

目录 2022-10 | Catalog October 2022

M2QA-FB系列低压粉尘防爆电机

M2QA-FB Series Low Voltage Dust Ignition Proof motors



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产品概述

General information

标准

M2QA 系列低压粉尘防爆电机采用全封闭三相鼠笼型设计，其工艺符合 IEC 国际标准以及中国 GB 标准，效率达到 IEC 标准规定的 IE3 能效等级，并符合中国 GB18613-2020 规定的 3 级能效标准。防爆设计遵循以下标准：GB/T 3836.1-2021《爆炸性环境第 1 部分：设备通用要求》、GB/T 3836.31-2021《爆炸性环境第 1 部分：由防粉尘点燃外壳“t”保护的设备》

生产厂家通过 ISO9001 国际质量认证及 ISO14000 环境标准。



产品简介

M2QA 系列低压粉尘防爆电机是 ABB 在 IE3 M2QA 电机基础上进行粉尘防爆设计的产品，该产品是针对中国中高端市场开发的一款粉尘防爆铸铁电机产品。该产品经济耐用，符合中国客户使用习惯，作为一款外型美观且具有效率高、噪声低、低振动、防爆结构先进、安全可靠的产品，拥有非常出色的机械和电气性能，可以满足客户定制化设计需求。M2QA 粉尘防爆电机可用于涉及粉尘环境的多种应用领域，包括磨粉设备、搅拌机械、传送设备、通风设备等。

适用行业

M2QA 粉尘防爆电机广泛应用于可能出现爆炸性粉尘环境的多个应用领域：

金属制品加工(铝、镁、钛等金属粉尘)；
食品行业的面粉、饲料加工；
纺织品加工(棉尘、亚麻、纤维等)；
化工行业，化工原料，合成材料，包括塑料，树脂，燃料等，
制药行业(药物粉尘)，
木材加工行业(木屑，树脂粉尘)，
其他易受爆炸性粉尘危害的行业。

Standards

M2QA series Low voltage dust ignition proof motors are of the totally enclosed, three phase squirrel cage type, built to comply with international IEC and China GB standards. The efficiency level reaches IE3 class. And reach the energy efficiency grade 3 as stipulated by China GB18613-2020.

Production units are certified to ISO 9001 international quality standard as well ISO 14000 environmental standards.

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

GB

电气 Electrical	机械 Mechanical
GB/T 755	GB/T 4772.1
GB/T 1032	GB/T 4942.1
GB 18613	GB/T 1993
GB 1971	GB/T 997
GB/T 21210	GB 1971
	GB/T 10068

Brief

M2QA series Low voltage dust ignition proof motor is a specially designed product based on IE3 M2QA motor, which is a dust ignition proof cast iron motor developed for the middle and high end market in China. The product is economical and durable, in line with Chinese customer habits, as a beautiful appearance and has a high efficiency, low noise, low vibration, explosion-proof structure advanced, safe and reliable products, It has excellent mechanical and electrical properties, also provides customized design for customer. M2QA dust ignition proof motors can be used in a variety of applications involving dusty environments, including grinding equipment, mixing machinery, conveying equipment, ventilation equipment, etc.

Target industry

M2QA dust ignition proof motors are widely used in many applications where explosive dust environments may occur. Metal products processing (aluminum, magnesium, titanium and other metal dusts). Flour and feed processing in the food industry. Textile processing (cotton dust, linen, fibers, etc.). chemical industry, chemical raw materials, synthetic materials, including plastics, resins, fuels, etc. Pharmaceutical industry (drug dust). Wood processing industry (wood chips, resin dust). Other industries susceptible to explosive dust hazards.

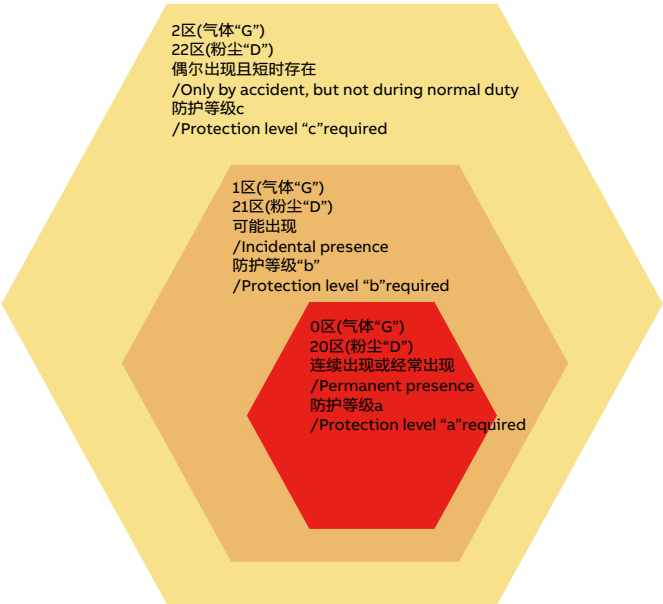
产品概述 - 防爆标准

General information - Explosion-proof standard

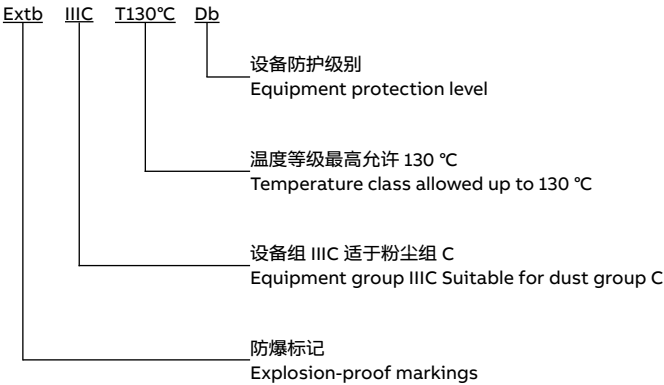
设备类别 / Equipment Grouping

标准 Standard IEC/EN 60079-0, EN 60079-0			
设备类别 Equipment Grouping	EPL	保护等级 Protection level	区域 Zones
I (煤矿 /Mines)	Ma	很高 /Very high	NA
	Mb	高 /High	
II (气体 /Gas)	Ga	很高 /Very high	0
	Gb	高 /High	1
	Gc	加强 /enhanced	2
	Da	很高 /Very high	20
III (粉尘 /Dust)	Db	高 /High	21
	Dc	加强 /enhanced	22

防爆危险区分为：20 区、21 区、22 区
Explosion-proof hazardous areas are divided into: Zone 20, Zone 21, Zone 22



粉尘防爆型电动机防爆标记
Explosion-proof markings for dust-proof motors
示例:
Example:



电机适用区域 /Applicable area
区域 21 也可以用于区域 22/Zone 21 can also be used in Zone 22

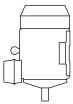
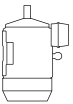
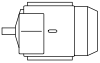
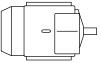
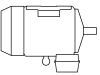
粉尘细分 /Dust subdivision	
III A	可燃性飞絮 /flammable dust
III B	非导电性粉尘 /non-conductive dust)
III C	导电型粉尘 /conductive dust

产品概述 - 安装结构形式

General information - Mounting arrangements

底脚安装型电机

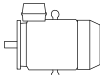
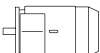
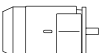
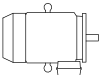
Foot-mounted motor

代码 I / 代码 II Code I / code II		产品代码位置 12 Product code pos. 12			
					
IM B3	IM V5	IM V6	IM B6	IM B7	IM B8
IM 1001	IM 1011	IM 1031	IM 1051	IM 1061	IM 1071

A = 底脚安装型，接线盒在顶部
foot-mounted, term.box top

凸缘安装型电机，大凸缘

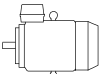
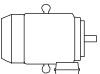
Flange-mounted motor, large flange

代码 I / 代码 II Code I / code II		产品代码位置 12 Product code pos. 12			
					
IM B5	IM V1	IM V3	*)	*)	*)
IM 3001	IM 3011	IM 3031	IM 3051	IM 3061	IM 3071

B = 凸缘安装型，大凸缘
flange mounted, large flange

凸缘安装型电机，小凸缘

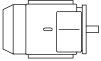
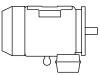
Flange-mounted motor, small flange

代码 I / 代码 II Code I / code II		变量代码 Variant code			
					
IM B14	IM V18	IM V19	*)	*)	*)
IM 3601	IM 3611	IM 3631	IM 3651	IM 3661	IM 3671

047 = B5 派生出 B14
B14 from B5

底脚和凸缘安装型电机，大凸缘

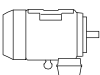
Foot- and flange-mounted motor with feet, large flange

代码 I / 代码 II Code I / code II		变量代码 Variant code			
					
IM B35	IM V15	IM V35	*)	*)	*)
IM 2001	IM 2011	IM 2031	IM 2051	IM 2061	IM 2071

009 = B3 派生出 B35
B35 from B3

底脚和凸缘安装型电机，小凸缘

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

代码 I / 代码 II Code I / code II		变量代码 Variant code			
					
IM B34	IM V17	IM V34	*)	*)	*)
IM 2101	IM 2111	IM 2131	IM 2151	IM 2161	IM 2171

008 = B3 派生出 B34
B34 from B3

*) Not Stated in IEC 60034-7.
IEC 60034-7 无规定

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: 尘密型防护电机
Dust-tight protection motor

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 IK code	冲击能量焦耳 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最少给出以下数据。电机产品代码根据以下示例编写。

When ordering, please provide at least the following data in the order according to the example. The product code of the motor is composed in accordance with the following example.

示例	Example
电机型号	Motor type
极数	Pole number
安装方式（IM 代码）	Mounting arrangement (IM-code)
额定输出	Rated output
产品代码	Product code
附加代码	Variant codes
M2QA 180LA4-FB	M2QA 180LA4-FB
4	4
IM B3 (IM1001)	IM B3 (IM1001)
22 kW	22 kW
3GQA 182 510-ADL	3GQA 182 510-ADL
VC839 必选	VC839 Required

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，产品代编码 Mounting arrangement, voltage and frequency code, generation codes	变量代码 Variant codes
M2QA	180LA	3GQA 182 510-	ADL	839, etc
		1 2 3 4 5 6 7 8 9 10 11 12 13 14		

位置 1-4
3GQA = 全封闭铸铁机座电机
位置 5-6
IEC 机座
08 = 80 13 = 132 22 = 225 35 = 355
09 = 90 16 = 160 25 = 250
10 = 100 18 = 180 28 = 280
11 = 112 20 = 200 31 = 315
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 VΔ, 400 VΔ, 660 VY 50 Hz
S 220 VΔ, 380 VY, 400 VY 50 Hz
位置 14
产品代编码

Positions 1 to 4
3GQA = Totally enclosed motor with cast iron frame
Positions 5 to 6
IEC size
07 = 71 11 = 112 20 = 200 31 = 315
08 = 80 13 = 132 22 = 225 35 = 355
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=8poles
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 VΔ, 400 VΔ, 660 VY 50 Hz
S 220 VΔ, 380 VY, 400 VY 50 Hz
Position 14
Generation code

铭牌

Rating plates

铭牌以表格形式提供两个电压的转速、电流和功率因数的数值。

The rating plates are in table form giving values for speed current and power factor for two voltages.

IE3

铭牌示例

ABB	IE3	ABB Motors		CNEx 22.1226	
	上海ABB电机有限公司		Ex tb IIIC T130°C Db		
3~Mot. M2QA112MA2-FB			S1	IEC60034-1	
3GQA112310-ADL+VC			IMB3/IM1001	Cl. F	IP 65
6207-2Z/C3			6206-2Z/C3	Date:2022	
V	Hz	r/min	kW	cosφ	A
380Δ	50	2879	4	0.84	7.84/4.51
660Y	50	2893	4	0.85	7.2/4.16
IE3-50Hz-88.6%(100%)			Q31/0112000271C040		60 kg
No. 3G1CXXXXXXXXXX			警告：存在爆炸性环境时 严禁打开		

IE3

Rating plate sample

		ABB Motors		IE3		
上海ABB电机有限公司						
3~motor		M2QA180LA4—FB				IMB3/IM1001
						
S1			No.3G1CXXXXXXXXXXXX			
Cert.no. CNEx22.1229			Ins.cl. F		IP 65	
V	Hz	kW	r/min	A	cosφ	
380Δ	50	22	1465	40.8	0.88	
660Y	50	22	1465	23.6	0.88	
IE3—50Hz—93.0%(100%)						
警告：存在爆炸性环境时严禁打开						
Prod.code 3GQA182510—ADL+VC						
			Ex tb IIIC T130℃ Db			
6310—2Z/C3			6210—2Z/C3		182 kg	
	Date 2022		IEC 60034—1			
Q31/0112000271C040						

说明：

铭牌图片仅供格式参考，最终数据以实际铭牌为准。

Remark:

The format of the rating plate is for reference only. The final figure will be subject to the actual rating plate.

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 15K

Insulation

ABB uses class F insulation, which with temperature rise B, is the 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 life. For instance, a 10 K temperature reduction will extend the insulation life.

Thermal class 130 (B)

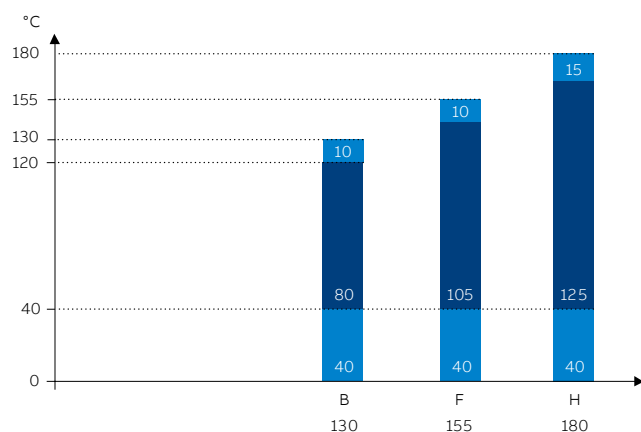
- Nominal ambient temperature 40 °C
- Max permissible temperature rise 80K
- Hot spot temperature margin 10K

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 15K



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。

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.

过载倍数

根据 IEC 60034，M2QA 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。

Overload times

According to IEC 60034, M2QA motors are designed to withstand overload capacity of 1.5 times rated current for 2 minutes at rated voltage and frequency.

环境温度及海拔高度

标准电机设计的最大环境温度为 50℃，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。

Ambient temperatures and high altitudes

Normal motors are designed for operation at a maximum ambient temperature of 50℃ 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.

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℃	30 ~ 40℃	45℃	50℃	55℃	60℃
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

机械设计

Mechanical design

轴承

电机通常安装以下单列深沟球轴承。

标准及可选设计

机座号	极数	标准设计		可选设计
		深沟球轴承		圆柱滚子轴承 (VC037)
		D 端	N 端	D 端
80	2-8	6204 ZXC3	6204 ZXC3	
90	2-8	6205 ZXC3	6205 ZXC3	
100	2-8	6206 ZXC3	6206 ZXC3	
112	2-8	6207 ZXC3	6206 ZXC3	
132	2-8	6208 ZXC3	6207 ZXC3	NU208
160	2-8	6309 ZXC3	6209 ZXC3	NU309
180	2-8	6310 ZXC3	6210 ZXC3	NU310
200	2-8	6312 ZXC3	6212 ZXC3	NU312
225	2-8	6313 ZXC3	6213 ZXC3	NU313
250	2-8	6314 C3	6214 C3	NU314
280	2	6316 C4	6316 C4	NU316
	4-8	6316 C3	6316 C3	NU316
315	2	6316 C4	6316 C4	NU316
	4-8	6319 C3	6319 C3	NU319
355	2	6319M C4	6319M C4	NU319
	4-8	6322 C3	6319 C3	NU322

说明：

电机铭牌上显示轴承型号及描述方式仅供客户更换、维修轴承作参考，不代表轴承品牌，具体的轴承品牌以ABB实际使用的为准。

轴向锁定轴承

所有电机在 D 端标配轴向锁定轴承。

Bearings

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

Standard and alternative designs

Motor size	Number of poles	Standard design		Alternative design
		Deep groove ball bearings		Roller bearings (VC037)
		D-end	N-end	D-end
80	2-8	6204 ZXC3	6204 ZXC3	
90	2-8	6205 ZXC3	6205 ZXC3	
100	2-8	6206 ZXC3	6206 ZXC3	
112	2-8	6207 ZXC3	6206 ZXC3	
132	2-8	6208 ZXC3	6207 ZXC3	NU208
160	2-8	6309 ZXC3	6209 ZXC3	NU309
180	2-8	6310 ZXC3	6210 ZXC3	NU310
200	2-8	6312 ZXC3	6212 ZXC3	NU312
225	2-8	6313 ZXC3	6213 ZXC3	NU313
250	2-8	6314 C3	6214 C3	NU314
280	2	6316 C4	6316 C4	NU316
	4-8	6316 C3	6316 C3	NU316
315	2	6316 C4	6316 C4	NU316
	4-8	6319 C3	6319 C3	NU319
355	2	6319M C4	6319M C4	NU319
	4-8	6322 C3	6319 C3	NU322

Remark:

The bearing type and description on rating plate do not represent the bearing brand, instead it is a technical consideration that can help the owner to make replacement and set up a maintenance program. The brand is subject to the bearing installed.

Axially-locked bearings

All motors are equipped as standard with an axially locked bearing. General at D-end.

机械设计

Mechanical design

轴密封件

机座号为 80-355的密封件尺寸和类型符合下表:

Bearing seals

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

机座号 Motor size	极数 Number of Poles	标准设计 Standard design	
		径向密封件 Radial seal	
		D 端 D-end	N 端 N-end
80	2-8	TC20*30*5	TC20*30*5
90	2-8	TC25*35*7	TC25*35*7
100	2-8	TC30*40*7	TC30*40*7
112	2-8	TC35*47*7	TC35*47*7
132	2-8	TC40*52*7	TC40*52*7
160	2-8	TC45*72*8	TC45*72*8
180	2-8	TC50*80*8	TC50*80*8
200	2-8	TC60*85*8	TC60*85*8
225	2-8	TC65*90*10	TC65*90*10
250	2-8	TC70*85*10	TC70*85*10
280	2	TC80*100*10	TC80*100*10
	4-8	TC80*100*10	TC80*100*10
315	2	TC80*100*10	TC80*100*10
	4-8	TC95*120*12	TC95*120*12
355	2	TC95*120*12	TC95*120*12
	4-8	TC110*130*12	TC110*130*12

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

装有封闭式轴承的电机

机座号为 71-225 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：2-8 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：

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

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 with bearings greased for life

Motors in frame sizes 71-225 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: 2-8 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:

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

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

机械设计

Mechanical design

轴上允许负载

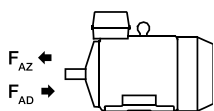
允许轴向力

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%。

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

机座号 Motor size	极数 No. of poles	轴伸长度 Length of shaft extension E (mm)	深沟球轴承 Basic design with deep groove ball bearings			
			20,000 小时 20,000 h		40,000 小时 40,000 h	
			F_{AD} (N)	F_{AZ} (N)	F_{AD} (N)	F_{AZ} (N)
80	2	40	845	445	685	285
	4	40	1070	670	845	445
	6	40	1225	825	975	575
90	2	50	860	440	700	280
	4	50	1090	670	860	440
	6	50	1245	825	995	575
100	2	60	1150	630	930	410
	4	60	1440	920	1145	625
	6	60	1675	1155	1305	785
112	2	60	1510	990	1205	685
	4	60	1955	1435	1510	990
	6	60	2250	1730	1735	1215
132	2	80	1630	1010	1305	685
	4	80	2055	1435	1625	1005
	6	80	2410	1790	1860	1240
160	2	110	2945	2165	2320	1540
	4	110	3860	3080	2945	2165
	6	110	4455	3675	3400	2620
180	2	110	3410	2570	2680	1840
	4	110	4385	3545	3405	2565
	6	110	5175	4335	3940	3100

Permissible loading on the shaft

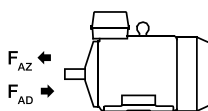
Permissible axial forces

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.

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

机座号 Motor size	极数 No. of poles	轴伸长度 Length of shaft extension E (mm)	深沟球轴承 Basic design with deep groove ball bearings			
			20,000 小时 20,000 h		40,000 小时 40,000 h	
			F_{AD} (N)	F_{AZ} (N)	F_{AD} (N)	F_{AZ} (N)
200	2	110	4350	3410	3400	2460
	4	110	5615	4675	4350	3410
	6	110	6655	5715	5040	4100
225	2	110	4915	3955	3830	2870
	4	140	6355	5395	4910	3950
	6	140	7545	6585	5700	4740
250	2	140	5530	4570	4295	3335
	4	140	7170	6210	5525	4565
	6	140	8525	7565	6425	5465
280	2	140	6545	5075	5120	3650
	4	140	8420	6950	6535	5065
	6	140	9820	8350	7570	6100
315S	2	140	6540	5070	5110	3640
	4	170	10880	7480	8635	5235
	6	170	12520	9120	9870	6470
315ML	2	140	6530	5060	5100	3630
	4	170	10875	7475	8625	5225
	6	170	12505	9105	9855	6455
355ML	2	140	8605	5205	6895	3495
	4	210	12940	9540	10160	6760
	6	210	14935	11535	11675	8275

允许径向力

表中提供了环境温度为 25℃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。

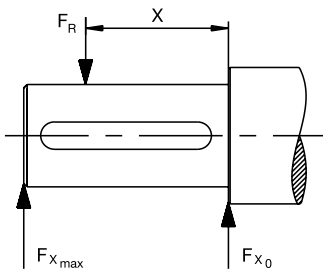
电机为底座安装型 IM B3, 并且含横向力。在某些情况下, 轴的强度影响允许负载力。在 60Hz 时, 数值将相应减少 10%。对于双速电机, 数值应以较高的速度为准。

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



机座号 Motor size	极数 No. of poles	轴伸长度 Length of shaft extension E (mm)	深沟球轴承 Basic design with deep groove ball bearings			
			20,000 小时 20,000 h	40,000 小时 40,000 h	20,000 小时 20,000 h	40,000 小时 40,000 h
			F_{X_0} (N)	$F_{X_{\max}}$ (N)	F_{X_0} (N)	$F_{X_{\max}}$ (N)
80	2	40	780	650	620	515
	4	40	980	815	780	650
	6	40	1130	935	895	740
90S	2	50	805	650	640	515
	4	50	1015	820	805	650
	6	50	1165	940	920	745
90L	2	50	820	680	650	540
	4	50	1030	860	815	680
	6	50	1180	980	935	780
100	2	60	1155	950	915	755
	4	60	1455	1200	1155	950
	6	60	1665	1375	1320	1090
112	2	60	1595	1335	1265	1055
	4	60	2010	1680	1595	1330
	6	60	2305	1925	1825	1525
132	2	80	1715	1375	1360	1090
	4	80	2160	1730	1710	1370
	6	80	2470	1980	1960	1570
160M	2	110	3185	2475	2525	1960
	4	110	4015	3120	3180	2470
	6	110	4595	3570	3640	2830
160L	2	110	3225	2565	2555	2030
	4	110	4065	3230	3220	2560
	6	110	4650	3700	3685	2930

Permissible radial forces

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

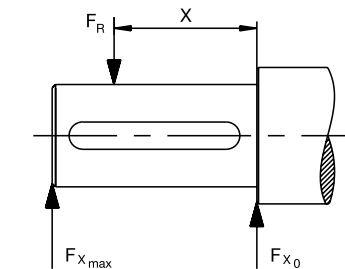
These calculated values further assume mounting position IM B3 (foot-mounted), with force directed sideways. In some cases, the strength of the shaft affects permissible forces.

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



机座号 Motor size	极数 No. of poles	轴伸长度 Length of shaft extension E (mm)	深沟球轴承 Basic design with deep groove ball bearings			
			20,000 小时 20,000 h	40,000 小时 40,000 h	20,000 小时 20,000 h	40,000 小时 40,000 h
			F_{X_0} (N)	$F_{X_{\max}}$ (N)	F_{X_0} (N)	$F_{X_{\max}}$ (N)
180	2	110	3710	2950	2940	2335
	4	110	4675	3715	3705	2945
	6	110	5410	4375	4290	3465
200	2	110	5045	4165	3995	3300
	4	110	6360	5250	5045	4165
	6	110	7280	6010	5770	4765
225	2	110	5750	4775	4555	3780
	4	140	7215	5665	5720	4490
	6	140	8300	6585	6580	5220
250	2	140	6475	5280	5130	4185
	4	140	8155	6650	6460	5270
	6	140	9335	7615	7395	6035
280	2	140	7580	6330	6005	5015
	4	140	9460	7800	7490	6180
	6	140	10835	8940	8585	7080
315S	2	140	7590	6465	6010	5115
	4	170	11660	9625	9230	7620
	6	170	13345	11015	10570	8725
315ML	2	140	7665	6645	6065	5255
	4	170	11640	9605	9215	7605
	6	170	13315	10990	10535	8695
355ML	2	140	9445	8385	7460	6625
	4	210	15120	12710	11945	10040
	6	210	17295	14540	13660	11485

机械设计

Mechanical design

标准接线盒交付

标准接线盒的防护等级为IP65。标准情况下，接线盒安装在电机D端顶部。此外，还可以将接线盒安装在左侧或右侧，请参考订购信息。机座号80-355 的电机，采用分体式接线盒。

机座号为80-132的电机接线盒可4x90°转动，机座号为160-355的电机接线盒可2x180°转动。因此电机的两侧都可以接入电缆。

如果未另行规定，则采用标准交付。

注意：对于其他电压及/ 或侧面安装的电机，请联系ABB！

Standard terminal box

The degree of protection for the standard terminal box is IP 65. By default, terminal boxes are mounted on top of the motor at D-end. In addition, terminal boxes can also be mounted on the left or right, please refer to the ordering information. In motor sizes 80-355, the terminal box is separate from motor frame.

The terminal boxes of motor sizes 80-132 can be turned 4x90°. For motor sizes 160-355, the terminal boxes can be turned 2x180°, to allow cable entry from either side of motor.

Standard delivery if no other information is provided.

Note: For other network voltages and/or side-mounted motors, contact your ABB sales office.

机座号 Motor size	极数 Pole number	螺纹孔 Threaded holes	电缆外径 mm Cable outer Diameter	端子螺栓尺寸 6x terminal bolt size 6x
80-90	2-8	2-M25*1.5	2-Ø12-16	M4
100-132	2-8	2-M32*1.5	2-Ø16-22	M5
160-180	2-8	2-M40*1.5	2-Ø21-28	M6
200-225	2-8	2-M50*1.5	2-Ø28-36	M8
250-280	2-8	2-M63*1.5	2-Ø37-44	M10
315-355	2-8	2-M63*1.5	2-Ø37-44	M12

机座号 Motor size	机座接地 Eathing on frame	主接线盒接地 Earthing in main terminal box
80	M5	M5
90	M6	M5
100-112	M6	M5
132	M8	M5
160-180	M8	M6
200-225	M10	M8
250-280	M12	M8
315-355	M12	M10

技术数据

Technical data

IE3

2P 380V 50Hz

三相全封闭鼠笼式电机的技术数据

Technical data for totally enclosed squirrel cage three phase motors

IP55 - IC411 绝缘等级 F

0.18-315kW,符合 GB 18613-2020 的 3 级能效,符合 IEC 60034-30-1:2014 的 IE3 效率等级

IP55 - IC411 Insulation class F

0.18-315kW, Grade 3 according to GB 18613-2020; IE3 according to IEC 60034-30-1:2014

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	电流 Current		转矩 / Torque			转动惯量 Moment of inertia	重量 Weight	声压等级 Sound pressure level, L _{PA}
				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				cosφ						J=1/4 GD ² kgm ²	kg	dB
3000 r/min = 2 极 / 2 poles			380 V 50Hz			CENELEC- 设计 design									
0.75	M2QA 80MA 2-FB	3GQA081310---L	2858	80.7	83.0	83.1	0.86	1.6	6.3	2.52	2.1	2.6	0.00096	17	56
1.1	M2QA 80MB 2-FB	3GQA081320---L	2845	82.7	85.0	85.5	0.88	2.3	6.5	3.71	2.2	2.6	0.00123	19	56
1.5	M2QA 90SA 2-FB	3GQA091110---L	2875	84.2	86.0	86.1	0.84	3.2	7.2	4.99	2.3	2.7	0.00156	24	60
2.2	M2QA 90LA 2-FB	3GQA091510---L	2885	85.9	87.6	87.9	0.85	4.6	7.7	7.29	2.5	3.0	0.00193	29	60
3	M2QA 100LA 2-FB	3GQA101510---L	2856	87.1	88.7	89.1	0.90	5.8	8.1	9.94	2.4	3.7	0.00519	40	60
4	M2QA 112MA 2-FB	3GQA111310---L	2879	88.1	89.4	89.7	0.88	7.8	8.0	13.1	3.1	2.8	0.00869	54	64
5.5	M2QA 132SMA 2-FB	3GQA131210---L	2905	89.2	90.5	90.8	0.88	10.6	8.4	18.1	2.1	3.4	0.0126	63	65
7.5	M2QA 132SMB 2-FB	3GQA131220---L	2905	90.1	91.6	92.1	0.90	14.4	8.4	24.5	2.4	3.6	0.0181	75	67
11	M2QA 160MA 2-FB	3GQA161310---L	2950	91.2	91.4	90.8	0.90	20.4	8.2	35.6	2.3	3.0	0.0585	128	75
15	M2QA 160MB 2-FB	3GQA161320---L	2950	91.9	92.5	92.6	0.90	27.6	8.4	48.5	2.5	3.0	0.0664	133	75
18.5	M2QA 160LA 2-FB	3GQA161510---L	2948	92.4	93.1	93.2	0.91	33.4	8.1	59.9	2.4	2.9	0.0730	156	75
22	M2QA 180MA 2-FB	3GQA181310---L	2939	92.7	92.7	92.8	0.90	40.0	6.6	71.4	2.3	2.9	0.0917	177	75
30	M2QA 200LA 2-FB	3GQA201510---L	2954	93.3	93.6	93.1	0.91	53.7	6.4	97.0	2.4	2.6	0.173	246	75
37	M2QA 200LB 2-FB	3GQA201520---L	2960	93.7	93.9	93.4	0.90	66.7	7.7	119	2.5	3.1	0.187	273	75
45	M2QA 225MA 2-FB	3GQA221310---L	2971	94.0	94.4	94.1	0.90	80.8	7.6	145	2.4	2.6	0.327	350	77
55	M2QA 250MA 2-FB	3GQA251310---L	2967	94.3	94.5	93.9	0.92	96.3	6.5	177	2.2	2.6	0.454	433	83
75	M2QA 280SMA 2-FB	3GQA281210---L	2978	94.7	94.6	93.8	0.90	134.0	7.0	240	2.4	2.5	0.694	539	85
90	M2QA 280SMB 2-FB	3GQA281220---L	2979	95.0	95.0	94.3	0.90	160.0	7.5	288	2.7	2.6	0.781	605	85
110	M2QA 315SA 2-FB	3GQA311110---L	2979	95.2	95.0	94.1	0.88	199.0	7.0	353	1.8	2.4	1.39	955	78
132	M2QA 315MLA 2-FB	3GQA311410---L	2980	95.4	95.3	94.5	0.89	236.0	7.4	423	2.0	2.4	1.53	1056	78
160	M2QA 315MLB 2-FB	3GQA311420---L	2976	95.6	95.7	95.2	0.88	289.0	7.0	513	2.0	2.4	1.63	1097	78
185	M2QA 315MLC 2-FB	3GQA311430---L	2978	95.7	95.8	95.4	0.90	326.0	6.9	593	2.0	2.6	1.80	1060	78
200	M2QA 315MLD 2-FB	3GQA311440---L	2975	95.8	96.0	95.8	0.89	356.0	6.8	642	2.1	2.8	1.85	1074	81
220	M2QA 355MLA 2-FB	3GQA351410---L	2978	95.8	95.8	95.2	0.90	388.0	7.0	706	1.9	2.7	3.19	1585	83
250	M2QA 355MLB 2-FB	3GQA351420---L	2972	95.8	96.0	95.6	0.90	438.0	7.0	803	1.9	2.7	3.47	1659	83
280	M2QA 355MLC 2-FB	3GQA351430---L	2978	95.8	95.8	95.3	0.90	493.0	7.0	898	1.8	2.7	3.82	1752	83
315	M2QA 355MLD 2-FB	3GQA351440---L	2973	95.8	96.0	95.7	0.89	560.0	7.0	1012	1.8	2.3	3.96	1784	83

产品代码中的两个圆点表示可选的安装方式、电压及频率代码（见订购信息一页）。

The two bullets in the product code indicate choice of mounting arrangements, voltage and frequency code (see ordering information page).

I_s / I_N = 启动电流
T_I / T_N = 转子堵转转矩
T_B / T_N = 最大转矩

I_s / I_N = Starting current
T_I / T_N = Locked rotor torque
T_B / T_N = Breakdown torque

技术数据

Technical data

IE3

4P 380V 50Hz

三相全封闭鼠笼式电机的技术数据

Technical data for totally enclosed squirrel cage three phase motors

IP55 - IC411 绝缘等级 F

0.18-315kW, 符合 GB 18613-2020 的 3 级能效, 符合 IEC 60034-30-1:2014 的 IE3 效率等级

IP55 - IC411 Insulation class F

0.18-315kW, Grade 3 according to GB 18613-2020; IE3 according to IEC 60034-30-1:2014

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	电流 Current		转矩 / Torque				转动惯量 Moment of inertia	重量 Weight	声压等级 Sound pressure level, L _{PA}
				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	J=1/4 GD ² kgm ²			
kW			r/min				cosφ							kg		dB
1500 r/min = 4 极 / 4 poles			380 V	CENELEC- 设计 design												
0.55	M2QA 80MA 4-FB	3GQA082310---L	1435	80.8	81.1	78.7	0.75	1.4	6.2	3.67	2.5	2.6	0.00178	19	46	
0.75	M2QA 80MB 4-FB	3GQA082320---L	1435	82.5	83.9	83.2	0.75	1.8	6.1	5.02	2.2	2.4	0.00257	22	46	
1.1	M2QA 90SA 4-FB	3GQA092110---L	1425	84.1	85.8	85.6	0.76	2.6	6.0	7.37	1.9	2.5	0.00294	26	53	
1.5	M2QA 90LA 4-FB	3GQA092510---L	1435	85.3	86.8	86.6	0.77	3.5	6.4	10.0	2.1	2.6	0.00369	31	53	
2.2	M2QA 100LA 4-FB	3GQA102510---L	1447	86.7	87.3	86.2	0.81	4.7	8.3	14.5	2.9	3.3	0.00871	40	53	
3	M2QA 100LB 4-FB	3GQA102520---L	1439	87.7	88.4	87.6	0.82	6.3	8.3	19.8	3.0	3.4	0.0102	44	53	
4	M2QA 112MA 4-FB	3GQA112310---L	1460	88.6	88.9	87.7	0.80	8.6	8.5	26.2	2.7	3.3	0.0152	60	59	
5.5	M2QA 132SMA 4-FB	3GQA132210---L	1460	89.6	90.7	90.6	0.83	11.2	7.5	36.0	3.0	3.1	0.0424	73	68	
7.5	M2QA 132SMB 4-FB	3GQA132220---L	1460	90.4	91.5	91.6	0.84	15.0	8.8	49.0	2.4	3.1	0.0424	83	68	
11	M2QA 160MA 4-FB	3GQA162310---L	1467	91.4	92.2	91.9	0.86	21.3	7.4	71.4	1.9	2.8	0.0892	126	68	
15	M2QA 160LA 4-FB	3GQA162510---L	1467	92.1	93.0	93.0	0.87	28.7	7.4	97.4	1.9	2.8	0.110	142	68	
18.5	M2QA 180MA 4-FB	3GQA182310---L	1464	92.6	93.5	93.7	0.88	34.5	5.9	120	1.8	2.6	0.148	163	65	
22	M2QA 180LA 4-FB	3GQA182510---L	1465	93.0	93.9	94.0	0.88	40.8	6.2	143	1.9	2.7	0.172	182	65	
30	M2QA 200LA 4-FB	3GQA202510---L	1473	93.6	94.2	94.1	0.88	55.3	6.1	194	1.8	2.6	0.253	243	72	
37	M2QA 225SA 4-FB	3GQA222110---L	1483	93.9	94.4	94.0	0.89	67.3	7.4	238	2.2	2.5	0.510	321	74	
45	M2QA 225MA 4-FB	3GQA222310---L	1480	94.2	94.6	94.4	0.88	82.5	7.1	290	2.1	2.5	0.534	336	74	
55	M2QA 250MA 4-FB	3GQA252310---L	1484	94.6	95.0	94.6	0.88	100.4	6.8	354	2.2	2.4	0.872	485	75	
75	M2QA 280SA 4-FB	3GQA282110---L	1486	95.0	95.3	95.1	0.89	134.8	6.8	482	2.6	2.5	1.51	581	69	
90	M2QA 280SMA 4-FB	3GQA282210---L	1485	95.2	95.6	95.5	0.90	160.4	6.9	579	2.7	2.5	1.82	646	69	
110	M2QA 315SA 4-FB	3GQA312110---L	1487	95.4	95.7	95.5	0.87	201.0	6.3	706	1.9	2.7	2.30	909	71	
132	M2QA 315MLA 4-FB	3GQA312410---L	1487	95.6	95.9	95.7	0.87	242.0	6.1	848	1.9	2.6	2.53	1018	71	
160	M2QA 315MLB 4-FB	3GQA312420---L	1487	95.8	96.1	96.0	0.86	295.0	6.3	1028	2.0	2.7	2.79	1020	71	
185	M2QA 315MLC 4-FB	3GQA312430---L	1486	95.9	96.3	96.3	0.87	337.0	6.2	1189	2.1	2.6	3.05	1032	73	
200	M2QA 315MLD 4-FB	3GQA312440---L	1486	96.0	96.4	96.4	0.87	364.0	6.1	1285	2.1	2.7	3.37	1056	74	
220	M2QA 355MLA 4-FB	3GQA352410---L	1488	96.0	96.0	95.5	0.88	396.0	6.0	1412	1.9	2.2	7.91	1520	78	
250	M2QA 355MLB 4-FB	3GQA352420---L	1486	96.0	96.2	95.9	0.88	450.0	5.9	1606	1.7	2.6	7.91	1531	78	
280	M2QA 355MLC 4-FB	3GQA352430---L	1488	96.0	96.1	95.8	0.88	504.0	6.5	1796	2.0	2.8	9.20	1645	78	
315	M2QA 355MLD 4-FB	3GQA352440---L	1486	96.0	96.3	96.2	0.88	567.0	6.6	2025	2.1	3.0	9.84	1809	78	

产品代码中的两个圆点表示可选的安装方式、电压及频率代码（见订购信息一页）。

The two bullets in the product code indicate choice of mounting arrangements, voltage and frequency code (see ordering information page).

I_s / I_N = 启动电流
T_I / T_N = 转子堵转转矩
T_B / T_N = 最大转矩

I_s / I_N = Starting current
T_I / T_N = Locked rotor torque
T_B / T_N = Breakdown torque

技术数据

Technical data

IE3

6P 380V 50Hz

三相全封闭鼠笼式电机的技术数据

Technical data for totally enclosed squirrel cage three phase motors

IP55 - IC411 绝缘等级 F

0.18-315kW,符合 GB 18613-2020 的 3 级能效 ,符合 IEC 60034-30-1:2014 的 IE3 效率等级

IP55 - IC411 Insulation class F

0.18-315kW, Grade 3 according to GB 18613-2020; IE3 according to IEC 60034-30-1:2014

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	电流 Current		转矩 / Torque			转动惯量 Moment of inertia	重量 Weight	声压等级 Sound pressure level, L _{PA}
				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			
1000 r/min = 6 极 / 6 poles			380 V	CENELEC- 设计 design											
0.37	M2QA 80MA 6-FB	3GQA083310---L	928	73.5	74.4	71.3	0.73	1.1	4.2	3.85	1.7	2.1	0.00212	17	42
0.55	M2QA 80MB 6-FB	3GQA083320---L	935	77.2	78.0	75.5	0.72	1.5	4.7	5.62	2.3	2.6	0.00338	21	42
0.75	M2QA 90SA 6-FB	3GQA093110---L	943	78.9	79.7	77.6	0.71	2.0	5.3	7.65	2.3	2.7	0.00457	25	53
1.1	M2QA 90LA 6-FB	3GQA093510---L	942	81.0	81.4	79.1	0.73	2.8	5.5	11.2	2.4	2.8	0.00635	32	53
1.5	M2QA 100LA 6-FB	3GQA103510---L	956	82.5	83.6	82.5	0.75	6.4	6.3	15.0	2.7	2.9	0.0144	41	48
2.2	M2QA 112MA 6-FB	3GQA113310---L	943	84.3	86.0	86.0	0.76	5.2	5.7	22.0	2.1	2.4	0.0185	53	48
3	M2QA 132SMA 6-FB	3GQA133210---L	970	85.6	86.2	84.9	0.72	7.4	7.0	29.4	2.1	2.4	0.0384	67	50
4	M2QA 132SMB 6-FB	3GQA133220---L	970	86.8	87.4	86.4	0.72	9.7	6.4	39.3	3.0	3.2	0.0613	75	50
5.5	M2QA 132SMC 6-FB	3GQA133230---L	969	88.0	88.7	88.0	0.75	12.7	8.1	54.0	2.9	3.2	0.0613	84	50
7.5	M2QA 160MA 6-FB	3GQA163310---L	975	89.1	90.0	89.6	0.80	16.0	7.1	73.6	2.2	2.8	0.131	132	60
11	M2QA 160LA 6-FB	3GQA163510---L	976	90.3	91.0	90.7	0.80	23.1	7.4	108	2.3	2.9	0.166	153	60
15	M2QA 180LA 6-FB	3GQA183510---L	974	91.2	92.0	91.8	0.83	30.1	5.9	147	2.1	2.5	0.236	176	60
18.5	M2QA 200LA 6-FB	3GQA203510---L	982	91.7	92.0	91.1	0.82	37.4	6.9	180	2.4	2.9	0.335	233	62
22	M2QA 200LB 6-FB	3GQA203520---L	981	92.2	92.7	92.2	0.84	43.2	6.6	214	2.2	2.7	0.390	259	62
30	M2QA 225MA 6-FB	3GQA223310---L	986	92.9	93.3	92.8	0.83	59.1	6.8	291	2.2	2.3	0.671	316	67
37	M2QA 250MA 6-FB	3GQA253310---L	987	93.3	93.6	93.0	0.86	70.1	6.8	358	2.6	2.7	1.16	432	65
45	M2QA 280SA 6-FB	3GQA283110---L	991	93.7	93.9	93.2	0.86	84.8	6.9	434	2.3	2.5	1.93	536	69
55	M2QA 280SMA 6-FB	3GQA283210---L	991	94.1	94.3	93.6	0.86	102.6	7.3	530	2.6	2.6	2.22	612	69
75	M2QA 315SA 6-FB	3GQA313110---L	993	94.6	94.9	94.4	0.85	142.5	6.1	721	1.6	2.3	3.72	954	75
90	M2QA 315MLA 6-FB	3GQA313410---L	993	94.9	95.3	95.0	0.85	169.0	6.5	866	1.8	2.7	4.32	1058	76
110	M2QA 315MLB 6-FB	3GQA313420---L	992	95.1	95.5	95.3	0.84	209.0	6.6	1058	1.9	2.8	4.98	1092	75
132	M2QA 315MLC 6-FB	3GQA313430---L	993	95.4	95.8	95.5	0.84	250.0	6.5	1269	2.0	2.7	5.89	1141	72
160	M2QA 355MLA 6-FB	3GQA353410---L	991	95.6	95.8	95.6	0.86	296.0	6.1	1542	1.9	2.7	9.86	1365	75
185	M2QA 355MLB 6-FB	3GQA353420-L	991	95.7	95.9	95.6	0.87	338.0	6.0	1783	1.8	2.6	10.90	1460	75
200	M2QA 355MLC 6-FB	3GQA353430---L	991	95.8	96.0	95.7	0.87	365.0	6.2	1926	1.9	2.6	11.9	1549	75
220	M2QA 355MLD 6-FB	3GQA353440-L	989	95.8	96.2	96.4	0.87	401.0	5.2	2125	1.6	2.2	12.8	1634	75
250	M2QA 355MLE 6-FB	3GQA353450---L	989	95.8	96.2	96.3	0.87	456.0	5.6	2413	1.8	2.4	13.6	1970	75

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I_s / I_N = 启动电流

T_I / T_N = 转子堵转转矩

T_B / T_N = 最大转矩

I_s / I_N = Starting current

T_I / T_N = Locked rotor torque

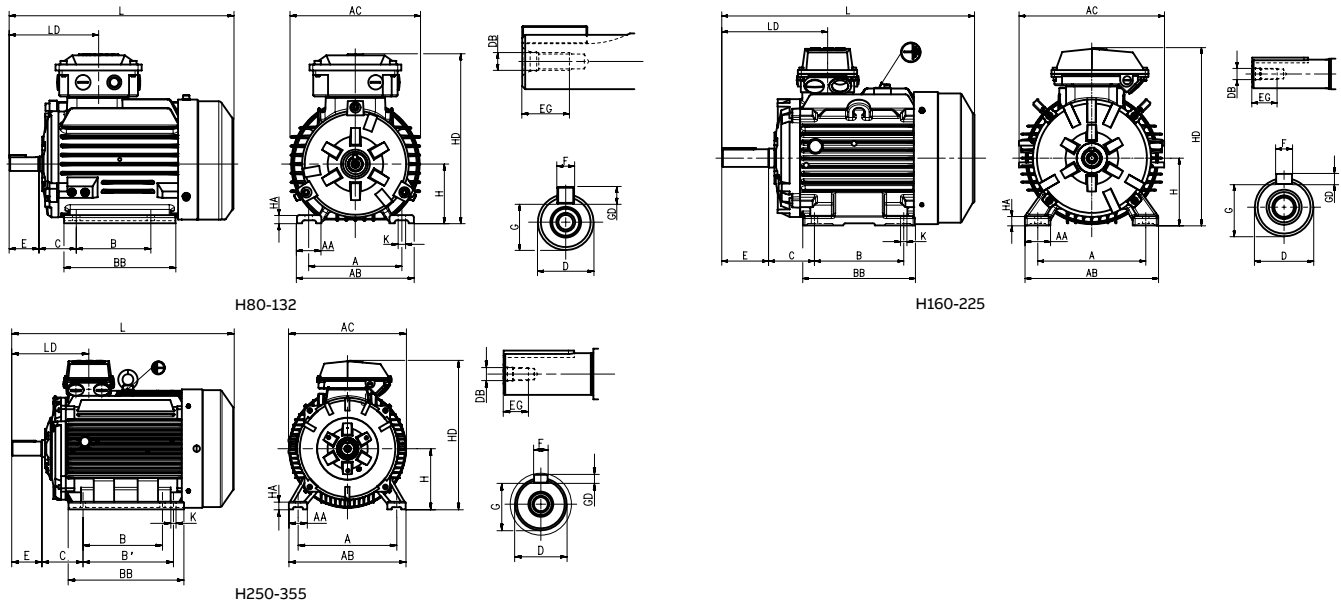
T_B / T_N = Breakdown torque

外形图及外形尺寸

Dimension drawings

底脚安装型电机 IM1001, B3

Foot-mounted motor IM1001, B3



电机尺寸 Motor size		极数 Poles	A	AA	AB	AC	B	B'	BB	C	D-tol.	DB	E	EG	F(h9)	G
M2QA	80M	2-8	125	35	160	180	100	-	150	50	19-j6	M6	40	16	6	15.5
	90S	2-8	140	35	175	185	100	-	165	56	24-j6	M8	50	19	8	20
	90L	2-8	140	35	175	185	125	-	200	56	24-j6	M8	50	19	8	20
	100L	2-8	160	40	200	205	140	-	220	63	28-j6	M10	60	22	8	24
	112M	2-8	190	50	240	225	140	-	240	70	28-j6	M10	60	22	8	24
	132SM	2-8	216	55	270	265	140	178	240	89	38-k6	M12	80	28	10	33
	160M	2-8	254	60	320	345	210	-	265	108	42k6	M16	110	36	12	37
	160L	2-8	254	60	320	345	254	-	310	108	42k6	M16	110	36	12	37
	180M	2-4	279	70	350	365	241	-	315	121	48k6	M16	110	36	14	42.5
	180L	4-8	279	70	350	365	279	-	350	121	48k6	M16	110	36	14	42.5
	200L	2-8	318	70	390	400	305	-	380	133	55m6	M20	110	39	16	49
	225S	4-8	356	75	435	450	286	-	375	149	60m6	M20	140	39	18	53
	225M	2	356	75	435	450	311	-	400	149	55m6	M20	110	39	16	49
	225M	4-8	356	75	435	450	311	-	400	149	60m6	M20	140	39	18	53
	250M	2	406	80	490	495	349	-	450	168	60m6	M20	140	39	18	53
	250M	4-8	406	80	490	495	349	-	450	168	65m6	M20	140	39	18	58
	280S	4-8	457	85	545	550	368	-	490	190	75m6	M20	140	39	20	67.5
	280SM	2	457	85	545	550	368	419	540	190	65m6	M20	140	39	18	58
	280SM	4-8	457	85	545	550	368	419	540	190	75m6	M20	140	39	20	67.5
	315S	2	508	120	635	635	406	-	575	216	65m6	M20	140	39	18	58
315S	4-8	508	120	635	635	406	-	575	216	80m6	M20	170	39	22	71	
315ML	2	508	120	635	635	457	508	685	216	65m6	M20	140	39	18	58	
315ML	4-8	508	120	635	635	457	508	685	216	80m6	M20	170	39	22	71	
355ML	2	610	120	730	725	560	630	755	254	70m6	M20	140	39	20	62.5	
355ML	4-8	610	120	730	725	560	630	755	254	100m6	M24	210	47	28	90	

上表给出了主要尺寸（单位：mm）
如需图纸详情，请访问我们的网页
www.abb.com/motors&generators 或联系 ABB。

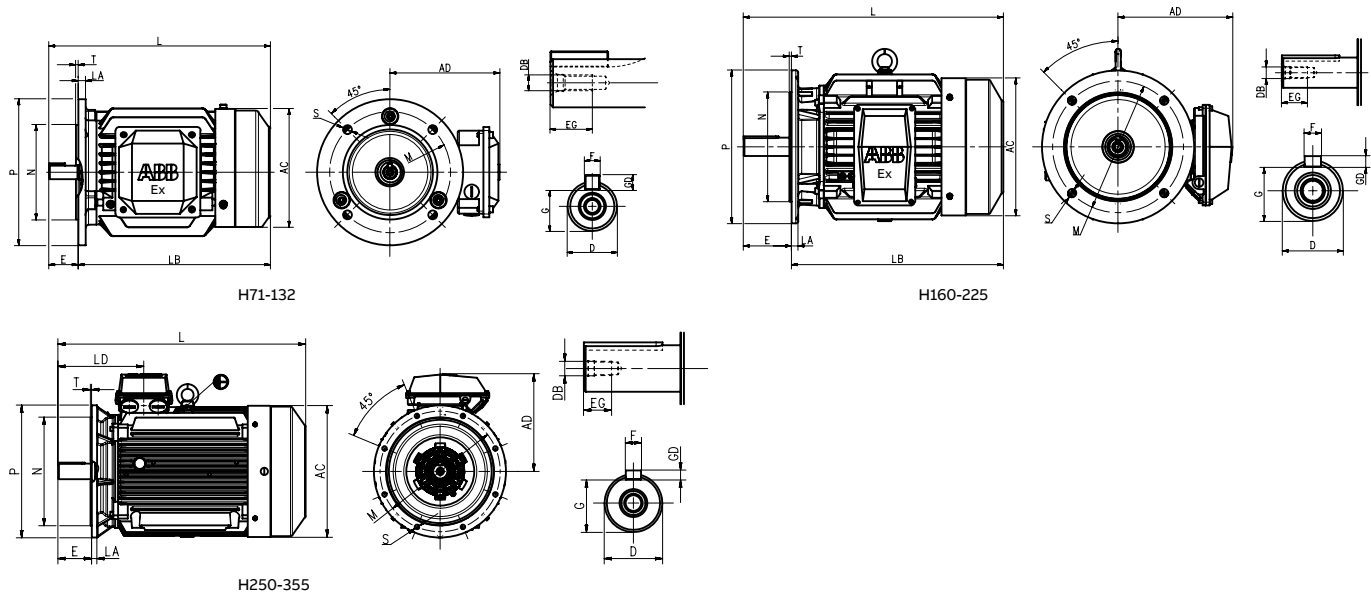
Above table gives the main dimensions in mm.
For detailed drawings please see our web-pages
www.abb.com/motors&generators or contact ABB.

外形图及外形尺寸

Dimension drawings

凸缘安装型电机 IM3001, B5

Flange-mounted motor IM3001, B5



电机尺寸 Motor size	极数 Poles	GD	H	HA	HD	K	L	LA	LD	AD	M	N	P	S	T
M2QA	80M	2-8	6	80	11	242	10	310	10	120	162	165	130	200	4-Ø12 3.5
	90S	2-8	7	90	12	257	10	340	10	128	167	165	130	200	4-Ø12 3.5
	90L	2-8	7	90	12	257	10	370	10	128	167	165	130	200	4-Ø12 3.5
	100L	2-8	7	100	12	294	12	420	11	143	194	215	180	250	4-Ø15 4
	112M	2-8	7	112	15	314	12	450	11	149	204	215	180	250	4-Ø15 4
	132SM	2-8	8	132	18	354	12	505	12	176	224	265	230	300	4-Ø15 4
	160M	2-8	8	160	22	430	15	600	15	249	265	300	250	350	4-Ø19 5
	160L	2-8	8	160	22	430	15	645	15	249	265	300	250	350	4-Ø19 5
	180M	2-8	9	180	22	460	15	670	18	267	275	300	250	350	4-Ø19 5
	180L	2-8	9	180	22	460	15	710	18	267	275	300	250	350	4-Ø19 5
	200L	2-8	10	200	25	530	19	770	20	283	325	350	300	400	4-Ø19 5
	225S	4-8	11	225	28	580	19	820	20	333	350	400	350	450	8-Ø19 5
	225M	2	10	225	28	580	19	815	20	303	350	400	350	450	8-Ø19 5
	225M	4-8	11	225	28	580	24	845	20	333	350	400	350	450	8-Ø19 5
	250M	2	11	250	30	630	24	935	22	347	380	500	450	550	8-Ø19 5
	250M	4-8	11	250	30	630	24	935	22	347	380	500	450	550	8-Ø19 5
	280S	4-8	12	280	35	690	24	985	22	357	410	500	450	550	8-Ø19 5
	280SM	2	11	280	35	690	24	1040	22	357	410	500	450	550	8-Ø19 5
	280SM	4-8	12	280	35	690	24	1040	22	357	410	500	450	550	8-Ø19 5
	315S	2	11	315	45	850	28	1190	22	397	535	600	550	660	8-Ø24 6
	315S	4-8	14	315	45	850	28	1220	22	427	535	600	550	660	8-Ø24 6
	315ML	2	11	315	45	860	28	1300	22	397	545	600	550	660	8-Ø24 6
	315ML	4-8	14	315	45	860	28	1330	22	427	545	600	550	660	8-Ø24 6
	355ML	2	12	355	52	940	35	1495	25	403	585	740	680	800	8-Ø24 6
	355ML	4-8	16	355	52	940	35	1565	25	473	585	740	680	800	8-Ø24 6

上表给出了主要尺寸（单位：mm）
如需图纸详情，请访问我们的网页
www.abb.com/motors&generators 或联系 ABB。

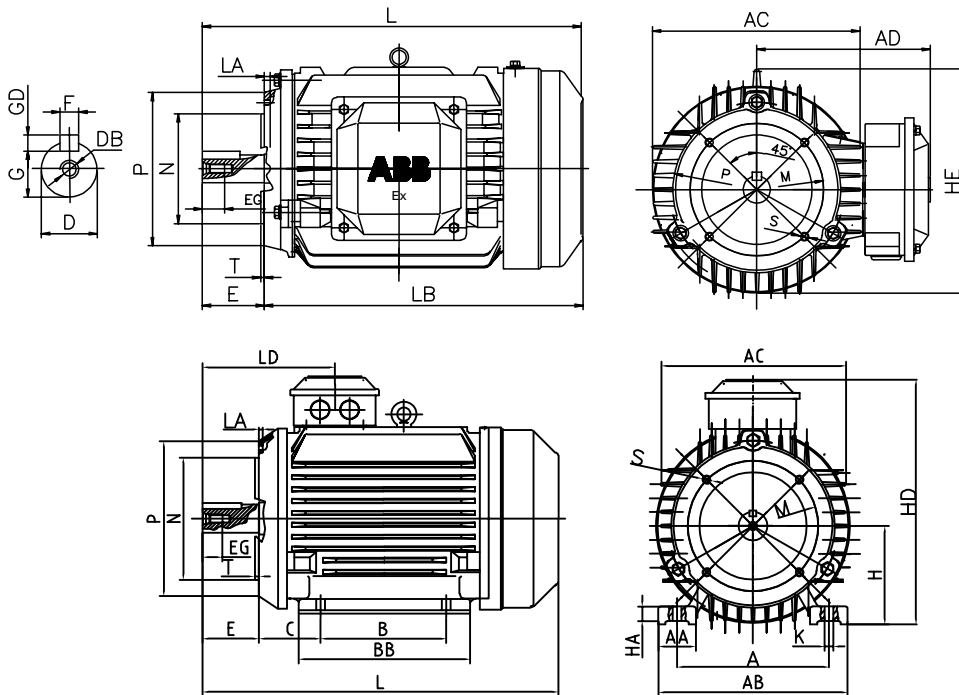
Above table gives the main dimensions in mm.
For detailed drawings please see our web-pages
www.abb.com/motors&generators or contact ABB.

外形图及外形尺寸

Dimension drawings

小凸缘安装型电机 IM3601, B14

Small flange-mounted motor IM3601, B14



电机尺寸 Motor size		极数 Poles	法兰尺寸 Size	LA	M	N	P	S	T
M2QA	80M	2-8	C120	8	100	80	120	4-M6	3.0
	80M	2-8	C160	10	130	110	160	4-M8	3.5
	90S	2-8	C140	10	115	95	140	4-M8	3.0
	90S	2-8	C160	10	130	110	160	4-M8	3.5
	90L	2-8	C140	10	115	95	140	4-M8	3.0
	90L	2-8	C160	10	130	110	160	4-M8	3.5
	100L	2-8	C160	10	130	110	160	4-M8	3.5
	100L	2-8	C200	12	165	130	200	4-M10	3.5
	112M	2-8	C160	10	130	110	160	4-M8	3.5
	112M	2-8	C200	12	165	130	200	4-M10	3.5
	132SM	2-8	C200	15	165	130	200	4-M10	3.5
	160M	2-8	C250	18	215	180	250	4-M12	4.0
160L	2-8	C250	18	215	180	250	4-M12	4.0	

上表给出了主要尺寸（单位：mm）
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Above table gives the main dimensions in mm.
For detailed drawings please see our web-pages
www.abb.com/motors&generators or contact ABB.

变量代码

Variant codes

多数变量代码同时适用于 IE2 和 IE3 电机，详情请咨询所在的销售区域中心。
Most of the variant codes apply to IE2 and IE3 motors. For details please contact you ABB sales office before making an order.

变量代码	描 述	M2QA												
		80	90	100	112	132	160	180	200	225	250	280	315	355
839	粉尘防爆 Ex tb, Dust group III C T130° C Db, IP65 Dust ignition proof design,Ex tb, Dust group III C T130° C Db, IP65	●	●	●	●	●	●	●	●	●	●	●	●	●
管理														
Administration														
865	正常质保期延长 1 年 One-year extension on standard warranty	●	●	●	●	●	●	●	●	●	●	●	●	●
530	正常质保期延长 2 年 Two-year extension on standard warranty	●	●	●	●	●	●	●	●	●	●	●	●	●
531	海运包装 Sea freight packing	●	●	●	●	●	●	●	●	●	●	●	●	●
533	木制海运包装 Wooden sea freight packing	●	●	●	●	●	●	●	●	●	●	●	●	●
平衡														
Balancing														
423	无键平衡 Balanced without key	●	●	●	●	●	●	●	●	●	●	●	●	●
424	全键平衡 Full-key balancing	●	●	●	●	●	●	●	●	●	●	●	●	●
轴承与润滑														
Bearings and Lubrication														
037	D 端圆柱滚子轴承 Roller bearing at D-end.	-	-	-	-	●	●	●	●	●	●	●	●	●
039	耐低温油脂 Cold-resistant grease	●	●	●	●	●	●	●	●	●	●	●	●	●
040	耐高温油脂 Heat-resistant grease	●	●	●	●	●	●	●	●	●	●	●	●	●
041	通过注油孔对轴承加油 Bearings regreasable via grease nipples.	-	-	-	●	●	●	●	●	●	○	○	○	○
043	SPM 振动测量接头 SPM compatible nipples for vibration measurement	-	-	-	●	●	●	●	●	●	●	●	●	●
130	轴承 Pt100(3 线) Pt100 3-wire in bearings.	-	-	-	●	●	●	●	●	●	●	●	●	●
798	不锈钢注油嘴 Stainless steel grease nipples	-	-	-	●	●	●	●	●	●	●	●	●	●
866	不锈钢 PT1/4 挂钩式注油嘴 Stainless steel grease nipples, PT1/4"	-	-	-	●	●	●	●	●	●	●	●	●	●
379	SKF 轴承 SKF bearing	●	●	●	●	●	●	●	●	●	●	●	●	●
部门标准设计														
Branch standard designs														
168	仅涂底漆 Primer paint only.	●	●	●	●	●	●	●	●	●	●	●	●	●
178	不锈钢 / 耐酸螺栓 Stainless steel / acid proof bolts.	●	●	●	●	●	●	●	●	●	●	●	●	●
209	非标电压或频率 (特殊绕组) Non-standard voltage or frequency, (special winding).	●	●	●	●	●	●	●	●	●	●	●	●	●
425	防腐蚀定子和转子 Corrosion protected stator and rotor core.	●	●	●	●	●	●	●	●	●	●	●	●	●
冷却系统														
Cooling system														
068	轻金属风扇 (合金) Light alloy metal fan	●	●	●	●	●	●	●	●	●	○	○	○	○

○ 标配 | ● 可选 | - 不适用
○ = Included as standard | ● = Available as option | - = Not applicable

变量代码

Variant codes

多数变量代码同时适用于 IE2 和 IE3 电机，详情请咨询所在的销售区域中心。
Most of the variant codes apply to IE2 and IE3 motors. For details please contact you ABB sales office before making an order.

变量代码	描述	M2QA												
Variant code	Description	80	90	100	112	132	160	180	200	225	250	280	315	355
文件材料														
Documentation														
141	配外形图 Binding 2D main dimension drawing.	●	●	●	●	●	●	●	●	●	●	●	●	●
接地螺栓														
Earthing Bolt														
067	外部接地螺栓 External earthing bolt.	○	○	○	○	○	○	○	○	○	○	○	○	○
加热元件														
Heating elements														
450	加热带 100-120V Heating element, 100-120 V	●	●	●	●	●	●	●	●	●	●	●	●	●
451	加热带 200-240V Heating element, 200 - 240 V	●	●	●	●	●	●	●	●	●	●	●	●	●
绝缘系统														
Insulation system														
014	H 级绝缘绕组 Winding insulation class H.	●	●	●	●	●	●	●	●	●	●	●	●	●
安装方式														
Mounting arrangements														
008	IM2101 底脚 / 法兰安装, IEC 法兰, 由 IM1001 派生 (B3 派生出 B34) IM 2101 foot/flange mounted, IEC flange, from IM 1001 (B34 from B3).	●	●	●	●	●	●	-	-	-	-	-	-	-
009	IM 2001 底脚 / 法兰安装, IEC 法兰, 由 IM 1001 派生 (B3 派生出 B35) IM 2001 foot/flange mounted, IEC flange, from IM 1001 (B35 from B3).	●	●	●	●	●	●	●	●	●	●	●	●	●
047	IM 3601 法兰安装, IEC 法兰, 由 IM 3001 派生 (B5 派生出 B14)IM 3601 flange mounted, IEC flange, from IM 3001 (B14 from B5).	●	●	●	●	●	●	-	-	-	-	-	-	-
066	非标安装方式 (请指定 IM xxxx) (除 B3(1001)、B5(30010、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)	●	●	●	●	●	●	●	●	●	●	●	●	●
584	加强型铸件 Cast iron material with increased tensile strenght	●	●	●	●	●	●	●	●	●	●	●	●	●
喷漆														
Painting														
114	特殊油漆颜色, 标准等级 Special paint color, standard grade	●	●	●	●	●	●	●	●	●	●	●	●	●
646	特殊油漆颜色 (ADB194-2012 之外) Special paint colour (China)	●	●	●	●	●	●	●	●	●	●	●	●	●
防护														
Protection														
005	金属防雨罩, 立式电机, 轴伸向下 Protective roof	●	●	●	●	●	●	●	●	●	●	●	●	●
铭牌和指示牌														
Rating & instruction plates														
135	安装额外不锈钢指示牌 Mounting of additional identification plate, stainless.	●	●	●	●	●	●	●	●	●	●	●	●	●
轴和转子														
Shaft & rotor														
069	标准双出轴 Two shaft extensions according to catalog drawings.	●	●	●	●	●	●	●	●	●	●	●	●	-
070	D 端特殊轴伸, 标准材料 Special shaft extension at D-End, standard shaft material	●	●	●	●	●	●	●	●	●	●	●	●	●

○ 标配 | ● 可选 | - 不适用
○ = Included as standard | ● = Available as option | - = Not applicable

变量代码

Variant codes

多数变量代码同时适用于 IE2 和 IE3 电机，详情请咨询所在的销售区域中心。
Most of the variant codes apply to IE2 and IE3 motors. For details please contact you ABB sales office before making an order.

变量代码 Variant code	描 述 Description	M2QA												
		80	90	100	112	132	160	180	200	225	250	280	315	355
164	闭口键槽轴伸 Shaft extension with closed keyway	●	●	●	●	●	●	●	●	●	●	●	●	●
165	开口键槽轴伸 Shaft extension with open keyway	○	○	○	○	○	○	○	○	○	○	○	○	○
410	不锈钢轴（仅限 SUS304、SUS316） Shaft material stainless steel	●	●	●	●	●	●	●	●	●	●	●	●	●
600	N 端特轴 Special shaft extension at N-end, standard shaft material.	●	●	●	●	●	●	●	●	●	●	●	●	●
631	转轴调质 Quenched and tempered shaft material	●	●	●	●	●	●	●	●	●	●	●	●	●
标准和规范 Standards and Regulations														
115	符合 ISO 12944-2:1998 的喷漆系统 C4M Painting system C4M acc. to ISO 12944-2: 1998.	●	●	●	●	●	●	●	●	●	●	●	●	●
定子绕组温度传感器 Stator winding temperature sensors														
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	●	●	●	●	●	●	●	●	●	●	●	●	●
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	●	●	●	●	●	●	●	●	●	●	●	●	●
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	●	●	●	●	●	●	●	●	●	●	●	●	●
440	定子绕组安装 PTC- 热敏电阻 (3 个串联,110°C 以及 3 个串联,130°C) PTC - thermistors (3 in series, 110°C & 3 in series, 130°C), in stator winding.	●	●	●	●	●	●	●	●	●	●	●	●	●
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	●	●	●	●	●	●	●	●	●	●	●	●	●
445	定子绕组安装 PT100(2 线), 每相 1 个 Pt100 2-wire in stator winding, 1 per phase	●	●	●	●	●	●	●	●	●	●	●	●	●
446	定子绕组安装 PT100(2 线), 每相 2 个 Pt100 2-wire in stator winding, 2 per phase	-	-	●	●	●	●	●	●	●	●	●	●	●
502	定子绕组安装 PT100(3 线), 每相 1 个 Pt100 3-wire in stator winding, 1 per phase	●	●	●	●	●	●	●	●	●	●	●	●	●
503	定子绕组安装 PT100(3 线), 每相 2 个 Pt100 3-wire in stator winding, 2 per phase	-	-	-	-	-	-	●	●	●	●	●	●	●
接线盒 Terminal box														
021	左侧接线盒 (从 D 端看) Terminal box LHS (seen from D-end).	●	●	●	●	●	●	●	●	●	●	●	●	●
022	电缆进线孔在左侧 (从 D 端看) Cable entry LHS (seen from D-end).	●	●	●	●	●	●	●	●	●	●	●	●	●
180	右侧接线盒 (从 D 端看) Terminal box RHS (seen from D-end).	●	●	●	●	●	●	●	●	●	●	●	●	●
400	4 x 90 度可转动的接线盒 4 x 90 degr turnable terminal box.	○	○	○	○	○	●	●	●	●	●	●	●	●
418	独立的辅助接线盒, 标准材料 Separate terminal box for auxiliaries, standard material.	-	-	-	-	-	●	●	●	●	●	●	●	●
468	电缆进线孔朝 D 端 Cable entry from D-end.	●	●	●	●	●	●	●	●	●	●	●	●	●
469	电缆进线孔朝 N 端 Cable entry from N-end.	-	-	-	-	-	●	●	●	●	●	●	●	●
230	标准金属电缆密封管 Standard metal cable gland.	●	●	●	●	●	●	●	●	●	●	●	●	●

○ 标配 | ● 可选 | - 不适用
○ = Included as standard | ● = Available as option | - = Not applicable

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[illegible]

低压粉尘防爆电机简介

Low voltage dust ignition proof motors in brief

机座号 80-132

Frame size 80-132

电机尺寸 Motor size		80	90	100	112	132
机座与端盖 Stator and 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	C3 (中等) C3 (medium)				
底脚 Feet		一体式铸铁底脚 Integrated cast iron feet				
轴承 Bearings	D 端 D-end	6204-2Z/C3	6205-2Z/C3	6206-2Z/C3	6207-2Z/C3	6208-2Z/C3
	N 端 N-end	6204-2Z/C3	6205-2Z/C3	6206-2Z/C3	6206-2Z/C3	6207-2Z/C3
轴向锁定轴承 Axially locked bearings		D 端锁定 Locked at D-end				
轴承密封 Bearing seals	D 端 D-end	径向密封 Radial seal				
	N 端 N-end	无 NA				
润滑 Lubrication		封闭式轴承 Bearings greased for life				
铭牌 Rating plate	材料 Material	不锈钢 Stainless steel				
接线盒 Terminal box	接线盒材料 Frame material	铸铁 Cast iron				
	接线盒盖材料 Cover material	铸铁 Cast iron				
	防腐蚀等级 Corrosion class	C3 (中等) C3 (medium)				
	螺钉 Screws	电镀锌钢 Zinc-electroplated steel				
	螺纹孔 Threaded openings	2-M25*1.5		2-M32*1.5		
连接件 Connections	接线 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	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	C3 (中等) C3 (medium)				
定子绕组 Stator winding	材料 Material	铜 Copper				
	绝缘 Insulation	F 级绝缘, 除非另有规定 Insulation class F, unless otherwise stated				
	绕组保护 Winding protection	可选 As option				
转子绕组 Rotor winding	材料 Material	压铸铝 Pressure die-cast aluminum				
平衡方法 Balancing method		半键平衡 Half-key balancing as standard				
键槽 Keyway		开口槽 Open keyway				
防护等级 Enclosure		IP65				
冷却方式 Cooling method		IC 411				
吊环 Lifting lug		无 NA	分体式钢制吊环, 通过吊环螺栓连接到机座 Separate steel lifting lug, bolted to the stator			

低压粉尘防爆电机简介

Low voltage dust ignition proof motors in brief

机座号 160-225

Frame size 160-225

电机尺寸 Motor size		160	180	200	225
机座与端盖 Stator and 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	C3 (中等) C3 (medium)			
底脚 Feet		一体式铸铁底脚 Integrated cast iron feet			
轴承 Bearings	D 端 D-end	6309-2Z/C3	6310-2Z/C3	6312-2Z/C3	6313-2Z/C3
	N 端 N-end	6209-2Z/C3	6210-2Z/C3	6212-2Z/C3	6213-2Z/C3
轴向锁定轴承 Axially locked bearings		D 端锁定 Locked at D-end			
轴承密封 Bearing seals	D 端 D-end	径向密封 Radial seal			
	N 端 N-end	无 NA			
润滑 Lubrication		封闭式轴承 Bearings greased for life			
铭牌 Rating plate	材料 Material	不锈钢 Stainless steel			
接线盒 Terminal box	接线盒材料 Frame material	铸铁 Cast iron			
	接线盒盖材料 Cover material	铸铁 Cast iron			
	防腐蚀等级 Corrosion class	C3 (中等) C3 (medium)			
	螺钉 Screws	电镀锌钢 Zinc-electroplated steel			
	螺纹孔 Threaded openings	2-M40*1.5		2-M50*1.5	
连接件 Connections	接线 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			铝 Aluminum
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	C3 (中等) C3 (medium)			
定子绕组 Stator winding	材料 Material	铜 Copper			
	绝缘 Insulation	F 级绝缘, 除非另有规定 Insulation class F, unless otherwise stated			
	绕组保护 Winding protection	可选 As option			
转子绕组 Rotor winding	材料 Material	压铸铝 Pressure die-cast aluminum			
平衡方法 Balancing method		半键平衡 Half-key balancing as standard			
键槽 Keyway		开口槽 Open keyway			
防护等级 Enclosure		IP65			
冷却方式 Cooling method		IC 411			
吊环 Lifting lug		B3: 一体式铸铁吊环 ;B5: 分体式钢制吊环, 通过吊环螺纹连接到机座 B3:Integrated cast iron lifting lug;B5:Separate steel lifting lug, bolted to the stator			分体式钢制吊环, 通过吊环螺纹连接到机座 Separate steel lifting lug, bolted to the stator

低压粉尘防爆电机简介

机座号 250-355

Low voltage dust ignition proof motors in brief

Frame size 250-355

电机尺寸 Motor size		250	280	315	355
机座与端盖 Stator and 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	C3 (中等) C3 (medium)			
底脚 Feet		一体式铸铁底脚 Integrated cast iron feet			
轴承 Bearings	D 端 D-end	6314/C3	6316/C4(2P) 6316/C3(4-8P)	6316/C4(2P) 6319/C3(4-8P)	63169M/C4(2P) 6322/C3(4-8P)
	N 端 N-end	6214/C3	6316/C4(2P) 6319/C3(4-8P)	6316/C4(2P) 6319/C3(4-8P)	6319M/C4(2P) 6319/C3(4-8P)
轴向锁定轴承 Axially locked bearings		D 端锁定 Locked at D-end			
轴承密封 Bearing seals	D 端 D-end	径向密封 Radial seal			
	N 端 N-end	径向密封 Radial seal			
润滑 Lubrication		可润滑轴承 Regreasable bearings			
铭牌 Rating plate	材料 Material	不锈钢 Stainless steel			
接线盒 Terminal box	接线盒材料 Frame material	铸铁 Cast iron			
	接线盒盖材料 Cover material	铸铁 Cast iron			
	防腐蚀等级 Corrosion class	C3 (中等) C3 (medium)			
	螺钉 Screws	电镀锌钢 Zinc-electroplated steel			
	螺纹孔 Threaded openings	2-M63*1.5		2-M63*1.5	
连接件 Connections	接线 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或铝 Glass-fiber reinforced polypropylene or aluminum			
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	C3 (中等) C3 (medium)			
定子绕组 Stator winding	材料 Material	铜 Copper			
	绝缘 Insulation	F 级绝缘, 除非另有规定 Insulation class F. unless otherwise stated			
	绕组保护 Winding protection	可选 As option			
转子绕组 Rotor winding	材料 Material	压铸铝 Pressure die-cast aluminum			
平衡方法 Balancing method		半键平衡 Half-key balancing as standard			
键槽 Keyway		开口槽 Open keyway			
防护等级 Enclosure		IP65			
冷却方式 Cooling method		IC 411			
吊环 Lifting lug		分体式钢制吊环, 通过吊环螺纹连接到机座 Separate steel lifting lug, bolted to the stator			



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