

1MT0003 隔爆型三相异步电动机  
1MT0003 series Flameproof Low Voltage  
Three-phase Asynchronous Motor

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产品样本 Catalog  
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为更好应对气候变化，快速响应市场需求，聚焦提升能效与可靠性的创新，推动产业绿色低碳转型和可持续发展。2023年7月1日，西门子将其低压至高压电机、齿轮电机、中压变频器和电主轴领域等相关业务进行整合，成立了茵梦达（Innomotics GmbH）。茵梦达总部位于德国纽伦堡，业务遍及全球49个国家，拥有16家工厂，全球员工约15000名。

凭借百余年技术积淀和创新，茵梦达将专注于电机和大型传动专业领域。作为行业领军企业，茵梦达将不断推动工业化进程和可持续发展。

茵梦达在华拥有5家运营公司（包括一家区域总部和4家工厂），13家分公司和6家研发中心，其中在南京设立了“茵梦达低压电机事业部全球研发中心”，员工总数约3500人，是茵梦达在全球主要的研发和制造基地。



茵梦达电机（中国）有限公司原名西门子电机（中国）有限公司，于2006年3月1日正式运营，2024年5月正式更名。

从2018年荣获国家绿色工厂，到2019年被认定为国家高新技术企业，再到累计五次荣获西门子中国最佳运营工厂殊荣，茵梦达电机（中国）有限公司一直致力于为客户提供创新、高效、可持续的电机解决方案。

公司拥有员工约2000余人，占地面积18.2万平方米，年产电机约100万台，为茵梦达在华最大的低压、高效电机研发和生产基地。

# 目录 Contents

概览 Overview .....	5
产品概述 Product overview .....	8
机械特性 Mechanical design .....	11
电气特性 Electrical design .....	16
变频应用 Converter fed operation .....	17
订货号和型号 Order No. and Motor type .....	20
选型技术数据表 Technical data table .....	21
选件 Options .....	25
外形尺寸 Dimension drawings .....	28
认证 Certificates .....	35

# 概览 Overview

在许多工业和公共部门，爆炸危险一直存在，例如在化学工业、炼油厂、钻井平台、加油站、饲料制造和污水处理厂。当爆炸性的气体、烟雾、雾气或尘埃与空气中的氧气以一定的易爆炸比例混合时，如果有接近于能够释放所谓最小点火能量的着火源，会存在爆炸的风险。

为了保证在这些地区的安全性，大多数国家的立法者都根据国家和国际的标准，以法律和法规的形式制定和实施了适当的规定。防爆设备的设计可以使正确使用这些设备时避免爆炸。

防爆设备可以根据不同类型的保护来设计。

## 区域的分类

有爆炸风险的场所被划分为不同的区域。划分区域的标准取决于危险物质存在的时间以及发生危险的概率。各个区域分类的信息和规则遵循以下标准：

- GB 3836.14, IEC/EN 60079-10-1 适用于气体环境
- GB/T 3836.35, IEC/EN 60079-10-2 适用于粉尘环境

此外，在不同的爆炸分组和温度等级之间进行了分类，这些都包含在危险等级评估中。

In many industrial and public industries, explosion hazards are ever-present, e.g. the chemicals industry, refineries, on drilling platforms, gas stations, feed manufacturing and sewage treatment plants. The risk of explosion is always present when gases, fumes, mist or dust are mixed with oxygen in the air in an explosive ratio close to sources of ignition that are able to release the so-called minimum ignition energy.

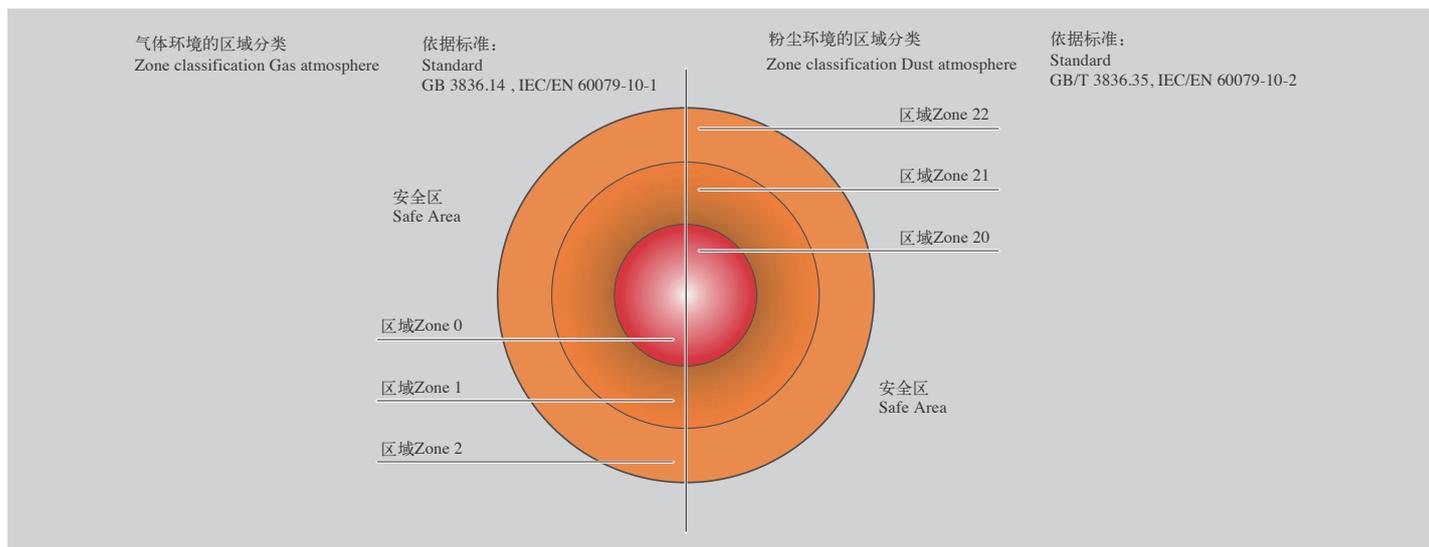
To ensure safety in these areas, legislators in most countries have implemented appropriate stipulations in the form of laws and regulations based on national and international standards. Explosion-protected equipment is designed such that an explosion can be prevented when it is used properly.

## Classification of zones

Areas subject to explosion hazard are divided into zones. Zoning is based on the presence time of explosive substances and probability of explosion. Information and specifications for classification of the zones are laid down in the following standards:

- GB 3836.14, IEC/EN 60079-10-1 for gas atmospheres
- GB/T 3836.35, IEC/EN 60079-10-2 for dust atmospheres

Furthermore, a distinction is made between various explosion groups as well as temperature classes and these are included in the hazard assessment.



根据各区域的分类和存在的危险，所使用的设备必须满足最低防护要求。设备必须在符合要求的工况下使用，以避免点燃外部的爆炸性环境。

Depending on the particular zone and therefore the associated hazard, operating equipment must comply with defined minimum requirements regarding the type of protection. The different types of protection require corresponding measures to prevent ignition that should be implemented at the motor in order to prevent a surrounding explosive atmosphere from being ignited.

区域 Zone		区域定义的标准: Zone definition acc. to GB 3836.14 & IEC/EN 60079-10-1 用于气体环境 for gas atmospheres GB/T 3836.35 & IEC/EN 60079-10-2 用于粉尘环境 for dust atmospheres	分配 保护类型 Assigned types of protection	分类根据 Category according to 2014/34/EU	设备保护等级根据 Equipment protection level acc. to GB/T 3836.1 & IEC/EN 60079-0
气体 Gas 1) 2)	粉尘 Dust 1) 2)				
0	-	持续、长时间或频繁存在爆炸性气体环境的区域 An area in which there is an explosive gas atmosphere constantly, over a long period or frequently.	不允许低压电机使用 Low-voltage motors not permitted	1	Ga
1	-	在正常运行过程中, 预计偶尔会出现爆炸性气体环境的区域 An area in which it is expected that an explosive gas atmosphere will occur occasionally during normal operation.	Ex eb, Ex db eb, Ex db	2	Gb
2	-	在正常运行过程中, 预计很少或只短暂出现爆炸性气体环境的区域 An area in which it is expected that an explosive gas atmosphere will occur only rarely and then only briefly during normal operation.	Ex ec	3	Gc
-	20	持续、长时间或频繁存在由粉尘-空气混合物组成的爆炸性气体环境的区域 An area in which there is an explosive gas atmosphere comprising a dust-air mixture constantly, over a long period or frequently.	不允许低压电机使用 Low-voltage motors not permitted	1	Da
-	21	在正常运行的过程中, 预计会偶尔存在由粉尘-空气混合物组成的爆炸性气体环境的区域 An area in which it is expected that an explosive gas atmosphere comprising a dust-air mixture will occur occasionally during normal operation.	Ex tb	2	Db
-	22	在正常运行的过程中, 预计很少或只短暂在空气中形成一团易燃尘埃的爆炸性气体环境的区域 An area in which it is expected that an explosive gas atmosphere in the form of a cloud of flammable dust in air will occur only rarely and then only briefly during normal operation.	Ex tc <sup>3)</sup>	3	Dc

<sup>1)</sup> 电机用于

- 区域 1 也可以用于区域 2.
- 区域 21 也可以用于区域 22.

<sup>2)</sup> 若电机仅有气体防爆认证或粉尘防爆认证, 不允许在混合环境中使用。混合环境: 爆炸性的气体和粉尘同时在大气环境中存在。

<sup>3)</sup> Ex tc 电机不允许在含有导电粉尘的环境中运行。

<sup>1)</sup> Motors of

- Zone 1 can also be used in Zone 2.
- Zone 21 can also be used in Zone 22.

<sup>2)</sup> Motors which are certified for gas or dust protection must not be used in hybrid mixtures! Hybrid mixtures: when explosive gas and dust atmospheres occur simultaneously.

<sup>3)</sup> Ex tc motors are not approved for operation in environments containing conductive dust.

## 应用

以下情况常常需要选用防爆电机, 以防止爆炸对人造成严重伤害和对财产造成严重损失。

- 化工和石化行业
- 矿物油和天然气生产
- 煤气产业
- 煤气供应公司
- 加油站
- 焦化厂
- 磨粉厂 (例如: 玉米, 固体)
- 污水处理厂
- 木材加工 (例如: 木屑, 树脂)
- 其他易受爆炸危害的行业

## Application

The explosion-proof motors are often used in the following industries to prevent explosion hazards that result in serious injury to persons and severe damage to property.

- Chemical and petrochemical industry
- Production of mineral oil and gas
- Gas works
- Gas supply companies
- Petrol stations
- Coking plants
- Mills (e.g. corn, solids)
- Sewage treatment plants
- Wood processing (e.g. sawdust, tree resin)
- Other industries subject to explosion hazards

## 气体和蒸汽的隔爆等级 Flameproof class of gases and vapors

使用场所 Location	标准代号 Code of standard GB/T 3836.1 / GB/T 3836.2 / IEC60079-0 / IEC60079-1 隔爆等级 Flameproof class
矿用 For Mines	d I
除煤矿以外的爆炸性气体环境 Explosive gas environment except mines	d II A
	d II B
	d II C

## 按爆炸性混合物的自然温度 (°C) 分组 Temperature classes

电子设备的温度等级 Temperature class of electrical equipment	电子设备的最大表面温度 Maximum surface temperature of electrical equipment	气体或蒸汽的点燃温度 Ignition temperature of gases or vapors
T1	450°C	> 450°C
T2	300°C	> 300°C
T3	200°C	> 200°C
T4	135°C	> 135°C
T5	100°C	> 100°C
T6	85°C	> 85°C

## 根据爆炸组别和温度等级对气体和蒸汽分类

### Classification of gases and vapors into explosion groups and temperature classes

爆炸性 气体分组 explosion group	按爆炸性混合物的自然温度 (°C) 分组 Temperature classes					
	T1 (450)	T2 (300)	T3 (200)	T4 (135)	T5 (100)	T6 (85)
	材料名称 Material designation	材料名称 Material designation	材料名称 Material designation	材料名称 Material designation	材料名称 Material designation	材料名称 Material designation
IIA (MESG≥0.9mm)	丙酮 Acetone	醋酸戊酯 i-amyl acetate	汽油 Benzine	乙醛 Acetaldehyde		
	乙烷 Ethane	正丁烷 n-butane	汽油 Gasoline			
	乙酸乙酯 Ethyl acetate	正丁醇 n-butyl alcohol	特殊汽油 Special benzine			
	氯乙烷 Ethyl chloride	环己酮 Cyclohexanone	柴油燃料 Diesel fuel			
	氨 Ammonia	二氯乙烷 1,2- dichloroethane	民用燃油 Heating oils			
	苯 Benzene	乙酸酐 / 醋酸酐 Acetic acid anhydride	n-正己烷 n-hexane			
	醋酸 Acetic acid					
	一氧化碳 Carbon monoxide					
	甲烷 Methane					
	甲醇 Methanol					
	氯甲烷 Methyl chloride					
	萘 Naphthalene					
	苯酚 Phenol					
	丙烷 Propane					
甲苯 Toluene						
IIB (0.5mm<MESG <0.9mm)	城市煤气 (照明气) Town gas (illuminating gas)	乙醇 Ethyl alcohol	硫化氢 Hydrogen sulfide	乙基醚 Ethyl ether		
		乙烯 Ethylene				
		环氧乙烷 Ethylene oxide				
IIC (MESG≤0.5mm)	氢 Hydrogen	乙炔 Acetylene				二硫化碳 Carbon disulfide

MESG, GB/T 3836.11和IEC 60079-20-1中规定的最大试验安全间隙, 是指在规定的条件下, 壳内所有浓度的被试验气体或蒸气与空气的混合物点燃后, 通过25 mm长的接合面均不能点燃壳外爆炸性气体混合物的外壳空腔两部分之间的最大间隙。

MESG值越小, 意味着设备的防爆等级越高, 对设备的要求越严苛。当设备可以满足在IIC气体组别下运行时, 同时也满足IIA和IIB的要求。

MESG, maximum experimental safe gap (for an explosive mixture). It's maximum gap of a joint of 25 mm in width which prevents any transmission of an explosion during 10 tests made under the conditions specified in GB/T 3836.11 and IEC 60079-20-1.

The smaller the MESG value, the higher the explosion-proof level of the equipment, and the more stringent requirements for the equipment. If the equipment can run under the IIC gas group, it also meets the requirements of IIA and IIB.

# 产品概述 Product overview



额定功率：0.55 ~ 315 kW  
机座号：80 ~ 355  
电压与频率：380V 50Hz  
380/660V 50Hz，其他常用电压可选

标准颜色：RAL7011  
冷却方式：IC411，IC416可选  
防爆标志：Ex db IIB T4 Gb  
防护等级：IP55  
绝缘系统：F级  
注油装置：机座号280 ~ 355的电机标配，  
机座号160 ~ 250可选配  
环境温度：-20°C ~ +40°C标配设计

Rated output: 0.55 ~ 315 kW  
Frame size: 80 ~ 355  
Voltage and Frequency: 380V 50Hz  
380/660V 50Hz, Other common voltage can be  
provide as option design  
Standard color: RAL7011  
Cooling method: IC411, IC416 optional  
Frame-proof marking: Ex db IIB T4 Gb  
Protect degree: IP55  
Insulation class: F  
Re-greasing device: FS 280 ~ 355 motor as standard,  
FS 160 ~ 250 motor as option design  
Ambient temperature: -20°C ~ 40°C as standard

1MT003系列高效隔爆型全封闭、自扇冷三相异步电动机是一款全新产品。该系列防爆电机完全符合IEC 60079-0:2017 / IEC 60079-1:2017以及GB/T 3836.1-2021 / GB/T 3836.2-2021等设计标准，防爆等级为 Ex db IIB T4 Gb且防爆性能通过CQST认证。其效率达到IEC 60034-30 IE3高效等级要求(50Hz)，符合GB 18613-2020能效等级三级。

具有性能优良，使用安全可靠，安装灵活，维护方便，振动小，噪音低等特点。

1MT003系列高效隔爆型电动机可广泛应用于石油、化工及油气等危险领域和场所。电机的设计使得电机内部的爆炸不会波及外界环境，内部由爆炸产生的能量在被称作“隔爆腔”的空间内消散，使得这些能量不足以点燃外部的爆炸性环境。

1MT003 series flameproof motors is newly designed totally enclosed fan cooling (TEFC) high efficiency motor. This series flameproof motor completely meet the standard of IEC 60079-0:2017/IEC 60079-1:2017 and GB/T 3836.1-2021/GB/T 3836.2-2021. The type of protection for this motor is Ex db IIB T4 Gb. And its efficiency fulfill efficiency grade IE3 (50Hz) of IEC 60034-30, and also Grade 3 efficiency of GB 18613-2020.

This series products have excellent performance, safe and reliable to use, simple and flexible installation, easy to maintain, low vibration, low noise.

1MT003 series high-efficiency flameproof motors can be widely used in petroleum, chemical industry, oil and gas and other hazardous areas and places. These motors are designed such that an explosion within the housing cannot result in an explosion in the environment. The energy that is generated internally by an explosion is dissipated in the so-called "flameproof enclosure" so far that the energy is no longer sufficient for ignition outside the casing.

## 噪声

### 噪声值

噪声值根据 DIN EN ISO 1680 标准在噪音室测得。表面声压级噪声 $L_{pfa}$  计算表示单位为 dB (A)。声压级噪声的空间平均值是在其测量面上测得的。测量面是距离电机1米的测量包围面。声功率级噪声用  $L_{WA}$  来表示，单位为 dB (A)。噪音值见选型数据表，选型数据表中的噪声值仅适用于全封闭自扇冷却（冷却方式：IC411）。电动机在 50 Hz 电源供电空载运行时，噪音容差为 +3 dB。当在 60 Hz 电源下空载运行时，噪音容差大约为 +4 dB。

## 振动

所有电动机转子都使用半键按照 A 级（标准）振动等级进行动态平衡。电动机在空载时测得振动速度有效值不超过下表中的 A 级所列值。电机还可选择B级振动等级设计。

振动等级 Vibration Grade	机座号 Frame size (mm)	56 ≤ FS ≤ 132		H>132	
	安装方式 Mounting	位移 Vibration displacement/ $\mu$ m	速度 Vibration velocity/(mm/s)	位移 Vibration displacement/ $\mu$ m	速度 Vibration velocity/(mm/s)
A	自由悬置 Free suspension	45	2.8	45	2.8
	刚性安装 Rigid mounting	-	-	37	2.3 2.8 <sup>1)</sup>
B	自由悬置 Free suspension	18	1.1	29	1.8
	刚性安装 Rigid mounting	-	-	24	1.5 1.8 <sup>1)</sup>

注：

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

## Noise levels

### Noise levels for mains-fed operation

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

## Vibration

1MT0003 rotors are dynamically balanced to severity grade A using a half key. Table below contains the effective vibration values for unloaded motors. Vibration grade B can be provided as option.

Note:

<sup>1)</sup> The level are vibration velocity limit when the twice line frequency vibration level is dominant defined by GB/T 10068-2020, for 2p motors that frame size bigger than 132mm.

## 防爆标志 Ex-Mark

	Ex	db <sup>1)</sup>	IIB	T4	Gb
防爆标识 Marking for prevention of explosions					
防爆类型 Protection type db = 由隔爆外壳保护的设备 db = Protection by flameproof enclosures					
电器设备类别级别 (II类B) Equipment group (IIB)					
II类电气设备最高表面温度 Maximum allowable surface temperature for Group II electrical equipment T4 = 135°C					
设备保护级别 Protection level Gb = “高” 的保护级别 Gb = "high" level of protection					

注:

<sup>1)</sup> 最新标准IEC60079-0: 2017和GB/T 3836.1-2021中防爆类型标识为db。

Note:

<sup>1)</sup> Protection type is db in IEC60079-0: 2017 and GB/T 3836.1-2021.

## 铭牌样例 Nameplate example

 <b>FLAMEPROOF THREE-PHASE ASYNCHRONOUS MOTOR</b> <b>隔爆型三相异步电动机</b> Ex 					
型号TYPE	1MT0003-2CC2	3-3AA4-Z	LMH-2406/800003888993/003	Q/321081 KJA014-2024	
250M	IM B3	IP55	380V△/660 VY	EFF.93.3 %	985 r/min Th.Cl.155(F)
37 kW	50Hz	483 kg	72/41.5 A	COSØ0.84	GB18613-2020 Eff.-Grade3
驱动端: 6315 C3		非驱动端: 6315 C3		Ex db IIB T4 Gb CNEx20.0519	
 二维码含说明书信息					
茵梦达电机(中国)有限公司 Innomotics Standard Motors Ltd.					

# 机械特性 Mechanical design

## 安装结构型式 Construction and mounting type

结构型式 Construction type	机座带底脚，端盖无法兰 With feet and without flange on the end-shield (DE)					
安装型式 Mounting type	IM B3 FS 80~355	IM B6 FS 80~160	IM B7 <sup>3)</sup> FS80~160	IM B8 <sup>4)</sup> FS80~160	IM V5 <sup>1)</sup> FS80~160	IM V6 <sup>2)</sup> FS 80~160
示意图 Diagram						
电动机订货号第14位号 上对应的字母 Letter, position 14 <sup>th</sup> of Motor code	A	T	U	V	C	D

结构型式 Construction type	机座不带底脚，端盖有法兰 Without feet and with flange on the end-shield (DE)			机座带底脚，端盖有法兰 With feet and with flange on the end-shield (DE)	
	安装型式 Mounting type	IM B5 FS 80~280	IM V1 <sup>1)</sup> FS 80~355	IM V3 <sup>2)</sup> FS80~160	IM B35 FS80~355
示意图 Diagram					
电动机订货号第14位号 上对应的字母 Letter, position 14 <sup>th</sup> of Motor code	F	G	H	J	W

结构型式 Construction type	机座不带底脚，端盖有标准小法兰 Without feet and with C-flange on driven end-shield (DE)			机座带底脚，端盖有标准小法兰 With feet and with C-flange on driven end-shield (DE)
	安装型式 Mounting type	IM B14 FS 80 ~ 160	IM V18 <sup>1)</sup> FS 80 ~ 160	IM V19 <sup>2)</sup> FS 80 ~ 160
示意图 Diagram				
电动机订货号第14位号 上对应的字母 Letter, position 14 <sup>th</sup> of Motor code	K	M	L	N

<sup>1)</sup> 标配防雨罩。

<sup>2)</sup> 当户外使用时，建议采取防护措施，以避免水直接喷射到电机轴上。

<sup>3)</sup> 当接线盒位于机座顶部时，进线口默认朝上，如需朝下，请选择选项代码R12。

<sup>4)</sup> 不可同时选用再润滑装置（选项号L23）。

<sup>1)</sup> Protection cover provided as standard.

<sup>2)</sup> When used outdoors, please take some protection measures to prevent water from spraying on the shaft.

<sup>3)</sup> When terminal box is on the top of the motor, the cable entry will be upwards, if downwards is needed, please select option code R12.

<sup>4)</sup> Regreasing devise (option code L23) is not allowed.

## 轴承系统

1MT0003系列电动机标准配置深沟球轴承。FS160 ~ 355范围的电动机标准设计非驱动端轴承固定。FS80 ~ 132范围的电动机标准设计轴承浮动，可以选配驱动端轴承固定，选件号 L20。

当电动机轴端承受的悬臂力较大时，可以考虑选择增强悬臂力的轴承设计（选件号：L22）。

FS80 ~ 250 范围电动机标配不带再润滑装置，但 FS160 ~ 250 可选择配置再润滑装置（选件号：L23）。FS280 ~ 355 范围的电动机标配再润滑装置。

下表列出了标准配置下的轴承型号。

## 轴承选配

机座号 Frame size	极数 Number of poles	标准配置 Standard design		选项配置 Optional design	
		水平/竖直安装 Horizontal / Vertical mounting		增强悬臂力的设计（选项代码L22） Increased cantilever force (option code L22)	
		驱动端轴承 DE bearing	非驱动端轴承 NDE bearing	驱动端轴承 DE bearing	非驱动端轴承 NDE bearing
80	2 ~ 6	6204-2RZ C3	6204-2RZ C3	-	-
90	2 ~ 6	6205-2RZ C3	6205-2RZ C3	-	-
100	2 ~ 6	6306-2RZ C3	6306-2RZ C3	-	-
112	2 ~ 6	6306-2RZ C3	6306-2RZ C3	-	-
132	2 ~ 8	6308-2RZ C3	6308-2RZ C3	-	-
160	2 ~ 8	6309-2RZ C3	6309-2RZ C3	NU309	6309 C3
180	2 ~ 8	6310-2RZ C3	6310-2RZ C3	NU310	6310 C3
200	2 ~ 8	6312 C3	6312 C3	NU312	6312 C3
225	2 ~ 8	6313 C3	6313 C3	NU313	6313 C3
250	2 ~ 8	6315 C3	6315 C3	NU315	6315 C3
280	2	6315 C3	6315 C3	NU315	6315 C3
	4 ~ 8	6317 C3	6317 C3	NU317	6317 C3
315	2	6316 C3	6316 C3	NU316	6316 C3
	4 ~ 8	6319 C3	6319 C3	NU319	6319 C3
355	2	6317 C3	6317 C3	NU317	6317 C3
	4 ~ 8	6320 C3	6320 C3	NU320	6320 C3

## Bearing Assignment

1MT0003 series motor are supplied with ball bearing as standard. Bearing design meets the requirements of explosion protection. Fixed bearing at NDE is as standard configuration for FS160 ~ 355 motors; For FS80 ~ 132 motors the bearings are floating, fixed bearing at DE can be ordered with option code L20.

If higher cantilever force on the shaft required, the increased cantilever bearing design (Option code: L22) should be considered.

As standard, FS80 ~ 250 motors are not with regreasing device, but re-greasing device (Option code: L23) can be configured in FS160~250. FS280 ~ 355 motors with regreasable bearing and regreasing device is configured as standard.

The following table lists the standard bearing configuration.

## Bearing Assignment

## 润滑脂寿命和再润滑周期

对于不可再润滑的轴承，其润滑脂寿命与轴承寿命相当。

## Grease life and re-greasing interval

For permanent lubrication, the bearing grease lifetime is matched to the bearing lifetime.

## 润滑脂寿命和再润滑周期（电动机水平安装） Grease lifetime and re-grease interval (Horizontal installation)

使用持久润滑型轴承时 Using permanent lubrication bearing		
机座号 Frame size	极数 Poles	润滑脂寿命 Grease lifetime up to CT 40°C <sup>1)</sup>
80 ~ 250	2-8	20000 或 (or) 40000 <sup>2)</sup>

<sup>1)</sup> 标准的最高环境温度为40°C，对于持久润滑型轴承，环境温度每升高10°C，润滑脂寿命缩短一半。

<sup>2)</sup> 40000小时适用于电动机水平安装，且轴不受额外轴向力的工作情况。

<sup>1)</sup> Maximum ambient temperature is 40°C under standard conditions. For permanent lubrication bearings, grease lifetime will be halved for each 10K ambient temperature rising.

<sup>2)</sup> The 40000h grease lifetime is suited for horizontal mounting motors without additional axial force.

使用可再润滑型轴承时 Using re-greasable bearing			
机座号 Frame size	极数 Poles	轴承 Bearing	标准环境温度下的润滑周期（小时） Interval under standard ambient temperature(h)
160	2P	6309 C3	4000
	4~8P	NU309	8000
180	2P	6310 C3	4000
	4~8P	NU310	8000
200	2P	6312 C3	4000
	4~8P	NU312	8000
225	2P	6313 C3	4000
	4~8P	NU313	8000
250	2P	6315 C3	4000
	4~8P	NU315	8000
280	2P	6315 C3 NU315	4000
	4P	6317 C3	6000
	6~8P	NU317	8000
315	2P	6316 C3 NU316	3000
	4P	6319 C3	4000
	6~8P	NU319	6000
355	2P	6317 C3 NU317	3000
	4P	6320 C4	4000
	6~8P	NU320	6000

当电动机在非正常的条件下运行时，轴承的寿命会缩短。如下面几种情况：

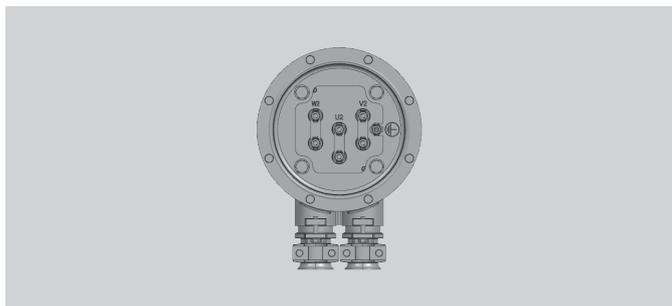
- 当电动机的运行速度高于额定速度时，由于电动机的振动增大，使得轴承受到额外的径向力和轴向力，导致其寿命减少；
- 当环境或设备等因素引起电动机振动加大时，同样轴承也会因此受到额外的径向力和轴向力，而导致其寿命减少；

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

- When motor runs beyond the rated speed, the increase of motor vibration will result in the extra radial and axial force on bearing. This will reduce the life of bearing;
- When the motor vibration increase due to the environment or other equipment, the bearing also will endure more radial and axial force. This also will reduce the life of bearing;

## 接线盒

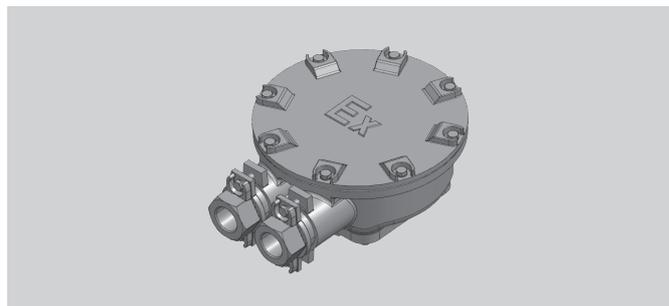
接线盒标准位置位于机座顶端，且自身可4x90°C旋转，从而使电缆可以从各个方向进入。当选择进线口朝向电机驱动端时，须留意电机安装环境前方是否留有足够空间供电缆走线。标准接线盒使用喇叭口型进线斗，机座号80~225的电机有一个进线斗，机座号250~355的电机有两个进线斗。



标准配置接线盒 Standard connection box

## Connection box

The connection box is located on the top of motor housing as standard, and can be rotated by  $4 \times 90^\circ$  to allow for cable entry from each direction. When selecting the entrance to the motor drive end, please notice whether there is enough space in front of the installation for the cable line. For the standard connection box with hoop gland, the motor of FS 80~225 has one hoop gland, and the motor of FS250~355 has two.



X97 接线盒（可选） Connection box of option code X97

## 标准接线盒 Standard main terminal box

机座号 Frame Size	主接线端子数 No. of main terminal	主接线端子螺纹 Main terminal thread	主进线孔数量 No. of main cable entry	接线斗直径 Hoop gland dia. (mm)	外接电缆直径 <sup>2)</sup> Cable diameter (mm)	最大辅助端子数 <sup>1)</sup> Max. auxiliary terminal	辅助电缆进线孔 <sup>3)</sup> Auxiliary cable entry
80	3	M5	1	1xΦ42	13~14 19~20 24~25	8	1xM16x1.5 或/或 1xM20x1.5
90							
100							
112	6	M5	1	1xΦ42	13~14 19~20 24~25	8	1xM16x1.5 或/或 1xM20x1.5 或/或 2xM16x1.5 或/或 1xM16x1.5 + 1xM20x1.5
132							
160	6	M6	1	1xΦ58	13~14 19~20 25~26 30~31 34~35	20	1xM16x1.5 或/或 1xM20x1.5 或/或 1xM25x1.5 或/或 2xM16x1.5 或/或 1xM16x1.5 + 1xM20x1.5 1xM16x1.5 + 1xM25x1.5
180							
200							
225	6	M8	1	1xΦ72	19~20 25~26 31~32 37~38 41~42	20	1xM16x1.5 或/或 1xM20x1.5 或/或 1xM25x1.5 或/或 2xM16x1.5 或/或 1xM16x1.5 + 1xM20x1.5 1xM16x1.5 + 1xM25x1.5
250							
280	6	M10	2	2xΦ72	19~20 25~26 31~32 37~38 41~42	20	1xM16x1.5 或/或 1xM20x1.5 或/或 1xM25x1.5 或/或 2xM16x1.5 或/或 1xM16x1.5 + 1xM20x1.5 1xM16x1.5 + 1xM25x1.5
315							
355	6	M16	2	2xΦ90	30~31 35~36 44~45 49~50	20	1xM16x1.5 或/或 1xM20x1.5 或/或 1xM25x1.5 或/或 2xM16x1.5 或/或 1xM16x1.5 + 1xM20x1.5 1xM16x1.5 + 1xM25x1.5

注：

- <sup>1)</sup> 每个辅助接线端子所能适配的电缆接头不超过 2.5 mm<sup>2</sup>。
- <sup>2)</sup> 请根据进线电缆直径可选尺寸选择电缆，并保证所选电缆允许的电缆直径处于此列数据范围内。
- <sup>3)</sup> 当同时选用测温元件和防潮加热带时会配备两个辅助进线孔。孔的螺纹尺寸是根据所需的辅助端子数量决定的。

Notes:

- <sup>1)</sup> The adaptable diameter to each auxiliary terminal can not exceed 2.5mm<sup>2</sup>.
- <sup>2)</sup> Please choose the cable entry diameter according to the cable diameter can be selected column. And ensure the allowed cable entry diameter is within the range in this column.
- <sup>3)</sup> If both temperature sensor and heater are selected, 2 auxiliary cable entries will be configured. The dimensions of the cable entries will be configured according to the quantity of the terminals.

选项-标准接线盒带钢管布线孔（选项代码X97） Option-Standard terminal box with conduit entry (Option code X97)

机座号 Frame Size	钢管布线进线孔螺纹 Size of Main Conduit entry
80	M30 × 2
90	
100	
112	M30 × 2
132	
160	M36 × 2
180	
200	M48 × 2
225	
250	2 × M48 × 2
280	
315	2 × M64 × 2
355	

## 电动机保护

### 防潮加热保护

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

电动机防潮加热带必须在电动机工作过程中处于不工作状态；当电动机停机时，防潮加热带必须启动工作，为绕组加热。

防潮加热带的电气参数如下表所示。

### 防潮加热带电气参数

机座号 Frame size	功率和电压 Power (W) & voltage (V)
	Q04
80 ~ 90	20 W / 220 V
100 ~ 112	30 W / 220 V
132 ~ 160	40 W / 220 V
180 ~ 200	50 W / 220 V
225 ~ 280	60 W / 220 V
315	80 W / 220 V
355	100 W / 220 V

### 电动机过热保护

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

不同的电动机热保护方式可以在电动机订货号的第 15 位采用不同的字母或者选件号来表示。

## Motor protection

### Anti-condensation heater

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

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

The electrical parameters of anti-condensation heaters are shown in the following table.

### Electrical data of Anti-condensation heater

### Motor thermal overload protection

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

The order variants for motor protection are coded with letters in the 15th position of the Motor Order No., or ordered with Option code.

# 电气特性 Electrical design

## 额定输出

1MT0003 电动机的额定功率是指电动机在连续运行的情况下 S1 (IEC 60034-1)，此时周围环境温度为  $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$ ，海拔高度不超过 1000 m。

## 电压、频率

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

## Rated Output

1MT0003 motors rated output powers means that the motor runs under continuous duty S1 (IEC 60034 - 1) operation when operated at ambient temperature from  $-20^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  and at altitudes of up to 1000 m over sea.

## Voltage and Frequency

IEC 60034-1 differentiates between Category A (combination of voltage deviation  $\pm 5\%$  and frequency deviation  $\pm 2\%$ ) and Category B (combination of voltage deviation  $\pm 10\%$  and frequency deviation  $+3\% / -5\%$ ) for voltage and frequency fluctuations. The motors can supply their rated torque in both Category A and B. In Category A, the temperature rise is approximately 10 K higher than during normal operation.

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

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

## 电气数据公差

- 效率  $\eta$   
 $- 0.15 \times (1 - \eta)$   
效率  $\eta$  为小于 1 的值
- 功率因数:  $(1 - \cos \phi) / 6$   
最小绝对值: 0.02  
最大绝对值: 0.07
- 转差率:  $\pm 20\%$  (电动机的偏差  $< 1 \text{ kW} \pm 30\%$  时是允许的)
- 堵转电流:  $+20\%$
- 堵转转矩:  $-15\% \sim +25\%$
- 最大转矩:  $-10\%$
- 转动惯量:  $\pm 10\%$

## 过载倍数

根据 IEC60034 标准要求, 1MT0003 系列电动机能够在额定电压和频率下承受 1.5 倍的额定电流达 2 分钟。

## Tolerance for electrical data

- Efficiency  $\eta$   
 $- 0.15 \times (1 - \eta)$   
With  $\eta$  being a decimal number
- Power factor -  $(1 - \cos \phi) / 6$   
Minimum absolute value: 0.02  
Maximum absolute value: 0.07
- Slip  $\pm 20\%$  (for motors  $< 1 \text{ kW} \pm 30\%$  is admissible)
- Locked-rotor current  $+20\%$
- Locked-rotor torque  $-15\%$  to  $+25\%$
- Breakdown torque  $-10\%$
- Moment of inertia  $\pm 10\%$

## Overload times

According to IEC60034, 1MT0003 series motors are designed to withstand overload capacity of 1.5 times rated current for 2 minutes at rated voltage and frequency.

# 变频应用 Converter fed operation

1MT0003 电动机适于变转速、恒转速的各种应用，如风机、泵、压缩机、纺织机械等。

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

1MT0003 电动机变频应用，冷却方式为 IC416（独立驱动风扇）且输出额定功率时，电动机的绝缘等级 155（F），使用温度等级 155（F）。选件号 F70+B44（这两个选件必须同时选用）。

对于变频防爆应用，须选择绕组测温，如 PTC、PT100 等。为了避免杂散电流对电动机轴承的损坏，FS315 和 FS355 电动机在选择 F70+B44 选件后将标配绝缘轴承，推荐 FS250-280 电动机选配绝缘轴承，选件号 L27。请向茵梦达咨询关于绝缘轴承的详细信息。

## 变频器驱动运行

1MT0003 电动机的标准绝缘系统设计要求，能够保证其在变频器供电电压不超过 460 V 时正常运行。

1MT0003 电动机带有特定的负载时能够使用变频器驱动，其特定的负载扭矩如以下图表所示：

1MT0003 motors are suitable for pumps, fans, compressors, textile machine and mechanical machine applications where variable or constant speed is required.

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

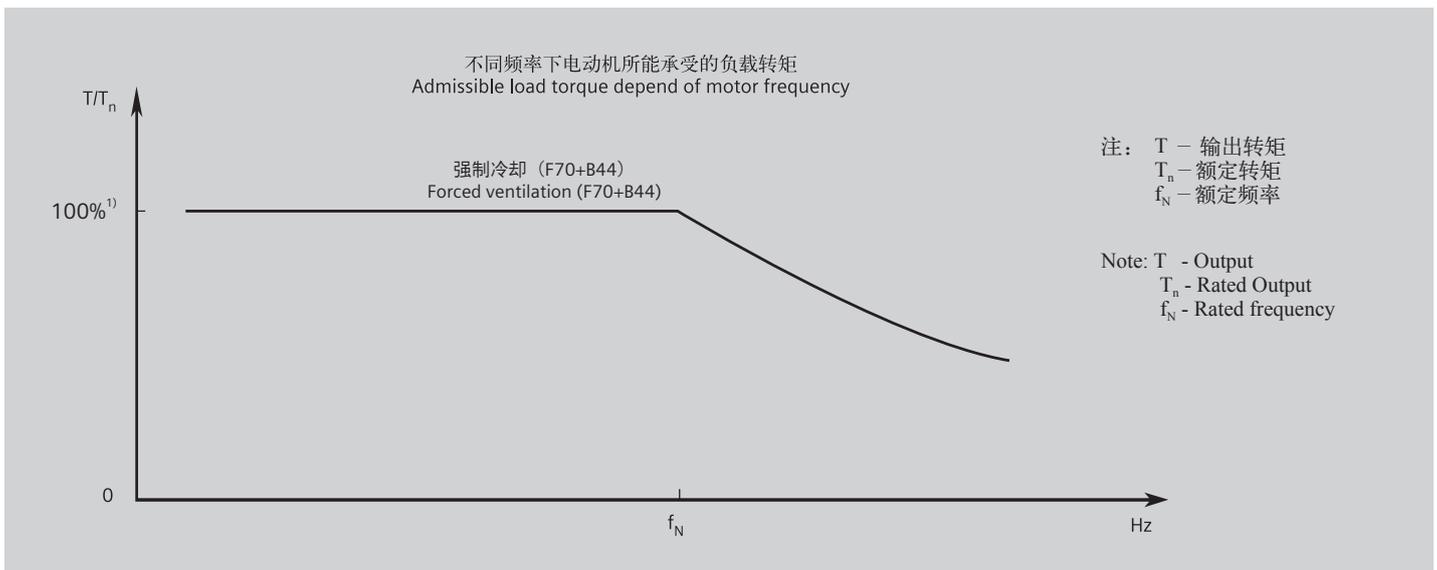
With converter fed operation and IC416 (Separately driven fan) cooling type the motors will be temperature class 155 (F), utilized according to 155 (F), without derating. Option code F70+B44 (The 2 options must be selected together).

The winding protections such as PTC, PT100 are highly recommended for VSD application. To prevent damage as a result of bearing currents, insulated bearings are equipped as default for frame size 315 and 355 when F70+B44 is selected. For frame size 250 and 280, it is also recommended to select insulated bearing (Option code L27). Please inquire INNOMOTICS about the detailed information of insulated bearing.

## Converter-fed operation

The standard insulation of the 1MT0003 motors is designed such that operation is possible on the converter at mains voltage up to 460 V.

1MT0003 motors are capable for converter-fed operation with certain characteristics load, of which the load torque characteristics is referred in the following diagram:



¹) 部分型号低于100%转矩，详询茵梦达。

¹) For some types the torque is not equal to 100%, please inquire.

当选择F70+B44时，1MT0003系列电机在不同频率下的工作情况为：5~50Hz为恒转矩，50Hz~Max 为恒功率。

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

变频运行时当频率超过 60 Hz 时，需要按照特定的限值进行动平衡。

1MT0003 隔爆电机所允许的变频范围请咨询茵梦达。

### 变频铭牌

1MT0003 电动机变频使用时，选件号F70+B44，电机铭牌会有两块，除了标准铭牌外，还额外提供一个变频铭牌，变频铭牌上会提供 5 Hz、25 Hz、50 Hz、Max 这四种频率时的参数。

### 变频铭牌样例 (F70+B44) VSD Nameplate (F70+B44)

 <b>FLAMEPROOF THREE-PHASE ASYNCHRONOUS MOTOR</b> <b>隔爆型三相异步电动机 Ex</b>						
型号TYPE 1MT0003-2CC2		3-3AA4-Z		LMH-2406/800003888993/001		
For converter supply 用于变频应用				Duty S9 IC416		
Converter parameter according to DOL plate! 变频参数参见主铭牌				CONVERTER INPUT: 380V VPMW Fp>=2kHz		
V	Hz	A	kW	Nm	r/min	
38Δ	5	72	3.2	359	85	
190Δ	25	72	18.2	359	485	
380Δ	50	72	37	359	985	
380Δ	70	69	37	256	1379	
茵梦达电机(中国)有限公司 Innomotics Standard Motors Ltd.						

When F70+B44 is selected, the situation 1MB0063 series motors working on different frequencies is: constant torque at 5~50Hz, constant power at 50Hz~Max.

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

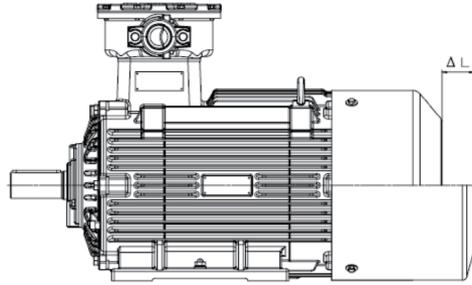
For converter-fed operation with frequencies greater than 60 Hz special balancing is required for compliance with the specified limit values.

The allowed variable frequency range of 1MT0003 flameproof motors please consult with INNOMOTICS.

### VSD nameplate

When with converter fed operation (option code F70+B44) , 1MT0003 will have two nameplates. In addition to the standard nameplate, an additional VSD nameplate will be mounted on the housing, and the parameters of 5Hz、25Hz、50Hz and Max frequency will be shown on the VSD nameplate.

独立驱动风机技术参数 Technical data for separately driven fan



对应电动机座号 Motor frame size	电压 Voltage(V)	频率 Frequency(Hz)	功率 Rated output (W)	电流 Current (A)	转速 Speed (r/min)	ΔL (mm)
80	220△/380Y	50	35	0.14/0.08	2800	108
90	220△/380Y	50	50	0.16/0.09	2800	107
100	220△/380Y	50	65	0.175/0.1	2800	106
112	220△/380Y	50	70	0.21/0.12	2800	110
132	220△/380Y	50	80	0.26/0.15	2800	101
160	220△/380Y	50	90	0.61/0.35	1400	111
180	220△/380Y	50	100	0.63/0.36	1400	105
200	220△/380Y	50	180	0.66/0.38	1400	90
225	220△/380Y	50	250	1.13/0.65	1400	100
250	220△/380Y	50	250	1.13/0.65	1400	125
280	220△/380Y	50	370	1.94/1.12	1400	198
315(2P)	220△/380Y	50	1100	4.33/2.5	1350	145
315(4~8P)	220△/380Y	50	750	3.30/1.91	1350	201
355-2P	220△/380Y	50	800	4.35/2.5	1350	208
355-4P,6P,8P	220△/380Y	50	800	4.35/2.5	1350	205

注:

1. 独立风机标准电压为 220VD/380VY 50Hz，如果主电机选择异电压，独立风机电压相应变化。
2. 独立风机接线盒有 1 个进线孔，电缆可直接引入，螺纹尺寸为 M24\*1.5。允许许外接电缆直径为 8~10mm。

Note:

1. The standard voltage of the separately driven fan is 220VD/380VY 50Hz. If the main motor is selected with a different voltage, the voltage of the separately driven fan will change accordingly.
2. The terminal box of the separately fan has one entry, with the size of M24\*1.5. The allowable diameter of the external cable is 8~10mm.

# 订货号和电机型号 Order No. and Motor Type

订货号 Order No.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	M	T	0	0	0	3	1	E	A	2	3	3	A	A	4

电机系列 Motor family

1MT000系列隔爆型三相异步电动机  
1MT000 series explosion protected three-phase asynchronous motors

效率 Efficiency

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

机座号 Frame size

0D = 080 0E = 090  
1A = 100 1B = 112 1C = 132 1D = 160 1E = 180  
2A = 200 2B = 225 2C = 250 2D = 280  
3A = 315 3B = 355

极数 Pole

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

铁芯长度编号 Code of stator length

0, 1 = Short 2, 3 = Medium 4, 5, 6, 7 = Long

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

2-2 = 50Hz 230V Δ /400VY  
3-4 = 50Hz 400V Δ /690VY  
2-1 = 50Hz 220V Δ /380VY  
3-3 = 50Hz 380V Δ /660VY  
9-0 = 特殊电压和频率 Special voltage & frequency <sup>1)</sup>

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

A = IM B3 T = IM B6 U = IM B7 V = IM B8 D = IM V6 C = IM V5  
F = IM B5 G = IM V1 H = IM V3 J = IM B35 W = IM V15  
K = IM B14 M = IM V18 L = IM V19 N = IM B34

绕组保护编号 Code of winding protection

A = 无绕组保护 Without winding protection  
B = 一组三个PTC热敏电阻用于跳闸 3 PTC thermistors for tripping  
C = 两组三个PTC热敏电阻用于报警和跳闸 6 PTC thermistors for alarm and tripping  
H = 一组三个PT100温度传感器 3 PT100 resistance thermometers  
J = 两组三个PT100温度传感器 6 PT100 resistance thermometers

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

4 = 顶出线 On top

附注:

<sup>1)</sup> 用电压编号 90 及相应选件号来定制其它电压 (参见选项描述);

Foot note:

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

# 选型技术数据表 Technical data table

中国能效等级 3 级, IE3

机座号 Frame Size	型号 Order No.	额定 功率 Rated Output	额定 转速 Rated Speed	效率 — 参照 GB18613-2020, 即 IEC 60034-30 Efficiency is in accordance with GB18613-2020, IEC 60034-30				额定 转矩 Rated torque	起 动 电 流 Starting Current	起 动 转 矩 Starting torque	最 大 转 矩 Max torque	转 动 惯 量 Moment of inertia(J)	噪 音 <sup>1)</sup> Noise LpfA	噪 音 <sup>1)</sup> Noise LWA	重 量 Weight IMB3
				效率 Efficiency at (50 HZ) 4/4 load	效率 Efficiency at (50 HZ) 3/4 load	功 率 因 数 Power factor	额 定 电 流 (380V) Rated current								
				KW	rpm	%	%								
3000rpm 2 - pole															
380VY <sup>2)</sup> 50HZ															
80M	1MT0003-0DA29-0 □□□□	0.75	2835	80.7	82.9	0.86	1.64	2.5	6.0	2.4	3.0	0.0010	51	62	29
80M	1MT0003-0DA39-0 □□□□	1.1	2850	82.7	84.0	0.83	2.45	3.7	6.5	2.6	3.4	0.0013	51	62	31
90S	1MT0003-0EA09-0 □□□□	1.5	2870	84.2	84.8	0.86	3.15	5.0	7.0	2.0	3.0	0.0024	55	67	37
90L	1MT0003-0EA49-0 □□□□	2.2	2890	85.9	87.2	0.88	4.4	7.3	7.5	2.8	3.6	0.0030	55	67	42
100L	1MT0003-1AA49-0 □□□□	3	2865	87.1	88.3	0.87	6	10.0	7.8	3.3	3.6	0.0046	62	74	53
3000rpm 2 - pole															
380VD/660VY 50HZ															
112M	1MT0003-1BA23-3 □□□□	4	2915	88.1	89.6	0.90	7.7	13.1	7.8	2.6	3.6	0.0087	65	77	67
132S	1MT0003-1CA03-3 □□□□	5.5	2930	89.2	90.2	0.89	10.5	17.9	7.5	2.3	3.6	0.018	67	79	83
132S	1MT0003-1CA13-3 □□□□	7.5	2930	90.1	91.5	0.90	14.1	24.4	7.5	2.3	3.6	0.022	67	79	92
160M	1MT0003-1DA23-3 □□□□	11	2935	91.2	92.0	0.89	20.5	35.8	7.5	2.3	3.4	0.037	69	81	140
160M	1MT0003-1DA33-3 □□□□	15	2935	91.9	92.6	0.89	28	48.8	7.5	2.4	3.4	0.046	69	81	151
160L	1MT0003-1DA43-3 □□□□	18.5	2935	92.4	93.0	0.89	34	60.2	7.8	2.4	3.4	0.054	69	81	170
180M	1MT0003-1EA23-3 □□□□	22	2950	92.7	93.0	0.89	40.5	71.2	7.8	2.4	3.4	0.088	70	83	207
200L	1MT0003-2AA43-3 □□□□	30	2955	93.3	93.4	0.87	55	97.0	7.8	2.4	3.4	0.156	71	84	288
200L	1MT0003-2AA53-3 □□□□	37	2955	93.7	93.9	0.89	67	120	7.8	2.4	3.4	0.183	71	84	319
225M	1MT0003-2BA23-3 □□□□	45	2960	94.0	94.3	0.89	82	145	7.8	2.4	3.2	0.301	72	85	400
250M	1MT0003-2CA23-3 □□□□	55	2975	94.3	94.1	0.89	100	177	7.8	2.6	3.2	0.507	75	89	478
280S	1MT0003-2DA03-3 □□□□	75	2975	94.7	94.8	0.89	135	241	7.5	2.8	3.0	0.856	77	91	595
280M	1MT0003-2DA23-3 □□□□	90	2975	95.0	95.3	0.90	160	289	7.5	2.8	3.4	1.029	77	91	665
315S	1MT0003-3AA03-3 □□□□	110	2985	95.2	95.1	0.90	195	352	7.9	2.3	2.6	1.59	78	92	940
315M	1MT0003-3AA23-3 □□□□	132	2982	95.4	95.3	0.90	235	423	7.9	2.3	2.6	1.77	78	92	1030
315L	1MT0003-3AA53-3 □□□□	160	2982	95.6	95.7	0.91	280	512	7.9	2.3	2.6	2.10	78	92	1130
315L	1MT0003-3AA63-3 □□□□	185	2978	95.7	95.9	0.92	320	593	8.5	2.3	2.6	2.52	78	92	1210
315L	1MT0003-3AA73-3 □□□□	200	2982	95.8	95.9	0.92	345	641	8.5	2.8	3.2	2.52	78	92	1230
355M	1MT0003-3BA23-3 □□□□	220	2986	95.8	95.4	0.90	390	704	8.5	2.2	2.8	2.65	85	100	1580
355M	1MT0003-3BA33-3 □□□□	250	2985	95.8	95.7	0.90	440	800	8.0	2.2	2.8	2.65	85	100	1580
355L	1MT0003-3BA53-3 □□□□	280	2988	95.8	95.7	0.90	495	895	8.5	2.2	2.8	3.24	85	100	1720
355L	1MT0003-3BA63-3 □□□□	315	2982	95.8	95.8	0.90	560	1009	8.0	2.2	2.8	3.24	85	100	1790

注:

<sup>1)</sup> 当电动机在50Hz电源供电空载运行时, 噪音容差为+3dB。当在60Hz电源下空载运行时, 噪音容差为+4dB。

<sup>2)</sup> 380VY 50Hz, 电动机订货号第 12、13 位代码为 90, 且须带选项 M3F。

Note:

<sup>1)</sup> Noise value is only applicable to the direct power supply and the condition of no-load operation. If the motor in 50Hz power supply, the tolerance is +3dB. If the motor in 60Hz power supply, the tolerance is +4dB.

<sup>2)</sup> 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

# 选型技术数据表 Technical data table

中国能效等级 3 级, IE3

机座号 Frame Size	型号 Order No.	额定 功率 Rated Output	额定 转速 Rated Speed	效率 — 参照 GB18613-2020, 即 IEC 60034-30 Efficiency is in accordance with GB18613-2020, IEC 60034-30				额定 转矩 Rated torque	起动 电流 Starting Current	起动 转矩 Starting torque	最大 转矩 Max torque	转动惯量 Moment of inertia(J)	噪音 <sup>1)</sup> Noise LpfA	噪音 <sup>1)</sup> Noise LWA	重量 Weight IMB3
				效率 Efficiency at (50 HZ) 4/4 load	效率 Efficiency at (50 HZ) 3/4 load	功率 因数 Power factor	额定 电流 (380V) Rated current								
				KW	rpm	%	%								
1500rpm 4 - pole															
380VY <sup>2)</sup> 50HZ															
80M	1MT0003-0DB29-0 □□□	0.55	1440	80.8	81.8	0.76	1.36	3.6	5.5	2.2	3.2	0.0021	45	56	30
80M	1MT0003-0DB39-0 □□□	0.75	1440	82.5	82.9	0.75	1.84	5.0	6.0	2.6	3.7	0.0024	45	56	31
90S	1MT0003-0EB09-0 □□□	1.1	1430	84.1	85.1	0.79	2.5	7.3	6.5	2.7	3.7	0.0039	47	59	37
90L	1MT0003-0EB49-0 □□□	1.5	1440	85.3	86.0	0.79	3.4	9.9	6.5	2.8	3.8	0.0050	47	59	42
100L	1MT0003-1AB49-0 □□□	2.2	1440	86.7	87.1	0.82	4.7	14.6	8.3	3.0	4.0	0.0112	52	64	56
100L	1MT0003-1AB59-0 □□□	3	1440	87.7	88.1	0.82	6.3	19.9	8.3	3.0	4.0	0.0132	52	64	61
1500rpm 4 - pole															
380VD/660VY 50HZ															
112M	1MT0003-1BB23-3 □□□	4	1450	88.6	89.6	0.82	8.4	26.3	8.3	3.7	4.6	0.0148	53	65	72
132S	1MT0003-1CB03-3 □□□	5.5	1455	89.6	90.9	0.84	11.1	36.1	7.8	2.4	3.8	0.028	59	71	90
132M	1MT0003-1CB23-3 □□□	7.5	1455	90.4	91.7	0.85	14.8	49.2	7.8	2.4	3.8	0.035	59	71	105
160M	1MT0003-1DB23-3 □□□	11	1465	91.4	92.4	0.86	21.5	71.7	7.8	2.6	3.8	0.063	61	73	147
160L	1MT0003-1DB43-3 □□□	15	1465	92.1	92.9	0.86	29	97.8	8.2	2.6	3.8	0.078	61	73	170
180M	1MT0003-1EB23-3 □□□	18.5	1470	92.6	93.0	0.83	36.5	120	7.8	2.6	3.6	0.134	63	76	205
180L	1MT0003-1EB43-3 □□□	22	1470	93.0	93.7	0.83	43.5	143	7.8	2.6	3.6	0.153	63	76	226
200L	1MT0003-2AB43-3 □□□	30	1475	93.6	94.3	0.84	58	194	7.8	2.6	3.6	0.247	63	76	300
225S	1MT0003-2BB03-3 □□□	37	1482	93.9	94.1	0.83	70	238	8.3	3.0	3.6	0.495	65	78	360
225M	1MT0003-2BB23-3 □□□	45	1482	94.2	94.2	0.85	85	290	8.3	3.0	3.6	0.549	65	78	398
250M	1MT0003-2CB23-3 □□□	55	1485	94.6	95.0	0.86	103	354	7.6	2.6	3.3	0.892	66	79	493
280S	1MT0003-2DB03-3 □□□	75	1485	95.0	95.3	0.86	139	482	7.6	2.8	3.0	1.463	66	80	630
280M	1MT0003-2DB23-3 □□□	90	1485	95.2	95.6	0.87	165	579	7.6	2.8	3.0	1.862	66	80	735
315S	1MT0003-3AB03-3 □□□	110	1488	95.4	95.7	0.87	200	706	7.9	3.0	3.0	2.32	74	88	980
315M	1MT0003-3AB23-3 □□□	132	1488	95.6	95.9	0.87	240	847	7.9	3.0	3.0	3.03	74	88	1100
315L	1MT0003-3AB53-3 □□□	160	1488	95.8	96.1	0.87	290	1027	7.9	3.0	3.0	3.31	74	88	1170
315L	1MT0003-3AB63-3 □□□	185	1488	95.9	96.2	0.87	335	1187	8.5	3.0	3.0	3.66	74	88	1220
315L	1MT0003-3AB73-3 □□□	200	1490	96.0	96.3	0.88	360	1282	8.5	3.0	3.0	4.00	74	88	1280
355M	1MT0003-3BB23-3 □□□	220	1490	96.0	96.0	0.88	395	1410	8.0	2.0	3.2	5.20	81	95	1760
355M	1MT0003-3BB33-3 □□□	250	1490	96.0	96.0	0.88	450	1602	7.8	1.8	2.9	5.20	81	95	1770
355L	1MT0003-3BB53-3 □□□	280	1490	96.0	96.1	0.88	500	1795	7.8	1.8	2.9	5.50	81	95	1790
355L	1MT0003-3BB63-3 □□□	315	1490	96.0	96.1	0.88	570	2019	8.0	1.8	2.9	5.95	81	95	1920

注:

<sup>1)</sup> 当电动机在50Hz电源供电空载运行时, 噪音容差为+3dB。当在60Hz电源下空载运行时, 噪音容差为+4dB。

<sup>2)</sup> 380VY 50Hz, 电动机订货号第 12、13 位代码为 90, 且须带选项 M3F。

Note:

<sup>1)</sup> Noise value is only applicable to the direct power supply and the condition of no-load operation. If the motor in 50Hz power supply, the tolerance is +3dB. If the motor in 60Hz power supply, the tolerance is +4dB.

<sup>2)</sup> 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

# 选型技术数据表 Technical data table

中国能效等级 3 级, IE3

机座号 Frame Size	型号 Order No.	额定 功率 Rated Output	额定 转速 Rated Speed	效率 — 参照 GB18613-2020, 即 IEC 60034-30 Efficiency is in accordance with GB18613-2020, IEC 60034-30				额定 转矩 Rated torque	起动 电流 Starting Current	起动 转矩 Starting torque	最大 转矩 Max torque	转动惯量 Moment of inertia(J)	噪音 <sup>1)</sup> Noise Lp(A)	噪音 <sup>1)</sup> Noise LWA	重量 Weight IMB3
				效率 Efficiency at (50 HZ) 4/4 load	效率 Efficiency at (50 HZ) 3/4 load	功率 因数 Power factor	额定 电流 (380V) Rated current								
				KW	rpm	%	%								
1000rpm 6 - pole															
380VY <sup>2)</sup> 50HZ															
80M	1MT0003-0DC39-0 □□□□	0.55	935	77.2	77.5	0.67	1.62	5.6	5.0	2.6	3.2	0.0030	44	55	33
90S	1MT0003-0EC09-0 □□□□	0.75	940	78.9	80.3	0.70	2.05	7.6	5.0	2.4	3.2	0.0042	45	57	39
90L	1MT0003-0EC49-0 □□□□	1.1	945	81.0	81.6	0.69	3	11.1	5.5	2.7	3.5	0.0050	45	57	42
100L	1MT0003-1AC49-0 □□□□	1.5	950	82.5	84.1	0.74	3.75	15.1	5.5	2.5	3.5	0.0113	49	61	58
112M	1MT0003-1BC29-0 □□□□	2.2	945	84.3	86.1	0.74	5.4	22.2	6.0	2.7	3.4	0.0136	53	65	70
132S	1MT0003-1CC09-0 □□□□	3	965	85.6	86.6	0.75	7.1	29.7	6.0	2.7	4.0	0.0234	57	69	82
1000rpm 6 - pole															
380VD/660VY 50HZ															
132M	1MT0003-1CC23-3 □□□□	4	955	86.8	88.5	0.75	9.3	40.0	6.0	2.7	3.4	0.030	57	69	96
132M	1MT0003-1CC33-3 □□□□	5.5	960	88.0	89.2	0.76	12.5	54.7	6.5	2.7	4.0	0.040	57	69	111
160M	1MT0003-1DC23-3 □□□□	7.5	980	89.1	90.4	0.78	16.4	73.1	7.0	2.7	3.6	0.119	61	73	146
160L	1MT0003-1DC43-3 □□□□	11	980	90.3	90.3	0.77	24	107	7.0	2.7	3.6	0.161	61	73	176
180L	1MT0003-1EC43-3 □□□□	15	975	91.2	92.1	0.80	31	147	7.0	2.3	3.0	0.206	59	73	209
200L	1MT0003-2AC43-3 □□□□	18.5	978	91.7	92.5	0.80	38.5	181	7.0	2.3	3.0	0.312	59	73	282
200L	1MT0003-2AC53-3 □□□□	22	980	92.2	93.1	0.80	45.5	214	7.0	2.4	3.0	0.357	59	73	297
225M	1MT0003-2BC23-3 □□□□	30	982	92.9	93.9	0.83	59	292	7.6	2.4	3.0	0.761	60	74	408
250M	1MT0003-2CC23-3 □□□□	37	985	93.3	94.1	0.84	72	359	7.6	2.6	3.0	1.070	62	76	483
280S	1MT0003-2DC03-3 □□□□	45	988	93.7	94.5	0.84	87	435	7.8	3.2	3.0	1.484	64	78	575
280M	1MT0003-2DC23-3 □□□□	55	988	94.1	94.6	0.84	106	532	7.8	3.2	3.0	1.748	64	78	640
315S	1MT0003-3AC03-3 □□□□	75	990	94.6	95.0	0.84	143	723	7.8	2.4	3.0	2.76	69	83	960
315M	1MT0003-3AC23-3 □□□□	90	990	94.9	95.3	0.84	172	868	7.8	2.4	3.0	3.47	69	83	1050
315L	1MT0003-3AC53-3 □□□□	110	991	95.1	95.3	0.85	205	1060	7.8	2.6	3.0	4.43	69	83	1180
315L	1MT0003-3AC63-3 □□□□	132	991	95.4	95.7	0.85	245	1272	7.8	2.6	3.0	4.75	69	83	1230
355S	1MT0003-3BC23-3 □□□□	160	994	95.6	95.7	0.84	305	1537	8.5	3.0	2.4	10.57	71	85	1780
355M	1MT0003-3BC33-3 □□□□	185	993	95.7	95.8	0.84	350	1779	8.5	3.0	2.4	10.60	71	85	1870
355M	1MT0003-3BC43-3 □□□□	200	993	95.8	95.9	0.84	380	1923	8.5	3.0	2.4	11.09	71	85	1910
355L	1MT0003-3BC53-3 □□□□	220	993	95.8	96.0	0.84	415	2116	8.5	3.0	2.4	13.09	71	85	2070
355L	1MT0003-3BC63-3 □□□□	250	992	95.8	96.1	0.84	470	2407	8.5	3.0	2.4	13.09	71	85	2110

注:

<sup>1)</sup> 当电动机在50Hz电源供电空载运行时, 噪音容差为+3dB。当在60Hz电源下空载运行时, 噪音容差为+4dB。

<sup>2)</sup> 380VY 50Hz, 电动机订货号第 12、13 位代码为 90, 且须带选项 M3F。

Note:

<sup>1)</sup> Noise value is only applicable to the direct power supply and the condition of no-load operation. If the motor in 50Hz power supply, the tolerance is +3dB. If the motor in 60Hz power supply, the tolerance is +4dB.

<sup>2)</sup> 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

# 选型技术数据表 Technical data table

中国能效等级 3 级, IE3

机座号 Frame Size	型号 Order No.	额定 功率 Rated Output	额定 转速 Rated Speed	效率 — 参照 GB18613-2020, 即 IEC 60034-30 Efficiency is in accordance with GB18613-2020, IEC 60034-30				额定 转矩 Rated torque	起动 电流 Starting Current	起动 转矩 Starting torque	最大 转矩 Max torque	转动惯量 Moment of inertia(J)	噪音 <sup>1)</sup> Noise Lp(A)	噪音 <sup>1)</sup> Noise LWA	重量 Weight IMB3
				效率 Efficiency at (50 HZ) 4/4 load	效率 Efficiency at (50 HZ) 3/4 load	功率 因数 Power factor	额定 电流 (380V) Rated current								
				KW	rpm	%	%								
750rpm 8-pole															
380VY <sup>2)</sup> 50HZ															
132S	1MT0003-1CD09-0 □□□□	2.2	725	81.9	82.6	0.73	5.6	29	5.5	1.8	3.0	0.047	51	64	83
132M	1MT0003-1CD29-0 □□□□	3	720	83.5	84.5	0.74	7.4	39.8	5.5	1.8	3.0	0.062	51	64	97
750rpm 8-pole															
380VD/660VY 50HZ															
160M	1MT0003-1DD23-3 □□□□	4	728	84.8	86.4	0.74	9.7	52.5	5.5	1.7	2.8	0.076	55	68	129
160M	1MT0003-1DD33-3 □□□□	5.5	732	86.2	87.1	0.74	13.1	71.8	6.0	1.7	3.0	0.101	55	68	140
160L	1MT0003-1DD43-3 □□□□	7.5	732	87.3	88.3	0.74	17.6	97.8	6.0	1.8	3.0	0.128	55	68	162
180L	1MT0003-1ED43-3 □□□□	11	720	88.6	89.9	0.74	25.5	146	5.5	2.0	3.0	0.261	60	73	234
200L	1MT0003-2AD53-3 □□□□	15	728	89.6	90.2	0.73	35	197	6.5	2.5	3.5	0.413	61	74	313
225S	1MT0003-2BD03-3 □□□□	18.5	732	90.1	90.9	0.75	41.5	241	6.5	2.0	3.0	0.552	58	72	331
225M	1MT0003-2BD23-3 □□□□	22	732	90.6	91.5	0.75	49	287	6.5	2.0	2.5	0.608	58	72	359
250M	1MT0003-2CD23-3 □□□□	30	735	91.3	92.1	0.79	63	390	6.5	2.0	3.0	0.924	67	80	451
280S	1MT0003-2DD03-3 □□□□	37	735	91.8	92.8	0.79	78	481	5.5	2.4	2.5	1.183	69	82	540
280M	1MT0003-2DD23-3 □□□□	45	735	92.2	93.1	0.80	93	585	6.0	2.4	2.5	1.736	69	82	650
315S	1MT0003-3AD03-3 □□□□	55	738	92.5	93.0	0.81	112	710	6.2	1.8	2.9	2.16	70	83	860
315M	1MT0003-3AD23-3 □□□□	75	738	93.1	93.6	0.81	151	970	6.7	1.8	2.5	2.70	70	83	955
315L	1MT0003-3AD53-3 □□□□	90	738	93.4	93.9	0.82	179	1165	5.9	1.8	2.3	3.40	70	83	1000
315L	1MT0003-3AD63-3 □□□□	110	738	93.7	94.2	0.82	220	1418	7.1	2.3	3.0	4.25	70	83	1150
355S	1MT0003-3BD23-3 □□□□	132	743	94.0	94.5	0.81	265	1699	7.1	2.2	2.4	8.09	77	90	1630
355M	1MT0003-3BD33-3 □□□□	160	742	94.3	94.8	0.81	320	2059	7.1	2.2	2.4	9.50	77	90	1840
355L	1MT0003-3BD53-3 □□□□	185	742	94.6	95.0	0.82	360	2382	7.1	2.0	2.1	11.25	77	90	2010
355L	1MT0003-3BD63-3 □□□□	200	742	94.6	95.0	0.83	385	2576	7.4	2.0	2.1	12.63	77	90	2120

注:

<sup>1)</sup> 当电动机在50Hz电源供电空载运行时, 噪音容差为+3dB。当在60Hz电源下空载运行时, 噪音容差为+4dB。

<sup>2)</sup> 380VY 50Hz, 电动机订货号第 12、13 位代码为 90, 且须带选项 M3F。

Note:

<sup>1)</sup> Noise value is only applicable to the direct power supply and the condition of no-load operation. If the motor in 50Hz power supply, the tolerance is +3dB. If the motor in 60Hz power supply, the tolerance is +4dB.

<sup>2)</sup> 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

# 选件 Options

电动机订货号 Motor order code	选件号 Option Code <sup>1)</sup>	描述 Description	应用范围 Application Scope
<b>电压与频率</b> Voltages and frequency			
1MT0003-□□□□2-1□□□□	—	220V Δ / 380VY 50 Hz (50Hz output, 50Hz功率输出)	FS112 ~ 280 <sup>3)</sup>
1MT0003-□□□□3-3□□□□	—	380V Δ / 660VY 50 Hz (50Hz output, 50Hz功率输出, 4 kW ~ 315 kW <sup>2)</sup> )	FS112 ~ 355 <sup>3)</sup>
1MT0003-□□□□2-2□□□□	—	230V Δ / 400VY 50 Hz (50Hz output, 50Hz功率输出)	FS112 ~ 280 <sup>3)</sup>
1MT0003-□□□□3-4□□□□	—	400V Δ / 690VY 50 Hz (50Hz output, 50Hz功率输出)	FS112 ~ 355 <sup>3)</sup>
1MT0003-□□□□9-0□□□□-Z	M3F <sup>2)</sup>	380 VY 50 Hz (50Hz output, 50Hz的输出功率)	FS80 ~ 132 <sup>4)</sup>
<b>绕组保护和轴承保护</b> Winding protection and bearing protection			
1MT0003-□□□□□□-□□A□ <sup>2)</sup>	—	无绕组保护 Without motor protection	FS80 ~ 355
1MT0003-□□□□□□-□□B□	—	绕组带一组三芯串联的 PTC 热敏电阻用于跳闸, 需用2个辅助接线端子 Motor protection with PTC thermistors with three embedded temperature sensors for tripping, need 2 terminals	FS80 ~ 355
1MT0003-□□□□□□-□□C□	—	绕组带两组三芯串联的 PTC 热敏电阻用于报警和跳闸, 需用4个辅助接线端子 Motor protection with PTC thermistors with six embedded temperature sensors for alarm & tripping, need 4 terminals	FS80 ~ 355
1MT0003-□□□□□□-□□H□-Z	—	绕组带3个单支两线制PT100测温元件, 需用6个辅助接线端子 Installation of 3 single 2 wires PT100 resistance thermometers, need 6 terminals	FS100 ~ 355
1MT0003-□□□□□□-□□J□-Z	—	绕组带6个单支两线制PT100测温元件, 需用12个辅助接线端子 Installation of 6 single 2 wires PT100 resistance thermometers, need 12 terminals	FS180 ~ 355
—	Q04	绕组带 220 V 防潮加热带 Anti-condensation heating for 220 V	FS80 ~ 355
—	Q72 <sup>5)</sup>	轴承带2个单支双线制PT100测温元件, 需用4个辅助接线端子 Installation of 2 single 2 wires PT100 resistance thermometers for bearings, need 4 terminals	FS160 ~ 355
<b>冷却与通风</b> Ventilation			
—	F76	金属风扇 Metal Fan	FS80 ~ 355

<sup>1)</sup> 订货时, 电动机订货号需带“-Z”, 另外附上选件号。

<sup>2)</sup> 无需附加费用。

<sup>3)</sup> 适用于4kW及以上的功率。

<sup>4)</sup> 适用于3kW及以下的功率。

<sup>5)</sup> 适用于2, 4, 6极电机。

<sup>1)</sup> When ordering, need supplement "-Z" after order number. Add option code after that.

<sup>2)</sup> Without additional charge.

<sup>3)</sup> Apply to 4kW and above.

<sup>4)</sup> Apply to 3kW and below.

<sup>5)</sup> Apply to motors with 2,4,6 poles.

# 选件 Options

电动机订货号 Motor order code	选件号 Option Code <sup>1)</sup>	描述 Description	应用范围 Application Scope
<b>电动机接线盒</b> Motor connection box			
1MT0003-□□□□□□-□□□□4 <sup>2)</sup>	—	接线盒在顶端 Connection box on top 进线孔在右侧（从驱动端看）（标准电动机） cable entry on right (view from DE) (Standard version)	FS80 ~ 355
—	R10 <sup>6)</sup>	接线盒顺时针旋转 90° Clockwise rotate the connection box through 90°	FS80 ~ 355
—	R11	接线盒逆时针旋转 90° Counter-clockwise rotate the connection box through 90°	FS80 ~ 355
—	R12	接线盒直接旋转 180° Rotation of the connection box through 180°	FS80 ~ 355
—	X97	钢管布线孔 Conduit entry	FS80 ~ 355
<b>轴承</b> bearing			
—	L80	SKF轴承 SKF bearings	FS80 ~ 355
—	L81	其他进口品牌轴承 Other import brand bearing	FS80 ~ 355
—	L20	驱动端轴承固定 Located bearing at DE	FS80 ~ 132
—	L22	增强悬臂力轴承设计 Bearing design for increased cantilever forces	FS160 ~ 355
—	L23 <sup>7)</sup>	再润滑装置 Regreasing device	FS160 ~ 250
<b>平衡及振动等级</b> Balance and Vibration quantity			
—	L00	B 级振动等级 Vibration quantity level B	FS80 ~ 355

<sup>1)</sup> 订货时，电动机订货号需带“-Z”，另外附上选件号。

<sup>2)</sup> 无需附加费用。

<sup>6)</sup> 选择此项时需留意安装环境，请确认进线孔前方有足够的空间用于接入电缆。

<sup>7)</sup> 对于FS280、FS315、FS355，再润滑装置是标配。加排油装置不可用于B8安装方式。

<sup>1)</sup> When ordering, need supplement "-Z" after order number. Add option code after that.

<sup>2)</sup> Without additional charge.

<sup>6)</sup> When ordering this option, please take care about the installation location that whether there is enough space for cable inserting.

<sup>7)</sup> Re-grease device is configured as standard for FS280, FS315, and FS355. Re-grease device can't be configured together with mounting construction IM B8.

# 选件 Options

电动机订货号 Motor order code	选件号 Option Code <sup>1)</sup>	描述 Description	应用范围 Application Scope
<b>机械设计和防护等级</b> Mechanical design and degrees of protection			
—	L04	光轴设计，不带键槽和键 Shaft without key and keyway	FS80 ~ 355
—	H70	第二外部接地 2nd External grounding	FS80 ~ 355
—	H22	IP56 防护等级（非高海况） IP56 degree of protection (non-heavy-sea)	FS80 ~ 355
—	H20	IP65 防护等级 IP65 degree of protection	FS80 ~ 355
<b>变频应用</b> Converter fed application			
—	F70+B44 <sup>8)</sup>	由变频器驱动的电机电，IC416冷却方式,电机带独立驱动风扇,温升等级按照F级考核 For converter-fed operation, Mounting of separately-driven fan ,utilization in accordance with temperature class F	FS80 ~ 355
<b>铭牌和测试证书</b> Rating plate and test certificates			
—	B80	出厂检验报告 Acceptance test certificate 3.1 in accordance with EN 10204	FS80 ~ 355
—	W9P	能效标签及合格证不贴，随机带走 CEL label and quality certificate not pasted,delivered with motors	FS80 ~ 355
<b>颜色和喷漆</b> Colors and Paint finish			
—	S01	不喷漆，只带底漆 Unpainted, only primed	FS80 ~ 355
—	W88	适用于TH,W,F1,WF1以及海洋性气候环境用电机 Design for TH, W, F1, WF1 and sea-air resistance	FS80 ~ 355
<b>包装</b> Packing			
—	B90	包装（FS80 ~ 132 电动机采用纸箱包装，FS160 ~ 355 电动机采用木箱包装） Packing(FS80~132 motors adopt the carton packaging, FS160~355 motors adopt the wooden cases packaging)	FS80 ~ 355
—	V9N	法兰安装电机用简易托盘 Simple tray for flange mounted motors	FS160 ~ 280

<sup>1)</sup> 订货时，电动机订货号需带“-Z”，另外附上选件号。

<sup>8)</sup> 对于变频防爆应用，须同时选用绕组测温。机座号为FS315和FS355的电机在选F70+B44时，非驱动端标配为绝缘轴承，无需增加选件。当选择F70+B44时，全系列标配金属风扇，无需选择F76。

<sup>1)</sup> When ordering, need supplement "-Z" after order number. Add option code after that.

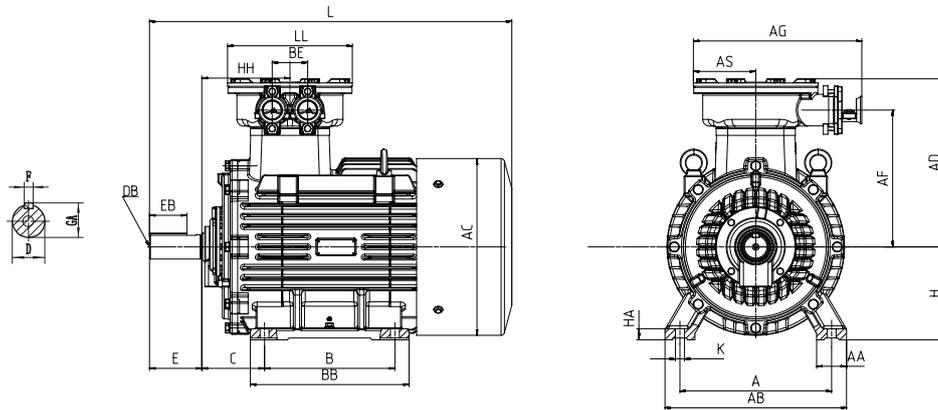
<sup>8)</sup> For VSD application, please select winding protection. For FS315/355, insulated bearing at NDE is configured as default. When F70+B44 is selected, the motor is configured with metal fan for FS80-FS355. No need to select F76.

# 外形尺寸 Dimension drawings

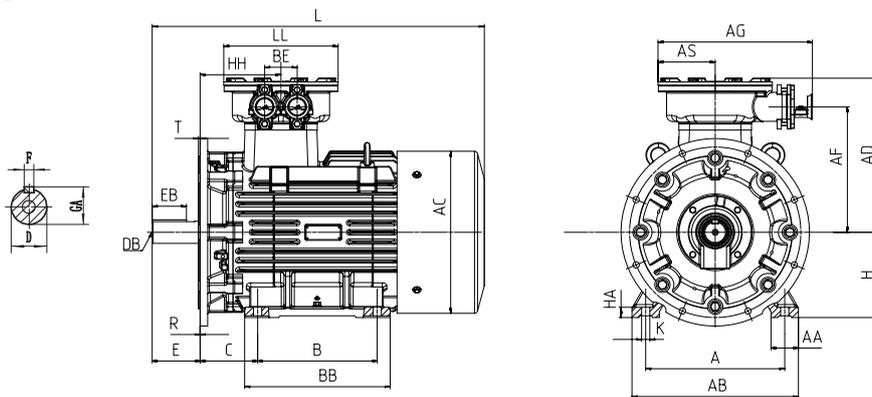
1MT0003隔爆系列电动机 Flameproof series motor 1MT0003

机座号从 80M ~ 355M Frame sizes 80M to 355M

IM B3 安装结构型式 Type of construction IM B3



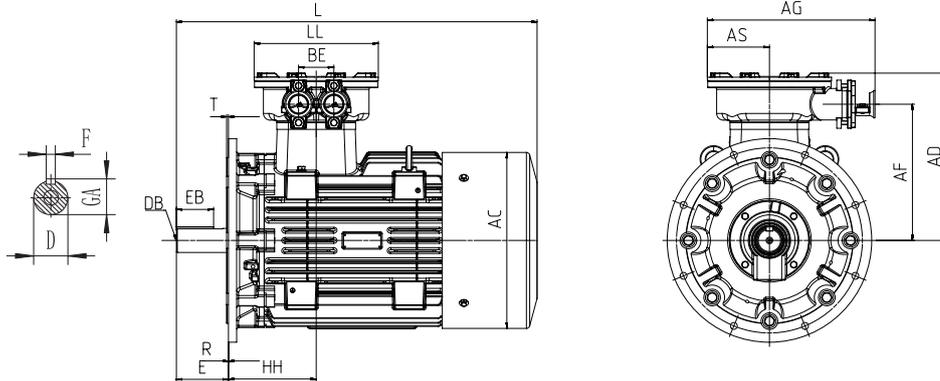
IM B35 安装结构型式 Type of construction IM B35



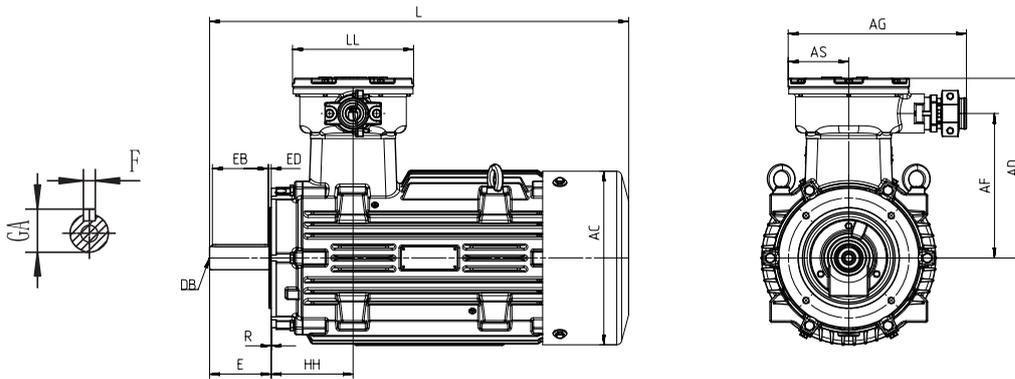
机座号 Frame size	订货号 MLFB 1MT0003-	极数 Poles	尺寸及公差/mm Dimension and tolerance												
			A	B <sup>2)</sup>	C <sup>3)</sup>		D		E		F		GA	H	
					基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance		基本尺寸 dimension	极限偏差 tolerance
80M	0DA2,0DA3,0DB2,0DB3,0DC3	2,4,6	125	100	50	±1.5	19	+0.009 -0.004	40	±0.3	6	0 -0.030	21.5	80	0 -0.5
90S	0EA0,0EB0,0EC0	2,4,6	140	100	56	±1.5	24	+0.009 -0.004	50	±0.3	8	0 -0.036	27	90	0 -0.5
90L	0EA4,0EB4,0EC4	2,4,6	140	125	56	±1.5	24	+0.009 -0.004	50	±0.3	8	0 -0.036	27	90	0 -0.5
100L	1AA4,1AB4,1AB5,1AC4	2,4,6	160	140	63	±2.0	28	+0.009 -0.004	60	±0.3	8	0 -0.036	31	100	0 -0.5
112M	1BA2,1BB2,1BC2	2,4,6	190	140	70	±2.0	28	+0.009 -0.004	60	±0.3	8	0 -0.036	31	112	0 -0.5
132S	1CA0,1CA1,1CB0,1CC0,1CD0	2,4,6,8	216	140	89	±2.0	38	+0.018 +0.002	80	±0.3	10	0 -0.036	41	132	0 -0.5
132M	1CB2,1CC2,1CC3,1CD2	4,6,8	216	178	89	±2.0	38	+0.018 +0.002	80	±0.3	10	0 -0.036	41	132	0 -0.5
160M	1DA2,1DA3,1DB2,1DC2,1DD2,1DD3	2,4,6,8	254	210	108	±3.0	42	+0.018 +0.002	110	±0.3	12	0 -0.043	45	160	0 -0.5
160L	1DA4,1DB4,1DC4,1DD4	2,4,6,8	254	254	108	±3.0	42	+0.018 +0.002	110	±0.3	12	0 -0.043	45	160	0 -0.5
180M	1EA2,1EB2	2,4	279	241	121	±3.0	48	+0.018 +0.002	110	±0.3	14	0 -0.043	51.5	180	0 -0.5

<sup>1)</sup> 含螺钉头测量尺寸。 <sup>2)</sup> 该尺寸为DIN EN 50347 标准所列机座号对应尺寸。  
<sup>3)</sup> 当特殊设计为接线盒在非驱动端时，电机安装等相关尺寸会发生变化，具体请咨询茵梦达。

IM B5 以及 IM V1 安装结构型式 Type of construction IM B5 and IM V1



IM B14 安装结构型式 Type of construction IM B14



机座号 Frame size	订货号 MLFB 1MT0003-	极数 Poles	尺寸及公差/mm Dimension and tolerance																				
			K		AB	AC <sup>1)</sup>	AD	L	AA	AF	AG	AS	BB	BE	HA	LL	DB	EB					
			基本尺寸 dimension	极限偏差 tolerance														基本尺寸 dimension	极限偏差 tolerance	AQ	LM	HH <sup>3)</sup>	R
80M	0DA2,0DA3,0DB2,0DB3,0DC3	2,4,6	10	+0.36 0	160	161	215	390	34	159	265	84	130	-	10	168	M6x16	32	0 -0.62	145	445	108	0
90S	0EA0,0EB0,0EC0	2,4,6	10	+0.36 0	176	175	225	420	36	167	265	84	130	-	14	168	M8x19	40	0 -0.62	165	475	111	0
90L	0EA4,0EB4,0EC4	2,4,6	10	+0.36 0	176	175	225	455	36	167	265	84	155	-	14	168	M8x19	40	0 -0.62	165	510	111	0
100L	1AA4,1AB4,1AB5,1AC4	2,4,6	12	+0.43 0	200	196	245	535	40	187	265	84	174	-	14	168	M10x22	50	0 -0.62	195	590	131	0
112M	1BA2,1BB2,1BC2	2,4,6	12	+0.43 0	240	221	255	485	50	187	300	104	180	-	16	208	M10x22	50	0 -0.62	220	540	125	0
132S	1CA0,1CA1,1CB0,1CC0,1CD0	2,4,6,8	12	+0.43 0	262	257	285	530	55	215	300	104	190	-	18	208	M12x28	70	0 -0.74	257	585	127	0
132M	1CB2,1CC2,1CC3,1CD2	4,6,8	12	+0.43 0	262	257	285	580	55	215	300	104	230	-	18	208	M12x28	70	0 -0.74	257	640	127	0
160M	1DA2,1DA3,1DB2,1DC2,1DD2,1DD3	2,4,6,8	15	+0.43 0	324	311	330	690	70	259	318	108	258	-	25	216	M16x36	100	0 -0.87	300	755	146	0
160L	1DA4,1DB4,1DC4,1DD4	2,4,6,8	15	+0.43 0	324	311	330	755	70	259	318	108	302	-	25	216	M16x36	100	0 -0.87	300	820	146	0
180M	1EA2,1EB2	2,4	15	+0.43 0	349	356	350	785	70	280	318	108	321	-	22	216	M16x36	100	0 -0.87	330	855	169	0

<sup>1)</sup> Measured across the bolt heads. <sup>2)</sup> This dimension is assigned in DIN EN 50347 to the frame size listed.

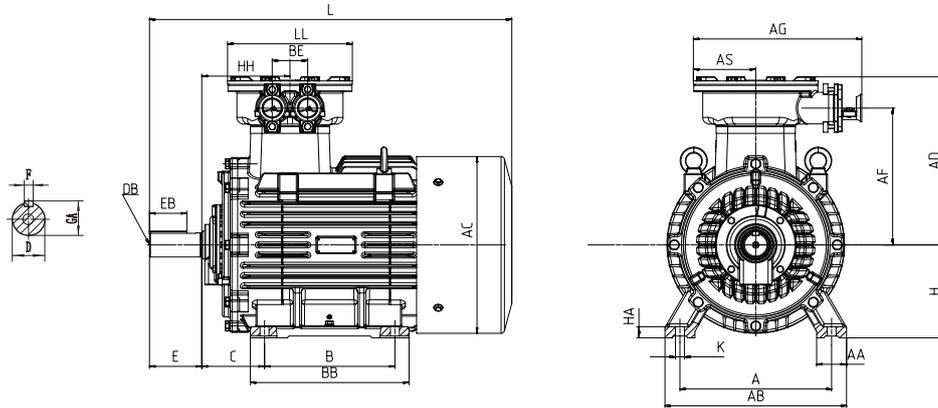
<sup>3)</sup> When terminal box special designed at the non drive end, the dimension related to motor installation may change, for more information, please consult the INNOMOTICS.

# 外形尺寸 Dimension drawings

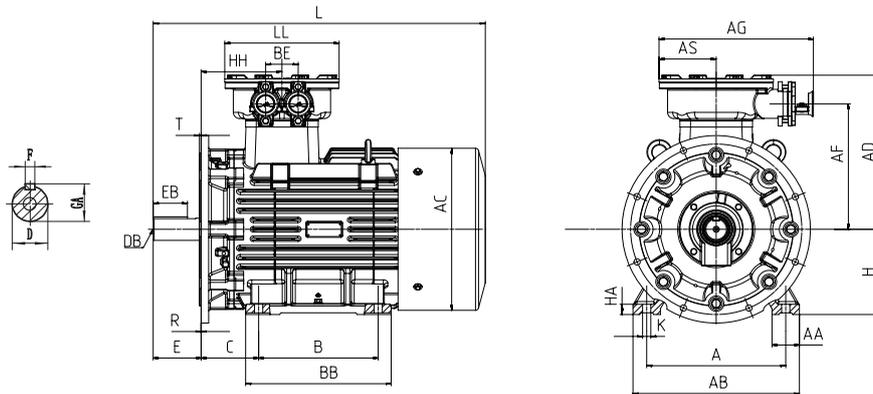
1MT0003隔爆系列电动机 Flameproof series motor 1MT0003

机座号从 80M ~ 355M Frame sizes 80M to 355M

IM B3 安装结构型式 Type of construction IM B3



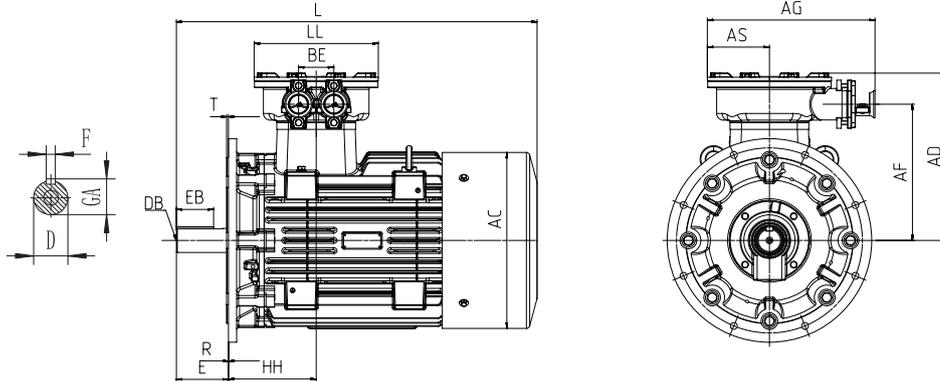
IM B35 安装结构型式 Type of construction IM B35



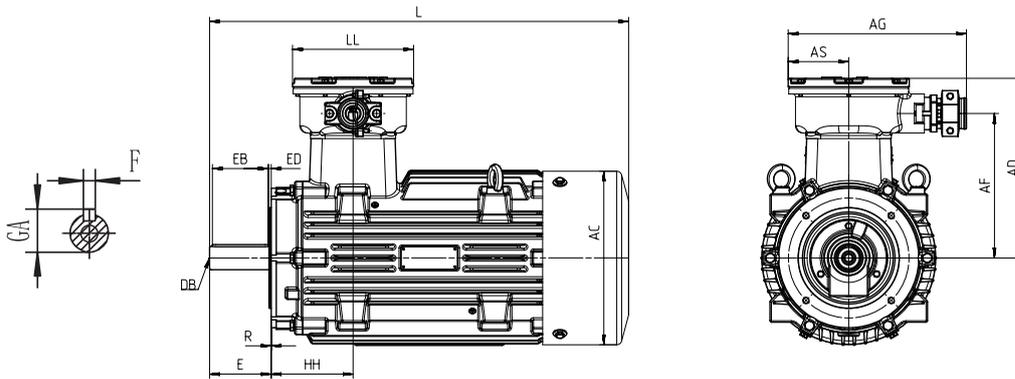
机座号 Frame size	订货号 MLFB 1MT0003-	极数 Poles	尺寸及公差/mm Dimension and tolerance												
			A	B <sup>2)</sup>	C <sup>3)</sup>		D		E		F		GA	H	
					基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance		基本尺寸 dimension	极限偏差 tolerance
180L	1EB4,1EC4,1ED4	4,6,8	279	279	121	±3.0	48	+0.018 +0.002	110	±0.3	14	0 -0.043	51.5	180	0 -0.5
200L	2AA4,2AA5,2AB4,2AC4,2AC5, 2AD5	2,4,6,8	318	305	133	±3.0	55	+0.030 +0.011	110	±0.3	16	0 -0.043	59	200	0 -0.5
225S	2BB0,2BD0	4,8	356	286	149	±4.0	60	+0.030 +0.011	140	±0.5	18	0 -0.043	64	225	0 -0.5
225M	2BA2	2	356	311	149	±4.0	55	+0.030 +0.011	110	±0.3	16	0 -0.043	59	225	0 -0.5
	2BB2,2BC2,2BD2	4,6,8	356	311	149	±4.0	60	+0.030 +0.011	140	±0.5	18	0 -0.043	64	225	0 -0.5
250M	2CA2	2	406	349	168	±4.0	60	+0.030 +0.011	140	±0.5	18	0 -0.043	64	250	0 -0.5
	2CB2,2CC2,2CD2	4,6,8	406	349	168	±4.0	65	+0.030 +0.011	140	±0.5	18	0 -0.043	69	250	0 -0.5
280S	2DA0	2	457	368	190	±4.0	65	+0.030 +0.011	140	±0.5	18	0 -0.043	69	280	0 -1.0
	2DB0,2DC0,2DD0	4,6,8	457	368	190	±4.0	75	+0.030 +0.011	140	±0.5	20	0 -0.052	79.5	280	0 -1.0

<sup>1)</sup> 含螺钉头测量尺寸。 <sup>2)</sup> 该尺寸为DIN EN 50347 标准所列机座号对应尺寸。  
<sup>3)</sup> 当特殊设计为接线盒在非驱动端时，电机安装等相关尺寸会发生变化，具体请咨询茵梦达。

IM B5 以及 IM V1 安装结构型式 Type of construction IM B5 and IM V1



IM B14 安装结构型式 Type of construction IM B14



机座号 Frame size	订货号 MLFB 1MT0003-	极数 Poles	尺寸及公差/mm Dimension and tolerance																					
			K														EB							
			基本尺寸 dimension	极限偏差 tolerance	AB	AC <sup>1)</sup>	AD	L	AA	AF	AG	AS	BB	BE	HA	LL	DB	基本尺寸 dimension	极限偏差 tolerance	ED	AQ	LM	HH <sup>2)</sup>	R
180L	1EB4,1EC4,1ED4	4,6,8	15	+0.43 0	349	356	350	825	70	280	318	108	359	-	22	216	M16x36	100	0 -0.87	5	330	890	169	0
200L	2AA4,2AA5,2AB4,2AC4,2AC5, 2AD5	2,4,6,8	19	+0.52 0	388	398	390	905	70	311.5	371	129	369	-	25	258	M20x42	100	0 -0.87	5	370	970	200	0
225S	2BB0,2BD0	4,8	19	+0.52 0	431	429	405	925	75	332	371	129	355	-	28	258	M20x42	125	0 -1	10	415	900	205	0
225M	2BA2	2	19	+0.52 0	431	429	405	980	75	332	371	129	380	-	28	258	M20x42	100	0 -0.87	5	415	1045	205	0
	2BB2,2BC2,2BD2	4,6,8	19	+0.52 0	431	429	405	1010	75	332	371	129	380	-	28	258	M20x42	125	0 -1	10	415	1075	205	0
250M	2CA2	2	24	+0.52 0	486	475	455	975	80	368	451	167	425	95	30	334	M20x42	125	0 -1	10	465	1055	236	0
	2CB2,2CC2,2CD2	4,6,8	24	+0.52 0	486	475	455	975	80	368	451	167	425	95	30	334	M20x42	125	0 -1	10	465	1055	236	0
280S	2DA0	2	24	+0.52 0	542	530	485	1020	85	398	451	167	445	95	35	332	M20x42	125	0 -1	10	505	1100	235	0
	2DB0,2DC0,2DD0	4,6,8	24	+0.52 0	542	530	485	1020	85	398	451	167	445	95	35	332	M20x42	125	0 -1	10	505	1100	235	0

<sup>1)</sup> Measured across the bolt heads. <sup>2)</sup> This dimension is assigned in DIN EN 50347 to the frame size listed.

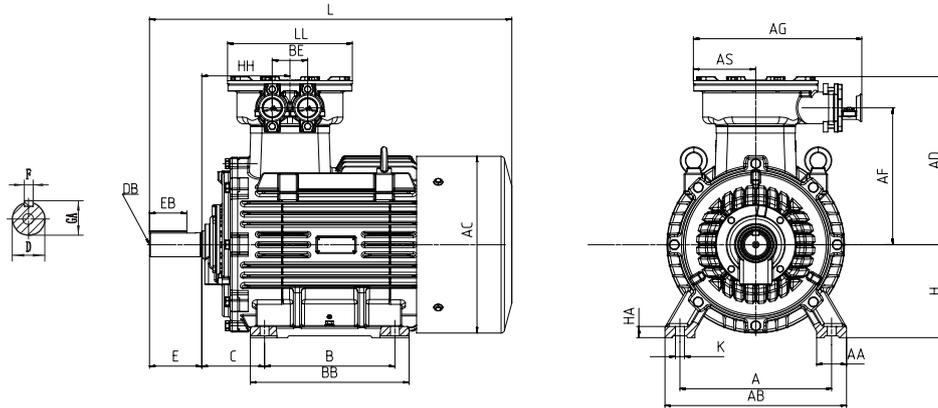
<sup>3)</sup> When terminal box special designed at the non drive end, the dimension related to motor installation may change, for more information, please consult the INNOMOTICS.

# 外形尺寸 Dimension drawings

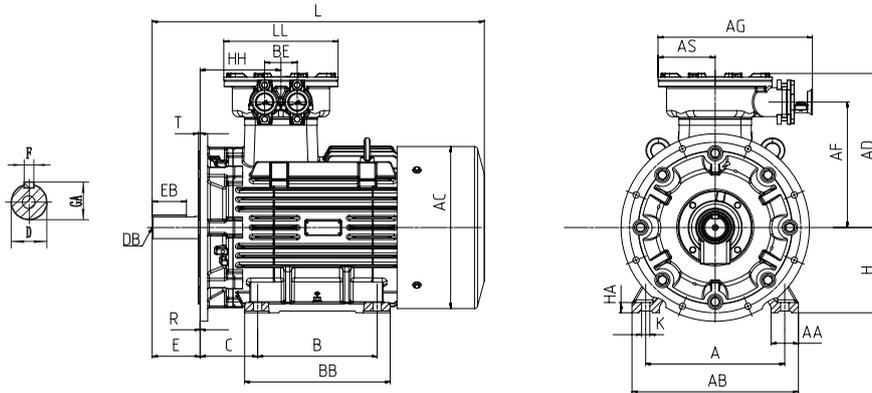
1MT0003隔爆系列电动机 Flameproof series motor 1MT0003

机座号从 80M ~ 355M Frame sizes 80M to 355M

IM B3 安装结构型式 Type of construction IM B3



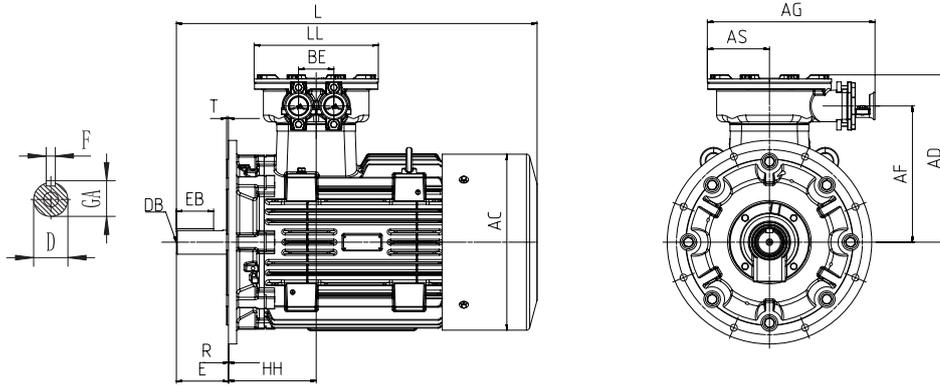
IM B35 安装结构型式 Type of construction IM B35



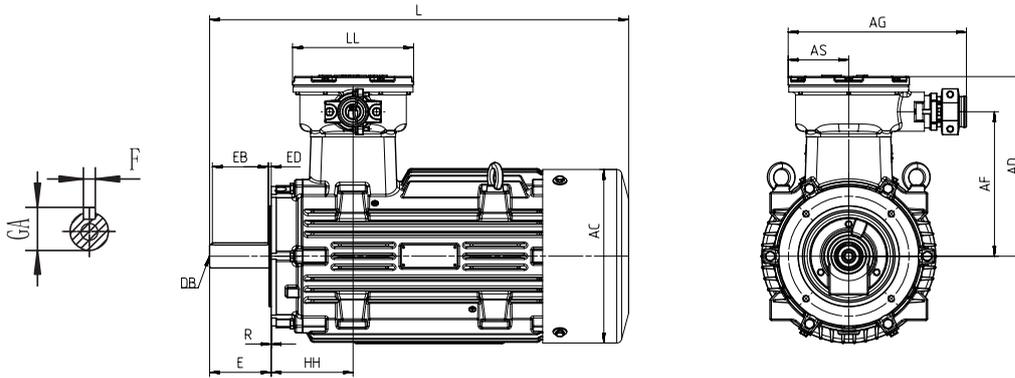
机座号 Frame size	订货号 MLFB 1MT0003-	极数 Poles	尺寸及公差/mm Dimension and tolerance												
			A		C <sup>3)</sup>		D		E		F		GA	H	
			A	B <sup>2)</sup>	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance		基本尺寸 dimension	极限偏差 tolerance
280M	2DA2	2	457	419	190	±4.0	65	+0.030 +0.011	140	±0.5	18	0 -0.043	69	280	0 -1.0
	2DB2, 2DC2, 2DD2	4,6,8	457	419	190	±4.0	75	+0.030 +0.011	140	±0.5	20	0 -0.052	79.5	280	0 -1.0
315S	3AA0	2	508	406	216	±4.0	65	+0.030 +0.011	140	±0.5	18	0 -0.043	69	315	0 -1.0
	3AB0,3AC0,3AD0	4,6,8	508	406	216	±4.0	80	+0.030 +0.011	170	±0.5	22	0 -0.052	85	315	0 -1.0
315M	3AA2	2	508	457	216	±4.0	65	+0.030 +0.011	140	±0.5	18	0 -0.043	69	315	0 -1.0
	3AB2,3AC2,3AD2	4,6,8	508	457	216	±4.0	80	+0.030 +0.011	170	±0.5	22	0 -0.052	85	315	0 -1.0
315L	3AA5,3AA6,3AA7	2	508	508	216	±4.0	65	+0.030 +0.011	140	±0.5	18	0 -0.043	69	315	0 -1.0
	3AB5,3AB6,3AB7,3AC5,3AC6, 3AD5,3AD6	4,6,8	508	508	216	±4.0	80	+0.030 +0.011	170	±0.5	22	0 -0.052	85	315	0 -1.0
355S	3BC2,3BD2	6,8	610	500	254	±4.0	95	+0.035 +0.013	170	±0.5	25	0 -0.052	100	355	0 -1.0
355M	3BA2,3BA3	2	610	560	254	±4.0	75	+0.030 +0.011	140	±0.5	20	0 -0.052	79.5	355	0 -1.0
	3BB2,3BB3,3BC3,3BC4,3BD3	4,6,8	610	560	254	±4.0	95	+0.035 +0.013	170	±0.5	25	0 -0.052	100	355	0 -1.0
355L	3BA5,3BA6	2	610	630	254	±4.0	75	+0.030 +0.011	140	±0.5	20	0 -0.052	79.5	355	0 -1.0
	3BB5,3BB6,3BC5,3BC6, 3BD5,3BD6	4,6,8	610	630	254	±4.0	95	+0.035 +0.013	170	±0.5	25	0 -0.052	100	355	0 -1.0

<sup>1)</sup> 含螺钉头测量尺寸。 <sup>2)</sup> 该尺寸为DIN EN 50347 标准所列机座号对应尺寸。  
<sup>3)</sup> 当特殊设计为接线盒在非驱动端时，电机安装等相关尺寸会发生变化，具体请咨询茵梦达。

IM B5 以及 IM V1 安装结构型式 Type of construction IM B5 and IM V1



IM B14 安装结构型式 Type of construction IM B14



机座号 Frame size	订货号 MLFB 1MT0003-	极数 Poles	尺寸及公差/mm Dimension and tolerance																					
			K		AB	AC <sup>1)</sup>	AD	L	AA	AF	AG	AS	BB	BE	HA	LL	DB	EB		ED	AQ	LM	HH <sup>3)</sup>	R
			基本尺寸 dimension	极限偏差 tolerance														基本尺寸 dimension	极限偏差 tolerance					
280M	2DA2	2	24	+0.52 0	542	530	485	1085	85	398	451	167	505	95	35	332	M20x42	125	0 -1	10	505	1165	235	0
	2DB2, 2DC2, 2DD2	4,6,8	24	+0.52 0	542	530	485	1085	85	398	451	167	505	95	35	332	M20x42	125	0 -1	10	505	1165	235	0
315S	3AA0	2	28	+0.52 0	628	581	605	1280	120	483	557	211	546	120	45	422	M20x42	125	0 -1	10	590	1350	299	0
	3AB0,3AC0,3AD0	4,6,8	28	+0.52 0	628	581	605	1310	120	483	557	211	546	120	45	422	M20x42	140	0 -1	25	590	1380	299	0
315M	3AA2	2	28	+0.52 0	628	581	605	1440	120	483	557	211	648	120	45	422	M20x42	125	0 -1	10	590	1510	299	0
	3AB2,3AC2,3AD2	4,6,8	28	+0.52 0	628	581	605	1470	120	483	557	211	648	120	45	422	M20x42	140	0 -1	25	590	1540	299	0
315L	3AA5,3AA6,3AA7	2	28	+0.52 0	628	581	605	1440	120	483	557	211	648	120	45	422	M20x42	125	0 -1	10	590	1510	299	0
	3AB5,3AB6,3AB7,3AC5,3AC6, 3AD5,3AD6	4,6,8	28	+0.52 0	628	581	605	1470	120	483	557	211	648	120	45	422	M20x42	140	0 -1	25	590	1540	299	0
355S	3BC2,3BD2	6,8	28	+0.52 0	730	697	690	1455	120	570	557	211	630	120	50	422	M24x50	140	0 -1	25	665	1525	294	0
355M	3BA2,3BA3	2	28	+0.52 0	730	697	690	1585	120	570	557	211	780	120	50	422	M20x42	125	0 -1	10	665	1655	294	0
	3BB2,3BB3,3BC3,3BC4,3BD3	4,6,8	28	+0.52 0	730	697	690	1615	120	570	557	211	780	120	50	422	M24x50	140	0 -1	25	665	1685	294	0
355L	3BA5,3BA6	2	28	+0.52 0	730	697	690	1585	120	570	557	211	780	120	50	422	M20x42	125	0 -1	10	665	1655	294	0
	3BB5,3BB6,3BC5,3BC6, 3BD5,3BD6	4,6,8	28	+0.52 0	730	697	690	1615	120	570	557	211	780	120	50	422	M24x50	140	0 -1	25	665	1685	294	0

<sup>1)</sup> Measured across the bolt heads. <sup>2)</sup> This dimension is assigned in DIN EN 50347 to the frame size listed.

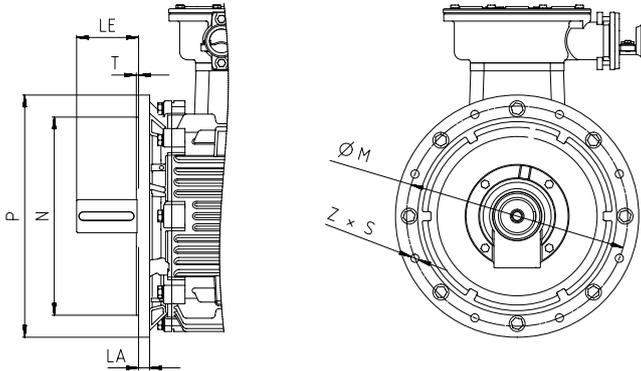
<sup>3)</sup> When terminal box special designed at the non drive end, the dimension related to motor installation may change, for more information, please consult the INNOMOTICS.

# 外形尺寸 Dimension drawings

## 法兰尺寸 Flange dimension

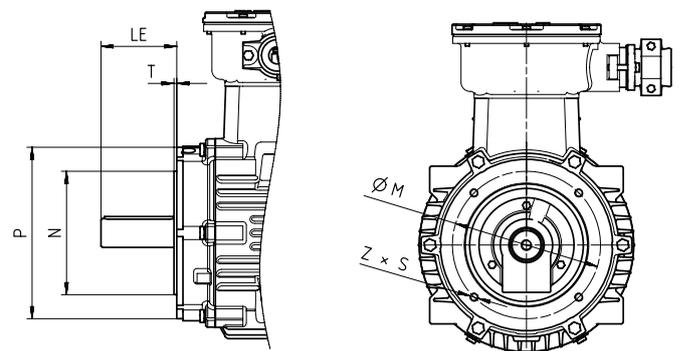
IM B5、IM B35、IM V1、IM V3 安装结构型式

Type of construction IM B5, IM B35, IM V1, IM V3



IM B14、IM V18、IM V19 安装结构型式

Type of construction IM B14, IM V18, IM V19



IM B5法兰尺寸 IM B5 flange dimensions

机座号 Frame size	法兰带通孔(FF/A) Flange with holes	尺寸 Dimension							
	DIN / EN 50347	LA	LE	M	N	P	T	S	Z
80	FF165	12	40	165	130	200	3.5	12	4
90	FF165	10	50	165	130	200	3.5	12	4
100	FF215	13	60	215	180	250	4	14.5	4
112	FF215	13	60	215	180	250	4	14.5	4
132	FF265	15	80	265	230	300	4	14.5	4
160	FF300	18	110	300	250	350	5	18.5	4
180	FF300	18	110	300	250	350	5	18.5	4
200	FF350	20	110	350	300	400	5	18.5	4
225	FF400	20	110/140	400	350	450	5	18.5	8
250	FF500	22	140	500	450	550	5	18.5	8
280	FF500	25	140	500	450	550	5	18.5	8
315	FF600	25	140/170	600	550	660	6	24	8
355	FF740	25	140/170	740	680	800	6	24	8

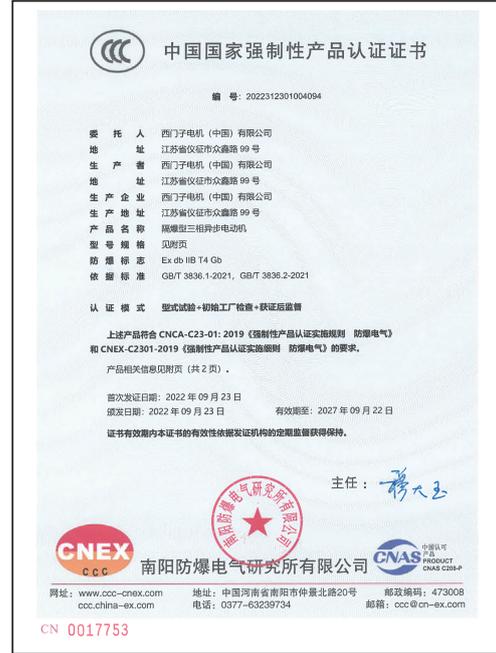
IM B14法兰尺寸 IM B14 flange dimensions

机座号 Frame size	法兰带盲孔(FT/C) Flange with blind holes	尺寸 Dimension							
	DIN / EN 50347	LA	LE	M	N	P	T	S	Z
80	FT100	—	40	100	80	120	3	M6 × 15 <sup>1)</sup>	4
90	FT115	—	50	115	95	140	3	M8 × 15	4
100	FT130	—	60	130	110	160	3.5	M8 × 17	4
112	FT130	—	60	130	110	160	3.5	M8 × 17	4
132	FT165	—	80	165	130	200	3.5	M10 × 19	4
160	FT215	—	110	215	180	250	4	M12 × 23	4

<sup>1)</sup> 上表中S尺寸为螺纹规格×孔深（例：M12×23表示螺纹规格M12，螺纹孔深度23mm）。

<sup>1)</sup> Dimension S in the table includes screw thread x depth. (eg: M12 x 23 means screw thread is M12 and the depth is 23 mm)

# 认证 Certificates



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