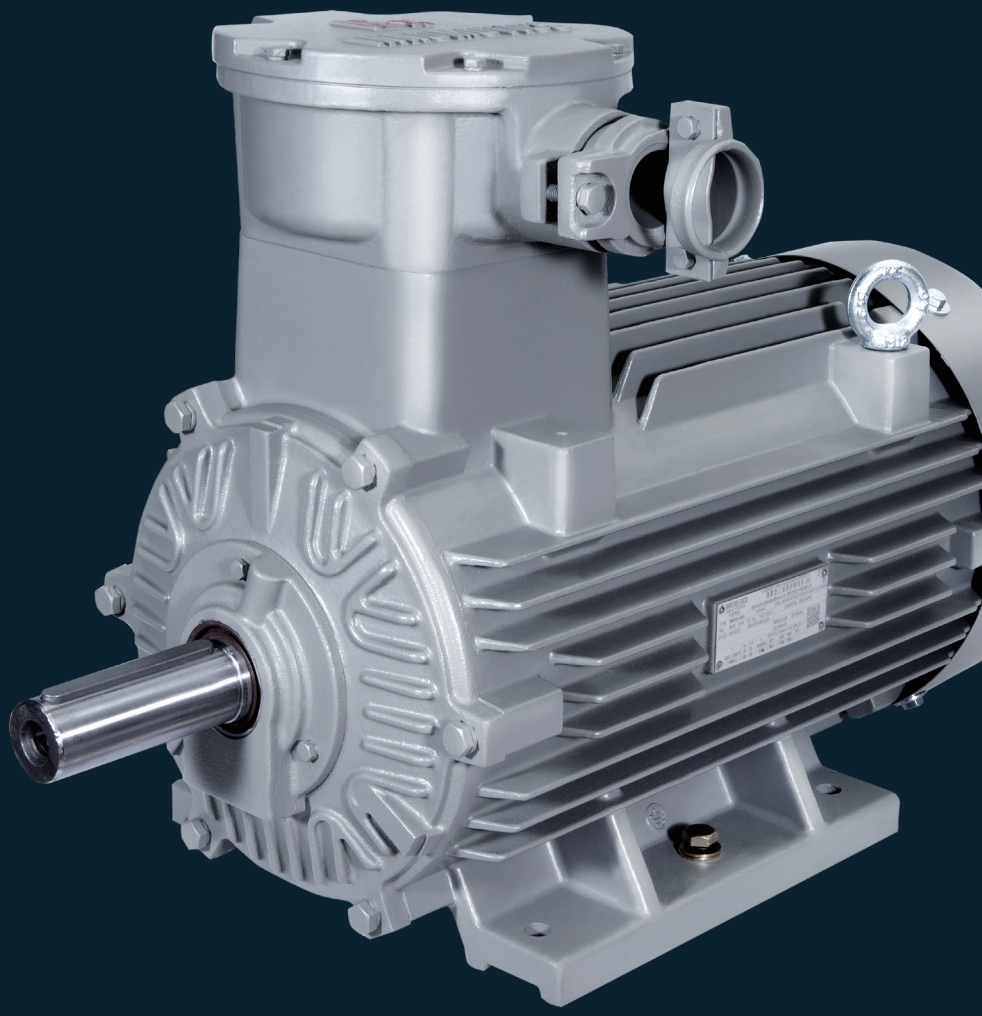
INNOMOTICS



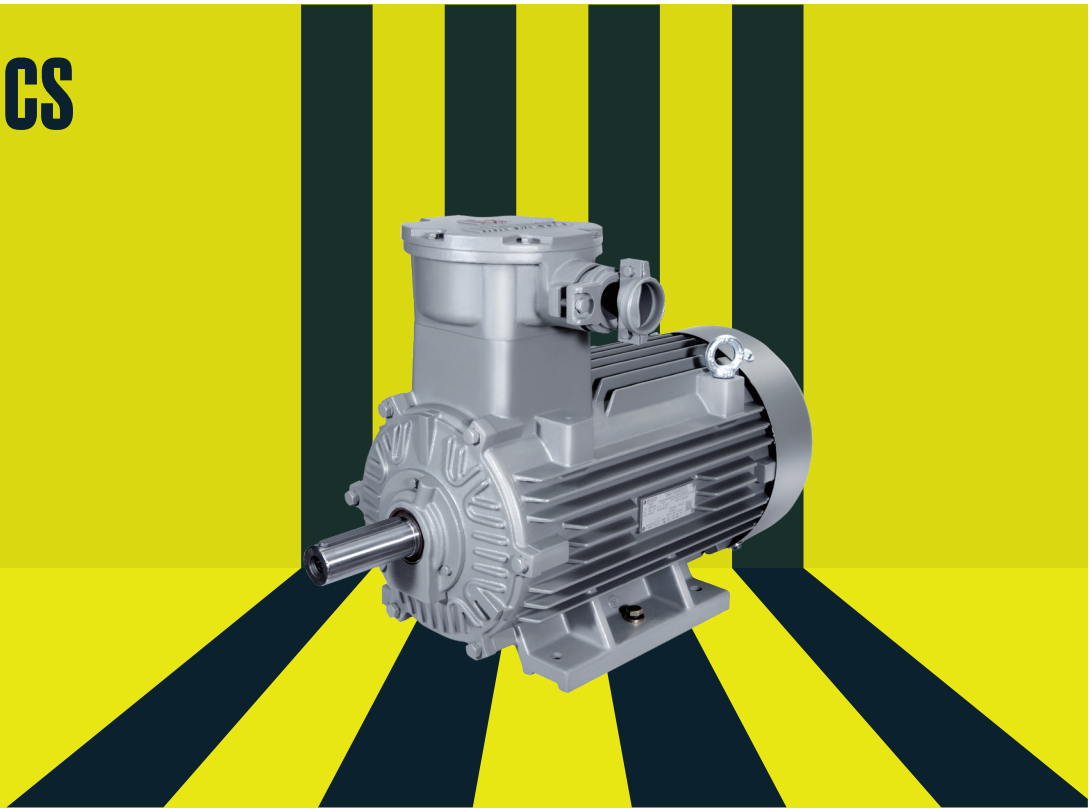
产品样本 05/2024

Innomotics Moves!

Low Voltage Flameproof motor IE3 1MB0063

IE3 能效低压隔爆电动机 1MB0063

INNOMOTICS



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，成立了独立运营的全资子公司——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。

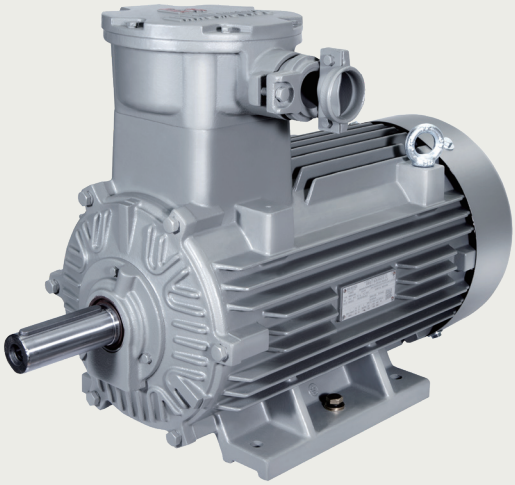
凭借百余年技术积淀和创新，茵梦达将专注于电机和大型传动专业领域。作为行业领军企业，茵梦达将不断推动工业化进程和可持续发展。

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日合正式运营，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。



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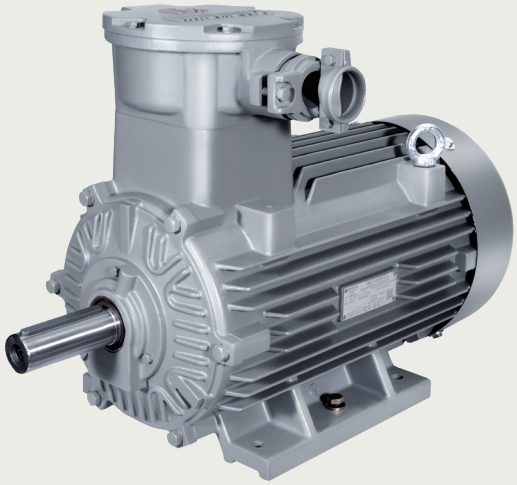


概览 Overview

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。

特别是在化学工业和石化工业中，当原油和天然气在运输时，或在采矿、碾磨（例如：谷物和固体颗粒）时，爆炸会造成严重的人员受伤和设备损坏。

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。

使用现场必须根据爆炸危险发生的频率，由用户在主管当局的协助下，将其细分为指定区域。不同区域有对应的设备或装置类别。然后针对这些区域分析所需的保护类型，从而选择相应的设备（产品）类型。

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.

In the chemical and petrochemical industries in particular, when crude oil and natural gas are being transported, or in mining, milling (e.g. grain and granular solids), explosion can result in serious injury to persons and damage to equipment.

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.

The explosion-protected equipment can be designed in accordance with various types of protection.

The local conditions must be subdivided into specified zones by the user with the assistance of the responsible authorities in accordance with the frequency of occurrence of an explosion hazard. Device (equipment) categories are assigned to these zones. The zones are then subdivided into possible types of protection and therefore into possible equipment (product) types.

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

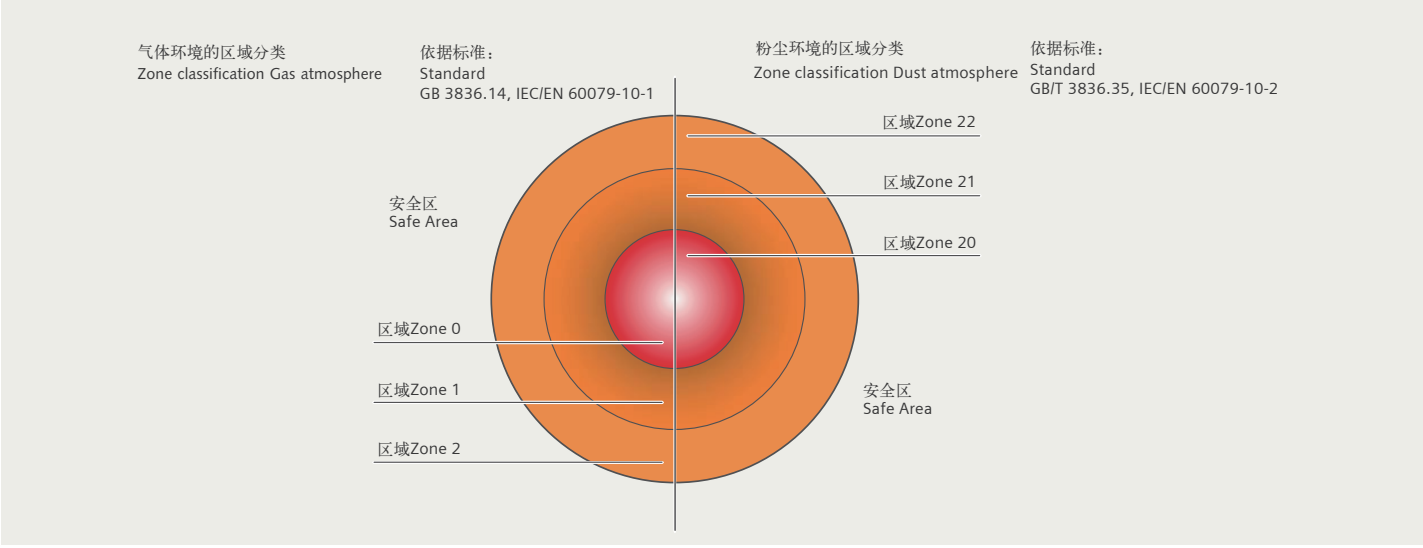
此外，在不同的爆炸分组和温度等级之间进行了分类，这些都包含在危险等级评估中。

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 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 [3)]	3	Dc

1) 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.

2) 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。

3) Ex tc 电机不允许在含有导电粉尘的环境中运行。

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

2) 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.

3) 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燃温度 (°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 IMaximum 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燃温度 (°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	醋酸戊醚 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.

INNOMOTICS 1MB0063 电机隔爆标识说明
Explossion proof motor Marking of Flameproof Motors

Ex db[1] IIB T4 Gb

防爆标识 Marking for prevention of explosions：
IECEx 和 CNEX 防爆标识 IECEx and CNEX anti-explosion marking

防爆类型 Protection type：
db = 由隔爆外壳保护的设备 db = Protection by flameproof enclosures

爆炸性气体类别
II类 = 除煤矿瓦斯气体之外的其它爆炸性气体类别
（根据爆炸性气体的不同，又分为IIA、IIB、和IIC三类）
Explosion group：
Group II = Explosive gas atmosphere other than mines susceptible to firedamp (subdivided to IIA, IIB, and IIC according to different explosive gas)

II类电气设备最高表面温度分组 Maximum allowable surface temperature for Group II electrical equipment:

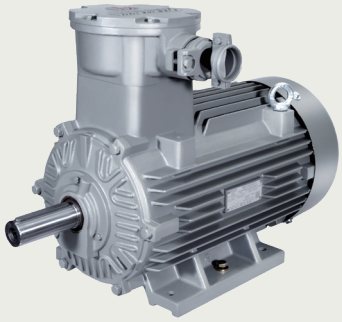
T1 = 450°C	T3 = 200°C	T5 = 100°C
T2 = 300°C	T4 = 135°C	T6 = 85°C

设备保护级别：
G = 气体防爆
Ga = “很高”的保护级别
Gb = “高”的保护级别
Gc = “一般”的保护级别
“很高” - 指在正常运行、出现预期的故障、或罕见故障时不会成为点燃源；
“高” - 指在正常运行、或出现预期故障时不会成为点燃源；
“一般” - 指在正常运行时不会成为点燃源，但可采取一些措施保证在点燃源预期经常出现的情况下不会形成有效点燃。
Protection level:
G = Explosive gas atmosphere
Ga = "very high" level of protection
Gb = "high" level of protection
Gc = "enhanced" level of protection
"very high" - not a source of ignition in normal operation, during expected malfunctions or during rare malfunctions;
"high" - not a source of ignition in normal operation or during expected malfunctions;
"enhanced" - not a source of ignition in normal operation and which may have some additional protection to ensure that it remains inactive as an ignition source in the case of regular expected occurrences.

注：
[1] 最新标准IEC60079-0. 2017和GB/T3836.1-2021中防爆类型标识为db

Notes：
[1] Protection type is db in IEC60079-0. 2017 and GB/T3836.1-2021.

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：RAL7030
冷却方式：IC411，IC416可选
隔爆标志：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，温度上限可选至 +60°C

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：stone grey（RAL7030）
Cooling method：IC411, IC416 optional
Flame-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, max. ambient temperature can be designed to +60°C as option

INNOMOTICS XP 1MB0063 系列高效隔爆型全封闭、自扇冷三相异步电动机是茵梦达开发的一款全新产品。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。

该系列产品结合茵梦达传承百年的设计技术，其生产设备采用先进的数控机床设备，基于茵梦达先进的绝缘结构设计以及制造工艺，采用优质的冷轧硅钢片以及经过严格质量检测与控制的高品质零部件，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。

INNOMOTICS XP 1MB0063 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。

INNOMOTICS XP 1MB0063 series flameproof motors is INNOMOTICS 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 (50Hz) fulfill efficiency grade IE3 of IEC 60034-30, and also Grade 3 efficiency of GB 18613-2020.

This motor inherits INNOMOTICS hundred years design technology, the production equipment of this series adopt advanced CNC machine tools, based on INNOMOTICS advanced insulation structure design and manufacturing process, use high quality cold-rolled silicon steel sheets and high quality parts with strict quality control. This series products have excellent performance, safe and reliable to use, simple and flexible installation, easy to maintain, low vibration, low noise.

INNOMOTICS XP 1MB0063 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.

设计参考标准 Reference Standard

名称 Title	中国国家标准 Chinese standard	IEC 标准 IEC standard
《爆炸性环境 第1部分：设备 通用要求》 Explosive atmospheres - Part 0: Equipment - General requirements	GB/T 3836.1	IEC 60079-0
《爆炸性环境 第2部分：由隔爆外壳"d"保护的设备》 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	GB/T 3836.2	IEC 60079-1
1MB0063系列（IP55）隔爆型三相异步电动机技术条件（机座号80-355）1MB0063 series (IP55) flameproof three-phase asynchronous motors - Technical specification (frame size 80-355)	Q/321081 KJA014	
《包装储运图示标志》 Packaging - Distribution packaging - Graphical symbols for handling and storage of packages	GB/T 191	ISO 780
《旋转电机 定额和性能》 Rotating electrical machines - Part 1: Rating and performance	GB/T 755	IEC 60034-1
《旋转电机(牵引电机除外)确定损耗和效率的试验方法》 Rotating electrical machines - Part 2: Methods for determining losses and efficiency of rotating electrical machinery from tests (excluding machines for traction vehicles)	GB/T 755.2	IEC 60034-2
《旋转电机结构型式、安装型式及接线盒位置的分类（IM代码）》 Rotating electrical machines; part 7: classification of types of constructions and mounting arrangements (IM code)	GB/T 997	IEC 60034-7
《三相异步电动机试验方法》 Rotating electrical machines - Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)	GB/T 1032	IEC 60034-2-1
《旋转电机 线端标志与旋转方向》 Rotating electrical machines - Part 8: Terminal markings and direction of rotation	GB/T 1971	IEC 60034-8
《旋转电机冷却方法》 Rotating electrical machines; part 6: methods of cooling (IC code)	GB/T 1993	IEC 60034-6
《电工电子产品环境试验 第2部分：试验方法 试验Db 交变湿热（12h＋12h循环）》 Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)	GB/T 2423.4	IEC 60068-2-30
《旋转电机尺寸和输出功率等级 第1部分:机座号56~400~和凸缘号55~1080》 Dimensions and output series for rotating electrical machines; part 1: frame numbers 56 to 400 and flange numbers 55 to 1080	GB/T 4772.1	IEC 60072-1
《旋转电机整体结构的防护等级（IP代码）-分级》 Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code); Classification	GB/T 4942.1	IEC 60034-5
《轴中心高为56 mm及以上电机的机械振动 振动的测量、评定及限值》 Rotating electrical machines - Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher; Measurement, evaluation and limits of vibration severity	GB/T 10068	IEC 60034-14
《旋转电机噪声测定方法及限值 第1部分：旋转电机噪声测定方法》 Acoustics - Test code for the measurement of airborne noise emitted by rotating electrical machines	GB/T 10069.1	ISO 1680
《旋转电机噪声测定方法及限值 第3部分：噪声限值》 Rotating electrical machines - Part 9: Noise limits	GB/T 10069.3	IEC 60034-9
《中小型旋转电机通用安全要求》 General requirements for safety of small and medium size rotating electrical machines	GB/T 14711	
《中小型三相异步电动机能效限定值及能效等级》 Minimum allowable values of energy efficiency and energy efficiency grades for small and medium three-phase asynchronous motors	GB 18613	IEC 60034-30
《电气绝缘 耐热性和表示方法》 Electrical insulation - Thermal evaluation and designation	GB/T 11021	IEC 60085
《交流低压电机散嵌绕组匝间绝缘 第1部分：试验方法》 Interturn insulation of random-wound winding for AC low-voltage electrical machines- Part 1: Test methods	GB/T 22719.1	
《交流低压电机散嵌绕组匝间绝缘 第2部分：试验限值》 Interturn insulation of random-wound winding for AC low-voltage electrical machines- Part 2: Test limits	GB/T 22719.2	
《电工电子产品自然环境条件 温度和湿度》 Classification of environmental conditions - Part 2-1: Environmental conditions appearing in nature - Temperature and humidity	GB/T 4797.1	IEC 60721-2-1
《标准电压》 IEC standard voltages	GB/T 156	IEC 60038

运行环境

- 防护等级 IP55（IEC 60034-5）；
- 高度不超过海拔 1000 m（IEC 60034-1）；
- 允许的环境温度在 -20 °C ~ 40 °C（IEC 60034-1）；
- 所允许的相对湿度：
  - -20 °C ≤ T ≤ 20 °C：100 %
  - 20 °C < T ≤ 30 °C：95 %
  - 30 °C < T ≤ 40 °C：55 %

对于更高的环境温度、以及（或者）高于海拔 1000 m 的地点，电动机的额定功率换算系数为 k_{HT}。所允许的功率值（P_{adm}）：

$$P_{adm} = P_{rated} \bullet k_{HT}$$

Environmental

- Degrees of motor protection IP55 (IEC 60034-5);
- Altitude shall not exceed 1000m above sea-level (IEC 60034-1);
- Allowed air temperature between -20 °C and 40 °C (IEC 60034-1);
- Permitted relative humidity:
  - -20 °C ≤ T ≤ 20 °C：100 %
  - 20 °C < T ≤ 30 °C：95 %
  - 30 °C < T ≤ 40 °C：55 %

For higher coolant temperatures and / or site altitudes higher than 1000 m above sea level, the specified motor output must be reduced by using the factor k_{HT}. The results in an admissible output (P_{adm}) of the motor:

$$P_{adm} = P_{rated} \bullet k_{HT}$$

对于不同高度和（或）不同环境温度的功率换算系数 k_{HT}
Factor k_{HT} for different side altitudes and / or coolant temperature

海拔高度 Site altitude above sea level	对应海拔高度的环境温度 Site altitude above sea level Coolant temperature					
	< 30 °C	30 ~ 40 °C	45 °C	50 °C	55 °C	60 °C
1000 m	1.07	1.00	0.96	0.92	0.87	0.82
1500 m	1.04	0.97	0.93	0.89	0.84	0.79
2000 m	1.00	0.94	0.90	0.86	0.82	0.77
2500 m	0.96	0.90	0.86	0.83	0.78	0.74
3000 m	0.92	0.86	0.82	0.79	0.75	0.70
3500 m	0.88	0.82	0.79	0.75	0.71	0.67
4000 m	0.82	0.77	0.74	0.71	0.67	0.63

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 米的测量包络面。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。

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.

振动

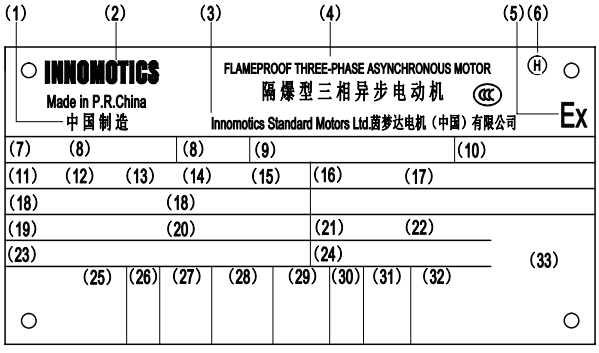
所有电动机转子都使用半键按照 A 级（标准）振动等级进行动态平衡。电动机在空载时测得振动速度有效值不超过下表中的 A 级所列值。电机还可选择 B 级振动等级设计。

Vibration

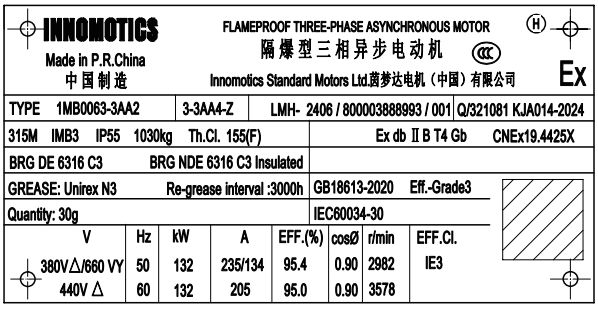
INNOMOTICS XP 1MB0063 rotors are dynamically balanced to severity grade A using a half key. Table below contains the effective vibration values for unloaded motors. Vibration grade B can be provided as option.

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/(μm)	速度 Vibration velocity/(mm/s)	位移 Vibration displacement/(μm)	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[1)]
B	自由悬置 Free suspension	18	1.1	29	1.8
	刚性安装 Rigid mounting	-	-	24	1.5
					1.8[1)]

铭牌信息 Nameplate



铭牌样例 Nameplate example



1	生产国家	Country of origin	18	轴承型号	Bearing type
2	商标	Trademark (brand / company)	19	润滑脂型号	Bearing grease type
3	生产厂	Manufacturer	20	再润滑周期	Re-grease interval
4	产品名称	Product name	21	中国能效标准	Efficiency standard
5	防爆标志	Marking of explosion protection	22	中国能效等级	China efficiency classification
6	键平衡类型	Balance key type	23	加注油脂量	Re-grease quantity
7	电动机类别	Category of motor	24	IEC能效标准	IEC Efficiency standard
8	电动机型号	Motor type	25	额定电压和接线方式	Rated voltage and connection method
9	生产序列号	Production series number	26	额定频率	Rated frequency
10	企业标准	Company standard	27	额定功率	Rated power
11	机座号	Frame size	28	额定电流	Rated current
12	安装结构型式	Mounting type	29	效率	Efficiency
13	IP防护等级	IP protection degree	30	功率因数	Power factor
14	整机重量	Weight	31	额定转速	Rated speed
15	热等级	Thermal class	32	能效等级	Efficiency classification according to IEC standard
16	防爆标识	Mark of explosion protection type	33	二维码	QR code
17	防爆认证号	Ex certificate number			

注：

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

Note:

[1)] 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.

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[3] FS80~160	IM B8[5] FS80~160	IM V5 [1][4] FS80~160	IM V6 [2] FS 80~160
示意图 Diagram						
电机编号第14位号上对应的字母 Letter, position 14th 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 [1] FS 80~355	IM V3 [2] FS80~160	IM B35 FS80~355	IM V15 [1][4] FS80~160
示意图 Diagram					
电机编号第14位号上对应的字母 Letter, position 14th 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 [1] FS 80 ~ 160	IM V19 [2] FS 80 ~ 160	IM B34 FS 80 ~ 160
示意图 Diagram				
电机编号第14位号上对应的字母 Letter, position 14th of Motor code	K	M	L	N

[1] 标配防雨罩。
[2] 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。
[3] 当接线盒位于机座顶部时，进线口默认朝上，如需朝下，请选择选件代码 R12。
[4] 当接线盒位于机座左侧或右侧时，进线口默认朝向非驱动端。如需进线口朝其它方向，请选择选件代码 R10、R11 或 R12。但须检查电机安装后是否有足够空间供电缆进线。
[5] 不可同时选用再润滑装置（选件号 L23）。

[1] Protection cover provided as standard.
[2] When used outdoors, please take some protection measures to prevent water from spraying on the shaft.
[3] 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.
[4] When terminal box is mounted on the left or right side of the motor,the cable entry will be torwards NDE as default. If other direction is requested,please select option R10,R11 or R12. Please ensure enough space for cable connection.
[5] Regreasing devise (option code L23) is not allowed.

轴承系统

INNOMOTICS XP 1MB0063 系列电动机标准配置深沟球轴承，这些轴承是密封的或可再润滑型的，轴承设计满足防爆要求。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。

Bearing Assignment

INNOMOTICS XP 1MB0063 series motor are supplied with ball bearing as standard, these bearings are either sealed or regreasable type. 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. FS280 ~ 355 motors with regreasable bearing and regreasing device is configured as standard.

The following table lists the standard bearing configuration.

轴承选配 Bearing Assignment

机座号 Frame size	极数 Number of poles	标准配置 Standard design (水平安装和垂直安装 Horizontal & Vertical)		选项配置 Optional design			
				增强悬臂力的设计（选项代码L22） Increased cantilever force (option code L22)		再润滑轴承（选件号：L23） Re-greasing bearing (Option code: L23)	
		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	驱动端轴承 DE bearing	非驱动端轴承 NDE bearing
80	2 to 6	6204-2Z C3	6204-2Z C3	-	-	-	-
90	2 to 6	6205-2Z C3	6205-2Z C3	-	-	-	-
100	2 to 6	6306-2Z C3	6306-2Z C3	-	-	-	-
112	2 to 6	6306-2Z C3	6306-2Z C3	-	-	-	-
132	2 to 8	6308-2Z C3	6308-2Z C3	-	-	-	-
160	2 to 8	6309-2Z C3	6309-2Z C3	NU309	6309 C3	6309 C3	6309 C3
180	2 to 8	6310-2Z C3	6310-2Z C3	NU310	6310 C3	6310 C3	6310 C3
200	2 to 8	6312 C3	6312 C3	NU312	6312 C3	6312 C3	6312 C3
225	2 to 8	6313 C3	6313 C3	NU313	6313 C3	6313 C3	6313 C3
250	2 to 8	6315 C3	6315 C3	NU315	6315 C3	6315 C3	6315 C3
280	2	6315 C3	6315 C3	NU315	6315 C3	☐	☐
	4 to 8	6317 C3	6317 C3	NU317	6317 C3	☐	☐
315	2	6316 C3	6316 C3	NU316	6316 C3	☐	☐
	4 to 8	6319 C3	6319 C3	NU319	6319 C3	☐	☐
355	2	6317 C3	6317 C3	NU317	6317 C3	☐	☐
	4 to 8	6320 C3	6320 C3	NU320	6320 C3	☐	☐

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 [1]
80 ~ 250	2-8	20000 或 (or) 40000 [2]

[1] 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。

[2] 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。

[1] Maximum ambient temperature is 40°C under standard conditions. For permanent lubrication bearings, grease lifetime will be halved for each 10K ambient temperature rising.

[2] 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	润滑周期 Interval (小时 / h)	
			标准环境温度及N05/N06 Standard include e.g. N05/N06	更高的环境温度如N07/N08 Hot ambient e.g. N07/N08
160	2P	6309 C3 NU309	4000	2000
	4~8P		8000	4000
180	2P	6310 C3 NU310	4000	2000
	4~8P		8000	4000
200	2P	6312 C3 NU312	4000	2000
	4~8P		8000	4000
225	2P	6313 C3 NU313	4000	2000
	4~8P		8000	4000
250	2P	6315 C3 NU315	4000	2000
	4~8P		8000	4000
280	2P	6315 C3 NU315	4000	2000
	4P	6317 C3 NU317	6000	3000
	6~8P		8000	4000
315	2P	6316 C3 NU316	3000	1500
	4P	6319 C3 NU319	4000	2000
	6~8P		6000	3000
355	2P	6317 C3 NU317	3000	1500
	4P	6320 C3 NU320	4000	2000
	6~8P		6000	3000

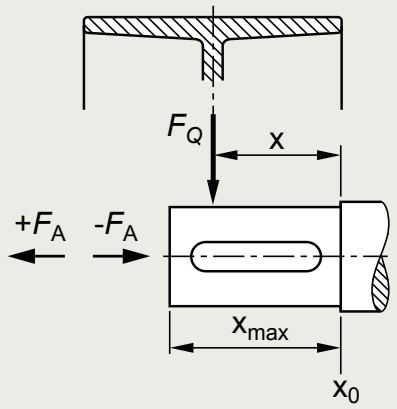
当电动机在非正常的条件下运行时，轴承的寿命会缩短。如下面几种情况：

- 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;

轴伸上所允许的载荷 Admissible forces on shaft extension



F_Q = 悬臂力 Cantilever force (N)
FA = 轴向力 Axial force (N)
x = 载荷施加的位置与轴肩的距离 Distance between point of force and shoulder of shaft (mm)
l = 轴伸的长度 Length of shaft extension (mm)

以下表格中所列出的数值是指允许施加在轴伸上的载荷，并且是基于轴承寿命 L10h = 20000 小时 计算的。

施加的载荷不可超过所允许的值，从而确保在隔爆间隙内轴的挠度不会超出允许的范围。

表中数值适用于 50Hz 的使用条件。当在 60Hz 条件下使用时，须将表中的载荷数值减小 6%，以达到同样的使用寿命。

The allowed loads on the drive-end shaft extensions are assigned in the following tables, and these values are based on a calculated bearing service life of L10h = 20000 h.

The specified cantilever forces must not be exceeded to ensure compliance with the maximum admissible shaft bending in the flameproof joint.

The values in these tables are applicable for 50 Hz application. When using at 60 Hz, the allowed loads must be reduced by 6% in order to achieve the same lifetime.

允许的径向载荷F_Q Admissible radial force F_Q

允许的数值：X_0的值用于X=0的位置，$X_{0.5}$的值用于X=0.5l的位置，X_{max}的值用于X=l的位置（l=轴伸长度） Admissible values: X_0 values for x=0, $X_{0.5}$ values for x=0.5l, and X_{max} values for x=l (l=shaft extension length)												
机座号 Frame size	X_0 转速 Speed				$X_{0.5}$ 转速 Speed				X_{max} 转速 Speed			
	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]
80	0.51	0.73	0.84	-	0.47	0.63	0.69	-	0.44	0.48	0.52	-
90	0.57	0.77	0.91	-	0.52	0.71	0.84	-	0.48	0.66	0.77	-
100	1.47	1.72	2.06	-	1.36	1.58	1.59	-	1.10	1.22	1.16	-
112	1.40	1.75	2.01	-	1.28	1.60	1.96	-	1.18	1.47	1.43	-
132	2.14	2.66	3.02	3.36	1.90	2.40	2.72	3.04	1.71	2.18	2.48	2.76
160	2.84	3.51	3.82	4.36	2.56	3.17	3.45	3.92	2.34	2.89	3.14	3.22
180	3.39	4.24	4.87	5.29	3.06	3.85	4.43	4.81	2.79	3.05	2.98	3.27
200	4.44	5.63	6.32	7.00	4.07	5.16	5.80	6.42	3.76	4.33	4.38	4.93
225	4.89	5.86	6.56	7.52	4.52	5.44	6.10	6.98	4.21	5.07	5.65	5.33
250	5.64	7.30	8.30	9.40	5.21	6.43	7.30	8.45	4.82	5.96	6.77	7.50
280	5.63	8.02	9.45	10.53	5.12	7.30	8.60	9.60	4.71	6.70	7.92	8.80
315	5.30	7.96	9.20	10.85	4.96	7.36	8.50	10.02	4.66	6.82	7.90	9.31
355	5.65	9.10	8.72	10.13	5.33	8.50	8.15	9.44	5.05	7.95	7.63	8.85

当径向载荷为零时允许的轴向载荷F_A Admissible axial force F_A

机座号 Frame size	水平安装 Horizontal mounting				竖直安装 — 轴伸端朝上 Vertical mounting - shaft extension at top							
	轴向力 $+F_A$ Axial force $+F_A$				轴向力向上 $+F_A$ Axial force upward $+F_A$				轴向力向下 $-F_A$ Axial force downward $-F_A$			
	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]
80	0.93	1.11	1.25	-	0.96	1.15	1.30	-	0.22	0.39	0.52	-
90	0.97	1.17	1.33	-	1.03	1.24	1.40	-	0.21	0.40	0.56	-
100	1.79	2.15	2.52	-	1.86	2.28	2.63	-	0.78	1.09	1.47	-
112	1.77	2.19	2.53	-	1.86	2.31	2.65	-	0.74	1.13	1.47	-
132	2.54	3.11	3.59	3.96	2.70	3.32	3.82	4.22	1.23	1.74	2.20	2.54
160	2.99	3.71	4.18	4.71	3.28	4.05	4.66	5.12	1.46	2.13	2.46	3.06
180	3.54	4.42	5.16	5.67	-	-	-	-	-	-	-	-
200	4.38	5.58	6.44	7.22	-	-	-	-	-	-	-	-
225	4.78	6.07	6.98	7.98	-	-	-	-	-	-	-	-
250	5.77	7.30	8.45	9.60	-	-	-	-	-	-	-	-
280	5.58	8.06	9.46	10.60	-	-	-	-	-	-	-	-
315	5.50	8.50	9.82	11.20	-	-	-	-	-	-	-	-
355	5.88	9.97	10.75	12.06	-	-	-	-	-	-	-	-

当径向载荷为零时允许的轴向载荷F_A Admissible axial force F_A

机座号 Frame size	水平安装 Horizontal mounting				竖直安装 — 轴伸端朝下 Vertical mounting - shaft extension at bottom							
	轴向力 -F_A Axial force -F_A				轴向力向上 -F_A Axial force upward -F_A				轴向力向下 +F_A Axial force downward +F_A			
	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]
80	0.25	0.43	0.57	-	0.28	0.47	0.62	-	0.90	1.07	1.20	-
90	0.27	0.47	0.63	-	0.33	0.54	0.70	-	0.91	1.10	1.26	-
100	0.85	1.21	1.58	-	0.92	1.34	1.69	-	1.72	2.03	2.41	-
112	0.83	1.25	1.59	-	0.92	1.37	1.71	-	1.68	2.07	2.41	-
132	1.38	1.95	2.43	2.80	1.54	2.16	2.66	3.06	2.39	2.90	3.36	3.70
160	1.75	2.47	2.94	3.47	2.04	2.81	3.42	3.88	2.70	3.37	3.70	4.30
180	2.24	3.12	3.86	4.37	2.60	3.61	4.39	5.00	3.18	3.93	4.64	5.04
200	3.04	4.24	5.10	5.88	3.64	4.89	5.86	6.72	3.78	4.93	5.68	6.38
225	3.44	4.73	5.64	6.64	4.24	5.77	6.83	7.66	3.98	5.03	5.79	6.96
250	4.33	5.86	7.01	8.16	5.26	7.15	8.39	9.38	4.84	6.01	7.07	8.38
280	4.14	6.36	7.76	8.90	5.61	8.44	9.62	10.75	4.11	5.98	7.60	8.75
315	4.00	6.28	7.60	8.98	6.71	10.08	11.55	12.41	2.79	4.70	5.87	7.77
355	4.18	6.65	7.43	8.74	7.34	11.18	14.33	15.62	2.73	5.44	3.85	5.19

在存在径向力[1]的条件下允许的额外的轴向力 Additional axial force

机座号 Frame size	水平安装 Horizontal mounting				竖直安装 — 轴伸端朝上 Vertical mounting - shaft extension at top							
	轴向力 +F_A Axial force +F_A				轴向力向上 +F_A Axial force upward +F_A				轴向力向下 -F_A Axial force downward -F_A			
	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]
80	0.90	1.09	1.23	-	0.93	1.13	1.28	-	0.19	0.37	0.50	-
90	0.94	1.12	1.28	-	1.00	1.19	1.35	-	0.18	0.35	0.51	-
100	1.74	2.10	2.51	-	1.81	2.23	2.62	-	0.73	1.04	1.46	-
112	1.68	2.07	2.43	-	1.77	2.19	2.55	-	0.65	1.01	1.37	-
132	2.36	2.94	3.38	3.74	2.52	3.15	3.61	4.00	1.05	1.57	1.99	2.32
160	2.88	3.57	4.05	4.60	3.17	3.91	4.53	5.01	1.35	1.99	2.33	2.95
180	3.39	4.32	5.10	5.60	-	-	-	-	-	-	-	-
200	4.26	5.40	6.30	7.10	-	-	-	-	-	-	-	-
225	4.64	5.85	6.74	7.84	-	-	-	-	-	-	-	-
250	5.45	6.92	8.02	9.10	-	-	-	-	-	-	-	-
280	5.40	7.80	9.06	10.20	-	-	-	-	-	-	-	-
315	5.48	8.45	9.76	11.08	-	-	-	-	-	-	-	-
355	5.94	9.96	10.94	12.20	-	-	-	-	-	-	-	-

[1] 此处的径向载荷指第 17 页“允许的径向载荷 FQ”表中的数值。

[1] The radial force means data of "Admissible cantilever radial force FQ" in page 17.

在存在径向力[1]的条件下允许的额外的轴向力 Additional axial force

机座号 Frame size	水平安装 Horizontal mounting				竖直安装 — 轴伸端朝下 Vertical mounting - shaft extension at bottom							
	轴向力 $-F_A$ Axial force $-F_A$				轴向力向上 $-F_A$ Axial force upward $-F_A$				轴向力向下 $+F_A$ Axial force downward $+F_A$			
	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]	3000 rpm [KN]	1500 rpm [KN]	1000 rpm [KN]	750 rpm [KN]
80	0.22	0.41	0.55	-	0.25	0.45	0.60	-	0.87	1.05	1.18	-
90	0.24	0.42	0.58	-	0.30	0.49	0.65	-	0.88	1.05	1.21	-
100	0.8	1.16	1.57	-	0.87	1.29	1.68	-	1.67	1.98	2.40	-
112	0.74	1.13	1.49	-	0.83	1.25	1.61	-	1.59	1.95	2.31	-
132	1.2	1.78	2.22	2.58	1.36	1.99	2.45	2.84	2.21	2.73	3.15	3.48
160	1.64	2.33	2.81	3.36	1.93	2.67	3.29	3.77	2.59	3.23	3.57	4.19
180	2.09	3.02	3.8	4.3	2.45	3.51	4.33	4.93	3.03	3.83	4.58	4.97
200	2.92	4.06	4.96	5.76	3.52	4.71	5.72	6.60	3.66	4.75	5.54	6.26
225	3.3	4.51	5.4	6.5	4.10	5.55	6.59	7.52	3.84	4.81	5.55	6.82
250	4.01	5.48	6.58	7.66	4.94	6.77	7.96	8.88	4.52	5.63	6.64	7.88
280	3.96	6.1	7.36	8.5	5.43	8.18	9.22	10.35	3.93	5.72	7.20	8.35
315	3.98	6.23	7.54	8.86	6.69	10.03	11.49	12.29	2.77	4.65	5.81	7.65
355	4.24	6.64	7.62	8.88	7.40	11.17	14.52	15.76	2.79	5.43	4.04	5.33

[1] 此处的径向载荷指第17页“允许的径向载荷FQ”表中的数值。

[1] The radial force means data of "Admissible cantilever radial force FQ" in page 17.

接线盒

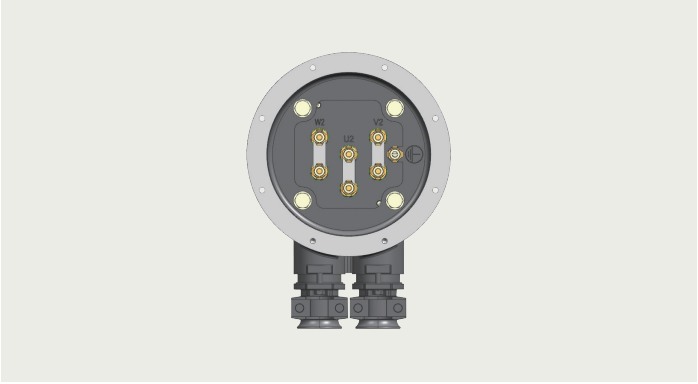
接线盒标准位置位于机座顶端，且自身可 4×90° 旋转，从而使电缆可以从各个方向进入。当选择进线口朝向电机驱动端时，须留意电机安装环境前方是否留有足够空间供电缆走线。标准接线盒使用喇叭口型进线斗，机座号 80~225 的电机有一个进线斗，机座号 250~355 的电机有两个进线斗。

根据需求，INNOMOTICS XP 1MB0063 系列隔爆电机还可提供葛兰进线的接线盒（选件号：X98）；另外还可以配置带有辅助接线盒的葛兰进线接线盒（选件号：L97），这里辅助接线盒可以满足电机配置较多热保护时从而需要较多辅助接线端子的情况，这些端子可以通过这个辅助接线盒单独接线。

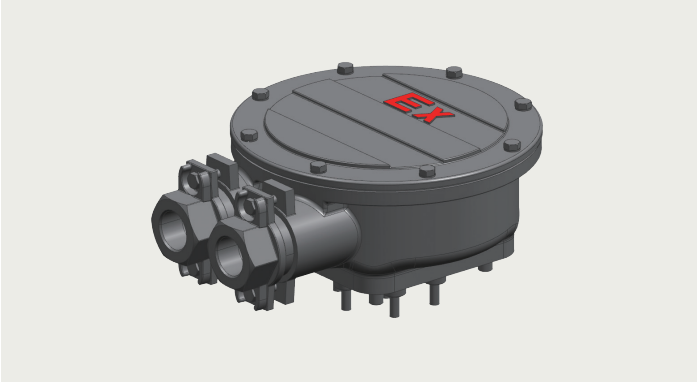
Connection box

The connection box is located on the top of motor housing as standard, and can be rotated by 4 × 90° 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.

Besides standard connection box, another type of connection
box with cable gland (option code: X98) can be configured for INNOMOTICS XP 1MB0063 series motors. And connection box with auxiliary terminal box (option code: L97) also can be configured, this type of connection box can be used for separate connection of more thermal protectors selected.



标准配置接线盒 Standard connection box



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

X98接线盒（可选） Connection box of option code X98

L97接线盒（可选） Connection box of option code L97

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 [2] Cable diameter (mm)	最大辅助端子数 [1] Max. auxiliary terminal	辅助电缆进线孔 [3] Auxiliary cable entry
80	3	M5	1	1xΦ42	13 ~ 14 19 ~ 20 24 ~ 25	8	1xM16×1.5 或/or 1xM20×1.5
90							
100							
112	6	M5				8	1xM16×1.5 或/or 1xM20×1.5 或/or 2xM16×1.5 或/or 1xM16×1.5 + 1xM20×1.5
132							
160	6	M6	1	1xΦ58	13 ~ 14 19 ~ 20 25 ~ 26 30 ~ 31 34 ~ 35	20	1xM16×1.5 或/or 1xM20×1.5 或/or 1xM25×1.5 或/or 2xM16×1.5 或/or 1xM16×1.5 + 1xM20×1.5 1xM16×1.5 + 1xM25×1.5
180							
200	6	M8	1	1xΦ72	19 ~ 20 25 ~ 26 31 ~ 32 37 ~ 38 41 ~ 42	20	1xM16×1.5 或/or 1xM20×1.5 或/or 1xM25×1.5 或/or 2xM16×1.5 或/or 1xM16×1.5 + 1xM20×1.5 1xM16×1.5 + 1xM25×1.5
225							
250	6	M10	2	2xΦ72	19 ~ 20 25 ~ 26 31 ~ 32 37 ~ 38 41 ~ 42	20	1xM16×1.5 或/or 1xM20×1.5 或/or 1xM25×1.5 或/or 2xM16×1.5 或/or 1xM16×1.5 + 1xM20×1.5 1xM16×1.5 + 1xM25×1.5
280							
315	6	M16	2	2xΦ90	30 ~ 31 35 ~ 36 44 ~ 45 49 ~ 50	20	1xM16×1.5 或/or 1xM20×1.5 或/or 1xM25×1.5 或/or 2xM16×1.5 或/or 1xM16×1.5 + 1xM20×1.5 1xM16×1.5 + 1xM25×1.5
355							

注：

[1] 每个辅助接线端子所能适配的电缆接头不超过 2.5 mm^2。

[2] 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。

[3] 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:

[1] The adaptable diameter to each auxiliary terminal can not exceed 2.5mm^2.

[2] 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.

[3] 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 - 配备闷盖的接线盒（选项代码 X98） Option - Main terminal box with plug (option code X98)

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	外接电缆直径 [2] Cable diameter (mm)	主进线孔螺纹规格 Main cable entry	最大辅助端子数 [1] Max. auxiliary terminal	辅助进线孔 Auxiliary cable entry
80	3	M5	13-18	M25×1.5+M16×1.5	8	1×M16×1.5 或/or 1×M20×1.5
90						
100			18-25	2×M32×1.5		
112	6	M5			8	1×M16×1.5 或/or 1×M20×1.5 或/or 2×M16×1.5 或/or 1×M16×1.5+1×M20×1.5
132						
160	6	M6	22-32	2×M40×1.5	20	1×M16×1.5 或/or 1×M20×1.5 或/or 2×M16×1.5 或/or 1×M16×1.5+1×M20×1.5 1×M16×1.5+1×M25×1.5
180						
200	6	M8	32-38	2×M50×1.5	20	
225						
250	6	M10	37-44	2×M63×1.5	20	
280						
315	6	M16			20	
355			44-57	2×M72×2		

选项 - 带辅助接线盒的接线盒（选项代码 L97）

Option - Main terminal box together with auxiliary terminal box design (option code L97)

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	外接电缆直径 [2] Cable diameter (mm)	主进线孔螺纹规格 Main cable entry	最大辅助端子数 [1] Max. auxiliary terminal	辅助进线孔 Auxiliary cable entry
160	6	M6	22-32	2×M40×1.5	32	1×M16×1.5 或/or 1×M20×1.5 或/or 1×M25×1.5 或/or M25×1.5+M20×1.5
180						
200		M8	32-38	2×M50×1.5		
225						
250		M10	37-44	2×M63×1.5		
280						
315		M16				
355			44-57	2×M72×2		

注：

[1] 每个辅助接线端子所能适配的电缆接头不超过 2.5 mm^2。

[2] 请根据主进线孔螺纹规格选择葛兰；客户自备葛兰时，需保证进线电缆尺寸在葛兰进线尺寸范围内。

Notes:

[1] The adaptable diameter to each auxiliary terminal can not exceed 2.5mm^2.

[2] Please choose the cable gland according to the dimension in main cable entry column. And ensure the allowed cable entry diameter is within the range of the gland.

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	M48 × 2
280	
315	M64 × 2
355	

接线盒的进线孔

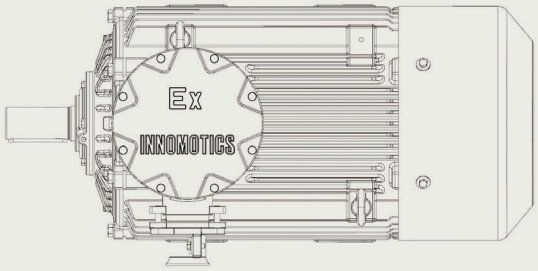
除非另作规定，否则对于接线盒在机座顶部的电机，进线孔默认朝向右侧（从电机驱动端看）。可通过选项来旋转接线盒，改变进线孔方向[1)]。旋转的方向为从接线盒正上方俯视时的方向。

- 接线盒顺时针旋转 90°，选件号为 R10。
- 接线盒逆时针旋转 90°，选件号为 R11。
- 接线盒旋转 180°，选件号为 R12。

Cable entry on connection box

Unless stated, otherwise for the motor with the connection box at the top, the cable entry is at right side (viewed from motor driven side) by default. Terminal box can be rotated[1)] by using options to change the direction of cable entry. The rotation direction defines by viewing from the top of terminal box.

- Rotating the connection box by clockwise 90°, Option code R10.
- Rotating the connection box by counter-clockwise 90°, Option code R11.
- Rotating connection box by 180°, Option code R12.



1) 须检查是否有足够的空间供电缆进线，接线盒的旋转可能会与用户现场设备存在干涉现象，请咨询茵梦达；

1) Please ensure enough space of cable connection. The rotation of the terminal box maybe conflict with the driven machine. Please inquire INNOMOTICS.

电气特性 Electrical design

额定输出

INNOMOTICS XP 1MB0063 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 °C ~ 40 °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 ±5 %，频率偏差 ±2 %）和 B 类（电压偏差 ±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

INNOMOTICS XP 1MB0063 motors rated output powers means that the motor runs under continuous duty S1 (IEC 60034 - 1) operation when operated at ambient temperature from -20 °C to 40 °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 ±5 % and frequency deviation ±2 %) and Category B (combination of voltage deviation ±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	±5 %	±10 %
频率偏差 Frequency deviation	±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 η
  P_{rated} ≤ 150 kW: - 0.15 x (1 – η)
  P_{rated} > 150 kW: - 0.10 x (1 – η)
  效率 η 为小于 1 的值
- 功率因数：(1 – cos φ) / 6
  最小绝对值：0.02
  最大绝对值：0.07
- 转差率：±20 %（电动机的偏差 < 1 kW ± 30 % 时是允许的）
- 堵转电流：+20 %
- 堵转转矩：-15 % ~ +25 %
- 最大转矩：-10 %
- 转动惯量：±10 %

过载倍数

根据 IEC60034 标准要求，INNOMOTICS XP 11MB0063 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 η at
  P_{rated} ≤ 150 kW: - 0.15 x (1 – η)
  P_{rated} > 150 kW: - 0.10 x (1 – η)
  With η being a decimal number
- Power factor - (1 – cos φ) / 6
  Minimum absolute value: 0.02
  Maximum absolute value: 0.07
- Slip ±20 % (for motors < 1 kW ±30 % is admissible)
- Locked-rotor current +20 %
- Locked-rotor torque -15 % to +25 %
- Breakdown torque -10 %
- Moment of inertia ±10 %

Overload times

According to IEC60034, INNOMOTICS XP 1MB0063 series motors are designed to withstand overload capacity of 1.5 times rated current for 2 minutes at rated voltage and frequency.

绝缘系统

INNOMOTICS XP 1MB0063 电动机绝缘系统具有可靠性、耐用性好和寿命长、耐冲击能力强的特点。

INNOMOTICS XP 1MB0063系列电动机标准设计温度等级为 155（F）。当 INNOMOTICS XP 1MB0063 电动机电网直接供电，且输出额定功率时，其绝缘系统按 130（B）温度等级使用。

电动机保护

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。下面是电动机的绕组保护和轴承保护的几种保护方式。

绕阻保护

■ PTC 热敏电阻温度保护

目前，最常用的电动机绕组过热保护方式是采用在电动机绕组中安装 PTC 热敏电阻进行保护。由于热敏电阻的热容量较低以及其在绕足间优良的热传导特性，绕组温度可被准确的监控。当达到极限温度时（标称跳闸温度），PTC 热敏电阻阻值会出现一个阶跃变化。这一变化被跳闸装置捕捉后，即可断开辅助回路。

PTC 热敏电阻本身不能耐受大电流和高电压，否则会导致半导体器件损坏。PTC 热敏电阻和跳闸装置的开关滞后效应小，因此可以实现快速重起。对于重载起动、起动频率高、负载变化大、环境温度高或电源波动大等应用场合，建议电动机使用该类保护。

Insulation system

The insulation system of SIMOTICS XP 1MB0063 results in high reliability, a long service life and high resistance to stress, for example, during starting or under overload conditions.

INNOMOTICS XP 1MB0063 series motors are designed for temperature class 155 (F). At rated output with line-fed operation, the motors are used in temperature class 130 (B).

Motor protection

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.

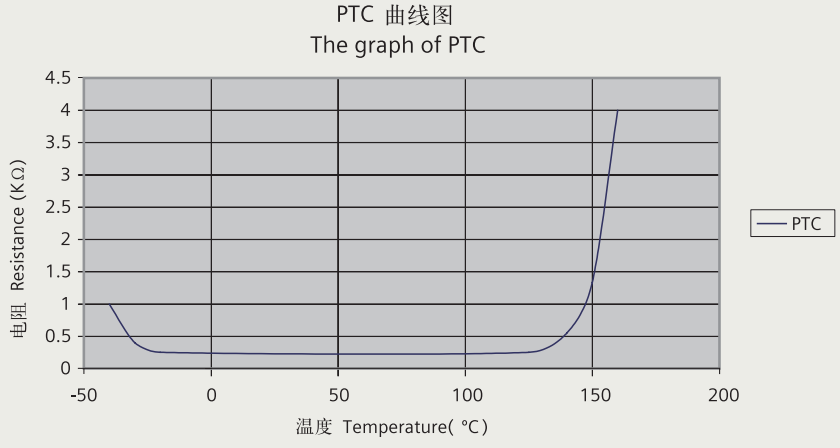
The order variants for motor protection are coded with letters in the 15th position of the Motor Order No., or ordered with Option code. Some protection method about winding protection and bearing protection are shown in the following.

Winding protection

■ PTC thermistors protection

The most comprehensive protection against thermal overloading of the motor is provided by PTC thermistors (thermistor motor protection) installed in the motor winding. The temperature of the winding can be accurately monitored thanks to its lowheating capacity and the excellent heat contact with the winding. When a limit temperature is reached (nominal tripping temperature), the resistance of PTC thermistors will have a step change. This is evaluated by a tripping unit and can be used to open auxiliary circuits.

The PTC thermistors themselves cannot be subjected to high currents and voltages. This would result in destruction of the semiconductor. The switching hysteresis of the PTC thermistor and tripping unit is low, which supports fast restarting of the drive. Motors with this type of protection are recommended for heavy duty starting, switching duty, extreme changes in load, high ambient temperatures or fluctuating supply systems.



两种 PTC 热敏电阻温度保护

- 电动机绕组带一组三芯串联的 PTC 热敏电阻用于跳闸，跳闸温度为 155 °C，电动机订货号第 15 位字母为“B”，需 2 个辅助接线端子。
- 电动机绕组带两组三芯串联的 PTC 热敏电阻，其中一组用于在电动机跳闸前报警，一组用于跳闸，报警温度为 145 °C，跳闸温度为 155 °C，电动机订货号第 15 位字母为“C”，需 4 个辅助接线端子。

■ **PT100 热敏电阻传感器温度保护**

PT100 热敏电阻是一种精确高、灵敏度高的传感器，其线性温度阻值优于其他电阻式传感器，性能稳定、可靠性高，其特性曲线如下。

四种 PT100 热敏电阻保护选项：

- 绕组中带三个单支二线制 PT100 测温元件，电机的铭牌编号 15位数为 H，选项代码为 Q60（适用于 FS100~355），需 6 个辅助接线端子。
- 绕组中带六个单支二线制 PT100 测温元件，电机的铭牌编号 15位数为 J，选项代码为 Q61（适用于 FS180~355），需 12 个辅助接线端子。
- 绕组中带三个单支三线制 PT100 测温元件，电机的铭牌编号 15位数为 Q，选项代码为 Q63（适用于 FS160~355），需 9 个辅助接线端子。
- 绕组中带六个单支三线制 PT100 测温元件，电机的铭牌编号 15位数为 R，选项代码为 Q64（适用于 FS180~355），需 18 个辅助接线端子。

2 alternatives of PTC protection

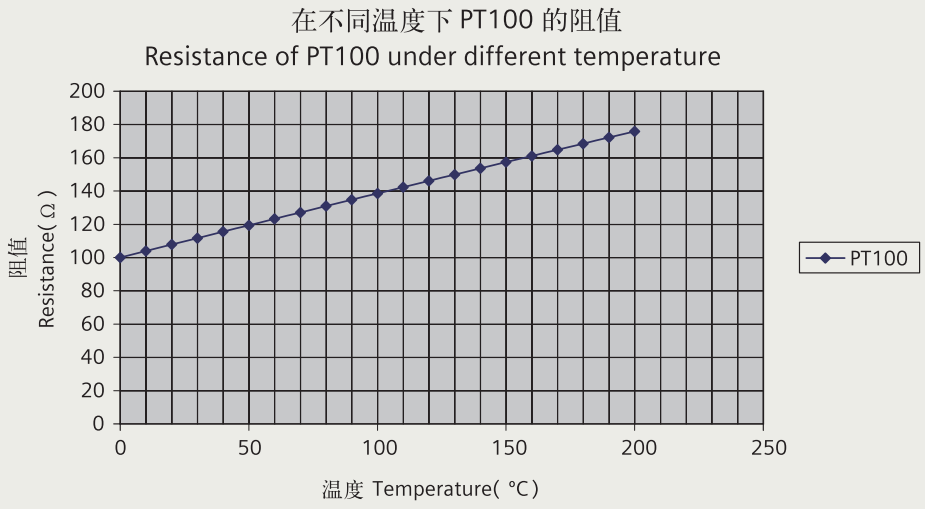
- Motor winding is protected with PTC thermistors with 3 embedded temperature sensors for tripping. Connection be done through 2 auxiliary terminals in the connection box. 15th position of Motor Order No. letter B.
- Motor winding is protected with two sets of three temperature sensors, one set is for warning, another set for tripping. The warning temperature is 145 °C, and tripping temperature is 155 °C. Connection be done through 4 auxiliary terminals in the connection box. 15th position of Motor Order No. letter C.

■ **PT100 resistance thermometers protection**

PT100 thermometers are a high precision, high sensitivity, better linear temperature resistance, more stable performance, and high reliability sensor, whose characteristics are as following.

4 alternatives of PT100

- Installation of 3 single 2 wires PT100 resistance thermometers. Connection be done through 6 auxiliary terminals in the connection box. 15th position of Motor Order No. letter H. Option code is Q60(FS100~355).
- Installation of 6 single 2 wires PT100 resistance thermometers. Connection be done through 12 auxiliary terminals in the connection box. 15th position of Motor Order No. letter J.Option code is Q61(FS180~355).
- Installation of 3 single 3 wires PT100 resistance thermometers. Connection be done through 9 auxiliary terminals in the connection box. 15th position of Motor Order No. letter Q. Option code is Q63(FS160~355).
- Installation of 6 single 3 wires PT100 resistance thermometers. Connection be done through 18 auxiliary terminals in the connection box. 15th position of Motor Order No. letter R.Option code is Q64(FS180~355).



■ PT1000 热敏电阻传感器温度保护

PT1000 热敏电阻可对电机绕组温度进行更精确地监测，有两种选项方案可供选择：

- 绕组中带一个单支两线制 PT1000 测温元件，电机的铭牌编号 15 位数为 K，选项代码为 Q35（适用于 FS80~355），需 2 个辅助接线端子。
- 绕组中带两个单支两线制 PT1000 测温元件，电机的铭牌编号 15 位数为 L，选项代码为 Q36（适用于 FS80~355），需 4 个辅助接线端子。

轴承保护

INNOMOTICS XP 1MB0063 电动机轴承标配不带轴承测温装置。对于某些苛刻的应用，推荐对轴承采取高温保护措施。轴承温度保护是通过在电动机驱动端和非驱动端的轴承端盖拧入温度传感器、监控温度来进行保护。温度传感器的引接线引入电动机主接线盒内。

- 前后端轴承各装一个单支双线制 PT100 测温元件，选项代码为 Q72，共需使用 4 个辅助接线端子。
- 前后端轴承各装一个单支三线制 PT100 测温元件，选项代码为 Q78，共需使用 6 个辅助接线端子。
- 前后端轴承各装一个双支三线制 PT100 测温元件，选项代码为 Q79，共需使用 12 个辅助接线端子。

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。根据所需电压的不同，两种防潮加带的选项可供选择：

- 绕组中安装 220V 防潮加热带，电机的选项代码为 Q04
- 绕组中安装 230V 防潮加热带，电机的选项代码为 Q02。

这两种选项均需使用两个辅助接线端子。防潮加热带的电气参数如下表所示。

■ PT1000 resistance thermometers protection

The PT1000 thermistor can monitor the temperature of the motor winding more accurately. 2 alternatives of PT1000

- Installation of 1 single 2 wires PT1000 resistance thermometers. Connection be done through 2 auxiliary terminals in the connection box. 15th position of Motor Order No. letter K. Option code is Q35 (FS80~355).
- Installation of 2 single 2 wires PT1000 resistance thermometers. Connection be done through 4 auxiliary terminals in the connection box. 15th position of Motor Order No. letter L. Option code is Q36 (FS80~355).

Bearing protection

INNOMOTICS XP 1MB0063 motors bearing has no protection as standard. For some severe application, such as high load, high coolant temperature and etc., the bearing is recommended to be protected. The bearing is protected through thermometers screwed into the bearing plates of motor driven end (DE) and non-drive-end (NDE). The wires are routed through the main connection box.

- Equipped with one single 2-wires PT100 thermometer in each side bearings, and the option code is Q72, which totally requires 4 auxiliary terminals for both sides.
- Equipped with one single 3-wires PT100 thermometer in each side bearings, and the option code is Q78, which totally requires 6 auxiliary terminals for both sides.
- Equipped with one double 3-wires PT100 thermometer in each side bearings, and the option code is Q79, which totally requires 12 auxiliary terminals for both sides.

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.

Anti-condensation heaters must be switched off during operation. When motor shut down, the heaters must be switched on. 2 alternatives of anti-condensation heaters:

- Installed in the windings,220V. The motor's option code is Q04.
- Installed in the windings,230V. The motor's option code is Q02.

These two options are required to use two auxiliary terminals. The electrical parameters of anti-condensation heaters are shown in the following table.

防潮加热带电气参数 Electrical data of Anti-condensation heater

机座号 Frame size	功率和电压 Power (W) & voltage (V)	
	Q04	Q02
80 ~ 90	20 W / 220 V	20 W / 230 V
100 ~ 112	30 W / 220 V	30 W / 230 V
132 ~ 160	40 W / 220 V	40 W / 230 V
180 ~ 200	50 W / 220 V	50 W / 230 V
225 ~ 280	60 W / 220 V	60 W / 230 V
315	80 W / 220 V	80 W / 230 V
355	100 W / 220 V	110 W / 230 V

变频应用 Converter fed application

1MB0063 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。

当 1MB0063 电动机变频应用（变频器供电），冷却方式为 IC411（电机自带风扇冷却）时，电动机的绝缘等级 155（F），使用温度等级 130（B）。电机在额定频率点降容输出约 7%-8%，选件号 B43。

当 1MB0063 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 B43 或 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。

变频器驱动运行

1MB0063 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。

1MB0063 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：

1MB0063 motors are suitable for pumps, fans, compressors, texitle 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 IC411 cooling type the motors will be temperature class 155 (F), utilized according to 130 (B), derating approx. 7%-8%. Option code B43.

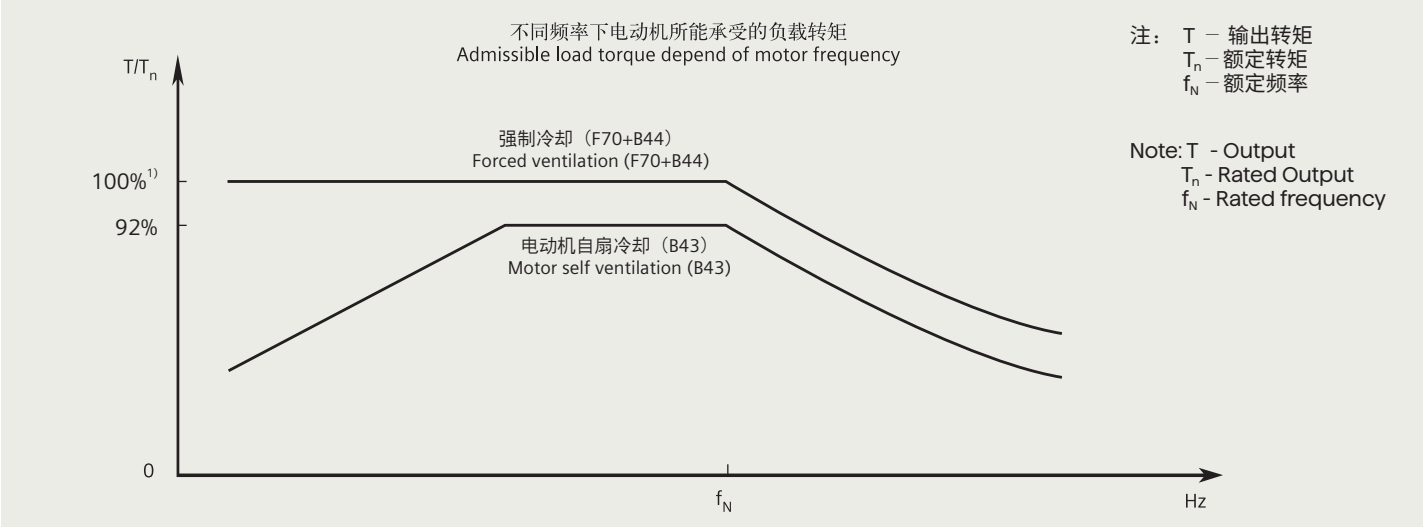
With converter fed operation and IC416 (Separately driven fan) cooling type the motors will be temperature class 155 (F), utilized according to 155 (F). Option code F70+B44(The 2 options must be selected together).

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 B43 or F70+B44 is selected. For frame size 250 and 280, it is also recommended to select insulated bearing (Option code L27).

Converter-fed operation

The standard insulation of the 1MB0063 motors is designed such that operation is possible on the converter at mains voltage up to 460 V.

1MB0063 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B43时，1MB0063 系列电机在不同频率下工作时的情况为：5 ~ 30 Hz 范围为变转矩，30 ~ 50 Hz 为恒转矩，50 Hz ~ Max 为恒功率。

当选择F70+B44时，1MB0063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。

1MB0063 隔爆电机所允许的变频范围请咨询茵梦达。

变频铭牌

1MB0063 电动机变频使用时，选件号 B43 或 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。

When B43 is selected, the situation 1MB0063 series motors working on different frequencies is: inconstant torque at 5~30Hz, constant torque at 30~50Hz, constant power at 50Hz~Max.

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 1MB0063 flameproof motors please consult with INNOMOTICS.

VSD nameplate

When with converter fed operation (option code B43 or F70+B44), 1MB0063 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.

变频铭牌样例（B43）
VSD nameplate sample（B43）

INNOMOTICS
Made in P.R.China
中国制造

FLAMEPROOF THREE-PHASE ASYNCHRONOUS MOTOR
隔爆型三相异步电动机
Innomotics Standard Motors Ltd.茵梦达电机（中国）有限公司

Ⓗ Ex

TYPE 1MB0063-2CA2	3-3AA4-Z	LMH- 2406 / 800003888993 / 001				
For converter supply 用于变频应用		Duty S9				
Converter parameter according to DOL plate! 变频参数参见主铭牌		CONVERTER INPUT:380V VPMW Fp>=2 kHz				
	V	Hz	A	kW	Nm	r/min
	38Δ	5	70	3.45	116	284
	190Δ	25	89	24.0	154	1480
	380Δ	50	93	51	164	2975
	380Δ	60	95	51	136	3570

变频铭牌样例（F70+B44）
VSD nameplate sample (B44+F70)

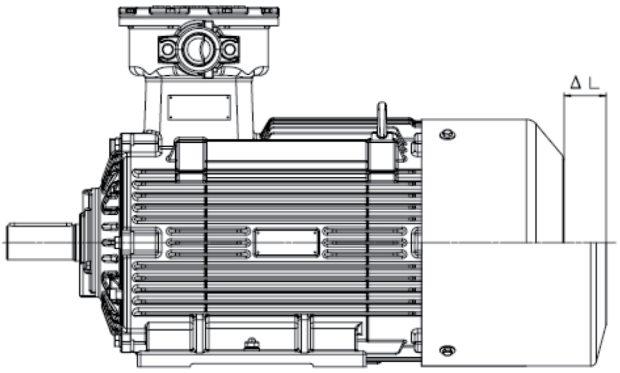
INNOMOTICS
Made in P.R.China
中国制造

FLAMEPROOF THREE-PHASE ASYNCHRONOUS MOTOR
隔爆型三相异步电动机
Innomotics Standard Motors Ltd.茵梦达电机（中国）有限公司

Ⓗ Ex

TYPE 1MB0063-2CA2	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>=2 kHz				
	V	Hz	A	kW	Nm	r/min
	38Δ	5	100	5	177	275
	190Δ	25	100	27	177	1475
	380Δ	50	100	55	177	2975
	380Δ	60	99	55	148	3570

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



对应电动机机座号 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	220Δ/380Y	50	35	0.14/0.08	2800	108
90	220Δ/380Y	50	50	0.16/0.09	2800	107
100	220Δ/380Y	50	65	0.175/0.1	2800	106
112	220Δ/380Y	50	70	0.21/0.12	2800	110
132	220Δ/380Y	50	80	0.26/0.15	2800	101
160	220Δ/380Y	50	90	0.61/0.35	1400	111
180	220Δ/380Y	50	100	0.63/0.36	1400	105
200	220Δ/380Y	50	180	0.66/0.38	1400	90
225	220Δ/380Y	50	250	1.13/0.65	1400	100
250	220Δ/380Y	50	250	1.13/0.65	1400	125
280	220Δ/380Y	50	370	1.94/1.12	1400	198
315	220Δ/380Y	50	750	3.30/1.91	1350	201
355-2P	220Δ/380Y	50	800	4.35/2.5	1350	208
355-4P,6P,8P	220Δ/380Y	50	800	4.35/2.5	1350	205

注:

1. 风扇可以在 210 ~ 240 VD/360 ~ 420VY 50Hz 电源供电下运行，也可以在 220 ~ 260 VD/380 ~ 480 VY 60 Hz 电源供电下运行。
2. 独立风机接线盒有1个进线孔，为钢管布线（螺纹接口）形式，螺纹尺寸为M24*1.5。允许许外接电缆直径为5~10mm。

Note:

1. The fan can be running with supply 210 ~ 240 VD/360 ~ 420 VY 50 Hz, as well as 220 ~ 260 VD/380 ~ 480 VY 60 Hz.
2. The terminal box of separately driven fan has one screwed cable entry with dimension M24*1.5, the allowed cable diameter is 5~10mm.

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	B	0	0	6	3	–	1	E	A	2	3	–	3	A	A	4

电机系列 Motor family
1MB006系列隔爆型三相异步电动机
1MB006 series explosion protected three-phase asynchronous motors

效率 Efficiency
3 = IE3

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; 60Hz 460VY
3-4 = 50Hz 400V Δ /690VY; 60Hz 460V Δ
2-1 = 50Hz 220V Δ /380VY; 60Hz 440VY
0-1 = 50Hz 230V Δ
3-3 = 50Hz 380V Δ /660VY; 60Hz 440V Δ
2-3 = 50Hz 240V Δ /415VY; 60Hz 480VY
3-5 = 50Hz 415V Δ ; 60Hz 480V Δ
9-0 = 特殊电压和频率 Special voltage & frequency [1)]

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
K = 绕组带1个单支两线制PT1000测温元件 1 single 2 wires PT1000 resistance thermometers
L = 绕组带2个单支两线制PT1000测温元件 2 single 2 wires PT1000 resistance thermometers
Q = 绕组带3个单支三线制PT100测温元件 3 single 3 wires PT100 resistance thermometers
R = 绕组带6个单支三线制PT100测温元件 6 single 3 wires 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：

1) 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:

1) 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			
				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	%	%		A
	3000rpm 2 - pole 380VY[2] 50HZ						
80M	1MB0063-0DA29-0 □□□	0.75	2835	80.7	82.9	0.86	1.64
80M	1MB0063-0DA39-0 □□□	1.1	2850	82.7	84.0	0.83	2.45
90S	1MB0063-0EA09-0 □□□	1.5	2870	84.2	84.8	0.86	3.15
90L	1MB0063-0EA49-0 □□□	2.2	2890	85.9	87.2	0.88	4.4
100L	1MB0063-1AA49-0 □□□	3	2865	87.1	88.3	0.87	6
	3000rpm 2 - pole 380VD/660VY 50HZ						
112M	1MB0063-1BA23-3 □□□	4	2915	88.1	89.6	0.90	7.7
132S	1MB0063-1CA03-3 □□□	5.5	2930	89.2	90.2	0.89	10.5
132S	1MB0063-1CA13-3 □□□	7.5	2930	90.1	91.5	0.90	14.1
160M	1MB0063-1DA23-3 □□□	11	2935	91.2	92.0	0.89	20.5
160M	1MB0063-1DA33-3 □□□	15	2935	91.9	92.6	0.89	28
160L	1MB0063-1DA43-3 □□□	18.5	2935	92.4	93.0	0.89	34
180M	1MB0063-1EA23-3 □□□	22	2950	92.7	93.0	0.89	40.5
200L	1MB0063-2AA43-3 □□□	30	2955	93.3	93.4	0.87	55
200L	1MB0063-2AA53-3 □□□	37	2955	93.7	93.9	0.89	67
225M	1MB0063-2BA23-3 □□□	45	2960	94.0	94.3	0.89	82
250M	1MB0063-2CA23-3 □□□	55	2975	94.3	94.1	0.89	100
280S	1MB0063-2DA03-3 □□□	75	2975	94.7	94.8	0.89	135
280M	1MB0063-2DA23-3 □□□	90	2975	95.0	95.3	0.90	160
315S	1MB0063-3AA03-3 □□□	110	2985	95.2	95.1	0.90	195
315M	1MB0063-3AA23-3 □□□	132	2982	95.4	95.3	0.90	235
315L	1MB0063-3AA53-3 □□□	160	2982	95.6	95.7	0.91	280
315L	1MB0063-3AA63-3 □□□	185	2978	95.7	95.9	0.92	320
315L	1MB0063-3AA73-3 □□□	200	2982	95.8	95.9	0.92	345
355M	1MB0063-3BA23-3 □□□	220	2986	95.8	95.4	0.90	390
355M	1MB0063-3BA33-3 □□□	250	2985	95.8	95.7	0.90	440
355L	1MB0063-3BA53-3 □□□	280	2988	95.8	95.7	0.90	495
355L	1MB0063-3BA63-3 □□□	315	2982	95.8	95.8	0.90	560

注:

[1] 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。

[2] 380VY 50Hz，电动机订货号第 12、13 位代码为 90，且须带选件 M3F。

Note:

[1] 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.

[2] 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

机座号 Frame Size	型号 Order No.	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 [1] Noise LpfA	噪音 [1] Noise LWA	重量 Weight IMB3
		Nm	直接起动对额定转矩（电流）的倍数 For direct-on-line starting as multiple of the rated			kgm^2	dB(A)	dB(A)	kg
	3000rpm 2 - pole 380VY [2] 50HZ								
80M	1MB0063-0DA29-0 □□□	2.5	6.0	2.4	3.0	0.0010	51	62	29
80M	1MB0063-0DA39-0 □□□	3.7	6.5	2.6	3.4	0.0013	51	62	31
90S	1MB0063-0EA09-0 □□□	5.0	7.0	2.0	3.0	0.0024	55	67	37
90L	1MB0063-0EA49-0 □□□	7.3	7.5	2.8	3.6	0.0030	55	67	42
100L	1MB0063-1AA49-0 □□□	10.0	7.8	3.3	3.6	0.0046	62	74	53
	3000rpm 2 - pole 380VD/660VY 50HZ								
112M	1MB0063-1BA23-3 □□□	13.1	7.8	2.6	3.6	0.0087	65	77	67
132S	1MB0063-1CA03-3 □□□	17.9	7.5	2.3	3.6	0.018	67	79	83
132S	1MB0063-1CA13-3 □□□	24.4	7.5	2.3	3.6	0.022	67	79	92
160M	1MB0063-1DA23-3 □□□	35.8	7.5	2.3	3.4	0.037	69	81	140
160M	1MB0063-1DA33-3 □□□	48.8	7.5	2.4	3.4	0.046	69	81	151
160L	1MB0063-1DA43-3 □□□	60.2	7.8	2.4	3.4	0.054	69	81	170
180M	1MB0063-1EA23-3 □□□	71.2	7.8	2.4	3.4	0.088	70	83	207
200L	1MB0063-2AA43-3 □□□	97.0	7.8	2.4	3.4	0.156	71	84	288
200L	1MB0063-2AA53-3 □□□	120	7.8	2.4	3.4	0.183	71	84	319
225M	1MB0063-2BA23-3 □□□	145	7.8	2.4	3.2	0.301	72	85	400
250M	1MB0063-2CA23-3 □□□	177	7.8	2.6	3.2	0.507	75	89	478
280S	1MB0063-2DA03-3 □□□	241	7.5	2.8	3.0	0.856	77	91	595
280M	1MB0063-2DA23-3 □□□	289	7.5	2.8	3.4	1.029	77	91	665
315S	1MB0063-3AA03-3 □□□	352	7.9	2.3	2.6	1.59	78	92	940
315M	1MB0063-3AA23-3 □□□	423	7.9	2.3	2.6	1.77	78	92	1030
315L	1MB0063-3AA53-3 □□□	512	7.9	2.3	2.6	2.10	78	92	1130
315L	1MB0063-3AA63-3 □□□	593	8.5	2.3	2.6	2.52	78	92	1210
315L	1MB0063-3AA73-3 □□□	641	8.5	2.8	3.2	2.52	78	92	1230
355M	1MB0063-3BA23-3 □□□	704	8.5	2.2	2.8	2.65	85	100	1580
355M	1MB0063-3BA33-3 □□□	800	8.0	2.2	2.8	2.65	85	100	1580
355L	1MB0063-3BA53-3 □□□	895	8.5	2.2	2.8	3.24	85	100	1720
355L	1MB0063-3BA63-3 □□□	1009	8.0	2.2	2.8	3.24	85	100	1790

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			
				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	%	%		A
	1500rpm 4 - pole 380VY[2] 50HZ						
80M	1MB0063-0DB29-0 □□□	0.55	1440	80.8	81.8	0.76	1.36
80M	1MB0063-0DB39-0 □□□	0.75	1440	82.5	82.9	0.75	1.84
90S	1MB0063-0EB09-0 □□□	1.1	1430	84.1	85.1	0.79	2.5
90L	1MB0063-0EB49-0 □□□	1.5	1440	85.3	86.0	0.79	3.4
100L	1MB0063-1AB49-0 □□□	2.2	1440	86.7	87.1	0.82	4.7
100L	1MB0063-1AB59-0 □□□	3	1440	87.7	88.1	0.82	6.3
	1500rpm 4 - pole 380VD/660VY 50HZ						
112M	1MB0063-1BB23-3 □□□	4	1450	88.6	89.6	0.82	8.4
132S	1MB0063-1CB03-3 □□□	5.5	1455	89.6	90.9	0.84	11.1
132M	1MB0063-1CB23-3 □□□	7.5	1455	90.4	91.7	0.85	14.8
160M	1MB0063-1DB23-3 □□□	11	1465	91.4	92.4	0.86	21.5
160L	1MB0063-1DB43-3 □□□	15	1465	92.1	92.9	0.86	29
180M	1MB0063-1EB23-3 □□□	18.5	1470	92.6	93.0	0.83	36.5
180L	1MB0063-1EB43-3 □□□	22	1470	93.0	93.7	0.83	43.5
200L	1MB0063-2AB43-3 □□□	30	1475	93.6	94.3	0.84	58
225S	1MB0063-2BB03-3 □□□	37	1482	93.9	94.1	0.83	70
225M	1MB0063-2BB23-3 □□□	45	1482	94.2	94.2	0.85	85
250M	1MB0063-2CB23-3 □□□	55	1485	94.6	95.0	0.86	103
280S	1MB0063-2DB03-3 □□□	75	1485	95.0	95.3	0.86	139
280M	1MB0063-2DB23-3 □□□	90	1485	95.2	95.6	0.87	165
315S	1MB0063-3AB03-3 □□□	110	1488	95.4	95.7	0.87	200
315M	1MB0063-3AB23-3 □□□	132	1488	95.6	95.9	0.87	240
315L	1MB0063-3AB53-3 □□□	160	1488	95.8	96.1	0.87	290
315L	1MB0063-3AB63-3 □□□	185	1488	95.9	96.2	0.87	335
315L	1MB0063-3AB73-3 □□□	200	1490	96.0	96.3	0.88	360
355M	1MB0063-3BB23-3 □□□	220	1490	96.0	96.0	0.88	395
355M	1MB0063-3BB33-3 □□□	250	1490	96.0	96.0	0.88	450
355L	1MB0063-3BB53-3 □□□	280	1490	96.0	96.1	0.88	500
355L	1MB0063-3BB63-3 □□□	315	1490	96.0	96.1	0.88	570

注:

[1] 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。

[2] 380VY 50Hz，电动机订货号第 12、13 位代码为 90，且须带选件 M3F。

Note:

[1] 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.

[2] 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

机座号 Frame Size	型号 Order No.	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 [1] Noise LpfA	噪音 [1] Noise LWA	重量 Weight IMB3
		Nm	直接起动对额定转矩 (电流) 的倍数 For direct-on-line starting as multiple of the rated			kgm^2	dB(A)	dB(A)	kg
	1500rpm 4 - pole 380VY[2] 50HZ								
80M	1MB0063-0DB29-0 □□□	3.6	5.5	2.2	3.2	0.0021	45	56	30
80M	1MB0063-0DB39-0 □□□	5.0	6.0	2.6	3.7	0.0024	45	56	31
90S	1MB0063-0EB09-0 □□□	7.3	6.5	2.7	3.7	0.0039	47	59	37
90L	1MB0063-0EB49-0 □□□	9.9	6.5	2.8	3.8	0.0050	47	59	42
100L	1MB0063-1AB49-0 □□□	14.6	8.3	3.0	4.0	0.0112	52	64	56
100L	1MB0063-1AB59-0 □□□	19.9	8.3	3.0	4.0	0.0132	52	64	61
	1500rpm 4 - pole 380VD/660VY 50HZ								
112M	1MB0063-1BB23-3 □□□	26.3	8.3	3.7	4.6	0.0148	53	65	72
132S	1MB0063-1CB03-3 □□□	36.1	7.8	2.4	3.8	0.028	59	71	90
132M	1MB0063-1CB23-3 □□□	49.2	7.8	2.4	3.8	0.035	59	71	105
160M	1MB0063-1DB23-3 □□□	71.7	7.8	2.6	3.8	0.063	61	73	147
160L	1MB0063-1DB43-3 □□□	97.8	8.2	2.6	3.8	0.078	61	73	170
180M	1MB0063-1EB23-3 □□□	120	7.8	2.6	3.6	0.134	63	76	205
180L	1MB0063-1EB43-3 □□□	143	7.8	2.6	3.6	0.153	63	76	226
200L	1MB0063-2AB43-3 □□□	194	7.8	2.6	3.6	0.247	63	76	300
225S	1MB0063-2BB03-3 □□□	238	8.3	3.0	3.6	0.495	65	78	360
225M	1MB0063-2BB23-3 □□□	290	8.3	3.0	3.6	0.549	65	78	398
250M	1MB0063-2CB23-3 □□□	354	7.6	2.6	3.3	0.892	66	79	493
280S	1MB0063-2DB03-3 □□□	482	7.6	2.8	3.0	1.463	66	80	630
280M	1MB0063-2DB23-3 □□□	579	7.6	2.8	3.0	1.862	66	80	735
315S	1MB0063-3AB03-3 □□□	706	7.9	3.0	3.0	2.32	74	88	980
315M	1MB0063-3AB23-3 □□□	847	7.9	3.0	3.0	3.03	74	88	1100
315L	1MB0063-3AB53-3 □□□	1027	7.9	3.0	3.0	3.31	74	88	1170
315L	1MB0063-3AB63-3 □□□	1187	8.5	3.0	3.0	3.66	74	88	1220
315L	1MB0063-3AB73-3 □□□	1282	8.5	3.0	3.0	4.00	74	88	1280
355M	1MB0063-3BB23-3 □□□	1410	8.0	2.0	3.2	5.20	81	95	1760
355M	1MB0063-3BB33-3 □□□	1602	7.8	1.8	2.9	5.20	81	95	1770
355L	1MB0063-3BB53-3 □□□	1795	7.8	1.8	2.9	5.50	81	95	1790
355L	1MB0063-3BB63-3 □□□	2019	8.0	1.8	2.9	5.95	81	95	1920

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			
				效率 Efficiencyat (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	%	%		A
	1000rpm 6 - pole 380VY[2] 50HZ						
80M	1MB0063-0DC39-0 □□□	0.55	935	77.2	77.5	0.67	1.62
90S	1MB0063-0EC09-0 □□□	0.75	940	78.9	80.3	0.70	2.05
90L	1MB0063-0EC49-0 □□□	1.1	945	81.0	81.6	0.69	3
100L	1MB0063-1AC49-0 □□□	1.5	950	82.5	84.1	0.74	3.75
112M	1MB0063-1BC29-0 □□□	2.2	945	84.3	86.1	0.74	5.4
132S	1MB0063-1CC09-0 □□□	3	965	85.6	86.6	0.75	7.1
	1000rpm 6 - pole 380VD/660VY 50HZ						
132M	1MB0063-1CC23-3 □□□	4	955	86.8	88.5	0.75	9.3
132M	1MB0063-1CC33-3 □□□	5.5	960	88.0	89.2	0.76	12.5
160M	1MB0063-1DC23-3 □□□	7.5	980	89.1	90.4	0.78	16.4
160L	1MB0063-1DC43-3 □□□	11	980	90.3	90.3	0.77	24
180L	1MB0063-1EC43-3 □□□	15	975	91.2	92.1	0.80	31
200L	1MB0063-2AC43-3 □□□	18.5	978	91.7	92.5	0.80	38.5
200L	1MB0063-2AC53-3 □□□	22	980	92.2	93.1	0.80	45.5
225M	1MB0063-2BC23-3 □□□	30	982	92.9	93.9	0.83	59
250M	1MB0063-2CC23-3 □□□	37	985	93.3	94.1	0.84	72
280S	1MB0063-2DC03-3 □□□	45	988	93.7	94.5	0.84	87
280M	1MB0063-2DC23-3 □□□	55	988	94.1	94.6	0.84	106
315S	1MB0063-3AC03-3 □□□	75	990	94.6	95.0	0.84	143
315M	1MB0063-3AC23-3 □□□	90	990	94.9	95.3	0.84	172
315L	1MB0063-3AC53-3 □□□	110	991	95.1	95.3	0.85	205
315L	1MB0063-3AC63-3 □□□	132	991	95.4	95.7	0.85	245
355S	1MB0063-3BC23-3 □□□	160	994	95.6	95.7	0.84	305
355M	1MB0063-3BC33-3 □□□	185	993	95.7	95.8	0.84	350
355M	1MB0063-3BC43-3 □□□	200	993	95.8	95.9	0.84	380
355L	1MB0063-3BC53-3 □□□	220	993	95.8	96.0	0.84	415
355L	1MB0063-3BC63-3 □□□	250	992	95.8	96.1	0.84	470

注:

[1] 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。

[2] 380VY 50Hz，电动机订货号第 12、13 位代码为 90，且须带选件 M3F。

Note:

[1] 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.

[2] 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

机座号 Frame Size	型号 Order No.	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 [1] Noise LpfA	噪音 [1] Noise LWA	重量 Weight IMB3
		Nm	直接起动对额定转矩 (电流) 的倍数 For direct-on-line starting as multiple of the rated			kgm^2	dB(A)	dB(A)	kg
	1000rpm 6 - pole 380VY [2] 50HZ								
80M	1MB0063-0DC39-0 □□□	5.6	5.0	2.6	3.2	0.0030	44	55	33
90S	1MB0063-0EC09-0 □□□	7.6	5.0	2.4	3.2	0.0042	45	57	39
90L	1MB0063-0EC49-0 □□□	11.1	5.5	2.7	3.5	0.0050	45	57	42
100L	1MB0063-1AC49-0 □□□	15.1	5.5	2.5	3.5	0.0113	49	61	58
112M	1MB0063-1BC29-0 □□□	22.2	6.0	2.7	3.4	0.0136	53	65	70
132S	1MB0063-1CC09-0 □□□	29.7	6.0	2.7	4.0	0.0234	57	69	82
	1000rpm 6 - pole 380VD/660VY 50HZ								
132M	1MB0063-1CC23-3 □□□	40.0	6.0	2.7	3.4	0.030	57	69	96
132M	1MB0063-1CC33-3 □□□	54.7	6.5	2.7	4.0	0.040	57	69	111
160M	1MB0063-1DC23-3 □□□	73.1	7.0	2.7	3.6	0.119	61	73	146
160L	1MB0063-1DC43-3 □□□	107	7.0	2.7	3.6	0.161	61	73	176
180L	1MB0063-1EC43-3 □□□	147	7.0	2.3	3.0	0.206	59	73	209
200L	1MB0063-2AC43-3 □□□	181	7.0	2.3	3.0	0.312	59	73	282
200L	1MB0063-2AC53-3 □□□	214	7.0	2.4	3.0	0.357	59	73	297
225M	1MB0063-2BC23-3 □□□	292	7.6	2.4	3.0	0.761	60	74	408
250M	1MB0063-2CC23-3 □□□	359	7.6	2.6	3.0	1.070	62	76	483
280S	1MB0063-2DC03-3 □□□	435	7.8	3.2	3.0	1.484	64	78	575
280M	1MB0063-2DC23-3 □□□	532	7.8	3.2	3.0	1.748	64	78	640
315S	1MB0063-3AC03-3 □□□	723	7.8	2.4	3.0	2.76	69	83	960
315M	1MB0063-3AC23-3 □□□	868	7.8	2.4	3.0	3.47	69	83	1050
315L	1MB0063-3AC53-3 □□□	1060	7.8	2.6	3.0	4.43	69	83	1180
315L	1MB0063-3AC63-3 □□□	1272	7.8	2.6	3.0	4.75	69	83	1230
355S	1MB0063-3BC23-3 □□□	1537	8.5	3.0	2.4	10.57	71	85	1780
355M	1MB0063-3BC33-3 □□□	1779	8.5	3.0	2.4	10.60	71	85	1870
355M	1MB0063-3BC43-3 □□□	1923	8.5	3.0	2.4	11.09	71	85	1910
355L	1MB0063-3BC53-3 □□□	2116	8.5	3.0	2.4	13.09	71	85	2070
355L	1MB0063-3BC63-3 □□□	2407	8.5	3.0	2.4	13.09	71	85	2110

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			
				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	%	%		A
	750rpm 8-pole 380VY[2] 50HZ						
132S	1MB0063-1CD09-0 □□□	2.2	725	81.9	82.6	0.73	5.6
132M	1MB0063-1CD29-0 □□□	3	720	83.5	84.5	0.74	7.4
	750rpm 8-pole 380VD/660VY 50HZ						
160M	1MB0063-1DD23-3 □□□	4	728	84.8	86.4	0.74	9.7
160M	1MB0063-1DD33-3 □□□	5.5	732	86.2	87.1	0.74	13.1
160L	1MB0063-1DD43-3 □□□	7.5	732	87.3	88.3	0.74	17.6
180L	1MB0063-1ED43-3 □□□	11	720	88.6	89.9	0.74	25.5
200L	1MB0063-2AD53-3 □□□	15	728	89.6	90.2	0.73	35
225S	1MB0063-2BD03-3 □□□	18.5	732	90.1	90.9	0.75	41.5
225M	1MB0063-2BD23-3 □□□	22	732	90.6	91.5	0.75	49
250M	1MB0063-2CD23-3 □□□	30	735	91.3	92.1	0.79	63
280S	1MB0063-2DD03-3 □□□	37	735	91.8	92.8	0.79	78
280M	1MB0063-2DD23-3 □□□	45	735	92.2	93.1	0.80	93
315S	1MB0063-3AD03-3 □□□	55	738	92.5	93.0	0.81	112
315M	1MB0063-3AD23-3 □□□	75	738	93.1	93.6	0.81	151
315L	1MB0063-3AD53-3 □□□	90	738	93.4	93.9	0.82	179
315L	1MB0063-3AD63-3 □□□	110	738	93.7	94.2	0.82	220
355S	1MB0063-3BD23-3 □□□	132	743	94.0	94.5	0.81	265
355M	1MB0063-3BD33-3 □□□	160	742	94.3	94.8	0.81	320
355L	1MB0063-3BD53-3 □□□	185	742	94.6	95.0	0.82	360
355L	1MB0063-3BD63-3 □□□	200	742	94.6	95.0	0.83	385

注:

[1] 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。

[2] 380VY 50Hz，电动机订货号第 12、13 位代码为 90，且须带选件 M3F。

Note:

[1] 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.

[2] 380VY 50Hz, the 12th,13th digit of motor order No. must be "90", with option code M3F.

机座号 Frame Size	型号 Order No.	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 [1] Noise LpfA	噪音 [1] Noise LWA	重量 Weight IMB3
		Nm	直接起动对额定转矩 (电流) 的倍数 For direct-on-line starting as multiple of the rated			kgm^2	dB(A)	dB(A)	kg
	750rpm 8-pole 380VY [2] 50HZ								
132S	1MB0063-1CD09-0 □□□	29	5.5	1.8	3.0	0.047	51	64	83
132M	1MB0063-1CD29-0 □□□	39.8	5.5	1.8	3.0	0.062	51	64	97
	750rpm 8-pole 380VD/660VY 50HZ								
160M	1MB0063-1DD23-3 □□□	52.5	5.5	1.7	2.8	0.076	55	68	129
160M	1MB0063-1DD33-3 □□□	71.8	6.0	1.7	3.0	0.101	55	68	140
160L	1MB0063-1DD43-3 □□□	97.8	6.0	1.8	3.0	0.128	55	68	162
180L	1MB0063-1ED43-3 □□□	146	5.5	2.0	3.0	0.261	60	73	234
200L	1MB0063-2AD53-3 □□□	197	6.5	2.5	3.5	0.413	61	74	313
225S	1MB0063-2BD03-3 □□□	241	6.5	2.0	3.0	0.552	58	72	331
225M	1MB0063-2BD23-3 □□□	287	6.5	2.0	2.5	0.608	58	72	359
250M	1MB0063-2CD23-3 □□□	390	6.5	2.0	3.0	0.924	67	80	451
280S	1MB0063-2DD03-3 □□□	481	5.5	2.4	2.5	1.183	69	82	540
280M	1MB0063-2DD23-3 □□□	585	6.0	2.4	2.5	1.736	69	82	650
315S	1MB0063-3AD03-3 □□□	710	6.2	1.8	2.9	2.16	70	83	860
315M	1MB0063-3AD23-3 □□□	970	6.7	1.8	2.5	2.70	70	83	955
315L	1MB0063-3AD53-3 □□□	1165	5.9	1.8	2.3	3.40	70	83	1000
315L	1MB0063-3AD63-3 □□□	1418	7.1	2.3	3.0	4.25	70	83	1150
355S	1MB0063-3BD23-3 □□□	1699	7.1	2.2	2.4	8.09	77	90	1630
355M	1MB0063-3BD33-3 □□□	2059	7.1	2.2	2.4	9.50	77	90	1840
355L	1MB0063-3BD53-3 □□□	2382	7.1	2.0	2.1	11.25	77	90	2010
355L	1MB0063-3BD63-3 □□□	2576	7.4	2.0	2.1	12.63	77	90	2120

选件 Options

电动机订货号 Motor order code	选件号 Option Code [1]	描述 Description	应用范围 Application Scope
电压与频率 Voltages and frequency			
1MB0063-□□□□2-1□□□	–	220VD / 380VY 50Hz；440VY 60Hz（50Hz output, 50Hz功率输出）	FS112 ~ 280[3]
1MB0063-□□□□3-3□□□	–	380VD / 660VY 50Hz；440VD 60Hz（50Hz output, 50Hz功率输出,4 kW ~ 315 kW [2]）	FS112 ~ 355[3]
1MB0063-□□□□2-2□□□	–	230VD / 400VY 50Hz；460VY 60Hz（50Hz output, 50Hz功率输出）	FS112 ~ 280[3]
1MB0063-□□□□3-4□□□	–	400VD / 690VY 50Hz；460VD 60Hz（50Hz output, 50Hz功率输出）	FS112 ~ 355[3]
1MB0063-□□□□2-3□□□	–	240VD / 415VY 50Hz；480VY 60Hz（50Hz output, 50Hz功率输出）	FS112 ~ 280[3]
1MB0063-□□□□3-5□□□	–	415VD 50Hz；480VD 60Hz （50Hz output, 50Hz功率输出）	FS80 ~ 355
1MB0063-□□□□0-1□□□	–	230VD 50Hz	FS80 ~ 280
1MB0063-□□□□9-0□□□	M4A	400VY 50Hz	FS80 ~ 280
	M4B	400VD 50Hz	FS80 ~ 355
	M2A	220VD/380VY 60Hz（50Hz output, 50Hz 的输出功率）	FS112 ~ 280[3]
	M2B	380VD/660VY 60Hz（50Hz output, 50Hz 的输出功率）	FS112 ~ 355[3]
	M2C	440VY 60Hz（50Hz output, 50Hz 的输出功率）	FS80 ~ 280
	M2D	440VD 60Hz（50Hz output, 50Hz 的输出功率）	FS80 ~ 355
	M2E	460VY 60Hz（50Hz output, 50Hz 的输出功率）	FS80 ~ 280
	M2F	460VD 60Hz（50Hz output, 50Hz 的输出功率）	FS80 ~ 355
	M3F[2]	380VY 50Hz（50Hz output, 50Hz 的输出功率）	FS80 ~ 132[4]
绕组保护和轴承保护 Winding protection and bearing protection			
1MB0063-□□□□□-□□A□ [2]	–	无绕组保护 Without motor protection	FS80 ~ 355
1MB0063-□□□□□-□□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
1MB0063-□□□□□-□□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

[1] 订货时，电动机订货号需带“-Z”，另外附带上选件号。
[2] 无需附加费用。
[3] 适用于4kW及以上的功率。
[4] 适用于3kW及以下的功率。

[1] When ordering, need supplement "-Z" after order number. Add option code after that.
[2] Without additional charge.
[3] Apply to 4kW and above.
[4] Apply to 3kW and below.

选件 Options

电动机订货号 Motor order code	选件号 Option Code [1]	描述 Description	应用范围 Application Scope
1MB0063-□□□□□-□□H□-Z	Q60 [5]	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
1MB0063-□□□□□-□□J□-Z	Q61 [5]	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
1MB0063-□□□□□-□□K□-Z	Q35 [5]	绕组带1个单支两线制PT1000测温元件，需用2个辅助接线端子 Installation of 1 single 2 wires PT1000 resistance thermometers, need 2 terminals	FS80 ~ 355
1MB0063-□□□□□-□□L□-Z	Q36 [5]	绕组带2个单支两线制PT1000测温元件，需用4个辅助接线端子 Installation of 2 single 2 wires PT1000 resistance thermometers, need 4 terminals	FS80 ~ 355
1MB0063-□□□□□-□□Q□-Z	Q63 [5]	绕组带3个单支三线制PT100测温元件，需用9个辅助接线端子 Installation of 3 single 3 wires PT100 resistance thermometers, need 9 terminals	FS160 ~ 355
1MB0063-□□□□□-□□R□-Z	Q64 [5]	绕组带6个单支三线制PT100测温元件，需用18个辅助接线端子 Installation of 6 single 3 wires PT100 resistance thermometers（need 18 terminals）	FS180 ~ 355
–	Q02	绕组带 230 V 防潮加热带 Anti-condensation heating for 230 V	FS80 ~ 355
–	Q04	绕组带 220 V 防潮加热带 Anti-condensation heating for 220 V	FS80 ~ 355
–	Q72 [6]	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
–	Q78 [6]	轴承带2个单支三线制PT100测温元件，需用6个辅助接线端子 Installation of 2 single 3 wires PT100 resistance thermometers for bearings, need 6 terminals	FS160 ~ 355
–	Q79 [6]	轴承带2个双支三线制PT100测温元件，需用12个辅助接线端子 Installation of 2 double 3 wires PT100 resistance thermometers for bearings, need 12 terminals	FS160 ~ 355
变频应用 Converter fed application			
–	B43 [7) 13)]	由变频器驱动的电机，温升等级按照B级考核 For converter-fed operation, utilization in accordance with temperature B	FS80 ~ 355
–	F70+B44 [7) 13)]	由变频器驱动的电机，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

1) 订货时，电动机订货号需带“-Z”，另外附带上选件号。
5) 当单独选用时只需在订货号中指定相应的字母，而无需使用选件号；只有当与其它温度保护选项组合使用时才需使用选件号。
6) 适用于2，4，6极电机。
7) 对于变频防爆应用，须选择绕组测温，如PTC、PT100等。
13) 机座号为FS315和FS355的电机在选用B43或F70+B44选件时，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。

1) When ordering, need supplement "-Z" after order number. Add option code after that.
5) When selected separately, only specify the corresponding letter in ordering number. It is not necessary to configure the option code. When configured together with other temperature protection options, the option code should to be selected.
6) Apply to motors with 2,4,6 poles.
7) For VSD application, please select winding protection, such as PTC and PT100 Etc.
13) For the motors FS315 & FS355, when B43 or B44 is selected, the motor will be configured with insulated bearing at NDE. When F70+B44 is selected, the motor is configured with metal fan for FS80 to FS355. No need to select F76.

选件 Options

电动机订货号 Motor order code	选件号 Option Code [1]	描述 Description	应用范围 Application Scope
绕组与绝缘 Windings & Insulation			
–	N10	180（H）度温度等级绝缘 Temperature Class 180 (H)	FS80 ~ 355
冷却与通风 Ventilation			
–	F76	金属风扇 Metal Fan	FS80 ~ 355
电动机接线盒 Motor connection box			
1MB0063-□□□□□-□□□4 [2]	–	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 [8]	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 [10]	钢管布线孔 Conduit entry	FS80 ~ 355
–	X98	电机通过CNEx认证且接线盒配备闷盖（客户自行安装葛兰） Single main terminal box with plugs, CNEx certified. (Customers prepare and assemble cables glands by themselves)	FS80 ~ 355
–	L97 [11]	电机通过CNEx认证且接线盒带辅助接线盒并配备闷盖（客户自行安装葛兰） Terminal box with auxiliary box, equiped with plugs, CNEx certified. (Customers prepare and assemble cable glands by themselves)	FS160 ~ 355

[1] 订货时，电动机订货号需带“-Z”，另外附带上选件号。
[2] 无需附加费用。
[8] 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。
[10] 不能与 X98 或者 L97 同时选用。
[11] 主接线盒为葛兰进线口配备闷盖的型式（同 X98 选件）。

[1] When ordering, need supplement "-Z" after order number. Add option code after that.
[2] Without additional charge.
[8] When ordering this option, please take care about the installation location that whether there is enough space for cable inserting.
[10] This option can not be ordered together with X97 or X98.
[11] Main terminal box with plugs (The same as X98).

选件 Options

电动机订货号 Motor order code	选件号 Option Code [1]	描述 Description	应用范围 Application Scope
轴承 bearing			
–	L80	SKF轴承 SKF bearings	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 [9]	再润滑装置 Regreasing device	FS160 ~ 250
–	Q01	驱动端预留SPM测量接头 Measuring nipples at DE for SPM shock pulse sensors for bearing inspection	FS100 ~ 355
–	L27	非驱动端使用绝缘轴承 Insulated bearing on NDE	FS250 ~ 355
平衡及振动等级 Balance and Vibration quantity			
–	L00	B 级振动等级 Vibration quantity level B	FS80 ~ 355
机械设计和防护等级 Mechanical design and degrees of protection			
–	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

[1] 订货时，电动机订货号需带“-Z”，另外附带上选件号。

[9] 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。

[1] When ordering, need supplement "-Z" after order number. Add option code after that.

[9] 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 [1]	描述 Description	应用范围 Application Scope
铭牌和测试证书 Rating plate and test certificates			
–	B02	出厂检验报告 Acceptance test certificate 3.1 in accordance with EN 10204	FS80 ~ 355
颜色和喷漆 Colors and Paint finish			
–	S01	不喷漆，只带底漆 Unpainted, only primed	FS80 ~ 355
–	W88 [12]	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
–	W26	适用于 W，F2，TH 以及 WF2 环境用电机，同时满足 ISO12944 中 C4H 等级 Design for W, F2, TH and WF2,also follow C4H according to ISO12944	FS80 ~ 355
环境温度 Coolant temperature			
–	N05 [14]	绝缘等级 155 (F)，按照 130 (B) 使用，环境温度 45 °C 时，降低功率约 4%。 Temperature class 155 (F), used acc. to 130 (B), coolant temperature 45 °C, derating approx. 4 %	FS80 ~ 355
–	N06 [14]	绝缘等级 155 (F)，按照 130 (B) 使用，环境温度 50 °C 时，降低功率约 8%。 Temperature class 155 (F), used acc. to 130 (B), coolant temperature 50 °C, derating approx. 8 %	FS80 ~ 355
–	N07 [14]	绝缘等级 155 (F)，按照 130 (B) 使用，环境温度 55 °C 时，降低功率约 13%。 Temperature class 155 (F), used acc. to 130 (B), coolant temperature 55 °C, derating approx. 13 %	FS80 ~ 355
–	N08 [14]	绝缘等级 155 (F)，按照 130 (B) 使用，环境温度 60 °C 时，降低功率约 18%。 Temperature class 155 (F), used acc. to 130 (B), coolant temperature 60 °C, derating approx. 18 %	FS80 ~ 355

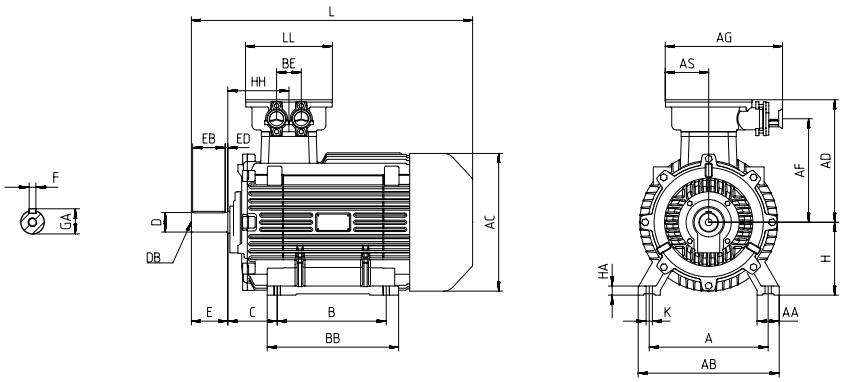
[1] 订货时，电动机订货号需带“-Z”，另外附带上选件号。
[12] 可用于室内，或暴露于阳光或气候环境的室外使用环境。
[14] 当与F70+B44同时选用时，温升等级按照F级考核。

[1] When ordering, need supplement "-Z" after order number. Add option code after that.
[12] Suitable for indoor or outdoor applications and exposed to climate conditions.
[14] When ordering together with F70+B44, used acc. to 155(F).

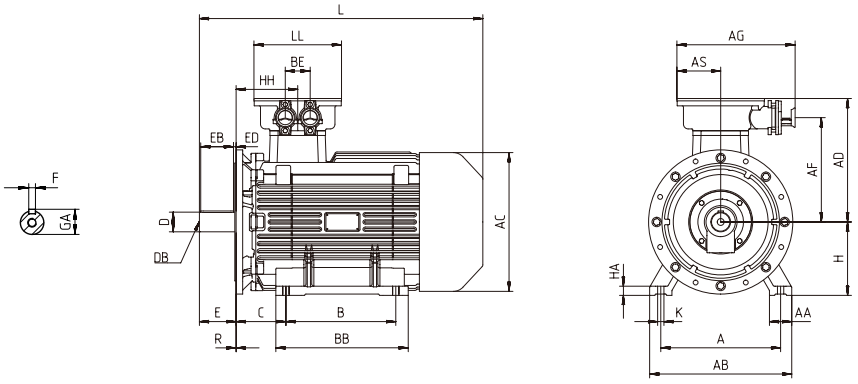
外形尺寸 Dimension drawings

INNOMOTICS XP 1MB0063 隔爆系列电动机 Flameproof series motor INNOMOTICS XP 1MB0063
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

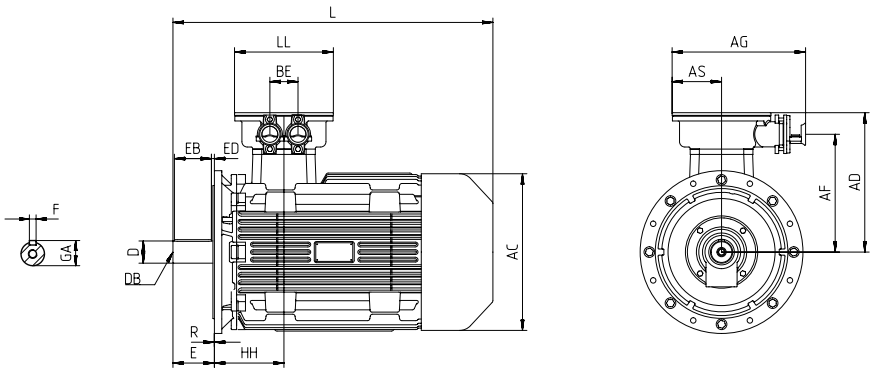


机座号 Frame size	订货号 MLFB 1MB0063-	极数 Poles	尺寸及公差/mm Dimension and tolerance											
			A	B	C		D		E		F		GA	H	
					基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance		基本尺寸 dimension	极限偏差 tolerance
80M	0DA2, 0DA3, 0DB2, 0DB3, 0DC3	2,4,6	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

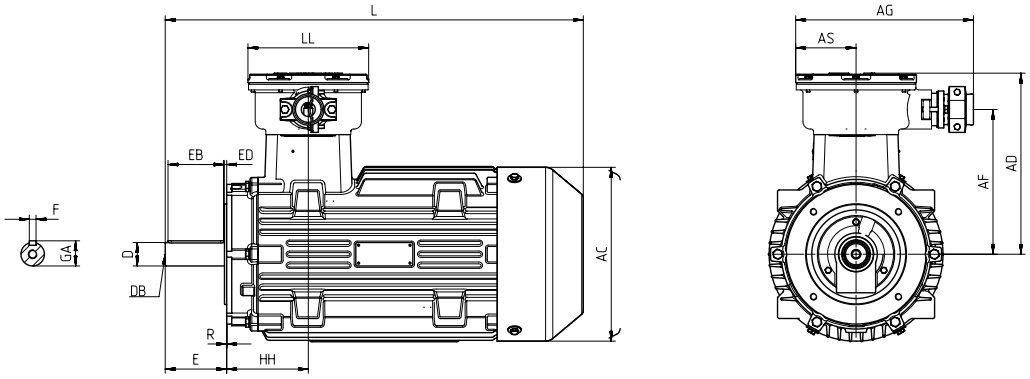
外形尺寸 Dimension drawings

INNOMOTICS XP 1MB0063 隔爆系列电动机 Flameproof series motor INNOMOTICS XP 1MB0063
机座号从 80M ~ 355M Frame sizes 80M to 355M

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

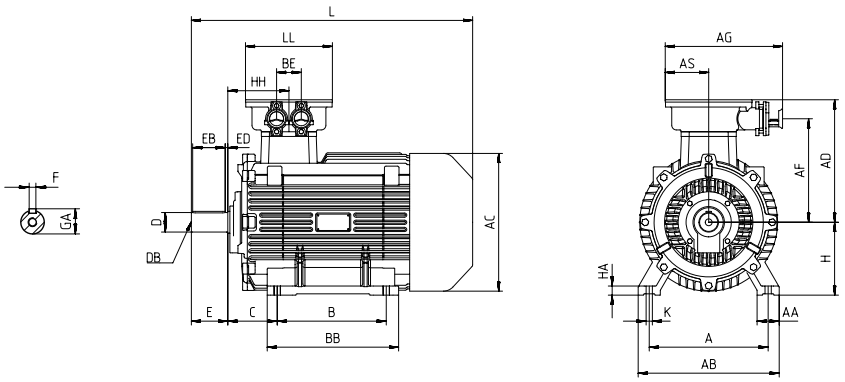


机座号 Frame size	订货号 MLFB 1MB0063-	极数 Poles	尺寸及公差/mm Dimension and tolerance																				
			K		AB	AC	AD	L	AA	AF	AG	AS	BB	BE	HA	LL	DB	EB		ED	AQ	LM	HH	R
			基本尺寸 dimension	极限偏差 tolerance														基本尺寸 dimension	极限偏差 tolerance					
80M	0DA2, 0DA3, 0DB2, 0DB3, 0DC3	2,4,6	10	+0.36 0	160	161	215	390	34	159	265	84	130	-	10	168	M6*16	32	0 −0.62	4	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	M8*19	40	0 −0.62	5	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	M8*19	40	0 −0.62	5	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	M10*22	50	0 −0.62	5	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	M10*22	50	0 −0.62	5	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	M12*28	70	0 −0.74	5	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	M12*28	70	0 −0.74	5	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	M16*36	100	0 −0.87	5	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	M16*36	100	0 −0.87	5	300	820	146	0
180M	1EA2, 1EB2	2,4	15	+0.43 0	349	356	350	785	70	280	318	108	321	-	22	216	M16*36	100	0 −0.87	5	330	855	169	0

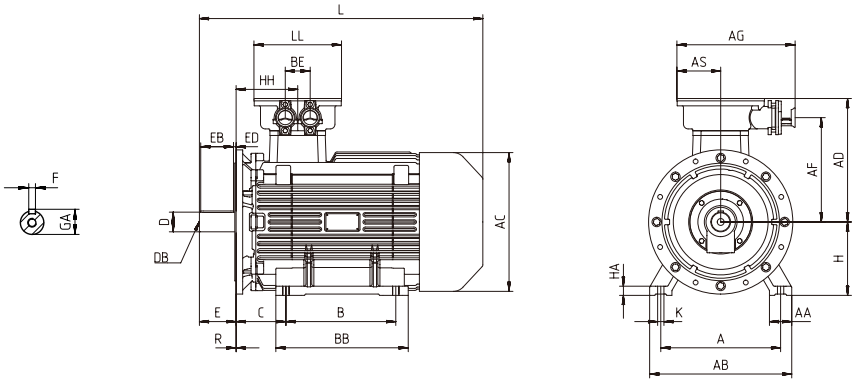
外形尺寸 Dimension drawings

INNOMOTICS XP 1MB0063隔爆系列电动机 Flameproof series motor INNOMOTICS XP 1MB0063
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

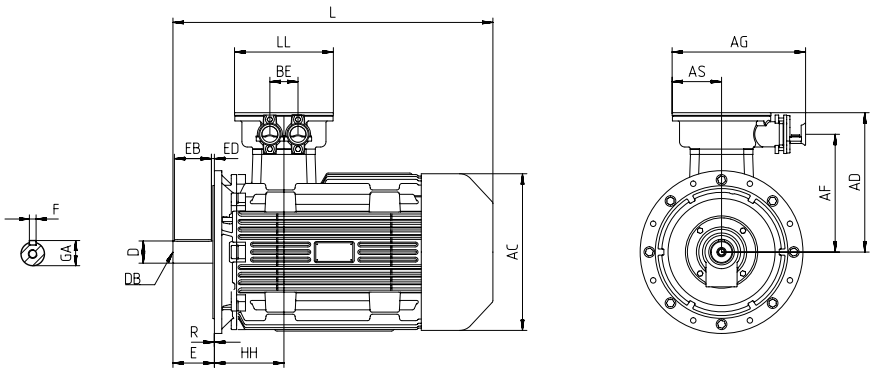


机座号 Frame size	订货号 MLFB 1MB0063-	极数 Poles	尺寸及公差/mm Dimension and tolerance												
			A	B	C		D		E		F		GA	H	
					基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance		基本尺寸 dimension	极限偏差 tolerance
180L	1EB4, 1EC4, 1ED4	4,6,8	279	279	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

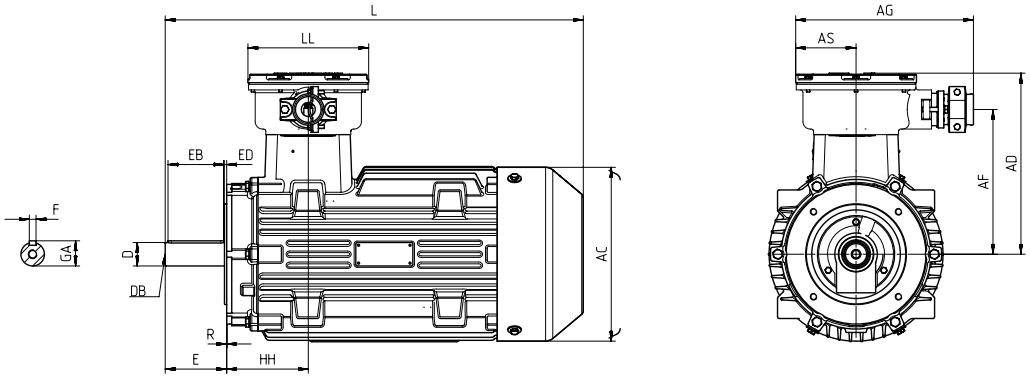
外形尺寸 Dimension drawings

INNOMOTICS XP 1MB0063 隔爆系列电动机 Flameproof series motor INNOMOTICS XP 1MB0063
机座号从 80M ~ 355M Frame sizes 80M to 355M

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

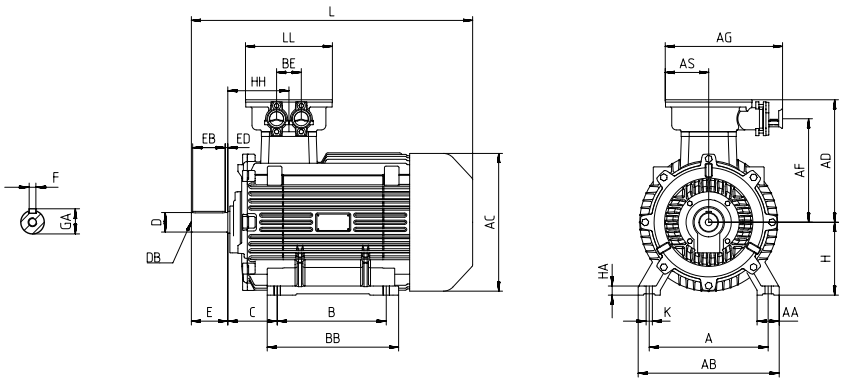


机座号 Frame size	订货号 MLFB 1MB0063-	极数 Poles	尺寸及公差/mm Dimension and tolerance																					
			K		AB	AC	AD	L	AA	AF	AG	AS	BB	BE	HA	LL	DB	EB		ED	AQ	LM	HH	R
			基本尺寸 dimension	极限偏差 tolerance														基本尺寸 dimension	极限偏差 tolerance					
180L	1EB4, 1EC4, 1ED4	4,6,8	15	+0.43 0	349	356	350	825	70	280	318	108	359	-	22	216	M16*36	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	385	905	70	311.5	371	129	369	-	25	258	M20*42	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	M20*42	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	M20*42	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	M20*42	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	M20*42	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	M20*42	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	M20*42	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	M20*42	125	0 −1	10	505	1100	235	0

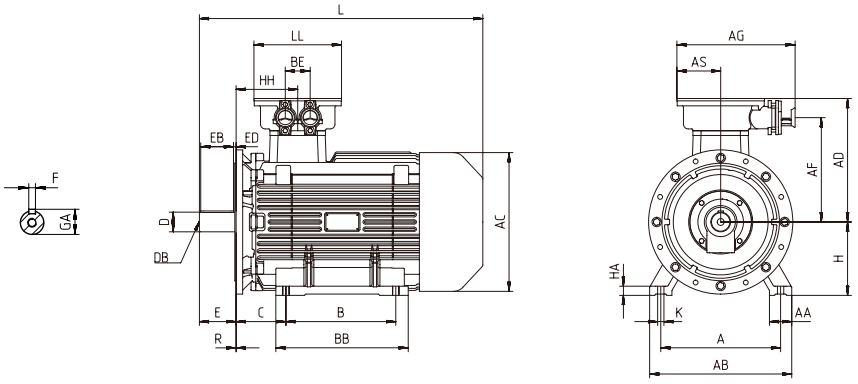
外形尺寸 Dimension drawings

INNOMOTICS XP 1MB0063隔爆系列电动机 Flameproof series motor INNOMOTICS XP 1MB0063
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

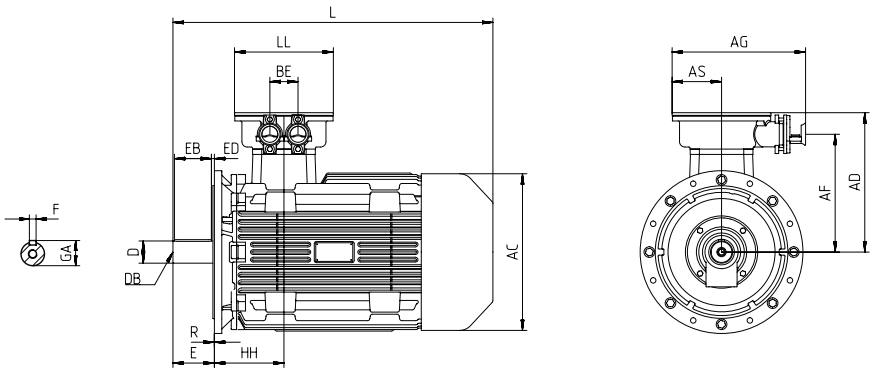


机座号 Frame size	订货号 MLFB 1MB0063-	极数 Poles	尺寸及公差/mm Dimension and tolerance												
			A	B	C		D		E		F		GA	H	
					基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance	基本尺寸 dimension	极限偏差 tolerance		基本尺寸 dimension	极限偏差 tolerance
280M	2DA2	2	457	419	190	±4.0	65	+0.030 +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,L	3AA2, 3AA5, 3AA6, 3AA7	2	508	457/508	216	±4.0	65	+0.030 +0.011	140	±0.5	18	0 −0.043	69	315	0 −1.0
	3AB2, 3AC2, 3AD2, 3AB5, 3AB6, 3AB7, 3AC5, 3AC6, 3AD5, 3AD6	4,6,8	508	457/508	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,L	3BA2, 3BA3, 3BA5, 3BA6	2	610	560/630	254	±4.0	75	+0.030 +0.011	140	±0.5	20	0 −0.052	79.5	355	0 −1.0
	3BB2, 3BB3, 3BB5, 3BB6, 3BC3, 3BC4, 3BC5, 3BC6, 3BD3, 3BD5, 3BD6	4,6,8	610	560/630	254	±4.0	95	+0.035 +0.013	170	±0.5	25	0 −0.052	100	355	0 −1.0

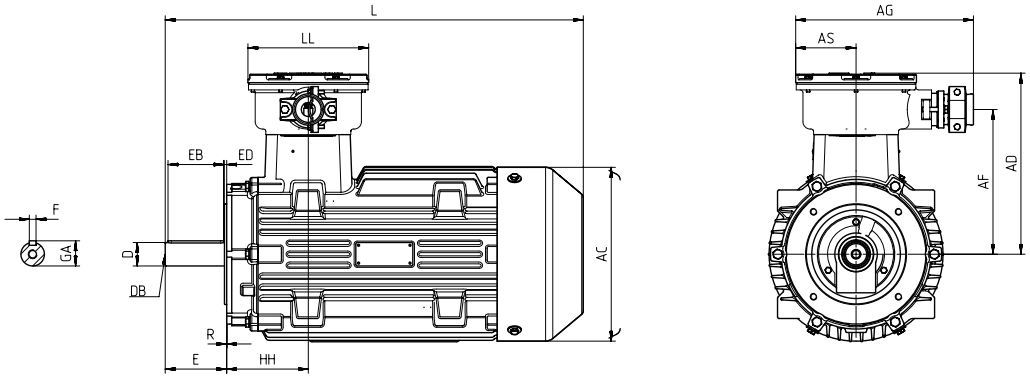
外形尺寸 Dimension drawings

INNOMOTICS XP 1MB0063 隔爆系列电动机 Flameproof series motor INNOMOTICS XP 1MB0063
机座号从 80M ~ 355M Frame sizes 80M to 355M

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

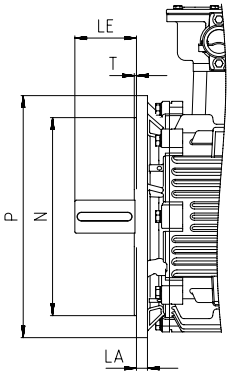


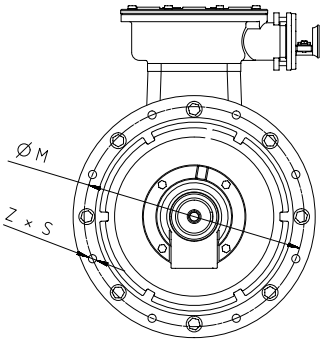
机座号 Frame size	订货号 MLFB 1MB0063-	极数 Poles	尺寸及公差/mm Dimension and tolerance																					
			K		AB	AC	AD	L	AA	AF	AG	AS	BB	BE	HA	LL	DB	EB		ED	AQ	LM	HH	R
			基本尺寸 dimension	极限偏差 tolerance														基本尺寸 dimension	极限偏差 tolerance					
280M	2DA2	2	24	+0.52 0	542	530	485	1085	85	398	451	167	505	95	35	332	M20*42	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	M20*42	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	M20*42	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	M20*42	140	0 −1	25	590	1380	299	0
315M,L	3AA2, 3AA5, 3AA6, 3AA7	2	28	+0.52 0	628	581	605	1440	120	483	557	211	648	120	45	422	M20*42	125	0 −1	10	590	1510	299	0
	3AB2, 3AC2, 3AD2, 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	M20*42	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	M24*50	140	0 −1	25	665	1525	294	0
355M,L	3BA2, 3BA3, 3BA5, 3BA6	2	28	+0.52 0	730	697	690	1575	120	570	557	211	780	120	50	422	M20*42	125	0 −1	10	665	1655	294	0
	3BB2, 3BB3, 3BB5, 3BB6, 3BC3, 3BC4, 3BC5, 3BC6, 3BD3, 3BD5, 3BD6	4,6,8	28	+0.52 0	730	697	690	1615	120	570	557	211	780	120	50	422	M24*50	140	0 −1	25	665	1685	294	0

外形尺寸 Dimension drawings

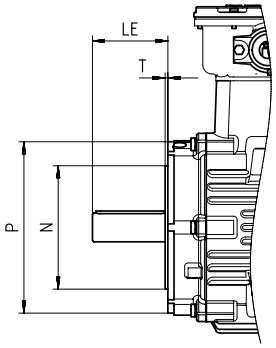
法兰尺寸 Flange dimension

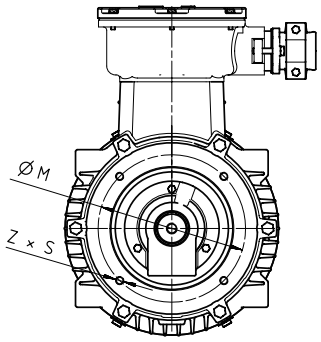
IM B5、IM B35、IM V1、IM V3 安装结构型式
Type of construction IM B5, IM B35, IM V1, IM V3





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[1)]	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

[1)] 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）。

[1)] 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)

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