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M2QA系列标准三相异步电动机

M2QA Series IEC Low-voltage Three-phase Induction Motors

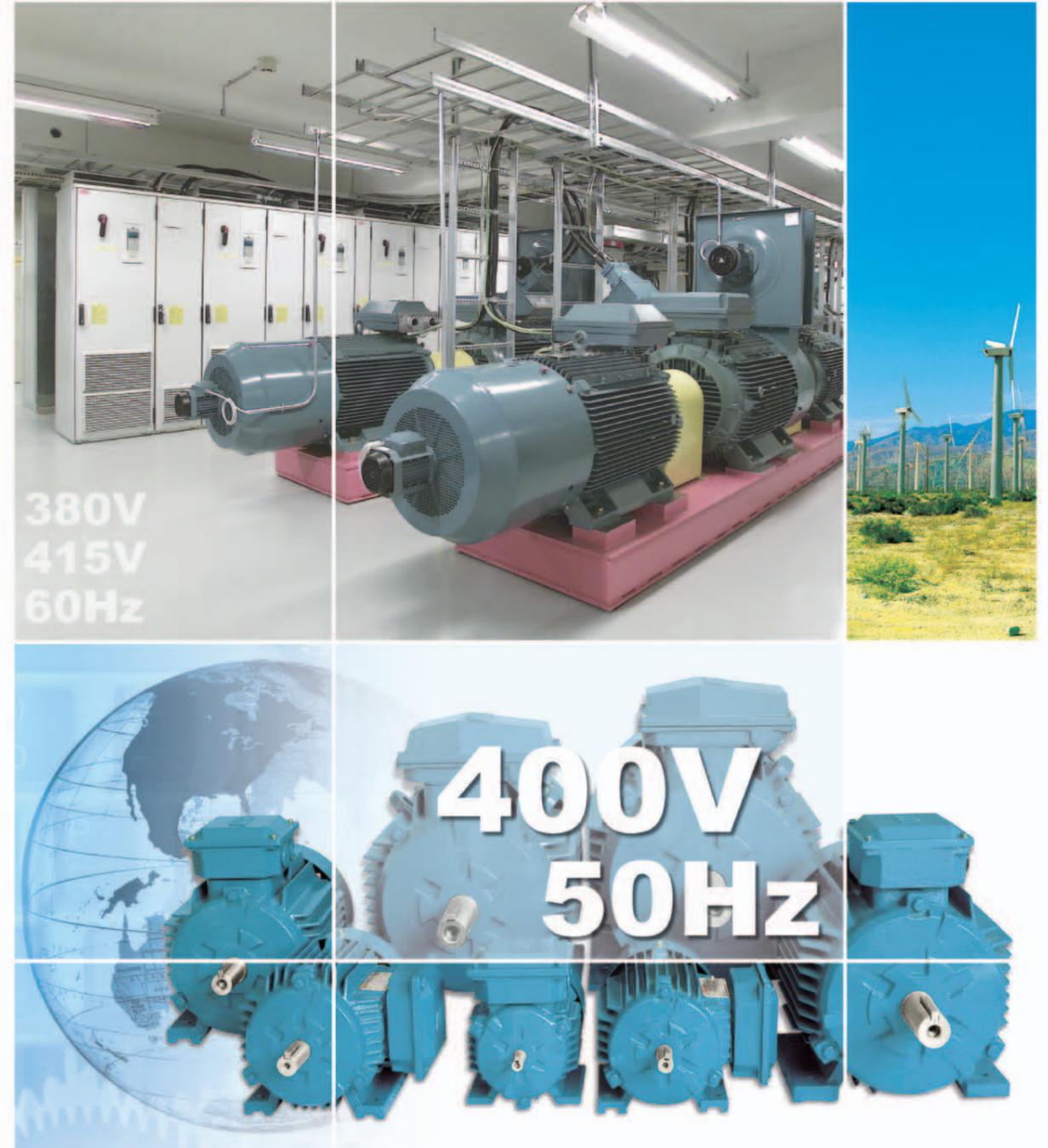


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公司简介

上海ABB电机有限公司成立于1996年2月，隶属于世界500强ABB集团，是专门生产和销售低压交流三相异步电动机（机座号71-355）的企业。

公司提供符合IEC标准的各种电机，可满足不同行业需求，其产品包括标准电机、变频电机、船用电机、隔爆电机、烟道电机、多速电机、QA电机、制动电机、户外电机、无火花电机、铝壳电机、磨头电机。并可提供按客户要求设计的特殊电机，所有设计均可达到客户的严格要求。同时，公司可提供具有不同绝缘等级，并能满足不同电压和频率要求的各种电机。公司主要OEM客户是空调风机、港机及起重机械、泵业、减速机、机床、纺织机械、玻璃机械、船用、电厂辅机、电路板机械等行业领先企业。项目覆盖：电厂、制浆造纸、石化、冶金、船舶、港口、建筑、水泥、机场等。目前，公司生产的45%的电机通过ABB国际销售网络出口国外，主要是欧洲市场。

作为中国第一家获得ISO9001质量管理体系认证和ISO14001环境管理体系认证的中小型电机制造厂。上海ABB电机有限公司以其良好的管理和先进的技术，向客户提供世界顶级的ABB产品和服务。



Company Introduction

Founded in February 1996, ABB Shanghai Motors Co., Ltd., belongs to ABB Group, one of the world's Top 500 Corporations, and specializes in manufacturing and marketing low voltage AC 3-phase asynchronous motors of frame size from 71 to 355.

The company offers a wide range of IEC Standard motors to meet the demands of various industries, including Standard Motors, Frequency Conversion Motors, Marine Motors, Flameproof Motors, Smoke Venting Motors, Multi-speed Motors, QA Motors, Brake Motors, Outdoor Environment Motors, Non-sparking Motors, Cast Aluminum Motors, and Motors for Glass Machinery, together with specially customized motors as per customers' demands and meeting customers' stringent requirements. In addition, the company can supply a broad range of motors with various insulation classes, which can meet various voltage and frequency requirements. The company major OEM customers are leaders in HVAC, crane, pump, gearbox, machine tool, textile, glass, marine, power plant auxiliary equipment, circuit board, etc. And its projects cover: power plant, pulp and paper, PEC, metal, marine, port, building, cement, airport, etc. Forty-five percent of its motors are currently exported abroad, mainly to the European market.

As the first small-medium motor manufacturer with ISO9001 Certification and ISO14001 Certification in China, ABB Shanghai Motors Co., Ltd. Provides its customers with world-class ABB products and service with qualified management and advanced technology.

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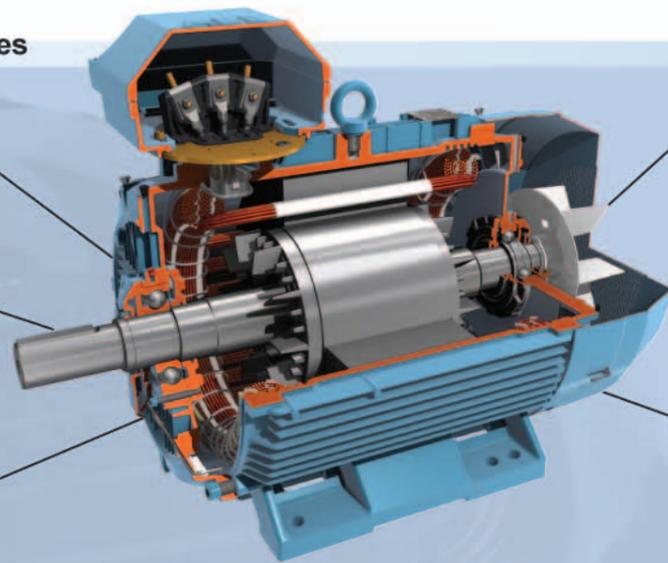
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ABB电机产品特点 ABB Motors Features

可靠
High Reliability

高效
High Efficiency

一致
Excellent Consistency



低噪音
Low Noise

高灵活性
High Flexibility



产品概述 M2QA系列标准三相异步电动机 (H71-H355)

M2QA系列标准三相异步电动机是ABB公司2000系列产品中的基本系列，符合欧共体II级效率标准，高效可靠，节能环保。该系列电机引进全套欧洲生产工艺，噪音低，寿命长，适用于各种恶劣的环境，被广泛地运用于各行各业。

M2QA 系列突出特点

- ◆ 高效节能，降低运营成本，能够让最终用户在 6 ~ 18 个月内收回高出的采购成本。
- ◆ 可靠性高，保障设备连续平稳运行，故障率低，降低维护成本。
- ◆ 采用进口轴承，先进工艺，使电机寿命更长，一次采购，多年受益。
- ◆ 柔性设计，能够根据客户要求加装多种附件。

Outstanding Features of M2QA Motors

- ◆ High efficiency and energy saving in combination with high reliability reduces the operation costs.
- ◆ Advanced production technology assures accurate products.
- ◆ Motors are equipped with imported bearings.
- ◆ Flexible design with choice of additional accessories fulfills most customers' requirements.



Summary M2QA Series IEC Low-voltage Three-phase Induction Motors (H71-H355)

As the standard series of ABB M2000 family, the M2QA series IEC low-voltage three-phase induction motors are in conformity with efficiency class 2 of CEMEP-EU. High efficiency assures energy savings, and high reliability reduces the faulty time and the maintenance costs. The motors are designed and manufactured according to European technology, including features such as low noise level and long life cycle. M2QA motors are suitable for various environments and operate in a wide range of different industrial areas.

标准

- ❖ **高效率**
1.1kW-90kW, 2极和4极, S1工作制, M2QA系列达到CEMEP-EU的II级效率标准, 具有较好的节能效果。
- ❖ **轴承具有较高承载能力**
配置深沟球轴承, 大大延长电动机的工作寿命。71-225铸铁电动机配有免润滑轴承, 250-355电动机标准配置装有注排油装置。
- ❖ **宽电压设计**
高至690V且可应用于50Hz和60Hz电网。
- ❖ **低噪音水平**
M2QA系列通过改善电磁和电气设计、冷却系统及结构优化和技术, 使电机的噪音降低到最小程度。
- ❖ **可靠的绕组**
绕组采用最新技术的绝缘材料, 可达到F级绝缘和B级温升(80K), 确保绕组具有较长的使用寿命。
- ❖ **防腐蚀能力强**
电动机防腐蚀能力强。可在恶劣的条件下正常运行, 使用寿命较长。
- ❖ **额外的绕组保护**
根据客户要求可加装PTC热敏电阻、热敏开关和防冷凝装置。

机械设计

- ❖ **全封闭自扇冷设计, IP55防护等级**
重负载设计, 同时采用强抗腐蚀铸铁材料, 使M2QA系列电动机可适应各种环境。电动机的机械结构极其坚固, 标准设计采用变频驱动器, 额外节能。
- ❖ **灵活的进线方式**
接线盒可安装在电动机顶部、右侧或左侧。71-132电动机接线盒可旋转4×90°, 160-355电动机接线盒可旋转2×180°。所有规格的电动机都易于改装。
- ❖ **强大的改装能力**
电动机针对不同环境及应用有多种可选配置, 如更高的防护等级、绝缘等级、重新润滑装置、防尘保护、密封圈、防护罩等等。

Standards

- ❖ **High efficiency**
1.1kW-90kW, 2P and 4P, in S1 duty, M2QA motors are among the class 2 of CEMEP-EU standard, saving energy and operating costs.
- ❖ **Voltage ranges of extra versatility**
A wide range of voltages can be up to max. 690 V, for 50 Hz and 60 Hz is available.
- ❖ **Reliable windings**
To ensure long lifetime, the windings are made of the latest available materials in class F protection and temperature rise limited to class B(80K) in standard motors.
- ❖ **Strong corrosion protection**
The motors are made to withstand aggressive environment as standard and they are designed for long lifetime. For motors with regreasable elements, they have strong and effective protection against corrosion.
- ❖ **Bearings with high load capacity**
All motors are provided with deep-groove ball bearings, the lifetime is extended. Cast iron motors in sizes 71-225 are greased for life, and those in sizes 250-355 have a regreasing device as a standard.
- ❖ **Low noise level**
The M2QA range has been designed to minimize motors noise levels by means of improving magnetic and electrical design, ventilating condition, structural assembling size and technology.
- ❖ **Additional winding protection**
PTC thermistors, thermal switches and anticondensation on request.

Mechanical Design

- ❖ **Totally enclosed fan cooled IP55**
Heavy duty design, manufactured from extra corrosion resistant cast iron materials to be used in all kind of environment. The motor is mechanically very strong and robust and as standard designed for additional energy saving through frequency converter drives.
- ❖ **Flexible cable entry direction**
Terminal boxes are mounted on the top of the motors, right or left. Terminal boxes of motor size 71-132 can rotate 4×90°, and those of 160-355 can rotate 2×180°. All are easy to refit.
- ❖ **Powerful refit available**
The motors satisfy the requirements of a wide range of environments and applications, such as improving protection, insulation level, regreasing facilities, dust-proof, sealing rings, protective roof are available.

绝缘和绝缘等级

IEC 60085标准将绝缘材料分为不同的绝缘等级。每个等级的标识都与该绝缘材料在正常运行情况下所能达到的温度极限值相对应。

一台电动机的绕组绝缘是按电动机内的温升和环境温度而定的。通常根据电动机在额定输出功率和40°C环境温度下的最高温度值确定其绝缘等级。工作温度高于40°C的电动机通常需要重新定级。大多数情况下, ABB电动机在标准额定输出下可达到F级绝缘, B级温升, 能够满足当今工业中的绝大多数的要求。

所有电动机的设计都达到F级绝缘, 能够耐受B级以上的温升。因此, 电动机有充分的过负荷裕量。如果能够达到F级温升, 则各表中给出的输出功率一般可增加大约12%。

图中的温度极限值符合各标准规定。采用F级绝缘和B级温升设计时, 额外的耐热裕度可确保电动机的性能更可靠。

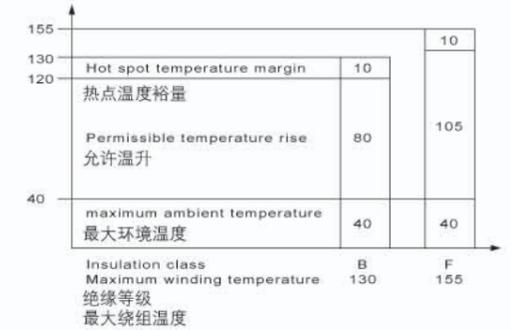
Insulation and Insulation Classes

According to IEC 60085, insulating materials are divided into insulation classes. Each class has a designation corresponding to the temperature that is the upper limit of the range of application of the insulating material under normal operating condition.

The winding insulation of a motor is determined on the basis of the temperature rise in the motor and the ambient temperature. The insulation is normally dimensioned for the hottest point in the motor at its normal rated output and at ambient temperature of 40°C. Motors subjected to ambient temperatures above 40°C will generally have to be derated. In most cases, the standard rated outputs of motors from ABB uses class F insulation systems, which, with temperature rise B, is the most common requirement among industry today.

However, all the motors are designed with class F insulation, which permits a higher temperature rise than class B. The motors, therefore, have a generous over-load margin. If temperature rise to class F is allowed, the outputs given in the tables can generally be increased by about 12%.

Temperature limits are according to standards. The extra thermal margin when using class F insulation with class B temperature rise makes the motors more reliable.



用于其它电压值的电动机

在50Hz频率某一电压下工作的电动机, 也可以在其它电压值下运行。下表中给出了电流和转矩换算系数, 效率、功率因数和转速略有变化。

如用户需要可提供保证值。

Motors for Other Voltages

Motors wound for a given voltage at 50Hz can also be used for other voltage. Recalculation factors for current and torque are given below, efficiency, power factor and speed remain. Approximately the same.

Guaranteed values available on request.

电动机额定电压 Motor wound for	230V	400V	500V	690V				
连接到50Hz Connected to 50Hz	220V	230V	380V	415V	500V	550V	660V	690V
电动机性能值(460V, 60Hz), % % of values at 460V, 60Hz								
输出功率 Output	100	100	100	100	100	100	100	100
IN	182	174	105	98	80	75	61	58
Is/IN	90	100	90	106	100	119	90	100
Ts/TN	90	100	90	106	100	119	90	100
Tmax/TN	90	100	90	106	100	119	90	100

在60Hz频率某一电压下工作的电动机，也可以在其它电压值下运行。右表中给出了电流和转矩的近似换算系数，效率、功率因数和转速略有变化。如用户需要可提供保证值。

Motors wound for a given voltage at 60Hz can also be used for other voltages. Approximate recalculation factors for current and torque given are beside; efficiency, power factor and speed remain approximately the same.
Guaranteed values available on request.

电动机额定电压 Motor wound for	460V		575V
连接到60Hz Connected to 60Hz	440V	480V	575V
电动机性能值(460V, 60Hz), % % of values at 460V, 60Hz			
输出功率 Output	100	100	100
IN	105	96	80
Is/IN	90	109	100
Ts/TN	90	109	100
Tmax/TN	90	109	100

轴承和接线盒

下表列出了标准配置下的单列深沟球轴承。接线盒安装在电动机的顶部。71-132电动机的接线盒可旋转4×90°，160-355电动机的接线盒可旋转2×180°。标准接线盒的防护等级为IP55。电动机标准配有2个电缆接口见下。

Bearings and Terminal Boxes

The motors are normally fitted with single-row deep groove ball bearings as listed in the table below. Terminal boxes are mounted on top of the motor. The terminal box of motor sizes 71 to 132 can be turned 4 x 90° and in motors sizes 160 to 355 rotated 2 x 180°. Degree of protection of the standard terminal box is IP55. The motors are supplied with 2 cable entries as a standard according to the table below.

型号	极数	标准驱动端	轴承型号非驱动端	电缆接口 mm	型号	极数	标准驱动端	轴承型号非驱动端	电缆接口 mm				
Type	Poles	Standard D-end	bearing type N-end	Cable entry mm	Type	Poles	Standard D-end	bearing type N-end	Cable entry mm				
71M	2, 4, 6	6202	VVC3	6202	VVC3	2-M16 X 1.5	250M	2	6314	C3	6214	C3	2-M63 X 1.5
80M	2, 4, 6, 8	6204	DDUC3	6204	DDUC3	2-M25 X 1.5	250M	4, 6, 8	6314	C3	6214	C3	2-M63 X 1.5
90S	2, 4, 6, 8	6205	DDUC3	6205	DDUC3	2-M25 X 1.5	280S	2	6316	C4	6316	C4	2-M63 X 1.5
90L	2, 4, 6	6205	DDUC3	6205	DDUC3	2-M25 X 1.5	280S	4, 6, 8	6316	C3	6316	C3	2-M63 X 1.5
100L	2, 4, 6, 8	6206	DDUC3	6206	DDUC3	2-M32 X 1.5	280M	2	6316	C4	6316	C4	2-M63 X 1.5
112M	2, 4, 6, 8	6207	DDUC3	6206	DDUC3	2-M32 X 1.5	280M	4, 6, 8	6316	C3	6316	C3	2-M63 X 1.5
132S	2, 4, 6, 8	6208	DDUC3	6207	DDUC3	2-M32 X 1.5	315S	2	6316	C4	6316	C4	2-M63 X 1.5
132M	2, 4, 6, 8	6208	DDUC3	6207	DDUC3	2-M32 X 1.5	315S	4, 6, 8	6319	C3	6319	C3	2-M63 X 1.5
160M	2, 4, 6, 8	6309	ZZC3	6209	ZZC3	2-M40 X 1.5	315M	2	6316	C4	6316	C4	2-M63 X 1.5
160L	2, 4, 6, 8	6309	ZZC3	6209	ZZC3	2-M40 X 1.5	315M	4, 6, 8	6319	C3	6319	C3	2-M63 X 1.5
180M	2, 4, 6, 8	6310	ZZC3	6210	ZZC3	2-M40 X 1.5	315L	2	6316	C4	6316	C4	2-M63 X 1.5
180L	2, 4, 6, 8	6310	ZZC3	6210	ZZC3	2-M40 X 1.5	315L	4, 6, 8	6319	C3	6319	C3	2-M63 X 1.5
200L	2, 4, 6, 8	6312	ZZC3	6212	ZZC3	2-M50 X 1.5	355M	2	6319M	C4	6319M	C4	2-M63 X 1.5
225S	4, 6, 8	6313	ZZC3	6213	ZZC3	2-M50 X 1.5	355M	4, 6, 8	6322	C3	6319	C3	2-M63 X 1.5
225M	2	6313	ZZC3	6213	ZZC3	2-M50 X 1.5	355L	2	6319M	C4	6319M	C4	2-M63 X 1.5
225M	4, 6, 8	6313	ZZC3	6213	ZZC3	2-M50 X 1.5	355L	4, 6, 8	6322	C3	6319	C3	2-M63 X 1.5

*注：详见24-25页。
*Note: see page 24-25 for detail.

电动机铭牌

71-132电动机铭牌上标有电压范围的一个电流值，这是电动机在达到规定输出功率时，电压范围内产生的最大电流值。

160-355的电动机铭牌上以表格形式给出了6个电压值的转速、电流和功率因数。

Rating Plate

For motor sizes 71 to 132 the rating plate gives one current value for the voltage area. That is the highest current that can occur within the voltage area with the given output.

For motor size 160 to 355 the rating plate is in table form giving values for speed, current and power factor for six voltages.

ABB		ABB Motors		CE	
3~Mot. M2QA 90S2A		IEC60034-1		3GQA091101-ASA	
6205/C3		6205/C3		IP55 cl.F	
v	Hz	r/min	kW	cosφ	A
220-240Δ	50	2850	1.5	0.87	5.58
380-420Y	50	2850	1.5	0.87	3.23
440-480Y	60	3420	1.73	0.87	3.30
No 32911117711				21 kg	

ABB		ABB Motors		CE	
3~motor. M2QA180L4A		IEC 180L 48		EFF2	
S1		No 29229936		IP55	
Cert.no	Hz	kW	r/min	A	cosφ
690Y	50	22	1470	22.86	0.88
400Δ	50	22	1470	39.44	0.88
660Y	50	22	1465	23.37	0.90
380Δ	50	22	1465	40.59	0.90
415Δ	50	22	1475	38.90	0.86
440Δ	60	25.3	1764	40.06	0.89
Cert.no 3GQA 182501-ADA				186 kg	
6310/C3		6210/C3		IEC 60034-1	

滑轮直径

确定所需的轴承工作寿命以后，可用FR按下面的公式计算出允许的最小滑轮直径：

$$D = \frac{1.9 \cdot 10^{-7} \cdot K \cdot P}{n \cdot FR}$$

式中：
D=滑轮直径，mm
P=功率要求，kW
n=电动机转速，r/min
K=皮带张紧系数，视皮带型式和荷载型式而定，三角带的公共系数为2.5
FR=允许的径向力

Pulley Diameter

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

$$D = \frac{1.9 \cdot 10^{-7} \cdot K \cdot P}{n \cdot FR}$$

where:
D=diameter of pulley, 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 for V-belts is 2.5.
FR=permissible radial force

轴端的允许荷载

下表给出的允许径向力(N)假定轴向力为零。以数据是50Hz的正常条件，71-355电动机的轴承工作寿命为20000小时和40000小时为依据。

IM B3底脚式安装的电动机使作用力向两侧延伸。

有些情况下，轴的强度会影响能够承载的允许作用力。额定频率为60Hz时，这些值必须减少10%。如果是双速电动机，则必须以更高的转速为计算依据。根据用户要求可提供径向力和轴向力同时存在时的允许荷载。

Permissible Loadings on the Shaft End

The tables below give the permissible radial force in newton, assuming zero axial force. The values are based on normal conditions at 50 Hz and calculated bearing lives for motor size 71 to 355 of 20000 hours and 40000 hours.

Motors are foot-mounted IM B3 version with force directed sideways.

In some cases the strength of the shaft affects the permissible forces. At 60Hz the values must be reduced by 10%. For two-speed motors, the values must be based on the higher speed. Permissible loads of simultaneous radial and axial forces will be supplied on request.

允许的径向力

71-355电动机

Permissible Radial Forces

Motors sizes 71 to 355

Motor size	20000 hours Ball bearings								40000 hours Ball bearings							
	2-pole		4-pole		6-pole		8-pole		2-pole		4-pole		6-pole		8-pole	
	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}	X ₀	X _{max}
71M	381.1	322.2	479.6	405.4	555.1	469.2	-	-	302.5	255.7	380.7	321.8	440.5	372.4	-	-
80M	624.2	509.4	788.3	643.3	906.7	739.9	996.7	813.4	495.4	404.3	625.7	510.6	719.6	587.3	791.1	645.6
90S	686.0	542.2	869.5	687.2	1000.1	790.4	1095.4	865.8	544.5	430.4	690.1	545.4	793.8	627.3	869.5	687.2
90L	696.4	564.2	884.7	716.8	1015.1	822.5	1112.0	901.0	552.7	447.8	702.2	568.9	805.7	652.8	882.6	715.1
100L	979.4	784.8	1233.9	988.8	1419.1	1137.2	1565.7	1254.6	777.3	622.9	979.4	784.8	1126.4	902.6	1242.7	995.8
112M	1257.8	1014.4	1592.1	1283.9	1831.1	1476.7	2020.1	1629.1	998.3	805.1	1263.6	1019.1	1453.3	1172.0	1603.4	1293.1
132S	1435.0	1121.7	1820.5	1423.1	2079.1	1625.3	2299.1	1797.2	1138.9	890.3	1444.9	1129.5	1650.2	1290.0	1824.8	1426.5
132M	-	-	1840.2	1476.3	2106.5	1689.9	2329.4	1868.7	-	-	1460.6	1171.7	1672.0	1341.3	1848.8	1483.2
160M	1544.0	1199.8	1947.5	1513.4	2231.9	1734.4	2465.0	1915.6	1225.5	952.3	1545.7	1201.2	1771.5	1376.6	1956.5	1520.4
160L	1562.7	1242.9	1971.2	1567.8	2259.0	1796.7	2495.0	1984.4	1240.4	986.5	1564.5	1244.3	1793.0	1426.0	1980.3	1575.0
180M	2983.6	2371.3	3759.1	2987.7	-	-	-	-	2368.1	1882.1	2983.6	2371.3	-	-	-	-
180L	-	-	3801.5	3073.0	4351.6	3517.7	4800.4	3880.5	-	-	3017.2	2439.0	3453.9	2792.0	3810.1	3080.0
200L	4089.8	3376.8	5161.5	4261.7	5908.5	4878.5	6517.9	5381.7	3246.1	2680.2	4096.7	3382.6	4689.6	3872.1	5173.3	4271.5
225S	-	-	5762.8	4526.4	-	-	7260.7	5702.9	-	-	4574.0	3592.6	-	-	5762.8	4526.4
225M	4591.0	3811.1	5790.9	4594.2	6643.9	5271.0	7260.7	5788.4	3643.9	3024.9	4596.2	3646.4	5273.3	4183.6	5790.9	4594.2
250M	5111.6	4170.0	6439.9	5253.6	7388.1	6027.2	8113.0	6618.5	4057.0	3309.7	5111.1	4169.6	5863.7	4783.5	6438.9	5252.8
280S	6000.2	4956.7	7570.1	6253.5	8679.2	7169.8	9573.5	7878.8	4761.8	3933.7	6007.7	4962.9	6888.0	5690.1	7569.1	6252.7
280M	6048.5	5059.3	7631.5	6383.4	8750.0	7318.9	9615.4	8042.8	4799.8	4014.8	6056.1	5065.6	6943.7	5808.1	7630.5	6382.5
315S	6602.4	5627.1	9533.5	7882.0	10916.1	9025.1	12028.5	9944.8	5239.0	4465.1	7565.3	6254.8	8662.6	7162.0	9545.4	7891.8
315M	6677.1	5793.3	9647.8	8145.0	11047.2	9326.4	12173.2	10277.0	5297.9	4596.7	7655.6	6463.1	8766.3	7400.7	965938	8155.1
315L	6675.9	5792.3	9648.0	8145.1	11045.3	9324.7	12171.2	10275.3	5296.6	4595.6	7655.4	6462.9	8764.6	7399.1	9657.9	8153.5
355M	8280.0	6790.0	14060.0	11529.0	16089.0	13193.0	-	-	5612.0	4602.0	11100.0	9102.0	12741.0	10448.0	-	-
355L	8372.0	6865.0	14136.0	11592.0	16175.0	13264.0	-	-	5612.0	4652.0	11100.0	9213.0	12741.0	10575.0	-	-

径向力位于X₀和X_{max}之间时，按照下面的公式计算允许的作用力

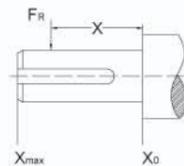
$$F_R = F_{X_0} - X/E(F_{X_0} - F_{X_{max}})$$

E=基本型号的轴伸长度

If the radial force is applied between points X₀ and X_{max}, the permissible force F_R can be calculated from the following formula:

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

E=length of shaft extension in basic version

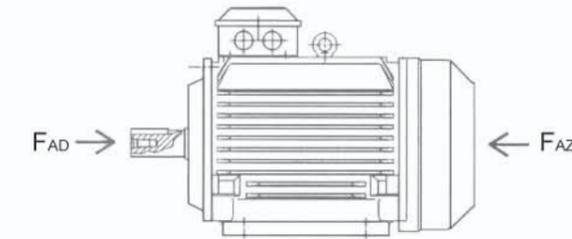


允许的轴向力

下表给出的允许轴向力(N) 假定径向力为零。以在50Hz额定频率下正常运行，轴承寿命为20000小时和40000小时为依据。

额定频率为60Hz时，这些值必须减少10%。如果是双速电动机，则必须以更高的转速为计算依据。根据用户要求可提供径向力和轴向力同时存在时的允许荷载。

施加轴向力F_{AD}时假定驱动端轴承用档圈锁定。



Permissible Axial Forces

The following tables give the permissible axial forces in Newton, assuming zero radial force. The values are based on normal conditions at 50Hz with standard bearings and calculated bearing life time of 20000 and 40000 hours.

At 60Hz the values are to be reduced by 10%. For two-speed motors, the values are to be based on the higher speed. The permissible loads of simultaneous radial and axial forces will be supplied on request.

Given axial forces F_{AD}, assumes D-bearing locked by means of locking ring.

IMB3安装型式 Mounting Arrangement IMB3

Motor size	20000 hours Ball bearings								40000 hours Ball bearings							
	2-pole		4-pole		6-pole		8-pole		2-pole		4-pole		6-pole		8-pole	
	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}	F _{AD}	F _{AZ}
71M	268.3	268.3	362.9	362.9	438.6	438.6	-	-	198.6	198.6	267.8	267.8	325.0	325.0	-	-
80M	434.8	434.8	592.9	592.9	712.6	712.6	804.0	804.0	320.6	320.6	436.1	436.1	528.4	528.4	595.6	595.6
90S	471.8	471.8	647.0	647.0	778.2	778.2	873.0	873.0	347.1	347.1	475.4	475.4	576.4	576.4	647.0	647.0
90L	471.8	471.8	648.9	648.9	778.2	778.2	873.0	873.0	347.7	347.7	477.0	477.0	576.4	576.4	647.0	647.0
100L	648.3	648.3	883.7	883.7	1058.3	1058.3	1202.6	1202.6	475.6	475.6	648.3	648.3	781.5	781.5	891.5	891.5
112M	843.0	843.0	1157.0	1157.0	1382.8	1382.8	1574.2	1574.2	617.1	617.1	848.0	848.0	1019.4	1019.4	1167.3	1167.3
132S	947.2	947.2	1302.3	1302.3	1542.7	1542.7	1764.0	1764.0	692.5	692.5	955.5	955.5	1135.8	1135.8	1306.7	1306.7
132M	-	-	1297.9	1297.9	1542.7	1542.7	1764.0	1764.0	-	-	952.6	952.6	1135.8	1135.8	1306.7	1306.7
160M	1017.7	1017.7	1382.1	1382.1	1651.2	1651.2	1881.4	1881.4	743.1	743.1	1019.2	1019.2	1214.3	1214.3	1391.0	1391.0
160L	1017.7	1017.7	1382.1	1382.1	1651.2	1651.2	1881.4	1881.4	743.1	743.1	1019.2	1019.2	1214.3	1214.3	1391.0	1391.0
180M	1972.9	1972.9	2665.0	2665.0	-	-	-	-	1441.7	1441.7	1972.9	1972.9	-	-	-	-
180L	-	-	2665.0	2665.0	3197.1	3197.1	3626.4	3626.4	-	-	1972.9	1972.9	2346.4	2346.4	2673.2	2673.2
200L	2569.6	2569.6	3489.1	3489.1	4197.9	4197.9	4754.7	4754.7	1882	1882	2575.9	2575.9	3077.9	3077.9	3499.8	3499.8
225S	-	-	3904.5	3904.5	-	-	5309.0	5309.0	-	-	2878.0	2878.0	-	-	3904.5	3904.5
225M	2873.4	2873.4	3904.5	3904.5	4718.4	4718.4	5309.0	5309.0	2117.4	2117.4	2878.0	2878.0	3457.5	3457.5	3904.5	3904.5
250M	3225.3	3225.3	4378.4	4378.4	5293.1	5293.1	5955.9	5955.9	2379.2	2379.2	3225.3	3225.3	3879.3	3879.3	4378.4	4378.4
280S	3714.9	3714.9	5007.7	5007.7	6087.7	6087.7	6924.2	6924.2	2766.7	2766.7	3721.9	3721.9	4509.5	4509.5	5077.7	5077.7
280M	3714.9	3714.9	5077.7	5077.7	6087.7	6087.7	6924.2	6924.2	2766.7	2766.7	3721.9	3721.9	4509.5	4509.5	5077.7	5077.7
315S	3963.9	3963.9	6141.0	6141.0	7292.2	7292.2	8300.9	8300.9	2965.5	2965.5	4478.5	4478.5	5357.8	5357.8	6153.3	6153.3
315M	3963.9	3963.9	6141.0	6141.0	7292.2	7292.2	8300.9	8300.9	2965.5	2965.5	4478.5	4478.5	5357.8	5357.8	6153.3	6153.3
315L	3964.7	3964.7	6143.0	6143.0	7292.2	7292.2	8300.9	8300.9	2965.8	2965.8	4479.5	4479.5	5357.8	5357.8	6153.3	6153.3
355	5775	2310	8100	4050	9484	5160	10080	8420	4675	1460	5770	2030	6411	2611	7106	3366

订货须知

订货举例
订购电动机时，请详细说明电动机型号、规格和产品代码。电动机的产品代码有不同的组成方法，下面列举一些例子。



- A 电动机型号
- B 电动机规格
- C 产品代码
- D 安装型式代码
- E 电压和频率代码
- F 产地代码

Ordering Information

Sample order
When placing an order, the motor type, size and product code must be specified. The product code of the motor is composed in various ways, in accordance with the following examples.

- A Motor type
- B Motor size
- C Product code
- D Mounting arrangement code
- E Voltage and frequency code
- F Generation code

产品代码说明 Explanation of the Product Code

第1位~第4位 Positions 1 and 4

M2QA=铸铁全封闭自扇冷鼠笼电动机
M2QA=Totally enclosed fan cooled squirrel cage motor with cast iron frame

第5位~第6位 Positions 5 and 6

IEC机座号 IEC frame		
07 = 71	13 = 132	25 = 250
08 = 80	16 = 160	28 = 280
09 = 90	18 = 180	31 = 315
10 = 100	20 = 200	35 = 355
11 = 112	22 = 225	

第7位 转速(极数) Positions 7 Speed(pole pairs)

1=2极	6=12极	1=2poles	6=12poles
2=4极	7=>12极	2=4poles	7=>12poles
3=6极	8=双速	3=6poles	8=Two-speed motors
4=8极	9=多速	4=8poles	9=multi-speed motors
5=10极		5=10poles	

第8位~第10位 编号 Positions 8 to 10 Running number series

第11位 -(破折号) Positions 11 -(dash)

第12位 安装型式 Positions 12 Mounting arrangement

A=底脚安装，接线盒顶置
R=底脚安装，接线盒右置(从驱动端看)
L=底脚安装，接线盒左置(从驱动端看)
B=大法兰安装
C=小法兰安装(71-160)
H=底脚和法兰安装

A=Foot-mounted, top-mounted terminal box
R=Foot-mounted, terminal box on RHS, seen from D-end
L=Foot-mounted, terminal box on LHS, seen from D-end
B=Flange-mounted, large flange
C=Flange-mounted, small flange size(71-160)
H=Foot-and flange-mounted

第13位 电压和频率代码 见相应页上的表格 Positions 13 Voltage and frequency code See tables on appropriate page

第14位 产地代码 A Positions 14 Generation code A

必要时，产品代码后面还有变量代码。
The product code must be, if need, followed by variant codes.

符合EU电动机效率等级的电动机

新的欧洲协议规定欧洲出产的电动机要明确标出效率等级。与美国有关电动机效率的法规不同的是欧洲协议并未设立强制性效率等级。

ABB是欧洲范围内保证使电动机效率达到或超过低压电动机欧盟协议最高等级规定的最低效率的少数几大电动机制造商之一。这些效率等级适用于2极和4极3相鼠笼感应电动机，额定电压400V，额定频率50Hz，S1工作制，输出功率1.1~90kW，此类电动机是占据最大市场份额的电动机。

Motors for EU Motor Efficiency Levels

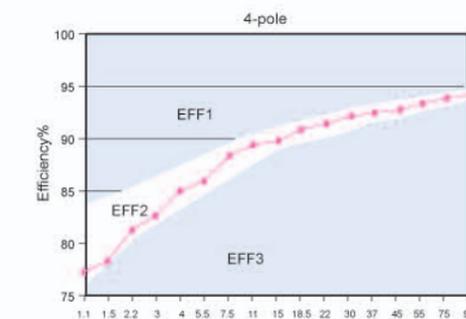
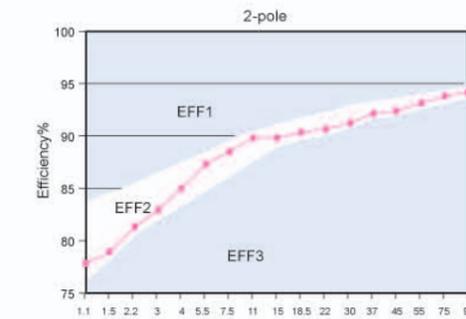
A new Europe-wide agreement will ensure that the efficiency levels of electric motors manufactured in Europe are clearly displayed. In contrast to the American legislation on motor efficiency the European agreement does not establish mandatory efficiency levels.

ABB is one of only a handful of leading motor manufacturers in Europe, to have a motor range to meet or exceed the minimum efficiencies stated in the highest level of the EU agreement of LV motors.

These efficiency levels apply to 2-and-4-pole, three phase squirrel cage induction motors, rated for 400V, 50Hz, with S1 duty class with the output 1.1 to 90kW, which account for the largest volume on the market. The efficiency of motors from different manufacturers is collated in a database, EURODEEM, published by the European Commission. It is accessible over the Internet at <http://uamest.jrc.it/projects/eem/eurodeem.htm>.

标准3相感应电动机，400V 50Hz-ABB电动机效率等级

Standard three phase induction motors, 400V 50Hz-ABB motors efficiency levels



EU Efficiency Classes

Output kW	2-pole Border line EFF2/EFF3	2-pole Border line EFF1/EFF2	4-pole Border line EFF2/EFF3	4-pole Border line EFF1/EFF2
1.1	76.2	82.8	76.2	83.8
1.5	78.5	84.1	78.5	85.0
2.2	81.0	85.6	81.0	86.4
3	82.6	86.7	82.6	87.4
4	84.2	87.6	84.2	88.3
5.5	85.7	88.6	85.7	89.2
7.5	87.0	89.5	87.0	90.1
11	88.4	90.5	88.4	91.0
15	89.4	91.3	89.4	91.8
18.5	90.0	91.8	90.0	92.2
22	90.5	92.2	90.5	92.6
30	91.4	92.9	91.4	93.2
37	92.0	93.3	92.0	93.6
45	92.5	93.7	92.5	93.9
55	93.0	94.0	93.0	94.2
75	93.6	94.6	93.6	94.7
90	93.9	95.0	93.9	95.0

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

400V 50Hz												
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency		功率因数 Power factor cos φ	电流 Current			转矩 Torque		
				Full	3/4		额定电流 In A	堵转电流 Is/In	额定转矩 TN Nm	堵转转矩 Ts/TN	最大转矩 TMAX/TN	
				load	load							100% η
3000r/min=2poles Basic design												
0.37	M2QA 71M2A 3GQA	071301-	2780	70.0	68.02	0.815	0.94	6.1	1.27	2.2	2.2	2.2
0.55	71M2B	071302-	2785	73.0	72.38	0.82	1.33	6.1	1.89	2.2	2.2	2.2
0.75	80M2A	081301-	2840	75.0	75.48	0.85	1.7	6.1	2.52	2.2	2.2	2.2
1.1	80M2B	081302-	2855	78.0	77.86	0.845	2.4	7.0	3.68	2.2	2.2	2.2
1.5	90S2A	091101-	2850	79.0	78.96	0.87	3.15	7.0	5.03	2.2	2.2	2.2
2.2	90L2A	091501-	2850	81.5	81.82	0.86	4.53	7.0	7.37	2.2	2.2	2.2
3	100L2A	101501-	2860	83.0	83.16	0.88	5.93	7.0	10.02	2.2	2.2	2.2
4	112M2A	111301-	2900	85.0	84.56	0.90	7.55	7.0	13.17	2.2	2.2	2.2
5.5	132S2A	131101-	2920	87.5	87.87	0.89	10.2	7.0	17.99	2.2	2.2	2.2
7.5	132S2B	131102-	2920	88.5	90.12	0.90	13.6	7.0	24.53	2.2	2.2	2.2
11	160M2A	161301-	2930	90.0	90.52	0.89	19.82	6.5	35.85	2.5	3.0	3.0
15	160M2B	161302-	2920	90.0	90.10	0.89	27.03	6.5	49.06	2.5	3.2	3.2
18.5	160L2A	161501-	2930	90.5	90.86	0.90	32.78	6.5	60.30	2.5	3.2	3.2
22	180M2A	181301-	2940	90.8	91.02	0.90	38.86	6.5	71.46	2.3	2.8	2.8
30	200L2A	201501-	2955	91.4	91.10	0.90	52.64	6.5	96.95	2.2	2.7	2.7
37	200L2B	201502-	2955	92.2	91.83	0.90	64.36	6.5	119.6	2.3	2.7	2.7
45	225M2A	221301-	2970	92.6	92.16	0.89	78.81	7.0	144.7	2.5	2.8	2.8
55	250M2A	251301-	2960	93.4	91.7	0.89	95.5	7.5	177.4	2.4	3.0	3.0
75	280S2A	281101-	2970	94.0	92.3	0.90	128	7.5	241.0	2.5	3.3	3.3
90	280M2A	281301-	2970	94.3	92.4	0.90	153	7.5	289.2	2.3	3.2	3.2
110	315S2A	311101-	2980	94.0	92.16	0.91	185.6	7.1	352.5	1.8	2.2	2.2
132	315M2A	311301-	2980	94.5	92.96	0.91	221.6	7.1	423.0	1.8	2.2	2.2
160	315L2A	311501-	2979	94.6	93.52	0.92	265.4	7.2	512.9	1.8	2.2	2.2
200	315L2B	311502-	2978	94.8	93.95	0.92	331	7.2	641.4	1.8	2.2	2.2
*250	355M2A	351301-	2980	95.4	94.50	0.92	411.1	7.1	802	2.3	2.8	2.8
*315	355L2A	351501-	2980	96.0	95.25	0.92	515	6.9	1011	2	2.8	2.8

400V 50Hz												
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency		功率因数 Power factor cos φ	电流 Current			转矩 Torque		
				Full	3/4		额定电流 In A	堵转电流 Is/In	额定转矩 TN Nm	堵转转矩 Ts/TN	最大转矩 TMAX/TN	
				load	load							100% η
1500r/min=4poles Basic design												
0.25	M2QA 71M4A 3GQA	072301-	1395	65.5	63.28	0.72	0.77	5.2	1.71	2.1	2.0	2.0
0.37	71M4B	072302-	1395	68.5	69.38	0.75	1.04	5.2	2.53	2.1	2.0	2.0
0.55	80M4A	082301-	1410	73.5	71.39	0.72	1.50	5.2	3.73	2.4	2.0	2.0
0.75	80M4B	082302-	1415	74.5	75.15	0.755	1.92	6.0	5.06	2.4	2.2	2.2
1.1	90S4A	092101-	1400	77.5	77.82	0.775	2.64	6.0	7.50	2.3	2.2	2.2
1.5	90L4A	092501-	1390	78.5	79.16	0.79	3.50	6.0	10.31	2.3	2.2	2.2
2.2	100L4A	102501-	1430	81.5	82.32	0.805	4.85	6.0	14.69	2.3	2.2	2.2
3	100L4B	102502-	1420	82.8	82.51	0.83	6.30	6.5	20.18	2.3	2.2	2.2
4	112M4A	112301-	1430	85.0	84.63	0.82	8.29	6.5	26.71	2.3	2.2	2.2
5.5	132S4A	132101-	1430	86.0	87.07	0.85	10.9	6.5	36.73	2.3	2.2	2.2
7.5	132M4A	132301-	1440	88.5	88.26	0.85	14.4	6.5	49.74	2.3	2.2	2.2
11	160M4A	162301-	1460	89.5	90.01	0.85	20.87	6.5	71.95	2.4	2.8	2.8
15	160L4A	162501-	1460	90.0	90.38	0.86	27.97	6.5	98.12	2.3	2.4	2.4
18.5	180M4A	182301-	1470	91.0	90.88	0.86	34.12	6.5	120.2	2.3	3.0	3.0
22	180L4A	182501-	1470	91.5	89.98	0.88	39.44	6.5	142.9	2.4	3.1	3.1
30	200L4A	202501-	1470	92.2	91.83	0.88	53.37	6.5	194.9	2.2	2.8	2.8
37	225S4A	222101-	1480	92.6	91.16	0.85	67.85	7.0	238.8	2.2	2.8	2.8
45	225M4A	222301-	1480	92.8	91.66	0.87	80.45	7.0	290.4	2.2	2.8	2.8
55	250M4A	252301-	1480	93.4	91.3	0.87	97.7	7.0	354.9	2.4	3.0	3.0
75	280S4A	282101-	1480	94.0	93.9	0.87	132.4	6.5	484	2.4	2.6	2.6
90	280M4A	282301-	1480	94.3	94.6	0.87	158.3	7.2	580.7	2.3	2.8	2.8
110	315S4A	312101-	1485	94.5	93.51	0.88	191	6.9	706.9	2.1	2.2	2.2
132	315M4A	312301-	1485	94.8	94.01	0.88	229	6.9	848.3	2.1	2.2	2.2
160	315L4A	312501-	1485	94.9	94.51	0.89	273	6.9	1029	2.1	2.2	2.2
200	315L4B	312502-	1485	95.0	94.18	0.89	341	6.9	1286	2.1	2.2	2.2
*250	355M4A	352301-	1490	95.3	94.5	0.90	420.7	6.9	1594	2.1	2.6	2.6
*315	355L4A	352501-	1490	95.6	94.83	0.90	528.4	7.0	2008	2.1	2.3	2.3

Code letters For supplementing the product code
Code letters For voltage and-frequency (product code position 13)

A	B	D	E	F	H
380V△50Hz	380V△50Hz	380~420V△50Hz 660~690VY50Hz 440~480 ¹⁾ V△60Hz	500V△50Hz 575V△60Hz	500VY50Hz 575VY60Hz	415V△50Hz
S	T	U	X		
220~240V△50Hz 380~420VY50Hz 440~480VY60Hz	660V△50Hz	690V△50Hz	Other rated voltage connection or frequency, max, 690V		¹⁾ 480V not stamped on sizes 160 to 355

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

380V 50Hz						415V 50Hz																			
功率 Output kW	型号规格 Type designation	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转动惯量 Moment of inertia J=GD ² /4 kgm ²	重量 Weight kg	噪声 Sound pressure level Lp dB(A)													
													3000r/min=2poles Basic design												
													0.37	M2QA 71M2A	2765	70.0	0.83	0.97	2795	70.0	0.79	0.93	0.00030	10	56
0.55	71M2B	2780	73.0	0.835	1.37	2800	73.0	0.79	1.33	0.00037	11	56													
0.75	80M2A	2825	75.5	0.86	1.75	2855	75.0	0.85	1.64	0.00091	16	57													
1.1	80M2B	2840	77.5	0.855	2.52	2870	78.0	0.83	2.37	0.00107	17	58													
1.5	90S2A	2835	79.0	0.895	3.22	2865	79.0	0.86	3.08	0.00135	21	61													
2.2	90L2A	2835	81.5	0.89	4.61	2865	81.0	0.83	4.56	0.00163	24	61													
3	100L2A	2845	83.0	0.895	6.14	2875	83.5	0.855	5.85	0.00402	33	65													
4	112M2A	2885	85.0	0.915	7.82	2915	85.0	0.87	7.53	0.00671	42	67													
5.5	132S2A	2905	87.5	0.90	10.61	2935	88.0	0.875	9.94	0.01241	58	70													
7.5	132S2B	2905	87.5	0.90	14.5	2935	89.0	0.90	13.03	0.01491	63	70													
11	160M2A	2900	90.0	0.91	20.41	2930	90.0	0.87	19.54	0.0436	112	72													
15	160M2B	2920	90.0	0.91	27.82	2930	90.0	0.88	26.35	0.0551	122	72													
18.5	160L2A	2920	90.5	0.91	34.13	2935	90.5	0.89	31.95	0.06549	142	72													
22	180M2A	2940	90.8	0.91	40.45	2955	90.8	0.88	38.30	0.08805	170	75													
30	200L2A	2950	91.2	0.91	54.90	2960	91.3	0.89	51.36	0.14821	235	81													
37	200L2B	2950	91.7	0.91	67.36	2960	92.3	0.89	62.65	0.16822	254	81													
45	225M2A	2965	92.2	0.90	82.39	2975	92.6	0.87	77.71	0.29345	328	81													
55	250M2A	2955	93.2	0.90	100	2960	93.5	0.88	93	0.3784	390	84													
75	280S2A	2965	94.0	0.91	133.2	2975	93.8	0.91	122.2	0.587	504	85													
90	280M2A	2965	94.3	0.91	159	2975	94.1	0.91	146.2	0.615	560	85													
110	315S2A	2980	94.0	0.92	193	2980	94.0	0.90	181	1.4083	910	88													
132	315M2A	2980	94.5	0.92	231	2980	94.5	0.90	216	1.5584	1010	88													
160	315L2A	2975	94.6	0.93	276	2980	94.6	0.91	259	1.7256	1070	88													
200	315L2B	2975	94.8	0.93	345	2980	94.8	0.91	323.0	1.9405	1120	88													
*250	355M2A	2980	95.4	0.92	433	2980	95.4	0.91	400.6	3.05	1438	89													
*315	355L2A	2980	96.0	0.92	542	2980	96.0	0.91	501.6	3.6	1726	89													

380V 50Hz						415V 50Hz																			
功率 Output kW	型号规格 Type designation	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转动惯量 Moment of inertia J=GD ² /4 kgm ²	重量 Weight kg	噪声 Sound pressure level Lp dB(A)													
													1500r/min=4poles Basic design												
													0.25	M2QA 71M4A	1385	66.0	0.74	0.78	1405	64.0	0.69	0.79	0.00053	11	43
0.37	71M4B	1385	69.0	0.78	1.05	1405	68.0	0.71	1.07	0.00066	11	45													
0.55	80M4A	1400	73.5	0.75	1.52	1420	72.5	0.68	1.55	0.00145	16	46													
0.75	80M4B	1405	74.5	0.78	1.97	1425	74.0	0.72	1.96	0.00174	17	46													
1.1	90S4A																								

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

400V 50Hz												
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency		功率因数 Power factor cos φ	电流 Current			转矩 Torque		
				Full load 100% η	3/4 load 75% η		额定电流 IN A	堵转电流 Is/IN	额定转矩 TN Nm	堵转转矩 Ts/TN	最大转矩 TMAX/TN	
1000r/min=6poles Basic design												
0.18	M2QA 71M6A	3GQA 073301-	910	55.0	50.06	0.65	0.73	4.0	1.89	1.8	1.8	1.8
0.25	71M6B	073302-	890	60.0	58.32	0.65	0.93	4.0	2.68	1.8	1.8	1.8
0.37	80M6A	083301-	930	63.0	63.22	0.66	1.29	5.0	3.80	1.9	1.8	1.8
0.55	80M6B	083302-	925	65.0	65.08	0.68	1.80	5.0	5.68	1.9	1.8	1.8
0.75	90S6A	093101-	920	71.0	70.22	0.72	2.12	5.0	7.79	2.0	2.2	2.2
1.1	90L6A	093501-	920	73.0	73.06	0.74	2.94	5.0	11.42	2.0	2.2	2.2
1.5	100L6	103501-	940	76.0	75.28	0.765	3.72	5.5	15.24	2.0	2.2	2.2
2.2	112M6	113301-	940	80.0	81.16	0.76	5.23	5.5	22.35	2.0	2.2	2.2
3	132S6A	133101-	960	82.5	83.55	0.78	6.73	6.5	29.84	2.0	2.2	2.2
4	132M6A	133301-	960	84.0	84.18	0.77	8.93	6.5	39.79	2.0	2.2	2.2
5.5	132M6B	133302-	960	86.0	85.63	0.79	11.68	6.5	54.71	2.0	2.2	2.2
7.5	160M6A	163301-	970	88.0	85.28	0.78	15.77	6.0	73.84	2.0	2.3	2.3
11	160L6A	163501-	970	88.5	88.56	0.78	23.0	6.0	108.3	2.2	2.3	2.3
15	180L6A	183501-	980	89.0	89.12	0.82	29.67	6.0	146.2	2.3	2.8	2.8
18.5	200L6A	203501-	980	90.3	90.22	0.82	36.06	6.0	180.3	2.2	2.8	2.8
22	200L6B	203502-	980	90.4	90.32	0.83	42.32	6.0	214.4	2.1	2.8	2.8
30	225M6A	223301-	980	91.5	89.20	0.78	60.67	6.6	292.3	2.2	2.8	2.8
37	250M6A	253301-	980	92.2	92.4	0.88	65.8	6.8	360.6	2.3	2.8	2.8
45	280S6A	283101-	980	92.6	91.3	0.86	81.56	6.5	437.6	2.3	2.4	2.4
55	280M6A	283301-	980	93.0	91.2	0.87	98.1	7.0	534.9	2.3	2.5	2.5
75	315S6A	313101-	990	93.5	93.21	0.86	135	7.4	723.5	2.0	2.0	2.0
90	315M6A	313301-	990	93.8	91.86	0.86	162	7.4	868.2	2.0	2.0	2.0
110	315L6A	313501-	990	94.3	93.52	0.87	194	6.8	1061.1	2.0	2.0	2.0
132	315L6B	313502-	990	94.2	93.82	0.87	232.5	6.8	1273.3	2.0	2.0	2.0
*160	355M6A	353301-	990	94.7	93.85	0.89	274	6.8	1530	2.1	2.4	2.4
*200	355M6B	353302-	990	94.7	93.95	0.89	342.5	6.7	1913	2.0	2.3	2.3
*250	355L6A	353501-	990	94.9	94.15	0.88	432.1	6.7	2391	2.0	2.3	2.3

400V 50Hz												
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency		功率因数 Power factor cos φ	电流 Current			转矩 Torque		
				Full load 100% η	3/4 load 75% η		额定电流 IN A	堵转电流 Is/IN	额定转矩 TN Nm	堵转转矩 Ts/TN	最大转矩 TMAX/TN	
750r/min=8poles Basic design												
0.18	M2QA 80M8A	3GQA 084301-	700	51.0	50.12	0.60	0.85	3.3	2.46	1.8	1.9	1.9
0.25	80M8B	084302-	700	54.5	53.28	0.60	1.10	3.6	3.41	1.8	1.9	1.9
0.37	90S8A	094101-	700	62.5	62.07	0.605	1.41	4.4	5.05	1.8	1.9	1.9
0.55	90L8A	094501-	700	63.5	63.34	0.605	2.07	4.7	7.50	1.8	2.0	2.0
0.75	100L8A	104501-	700	70.0	70.08	0.64	2.42	5.0	10.23	1.8	2.0	2.0
1.1	100L8B	104502-	700	71.5	70.28	0.645	3.45	5.0	15.01	1.8	2.0	2.0
1.5	112M8A	114301-	700	75.0	75.39	0.675	4.28	5.0	20.46	1.8	2.0	2.0
2.2	132S8A	134101-	710	81.0	81.78	0.70	5.60	5.5	29.59	1.8	2.0	2.0
3	132M8A	134102-	710	81.0	81.38	0.75	7.13	5.5	40.35	1.8	2.0	2.0
4	160M8A	164301-	720	84.0	83.98	0.73	9.42	5.5	53.06	2.1	2.5	2.5
5.5	160M8B	164302-	720	85.5	85.62	0.74	12.55	5.5	72.95	2.1	2.5	2.5
7.5	160L8A	164501-	720	86.5	85.82	0.74	16.91	5.5	99.5	2.1	2.5	2.5
11	180L8A	184501-	730	87.7	86.96	0.77	23.51	5.4	143.9	2.0	2.8	2.8
15	200L8A	204501-	730	89.0	89.38	0.76	32.01	5.5	196.2	2.3	2.8	2.8
18.5	225S8A	224101-	740	90.0	89.12	0.75	39.56	5.5	238.8	2.1	2.8	2.8
22	225M8A	224301-	740	90.5	89.60	0.75	46.78	6.0	283.9	2.2	2.8	2.8
30	250M8A	254301-	740	91.3	90.10	0.79	60	6.5	387.2	2.3	2.6	2.6
37	280S8A	284101-	740	91.8	91.7	0.79	73.6	6.0	477.5	2.1	2.6	2.6
45	280M8A	284301-	740	92.4	91.1	0.79	88.98	6.0	580.7	2.1	2.7	2.7
55	315S8A	314101-	740	92.8	91.52	0.82	104.3	6.9	709.8	1.8	2.0	2.0
75	315M8A	314301-	740	93.0	91.93	0.82	142	7.0	967.9	1.8	2.0	2.0
90	315L8A	314501-	740	93.8	93.22	0.82	168.9	7.1	1161.5	1.8	2.0	2.0
110	315L8B	314502-	740	94.0	92.38	0.82	206	6.4	1419.6	1.8	2.0	2.0

Code letters For supplementing the product code *Insulation Class F Temperature rise Class F
Code letters For voltage and-frequency(product code position 13)

A	B	D	E	F	H
380VY50Hz	380VΔ50Hz	380~420VΔ50Hz 660~690VY50Hz 440~480 ¹⁾ VΔ60Hz	500VΔ50Hz 575VΔ60Hz	500VY50Hz 575VY60Hz	415VΔ50Hz
S	T	U	X		
220~240VΔ50Hz 380~420VY50Hz 440~480VY60Hz	660VΔ50Hz	690VΔ50Hz	Other rated voltage connection or frequency, max, 690V		¹⁾ 480V not stamped on sizes 160 to 355

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

380V 50Hz						415V 50Hz												
功率 Output kW	型号规格 Type designation	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转动惯量 Moment of inertia J=GD ² /4 kgm ²	重量 Weight kg	噪声 Sound pressure level Lp dB(A)						
													1000r/min=6poles Basic design					
0.18	M2QA 71M6A	905	55.5	0.685	0.72	915	52.5	0.62	0.77	0.00056	10	42						
0.25	71M6B	885	60.0	0.65	0.98	895	59.0	0.62	0.95	0.00074	11	42						
0.37	80M6A	925	63.5	0.695	1.27	935	62.0	0.625	1.33	0.00159	17	45						
0.55	80M6B	920	65.0	0.71	1.82	930	65.5	0.655	1.79	0.00196	18	45						
0.75	90S6A	915	71.0	0.755	2.13	925	70.5	0.69	2.15	0.00292	21	48						
1.1	90L6A	915	73.0	0.77	2.98	925	73.0	0.705	2.98	0.00379	25	48						
1.5	100L6	935	76.0	0.79	3.8	945	75.5	0.755	3.66	0.00999	32	51						
2.2	112M6	935	79.0	0.77	5.5	945	80.0	0.745	5.14	0.01559	40	54						
3	132S6A	955	82.0	0.81	6.87	965	82.5	0.76	6.66	0.03116	55	56						
4	132M6A	955	84.0	0.77	9.39	965	84.0	0.75	8.84	0.04074	65	56						
5.5	132M6B	945	85.5	0.795	12.3	955	86.0	0.78	11.4	0.05332	75	56						
7.5	160M6A	970	88.0	0.79	16.39	975	88.0	0.75	15.81	0.09231	119	61						
11	160L6A	965	88.5	0.80	23.61	975	88.5	0.75	23.06	0.12970	140	62						
15	180L6A	980	89.0	0.84	30.48	985	89.0	0.79	29.68	0.2418	180	63						
18.5	200L6A	975	90.6	0.84	36.94	980	90.1	0.79	36.16	0.34174	231	64						
22	200L6B	975	90.9	0.84	43.79	980	90.1	0.81	41.93	0.46837	254	64						
30	225M6A	980	90.5	0.78	64.57	980	90.9	0.76	60.41	0.62691	308	66						
37	250M6A	980	92.0	0.90	67.9	980	92.3	0.86	64.85	0.97	382	68						
45	280S6A	975	92.4	0.87	95.38	985	92.7	0.85	79.5	1.25	482	69						
55	280M6A	975	92.8	0.88	102.3	985	93.1	0.86	95.6	1.485	532	70						
75	315S6A	990	93.5	0.87	140	990	93.5	0.84	132.9	3.1942	920	70						
90	315M6A	990	93.8	0.87	168	990	93.8	0.84	158.9	3.723	1010	70						
110	315L6A	990	94.3	0.88	201	990	94.3	0.85	190.9	4.2564	1060	70						
132	315L6B	990	94.5	0.88	241	990	94.5	0.85	228.6	5.1577	1120	75						
*160	355M6A	990	94.7	0.90	285.2	990	94.7	0.88	267.1	7.8	1360	75						
*200	355M6B	990	94.9	0.90	355.8	990	94.9	0.88	333.2	9.1	1551	75						
*250	355L6A	990	95.1	0.905	441.3	990	95.1	0.89	415.6	11.4	2057	75						

380V 50Hz						415V 50Hz												
功率 Output kW	型号规格 Type designation	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转速 Speed n r/min	效率 Efficiency η %	功率因数 Power factor cos φ	电流 Current A	转动惯量 Moment of inertia J=GD ² /4 kgm ²	重量 Weight kg	噪声 Sound pressure level Lp dB(A)						
													750r/min=8poles Basic design					
0.18	M2QA 80M8A	695	51.0	0.61	0.88	705	51.5	0.595	0.82	0.00111	16	42						
0.25	80M8B	695	54.0	0.61	1.16	705	54.5	0.595	1.08	0.00326	17	42						
0.37	90S8A	695	62.0	0.61	1.49	705	62.5	0.60	1.38	0.00541	21	46						
0.55	90L8A	695	63.0	0.61	2.18	705	63.5	0.60	2.01	0.00756	24	46						
0.75	100L8A	695	70.0	0.67	2.43	705	69.0	0.635	2.39	0.00971	31	53						
1.1	10																	

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

460V 60Hz														
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency Full load 100% η	功率因数 Power factor cos ϕ	电流 Current		转矩 Torque			转动惯量 Moment of inertia J=GD ² /4 kgm ²	重量 Weight kg	噪声 Sound pressure level Lp dB(A)	
						额定电流 IN A	堵转电流 Is/IN	额定转矩 TN Nm	堵转转矩 Ts/TN	最大转矩 TMAX/TN				
						3600r/min=2poles Basic design								
0.43	M2QA 71M2A 3GQA	071301-	3340	70.0	0.83	0.97	6.1	1.23	2.2	2.2	0.00030	10	59	
0.63	71M2B	071302-	3340	73.0	0.84	1.35	6.1	1.80	2.2	2.2	0.00037	11	59	
0.86	80M2A	081301-	3410	75.0	0.88	1.71	6.1	2.41	2.2	2.2	0.00091	16	60	
1.27	80M2B	081302-	3430	78.0	0.88	2.43	7.0	3.54	2.2	2.2	0.00107	17	61	
1.73	90S2A	091101-	3420	79.0	0.87	3.30	7.0	4.83	2.2	2.2	0.00135	21	64	
2.53	90L2A	091501-	3440	81.5	0.86	4.74	7.0	7.02	2.2	2.2	0.00163	24	64	
3.45	100L2A	101501-	3430	83.0	0.89	6.13	7.0	9.61	2.2	2.2	0.00402	33	68	
4.60	112M2A	111301-	3480	85.0	0.91	7.8	7.0	12.62	2.2	2.2	0.00671	42	70	
6.33	132S2A	131101-	3510	87.5	0.90	10.55	7.0	17.22	2.2	2.2	0.01241	58	73	
8.6	132S2B	131102-	3510	88.5	0.91	14.01	7.0	23.40	2.2	2.2	0.01491	63	73	
12.7	160M2A	161301-	3515	91.5	0.91	20.02	6.5	34.50	2.5	3.0	0.0436	112	75	
17.3	160M2B	161302-	3515	91.6	0.91	27.23	6.5	46.98	2.5	3.2	0.0551	122	75	
21.3	160L2A	161501-	3520	91.8	0.91	33.46	6.5	57.79	2.5	3.2	0.06549	142	75	
25.3	180M2A	181301-	3530	92.1	0.90	40.05	6.5	68.48	2.3	2.8	0.08805	170	78	
34.5	200L2A	201501-	3550	91.4	0.91	54.42	6.5	92.81	2.2	2.7	0.14821	235	84	
42.6	200L2B	201502-	3550	91.2	0.91	67.36	6.5	114.6	2.3	2.7	0.16822	254	84	
51.8	225M2A	221301-	3560	92.2	0.90	81.91	7.0	139	2.5	2.8	0.29345	328	84	
63	250M2A	251301-	3560	93.8	0.91	96.9	7.5	169.1	2.4	3.0	0.3784	390	87	
86	280S2A	281101-	3565	94.0	0.91	131.9	7.5	230.4	2.5	3.3	0.587	504	88	
104	280M2A	281301-	3565	94.3	0.91	159	7.5	278.6	2.3	3.2	0.615	560	88	
127	315S2A	311101-	3575	94.5	0.92	192	7.1	339.2	1.8	2.2	1.4083	910	91	
152	315M2A	311301-	3575	95.0	0.92	228	7.1	405.9	1.8	2.2	1.5584	1010	91	
184	315L2A	311501-	3575	95.0	0.93	273	7.2	491.5	1.8	2.2	1.7256	1070	91	
*230	315L2B	311502-	3575	95.2	0.93	341	7.2	614.4	1.8	2.2	1.9405	1120	91	
*287.5	355M2A	351301-	3575	95.7	0.915	431	7.1	769	2.2	2.7	3.05	1438	92	
*362.5	355L2A	351501-	3575	96.2	0.915	540	6.9	970	1.9	2.7	3.6	1726	92	

460V 60Hz														
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency Full load 100% η	功率因数 Power factor cos ϕ	电流 Current		转矩 Torque			转动惯量 Moment of inertia J=GD ² /4 kgm ²	重量 Weight kg	噪声 Sound pressure level Lp dB(A)	
						额定电流 IN A	堵转电流 Is/IN	额定转矩 TN Nm	堵转转矩 Ts/TN	最大转矩 TMAX/TN				
						1800r/min=4poles Basic design								
0.29	M2QA 71M4A 3GQA	072301-	1670	65.5	0.74	0.79	5.2	1.66	2.1	2.0	0.00053	11	46	
0.43	71M4B	072302-	1670	68.5	0.76	1.08	5.2	2.46	2.1	2.0	0.00066	11	48	
0.63	80M4A	082301-	1690	73.5	0.75	1.50	5.2	3.56	2.4	2.0	0.00145	16	49	
0.86	80M4B	082302-	1680	74.5	0.77	1.97	6.0	4.89	2.4	2.2	0.00174	17	49	
1.27	90S4A	092101-	1680	77.5	0.775	2.77	6.0	7.22	2.3	2.2	0.00254	21	55	
1.73	90L4A	092501-	1670	78.5	0.80	3.61	6.0	9.89	2.3	2.2	0.00317	25	55	
2.53	100L4A	102501-	1720	81.5	0.82	4.97	6.0	14.05	2.3	2.2	0.00679	32	56	
3.45	100M4B	102502-	1700	82.8	0.86	6.36	6.5	19.38	2.3	2.2	0.00862	36	56	
4.60	112M4A	112301-	1720	85.0	0.825	8.61	6.5	25.54	2.3	2.2	0.01306	45	59	
6.33	132S4A	132101-	1700	86.0	0.86	11.23	6.5	35.56	2.3	2.2	0.02673	60	62	
8.6	132M4A	132301-	1730	88.5	0.86	14.83	6.5	47.47	2.3	2.2	0.03432	73	62	
12.7	160M4A	162301-	1755	91.0	0.87	21.06	6.5	69.11	2.4	2.8	0.06543	116	69	
17.3	160L4A	162501-	1750	91.6	0.88	28.16	6.5	94.30	2.3	2.4	0.09349	137	69	
21.3	180M4A	182301-	1765	92.8	0.87	34.62	6.5	115.3	2.3	3.0	0.16049	170	69	
25.3	180L4A	182501-	1765	93.1	0.89	40.06	6.5	137.0	2.4	3.1	0.18046	186	69	
34.5	200L4A	202501-	1765	92.6	0.89	54.96	6.5	186.7	2.2	2.8	0.2819	254	74	
42.6	225S4A	222101-	1770	92.6	0.85	71.02	7.0	229.8	2.2	2.8	0.37	308	76	
51.8	225M4A	222301-	1770	92.8	0.88	83.23	7.0	279.5	2.2	2.8	0.42	335	76	
63	250M4A	252301-	1780	93.8	0.89	99.03	7.0	338.2	2.4	3.0	0.78	450	79	
86	280S4A	282101-	1775	94.0	0.88	136.4	6.5	462.7	2.4	2.6	1.10	534	81	
104	280M4A	282301-	1775	94.3	0.88	164.4	7.2	559.5	2.3	2.8	1.35	592	81	
127	315S4A	312101-	1785	95.0	0.89	197.1	6.9	680.2	2.1	2.2	2.8596	930	83	
152	315M4A	312301-	1785	95.1	0.89	235	6.9	814.1	2.1	2.2	3.1848	1030	83	
184	315L4A	312501-	1780	95.3	0.90	282	6.9	986.1	2.1	2.2	3.6765	1050	89	
230	315L4B	312502-	1780	95.4	0.90	352	6.9	1232.6	2.1	2.2	4.2516	1100	89	
*287.5	355M4A	352301-	1790	95.6	0.905	436	6.9	1538	2.0	2.5	6.77	1546	90	
*362.5	355L4A	352501-	1790	95.8	0.905	548	7.0	1939	2.0	2.2	8.20	1821	90	

Code letters for supplementing the product code
Code letters for voltage and-frequency (product code position 13)

A	B	D	E	F	H
380V Δ 50Hz	380V Δ 50Hz	380~420V Δ 50Hz 660~690VY50Hz 440~480 ¹⁾ V Δ 60Hz	500V Δ 50Hz 575V Δ 60Hz	500VY50Hz 575VY60Hz	415V Δ 50Hz
S	T	U	X		
220~240V Δ 50Hz 380~420VY50Hz 440~480VY60Hz	660V Δ 50Hz	690V Δ 50Hz	Other rated voltage connection or frequency, max, 690V		¹⁾ 480V not stamped on sizes 160 to 355

*Insulation Class F Temperature rise Class F

电机技术数据表 Technical Data Table IP55 IC411 Insulation class F Temperature rise class B

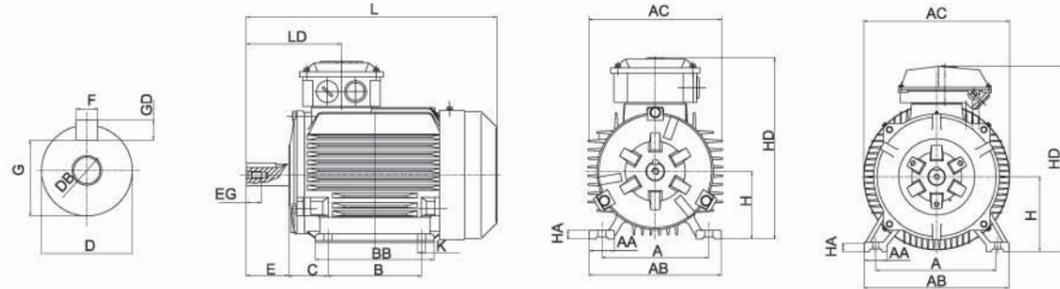
460V 60Hz														
功率 Output kW	型号规格 Type designation	产品代码 Product code	转速 Speed n r/min	效率 Efficiency Full load 100% η	功率因数 Power factor cos ϕ	电流 Current		转矩 Torque			转动惯量 Moment of inertia J=GD ² /4 kgm ²	重量 Weight kg	噪声 Sound pressure level Lp dB(A)	
						额定电流 IN A	堵转电流 Is/IN	额定转矩 TN Nm	堵转转矩 Ts/TN	最大转矩 TMAX/TN				
						1200r/min=6poles Basic design								
0.21	M2QA 71M6A 3GQA	073301-	1090	55.0	0.66	0.76	4.0	1.84	1.8	1.8	0.00056	10	45	
0.29	71M6B	073302-	1070	60.0	0.66	0.96	4.0	2.59	1.8	1.8	0.00074	11	45	
0.43	80M6A	083301-	1100	63.0	0.67	1.34	5.0	3.72	1.9	1.9	0.00159	17	48	
0.63	80M6B	083302-	1100	65.0	0.68	1.87	5.0	5.45	1.9	1.9	0.00196	18	48	
0.86	90S6A	093101-	1105	71.0	0.73	2.18	5.0	7.43	2.0	2.2	0.00292	21	51	
1.27	90L6A	093501-	1100	73.0	0.75	3.04	5.0	11.03	2.0	2.2	0.00379	25	51	
1.73	100L6A	103501-	1130	76.0	0.77	3.88	5.5	14.62	2.0	2.2	0.00999	32	54	
2.53	112M6A	113301-	1145	80.0	0.765	5.42	5.5	21.10	2.0	2.2	0.01559	40	57	
3.45	132S6A	133101-	1150	82.5	0.79	6.95	6.5	28.65	2.0	2.2	0.03116	55	59	
4.60	132M6A	133301-	1150	84.0	0.79	9.10	6.5	38.20	2.0	2.2	0.04074	65	59	
6.33	132M6B	133302-	1150	86.0	0.80	12.07	6.58	52.57	2.0	2.2	0.05332	75	59	
8.6	160M6A	163301-	1170	88.0	0.79	16.23	6.0	70.38	2.0	2.3	0.09231	119	64	
12.7	160L6A	163501-	1165	89.9	0.80	23.17	6.0	104.0	2.2	2.3	0.12970	140	65	
17.3	180L6A	183501-	1175	91.1	0.83	30.02	6.0	140.5	2.3	2.8	0.2418	180	66	
21.3	200L6A	203501-	1175	90.9	0.84	36.60	6.0	173.1	2.2	2.8	0.34174	231	67	
25.3	200L6B	203502-	1175	90.0	0.85	43.39	6.0	205.6	2.1	2.8	0.46837	254	67	
34.5	225M6A	223301-	1180	90.9	0.78	63.85	6.6	279.2	2.2	2.8	0.62691	308	69	
42.6	250M6A	253301-	1180	92.8	0.89	67.68	6.8	345.1	2.3	2.8	0.97	382	71	
51.8	280S6A	283101-	1175	92.6	0.87	84.4	6.5	421	2.3	2.4	1.25	482	72	
63	280M6A	283301-	1175	93.0	0.88	101	7.0	512	2.3	2.5	1.485	532	73	
86	315S6A	313101-	1190	93.8	0.87	138	7.4	691.3	2.0	2.0	3.1942	920	78	
104	315M6A	313301-	1190	94.0	0.87	166	7.4	836.0	2.0	2.0	3.723	1010	73	
127	315L6A	313501-	1190	94.5	0.88	200	6.8	1020.9	2.0	2.0	4.2564	1060	73	
152	315L6B	313502-	1190	95.0	0.88	239	6.8	1221.9	2.0	2.0	5.1577	1120	73	
*184	355M6A	353301-	1190	94.9	0.90	283	6.8	1481	2	2.3	7.8	1360	78	
*230	355M6B	353302-	1190	95.1	0.90	353	6.7	1852	1.9	2.2	9.1	1551	78	
*287.5	355L6A	35350												

外形尺寸图 Dimension Drawing

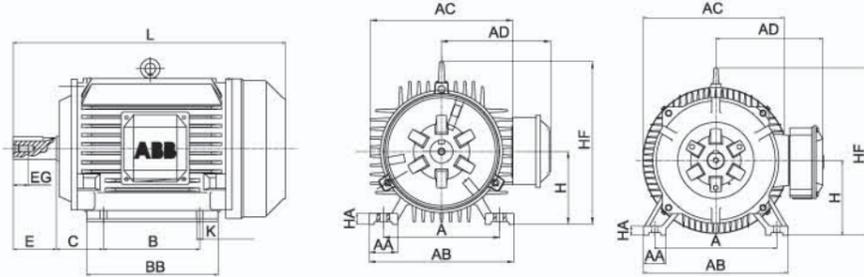
Foot-mounted motor designation IM B3, IM B6, IM B7, IM B8, IM V5, IM V6

Cast iron motor
Type M2QA71-355

三相电动机，底脚安装，接线盒置顶
three-phase motor, foot-mounted, terminal box top-mounted



三相电动机，底脚安装，接线盒右置
three-phase motor, foot-mounted, terminal box on right hand side

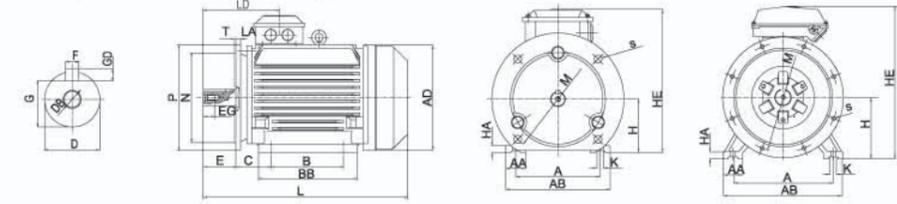


Type M2QA	Poles	A	AA	AB	AC	B	BB	C	D	E	F	G	GD	DB	EG
71M	2-6	112	30	145	145	90	120	45	14 - j6	30	5	11	5	M5	13
80M	2-8	125	35	160	165	100	135	50	19 - j6	40	6	15.5	6	M6	16
90S	2-8	140	35	175	180	100	140	56	24 - j6	50	8	20	7	M8	19
90L	2-8	140	35	175	180	125	165	56	24 - j6	50	8	20	7	M8	19
100L	2-8	160	40	200	205	140	180	63	28 - j6	60	8	24	7	M10	22
112M	2-8	190	50	240	225	140	190	70	28 - j6	60	8	24	7	M10	22
132S	2-8	216	55	270	265	140	205	89	38 - k6	80	10	33	8	M12	28
132M	2-8	216	55	270	265	178	240	89	38 - k6	80	10	33	8	M12	28
160M	2-8	254	60	320	330	210	265	108	42 - k6	110	12	37	8	M16	36
160L	2-8	254	60	320	330	254	310	108	42 - k6	110	12	37	8	M16	36
180M	2-4	279	70	350	355	241	315	121	48 - k6	110	14	42.5	9	M16	36
180L	4-8	279	70	350	355	279	350	121	48 - k6	110	14	42.5	9	M16	36
200L	2-8	318	70	390	395	305	380	133	55 - m6	110	16	49	10	M20	39
225S	4-8	356	75	435	440	286	380	149	60 - m6	140	18	53	11	M20	39
225M	2	356	75	435	440	311	405	149	55 - m6	110	16	49	10	M20	39
225M	4-8	356	75	435	440	311	405	149	60 - m6	140	18	53	11	M20	39
250M	2	406	80	490	485	349	455	168	60 - m6	140	18	53	11	M20	39
250M	4-8	406	80	490	485	349	455	168	65 - m6	140	18	58	11	M20	39
280S	2	457	85	550	540	368	490	190	65 - m6	140	18	58	11	M20	39
280S	4-8	457	85	550	540	368	490	190	75 - m6	140	20	67.5	12	M20	39
280M	2	457	85	550	540	419	540	190	65 - m6	140	18	58	11	M20	39
280M	4-8	457	85	550	540	419	540	190	75 - m6	140	20	67.5	12	M20	39
315S	2	508	120	630	620	406	570	216	65 - m6	140	18	58	11	M20	39
315S	4-8	508	120	630	620	406	570	216	80 - m6	170	22	71	14	M20	39
315M	2	508	120	630	620	457	680	216	65 - m6	140	18	58	11	M20	39
315M	4-8	508	120	630	620	457	680	216	80 - m6	170	22	71	14	M20	39
315L	2	508	120	630	620	508	680	216	65 - m6	140	18	58	11	M20	39
315L	4-8	508	120	630	620	508	680	216	80 - m6	170	22	71	14	M20	39
355M	2	610	116	730	710	560	750	254	70 - m6	140	20	62.5	12	M20	39
355M	4-6	610	116	730	710	560	750	254	100 - m6	210	28	90	16	M24	47
355L	2	610	116	730	710	630	750	254	70 - m6	140	20	62.5	12	M20	39
355L	4-6	610	116	730	710	630	750	254	100 - m6	210	28	90	16	M24	47

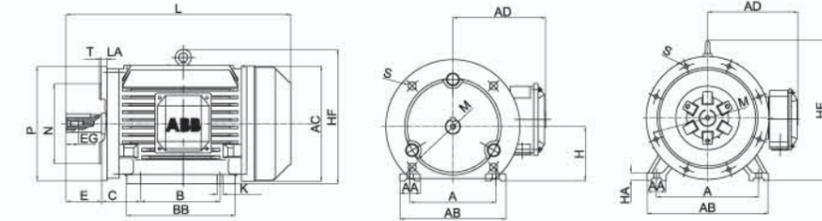
Flange-mounted, mounting designation IM B5, IM V1, IM V3
Foot and flange-mounted, mounting designation IM B35, IM V15, IM V36

Cast iron motor
Type M2QA71-355

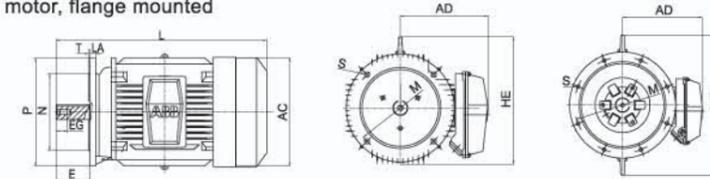
三相电动机，底脚和法兰安装，接线盒置顶
three-phase motor, foot and flange mounted, terminal box top-mounted



三相电动机，底脚和法兰安装，接线盒右置
three-phase motor, foot and flange mounted, terminal box on right hand side



三相电动机，法兰安装
three-phase motor, flange mounted



Type M2QA	Poles	H	HA	HD	HF	K	L	LD	AD	LA	M	N	P	S	T	HE
71M	2-6	71	9	190	---	ø7	255	100	120	9	ø130	ø110	ø160	4-ø10	3.5	165
80M	2-8	80	11	220	170	ø10	285	116	145	9	ø165	ø130	ø200	4-ø12	3.5	200
90S	2-8	90	12	240	185	ø10	310	128	150	10	ø165	ø130	ø200	4-ø12	3.5	200
90L	2-8	90	12	240	185	ø10	335	128	150	10	ø165	ø130	ø200	4-ø12	3.5	200
100L	2-8	100	12	270	245	ø12	380	143	175	11	ø215	ø180	ø250	4-ø15	4	270
112M	2-8	112	15	295	265	ø12	395	149	185	11	ø215	ø180	ø250	4-ø15	4	278
132S	2-8	132	18	335	300	ø12	465	174	205	12	ø265	ø230	ø300	4-ø15	4	320
132M	2-8	132	18	335	300	ø12	505	174	205	12	ø265	ø230	ø300	4-ø15	4	320
160M	2-8	160	22	410	380	ø15	600	249	260	15	ø300	ø250	ø350	4-ø19	5	400
160L	2-8	160	22	410	380	ø15	645	249	260	15	ø300	ø250	ø350	4-ø19	5	400
180M	2-4	180	22	450	420	ø15	670	267	275	18	ø300	ø250	ø350	4-ø19	5	420
180L	4-8	180	22	450	420	ø15	710	267	275	18	ø300	ø250	ø350	4-ø19	5	420
200L	2-8	200	25	510	470	ø19	770	283	325	20	ø350	ø300	ø400	4-ø19	5	470
225S	4-8	225	28	555	520	ø19	820	333	355	20	ø400	ø350	ø450	8-ø19	5	520
225M	2	225	28	555	520	ø19	815	303	355	20	ø400	ø350	ø450	8-ø19	5	520
225M	4-8	225	28	555	520	ø19	840	333	355	20	ø400	ø350	ø450	8-ø19	5	520
250M	2	250	30	630	580	ø24	930	357	375	22	ø500	ø450	ø550	8-ø19	5	655
250M	4-8	250	30	630	580	ø24	930	357	375	22	ø500	ø450	ø550	8-ø19	5	655
280S	2	280	35	690	645	ø24	985	350	415	22	ø500	ø450	ø550	8-ø19	5	725
280S	4-8	280	35	690	645	ø24	985	350	415	22	ø500	ø450	ø550	8-ø19	5	725
280M	2	280	35	690	645	ø24	1040	350	415	22	ø500	ø450	ø550	8-ø19	5	725
280M	4-8	280	35	690	645	ø24	1040	350	415	22	ø500	ø450	ø550	8-ø19	5	725
315S	2	315	45	855	720	ø28	1190	397	550	22	ø600	ø550	ø660	8-ø24	6	800
315S	4-8	315	45	855	720	ø28	1220	427	550	22	ø600	ø550	ø660	8-ø24	6	800
315M	2	315	45	860	720	ø28	1300	397	550	22	ø600	ø550	ø660	8-ø24	6	800
315M	4-8	315	45	860	720	ø28	1330	427	550	22	ø600	ø550	ø660	8-ø24	6	800
315L	2	315	45	860	720	ø28	1300	397	550	22	ø600	ø550	ø660	8-ø24	6	800
315L	4-8	315	45	860	720	ø28	1330	427	550	22	ø600	ø550	ø660	8-ø24	6	800
355M	2	355	52	1010	850	ø35	1495	403	650	25	ø740	ø680	ø800	8-ø24	6	1020
355M	4-6	355	52	1010	850	ø35	1565	473	650	25	ø740	ø680	ø800	8-ø24	6	1020
355L	2	355	52	1010	850	ø35	1495	403	650	25	ø740	ø680	ø800	8-ø24	6	1020
355L	4-6	355	52	1010	850	ø35	1565	473	650	25	ø740	ø680	ø800	8-ø24	6	1020

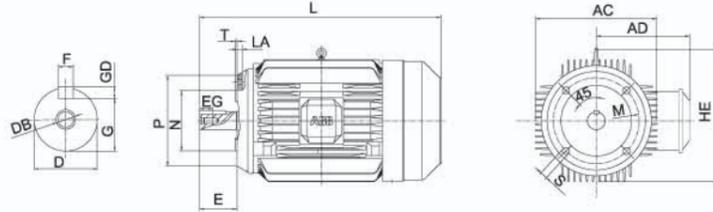
外形尺寸图 Dimension Drawing

Flange-mound, IM B14, IM V18, IM V19
Foot-and flange-mounted, IM B34

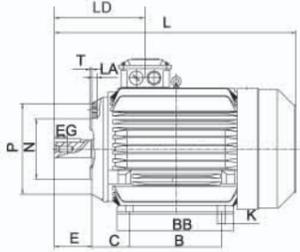
小法兰安装, IM B14, IM V18, IM V19

Cast iron motor
Type M2QA71-160

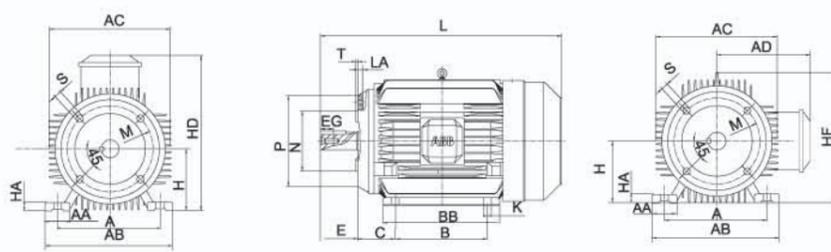
小法兰安装, IM B14
Flange-mounded motor, small flange IM B14



接线盒置顶, IM B34
Terminal box top-mounted IM B34

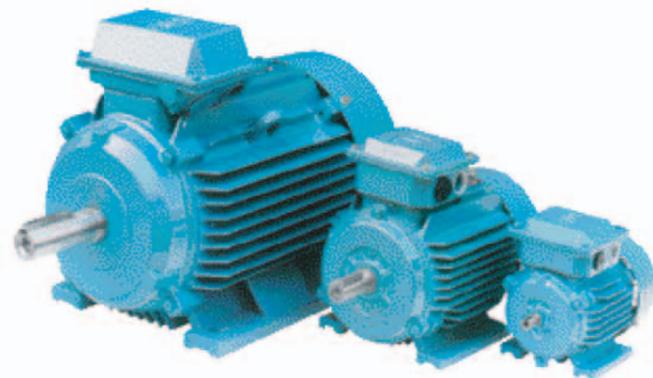


接线盒旁置, IM B34
Terminal box side-mounted IM B34



Type	Pole	A	AA	AB	AC	B	BB	C	D	E	F	G	GD	DB	EG	H	HA	HD	K	L	LD	AD	LA	HE	HF
M2QA 71M	2-6	112	30	145	145	90	120	45	14	30	5	11	5	M5	12.5	71	10	200	7	255	100	120	9	145	-
80M	2-8	125	35	165	165	100	135	50	19	40	6	15.5	6	M6	16	80	12	225	10	285	116	145	9	200	185
90S	2-8	140	35	175	180	100	140	56	24	50	8	20	7	M8	19	90	12	240	10	310	128	150	10	200	195
90L	2-8	140	35	175	180	125	165	56	24	50	8	20	7	M8	19	90	12	240	10	335	128	150	10	200	195
100L	2-8	160	40	200	205	140	180	63	28	60	8	24	7	M10	22	100	14	275	12	380	138	175	11	270	245
112M	2-8	190	50	240	225	140	190	70	28	60	8	24	7	M10	22	112	15	290	12	395	144	185	11	278	265
132S	2-8	216	55	270	265	140	205	89	38	80	10	33	8	M12	28	132	18	335	12	465	169	205	15	320	300
132M	2-8	216	55	270	265	178	240	89	38	80	10	33	8	M12	28	132	18	335	12	505	169	205	15	320	300
160M	2-8	254	60	325	330	210	265	108	42	110	12	37	8	M16	36	160	22	415	15	600	250	255	18	400	380
160L	2-8	254	60	325	330	254	310	108	42	110	12	37	8	M16	36	160	22	415	15	645	250	255	18	400	380

Type	Pole	Size	P	M	N	S	T
M2QA 71M	2-6	C105	105	85	70	M6	2.5
71M	2-6	C140	140	115	95	M8	3.0
80M	2-8	C120	120	100	80	M6	3.0
80M	2-8	C160	160	130	110	M8	3.5
90S	2-8	C140	140	115	95	M8	3.0
90S	2-8	C160	160	130	110	M8	3.5
90L	2-8	C140	140	115	95	M8	3.0
90L	2-8	C160	160	130	110	M8	3.5
100L	2-8	C160	160	130	110	M8	3.5
100L	2-8	C200	200	165	130	M10	3.5
112M	2-8	C160	160	130	110	M8	3.5
112M	2-8	C200	200	165	130	M10	3.5
132S	2-8	C200	200	165	130	M10	3.5
132M	2-8	C200	200	165	130	M10	3.5
160M	2-8	C250	250	215	180	M12	4
160L	2-8	C250	250	215	180	M12	4



轴端密封 Bearing Seals

电动机选配有列密封。

Optional motors are available with seals according to table below.

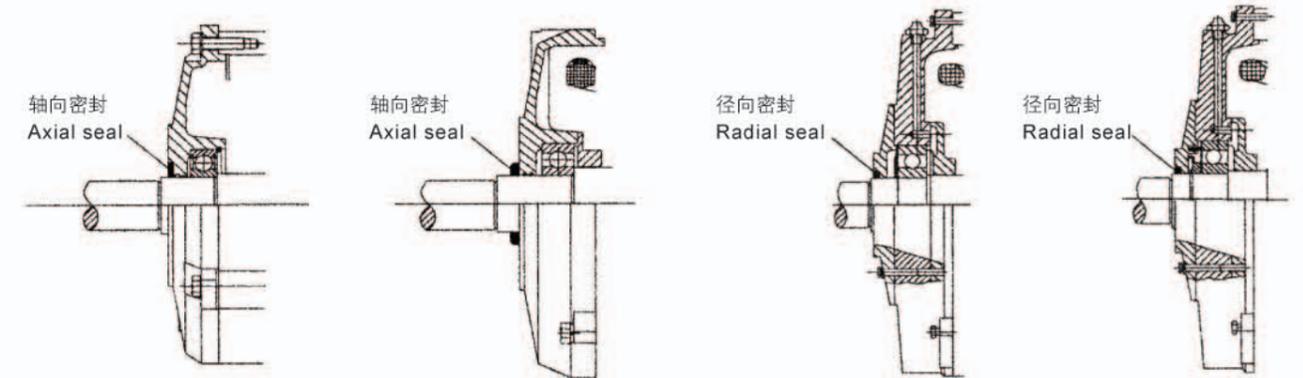
电动机规格 Motor size	说明驱动端 Description D-end	标准设计, 轴向密封 驱动端 Standard design Axial seal D-end	其它设计 径向密封(DIN 3760) 代码072	Alternative design Radial seal (DIN 3760) Variant code 072	
71	驱动端密封轴承, 轴向密封, 防尘密封圈 Sealed bearings (2RS) and axial seal, gamma ring, at D-end	RB15 x 30 x 4			
80		RB20 x 35 x 4			
90		RB25 x 40 x 4			
100		RB30 x 47 x 4.5			
112		RB35 x 52 x 4.5			
132		RB40 x 57 x 4.5			
160	驱动端轴向密封, 防尘密封圈 Axial seal, gamma ring, at D-end	RB45 x 62 x 4.5			
180		RB50 x 70 x 5.5			
200		RB60 x 80 x 5.5			
225		RB65 x 85 x 5.5			
250				TC70 x 85 x 10	
280				TC80 x 100 x 10	
315	两端带径向密封 Radial seal, at both-ends (标准配制 Standard)		2p	TC80 x 100 x 10	
			4-8p	TC95 x 120 x 12	
355			4-8p	TC95 x 120 x 12	
				TC110 x 130 x 13	

电动机规格
Motor sizes
71-132

电动机规格
Motor sizes
160-225

电动机规格
Motor sizes
250-280

电动机规格
Motor sizes
315-355



选择电缆接口
Select Cable Entry

Type 型号	Germany Standard Screw (metric) 德国标准螺钉(公制)	DIN Standard Pg Screw DIN标准Pg制式螺钉
71	2-M16x1.5	2-Pg11
80-90	2-M25x1.5	2-Pg16
100-132	2-M32x1.5	2-Pg21
160-180	2-M40x1.5	2-Pg29
200-225	2-M50x1.5	2-Pg36
250-280	2-M63x1.5	2-Pg42
315-355	2-M63x1.5	2-Pg48

M2QA 铸铁电动机，基本设计概述
M2QA Cast Iron Motors in Brief, Basic Design

电动机规格 Motor size		71	80	90	100	112	132	160
定子 Stator	材料 Material	铸铁 Cast iron HT150 GB/T9439						
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	油漆厚度 2层821丙烯酸聚氨酯磁漆, 厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承端罩 Bearing end shields	材料 Material	铸铁 Cast iron HT150 GB/T9439						
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	2层821丙烯酸聚氨酯磁漆, 厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承 Bearings	驱动端 D-end	6202	6204	6205	6206	6207	6208	6309
		VV C3	DDU C3	DDU C3	DDU C3	DDU C3	DDU C3	ZZ C3
	非驱动端 N-end	6202	6204	6205	6206	6206	6207	6209
		VV C3	DDU C3	DDU C3	DDU C3	DDU C3	DDU C3	ZZ C3
轴向锁紧轴承 Axially-locked bearings	弹簧圈 Spring ring	标准件, 驱动端锁定 As standard, locked at D-end						
润滑 Lubrication		终生润滑 Greased for life						
铭牌 Rating plate	材料 Material	不锈钢 Stainless steel						
接线盒 Terminal box	框架材料 Frame material	铸铁 Cast iron HT150 GB/T9439						
	盒盖材料 Cover material	铸铁 Cast iron HT150 GB/T9439						
连接 Connections	进线 Cable entries	2-M16x1.5	2-M25x1.5	2-M25x1.5	2-M32x1.5	2-M32x1.5	2-M32x1.5	1-M16x1.5 2-M40x1.5
	端子 Terminals	6个接线端子 6 terminals for connection						
风扇 Fan	材料 Material	强化玻璃纤维 Reinforced glass fiber						
风扇罩 Fan cover		钢 Steel						
	材料 Material	蓝色 Blue, Munsell 8B 4.5/ 3.25/NCS 4822 B05G						
	油漆色调 Paint colour	2层821丙烯酸聚氨酯磁漆, 厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
定子绕组 Stator winding	材料 Material	铜 Copper						
	绝缘 Insulation	绝缘等级F Insulation class F						
	绕组保护 Winding	根据用户要求 On request						
转子绕组 Rotor winding	材料 Material	压铸铸铝 Pressure die-cast aluminium						
平衡方法 Balancing method		标准配置采用半键平衡 Half key balancing as standard						
键槽 Key ways		开式键槽 Open key way						
外壳防护等级 Enclosure		IP 55						
冷却方法 Cooling method		IC 411						

*) For vertical-mounted motors, pls see the specification on the rating plate.

M2QA 铸铁电动机，基本设计概述
M2QA Cast Iron Motors in Brief, Basic Design

电动机规格 Motor size		180	200	225	250	280	315	355
定子 Stator	材料 Material	铸铁 Cast iron HT150 GB/T9439			铸铁 HT200 GB/T9439 (立式安装电动机除外) Cast iron HT200 GB/T9439 except vertical-mounted			
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	油漆厚度 2层821丙烯酸聚氨酯磁漆, 厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承端罩 Bearing end shields	材料 Material	铸铁 Cast iron HT150 GB/T9439			铸铁HT200 GB/T9439 (立式安装电动机除外) Cast iron HT200 GB/T9439 except vertical-mounted			
	油漆色调 Paint colour shade	蓝色 Blue, Munsell 8B 4.5/3.25/NCS 4822 B05G						
	油漆厚度 Paint thickness	2层821丙烯酸聚氨酯磁漆, 厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
轴承 Bearings	驱动端 D-end	6310	6312	6313	6314 C3 *	6316/C4 *	6316/C4 *	6319M/C4 *
		ZZ C3	ZZ C3	ZZ C3		6316/C3	6319/C3	6322/C3
	非驱动端 N-end	6210	6212	6213	6214 C3 *	6316/C4 *	6316/C4 *	6319M/C4 *
		ZZ C3	ZZ C3	ZZ C3		6316/C3	6319/C3	6319/C3
轴向锁紧轴承 Axially-locked bearings	弹簧圈 Spring ring	Spring ring Locked at D-end	As standard locked at D-end		As standard locked at ND-end			
润滑 Lubrication		Greased for life or regreasable			Regreasable bearings			
铭牌 Rating plate	材料 Material	Stainless steel						
接线盒 Terminal box	框架材料 Frame material	Cast iron HT150 GB/T9439			Cast iron HT200 GB/T9439			
	盒盖材料 Cover material	Cast iron HT150 GB/T9439			Cast iron HT200 GB/T9439			
连接 Connections	进线 Cable entries	1-M16x1.5 2-M40x1.5	1-M16x1.5 2-M50x1.5	1-M16x1.5 2-M50x1.5	1-M20x1.5 2-M63x1.5	1-M20x1.5 2-M63x1.5	2-M20x1.5 2-M63x1.5	
	端子 Terminals	6个接线端子 6 terminals for connection						
风扇 Fan	材料 Material	强化玻璃纤维 Reinforced glass fiber				强化玻璃纤维或铝制 Reinforced glass fiber or aluminium		
风扇罩 Fan cover		钢 Steel						
	材料 Material	蓝色 Blue, Munsell 8B 4.5/ 3.25/NCS 4822 B05G						
	油漆色调 Paint colour	2层821丙烯酸聚氨酯磁漆, 厚度≥60µm Two-pack 821 Acid Polyurethane Enamel, thickness≥60µm						
定子绕组 Stator winding	材料 Material	铜 Copper						
	绝缘 Insulation	绝缘等级F Insulation class F						
	绕组保护 Winding	根据用户要求 On request				标准配置为3个150°C PTC热敏电阻 3 PTC themistors as standard, 150°C		
转子绕组 Rotor winding	材料 Material	压铸铸铝 Pressure die-cast aluminium						
平衡方法 Balancing method		标准配置采用半键平衡 Half key balancing as standard						
键槽 Key ways		开式键槽 Open key way						
外壳防护等级 Enclosure		IP 55						
冷却方法 Cooling method		IC 411						

*) For vertical-mounted motors, pls see the specification on the rating plate.