



MQAEJ/QAEJ系列 电磁制动三相异步电动机

Power and productivity
for a better world™



公司简介

上海ABB电机有限公司成立于1995年12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、制动电机、户外电机、无火花电机、铝壳电机、磨头电机。并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 December 1995, 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, 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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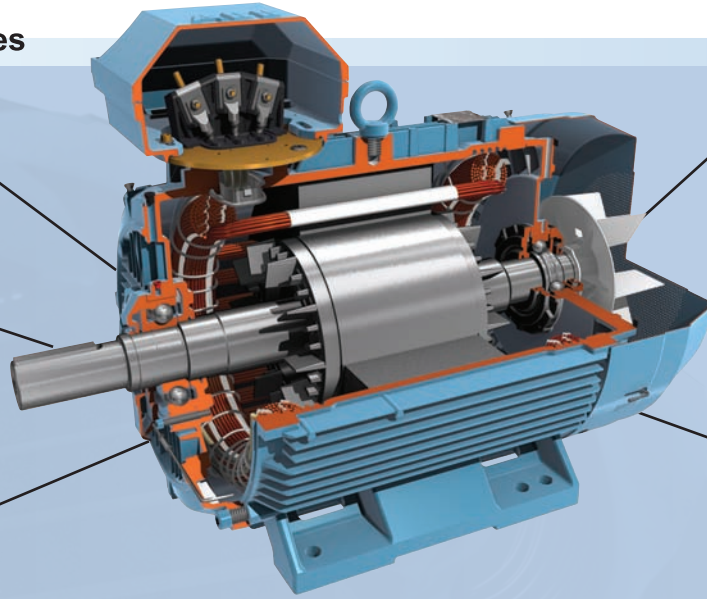
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ABB电机产品特点
ABB Motors Features

可靠
High Reliability

高效
High Efficiency

一致
Excellent Consistency



低噪音
Low Noise

高灵活性
High Flexibility

MQAEJ/QAEJ 系列突出特点

- ❖ 功率范围大，符合各种设备的制动需求。
- ❖ 制动时间短、制动性能可靠，适用于各种精确控制场合。
- ❖ 通用性高，能够与国内外多种制动器匹配。

Outstanding Features of MQAEJ/QAEJ Motors

- ❖ Thanks to short braking time and reliable braking performance, the MQAEJ/QAEJ motors are suitable for a wide range of different applications and areas.
- ❖ ABB supplies brake motors with domestic or imported brakes.

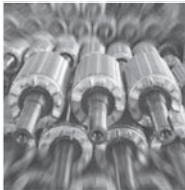




产品概述

MQAEJ/QAEJ系列电磁制动三相异步电动机（H71-H225）

MQAEJ/QAEJ系列电磁制动三相异步电动机为M2QA系列电机结构派生产品，附加电磁制动器，电机适用于各种有失电制动，定位要求的设备或自动流水线。它是工业现代化中的一种理想的驱动装置，广泛应用于木工机械、齿轮减速及各种金属切削机床、轻工生产线、纺织机械、化工机械、建筑行业等。



Summary

MQAEJ/QAEJ Series Electromagnetic Brake Three-phase Induction Motors (H71-H225)

Structurally derived from M2QA series motors, MQAEJ/QAEJ series electromagnetic brake three-phase induction motors are designed with an additional electromagnetic brake. These motors are suitable in areas where requirements of deenergized brake and position are needed. MQAEJ/QAEJ motors are frequently used in wood processing machineries, gear reducers, machine tools, light industrial machinery, textile machinery, chemical and construction industry, etc.

标准

1. 电机按照国际标准设计制造
 - ❖ 国际电工委员会IEC 60034、IEC 60072。
 - ❖ 英国标准BS 4999。
 - ❖ 澳大利亚标准AS 1359-2。
 - ❖ 德国标准DIN 42673
2. 电机符合下列标准
 - ❖ GB 755
 - ❖ GB 10069
 - ❖ Q/JBQS 34

Standards

1. These motors are built to comply with current International Standards.
 - ❖ International Electro-technical Commission- IEC 60034 and IEC 60072.
 - ❖ British Standard-BS 4999.
 - ❖ Australian Standard-AS 1359-2.
 - ❖ German Standard-DIN 42673.
2. These motors are built to comply with current National Standards.
 - ❖ GB 755
 - ❖ GB 10069
 - ❖ Q/JBQS 34



合理的结构设计

❖ 结构与原理

MQAEJ, QAEJ系列电磁制动三相异步电动机为失电制动电机，其直流圆盘制动器安装在电动机非轴伸端的端盖上。工作原理是：当电机接入电源时，制动器的整流器同时接通电源，由于电磁吸力作用，电磁铁吸引衔铁并压缩弹簧，制动盘与衔铁、端盖脱开，电机运转，当切断电源时，制动器电磁铁失去电磁吸力，弹簧力推动衔铁压紧制动盘，在摩擦力矩的作用下，电机立即停止转动。

❖ 灵活的引出线方向

电机接线盒安装在电机顶部、右侧或左侧，接线盒自身可旋转安装，接线盒可旋转 $2 \times 180^\circ$ 方向。用户在订货时需注明接线盒安装方式及引出线方向。

❖ 美观的电机造型

机座散热筋设计成垂直、水平分布，端盖、接线盒、风罩均作改进设计，外形别致美观。

Mechanical Design

❖ Construction and Principle

The DC disk-brake of the MQAE, QAEJ series motors is mounted on the endshield at the nondrive end. The principle for the brake is when power is on, the electromagnetic brake starts up. By the action of electromagnetic force, the iron core attracts the armature and compresses the spring, when the brake disk is separated from the armature and endshield, the motor begins to run. When power is off, the iron core of the brake loses electromagnetic force, when the armature is pulled by the spring to compress the brake disk, the motor is stopped at once by the moment of friction.

❖ Terminal boxes

Terminal boxes are mounted either on the top, or on either side of the motor. The terminal box of motors rotated $2 \times 180^\circ$. To enable the supply of suitable terminations for the motor, please state cable type, quantity and size when ordering.

❖ Polished outward appearance

The external design of the motors is consistent with the design of the ABB "M2000" family. The frame, cooling ribs, terminal box and fan cover have been reshaped to meet customer's design preference.

优越的电机性能

- ❖ 低噪声、低振动
通过设计及工艺的改进，MQAEJ、QAEJ系列电机在噪声、振动上有了大幅度降低，并达到先进水平。
- ❖ 高性能的防护等级
电机的标准设计防护等级为IP55，可按用户要求提供更高要求的防护等级。
- ❖ 提高绝缘等级，增加电机使用寿命
标准电机采用F级绝缘结构，从而提高电机使用寿命，增加了电机可靠性。

Electrical Design

- ❖ Minimum Noise and Vibration levels
Careful attention to design and manufacturing details has allowed International Standards to be comfortably met.
- ❖ Maximum Degrees of Protection
All ABB motors are protected to IP55 as a minimum. Higher levels of protection are available on request.
- ❖ Class F insulation offers greater reliability and security.
Standard motors have Class F insulation, with a Class B temperature rise to offer more reliability and security in operation, through increased thermal margins.

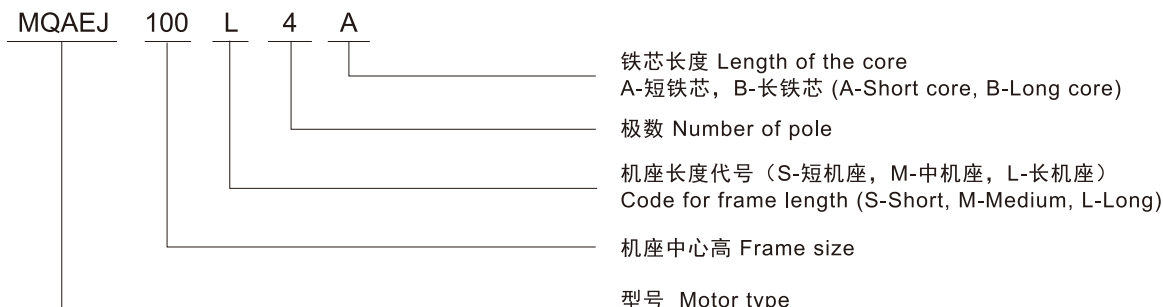
众多的选择满足各种用户需求

- ❖ 加装热敏电阻。
- ❖ 加装加热带。
- ❖ 加装防尘密封圈。
- ❖ 加装防油密封圈。
- ❖ 改装特殊法兰。
- ❖ 改装特殊轴伸等各种需求。

Special Requirements Can be Supplied on Request

- ❖ Thermistors
- ❖ Anti-condensation heaters
- ❖ Dust-proof
- ❖ Oil seals
- ❖ Non standard flanges
- ❖ Non standard shaft extensions

型号说明 Type Designation



A类制动器——进口品牌制动器, 防护等级为IP55

B类制动器——国产品牌制动器, 防护等级为IP55

A electromagnetic brake——Import brand, protection class IP55

B electromagnetic brake——Domestic brand, protection class IP55

MQAEJ motor with B type Brake
QAEJ motor with A type Brake

使用条件

- ❖ 海拔不超过1000m。
- ❖ 环境空气温度随季节而变化, 但不超过+40°C。

Conditions of Operation

- ❖ An altitude should not be over 1,000 meters above sea level.
- ❖ An ambient temperature not exceeding+40°C.

电压、频率及工作方式

- ❖ 工作电压和额定频率:
额定功率3kW及以下: 220~240V / 380~420V 50Hz
额定功率3kW以上: 380~420V / 660~690V 50Hz
- ❖ 工作方式: 连续 (S1)
- ❖ 绝缘等级: F

Voltage, Frequency And Duty

- ❖ Voltage Rated frequency:
Power 3kW and low: 220~240V / 380~420V 50Hz
Power Over 3kW: 380~420V / 660~690V 50Hz
- ❖ Duty: continuous (S1)
- ❖ Insulation class: F

进口轴承型号、出线孔尺寸: Bearings and Terminal Boxes

型号 Type	极数 Poles	轴承型号 Bearing type		接线盒出线孔尺寸 Cable entry (mm)
		轴伸端 D-end	非轴伸端 N-end	
71M	2, 4, 6	6202 C3	6202 C3	M24 X 1.5
80M	2, 4, 6, 8	6204 C3	6204 C3	M24 X 1.5
90S	2, 4, 6, 8	6205 C3	6205 C3	M24 X 1.5
90L	2, 4, 6, 8	6205 C3	6205 C3	M24 X 1.5
100L	2, 4, 6, 8	6206 C3	6206 C3	M30 X 2
112M	2, 4, 6, 8	6207 C3	6207 C3	M30 X 2
132S	2, 4, 6, 8	6208 C3	6208 C3	M30 X 2
132M	4, 6, 8	6208 C3	6208 C3	M30 X 2
160M	2, 4, 6, 8	6209 C3	6209 C3	M36 X 2
160L	2, 4, 6, 8	6209 C3	6209 C3	M36 X 2
180M	2, 4	6310 C3	6210 C3	M36 X 2
180L	4, 6, 8	6310 C3	6210 C3	M36 X 2
200L	2, 4, 6, 8	6312 C3	6212 C3	M48 X 2
225S	4, 8	6313 C3	6213 C3	M48 X 2
225M	2, 4, 6, 8	6313 C3	6213 C3	M48 X 2

注: 上述轴承是进口封闭式轴承。

制动器参数： Electromagnetic Brake Data

机座号 Frame No	工作气隙 Air Gap mm	静制动力矩 Static Braking torque Nm	空载制动时间 N-load brake lag time ms	励磁功率 Energizing W
	A类/B类	A类/B类	A类/B类	A类/B类
71	0.2/0.2	4/4	28/30	20/20
80		8/8	31/32	25/25
90		16/16	47/45	30/30
100	0.3/0.3	32/32	53/56	40/40
112		60/60	42/57	50/50
132		80/80	57/60	55/55
160	0.4/0.4	150/150	78/78	85/85
180	0.4/0.4	260/260	165/165	100/100
200	0.5/0.5	400/400	230/230	110/110
225				

注：1. 空载制动时间是指直流开关在正常间隙和正常线圈温度下制动器响应时间。该时间很大程度上取决于工作间隙的值和调整方法。交流开关的吸合时间约比直流开关高10倍。
2. 制动器默认为力矩不可调，力矩可调整须特殊订货。
3. 制动器制动电压默认为220VAC-205VDC，特殊要求须订单备注。

Note: 1.The no load brake lag time is the brake lag time when you cut off the DC power supply with the nominal gap and nominal temperature of winding.This time depends on the value of the gap and the adjustment method.The brake lag time cut by the AC power supply is about ten times longer than cut by the DC power supply.
2.Braking torque as default is not adjustable, so braking torque adjustable severs as special order.
3.The default braking voltage is 220VAC-205VDC, other voltage must be given in remark.

制动器列表/Brake List

制动器型号/Brake Type	适用中心高/Frame Size	防护等级/IP	
INTORO BFK458	QAEJ H71-225	IP55	Standard
REACH REB04	MQAEJ H71-132	IP55	Standard
UHT B	MQAEJ H160-225	IP55	Standard
PRECIMA FDB	QAEJ H71-225	IP56	Optional
INTORO BFK459	QAEJ H71-132	IP55	Optional
UHT B	MQAEJ H71-132	IP55	Optional

出线端标志：

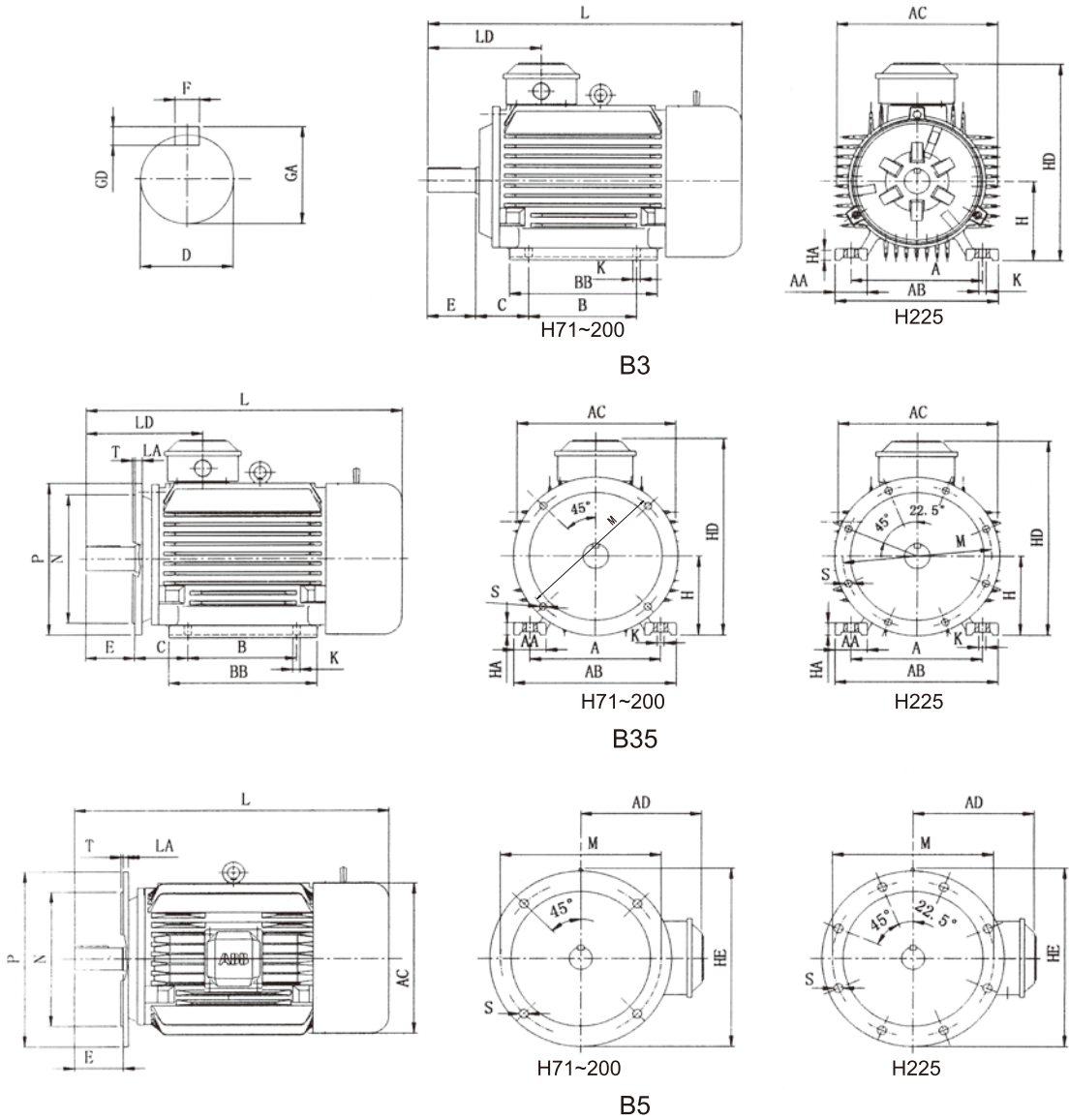
电动机定子绕组六个出线端和励磁线圈的二个出线端在接线板的接线位置的标志如下表：

Outlet Terminal Marks

Marks of 6 outlet terminals for motor stator winding & 2 outlet terminals for exciting coil located on the terminals plate are shown as follows:

绕组名称 Winding		出线端标志 Outlet Terminal Marks	
		始端 At the start	末端 At the end
定子绕组 Stator Winding	第一组 1st phase	U1	U2
	第二组 2st phase	V1	V2
	第三组 3st phase	W1	W2
励磁线圈 Exciting Coil.		+	-

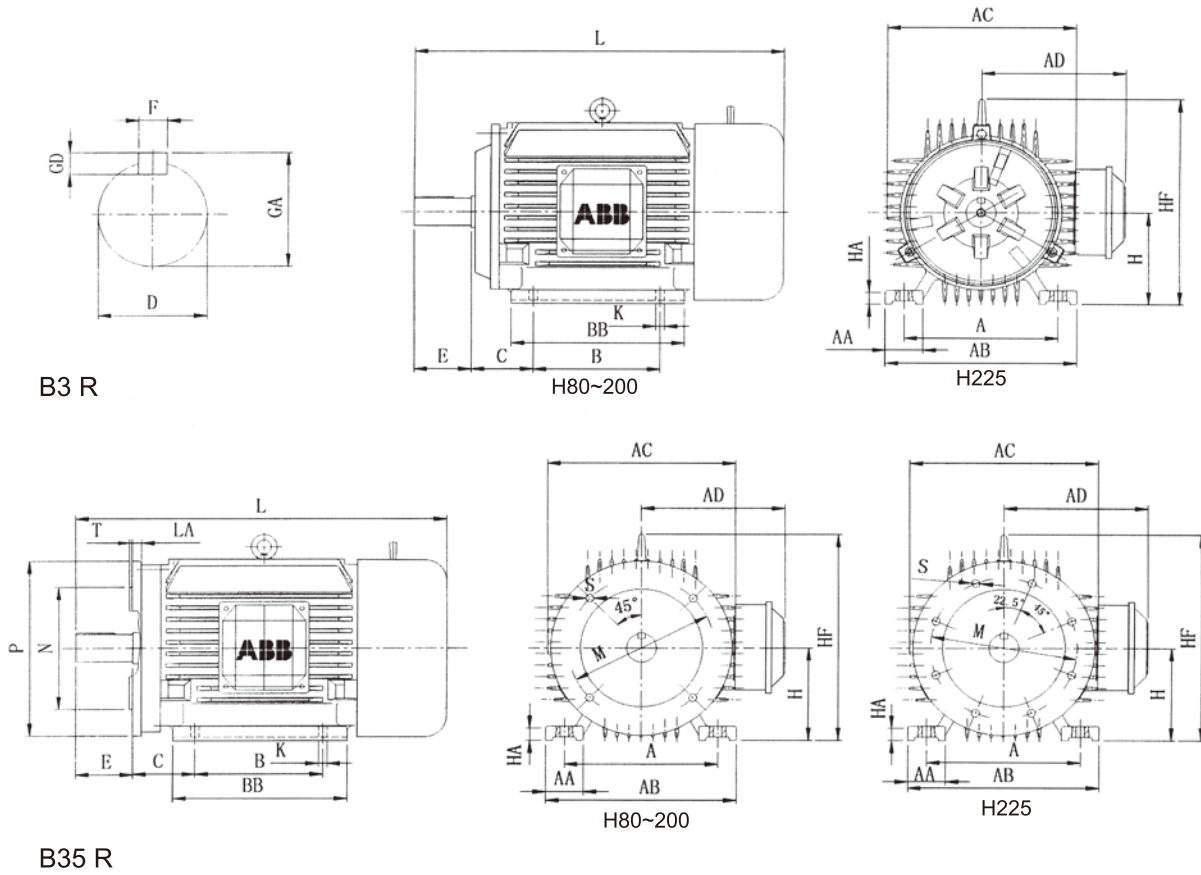
电动机外形图 Dimension Drawing



Type MQAEJ QAEJ	Poles	A	AA	AB	AC	B	BB	C	D	E	F	GA	GD	H	HA
71M	2-6	112	30	145	145	90	120	45	14-j6	30	5	16	5	71	10
80M	2-8	125	35	160	165	100	135	50	19-j6	40	6	21.5	6	80	12
90S	2-8	140	35	175	180	100	140	56	24-j6	50	8	27	7	90	12
90L	2-8	140	35	175	180	125	165	56	24-j6	50	8	27	7	90	12
100L	2-8	160	40	200	205	140	180	63	28-j6	60	8	31	7	100	15
112M	2-8	190	50	235	225	140	190	70	28-j6	60	8	31	7	112	15
132S	2-8	216	55	270	265	140	205	89	38-k6	80	10	41	8	132	18
132M	4-8	216	55	270	265	178	240	89	38-k6	80	10	41	8	132	18
160M	2-8	254	60	325	330	210	265	108	42-k6	110	12	45	8	160	22
160L	2-8	254	60	325	330	254	310	108	42-k6	110	12	45	8	160	22
180M	2-4	279	70	350	355	241	315	121	48-k6	110	14	51.5	9	180	22
180L	4-8	279	70	350	350	279	350	121	48-k6	110	14	51.5	9	180	22
200L	2-8	318	70	390	395	305	380	133	55-m6	110	16	59	10	200	25
225S	4-8	356	75	435	440	286	380	149	60-m6	140	18	64	11	225	28
225M	2	356	75	435	450	311	405	149	55-m6	110	16	59	10	225	28
225M	4-8	356	75	435	450	311	405	149	60-m6	140	18	64	11	225	28

注1: 71-90机座无吊攀, HF尺寸是从机座底脚平面至机座散热筋顶部。
 注2: 71机座接线盒在顶部。

电动机外形图 Dimension Drawing

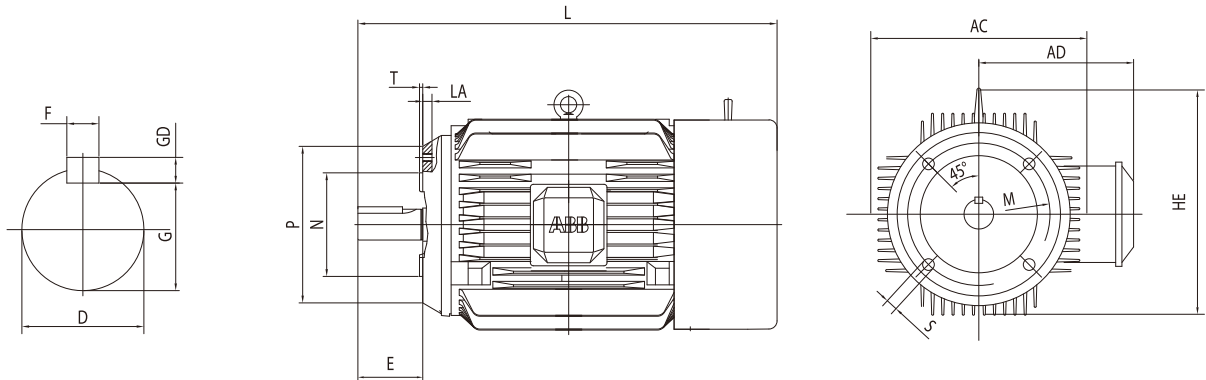


Type MQAEJ QAEJ	Poles	HD	K	L	LD	AD	LA	M	N	P	S	T	HE	HF
71M	2-6	200	7	311	100	---	9	130	110	160	4-10	3.5	---	---
80M	2-8	225	10	344	116	145	9	165	130	200	4-12	3.5	200	170
90S	2-8	240	10	377	128	150	10	165	130	200	4-12	3.5	200	185
90L	2-8	240	10	402	128	150	10	165	130	200	4-12	3.5	200	185
100L	2-8	275	12	455	138	175	11	215	180	250	4-15	4	270	245
112M	2-8	290	12	482	144	185	11	215	180	250	4-15	4	278	265
132S	2-8	335	12	560	169	205	12	265	230	300	4-15	4	320	300
132M	4-8	335	12	600	169	205	12	265	230	300	4-15	4	320	300
160M	2-8	420	15	710	250	260	15	300	250	350	4-19	5	400	380
160L	2-8	420	15	755	250	260	15	300	250	350	4-19	5	400	380
180M	2-4	455	15	800	270	275	18	300	250	350	4-19	5	420	420
180L	4-8	455	15	840	270	275	18	300	250	350	4-19	5	420	420
200L	2-8	530	19	910	285	325	20	350	300	400	8-19	5	470	470
225S	4-8	580	19	960	340	355	20	400	350	450	8-19	5	520	520
225M	2	580	19	955	310	355	20	400	350	450	8-19	5	520	520
225M	4-8	580	19	980	340	355	20	400	350	450	8-19	5	520	520

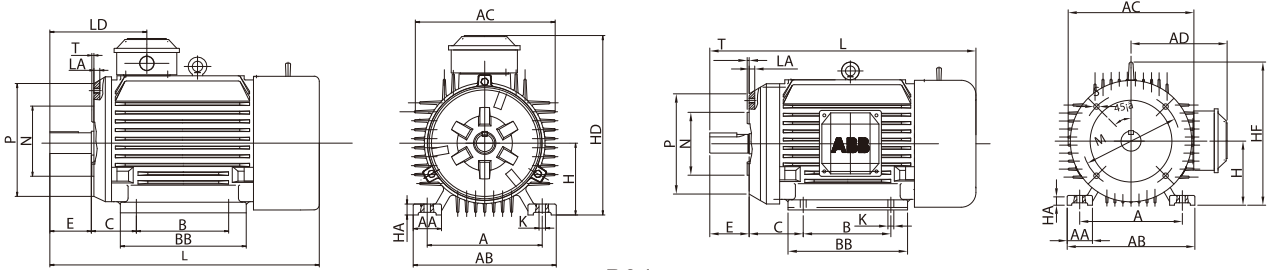
Note 1: Frame 71 and 90 without eyebolt. Hf dimensions refer to the distance from the frame foot-plane to the top of the outer enclosure.

Note 2: Terminal boxes of the frame 71 are mounted on top the motor.

电动机外形图 Dimension Drawing



B14



B34

Type MQAEJ QAEJ	Poles	A	AA	AB	AC	B	BB	C	D	E	F	GA	GD	H	HA	HD	K	L	LD	AD	LA	T	HE	HF
71M	2-6	112	30	145	145	90	120	45	14	30	5	16	5	71	10	200	7	311	100	---	9	3.5	---	---
80M	2-8	125	35	165	165	100	135	50	19	40	6	21.5	6	80	12	225	10	344	116	145	9	3.5	200	170
90S	2-8	140	35	175	180	100	140	56	24	50	8	27	7	90	12	240	10	377	128	150	10	3.5	200	185
90L	2-8	140	35	175	180	125	165	56	24	50	8	27	7	90	12	240	10	402	128	150	10	3.5	200	185
100L	2-8	160	40	200	205	140	180	63	28	60	8	31	7	100	14	275	12	455	138	175	11	4	270	245
112M	2-8	190	50	235	225	140	190	70	28	60	8	31	7	112	15	290	12	482	144	185	11	4	278	265
132S	2-8	216	55	270	265	140	205	89	38	80	10	41	8	132	18	335	12	560	169	205	15	3.5	320	300
132M	2-8	216	55	270	265	178	240	89	38	80	10	41	8	132	18	335	12	600	169	205	15	3.5	320	300
160M	2-8	254	60	325	330	210	265	108	42	110	12	45	8	160	22	415	15	710	250	255	18	4	400	380
160L	2-8	254	60	325	330	254	310	108	42	110	12	45	8	160	22	415	15	755	250	255	18	4	400	380

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