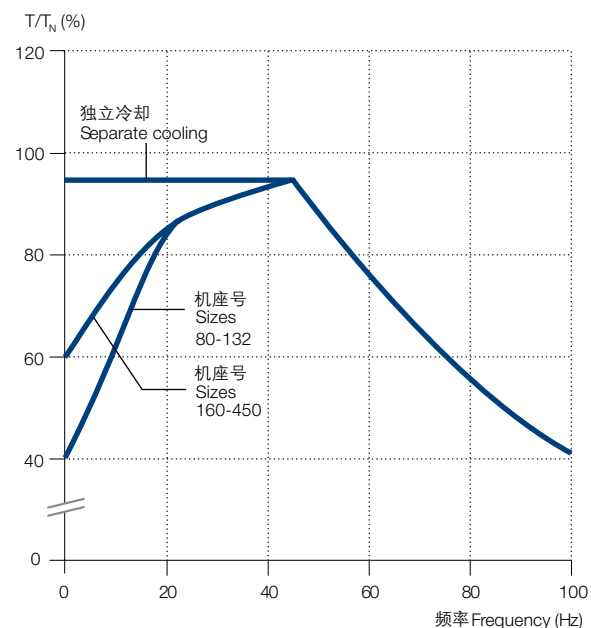


图 3 其它控制类型的变频器负载曲线

Figure 3. Loadability curves for other frequency converters

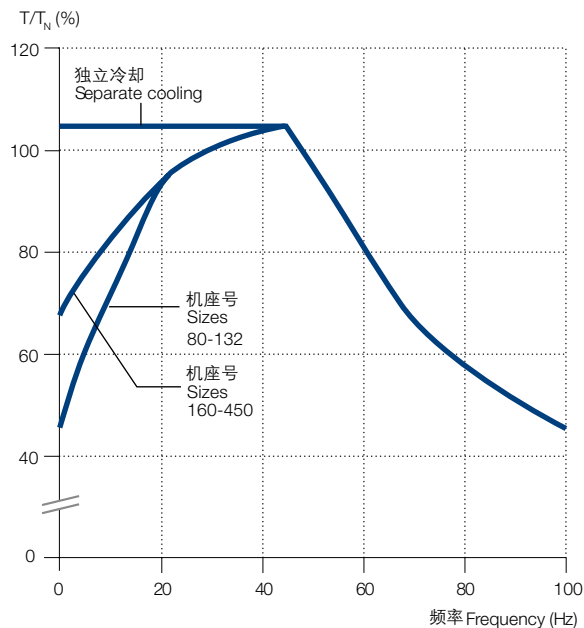
B 级温升

Temperature rise B



F 级温升

Temperature rise F



IP 55 – IC 411 – 绝缘等级 F, 温升等级 B

0.12-0.75kW, 符合 GB 25958-2010 的 3 级能效

0.75-90kW, 符合 IEC 60034-30-1; 2014 的 IE2 效率等级及 GB 18613-2012 的 3 级能效

IP 55 - IC 411 - Insulation class F, temperature rise class B

0.12-0.75kW, Grade 3 according to GB 25958-2010

0.75-90kW, IE2 efficiency class according to 60034-30-1; 2014, Grade 3 according to GB 18613-2012

输出 Output	电机型号 Motor type	产品代码 Product code	转速 Speed	效率 / Efficiency IEC 60034-30-1; 2014			功率 因数 Power factor cos φ	电流 Current			转矩 Torque		转动惯量 Moment of inertia J=1/4 GD ² kgm ²	重量 Weight kg	声压等级 Sound pressure level, L _{PA} dB
				满载 load 100%	3/4 负载 load 75%	1/2 负载 load 50%		I _N A	I _S /I _N	T _N Nm	T _i /T _N	T _B /T _N			
kW				r/min											
3000 r/min = 2 极 / 2 poles				400 V 50 Hz				CENELEC 设计 CENELEC design							
0.37	M3AA 71A 2	3GAA071311-••E	2800	73,8	75,8	73,9	0,76	1,0	4,9	1,3	2,7	2,7	0,000350	4,9	58
0.55	M3AA 71B 2	3GAA071312-••E	2790	78,4	79,8	78,7	0,78	1,3	5,3	1,9	2,9	2,8	0,000450	5,9	58
0.75	M3AA 80B 2	3GAA081312-••E	2895	80,6	80,4	77,3	0,79	1,7	8,1	2,4	3,7	3,9	0,00090	10,5	60
1.1	M3AA 80C 2	3GAA081313-••E	2875	80,6	80,4	77,9	0,80	2,4	7,8	3,6	3,6	3,5	0,00120	11,0	60
1.5	M3AA 90L 2	3GAA091500-••E	2900	84,1	85,0	83,5	0,86	2,9	7,6	4,9	2,5	3,3	0,00240	16	60
2.2	M3AA 90LB 2	3GAA091520-••E	2870	84,6	85,7	84,9	0,86	4,4	6,9	7,3	2,8	3,2	0,00270	18	63
3	M3AA 100LB 2	3GAA101520-••E	2920	86,4	86,1	84,0	0,86	5,8	9,3	9,8	3,3	3,9	0,0050	25	62
4	M3AA 112MB 2	3GAA111320-••E	2885	86,1	87,0	88,0	0,88	7,6	7,6	13,2	2,5	2,8	0,00620	30	68
5.5	M3AA 132SB 2	3GAA131120-••E	2915	88,0	88,1	86,9	0,82	11,0	7,9	18,0	2,6	3,6	0,0160	52	73
7.5	M3AA 132SC 2	3GAA131130-••E	2915	88,3	89,0	88,4	0,90	13,6	7,6	24,5	2,2	3,2	0,0220	52	73
11	M3AA 160MB 2	3GAA161320-••E	2900	90,3	90,5	89,4	0,87	20,2	8,5	36,2	2,7	3,7	0,0187	79	68
11	M3AA 160MLA 2	3GAA161410-••G	2938	90,6	91,5	91,1	0,90	19,2	7,5	35,7	2,4	3,1	0,044	91	69
15	M3AA 160M 2	3GAA161300-••E	2905	90,4	90,8	90,0	0,84	28,5	9,1	49,3	3,3	4,0	0,020	83	69
15	M3AA 160MLB 2	3GAA161420-••G	2934	91,5	92,4	92,2	0,90	26,0	7,5	48,8	2,5	3,3	0,053	105	69
18.5	M3AA 160LB 2	3GAA161520-••E	2895	91,1	92,0	92,1	0,89	32,9	9,7	61,0	3,2	4,3	0,0256	95	68
18.5	M3AA 160MLC 2	3GAA161430-••G	2932	92,0	93,1	93,1	0,92	31,5	7,5	60,2	2,9	3,4	0,063	123	69
22	M3AA 180MLA 2	3GAA181410-••G	2952	92,2	92,7	92,2	0,87	39,5	7,7	71,1	2,8	3,3	0,076	132	69
30	M3AA 200MLA 2	3GAA201410-••G	2956	93,1	93,5	92,8	0,90	51,6	7,7	96,9	2,7	3,1	0,178	210	72
37	M3AA 200MLB 2	3GAA201420-••G	2959	93,4	93,7	92,9	0,90	63,5	8,2	119	3,0	3,3	0,196	225	72
45	M3AA 225SMA 2	3GAA221210-••G	2961	93,6	93,9	93,1	0,88	78,8	6,7	145	2,5	2,5	0,244	263	74
55	M3AA 250SMA 2	3GAA251210-••G	2967	94,1	94,4	93,8	0,88	95,8	6,8	177	2,2	2,7	0,507	304	75
75	M3AA 280SMA 2	3GAA281210-••G	2968	94,4	94,7	94,3	0,89	128	7,1	241	2,5	2,8	0,583	389	75
86 ¹⁾	M3AA 280SMB 2	3GAA281220-••G	2973	94,8	95,1	94,5	0,89	146	8,3	276	2,8	3,3	0,644	425	75
90 ¹⁾	M3AA 280SMB 2	3GAA281229-••G	2971	94,9	95,2	94,7	0,89	153	7,8	289	2,6	3,2	0,644	425	75
3000 r/min = 2 极 / 2 poles				400 V 50 Hz				高输出设计 High-output design							
11	M3AA 132SMF 2	3GAA131260-••E	2900	90,3	90,5	89,4	0,87	20,2	8,5	36,2	2,7	3,7	0,0187	77	68
15	M3AA 132SMG 2	3GAA131270-••E	2905	90,4	90,8	90,0	0,84	28,5	9,1	49,3	3,3	4,0	0,020	81	69
18.5	M3AA 132SMJ 2	3GAA131290-••E	2895	91,1	92,0	92,1	0,89	32,9	9,7	61,0	3,2	4,3	0,0256	93	68
22	M3AA 160MLD 2	3GAA161440-••G	2933	91,7	92,8	92,8	0,90	38,0	8,1	71,6	3,2	3,6	0,063	123	69
27	M3AA 160MLE 2	3GAA161450-••G	2939	92,2	93,1	93,0	0,90	46,4	8,8	87,7	3,4	3,8	0,072	145	69
30	M3AA 180MLB 2	3GAA181420-••G	2950	92,7	93,5	93,3	0,88	53,0	7,9	97,1	2,8	3,3	0,092	149	69
45	M3AA 200MLC 2	3GAA201430-••G	2957	93,3	93,8	93,2	0,90	78,2	8,1	145	3,1	3,3	0,196	225	72
55 ¹⁾	M3AA 200MLD 2	3GAA201440-••G	2953	93,8	94,4	94,3	0,89	95,0	7,8	177	2,9	3,3	0,217	241	72
55	M3AA 225SMB 2	3GAA221220-••G	2961	93,9	94,3	93,6	0,88	96,0	6,5	177	2,4	2,5	0,274	286	74
70 ¹⁾	M3AA 225SMC 2	3GAA221230-••G	2972	94,4	94,5	93,7	0,83	128	7,9	224	3,4	3,3	0,309	312	74
75 ¹⁾	M3AA 225SMD 2	3GAA221240-••G	2967	94,4	94,6	94,0	0,87	131	7,7	241	3,2	3,0	0,329	317	74
75	M3AA 250SMB 2	3GAA251220-••G	2970	94,5	94,8	94,4	0,89	128	7,6	241	2,8	3,1	0,583	351	75
80 ¹⁾	M3AA 225SMD 2	3GAA221240-••G	2964	94,4	94,8	94,3	0,87	140	7,3	257	3,0	2,8	0,329	317	74
90 ¹⁾	M3AA 250SMC 2	3GAA251230-••G	2971	95,0	95,3	94,9	0,89	153	7,6	289	2,5	3,1	0,644	386	75

¹⁾ 温升等级 F

¹⁾ Temperature rise class F

IP 55 – IC 411 – 绝缘等级 F, 温升等级 B

0.12-0.75kW, 符合 GB 25958-2010 的 3 级能效

0.75-90kW, 符合 IEC 60034-30-1; 2014 的 IE2 效率等级及 GB 18613-2012 的 3 级能效

IP 55 - IC 411 - Insulation class F, temperature rise class B

0.12-0.75kW, Grade 3 according to GB 25958-2010

0.75-90kW, IE2 efficiency class according to 60034-30-1; 2014 , Grade 3 according to GB 18613-2012

输出 Output	电机型号 Motor type	产品代码 Product code	转速 Speed	效率 / Efficiency IEC 60034-30-1; 2014			功率 因数 Power factor cos φ	电流 Current				转矩 Torque		转动惯量 Moment of inertia J=1/4 GD ² kgm ²	重量 Weight kg	声压等级 Sound pressure level, L _{PA} dB
				满载 load 100%	3/4 负载 load 75%	1/2 负载 load 50%		I _N A	I _s /I _N	T _N Nm	T _i /T _N	T _B /T _N				
1500 r/min = 4 极 / 4 poles			400 V 50 Hz				CENELEC 设计 CENELEC design									
0.25	M3AA 71A 4	3GAA072311-••E	1365	65,1	66,0	62,7	0,76	0,7	4,0	1,7	2,0	2,1	0,000660	5,2	45	
0.37	M3AA 71B 4	3GAA072312-••E	1375	69,7	71,9	71,1	0,79	1,0	3,8	2,5	2,0	2,2	0,00080	5,9	45	
0.55	M3AA 80A 4	3GAA082311-••E	1375	72,8	76,1	75,2	0,77	1,4	4,5	3,8	1,8	2,2	0,00130	8,5	50	
0.75	M3AA 80E 4	3GAA082315-••E	1425	79,8	80,4	77,9	0,72	1,9	6,6	5,0	3,5	3,6	0,0020	15,0	54	
1.1	M3AA 90LB 4	3GAA092520-••E	1435	83,7	83,7	81,7	0,78	2,4	6,6	7,3	2,9	3,2	0,00430	16	50	
1.5	M3AA 90LD 4	3GAA092540-••E	1435	84,2	84,1	81,9	0,76	3,3	7,0	9,9	3,1	3,5	0,00480	17	50	
2.2	M3AA 100LC 4	3GAA102530-••E	1450	86,4	86,2	84,1	0,79	4,6	7,3	14,4	2,8	3,4	0,0090	25	54	
3	M3AA 100LD 4	3GAA102540-••E	1445	85,7	86,1	85,1	0,79	6,3	7,0	19,8	2,4	3,0	0,0110	28	63	
4	M3AA 112MB 4	3GAA112320-••E	1445	86,7	86,5	85,2	0,75	8,8	7,3	26,4	3,1	3,4	0,0126	34	64	
5.5	M3AA 132M 4	3GAA132300-••E	1465	89,0	89,5	88,6	0,79	10,9	6,3	36,0	1,9	2,6	0,0380	48	66	
7.5	M3AA 132MA 4	3GAA132310-••E	1460	89,1	89,8	89,4	0,79	14,7	6,4	49,0	1,8	2,6	0,0480	59	63	
11	M3AA 160MLA 4	3GAA162410-••G	1466	90,4	91,6	91,3	0,84	20,9	6,8	71,6	2,2	2,8	0,081	99	62	
11	M3AA 160MB 4	3GAA162320-••E	1460	90,4	90,8	89,9	0,79	21,5	7,7	71,9	2,1	3,1	0,0433	85	65	
15	M3AA 160MLB 4	3GAA162420-••G	1470	91,4	92,3	92,2	0,83	28,5	7,1	97,4	2,6	3,0	0,099	118	62	
15	M3AA 160LB 4	3GAA162520-••E	1455	90,6	91,0	90,3	0,77	29,8	7,1	98,4	2,4	2,9	0,0517	84	67	
18.5	M3AA 180MLA 4	3GAA182410-••G	1477	91,9	92,8	92,6	0,84	34,5	7,2	119	2,6	2,9	0,166	146	62	
22	M3AA 180MLB 4	3GAA182420-••G	1475	92,3	93,3	93,2	0,84	40,9	7,3	142	2,6	3,0	0,195	163	62	
30	M3AA 200MLA 4	3GAA202410-••G	1480	93,2	94,0	93,7	0,84	55,2	7,4	193	2,8	3,0	0,309	218	63	
37	M3AA 225SMA 4	3GAA222210-••G	1479	93,4	93,9	93,4	0,84	68,0	7,1	238	2,6	2,9	0,356	240	66	
45	M3AA 225SMB 4	3GAA222220-••G	1480	93,9	94,3	93,9	0,85	81,3	7,5	290	2,8	3,2	0,44	273	66	
55	M3AA 250SMA 4	3GAA252210-••G	1480	94,4	94,9	94,6	0,85	98,9	7,0	354	2,6	2,9	0,765	314	67	
75	M3AA 280SMA 4	3GAA282210-••G	1478	94,3	94,9	94,6	0,85	135	7,1	484	2,8	3,0	0,866	389	67	
85 ¹⁾	M3AA 280SMB 4	3GAA282220-••G	1480	94,8	95,3	95,0	0,84	153	8,0	548	3,4	3,6	0,941	418	67	
90 ¹⁾	M3AA 280SMB 4	3GAA282220-••G	1478	94,6	95,4	95,2	0,84	163	7,7	581	3,2	3,4	0,941	418	67	
1500 r/min = 4 极 / 4 poles			400 V 50 Hz				高输出设计 High-output design									
11	M3AA 132SMF 4	3GAA132260-••E	1460	90,4	90,8	89,9	0,79	21,5	7,7	71,9	2,1	3,1	0,0433	83	65	
15	M3AA 132SMH 4	3GAA132280-••E	1455	90,6	91,0	90,3	0,77	29,8	7,1	98,4	2,4	2,9	0,0517	82	67	
18.5	M3AA 160MLC 4	3GAA162430-••G	1469	91,4	92,4	92,2	0,84	34,7	7,6	120	3,0	3,2	0,110	127	62	
22 ¹⁾	M3AA 160MLD 4	3GAA162440-••G	1463	91,6	93,0	93,2	0,85	40,7	6,9	143	2,5	2,9	0,125	140	62	
30 ¹⁾	M3AA 180MLC 4	3GAA182430-••G	1474	92,3	93,5	93,5	0,83	56,5	7,3	194	2,7	2,9	0,217	177	62	
37	M3AA 200MLB 4	3GAA202420-••G	1479	93,4	94,4	94,4	0,85	67,2	7,1	238	2,6	2,9	0,343	234	63	
45 ¹⁾	M3AA 200MLC 4	3GAA202430-••G	1479	93,6	94,4	94,2	0,83	83,6	7,5	290	2,9	3,2	0,366	246	63	
55	M3AA 225SMC 4	3GAA222230-••G	1478	94,0	94,6	94,4	0,85	99,3	7,4	355	2,9	3,1	0,474	287	66	
64	M3AA 225SMD 4	3GAA222240-••G	1480	94,2	94,6	94,1	0,85	115	8,2	412	3,3	3,3	0,542	314	66	
75 ¹⁾	M3AA 250SMB 4	3GAA252220-••G	1478	94,4	95,1	94,8	0,85	134	7,3	484	2,8	3,1	0,866	350	67	
90 ¹⁾	M3AA 250SMC 4	3GAA252230-••G	1478	94,6	95,3	95,0	0,84	163	7,4	581	3,1	3,3	0,941	377	67	

¹⁾ 温升等级 F

¹⁾ Temperature rise class F

IP 55 – IC 411 – 绝缘等级 F, 温升等级 B

0.12-0.75kW, 符合 GB 25958-2010 的 3 级能效

0.75-90kW, 符合 IEC 60034-30-1; 2014 的 IE2 效率等级及 GB 18613-2012 的 3 级能效

IP 55 - IC 411 - Insulation class F, temperature rise class B

0.12-0.75kW, Grade 3 according to GB 25958-2010

0.75-90kW, IE2 efficiency class according to 60034-30-1; 2014 , Grade 3 according to GB 18613-2012

输出 Output	电机型号 Motor type	产品代码 Product code	转速 Speed	效率 / Efficiency IEC 60034-30-1; 2014			功率 因数 Power factor cos φ	电流 Current					转矩 Torque	转动惯量 Moment of inertia J=1/4 GD ² kgm ²	重量 Weight kg	声压等级 Sound pressure level, L _{PA} dB
				满载 load 100%	3/4 负载 load 75%	1/2 负载 load 50%		I _N A	I _s /I _N	T _N Nm	T _f /T _N	T _B /T _N				
kW			r/min	400 V 50 Hz				CENELEC 设计 CENELEC design								
1000 r/min = 6 极 / 6 poles																
0.18	M3AA 71A 6	3GAA073311-●●E	885	59,5	61,1	56,5	0,71	0,6	3,1	1,9	1,7	1,9	0,000920	5,5	42	
0.25	M3AA 71B 6	3GAA073312-●●E	895	64,0	63,6	59,5	0,71	0,8	3,3	2,6	2,2	2,2	0,00120	6,5	42	
0.37	M3AA 80A 6	3GAA083311-●●E	905	68,0	70,7	68,3	0,73	1,1	3,6	3,9	1,6	2,1	0,0020	9,0	47	
0.55	M3AA 80B 6	3GAA083312-●●E	905	68,7	71,8	69,7	0,73	1,6	3,3	5,8	1,6	1,8	0,00260	10,0	47	
0.75	M3AA 90LB 6	3GAA093520-●●E	930	77,6	78,0	75,6	0,71	2,0	4,0	7,7	2,0	2,3	0,00480	18	44	
1.1	M3AA 90LD 6	3GAA093540-●●E	935	78,3	79,3	77,6	0,69	2,9	4,2	11,2	2,2	2,6	0,00560	20	44	
1.5	M3AA 100LC 6	3GAA103530-●●E	945	80,3	81,4	80,7	0,73	3,6	3,9	15,1	1,7	2,0	0,0090	26	49	
2.2	M3AA 112MB 6	3GAA113320-●●E	955	81,9	81,8	79,2	0,72	5,3	5,2	21,9	1,8	2,2	0,010	34	56	
3	M3AA 132S 6	3GAA133100-●●E	960	83,3	82,9	80,5	0,69	7,7	4,3	29,8	1,6	2,3	0,0310	46	57	
4	M3AA 132MB 6	3GAA133320-●●E	975	86,4	85,8	83,1	0,70	9,4	7,3	39,2	2,1	4,4	0,0450	54	57	
4	M3AA 132MA 6	3GAA133310-●●E	960	84,9	85,3	83,9	0,68	10,0	4,6	39,7	1,5	2,2	0,0380	46	61	
5.5	M3AA 132MC 6	3GAA133330-●●E	965	86,1	85,6	83,0	0,69	13,3	6,2	54,3	2,5	2,8	0,0490	59	61	
7.5	M3AA 160MLA 6	3GAA163410-●●G	975	88,5	89,9	89,7	0,79	15,4	7,4	73,4	1,7	3,2	0,087	98	59	
11	M3AA 160MLB 6	3GAA163420-●●G	972	89,3	90,6	90,5	0,79	22,5	7,5	108	1,9	2,9	0,114	125	59	
15	M3AA 180MLA 6	3GAA183410-●●G	977	90,5	91,5	91,0	0,77	31,0	5,8	146	1,8	2,7	0,168	148	59	
18.5	M3AA 200MLA 6	3GAA203410-●●G	988	91,6	92,2	91,7	0,80	36,4	6,7	178	2,3	2,9	0,382	196	63	
22	M3AA 200MLB 6	3GAA203420-●●G	987	92,0	92,9	92,7	0,82	42,0	6,6	212	2,2	2,8	0,448	218	63	
30	M3AA 225SMA 6	3GAA223210-●●G	986	92,6	93,3	92,8	0,83	56,2	7,0	290	2,6	2,9	0,663	266	63	
37	M3AA 250SMA 6	3GAA253210-●●G	989	93,1	93,8	93,4	0,82	69,9	6,8	357	2,4	2,7	1,130	294	63	
45 ¹⁾	M3AA 280SMA 6	3GAA283210-●●G	988	93,2	94,0	93,9	0,84	82,9	6,8	434	2,4	2,6	1,370	378	63	
55 ¹⁾	M3AA 280SMB 6	3GAA283220-●●G	988	93,2	94,1	94,0	0,84	101	7,1	531	2,6	2,8	1,500	404	63	
1000 r/min = 6 极 / 6 poles				400 V 50 Hz				高输出设计 High-output design								
18.5	M3AA 180MLB 6	3GAA183420-●●G	975	90,7	92,0	92,0	0,79	37,2	5,8	181	1,7	2,7	0,198	162	59	
30 ¹⁾	M3AA 200MLC 6	3GAA203430-●●G	985	92,0	93,1	92,8	0,83	56,7	6,9	290	2,3	2,8	0,531	245	63	
37	M3AA 225SMB 6	3GAA223220-●●G	985	93,1	94,0	94,0	0,83	69,1	6,6	358	2,3	2,6	0,821	300	63	
45	M3AA 250SMB 6	3GAA253220-●●G	989	93,4	94,1	93,9	0,83	83,7	7,0	434	2,5	2,7	1,370	341	63	
45 ¹⁾	M3AA 225SMC 6	3GAA223230-●●G	984	92,6	93,9	94,0	0,83	84,4	6,4	436	2,3	2,6	0,821	300	63	
55 ¹⁾	M3AA 250SMC 6	3GAA253230-●●G	988	93,2	94,1	94,0	0,84	101	7,1	531	2,6	2,8	1,50	367	63	

¹⁾ 温升等级 F

¹⁾ Temperature rise class F

技术数据

Technical data

IE2
8P 400V 50HZ

IP 55 – IC 411 – 绝缘等级 F, 温升等级 B

0.12-0.75kW, 符合 GB 25958-2010 的 3 级能效

0.75-90kW, 符合 IEC 60034-30-1; 2014 的 IE2 效率等级及 GB 18613-2012 的 3 级能效

IP 55 - IC 411 - Insulation class F, temperature rise class B

0.12-0.75kW, Grade 3 according to GB 25958-2010

0.75-90kW, IE2 efficiency class according to 60034-30-1; 2014 , Grade 3 according to GB 18613-2012

输出 Output	电机型号 Motor type	产品代码 Product code	转速 Speed	效率 / Efficiency IEC 60034-30-1; 2014			功率 因数 Power factor cos φ	电流 Current			转矩 Torque		转动惯量 Moment of inertia J=1/4 GD ² kgm ²	重量 Weight kg	声压等级 Sound pressure level, L _{PA} dB
				满载 load 100%	3/4 负载 load 75%	1/2 负载 load 50%		I _N A	I _S /I _N	T _N Nm	T _I /T _N	T _B /T _N			
kW			r/min	400 V 50 Hz				GENELEC 设计 GENELEC design							
0.12	M3AA 71B 8	3GAA074002-••E	665	51,5	49,0	41,9	0,60	0,6	2,5	1,7	2,2	2,1	0,00120	6,5	43
0.18	M3AA 80A 8	3GAA084001-••E	690	57,2	55,4	48,8	0,61	0,7	2,9	2,4	2,3	2,3	0,00180	8,5	45
0.25	M3AA 80B 8	3GAA084002-••E	690	61,4	60,0	54,0	0,60	1,0	3,1	3,4	2,5	2,5	0,00240	9,5	50
0.37	M3AA 90S 8	3GAA094100-••E	695	57,4	53,8	45,2	0,56	1,6	2,7	5,0	1,7	2,1	0,00320	13	52
0.55	M3AA 90L 8	3GAA094500-••E	660	61,7	59,5	53,0	0,58	2,3	2,5	7,6	1,5	1,6	0,00430	16	52
0.75	M3AA 100LA 8	3GAA104510-••E	720	70,7	67,1	59,9	0,47	3,2	3,9	9,9	2,5	3,3	0,00690	20	46
1.1	M3AA 100LB 8	3GAA104520-••E	695	76,0	74,9	70,9	0,66	3,1	3,4	15,1	1,7	2,2	0,00820	23	53
1.5	M3AA 112M 8	3GAA114300-••E	690	74,4	74,1	70,6	0,70	4,1	3,2	20,7	1,4	1,9	0,010	28	55
2.2	M3AA 132S 8	3GAA134100-••E	715	77,7	79,2	77,6	0,65	6,2	3,4	29,3	1,3	1,9	0,0310	46	56
3	M3AA 132M 8	3GAA134300-••E	715	79,3	78,8	75,5	0,64	8,5	3,2	40,0	1,2	1,8	0,0370	53	58
4	M3AA 160MLA 8	3GAA164410-••G	728	84,0	85,1	83,6	0,67	10,2	5,4	52,4	1,5	2,6	0,068	84	59
5.5	M3AA 160MLB 8	3GAA164420-••G	726	84,6	85,9	84,8	0,67	13,9	5,6	72,3	1,4	2,6	0,085	98	59
7.5	M3AA 160MLC 8	3GAA164430-••G	727	86,0	87,3	86,5	0,65	19,3	4,7	98,5	1,5	2,8	0,132	137	59
11	M3AA 180MLA 8	3GAA184410-••G	731	86,9	88,5	87,9	0,67	27,3	4,4	143	1,8	2,6	0,214	175	59
15	M3AA 200MLA 8	3GAA204410-••G	737	90,1	91,3	90,8	0,74	32,4	5,3	194	2,0	2,4	0,45	217	60
18.5	M3AA 225SMA 8	3GAA224210-••G	739	91,0	92,0	91,5	0,73	40,1	5,2	239	2,0	2,3	0,669	266	63
22	M3AA 225SMB 8	3GAA224220-••G	738	91,6	92,3	92,0	0,74	46,8	5,5	284	2,0	2,3	0,722	279	63
30	M3AA 250SMA 8	3GAA254210-••G	742	92,3	92,8	92,2	0,71	66,0	5,8	386	2,6	2,4	1,400	340	63
37	M3AA 280SMA 8	3GAA284031-••G	740	92,2	93,0	92,6	0,74	78,1	5,6	477	2,4	2,3	1,510	403	63
750 r/min = 8 极 / 8 poles				400 V 50 Hz				高输出设计 High-output design							
0.37	M3AA 80C 8	3GAA084003-••E	685	63,1	63,2	58,1	0,62	1,4	3,3	5,1	2,3	2,3	0,00310	11,0	45
0.75 ¹⁾	M3AA 90LF 8	3GAA094560-••E	635	58,5	60,7	56,2	0,60	3,0	2,7	11,2	1,7	2,0	0,00480	18	43
1.5 ¹⁾	M3AA 100LG 8	3GAA104570-••E	685	70,7	70,9	67,3	0,64	4,7	3,1	20,9	1,9	2,0	0,0090	26	46
3.8 ¹⁾	M3AA 132MF 8	3GAA134360-••E	710	76,7	79,3	78,1	0,68	10,5	3,7	51,1	1,4	2,5	0,0490	54	68
18.5	M3AA 200MLB 8	3GAA204420-••G	739	90,1	90,9	90,3	0,74	40,0	5,4	239	2,1	2,3	0,530	245	60
30	M3AA 225SMC 8	3GAA224230-••G	737	91,6	92,6	92,4	0,73	64,7	5,6	388	2,3	2,4	0,828	300	63
37	M3AA 250SMB 8	3GAA254220-••G	740	92,7	93,6	93,4	0,73	78,9	5,4	477	2,6	2,3	1,510	367	63
45 ¹⁾	M3AA 250SMC 8	3GAA254230-••G	738	92,2	93,4	93,4	0,74	95,1	5,6	582	2,3	2,4	1,510	367	63

¹⁾ 温升等级 F

¹⁾ Temperature rise class F

IP 55 – IC 411 – 绝缘等级 F, 温升等级 B

符合 IEC 60034-30-1; 2014 的 IE3 效率等级及 GB 18613-2012 的 2 级能效

IP 55 - IC 411 - Insulation class F, temperature rise class B

IE3 efficiency class according to IEC 60034-30-1; 2014 , Grade 2 according to GB 18613-2012

输出 Output	电机型号 Motor type	产品代码 Product code	转速 Speed	效率 / Efficiency IEC 60034-30-1; 2014			功率 因数 Power factor $\cos \phi$	电流 Current			转矩 Torque		转动惯量 Moment of inertia J=1/4 GD ² kgm ²	重量 Weight kg	声压等级 Sound pressure level, L _{PA} dB
				满载 load 100%	3/4 负载 load 75%	1/2 负载 load 50%		I _N A	I _S /I _N	T _N Nm	T _I /T _N	T _B /T _N			
kW				400 V 50 Hz				GENELEC 设计 GENELEC design							
3000 r/min = 2 极 / 2 poles				400 V 50 Hz				GENELEC 设计 GENELEC design							
0.75	M3AA 80MB 2	3GAA081320-••K		On Request											
1.1	M3AA 80MC 2	3GAA081330-••K		On Request											
1.5	M3AA 90LB 2	3GAA091520-••K		On Request											
2.2	M3AA 90LC 2	3GAA091530-••K		On Request											
3	M3AA 100LC 2	3GAA101530-••K		On Request											
4	M3AA 112MB 2	3GAA111320-••K		On Request											
5.5	M3AA 132SB 2	3GAA131120-••K		On Request											
7.5	M3AA 132SC 2	3GAA131130-••K		On Request											
11	M3AA 160MLA 2	3GAA161410-••K	2943	92,1	92,7	92,4	0,92	18,7	8,1	35,6	2,7	3,4	0,0520	106	69
15	M3AA 160MLB 2	3GAA161420-••K	2943	92,5	93,4	93,2	0,92	25,4	8,4	48,6	3,1	3,4	0,0620	123	69
18.5	M3AA 160MLC 2	3GAA161430-••K	2942	93,1	93,9	93,9	0,93	30,8	8,3	60,0	3,1	3,6	0,0720	137	69
22	M3AA 180MLA 2	3GAA181410-••K	2957	93,2	93,9	93,8	0,91	37,4	8,1	71,0	2,6	3,2	0,116	176	69
30	M3AA 200MLA 2	3GAA201410-••K	2958	94,2	94,9	94,7	0,90	51,0	7,8	96,8	2,8	3,1	0,196	225	72
37	M3AA 200MLB 2	3GAA201420-••K	2960	94,7	95,2	95,0	0,91	61,9	8,8	119	3,1	3,4	0,217	241	72
45	M3AA 225SMA 2	3GAA221210-••K	2972	94,9	95,1	94,7	0,89	76,8	7,8	144	3,1	3,0	0,323	326	74
55	M3AA 250SMA 2	3GAA251210-••K	2975	95,2	95,4	95,0	0,89	93,6	8,0	176	2,8	3,3	0,579	351	75
3000 r/min = 2 极 / 2 poles				400 V 50 Hz				高输出设计 High-output design							
22	M3AA 160MLD 2	3GAA161440-••K	2944	92,7	93,5	93,4	0,90	38,0	8,4	71,4	3,2	3,7	0,0710	131	74
30	M3AA 180MLB 2	3GAA181420-••K	2957	93,3	94,0	93,9	0,88	52,7	8,7	96,9	3,0	3,8	0,104	162	74
37	M3AA 180MLC 2	3GAA181430-••K	2952	93,7	94,5	94,5	0,88	64,7	8,7	120	3,1	3,7	0,115	176	74
45	M3AA 200MLC 2	3GAA201430-••K	2955	94,0	94,9	95,0	0,89	77,6	8,0	145	2,9	3,3	0,214	250	77
55	M3AA 225SMB 2	3GAA221220-••K	2966	94,3	94,6	94,1	0,88	95,6	7,4	177	2,9	2,9	0,274	288	79
75	M3AA 225SMC 2	3GAA221230-••K	2966	94,7	95,1	94,7	0,88	129,0	8,1	241	3,3	3,0	0,329	328	79
75	M3AA 250SMB 2	3GAA251220-••K	2971	94,7	95,1	94,8	0,90	127,0	7,9	241	2,8	3,3	0,644	405	81
90	M3AA 250SMC 2	3GAA251230-••K	2968	95,0	95,4	95,0	0,90	151,0	8,4	290	2,7	3,4	0,644	414	81

技术数据

Technical data

IE3
4P 400V 50HZ

IP 55 – IC 411 – 绝缘等级 F, 温升等级 B

符合 IEC 60034-30-1; 2014 的 IE3 效率等级及 GB 18613-2012 的 2 级能效

IP 55 - IC 411 - Insulation class F, temperature rise class B

IE3 efficiency class according to IEC 60034-30-1; 2014 , Grade 2 according to GB 18613-2012

输出 Output	电机型号 Motor type	产品代码 Product code	转速 Speed	效率 / Efficiency IEC 60034-30-1; 2014			功率 因数 Power factor cos φ	电流 Current			转矩 Torque		转动惯量 Moment of inertia J=1/4 GD ² kgm ²	重量 Weight kg	声压等级 Sound pressure level, L _{PA} dB
				满载 load 100%	3/4 负载 load 75%	1/2 负载 load 50%		I _N A	I _S /I _N	T _N Nm	T _I /T _N	T _B /T _N			
kW			r/min												
1500 r/min = 4 极 / 4 poles				400 V 50 Hz				CENELEC 设计 CENELEC design							
0.75	M3AA 80ME 4	3GAA082350-••K		On Request											
1.1	M3AA 90LC 4	3GAA092530-••K		On Request											
1.5	M3AA 90LD 4	3GAA092540-••K		On Request											
2.2	M3AA 100LE 4	3GAA102550-••K		On Request											
3	M3AA 100LF 4	3GAA102560-••K		On Request											
4	M3AA 112MB 4	3GAA112320-••K		On Request											
5.5	M3AA 132MB 4	3GAA132320-••K		On Request											
7.5	M3AA 132MC 4	3GAA132330-••K		On Request											
11	M3AA 160MLA 4	3GAA162410-••K	1473	92,2	93,0	92,7	0,84	20,4	7,7	71,3	2,6	2,9	0,108	126	62
15	M3AA 160MLB 4	3GAA162420-••K	1474	92,6	93,4	93,2	0,84	27,8	7,9	97,1	2,8	3,3	0,125	140	62
18.5	M3AA 180MLA 4	3GAA182410-••K	1481	93,3	94,0	93,8	0,82	34,9	7,6	119	3,0	3,1	0,217	177	62
22	M3AA 180MLB 4	3GAA182420-••K	1480	93,3	94,1	94,1	0,82	41,5	8,2	141	2,8	3,1	0,217	176	62
30	M3AA 200MLA 4	3GAA202410-••K	1484	94,4	94,8	94,6	0,84	54,6	8,3	193	3,0	3,3	0,366	246	63
37	M3AA 225SMA 4	3GAA222210-••K	1482	94,9	95,5	95,4	0,86	65,4	7,7	238	2,8	3,1	0,536	315	66
45	M3AA 225SMB 4	3GAA222220-••K	1482	95,2	95,6	95,5	0,85	80,2	7,9	289	2,8	3,2	0,536	316	66
55	M3AA 250SMA 4	3GAA252210-••K	1485	95,4	95,9	95,7	0,85	97,8	7,9	353	3,0	3,3	0,933	376	67
1500 r/min = 4 极 / 4 poles				400 V 50 Hz				高输出设计 High-output design							
18.5	M3AA 160MLC 4	3GAA162430-••K	1473	92,6	93,3	93,1	0,82	35,1	8,3	120	3,1	3,5	0,124	135	67
37	M3AA 200MLB 4	3GAA202420-••K	1480	93,9	94,8	94,8	0,82	69,3	7,5	239	2,8	2,9	0,362	244	68
55	M3AA 225SMC 4	3GAA222230-••K	1478	94,6	95,3	95,1	0,84	99,9	7,7	355	3,3	3,3	0,536	318	71
75	M3AA 250SMB 4	3GAA252220-••K	1482	95,0	95,4	95,0	0,84	135	7,9	483	3,3	3,5	0,941	389	73

IP 55 – IC 411 – 绝缘等级 F, 温升等级 B

符合 IEC 60034-30-1; 2014 的 IE3 效率等级及 GB 18613-2012 的 2 级能效

IP 55 - IC 411 - Insulation class F, temperature rise class B

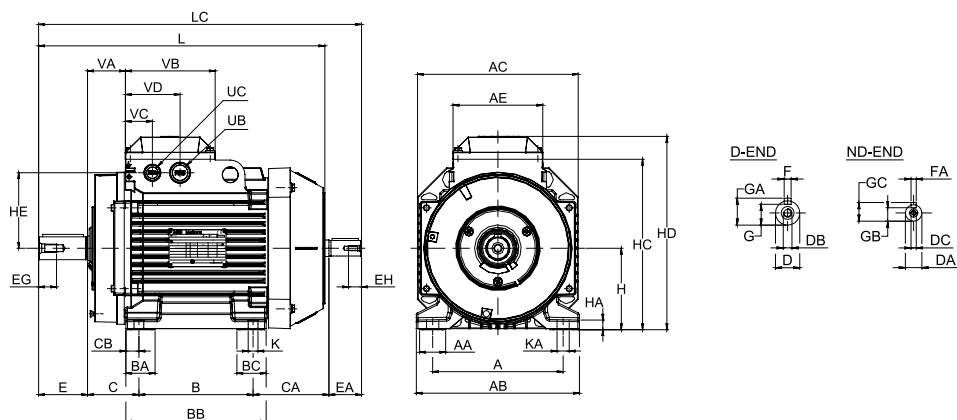
IE3 efficiency class according to IEC 60034-30-1; 2014 , Grade 2 according to GB 18613-2012

输出 Output	电机型号 Motor type	产品代码 Product code	转速 Speed	效率 / Efficiency IEC 60034-30-1; 2014			功率 因数 Power factor cos φ	电流 Current					转矩 Torque	转动惯量 Moment of inertia J=1/4 GD ² kgm ²	重量 Weight kg	声压等级 Sound pressure level, L _{PA} dB
				满载 load 100%	3/4 负载 load 75%	1/2 负载 load 50%		I _N A	I _S /I _N	T _N Nm	T _I /T _N	T _B /T _N				
kW			r/min	400 V 50 Hz				CENELEC- 设计 design								
1000 r/min = 6 极 / 6 poles				400 V 50 Hz				CENELEC- 设计 design								
0.75	M3AA 90LD 6	3GAA093540-••K		On Request												
1.1	M3AA 100LE 6	3GAA103550-••K		On Request												
1.5	M3AA 100LF 6	3GAA103560-••K		On Request												
2.2	M3AA 112MC 6	3GAA113330-••K		On Request												
3	M3AA 132MC 6	3GAA133330-••K		On Request												
4	M3AA 132MD 6	3GAA133340-••K		On Request												
5.5	M3AA 132ME 6	3GAA133350-••K		On Request												
7.5	M3AA 160MLA 6	3GAA163410-••K	980	90,8	91,5	91,0	0,78	15,2	7,9	73,0	1,7	3,3	0,114	125	59	
11	M3AA 160MLB 6	3GAA163420-••K	979	91,2	91,8	91,1	0,74	23,5	8,5	107	2,2	3,9	0,131	139	59	
15	M3AA 180MLA 6	3GAA183410-••K	987	92,2	92,4	91,5	0,77	30,4	7,7	145	2,2	3,5	0,225	175	59	
18.5	M3AA 200MLA 6	3GAA203410-••K	990	92,8	93,2	92,6	0,77	37,3	7,5	178	2,6	3,2	0,448	218	63	
22	M3AA 200MLB 6	3GAA203420-••K	990	93,3	93,7	93,1	0,79	43,0	7,8	212	2,6	3,2	0,531	245	63	
30	M3AA 225SMA 6	3GAA223210-••K	989	94,1	94,6	94,4	0,81	56,8	7,9	289	2,8	3,1	0,813	310	63	
37	M3AA 250SMA 6	3GAA253210-••K	991	94,4	94,9	94,7	0,83	68,0	7,7	356	2,7	2,9	1,490	367	63	
1000 r/min = 6 极 / 6 poles				400 V 50 Hz				高输出设计 High-output design								
18.5	M3AA 180MLB 6	3GAA183420-••K	980	91,7	92,5	92,0	0,75	38,8	6,4	180	2,1	3,1	0,220	168	65	
37	M3AA 225SMB 6	3GAA223220-••K	985	93,3	94,2	94,0	0,80	71,5	7,0	359	2,7	3,0	0,813	307	68	
45	M3AA 250SMB 6	3GAA253220-••K	991	93,7	94,1	93,6	0,81	85,5	7,6	434	2,9	3,3	1,50	389	68	
55	M3AA 250SMC 6	3GAA253230-••K	989	94,1	94,7	94,5	0,80	105	7,1	531	3,0	3,1	1,490	390	68	

外形图及外形尺寸 Dimension drawings

机座号 71-112 Frame size 71-112

底脚安装型电机 IM B3 (IM 1001), IM 1002
Foot-mounted motor; IM B3 (IM 1001), IM 1002



IM B3 (IM 1001), IM 1002

电机尺寸 Motor size	A	AA	AB	AC	AE	B	BA	BB	BC	C	CA	CB	D	DA	DB	DC	E	EA	EG	EH	F
71	112	23	136	130	97	90	24.5	110	24.5	45	79.5	10	14	11	M5	M4	30	23	12.5	10	5
80 ¹⁾	125	27	154	150	97	100	32	125	32	50	80.5	12.5	19	14	M6	M5	40	30	16	12.5	6
80 ²⁾	125	27	154	150	97	100	32	125	32	50	108	12.5	19	14	M6	M5	40	30	16	12.5	6
90 ³⁾	140	27	170	177	110	100	32	125	32	56	83.5	12.5	24	14	M8	M5	50	30	19	12.5	8
90 ⁴⁾	140	27	170	177	110	125	32	150	32	56	83.5	12.5	24	14	M8	M5	50	30	19	12.5	8
90 ⁵⁾	140	27	170	177	110	125	32	150	32	56	105.5	12.5	24	14	M8	M5	50	30	19	12.5	8
100 ⁶⁾	160	32	200	197	110	140	36	172	36	63	93	16	28	19	M10	M6	60	40	22	16	8
100 ⁷⁾	160	32	200	197	110	140	36	172	36	63	115	16	28	19	M10	M6	60	40	22	16	8
100 ⁸⁾	160	32	200	197	110	140	36	172	36	63	136	16	28	19	M10	M6	60	40	22	16	8
112 ⁹⁾	190	32	230	197	110	140	36	172	36	70	136	16	28	19	M10	M6	60	40	22	16	8
112 ¹⁰⁾	190	41	222	221	160	140	31	168	31	70	123	14	28	19	M10	M8	60	40	22	19	8
112 ¹¹⁾	190	41	222	221	160	140	31	168	31	70	143	14	28	19	M10	M8	60	40	22	19	8

电机尺寸 Motor size	FA	G	GA	GB	GC	H	HA	HC	HD	HE	K	KA	L	LC	UB	UC	VA	VB	VC	VD	
71	4	11	16	8.5	12.5	71	9	151	180	63.5	7	11	240	267	M20	M20	35				
80 ¹⁾	5	15.5	21.5	11	16	80	10	164.5	193.5	68	10	14	265.5	300.5	M20	M20	37.5	97	30.5	66.5	
80 ²⁾	5	15.5	21.5	11	16	80	10	164.5	193.5	68	10	14	293	328	M20	M20	37.5	97	30.5	66.5	
90 ³⁾	5	20	27	11	16	90	10	189	217	82.5	10	14	284.5	319.5	M25	M20	43.5	110	33	67	
90 ⁴⁾	5	20	27	11	16	90	10	189	217	82.5	10	14	309.5	344.5	M25	M20	43.5	110	33	67	
90 ⁵⁾	5	20	27	11	16	90	10	189	217	82.5	10	14	331.5	366.5	M25	M20	43.5	110	33	67	
100 ⁶⁾	6	24	31	15.5	21.5	100	12	209	237	92.5	12	15	351	396	M25	M20	46.5	110	33	67	
100 ⁷⁾	6	24	31	15.5	21.5	100	12	209	237	92.5	12	15	373	418	M25	M20	46.5	110	33	67	
100 ⁸⁾	6	24	31	15.5	21.5	100	12	209	237	92.5	12	15	393	436	M25	M20	46.5	110	33	67	
112 ⁹⁾	6	24	31	15.5	21.5	112	12	221	249	92.5	12	15	393	436	M25	M20	46.5	110	33	67	
112 ¹⁰⁾	6	24	31	15.5	21.5	112	12	226	258	92	12	15	390	433	M25	M20	60	160	80	120	
112 ¹¹⁾	6	24	31	15.5	21.5	112	12	226	258	92	12	15	410	453	M25	M20	60	160	80	120	

公差 Tolerance 附注 Footnotes

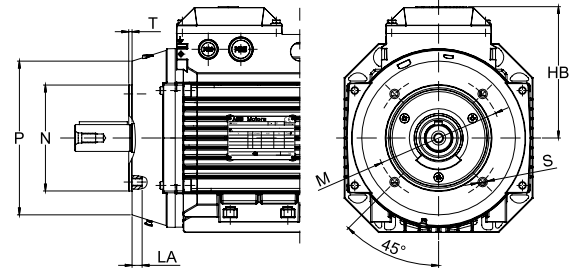
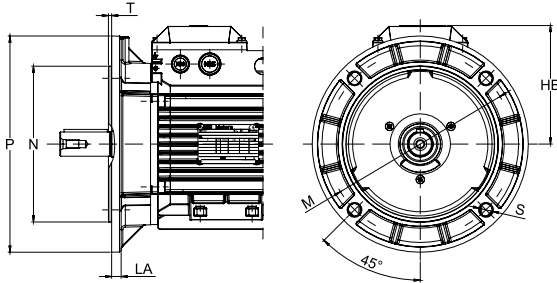
A, B	±0.8	¹⁾ IE2: B-2, C-2, A-4, D-4, A-6, B-6, A-8, B-8, C-8	⁶⁾ IE2: LB-2, LC-4, LC-6, LA-8, LB-8, LC-8
D, DA	ISO j6	IE3: B-2, C-2	IE3: LC-4
F, FA	ISO h9	²⁾ IE3: E-4	⁷⁾ IE2: LD-4
H	+0 -0.5	³⁾ IE2: S-8	⁸⁾ IE3: LB-2, LC-6, LD-4
N	ISO j6	⁴⁾ IE2: L-2, L-8, LB-2, LB-4, LB-6, LB-8	⁹⁾ IE2: MB-2, MB-4, MB-6, MB-8, M-8
C, CA	±0.8	IE3: L-2, LB-2, LB-4, LB-6	¹⁰⁾ IE3: MB-2
		⁵⁾ IE2: LD-4, LD-6	¹¹⁾ IE3: MB-4
		IE3: LD-4, LD-6	

外形图及外形尺寸 Dimension drawings

机座号 71-112 Frame size 71-112

凸缘安装型电机，大凸缘 IM B5 (IM 3001), IM 3002
Foot- and flange-mounted motor, large flange;
IM B5 (IM 3001), IM 3002

凸缘安装型电机，小凸缘 IM B14 (IM 3601)
Flange-mounted motor, small flange;
IM B14 (IM 3601)



IM B5 (IM3001), IM 3002

电机尺寸 Motor size	HB	LA	M	N	P	S	T
71	109	9.5	130	110	160	10	3.5
80 ¹⁾	113.5	10	165	130	200	12	3.5
80 ²⁾	113.5	10	165	130	200	12	3.5
90 ³⁾	127	10	165	130	200	12	3.5
90 ⁴⁾	127	10	165	130	200	12	3.5
90 ⁵⁾	127	10	165	130	200	12	3.5
100 ⁶⁾	137	11	215	180	250	15	4
100 ⁷⁾	137	11	215	180	250	15	4
100 ⁸⁾	137	11	215	180	250	15	4
112 ⁹⁾	137	11	215	180	250	15	4
112 ¹⁰⁾	146	11	215	180	250	15	4
112 ¹¹⁾	137	11	215	180	250	15	4

IM B14 (IM 3601), IM 3602

电机尺寸 Motor size	HB	LA	M	N	P	S	T
71	109	11	85	70	105	M6	3
80 ¹⁾	113.5	11	100	80	120	M6	3
80 ²⁾	113.5	11	100	80	120	M6	3
90 ³⁾	127	13	115	95	140	M8	3
90 ⁴⁾	127	13	115	95	140	M8	3
90 ⁵⁾	127	13	115	95	140	M8	3
100 ⁶⁾	137	14	130	110	160	M8	3.5
100 ⁷⁾	137	14	130	110	160	M8	3.5
100 ⁸⁾	137	14	130	110	160	M8	3.5
112 ⁹⁾	137	14	130	110	160	M8	3.5
112 ¹⁰⁾	146	20	130	110	160	M8	3.5
112 ¹¹⁾	137	14	130	110	160	M8	3.5

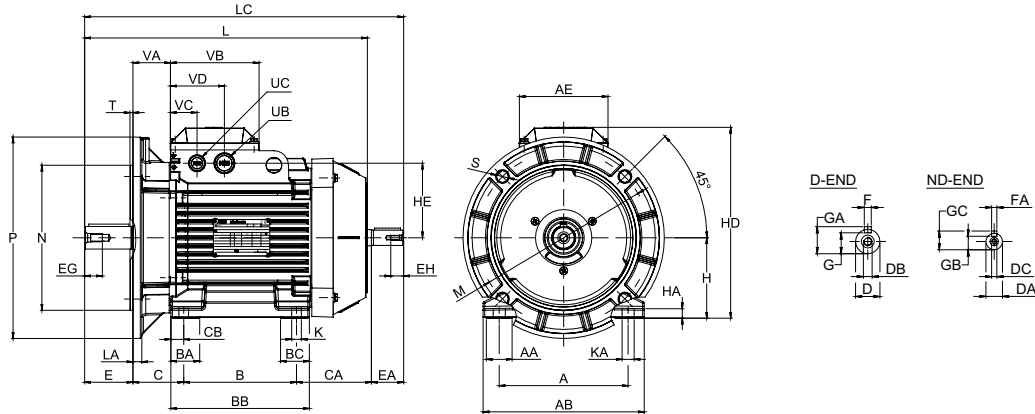
公差 Tolerance 附注 Footnotes

A, B	±0.8	¹⁾ IE2: B-2, C-2, A-4, D-4, A-6, B-6, A-8, B-8, C-8	⁶⁾ IE2: LB-2, LC-4, LC-6, LA-8, LB-8, LC-8
D, DA	ISO j6	IE3: B-2, C-2	IE3LC-4
F, FA	ISO h9	²⁾ IE3: E-4	⁷⁾ IE2: LD-4
H	+0 -0.5	³⁾ IE2: S-8	⁸⁾ IE3: LB-2, LC-6, LD-4
N	ISO j6	⁴⁾ IE2: L-2, L-8, LB-2, LB-4, LB-6, LB-8	⁹⁾ IE2: MB-2, MB-4, MB-6, MB-8, M-8
C, CA	±0.8	IE3: L-2, LB-2, LB-4, LB-6	¹⁰⁾ IE3: MB-2
		⁵⁾ IE2: LD-4, LD-6	¹¹⁾ IE3: MB-4
		IE3: LD-4, LD-6	

外形图及外形尺寸 Dimension drawings

机座号 71-112 Frame size 71-112

底脚和凸缘安装型电机，大凸缘 IM B35 (IM 2001), IM 2002
Foot- and flange-mounted motor, large flange; IM B35 (IM 2001), IM 2002



IM B35 (IM 2001), IM 2002; IM B34 (IM 2101), IM 2102

电机尺寸 Motor size	A	AA	AB	AC	AE	B	BA	BB	BC	C	CA	CB	D	DA	DB	DC	E	EA	EG	EH	F
71	112	23	136	130	97	90	24.5	110	24.5	45	79.5	10	14	11	M5	M4	30	23	12.5	10	5
80 ¹⁾	125	27	154	150	97	100	32	125	32	50	80.5	12.5	19	14	M6	M5	40	30	16	12.5	6
80 ²⁾	125	27	154	150	97	100	32	125	32	50	108	12.5	19	14	M6	M5	40	30	16	12.5	6
90 ³⁾	140	27	170	177	110	100	32	125	32	56	83.5	12.5	24	14	M8	M5	50	30	19	12.5	8
90 ⁴⁾	140	27	170	177	110	125	32	150	32	56	83.5	12.5	24	14	M8	M5	50	30	19	12.5	8
90 ⁵⁾	140	27	170	177	110	125	32	150	32	56	105.5	12.5	24	14	M8	M5	50	30	19	12.5	8
100 ⁶⁾	160	32	200	197	110	140	36	172	36	63	93	16	28	19	M10	M6	60	40	22	16	8
100 ⁷⁾	160	32	200	197	110	140	36	172	36	63	115	16	28	19	M10	M6	60	40	22	16	8
100 ⁸⁾	160	32	200	197	110	140	36	172	36	63	136	16	28	19	M10	M6	60	40	22	16	8
112 ⁹⁾	190	32	230	197	110	140	36	172	36	70	136	16	28	19	M10	M6	60	40	22	16	8
112 ¹⁰⁾	190	41	222	221	160	140	31	168	31	70	123	14	28	19	M10	M8	60	40	22	19	8
112 ¹¹⁾	190	41	222	221	160	140	31	168	31	70	143	14	28	19	M10	M8	60	40	22	19	8

电机尺寸 Motor size	FA	G	GA	GB	GC	H	HA	HC	HD	HE	K	KA	L	LC	UB	UC	VA	VB	VC	VD
71	4	11	16	8.5	12.5	71	9	151	180	63.5	7	11	240	267	M20	M20	35			
80 ¹⁾	5	15.5	21.5	11	16	80	10	164.5	193.5	68	10	14	265.5	300.5	M20	M20	37.5	97	30.5	66.5
80 ²⁾	5	15.5	21.5	11	16	80	10	164.5	193.5	68	10	14	293	328	M20	M20	37.5	97	30.5	66.5
90 ³⁾	5	20	27	11	16	90	10	189	217	82.5	10	14	284.5	319.5	M25	M20	43.5	110	33	67
90 ⁴⁾	5	20	27	11	16	90	10	189	217	82.5	10	14	309.5	344.5	M25	M20	43.5	110	33	67
90 ⁵⁾	5	20	27	11	16	90	10	189	217	82.5	10	14	331.5	366.5	M25	M20	43.5	110	33	67
100 ⁶⁾	6	24	31	15.5	21.5	100	12	209	237	92.5	12	15	351	396	M25	M20	46.5	110	33	67
100 ⁷⁾	6	24	31	15.5	21.5	100	12	209	237	92.5	12	15	373	418	M25	M20	46.5	110	33	67
100 ⁸⁾	6	24	31	15.5	21.5	100	12	209	237	92.5	12	15	393	436	M25	M20	46.5	110	33	67
112 ⁹⁾	6	24	31	15.5	21.5	112	12	221	249	92.5	12	15	393	436	M25	M20	46.5	110	33	67
112 ¹⁰⁾	6	24	31	15.5	21.5	112	12	226	258	92	12	15	390	433	M25	M20	60	160	80	120
112 ¹¹⁾	6	24	31	15.5	21.5	112	12	226	258	92	12	15	410	453	M25	M20	60	160	80	120

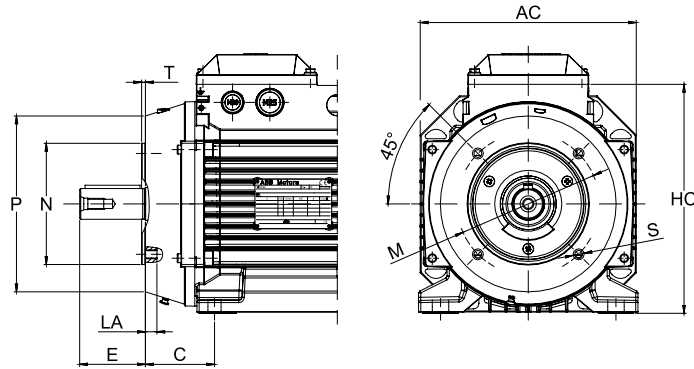
公差 Tolerance 附注 Footnotes

A, B	± 0.8	¹⁾ IE2: B-2, C-2, A-4, D-4, A-6, B-6, A-8, B-8, C-8 ^{IE3:} B-2, C-2	⁶⁾ IE2: LB-2, LC-4, LC-6, LA-8, LB-8, LC-8 ^{IE3:} LC-4
D, DA	ISO j6	²⁾ IE3: E-4	⁷⁾ IE2: LD-4
F, FA	ISO h9	³⁾ IE2: S-8	⁸⁾ IE3: LB-2, LC-6, LD-4
H	+0 -0.5	⁴⁾ IE2: L-2, L-8, LB-2, LB-4, LB-6, LB-8 ^{IE3:} L-2, LB-2, LB-4, LB-6	⁹⁾ IE2: MB-2, MB-4, MB-6, MB-8, M-8 ¹⁰⁾ IE3: MB-2
N	ISO j6	⁵⁾ IE2: LD-4, LD-6 ^{IE3:} LD-4, LD-6	¹¹⁾ IE3: MB-4

外形图及外形尺寸 Dimension drawings

机座号 71-112 Frame size 71-112

底脚和凸缘安装型电机，小凸缘 IM B34 (IM 2101), IM 2102
Foot- and flange-mounted motor, small flange; IM B35 (IM 2101), IM 2102



IM B35 (IM 2001), IM 2002

电机尺寸 Motor size	HB	LA	M	N	P	S	T
71	109	9.5	130	110	160	10	3.5
80 ¹⁾	113.5	10	165	130	200	12	3.5
80 ²⁾	113.5	10	165	130	200	12	3.5
90 ³⁾³⁾	127	10	165	130	200	12	3.5
90 ⁴⁾	127	10	165	130	200	12	3.5
90 ⁵⁾	127	10	165	130	200	12	3.5
100 ⁶⁾	137	11	215	180	250	15	4
100 ⁷⁾	137	11	215	180	250	15	4
100 ⁸⁾	137	11	215	180	250	15	4
112 ⁹⁾	137	11	215	180	250	15	4
112 ¹⁰⁾	146	11	215	180	250	15	4
112 ¹¹⁾	137	11	215	180	250	15	4

IM B34 (IM 2101), IM 2102

电机尺寸 Motor size	HB	LA	M	N	P	S	T
71	109	11	85	70	105	M6	3
80 ¹⁾	113.5	11	100	80	120	M6	3
80 ²⁾	113.5	11	100	80	120	M6	3
90 ³⁾	127	13	115	95	140	M8	3
90 ⁴⁾	127	13	115	95	140	M8	3
90 ⁵⁾	127	13	115	95	140	M8	3
100 ⁶⁾	137	14	130	110	160	M8	3.5
100 ⁷⁾	137	14	130	110	160	M8	3.5
100 ⁸⁾	137	14	130	110	160	M8	3.5
112 ⁹⁾	137	14	130	110	160	M8	3.5
112 ¹⁰⁾	146	20	130	110	160	M8	3.5
112 ¹¹⁾	137	14	130	110	160	M8	3.5

公差 Tolerance 附注 Footnotes

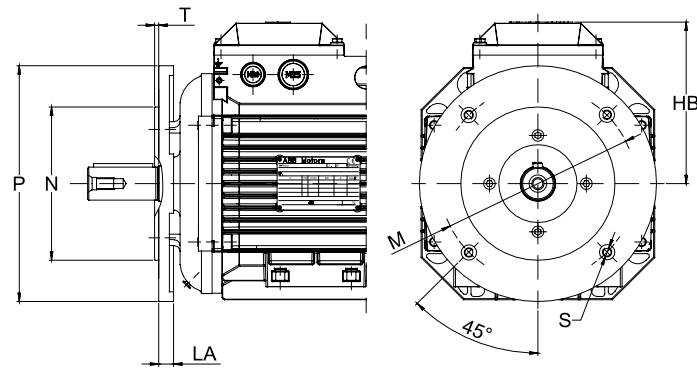
A, B	± 0.8	¹⁾ IE2: B-2, C-2, A-4, D-4, A-6, B-6, A-8, B-8, C-8 IE3: B-2, C-2
D, DA	ISO j6	²⁾ IE3: E-4
F, FA	ISO h9	³⁾ IE2: S-8
H	+0 -0.5	⁴⁾ IE2: L-2, L-8, LB-2, LB-4, LB-6, LB-8 IE3: L-2, LB-2, LB-4, LB-6
N	ISO j6	⁵⁾ IE2: LD-4, LD-6 IE3: LD-4, LD-6
C, CA	± 0.8	⁶⁾ IE2: LB-2, LC-4, LC-6, LA-8, LB-8, LC-8 IE3: LC-4
		⁷⁾ IE2: LD-4
		⁸⁾ IE3: LB-2, LC-6, LD-4
		⁹⁾ IE2: MB-2, MB-4, MB-6, MB-8, M-8 IE3: MB-2
		¹¹⁾ IE3: MB-4

外形图及外形尺寸 Dimension drawings

机座号 71-132
Frame size 71-132

特殊设计，双凸缘 IM B35 (IM 2101), IM 2102

Foot- and flange-mounted motor, small flange; IM B35 (IM 2101), IM 2102



IM B35 (IM 2101), IM 2102

电机尺寸 Motor size	IEC 法兰 IEC flange	法兰尺寸 Flange dimensions							变量代编 Variant code	
		HB	P	M	N	LA	S	T	FF	FT
71	FT85	105	105	85	70	7.5	M6	2.5	-	218
	FF100/FT100	105	120	100	80	7.5	M6	3	220	219
	FF115/FT115	105	140	115	95	9.5	M8	3	223	224
	FF130/FT130	105	160	130	110	9.5	M8	3.5	226	227
	FF165/FT165	105	200	165	130	10.5	M10	3.5	233	234
80	FT85	110	105	85	70	7.5	M6	2.5	-	218
	FF100/FT100	110	120	100	80	7.5	M6	3	220	219
	FF115/FT115	110	140	115	95	9.5	M8	3	223	224
	FF130/FT130	110	160	130	110	9.5	M8	3.5	226	227
	FF165/FT165	110	200	165	130	10.5	M10	3.5	233	234
90	FT85	127	105	85	70	7.5	M6	2.5	-	218
	FF100/FT100	127	120	100	80	7.5	M6	3	220	219
	FF115/FT115	127	140	115	95	9.5	M8	3	223	224
	FF130/FT130	127	160	130	110	9.5	M8	3.5	226	227
	FF165/FT165	127	200	165	130	10.5	M10	3.5	233	234
100	FF130/FT130	137	160	130	110	9.5	M8	3.5	226	227
	FF165/FT165	137	200	165	130	10.5	M10	3.5	233	234
	FF215/FT215	137	250	215	180	12.5	M12	4	243	244
112	FF130/FT130	137	160	130	110	9.5	M8	3.5	226	227
	FF165/FT165	137	200	165	130	10.5	M10	3.5	233	234
	FF215/FT215	137	250	215	180	12.5	M12	4	243	244
132	FF215/FT215	164	250	215	180	12.5	M12	4	243	244
	FF265/FT265	164	300	265	230	16	M12	4	253	254

公差 Tolerance

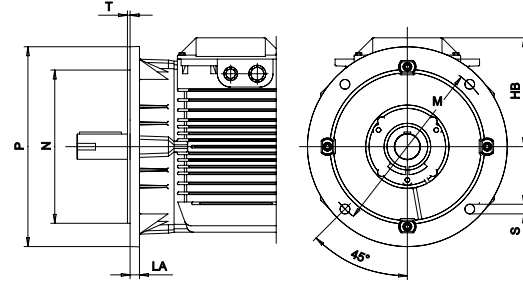
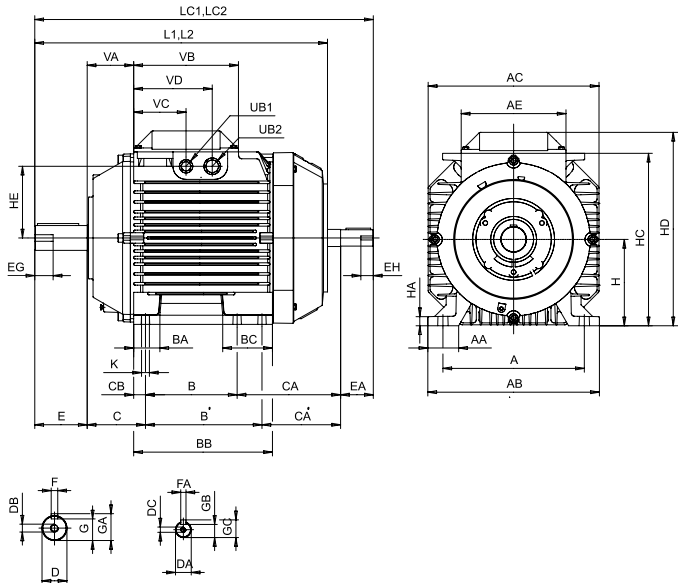
N ISO j6

外形图及外形尺寸 Dimension drawings

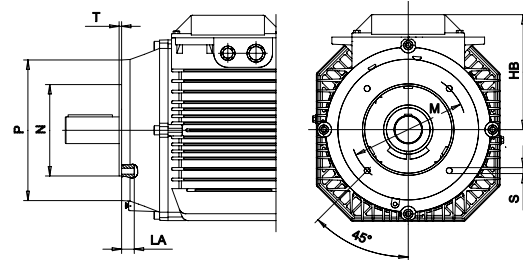
机座号 132 Frame size 132

底脚安装型电机 ; IM B3 (IM 1001), IM 1002
Foot-mounted motor; IM B3 (IM 1001), IM 1002

凸缘安装型电机, 大凸缘 ; IM B5 (IM 3001), IM 3002
Flange-mounted motor, large flange;
IM B5 (IM 3001), IM 3002



凸缘安装型电机, 小凸缘 ; IM B14 (IM 3601), IM 3602
Flange-mounted motor, small flange;
IM B14 (IM 3601), IM 3602



IM B3 (IM 1001), IM 1002

电机尺寸 Motor size	A	AA	AB	AC	AE	B	B'	BA	BB	BC	C	CA	CA'	CB	D	DA	DB	DC	E	EA	EG	EH	F
132 ¹⁾	216	47	262	261	160	140	178	40	212	76	89	158	120	18	38	24	M12	M8	80	50	28	19	10
132 ²⁾	216	47	262	261	160	140	178	40	212	76	89	178	140	18	38	24	M12	M8	80	50	28	19	10
132 SM_	216	47	262	261	160	140	178	40	212	76	89	261	223	18	38	24	M12	M8	80	50	28	19	10

电机尺寸 Motor size	FA	G	GA	GB	GC	H	HA	HC	HD	HE	K	KA	L	LC	UB1	UB2	UD	VA	VB	VC	VD	VE
132 ¹⁾	8	33	41	20	27	132	14	263.5	295.5	109.5	12	15	447	517	M20	M25	-	71	160	80	120	
132 ²⁾	8	33	41	20	27	132	14	263.5	295.5	109.5	12	15	487	537	M20	M25	-	71	160	80	120	
132 SM_	8	33	41	20	27	132	14	287	321	123.5	12	15	550	620	M40	M32	M12	71	160	42	102	136

IM B5 (IM 3001), IM 3002

电机尺寸 Motor size	HB	LA	M	N	P	S	T
132 ¹⁾	163.5	14	265	230	300	14.5	4
132 ²⁾	163.5	14	265	230	300	14.5	4
132 SM_	189	14	265	230	300	14.5	4

IM B14 (IM 3601), 3602

电机尺寸 Motor size	HB	LA	M	N	P	S	T
132 ¹⁾	163.5	14.5	165	130	200	M10	3.5
132 ²⁾	163.5	14.5	165	130	200	M10	3.5
132 SM_	189	14.5	165	130	200	M10	3.5

公差 Tolerance

A, B	ISO js14
C, CA	+2 -2
D	ISO k6
DA	ISO j6
F, FA	ISO h9
H	+0 -0.5
N	ISO j6

附注 Footnotes

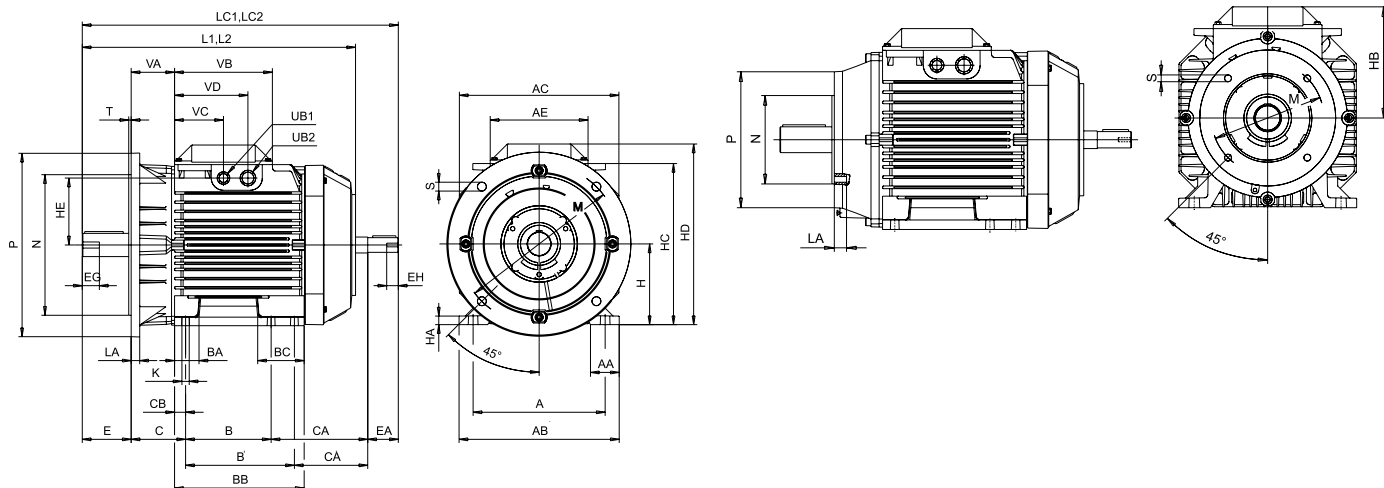
- ¹⁾ IE2: SB-2, M-4, MA-4, MBA-4
IE3: M-4, MA-4, S-6
²⁾ IE2: SC-2, MC-6
IE3: SB-2, SC-2, MA-6, MC-6

外形图及外形尺寸 Dimension drawings

机座号 132 Frame size 132

底脚和凸缘安装型电机 ; IM B35 (IM 2001), IM 2002, 大凸缘
Foot- and flange-mounted motor;
IM B35 (IM 2001), IM 2002, large flange

底脚和凸缘安装型电机 ; IM B34 (IM 2101), IM 2102, 小凸缘
Foot- and flange-mounted motor;
IM B34 (IM 2101), IM 2102, small flange



IM B3 (IM 2001), IM 2002

电机尺寸 Motor size	A	AA	AB	AC	AE	B	B'	BA	BB	BC	C	CA	CA'	CB	D	DA	DB	DC	E	EA	EG	EH	F
132 ¹⁾	216	47	262	261	160	140	178	40	212	76	89	158	120	18	38	24	M12	M8	80	50	28	19	10
132 ²⁾	216	47	262	261	160	140	178	40	212	76	89	178	140	18	38	24	M12	M8	80	50	28	19	10
132 SM ₋	216	47	262	261	160	140	178	40	212	76	89	261	223	18	38	24	M12	M8	80	50	28	19	10

电机尺寸 Motor size	FA	G	GA	GB	GC	H	HA	HC	HD	HE	K	KA	L	LC	UB1	UB2	UD	VA	VB	VC	VD	VE
132 ¹⁾	8	33	41	20	27	132	14	263.5	295.5	109.5	12	15	447	517	M20	M25	-	71	160	80	120	
132 ²⁾	8	33	41	20	27	132	14	263.5	295.5	109.5	12	15	487	537	M20	M25	-	71	160	80	120	
132 SM ₋	8	33	41	20	27	132	14	287	321	123.5	12	15	550	620	M40	M32	M12	71	160	42	102	136

IM B35 (IM 2001)

电机尺寸 Motor size	HB	LA	M	N	P	S	T
132 ¹⁾	163.5	14	265	230	300	14.5	4
132 ²⁾	163.5	14	265	230	300	14.5	4
132 SM ₋	189	14	265	230	300	14.5	4

IM B34 (IM 2101)

电机尺寸 Motor size	HB	LA	M	N	P	S	T
132 ¹⁾	163.5	14.5	165	130	200	M10	3.5
132 ²⁾	163.5	14.5	165	130	200	M10	3.5
132 SM ₋	189	14.5	165	130	200	M10	3.5

公差 Tolerance

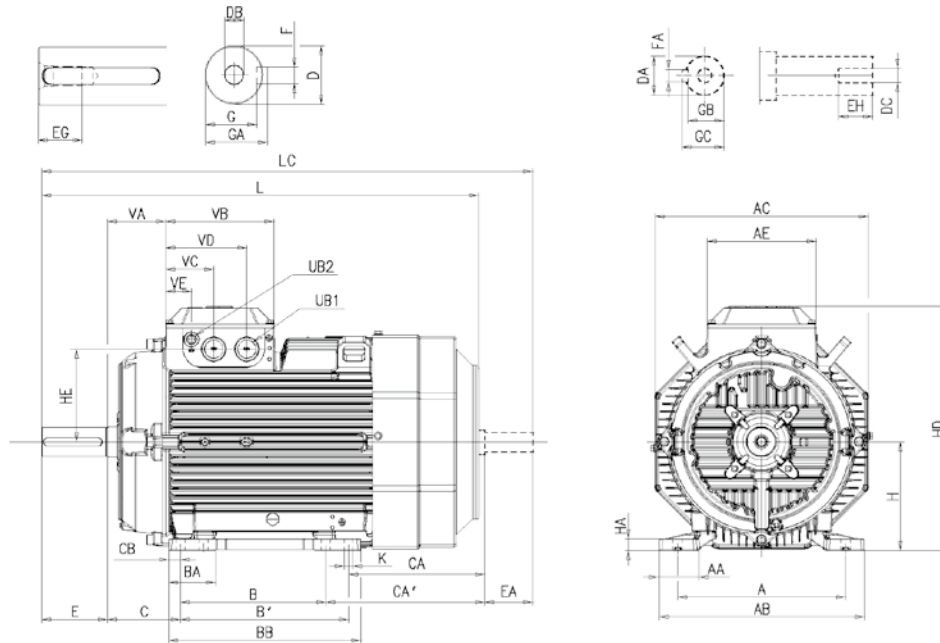
附注 Footnotes

A, B	ISO js14	¹⁾ IE2: SB-2, M-4, MA-4, MBA-4
C, CA	+2 -2	IE3: M-4, MA-4, S-6
D	ISO k6	²⁾ IE2: SC-2, MC-6
DA	ISO j6	IE3: SB-2, SC-2, MA-6, MC-6
F, FA	ISO h9	
H	+0 -0.5	
N	ISO j6	

外形图及外形尺寸 Dimension drawings

机座号 160-180 Frame size 160-180

底脚安装型电机 ; IM B3 (IM 1001), IM 1002
Foot-mounted motor; IM B3 (IM 1001), IM 1002



IM B3 (IM 1001), IM 1002

电机尺寸 Motor size	A	AA	AB	AC	AE	B	B'	BA	BB	C	CA	CA'	CB	D	DA	DB	DC	E	EA
160 ¹⁾	254	54	310	323	180	210	254	84	294	108	172	128	20	42	32	M16	M12	110	80
160 ²⁾	254	54	310	323	180	210	254	84	294	108	269	225	20	42	32	M16	M12	110	80
180	279	68	341	354	180	241	279	78	319	121	263	225	20	48	32	M16	M12	110	80

电机尺寸 Motor size	EG	EH	F	FA	G	GA	GB	GC	H	HA	HC	HD	HE	K	L	LC	UB1 ³⁾	UB2 ³⁾	VA
160 ¹⁾	36	28	12	10	37	45	27	35	160	20	342	370	139	15	584	680	2*M40	M16	88.5
160 ²⁾	36	28	12	10	37	45	27	35	160	20	342	370	139	15	681	777	2*M40	M16	88.5
180	36	28	14	10	42.5	51.5	27	35	180	20	369	405	154	15	726	815	2*M40	M16	88.5

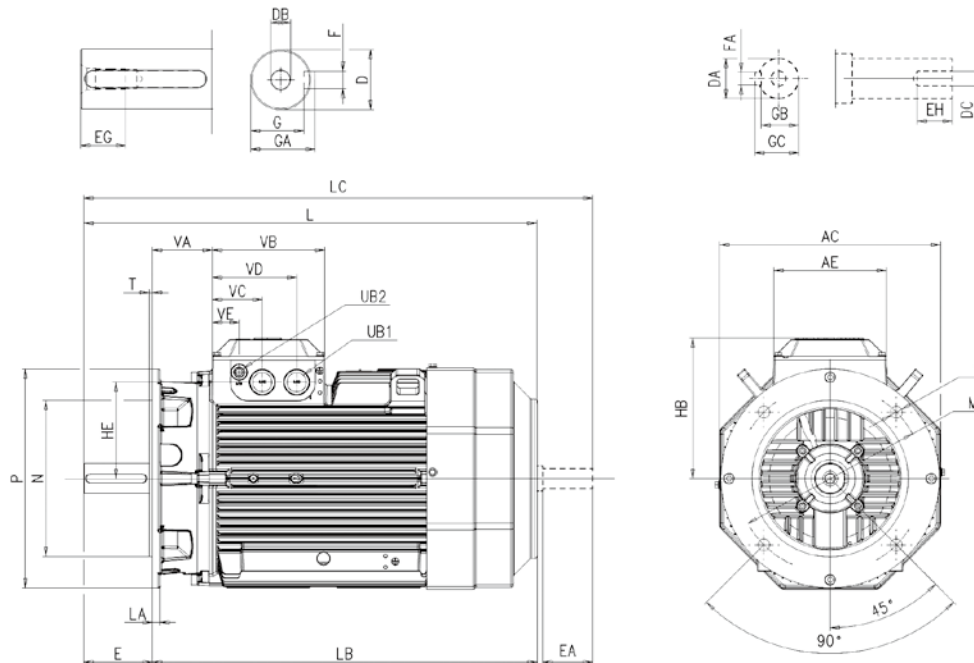
电机尺寸 Motor size	VB	VC	VD	VE
160 ¹⁾	180	80	135.5	43
160 ²⁾	180	80	135.5	43
180	180	80	135.5	43

公差 Tolerance	附注 Footnotes
A, B	ISO js14 IE2: ¹⁾ MLA-2, MLB-2, MLA-4, MLA-6, MLA-8 and MLB 8-poles ²⁾ MLC-2, MLD-2, MLE-2, MLB-4, MLC-4, MLD-4, MLB-6, MLC-6 and MLC-8 poles
C, CA	± 0.8
D, DA	ISO k6
F, FA	ISO h9 IE3: ¹⁾ MLA-2 ²⁾ MLB-2, MLC-2, all 4- and 6-poles
H	+0 -0.5 ³⁾ Knock-out openings

外形图及外形尺寸 Dimension drawings

机座号 160-180 Frame size 160-180

凸缘安装型电机 ; IM B5 (IM 3001), IM 3002
Flange-mounted motor; IM B5 (IM 3001), IM 3002



IM B5 (IM 3001), IM 3002

电机尺寸 Motor size	AC	AE	D	DA	DB	DC	E ⁴⁾	EA	EG	EH	F	FA	G	GA	GB	GC	HB
160 ¹⁾	323	180	42	32	M16	M12	110	80	36	28	12	10	37	45	27	35	210
160 ²⁾	323	180	42	32	M16	M12	110	80	36	28	12	10	37	45	27	35	210
180	354	180	48	32	M16	M12	110	80	36	28	14	10	42.5	51.5	27	35	225

电机尺寸 Motor size	HE	L	LA	LB	LC	M	N	P	S	T	UB1 ³⁾	UB2 ³⁾	VA	VB	VC	VD	VE
160 ¹⁾	139	584	20	474	680	300	250	350	19	5	2*M40	M16	88.5	180	43	80	135.5
160 ²⁾	139	681	20	571	777	300	250	350	19	5	2*M40	M16	88.5	180	43	80	135.5
180	154	726	15	616	815	300	250	350	19	5	2*M40	M16	88.5	180	43	80	135.5

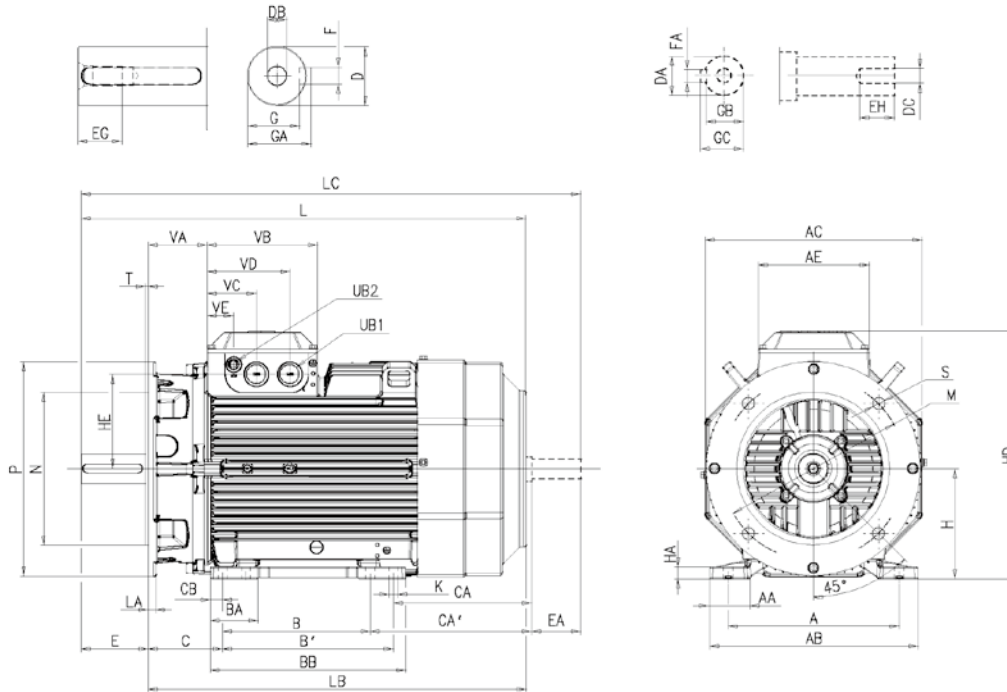
公差 Tolerance 附注 Footnotes

D, DA	ISO k6	IE2:
F, FA	ISO h9	¹⁾ MLA-2, MLB-2, MLA-4, MLA-6, MLA-8 and MLB 8-poles
N	ISO j6	²⁾ MLC-2, MLD-2, MLE-2, MLB-4, MLC-4, MLD-4, MLB-6, MLC-6 and MLC-8 poles
		IE3:
		¹⁾ MLA-2
		²⁾ MLB-2, MLC-2, all 4- and 6-poles
		³⁾ Knock-out openings
		⁴⁾ Shoulder of shaft extension and contact surface of flange are in the same plane.

外形图及外形尺寸 Dimension drawings

机座号 160-180 Frame size 160-180

底脚和凸缘安装型电机，大凸缘 IM B35 (IM 2001), IM 2002
Foot- and flange-mounted motor, large flange; IM B35 (IM 2001), IM 2002



IM B35 (IM 2001), IM 2002

电机尺寸 Motor size	A	AA	AB	AC	AE	B	B'	BA	BB	C	CA	CA'	CB	D	DA	DB	DC	E ⁴⁾	EA
160 ¹⁾	254	54	310	323	180	210	254	84	294	108	172	128	20	42	32	M16	M12	110	80
160 ²⁾	254	54	310	323	180	210	254	84	294	108	269	225	20	42	32	M16	M12	110	80
180	279	68	341	354	180	241	279	78	319	121	263	225	20	48	32	M16	M12	110	80

电机尺寸 Motor size	EG	EH	F	FA	G	GA	GB	GC	H	HA	HC	HD	HE	K	L	LA	LB	LC	M
160 ¹⁾	36	28	12	10	37	45	27	35	160	20	342	370	139	14.5	584	20	474	680	300
160 ²⁾	36	28	12	10	37	45	27	35	160	20	342	370	139	14.5	681	20	571	777	300
180	36	28	14	10	42.5	51.5	27	35	180	20	369	405	154	14.5	726	15	616	815	300

电机尺寸 Motor size	N	P	S	T	UB1 ³⁾	UB2 ³⁾	VA	VB	VC	VD	VE
160 ¹⁾	250	350	19	5	2*M40	M16	88.5	180	80	135.5	43
160 ²⁾	250	350	19	5	2*M40	M16	88.5	180	80	135.5	43
180	250	350	19	5	2*M40	M16	88.5	180	80	135.5	43

公差 Tolerance

A, B	ISO js14
C, CA	±8
D, DA	ISO k6
F, FA	ISO h9
H	+0 - 0.5
N	ISO j6

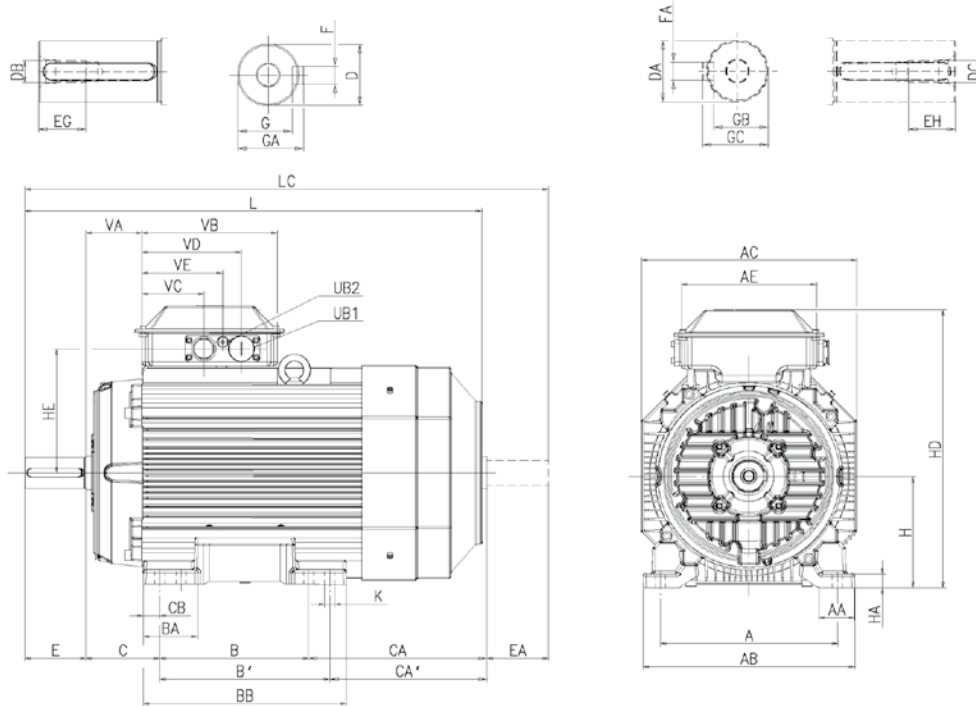
附注 Footnotes

- IE2:
¹⁾ MLA-2, MLB-2, MLA-4, MLA-6, MLA-8 and MLB 8-poles
²⁾ MLC-2, MLD-2, MLE-2, MLB-4, MLC-4, MLD-4, MLB-6, MLC-6 and MLC-8 poles
 IE3:
¹⁾ MLA-2
²⁾ MLB-2, MLC-2, all 4- and 6-poles
³⁾ Knock-out openings
⁴⁾ Shoulder of shaft extension and contact surface of flange are in the same plane.

外形图及外形尺寸 Dimension drawings

机座号 200-225 Frame size 200-225

底脚安装型电机 ; IM B3 (IM 1001), IM 1002
Foot-mounted motor; IM B3 (IM 1001), IM 1002



IM B3 (IM 1001), IM 1002

电机尺寸 Motor size	极数 Poles	A	AA	AB	AC	AE	B	B'	BA	BB	C	CA	CA'	CB	D	DA	DB	DC	E	EA
200		318	64	380	386	243	267	305	112	365	133	314	276	30	55	45	M20	M16	110	110
225	2	356	69	418	425	243	286	311	102	365	149	314	289	24.5	55	55	M20	M20	110	110
225	4-8	356	69	418	425	243	286	311	102	365	149	314	289	24.5	60	55	M20	M20	140	110

电机尺寸 Motor size	极数 Poles	EG	EH	F	FA	G	GA	GB	GC	H	HA	HD ²⁾	HD ³⁾	HE ²⁾	HE ³⁾	K	L	LC	UB ¹⁾
200		42	36	16	14	49	59	39.5	48.5	200	25	500	532	224	239	18	821	934	2xFL13
225	2	42	42	16	14	49	59	49	59	225	25	547	579	244.5	260	18	850	971	2xFL13
225	4-8	42	42	18	16	53	64	49	59	225	25	547	579	244.5	260	18	880	1001	2xFL13

电机尺寸 Motor size	极数 Poles	VA	VB	VC ²⁾	VC ³⁾	VD ²⁾	VD ³⁾	VE ²⁾	VE ³⁾
200		101	243	112	77	179	167	145	122
225	2	93.5	243	112	77	179	167	145	122
225	4-8	93.5	243	112	77	179	167	145	122

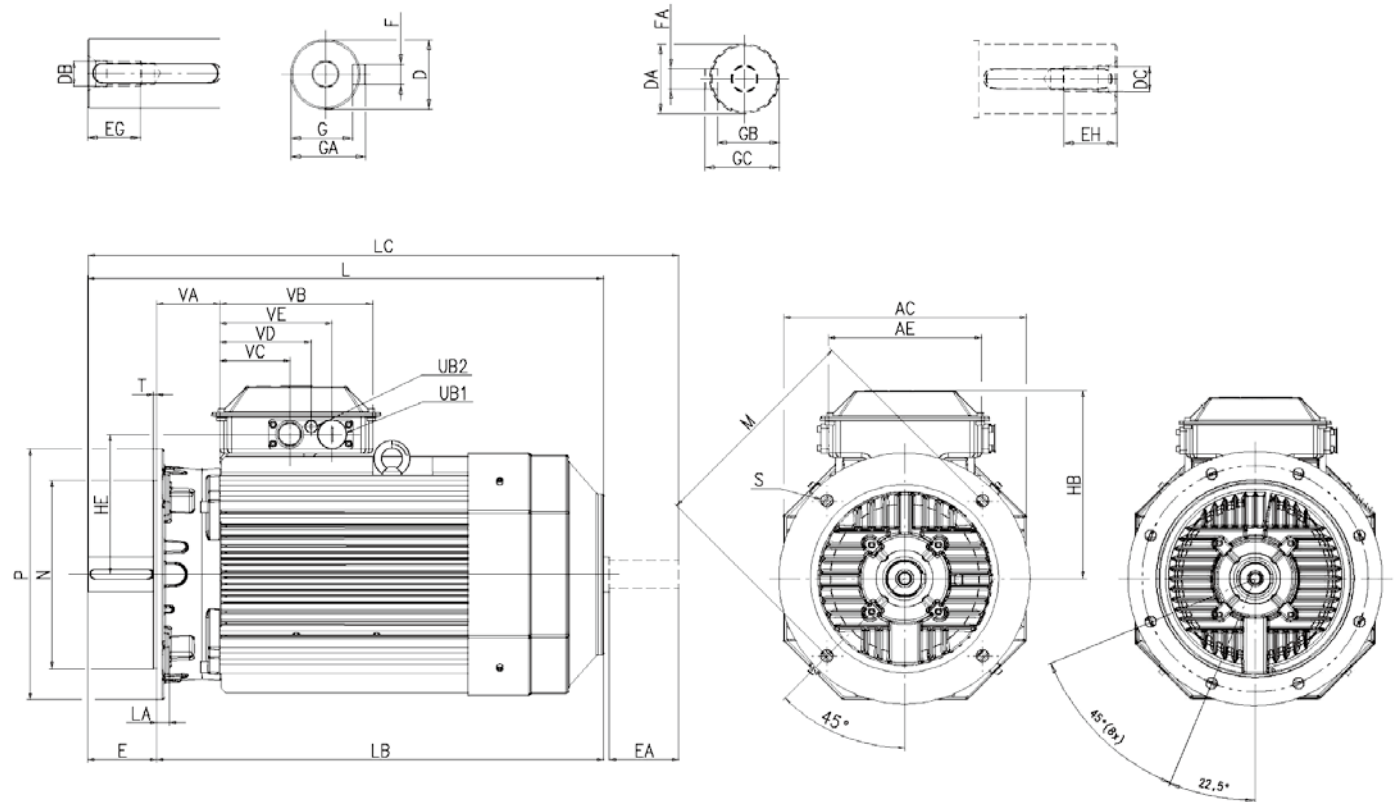
公差 Tolerance	附注 Footnotes
A,B	ISO js14
C, CA	± 0.8
D 55-65	ISO m6
DA 45-55	ISO k6
F, FA	ISO h9
H	+0 -0.5

¹⁾ Flange opening is provided with pipe flange FL 13, with tapped lead-in holes plugged with sealing plugs. Single- and two-speed motors: 2 x M40 + M16.
Motors for 230VD 50Hz or 225 SMC-2, 225 SMD-2, 225 SMD-4 have pipe flange FL21 and 2 x M63 + M16
²⁾ For flange opening FL13: 2 x M40 + M16
³⁾ For extra large flange opening FL21: 2 x M63 + M16

外形图及外形尺寸 Dimension drawings

机座号 200-225
Frame size 200-225

凸缘安装型电机 ; IM B5 (IM 3001), IM 3002
Flange-mounted motor; IM B5 (IM 3001), IM 3002



IM B5 (IM 3001), IM 3002

电机尺寸 Motor size	极数 Poles	AC	AE	D	DA	DB	DC	E ¹⁾	EA	EG	EH	F	FA	G	GA	GB	GC	HB ³⁾	HB ⁴⁾	HE ³⁾
200		386	243	55	45	M20	M16	110	110	42	36	14	16	49	59	39.5	48.5	300	332	224
225	2	425	243	55	55	M20	M20	110	110	42	42	16	16	49	59	49	59	300	332	244
225	4-8	425	243	60	55	M20	M20	140	110	42	42	16	16	53	64	49	59	322	354	244

电机尺寸 Motor size	极数 Poles	HE ⁴⁾	L	LA	LB	LC	M	N	P	S	T	UB ²⁾	VA	VB	VC ³⁾	VC ⁴⁾	VD ³⁾	VD ⁴⁾	VE ³⁾	VE ⁴⁾
200		239	821	20	711	934	350	300	400	19	5	2xFL13	101	243	112	77	179	167	145	122
225	2	260	850	22	740	971	400	350	450	19	5	2xFL13	93.5	243	112	77	179	167	145	122
225	4-8	260	880	22	740	1001	400	350	450	19	5	2xFL13	93.5	243	112	77	179	167	145	122

公差 Tolerance

D 55-65	ISO m6
DA 45-55	ISO k6
F, FA	ISO h9
N	ISO j6

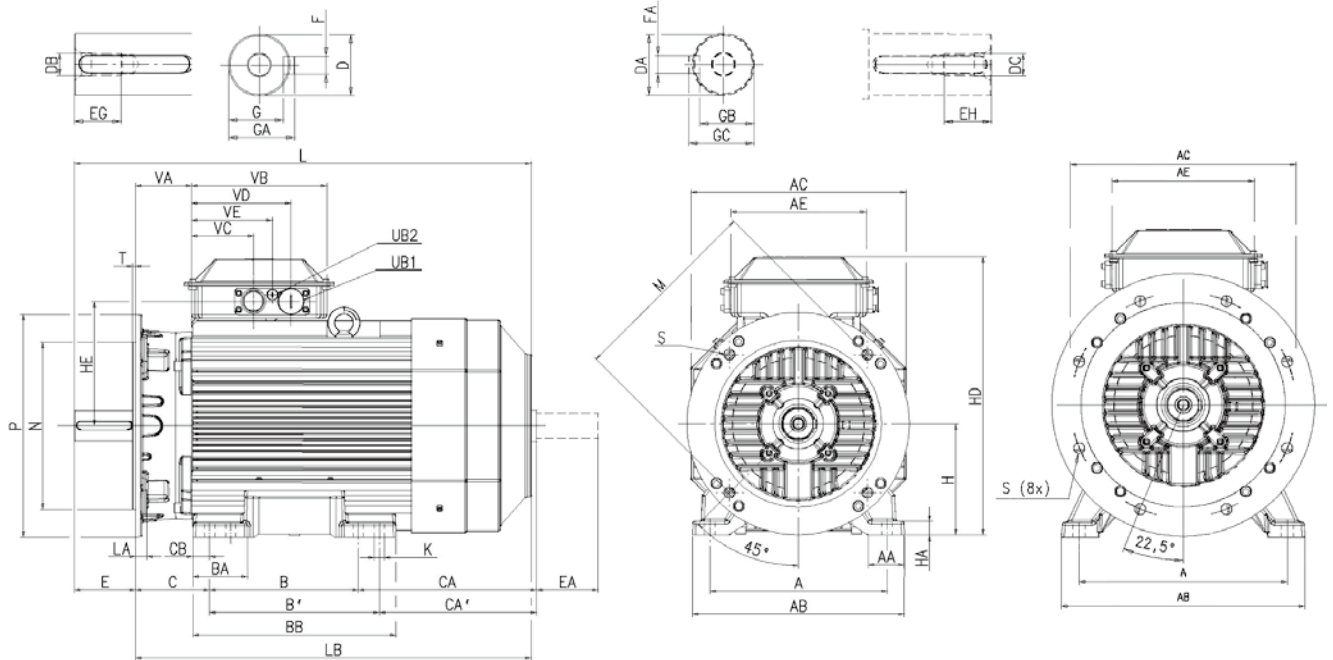
附注 Footnotes

- ¹⁾ Shoulder of shaft extension and contact surface of flange are in the same plane.
- ²⁾ Flange opening is provided with pipe flange FL 13, with tapped lead-in holes plugged with sealing plugs. Single- and two-speed motors: 2 x M40 + M16. Motors for 230VD 50Hz or 225 SMC-2, 225 SMD-2, 225 SMD-4 have pipe flange FL21 and 2 x M63 + M16
- ³⁾ For flange opening FL13: 2 x M40 + M16
- ⁴⁾ For extra large flange opening FL21: 2 x M63 + M16

外形图及外形尺寸 Dimension drawings

机座号 200-225 Frame size 200-225

底脚和凸缘安装型电机 ; IM B35 (IM 2001), IM 2002
Foot- and lange-mounted motor; IM B35 (IM 2001), IM 2002



IM B35 (IM 2001), IM 2002

电机尺寸 Motor size	极数 Poles	A	AA	AB	AC	AE	B	B'	BA	BB	C	CA	CA'	CB	D	DA	DB	DC	E ¹⁾	EA
200		318	64	380	386	243	267	305	112	365	133	314	276	30	55	45	M20	M16	110	110
225	2	356	69	418	425	243	286	311	102	365	149	314	289	24.5	55	55	M20	M20	110	110
225	4-8	356	69	418	425	243	286	311	102	365	149	314	289	24.5	60	55	M20	M20	140	110

电机尺寸 Motor size	极数 Poles	EG	EH	F	FA	G	GA	GB	GC	H	HA	HD ³⁾	HD ⁴⁾	HE ³⁾	HE ⁴⁾	K	L	LA	LB	LC
200		42	36	16	14	49	59	39.5	48.5	200	25	500	532	223	239	18	821	20	711	934
225	2	42	42	16	14	49	59	49	59	225	25	547	579	244	260	18	850	22	740	971
225	4-8	42	42	18	16	53	64	49	59	225	25	547	579	244	260	18	880	22	740	1001

电机尺寸 Motor size	极数 Poles	M	N	P	S	T	UB ²⁾	VA	VB	VC ³⁾	VC ⁴⁾	VD ³⁾	VD ⁴⁾	VE ³⁾	VE ⁴⁾
200		350	300	400	19	5	2xFL13	101	243	112	77	179	167	145	122
225	2	400	350	450	19	5	2xFL13	93.5	243	112	77	179	167	145	122
225	4-8	400	350	450	19	5	2xFL13	93.5	243	112	77	179	167	145	122

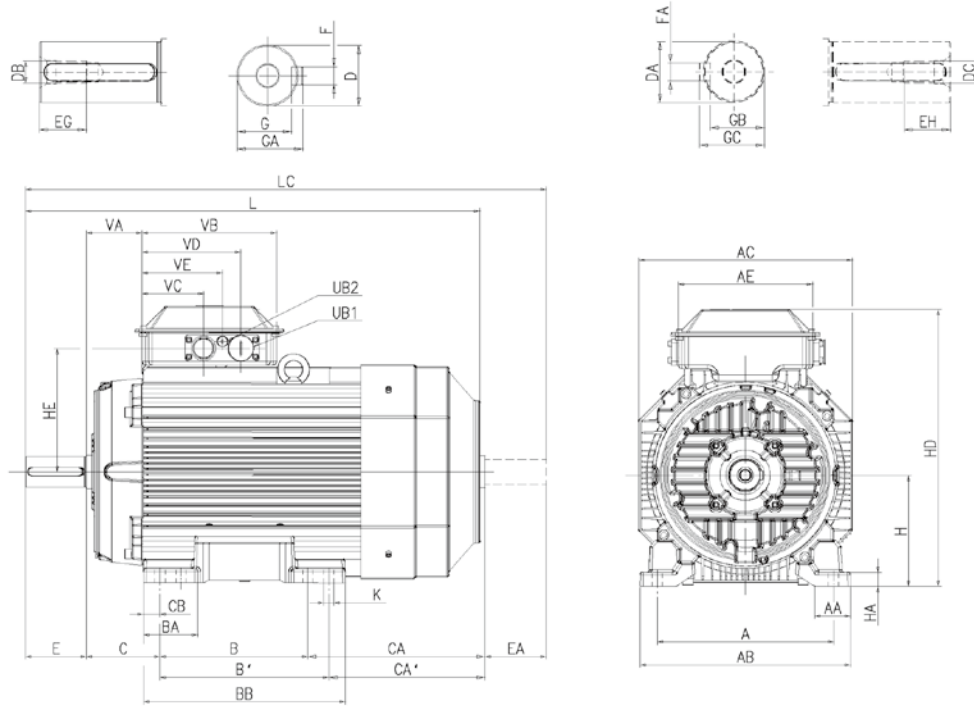
公差 Tolerance

A, B	ISO js14	¹⁾ Shoulder of shaft extension and contact surface of flange are in the same plane.
C, CA	± 0.8	²⁾ Flange opening is provided with pipe flange FL 13, with tapped lead-in holes plugged with sealing plugs.
D 55-75	ISO m6	Single- and two-speed motors: 2 x M40 + M16.
DA 45-55	ISO k6	Motors for 230VD 50Hz or 225 SMC-2, 225 SMD-2, 225 SMD-4 have pipe flange FL21 and 2 x M63 + M16
F, FA	ISO h9	³⁾ For flange opening FL13: 2 x M40 + M16
H	+0 -0.5	⁴⁾ For extra large flange opening FL21: 2 x M63 + M16
N	ISO j6	

外形图及外形尺寸 Dimension drawings

机座号 250-280 Frame size 250-280

底脚安装型电机 ; IM B3 (IM 1001), IM 1002
Foot-mounted motor; IM B3 (IM 1001), IM 1002



IM B3 (IM 1001), IM 1002

电机尺寸 Motor size	极数 Poles	A	AA	AB	AC	AE	B	B'	BA	BB	C	CA	CA'	CB	D	DA	DB	DC	E	EA
250	2	406	78	473	471	243	311	349	106	409	168	281	243	40	60	55	M20	M20	140	110
250	4-8	406	78	473	471	243	311	349	106	409	168	281	243	30	65	55	M20	M20	140	110
280	2	457	102.5	522	471	243	368	419	92	489	190	202	151	37.5	65	55	M20	M20	140	110
280	4-8	457	102.5	522	471	243	368	419	92	489	190	202	151	37.5	75	55	M20	M20	140	110

电机尺寸 Motor size	极数 Poles	EG	EH	F	FA	G	GA	GB	GC	H	HA	HD ²⁾	HD ³⁾	HE ²⁾	HE ³⁾	K	L	LC	UB ¹⁾	VA
250	2	42	42	18	16	53	64	49	59	250	30	594	627	268	284	22	884	1010	2xFL13	93.5
250	4-8	42	42	18	16	58	69	49	59	250	30	594	627	268	284	22	884	1010	2xFL13	93.5
280	2	42	42	18	16	58	69	49	59	280	40	-	657	-	284	24	884	1010	2xFL21	93.5
280	4-8	42	42	20	16	67.5	79.5	49	59	280	40	-	657	-	284	24	884	1010	2xFL21	93.5

电机尺寸 Motor size	极数 Poles	VB	VC ³⁾	VC ⁴⁾	VD ³⁾	VD ⁴⁾	VE ³⁾	VE ⁴⁾
250	2	243	112	77	179	167	145	122
250	4-8	243	112	77	179	167	145	122
280	2	243	-	77	-	167	-	122
280	4-8	243	-	77	-	167	-	122

公差 Tolerance	附注 Footnotes
A, B	ISO js14
C, CA	± 0.8
D 55-75	ISO m6
DA 45-55	ISO k6
F, FA	ISO h9
H	+0 -0.5

¹⁾ Flange opening is provided with pipe flange FL 13, with tapped lead-in holes plugged with sealing plugs. Single- and two-speed motors: 2 x M40 + M16. Motors for 230VD 50Hz or 250 SMC-2, 250 SMC-4 and all 280 have pipe flange FL21 and 2 x M63 + M16

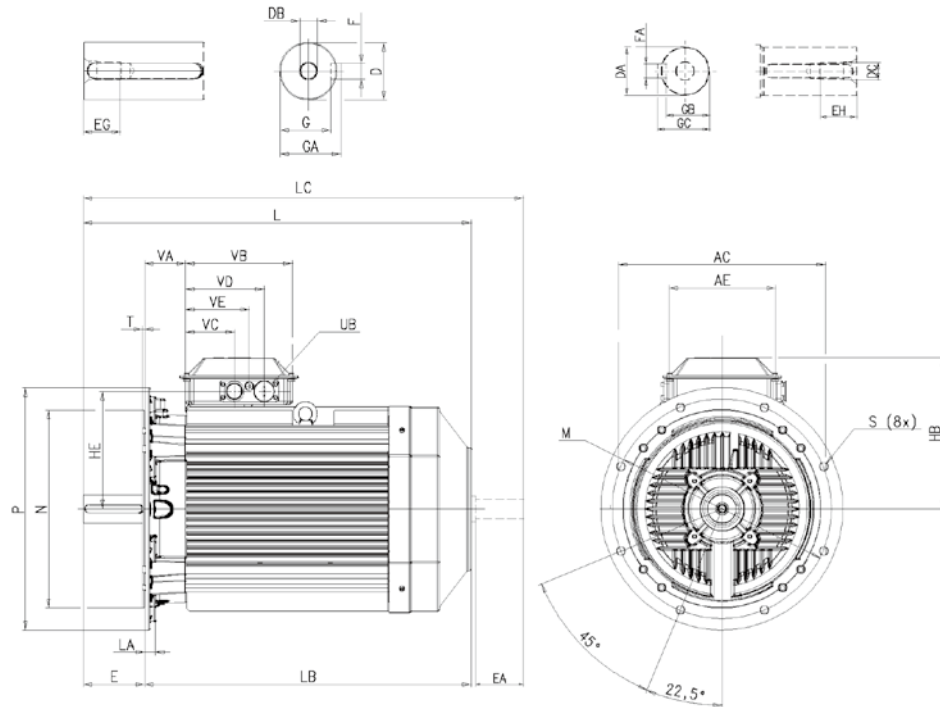
²⁾ For flange opening FL13: 2 x M40 + M16

³⁾ For extra large flange opening FL21: 2 x M63 + M16

外形图及外形尺寸 Dimension drawings

机座号 250-280 Frame size 250-280

凸缘安装型电机，大凸缘 IM B5 (IM 3001), IM 3002
Flange-mounted motor, large flange; IM B5 (IM 3001), IM 3002



IM B5 (IM 3001), IM 3002

电机尺寸 Motor size	极数 Poles	AC	AE	D	DA	DB	DC	E ¹⁾	EA	EG	EH	F	FA	G	GA	GB	GC	HB ³⁾	HB ⁴⁾	HE ³⁾	HE ⁴⁾
250	2	471	243	60	55	M20	M20	140	110	42	42	18	16	53	64	49	59	344	377	268	284
250	4-8	471	243	65	55	M20	M20	140	110	42	42	18	16	58	69	49	59	344	377	268	284
280	2	471	243	65	55	M20	M20	140	110	42	42	18	16	58	69	49	59	-	377	-	284
280	4-8	471	243	75	55	M20	M20	140	110	42	42	20	16	67.5	79.5	49	59	-	377	-	284

电机尺寸 Motor size	极数 Poles	L	LA	LB	LC	M	N	P	S	T	UB ²⁾	VA	VB	VC ³⁾	VC ⁴⁾	VD ³⁾	VD ⁴⁾	VE ³⁾	VE ⁴⁾
250	2	884	24	744	1010	500	450	550	19	5	2xFL13	93.5	243	112	77	179	167	145	122
250	4-8	884	24	744	1010	500	450	550	19	5	2xFL13	93.5	243	112	77	179	167	145	122
280	2	884	24	744	1010	500	450	550	19	5	2xFL21	93.5	243	-	77	-	167	-	122
280	4-8	884	24	744	1010	500	450	550	19	5	2xFL21	93.5	243	-	77	-	167	-	122

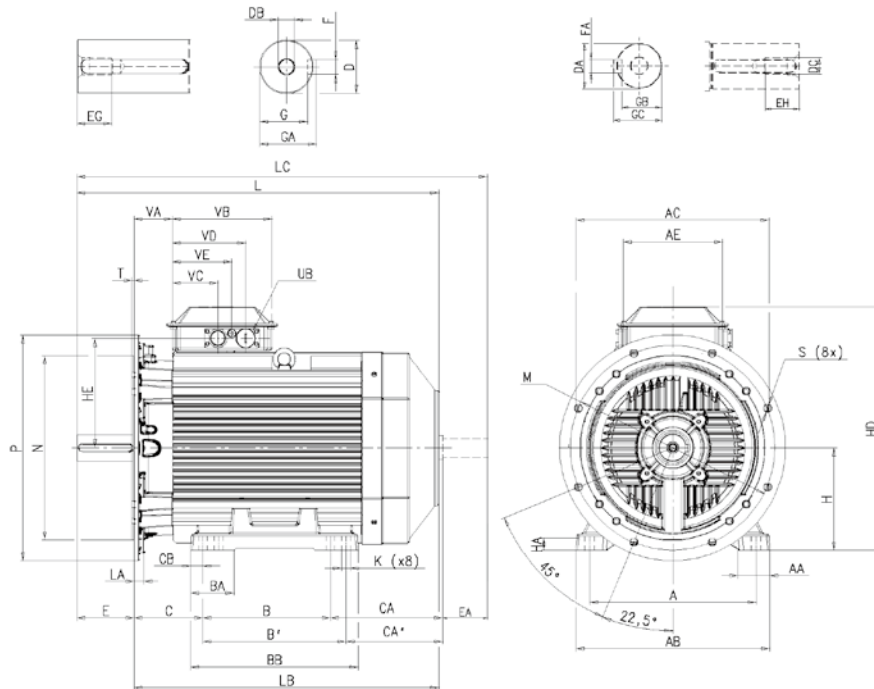
公差 Tolerance 附注 Footnotes

D 55-75	ISO m6	¹⁾ Shoulder of shaft extension and contact surface of flange are in the same plane.
DA 45-55	ISO k6	²⁾ Flange opening is provided with pipe flange FL 13, with tapped lead-in holes plugged with sealing plugs. Single- and two-speed motors: 2 x M40 + M16. Motors for 230V 50Hz or 250 SMC-2, 250 SMC-4 and all 280 have pipe flange FL21 and 2 x M63 + M16
F, FA	ISO h9	³⁾ For flange opening FL13: 2 x M40 + M16
N	ISO j6	⁴⁾ For extra large flange opening FL21: 2 x M63 + M16

外形图及外形尺寸 Dimension drawings

机座号 250-280 Frame size 250-280

底脚和凸缘安装型电机，大凸缘 IM B35 (IM 2001), IM 2002
Foot- and flange-mounted motor, large flange; IM B35 (IM 2001), IM 2002



IM B35 (IM 2001), IM 2002

电机尺寸 Motor size	极数 Poles	A	AA	AB	AC	AE	B	B'	BA	BB	C	CA	CA'	CB	D	DA	DB	DC	E ¹⁾	EA	EG	EH	F
250	2	406	78	474	471	243	311	349	106	409	168	281	243	40	60	55	M20	M20	140	110	42	42	18
250	4-8	406	78	474	471	243	311	349	106	409	168	281	243	30	65	55	M20	M20	140	110	42	42	18
280	2	457	103	525	471	243	368	419	92	489	190	202	151	38	65	55	M20	M20	140	110	42	42	18
280	4-8	457	103	525	471	243	368	419	92	489	190	202	151	38	75	55	M20	M20	140	110	42	42	20

电机尺寸 Motor size	极数 Poles	FA	G	GA	GB	GC	H	HA	HD ³⁾	HD ⁴⁾	HE ³⁾	HE ⁴⁾	K	L	LA	LB	LC	M	N	P	S	T	UB ²⁾
250	2	16	53	64	49	59	250	30	594	627	268	284	22	884	24	744	1010	500	450	550	19	5	2xFL13
250	4-8	16	58	69	49	59	250	30	594	627	268	284	22	884	24	744	1010	500	450	550	19	5	2xFL13
280	2	16	58	69	49	59	280	40	-	657	-	284	24	884	24	744	1010	500	450	550	19	5	2xFL21
280	4-8	16	68	80	49	59	280	40	-	657	-	284	24	884	24	744	1010	500	450	550	19	5	2xFL21

电机尺寸 Motor size	极数 Poles	VA	VB	VC ³⁾	VC ⁴⁾	VD ³⁾	VD ⁴⁾	VE ³⁾	VE ⁴⁾
250	2	93	243	112	77	179	167	145	122
250	4-8	93	243	112	77	179	167	145	122
280	2	93	243	-	77	-	167	-	122
280	4-8	93	243	-	77	-	167	-	122

公差 Tolerance

A, B	ISO js14
C, CA	± 0.8
D 55-75	ISO m6
DA 45-55	ISO k6
F, FA	ISO h9
H	+0 -0.5
N	ISO js6

附注 Footnotes

- ¹⁾ Shoulder of shaft extension and contact surface of flange are in the same plane.
- ²⁾ Flange opening is provided with pipe flange FL 13, with tapped lead-in holes plugged with sealing plugs. Single- and two-speed motors: 2 x M40 + M16. Motors for 230V 50Hz or 250 SMC-2, 250 SMC-4 and all 280 have pipe flange FL21 and 2 x M63 + M16
- ³⁾ For flange opening FL13: 2 x M40 + M16
- ⁴⁾ For extra large flange opening FL21: 2 x M63 + M16

变量代码

Variant codes

可在标准电机基础上增加三位数字的变量代码，指定附加选项和功能。请注意，部分特定代码不能同时使用。

大部分变量代码同时适用于 IE2 和 IE3 电机。在订购前，请您联系 ABB 销售办公室确认变量代码可用性。

Variant codes specify additional options and features to the standard motor. The desired features are listed as three-digit variant codes in the motor order. Note also that there are variants that cannot be used together.

Most of the variant codes apply to IE2 and IE3 motors. However, confirm the availability of variants for IE3 motors with your ABB sales office before making an order.

代码 ¹⁾	变量代码	M3AA											
Code ¹⁾	Variant code	71	80	90	100	112	132	160	180	200	225	250	280
平衡													
Balancing													
423	无键平衡 Balanced without key.	NA	NA	P	P	P	P	P	P	P	P	P	P
424	全键平衡 Full-key balancing	NA	NA	P	P	P	P	P	P	P	P	P	P
轴承与润滑													
Bearings and Lubrication													
036	轴承运输锁 Transport lock for bearings.	NA	NA	P	P	P	P	P	P	P	P	P	P
037	D端圆柱滚子轴承 Roller bearing at D-end.	NA	NA	P	P	P	P	P	P	P	P	P	P
039	耐低温油脂 Cold-resistant grease	P	P	P	P	P	P	S	S	S	S	S	S
040	耐高温油脂 Heat-resistant grease	P	P	P	P	P	P	S	S	S	S	S	S
041	通过注油嘴对轴承加油 Bearings regreasable via grease nipples.	NA	NA	P	P	P	P	P	P	P	P	P	S
043	SPM振动测量接头 SPM compatible nipples for vibration measurement	NA	NA	NA	NA	P	P	P	P	P	P	P	S
057	两端2RS轴承 2RS bearings at both ends.	P	P	P	P	P	P	P	P	P	P	P	P
058	D端角接触球轴承, 轴向力远离轴承 Angular contact bearing at D-end, shaft force away from bearing.	NA	NA	P	P	P	P	P	P	P	P	P	P
059	N端角接触球轴承, 轴向力指向轴承 Angular contact bearing at N-end, shaft force towards bearing.	NA	NA	P	P	P	P	P	P	P	P	P	P
188	63系列轴承 63-series bearing in D-end	NA	NA	S	P	S	P	S	S	S	S	S	S
796	注油嘴 JIS B 1575 PT 1/8", A 型 Grease nipples JIS B 1575 PT 1/8 Type A	NA	NA	NA	NA	P	P	P	P	P	P	P	P
797	不锈钢SPM探头 Stainless steel SPM nipples	NA	NA	NA	NA	P	P	P	P	P	P	P	P
798	不锈钢注油嘴 Stainless steel grease nipples	NA	NA	NA	NA	P	P	P	P	P	P	P	P
其它应用标准设计													
Branch standard designs													
071	冷却塔专用 Cooling Tower duty	NA	NA	NA	NA	P	P	P	P	P	P	P	P
142	“马尼拉”绕组接线 Manilla connection.	NA	NA	P	P	P	P	P	P	P	P	P	P
178	不锈钢/耐酸螺栓 Stainless steel / acid proof bolts.	P	P	P	P	P	P	P	P	P	P	P	P
209	非标电压或频率(特殊绕组) Non-standard voltage or frequency, (special winding).	NA	NA	P	P	P	P	P	P	P	P	P	P
217	D端铸铁端盖(铝壳电机) Cast iron D-end shield (on aluminum motor).	NA	NA	P	P	P	P	S	S	S	S	S	S
425	防腐蚀定子和转子 Corrosion protected stator and rotor core.	NA	NA	P	P	P	P	P	P	P	P	P	P
冷却系统													
Cooling system													
053	金属风罩 Metal fan cover.	P	P	P	P	P	P	S	S	S	S	S	S
068	轻金属风扇(合金) Light alloy metal fan	P	P	P	P	P	P	P	P	P	P	P	P
075	冷却方式IC418 (无风扇) Cooling method IC418 (without fan).	NA	NA	P	P	P	P	P	P	P	P	P	P
183	独立电机冷却 (轴流风扇, N端) Separate motor cooling (fan axial, N-end).	P	P	P	P	P	P	P	P	P	P	P	P

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代码 ¹⁾ 变量代码	M3AA												
Code ¹⁾ Variant code	71	80	90	100	112	132	160	180	200	225	250	280	
文件材料 Documentation													
141	配二维主要尺寸图 Binding 2D main dimension drawing.	P	P	P	P	P	P	P	P	P	P	P	P
排水孔 Drain holes													
065	塞紧现有排水孔 Plugged existing drain holes.	P	P	P	P	P	P	P	P	P	P	P	P
接地螺栓 Earthing Bolt													
067	外部接地螺栓 External earthing bolt.	P	P	P	P	P	P	P	P	P	P	P	P
加热元件 Heating elements													
450	加热带, 100-120V Heating element, 100-120 V	NA	P	P	P	P	P	P	P	P	P	P	P
451	加热带, 200-240V Heating element, 200 - 240 V	P	P	P	P	P	P	P	P	P	P	P	P
绝缘系统 Insulation system													
014	H级绝缘绕组 Winding insulation class H.	NA	NA	P	P	P	P	P	P	P	P	P	P
405	用于变频电源的特殊绕组绝缘 Special winding insulation for frequency converter supply.	NA	NA	P	P	P	P	P	P	P	P	P	P
406	690 V<电源 ≤ 1000 V的绕组 Winding insulation for supply > 690 ≤ 1000 volts	NA	NA	NA	NA	NA	NA	NA	NA	P	P	P	P
船用 Marine													
096	符合英国LR要求, 不需要证书 Fulfilling Lloyds Register of Shipping (LR) requirements, without certificate (non-essential duty only)	P	P	P	P	P	P	P	P	P	P	P	P
186	符合挪威DNV要求, 不需要证书 Fulfilling Det Norske Veritas (DNV) requirements, without certificate (non-essential duty only)	P	P	P	P	P	P	P	P	P	P	P	P
491	符合日本NK要求, 不需要证书 Fulfilling Nippon Kaiji Kyokai (NK) requirements, without certificate.	P	P	P	P	P	P	P	P	P	P	P	P
493	符合中国CCS要求, 不需要证书 Fulfilling China Classification Societies (CCS) requirements (Beijing), without certificate.	P	P	P	P	P	P	P	P	P	P	P	P
494	符合韩国KR要求, 不需要证书 Fulfilling Korea Register of Shipping (KR) requirements, without certificate.	P	P	P	P	P	P	P	P	P	P	P	P
496	符合法国BV要求, 不需要证书 Fulfilling Bureau Veritas (BV) requirements, without certificate(non-essential duty only)	P	P	P	P	P	P	P	P	P	P	P	P
675	符合美国ABS要求, 不需要证书 Fulfilling American Bureau of Shipping (ABS) requirements, without certificate (non-essential duty only)	P	P	P	P	P	P	P	P	P	P	P	P
676	符合德国GL要求, 不需要证书 Fulfilling Germanischer Lloyd (GL) requirements, without certificate (non-essential duty only)	NA	NA	P	P	P	P	P	P	P	P	P	P
安装方式 Mounting arrangements													
008	IM 2101 底脚/法兰安装, IEC 法兰, 由IM 1001派生 (B3派生出B34) IM 2101 foot/flange mounted, IEC flange, from IM 1001 (B34 from B3).	P	P	P	P	P	P	P	NA	NA	NA	NA	NA
009	IM 2001底脚/法兰安装, IEC 法兰, 由IM1001派生 (B3派生出B35) IM 2001 foot/flange mounted, IEC flange, from IM 1001 (B35 from B3).	P	P	P	P	P	P	P	P	P	P	P	P
047	IM3601法兰安装, IEC法兰, 由IM3001派生 (B5派生出B14) IM 3601 flange mounted, IEC flange, from IM 3001 (B14 from B5).	P	P	P	P	P	P	P	NA	NA	NA	NA	NA
048	IM 3001 法兰安装, IEC 法兰, 由IM 3601派生 (B14派生出B5) IM 3001 flange mounted, IEC flange, from IM 3601 (B5 from B14).	P	P	P	P	P	P	NA	NA	NA	NA	NA	NA
066	非标安装方式 (请指定IM xxxx) (除B3 (1001), B5 (3001), B14 (3601), IM B35 (2001) & IM B34 (2101)) 外的其它安装型式须在定单中注明) Modified for specified mounting position differing from IM B3 (1001), IM B5 (3001), B14 (3601), IM B35 (2001), IM B34 (2101)	P	P	P	P	P	P	P	P	P	P	P	P
喷漆 Painting													
114	特殊油漆颜色, 标准等级 (此代码需注明备注限定颜色种类的编号, 列表之外的其它颜色需同时选用999/限定范围之外的特殊油漆颜色, 标准等级) Special paint color, standard grade	R	R	R	R	R	R	R	R	R	R	R	R
防护 Protection													

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代码 ¹⁾ 变量代码		M3AA											
Code ¹⁾	Variant code	71	80	90	100	112	132	160	180	200	225	250	280
005	金属防护罩, 立式电机, 轴伸向下 Protective roof, vertical motor, shaft down.	P	P	P	P	P	P	P	P	P	P	P	P
072	D端径向密封 (不适用于280, 315的2极电机) Radial seal at D-end. Not possible for 2-pole, 280 and 315 frames	P	P	P	P	P	P	P	P	P	P	P	P
158	防护等级IP65 Degree of protection IP65.	P	P	P	P	P	P	P	P	P	P	P	P
211	气候防护型, IP xx W Weather protected, IP xx W	P	P	P	P	P	P	P	P	P	P	P	P
403	防护等级 IP56 Degree of protection IP56.	P	P	P	P	P	P	P	P	P	P	P	P
404	防护等级IP56, 无风扇和风罩 Degree of protection IP56, without fan and fan cover.	NA	NA	P	P	P	P	NA	NA	NA	NA	NA	NA
784	D端伽玛密封 Gamma-seal at D-end.	NA	NA	P	P	P	P	P	P	P	P	P	P
铭牌和指示牌 Rating & instruction plates													
002	重敲铭牌电压、频率、输出、连续工作制 Restamping voltage, frequency and output, continuous duty.	P	P	P	P	P	P	P	P	P	P	P	P
004	标准铭牌上的附加内容 (最多12位) Additional text on std rating plate (max 12 digits on free text line).	NA	NA	P	P	P	P	P	P	P	P	P	P
095	重敲输出 (持续电压、频率)、间歇工作制 Restamping output (maintained voltage, frequency), intermittent duty.	P	P	P	P	P	P	P	P	P	P	P	P
098	不锈钢铭牌 Stainless rating plate.	P	P	P	P	P	P	P	P	P	P	P	P
126	附加铭牌 Tag plate	NA	NA	P	P	P	P	P	P	P	P	P	P
135	安装额外不锈钢指示牌 Mounting of additional identification plate, stainless.	P	P	P	P	P	P	P	P	P	P	P	NA
138	安装额外铝指示牌 Mounting of additional identification plate, aluminium.	P	P	P	P	P	P	P	P	P	P	P	P
139	附加指示牌, 单独交付 Additional identification plate delivered loose.	P	P	P	P	P	P	P	P	P	P	P	P
159	额外带铭牌 "made in ...", Additional plate with text "Made in"	P	P	P	P	P	P	P	P	P	P	P	P
160	额外带主铭牌 Additional rating plate affixed.	NA	NA	P	P	P	P	P	P	P	P	P	P
161	附加铭牌, 单独交付 Additional rating plate delivered loose.	P	P	P	P	P	P	P	P	P	P	P	P
163	变频铭牌。铭牌数据根据报价单 Frequency converter rating plate. Rating data according to quotation.	NA	NA	P	P	P	P	P	P	P	P	P	P
轴和转子 Shaft & rotor													
069	根据基本目录的双伸轴 Two shaft extensions according to catalog drawings.	NA	NA	P	P	P	P	P	P	P	P	P	P
070	D端特殊轴伸, 标准材料 Special shaft extension at D-End, standard shaft material	NA	NA	P	P	P	P	R	R	R	R	R	R
131	电机安装半键交货, (键不能超过轴的直径) Motor delivered with half key (key not exceeding shaft diameter)	NA	NA	P	P	P	P	P	P	P	P	P	P
165	开口键槽轴伸 Shaft extension with open keyway	NA	NA	P	P	P	P	P	P	P	P	P	P
410	不锈钢轴 (标准或非标准设计) Shaft material stainless steel	NA	NA	P	P	NA	NA	NA	NA	NA	NA	NA	NA
591	根据客户规格所做的特殊轴延长 Special shaft extension according to customer specification.	NA	NA	P	P	P	P	P	P	P	P	P	P
600	N端特殊轴伸, 标准材料 Special shaft extension at N-end, standard shaft material.	NA	NA	P	P	P	P	R	R	R	R	R	R
标准和规范 Standards and regulations													
540	中国能源标志 China energy label	S	S	S	S	S	S	S	S	S	S	S	S
542	NBR设计 NBR design	NA	NA	P	P	P	P	P	P	P	P	P	P
543	澳大利亚MEPS Australian MEPS	NA	NA	P	P	P	P	P	P	P	P	P	NA
定子绕组温度传感器 Stator winding temperature sensors													
121	定子绕组安装双金属温度开关 (NCC, 3个串联, 130 °C) Bimetal detectors, break type (NCC), (3 in series), 130 °C, in stator winding.	P	P	P	P	P	P	P	P	P	P	P	P

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代码 ¹⁾ 变量代码		M3AA											
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122	定子绕组安装双金属温度开关 (NCC, 3 个串联, 150 °C) Bimetal detectors, break type (NCC), (3 in series), 150 °C, in stator winding.	P	P	P	P	P	P	P	P	P	P	P	P
123	定子绕组安装双金属温度开关 (NCC, 3 个串联, 170 °C) Bimetal detectors, break type (NCC), (3 in series), 170 °C, in stator winding	P	P	P	P	P	P	P	P	P	P	P	P
124	定子绕组安装双金属温度开关 (NCC, 3 个串联, 140 °C) Bimetal detectors, break type (NCC), (3 in series), 140 °C, in stator winding	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
125	定子绕组安装双金属温度开关 (NCC, 2x3 个串联, 150 °C) Bimetal detectors, break type (NCC), (2x3 in series), 150 °C, in stator winding	NA	P	P	P	P	P	P	P	P	P	P	P
127	定子绕组安装双金属温度开关 (NCC, 3 个串联, 130 °C 以及 3 个串联, 150 °C) Bimetal detectors, break type (NCC), (3 in series, 130 °C & 3 in series, 150 °C), in stator winding	NA	P	P	P	P	P	P	P	P	P	P	P
321	定子绕组安装常开式双金属温度开关 (NO) (3 个并联), 130°C Bimetal detectors, closing type (NO), (3 in parallel), 130°C, in stator winding.	NA	NA	P	P	P	P	NA	NA	NA	NA	NA	NA
322	定子绕组安装常开式双金属温度开关 (NO) (3 个并联), 150°C Bimetal detectors, closing type (NO), (3 in parallel), 150°C, in stator winding.	NA	NA	P	P	P	P	NA	NA	NA	NA	NA	NA
435	定子绕组安装 PTC- 热敏电阻 (3 个串联), 130 °C PTC - thermistors (3 in series), 130 °C, in stator winding.	P	P	P	P	P	P	P	P	P	P	P	P
436	定子绕组安装 PTC 热敏电阻 (3 个串联), 150 °C PTC - thermistors (3 in series), 150 °C, in stator winding.	P	P	P	P	P	P	S	S	S	S	S	S
437	定子绕组安装 PTC-热敏电阻 (3 个串联), 170 °C PTC - thermistors (3 in series), 170 °C, in stator winding	NA	NA	P	P	P	P	P	P	P	P	P	P
439	定子绕组安装 PTC- 热敏电阻 (2 × 3 个串联), 150 °C PTC - thermistors (2x3 in series), 150 °C, in stator winding	P	P	P	P	P	P	P	P	P	P	P	P
440	定子绕组安装 PTC 热敏电阻 (3 个串联, 110 °C 和 3 个串联, 130 °C) PTC - thermistors (3 in series, 110°C & 3 in series, 130°C), in stator winding.	NA	NA	P	P	P	P	NA	NA	NA	NA	NA	NA
441	定子绕组安装 PTC- 热敏电阻 (3 个串联, 130 °C 以及 3 个串联, 150 °C) PTC - thermistors (3 in series, 130 °C & 3 in series, 150 °C), in stator winding.	P	P	P	P	P	P	P	P	P	P	P	P
442	定子绕组安装 PTC-热敏电阻 (3 个串联, 150 °C 以及 3 个串联, 170 °C) PTC - thermistors (3 in series, 150 °C & 3 in series, 170 °C), in stator winding	NA	NA	P	P	P	P	P	P	P	P	P	P
445	定子绕组安装 Pt100 (2 线), 每相 1 个 Pt100 2-wire in stator winding, 1 per phase.	NA	NA	P	P	P	P	P	P	P	P	P	P
446	定子绕组安装 Pt100 (2 线), 每相 2 个 Pt100 2-wire in stator winding, 2 per phase	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
接线盒													
Terminal box													
019	比标准接线盒大 Larger than standard terminal box.	NA	NA	NA	NA	NA	NA	NA	NA	P	P	P	NA
021	左侧接线盒 (从 D 端看) Terminal box LHS (seen from D-end).	NA	NA	NA	NA	NA	NA	NA	NA	P	P	P	P
180	右侧接线盒 (从 D 端看) Terminal box RHS (seen from D-end).	NA	NA	NA	NA	NA	NA	NA	NA	P	P	P	P
230	标准金属电缆密封管 Standard metal cable gland.	P	P	P	P	P	P	P	P	P	P	P	P
375	标准塑料电缆密封管 Standard plastic cable gland.	P	P	P	P	P	P	NA	NA	NA	NA	NA	NA
376	两个标准塑料电缆密封管 Two standard plastic cable glands.	NA	NA	P	P	P	P	NA	NA	NA	NA	NA	NA
418	独立的辅助接线盒, 标准材料 Separate terminal box for auxiliaries, standard material.	NA	NA	NA	NA	P	P	P	P	P	P	P	P
467	接线盒低于标准接线盒, 橡胶加长电缆, 电缆长度 2 m Lower than standard terminal box and rubber extended cable. Cable length 2 m	NA	NA	NA	NA	P	P	P	P	P	P	P	P
729	无孔出线板/盲板, 铝制 Aluminum non-drilled flange for cable glands	NA	NA	NA	NA	NA	NA	NA	NA	P	P	P	P
731	2 个标准金属电缆密封管 Two standard metal cable glands.	P	P	P	P	P	P	P	P	P	P	P	P
740	为 PG 葛兰预留 Prepared for PG cable glands.	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P

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代码 ¹⁾ 变量代码		M3AA											
Code ¹⁾	Variant code	71	80	90	100	112	132	160	180	200	225	250	280
测试													
Testing													
140	测试确认 Test confirmation.	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
145	目录电机的型式试验报告, 400V 50Hz Type test report from a catalogue motor, 400V 50Hz.	P	P	P	P	P	P	P	P	P	P	P	P
146	指定交货批次内的某一电机的型式试验报告 Type test with report for one motor from specific delivery batch.	NA	NA	P	P	P	P	P	P	P	P	P	P
147	指定交货批次内的某一电机的型式试验报告, 客户现场见证 Type test with report for motor from specific delivery batch, customer witnessed.	NA	NA	P	P	P	P	P	P	P	P	P	P
148	出厂试验报告 Routine test report.	P	P	P	P	P	P	P	P	P	P	P	P
221	指定交货批次的电机型式试验和多点负载测试, 并提交报告 Type test and multi-point load test with report for one motor from specific delivery batch.	NA	NA	P	P	P	P	P	P	P	P	P	P
222	指定交货批次的一台电机转矩转速曲线、型式试验和多点负载测试, 并提交报告 Torque/speed curve, type test and multi-point load test with report for one motor from specific delivery batch.	NA	NA	P	P	P	P	P	P	P	P	P	P
760	振动等级测试 Vibration level test	NA	NA	P	P	P	P	P	P	P	P	P	P
762	对指定交货批次内的一台电机进行噪声等级测试 Noise level test for one motor from specific delivery batch.	NA	NA	P	P	P	P	P	P	P	P	P	P
变速驱动器													
Variable speed drives													
470	为空心轴脉冲编码器预留安装 (等同于Leine & Linde) Prepared for hollow shaft pulse tachometer (L&L equivalent).	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
472	安装1024脉冲编码器 (Leine & Linde 861) 1024 pulse tachometer (L&L 861007455-1024).	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
473	安装2048脉冲编码器 (Leine & Linde 861) 2048 pulse tachometer (L&L 861007455-2048).	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
474	独立电机冷却 (轴流风扇, N端), 预留安装空心轴脉冲编码器的位置 (等同于Leine & Linde) Separate motor cooling (axial fan, N-end) and prepared for hollow shaft tachometer (L&L equivalent)	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
476	独立电机冷却 (轴流风扇, N端), 安装1024脉冲编码器 (Leine & Linde 861) Separate motor cooling (axial fan, N-end) and 1024 pulse tachometer (L&L 861007455-1024)	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
477	独立电机冷却 (轴流风扇, N端), 安装2048脉冲编码器 (Leine & Linde 861) Separate motor cooling (axial fan, N-end) and 2048 pulse tachometer (L&L 861007455-2048)	NA	NA	NA	NA	NA	NA	P	P	P	P	P	P
704	EMC 电缆密封管 EMC cable entry.	NA	NA	P	P	P	P	P	P	P	P	P	P

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特定变量代码不能同时使用,
详情请咨询 ABB。

S = 标准电机包含

M = 可选, 库存电机改装

P = 可选, 新生产电机

R = R

- = 不适用

Certain variant codes cannot be used simultaneously.

Contact ABB for more details.

S = Included as standard

M = Available as option, modification from stock

P = Available as option, new manufacture only

R = On request

- = Not applicable

尺寸 Size		71	80	90	100	112	132
机座与端盖 Stator and end shields	材料 Material	压铸铝 Die-cast aluminum alloy					
	油漆颜色 Paint color shade	Munsell 蓝 8B 4.5/3.25 Munsell blue 8B 4.5/3.25					
	防腐蚀等级 Corrosion class	C3M (根据标准ISO/EN 12944-5) C3 medium according to ISO/EN 12944-5					
底脚 Feet	材料 Material	一体式底脚 Integrated aluminum feet					
端盖 End shields	材料 Material	压铸铝 Die-cast aluminum alloy					
	油漆颜色 Paint color shade	Munsell 蓝 8B 4.5/3.25 Munsell blue 8B 4.5/3.25					
	防腐蚀等级 Corrosion class	C3M (根据标准ISO/EN 12944-5) C3 medium according to ISO/EN 12944-5					
轴承 Bearings	D端 D-end	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6306-2Z/C3	6306-2Z/C3	6208-2Z/C3 6206-2Z/C3 (112 J-gen) 6308-2Z/C3 (SM _L)
	N端 N-end	6202-2C/C3	6203-2Z/C3	6204-2Z/C3	6205-2Z/C3	6205-2Z/C3	6206-2Z/C3
轴向锁定轴承 Axially locked bearings		Locked at D-end with internal retaining ring		D端锁定 Locked at D-end			
轴承密封 Bearing seals	D端 D-end	V形圈 V-ring					
	N端 N-end	迷宫式密封 Labyrinth seal					
润滑 Lubrication		永久润滑封闭轴承 Permanently lubricated shielded bearing					
		油脂适用温度范围 -40 °C ~ 160 °C Grease temperature range -40 °C to +160 °C					
测量接头 Measuring nipples		未包括在内 Not included					
铭牌 Rating plate	材料 Material	铝 Aluminum					
接线盒 Terminal box	接线盒座/盖 Frame and cover	压铸铝, 与机座一体 Die-cast aluminum alloy, integrated in stator					
	防腐蚀等级 Corrosion class	C3M (根据标准ISO/EN 12944-5) C3 medium according to ISO/EN 12944-5					
	接线盒盖用螺钉 Cover screws	电镀锌钢 Zinc-electroplated steel					
连接件 Connections	电缆入口 Knock-out openings	2x(M20 + M20)		2x(M20+M25)		2x(M20+M25) ¹⁾ 2x(M40+M32+M12) ²⁾	
	接线盒 Terminal box	电缆接线头, 6个端子 Cable lugs, 6 terminals		6个端子 6 screw terminals		电缆接线头, 6个端子 Cable lugs, 6 terminals	
风扇 Fan	材料 Material	玻璃纤维增强聚丙烯 Glass-fiber reinforced polypropylene					
风罩 Fan cover	材料 Material	聚丙烯 Polypropylene					
定子绕组 Stator winding	材料 Material	铜 Copper					
	绝缘 Insulation	F级绝缘 Insulation class F					
	绕组保护 Winding protection	可选 Optional					
转子绕组 Rotor winding	材料 Material	压铸铝 Die-cast aluminum					
平衡方法 Balancing method		半键平衡 Half-key balancing					
键槽 Keyway		半键平衡 Half-key balancing					
排水孔 Drain holes		排水孔具有可闭合塞, 交付时为打开状态 Drain holes with closable plastic plugs, open on delivery					
防护等级 Enclosure		IP 55					
冷却方式 Cooling method		IC 411					

¹⁾ Types S, SB, M, MA

²⁾ Types SC, MC, SMA - SME

尺寸 Size		160	180	200	225	250	280	
机座 Stator	材料 Material	压铸铝 Die-cast aluminum alloy		拉伸铝 Extruded aluminum alloy				
	油漆颜色 Paint color shade	Munsell 蓝 8B 4.5/3.25 Munsell blue 8B 4.5/3.25						
	防腐蚀等级 Corrosion class	C3M (根据标准ISO/EN 12944-5) C3 medium according to ISO/EN 12944-5						
底脚 Feet	材料 Material	独立铝质底脚 Separate aluminum feet		独立铸铁底脚 Separate cast iron feet				
端盖 End shields	材料 Material	铸铁 Cast iron						
	油漆颜色 Paint color shade	Munsell 蓝 8B 4.5/3.25 Munsell blue 8B 4.5/3.25						
	防腐蚀等级 Corrosion class	C3M (根据标准ISO/EN 12944-5) C3 medium according to ISO/EN 12944-5						
轴承 Bearings	D端 D-end	6309-2Z/C3	6310-2Z/C3	6312-2Z/C3	6313-2Z/C3	6315-2Z/C3	6316/C3 ¹⁾	
	N端 N-end	6209-2Z/C3	6209-2Z/C3	6210-2Z/C3	6212-2Z/C3	6213-2Z/C3	6213/C3	
轴向锁定轴承 Axially locked bearings		D端锁定 Locked at D-end						
轴承密封 Bearing seals		两端使用密封 Axial seal at both ends						
润滑 Lubrication		永久润滑密封轴承 Permanently lubricated shielded bearings						可润滑 Regreasable
		油脂适用温度范围 -40 °C ~ 160 °C Grease temperature range -40 °C to +160 °C						
测量接头 Measuring nipples		未包括在内 Not included						
铭牌 Rating plate	材料 Material	铝 Aluminum						
接线盒 Terminal box	接线盒座/盖 Frame and cover	一体式铝质接线盒 Die-cast aluminum alloy, integrated in stator		分体式钢板接线盒 Deep-drawn steel sheet, bolted to stator				
	防腐蚀等级 Corrosion class	C3M (根据标准ISO/EN 12944-5) C3 medium according to ISO/EN 12944-5						
	接线盒盖用螺钉 Cover screws	电镀锌钢 Zinc-electroplated steel						
连接件 Connections	电缆入口 Openings	(2xM40 + M16) + (2xM40)		2xFL13, 2xM40 + 1xM16		2xFL21		
		击落式电缆入口 Knock-outs		S电压: 2xFL21, 2xM63 + 1xM16 Voltage code S; 2xFL21, 2xM63 + 1xM16		2xM63, 1xM16		
	螺钉 Screws	M6		M10				
	接线盒 Terminal box	6 个端子, 用于跟电缆接线头连接 (这里不包括连接头) 6 terminals for connection with cable lugs (not included)						
风扇 Fan	材料 Material	玻璃纤维增强聚丙烯 Glass-fiber reinforced polypropylene						
风罩 Fan cover	材料 Material	钢板 Steel						
	油漆颜色 Paint color shade	Munsell 蓝 8B 4.5/3.25 Munsell blue 8B 4.5/3.25						
	防腐蚀等级 Corrosion class	C3M (根据标准ISO/EN 12944-5) C3 medium according to ISO/EN 12944-5						
定子绕组 Stator winding	材料 Material	铜 Copper						
	绝缘 Insulation	F级绝缘 Insulation class F						
	绕组保护 Winding protection	PTC热敏电阻 (3 个串联), 150 °C 3 PTC thermistors, 150 °C						
转子绕组 Rotor winding	材料 Material	压铸铝 Die-cast aluminum						
平衡方法 Balancing method		半键平衡 Half-key balancing						
键槽 Keyway		闭口键槽 Closed keyway						
排水孔 Drain holes		排水孔具有可闭合塞, 交付时为打开状态 Drain holes with closable plastic plugs, open on delivery						
防护等级 Enclosure		IP 55						
冷却方式 Cooling method		IC 411						

¹⁾ 6315/C3 for 2-pole motors

Total product offering

Motors, generators and mechanical power transmission products with a complete portfolio of services

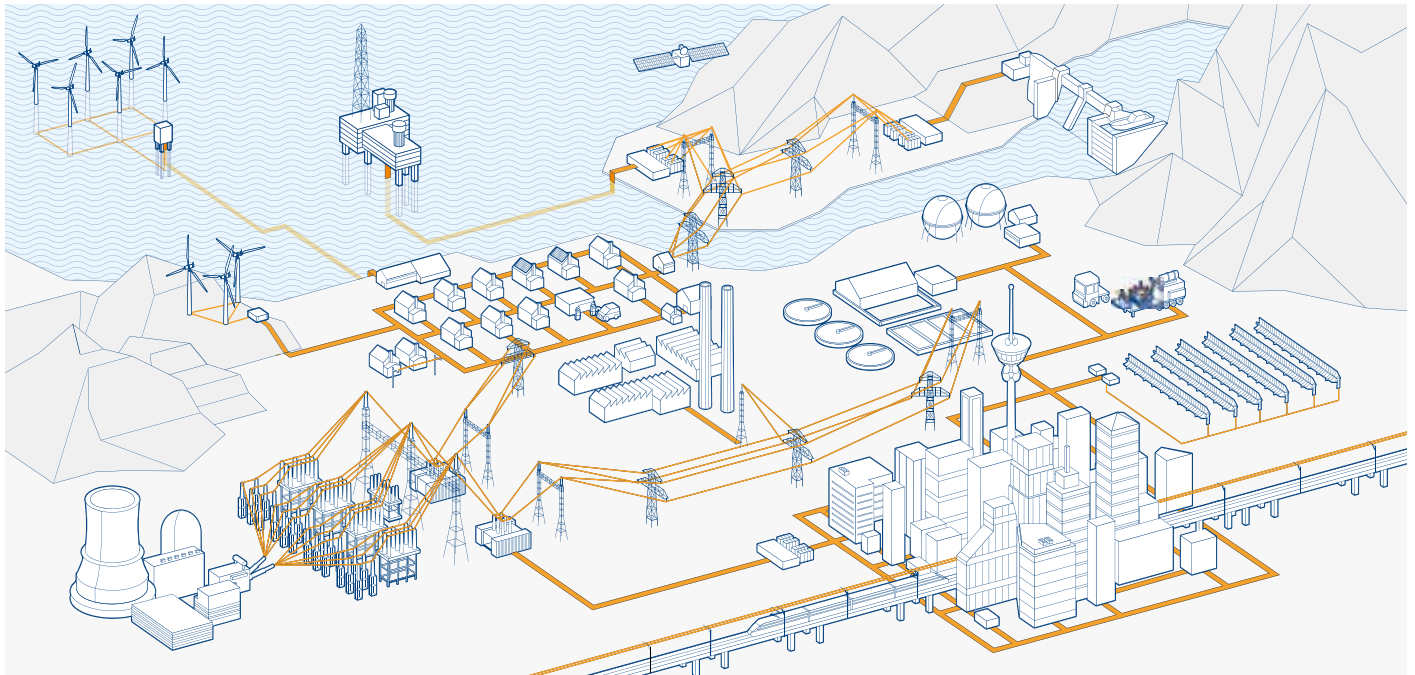


ABB is the leading manufacturer of low, medium and high voltage motors and generators, and mechanical power transmission products. ABB products are backed by a complete portfolio of services. Our in-depth knowledge of virtually every type of industrial process ensures we always specify the best solution for your needs.

Low and high voltage IEC induction motors

- Process performance motors
- General performance motors
- High voltage cast iron motors
- Induction modular motors
- Slip-ring modular motors

Low and medium voltage NEMA motors

- Steel frame open drip proof (ODP) motors
- Weather protected, water cooled, fan ventilated
- Cast iron frame (TEFC)
- Air to air cooled (TEAAC) motors

Motors and generators for explosive atmospheres

- IEC and NEMA motors and generators, for all protection types

Synchronous motors

Synchronous generators

- Synchronous generators for diesel and gas engines
- Synchronous generators for steam and gas turbines

Wind power generators

Generators for small hydro

Other motors and generators

- Brake motors
- DC motors and generators
- Gear motors
- Marine motors and generators
- Single phase motors
- Motors for high ambient temperatures
- Synchronous reluctance motors
- Permanent magnet motors and generators
- High speed motors
- Smoke extraction motors
- Wash down motors
- Water cooled motors
- Generator sets
- Roller table motors
- Low inertia motors
- Traction motors and generators

Life cycle services

Mechanical power transmission components, bearings, gearings

Life cycle services and support

From pre-purchase to migration and upgrades



ABB offers a complete portfolio of services to ensure trouble-free operation and long product lifetimes. These services cover the entire life cycle. Local support is provided through a global network of ABB service centers and certified partners.

Pre-purchase

ABB's front-end sales organization can help customers to quickly and efficiently select, configure and optimize the right motor or generator for their application.

Installation and commissioning

Professional installation and commissioning by ABB's certified engineers represent an investment in availability and reliability over the entire life cycle.

Engineering and consulting

ABB's experts provide energy efficiency and reliability appraisals, advanced condition and performance assessments and technical studies.

Condition monitoring and diagnosis

Unique services collect and analyze data to provide early warnings of problems before failures can occur. All critical areas of the equipment are covered.

Maintenance and field services

ABB offers life cycle management plans and preventive maintenance products. The recommended four-level maintenance program covers the entire product lifetime.

Spare parts

Spare parts and support are offered throughout the life cycle of ABB products. In addition to individual spares, tailored spare part packages are also available.

Repair and refurbishment

Support for all ABB motors and generators and other brands is provided by ABB's global service organization. Specialist teams can also deliver emergency support.

Migration and upgrades

Life cycle audits determine the optimum upgrades and migration paths. Upgrades range from individual components to direct replacement motors and generators.

Training

Product and service training courses take a practical approach. The training ranges from standard courses to specially tailored programs to suit customer requirements.

Specialized support

Specialized support is offered through ABB's global service organization. Local units provide major and minor repairs as well as overhauls and reconditioning.

Service contracts

Service contracts are tailored to the customer's needs. The contracts combine ABB's entire service portfolio and 120 years of experience to deploy the optimal service practices.

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