XINJE

MS6 Series

Selection and Usage Manual for Explosion-Proof Permanent Magnet Synchronous Servo Motors

To be the most trusted partner in automation

Established in 2008, Wuxi Xinje Electric Co., Ltd. is a comprehensive solution provider specializing in the research, development, production, sales, and service of automation products. Committed to advancing equipment automation, digitalization, and intelligence to empower industrial upgrading, the company operates across major regions in China and overseas.

Xinje Electric adheres to independent innovation, with its core technologies covering the control layer, interaction layer, drive layer, execution layer, and sensing layer. Its key products include programmable logic controllers (PLCs), human-machine interfaces (HMIs), servo systems, variable-frequency drives, information systems, machine vision solutions, and robotics.

The products are widely used in industries such as photovoltaics, lithium batteries, 3C semiconductors, automotive equipment, energy, printing and packaging, logistics and warehousing, textile printing and dyeing, home furnishings and building materials, as well as food and beverage.

Xinje Electric builds its foundation on proprietary core technologies, ground itself in exceptional quality, and drives its efforts by customer needs. It delivers premium products, customized differentiated services, and highly competitive industry-specific solutions, empowering clients to enhance their competitiveness and create greater value.

Catalog

I. General Information

1.1 Product Overview

The MS6 series explosion-proof permanent magnet synchronous servo motors are specially designed for industrial applications in explosive environments. These motors offer diverse torque/speed characteristics, feedback options, and customization possibilities, making them the ideal solution for most servo system applications in explosive settings. The MS6 series are rated as explosion-proof and dust-inflammation-proof, with the following explosion protection ratings: Ex db IIC T4 Gb, Ex tb IIIC T130°C Db; Ex db IIC T5 Gb, Ex tb IIIC T100°C Db. Their explosion-proof performance complies with the following standard requirements:

GB/T 3836.1-2021 "Explosive Atmospheres – Part 1: General Requirements for Equipment".

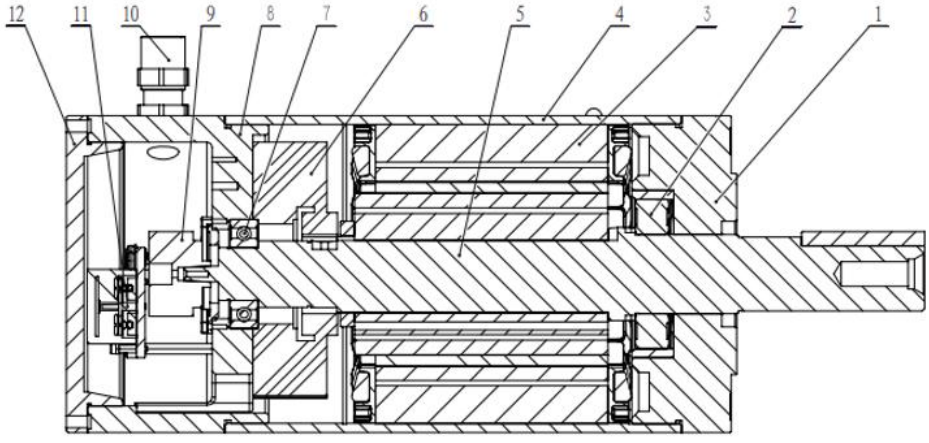
GB/T 3836.2-2021 "Explosive Atmospheres – Part 2: Equipment protected by flameproof enclosure'd' ".

GB/T 3836.31-2021 "Explosive Atmospheres – Part 31: Equipment protected by dust-proof ignition-proof enclosures 't'.

Advantages of MS6 series explosion-proof servo motors:
● Protection rating IP66
● High operational accuracy, excellent dynamic performance, and low tooth space torque
● It offers a wide power range from 0.2 kW to 7.5 kW
● Diverse torque/speed design options and customization possibilities
● Multiple base options and diverse voltage designs
● The structure is compact and sturdy, making wiring easy.

MS6 series explosion-proof servo motors are suitable for the following applications:
● Spraying equipment
● Packing machinery
● Industrial robot
● Chemical machinary
● Print equipment
● Application in energy equipment such as oil and natural gas.

Structure of MS6 series explosion-proof servo motors:



1- Front End Cover
2- Front Bearing
3- Stator
4- Housing
5- Rotor
6- Holding Brake
7- Rear Bearing
8- Rear End Cover
9- Encoder
10- Explosion-proof Gland
11- Terminal Block
12- Rear Cover

1.2 Motor Order Code

MS6S – 60 T L 30 B Z 5 – 2 0P4 – Exd – T4

Name	Inertia
MS6S	Low inertia
MS6G	Medium inertia
MS6H	High inertia

Name	Base no.
60	60 flange
80	80 flange
130	130 flange
180	180 flange

Name	Encoder type
M	Mechanical Encoder
T	Optical Encoder

Name	Encoder Accuracy
L	Multi-turn 23bit

Name	Rated speed
15	1500rpm
30	3000rpm

Name	Motor shaft
A	Keyed, no oil seal, with threaded hole
B	With keys, oil seals, and threaded holes
C	Keyless, oil-free, with threaded holes
D	Keyless, with oil seal, with threaded hole
E	Special shaft specifications (length, shaft diameter, etc.)

Name	Tmax
T4	135°
T5	100°

Name	Explosion-proof Type
Exd	Flameproof Enclosure

Name	Rated power	Name	Rated power
0P1	100W	1P8	1.8kW
0P2	200W	2P3	2.3kW
0P4	400W	3P0	3.0kW
0P7	750W	4P4	4.4kW
0P8	850W	5P5	5.5kW
1P5	1.5kW	7P5	7.5kW

Name	Voltage level
2	220V
4	380V

Name	Motor Connector Type
5	Explosion-proof Cable Gland

Name	Brake
-	No brake
Z	With brake

1.3 Motor Nameplate

The nameplate contains data for the relevant product.

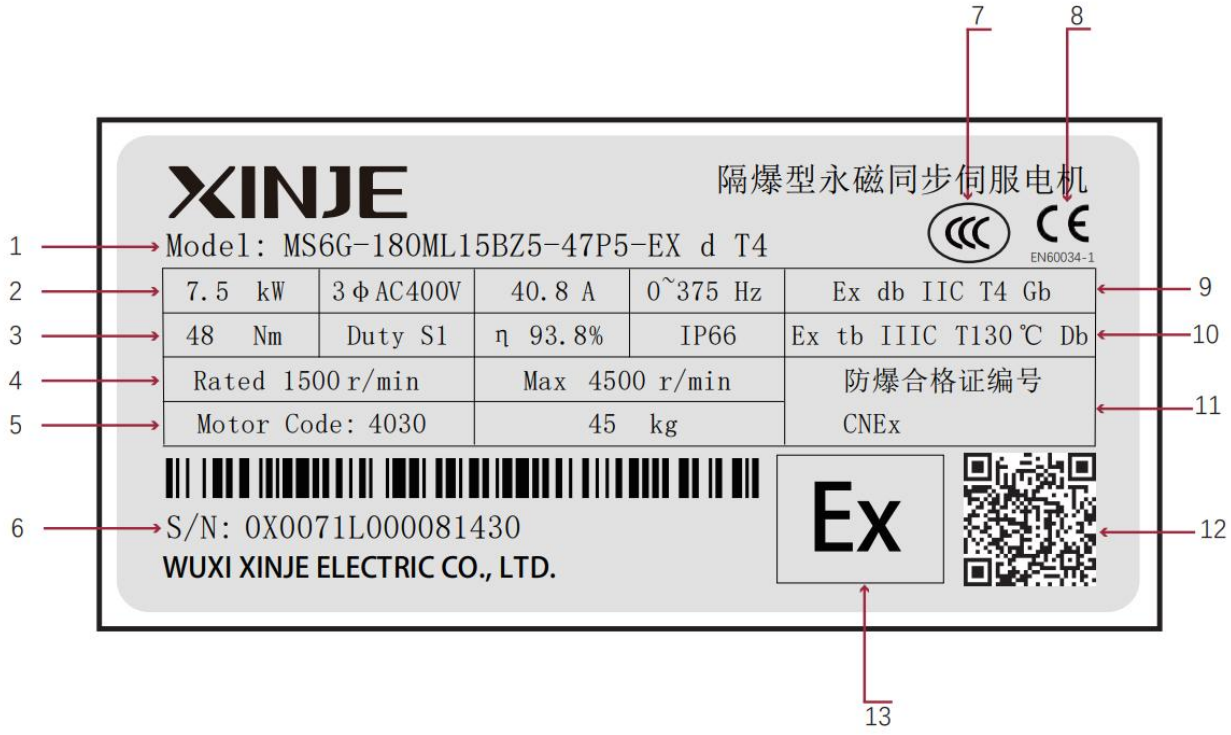


Table 2

Position	Description/Technical Specifications
1	Product Name: Product Model
2	Motor rated power Motor rated voltage Motor rated current Frequency conversion
3	Motor rated torque, Motor operating mode, Motor operating efficiency, Protection
4	Motor rated speed Motor maximum speed
5	Motor code Motor weight
6	Product serial number
7	CCC Certification Logo
8	CE certification mark and EU standards
9	Gas Environment Explosion Protection Mark
10	Explosion-proof marking for dust environments
11	Explosion-proof certification number
12	Motor Information QR Code
13	Explosion-proof marking

1.4 Safety Guidelines

Before installing, configuring, operating, or maintaining this product, please read this document and the documentation on installation, configuration, and operation provided in the Additional Resources section. In addition to understanding all applicable specifications, laws, and standards, users must also familiarize themselves with the installation, wiring, maintenance, and repair instructions.
Installation, adjustment, commissioning, assembly, disassembly, and maintenance activities must be performed by professionally trained and qualified personnel in accordance with relevant operational specifications.
If this equipment is not used in accordance with the manufacturer's specified methods, the protective efficacy of the device may be compromised. Under no circumstances shall Wuxi Xinje Electric Co., Ltd. be liable for any indirect or consequential losses arising from the use or operation of this equipment.

The examples and charts in this manual are for illustrative purposes only. Given the significant variations and requirements inherent in any specific installation, Wuxi Xinje Electric Co., Ltd. assumes no responsibility or obligation for practical applications conducted based on these examples and charts.

Wuxi Xinje Electric Co., Ltd. assumes no patent liability for the use of the information, circuits, equipment, or software described in this manual. Throughout the manual, we have included the following notes where necessary to draw your attention to relevant safety precautions. The product is also marked with corresponding warnings to emphasize these safety considerations; details are provided in the accompanying illustrations.

Warn	This designation identifies operations or situations in hazardous environments that may cause explosions, resulting in casualties, property damage, or economic losses.
Note	A label indicates an operation or situation that may cause injuries, property damage, or financial losses. The symbol helps you identify hazards, avoid risks, and understand potential consequences.
Important information	The label contains information crucial for the successful application and understanding of the product. Warning labels may be located on the surface and interior of the device, providing preventive measures.
Risk of electric shock	The label may be attached to the surface or interior of a device (such as a motor) to warn others of the potential presence of dangerous voltage.
Arc hazard	The label may be attached to the surface or interior of the device (e.g., motor control center) to warn others of the potential presence of an electric arc. An electric arc can cause severe injuries or fatalities. Appropriate personal protective equipment (PPE) should be worn, and all regulatory requirements regarding safe work practices and personal protective equipment (PPE) must be complied with.
Burn risk	The label may be attached to the surface or interior of the device (e.g., a motor), warning others that the surface temperature may be very high and advising them to avoid potential hazards.
Warning Slogan	Anti-tapping mark.
Explosion-proof servo motor	Suitable for use in explosive gas atmospheres and combustible dust atmospheres.

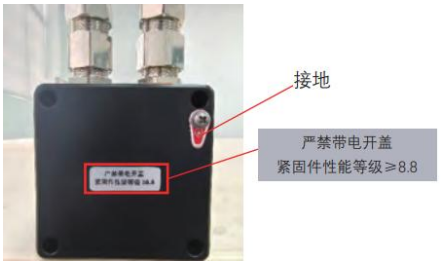
It is strictly prohibited to open the cover while it is energized.

The fastener performance grade is ≥8.8

Do not open cover while energized. Fastener performance grade ≥ 8.8

Thread specification for the power inlet port M20×1.5-6H	Thread specification for the signal input port M16×1.5-6H

Prompt slogan: Thread specifications for power and signal introduction.



II. Explosion-proof Symbols and Key Points

2.1 Explosion-proof Rating Mark for Motors

2.1.1 Explosion-proof Mark for Gas Environments

For Ex db IIC T4 Gb – Class IIA, IIB, and IIC equipment – explosion-proof gas environments in Zone 1 or Zone 2 – Temperature groups T1–T4 (applicable to gray).

<table>
<tr><th>Explosion-proo fsymbol
Ex</th><th>Explosion-proof type
DB</th><th colspan="2">Category of equipment for explosive gas environments
II C</th><th>Temperature group
for Class II equipment:
T4</th><th>Device protection level
Gb</th></tr>
<tr><td rowspan="2">Ex
Explosion-proof symbol</td><td rowspan="2">Equipment protected by flameproof enclosure "d"</td><td rowspan="2">Other explosive gas environments other than those found in coal mine gas environments</td><td rowspan="2">A: Representative gas: Methane
B: Representative gas: Ethylene
C: Representing gases – hydrogen and acetylene</td><td>T1：450℃
T2：300℃
T3：200℃
T：135℃</td><td>Ga: "High" protection level</td></tr>
<tr><td>T5：100℃
T6：85℃</td><td>Gb: "High" protection level
Gc: "General" protection level</td></tr>
</table>

For Ex db IIC T5 Gb – IIA, IIB, and IIC class equipment – explosion-proof gas environments in Zone 1 or Zone 2 – temperature groups T1–T5 (applicable to gray).

<table>
<tr><th>Explosion-proof symbol
Ex</th><th>Explosion-proof type
DB</th><th colspan="2">Category of equipment for explosive gas environments
II C</th><th>Temperature category
for Class II equipment
T5</th><th>Device protection level
Gb</th></tr>
<tr><td rowspan="2">Ex
Explosion-proof symbol</td><td rowspan="2">Equipment protected by flameproof enclosure "d"</td><td rowspan="2">Other explosive gas environments other than those found in coal mine gas environments</td><td rowspan="2">A:Representative gas: Methane
B: Representative gas: Ethylene
C: Representing gases – hydrogen and acetylene</td><td>T1：450℃
T2：300℃
T3：200℃
T4: 135℃
T5: 100℃</td><td>Ga: "High" protection level
Gb: "High" protection level
Gc: "General" protection level</td></tr>
<tr><td>T6: 85℃</td><td></td></tr>
</table>

2.1.2 Explosion-proof marking for dust environments

Ex tb IIIC T130℃ Db-Class IIA, IIB, and IIC equipment-For explosive dust environments in Zone 21 or Zone 22 (Grey applicable)

Explosion-proof symbol Ex	Explosion-proof type TB	Category of equipment for explosive dust environments III C		Equipment Maximum Surface Temperature T130°C.	Device Protection Level Db
Ex Explosion-proof symbol	Equipment protected by a dust-proof ignition-proof enclosure "t"	Explosive dust environments other than those found in coal mines	A: Flammable flying fluff B: Non-conductive dust C: Conductive dust	The highest surface temperature is 130°C.	Da: "High" protection level Db: "High" protection level DC: "General" protection level

Ex tb IIIC T100°C Db-Class IIA, IIB, and IIC equipment-Explosion in Zone 21 or Zone 22 (Grey applicable)

Explosion-proof symbol Ex	Explosion-proof type TB	Category of equipment for explosive dust environments III C		Equipment Maximum Surface Temperature T100°C.	Device Protection Level Db
Ex Explosion-proof symbol	Equipment protected by a dust-proof ignition-proof enclosure "t"	Explosive dust environments other than those found in coal mines	A: Combustible fluffy particles B: Non-conductive dust C: Conductive dust	The maximum surface temperature is 100°C.	Da: "High" protection level Db: "High" protection level DC: "General" protection level

2.2 Key Explosion Protection Measures

The explosion-proof motor housing can withstand damage caused by explosions of combustible gas mixtures inside the motor and prevent the propagation of flames from internal explosive gases through the explosion-proof interface to the exterior of the housing, thereby avoiding ignition of an explosive environment formed by one or more gases or vapors outside.

All components constituting the explosion-proof motor housing must withstand the static pressure test specified in GB/T 3836.2-2021 "Explosive Atmospheres – Part 2: Equipment protected by explosion-proof enclosures'd' ", and the Class IIC hydrostatic pressure test at 2 MPa lasting at least 10 seconds. During testing, no leakage shall occur at any location on the housing except at the explosion-proof joint interface; no permanent deformation or damage that would render the explosion-proof rating ineffective shall occur, and no permanent increase in clearance at any joint interface shall be observed. The clearance and length of the explosion-proof joint interface shall comply with Tables 2 to 5 of GB/T 3836.2-2021, with the surface roughness of the explosion-proof surface not exceeding 6.3 μm. The calculated maximum unilateral clearance "m" between the shaft with rolling bearings and the bearing cover shall not exceed two-thirds of the permissible maximum clearance for bearing covers specified in Tables 2 to 5 of GB/T 3836.2-2021; the minimum unilateral clearance k between the rotating motor shaft and the bearing cover shall be no less than 0.05 mm.

The key explosion-proof features of dust-proof ignition-resistant motors include a dust-resistant enclosure, which prevents dust from entering the motor interior through measures such as the enclosure itself, sealing gaskets, and sealing rings. Additionally, a rational electromagnetic design ensures that the maximum surface temperature of the enclosure does not exceed the permissible limit temperature.

The fastening components of this product's explosion-proof enclosure must meet a performance rating of at least Class 8.8. During operation, the product shall be controlled by a specified servo driver—available in the WA, WB, WM, or WE series produced by Wuxi Xinje Electric Co., Ltd., or other drivers with comparable performance. The driver must have a carrier frequency of 4 kHz or higher and employ sine-wave drive. The servo driver should be installed in a safe area or protected using a type suitable for explosive environments. Class IIC motors must use a packing-sealed explosion-proof cable entry device. The cable's outer diameter must match the permitted range specified for the device, and the cable must withstand temperatures of no less than 105°C. In explosive dust environments, cleaning and maintenance should be performed using a damp cloth to avoid electrostatic discharge risks.

III. Technical Data

3.1 General Technical Data

Attribute	Price
Motor Type	Three-phase AC permanent magnet synchronous motor
Magnetic Material	Rare earth permanent magnetic material
Structure Installation Method	IM B5(IM V1,IM V3)
Cooling-Down Method	IC410
Levels Of Protection	IP66
Insulation Grade	F
Work Schedule	S1 Continuous Work Schedule
Working Temperature	-20~ 40 °C
Above Sea Level	0–1000 m (capacity reduction required for values exceeding this range)
Relative Humidity	5% to 85% without condensation

3.2 Electrical Data

3.2.1 Table 4 Data Table

Motor model	Working Voltage	Power rating Kw	Rated speed Rpm	Rating torque Nm	Rated current A	Peak speed Rpm	Peak torque Nm	Peak point current A	Torque constant-hot state Nm/a	Voltage constant V/1krp	Winding Resistance (20°c) Ω	Winding Inductance (20°c) Mh	Polar order	Inertia (without brakes) /Inertia (with brake) kg·cm²
MS6H-60XX30xx5-40P2	400VAC	0.20	3000	0.64	0.92	6000	1.92	3.0	0.70	47.1	26.4	36	10	0.22/0.23
MS6H-60XX30xx5-40P4	400VAC	0.40	3000	1.28	1.42	6000	3.84	4.6	0.89	60.7	17.3	29.6	10	0.39/0.40
MS6H-80XX30xx5-40P5	400VAC	0.55	3000	1.75	2.04	6000	5.25	6.1	0.86	60.1	5.23	13.2	10	1.55/1.60
MS6H-80XX30xx5-40P7	400VAC	0.75	3000	2.38	2.78	6000	7.14	8.3	0.86	60.1	5.23	13.2	10	1.55/1.60
MS6H-80XX30xx5-41P0	400VAC	1.0	3000	3.18	3.85	6000	9.54	11.6	0.83	58.2	3.11	8.96	10	2.00/2.05
MS6G-130XX15xx5-40P8	400VAC	0.85	1500	5.4	3.34	3000	16.2	10.4	1.62	111.6	3.76	20.3	10	8.9/9.8
MS6G-130XX15xxK5-40P8	400VAC	0.85	1500	5.4	4.85	4500	16.2	15.1	1.11	76.9	1.81	9.63	10	8.9/9.8
MS6G-130XX15xx5-41P3	400VAC	1.3	1500	8.3	4.95	3000	24	14.9	1.68	115.7	2.69	16.1	10	11.5/12.4
MS6G-130XX15xxK5-41P3	400VAC	1.3	1500	8.3	8.00	3000	24	25.5	1.04	76.1	1.13	6.96	10	11.5/12.4
MS6G-130XX15xx5-41P8	400VAC	1.8	1500	11.5	7.10	3000	34.5	22.2	1.62	111.6	1.41	9.84	10	16.7/17.6
MS6G-130XX15xxK5-41P8	400VAC	1.8	1500	11.5	10.4	4500	34.5	32.2	1.11	76.9	0.676	4.67	10	16.7/17.6
MS6G-130XX15xx5-42P3	400VAC	2.3	1500	14.6	9.03	3000	43.8	28.2	1.62	112.8	0.757	5.83	10	27.1/28.0
MS6G-130XX15xx5-42P3	400VAC	2.3	1500	14.6	13.5	4500	43.8	42.3	1.08	74.4	0.326	2.59	10	27.1/28.0
MS6G-180XX15xx5-42P9	400VAC	2.9	1500	18.5	11.5	3000	55.5	35.1	1.61	110	0.5	7.81	10	48.7/55.2
MS6G-180XX15xxK5-42P9	400VAC	2.9	1500	18.5	18.0	4500	55.5	54.5	1.03	76	0.24	3.67	10	48.7/55.2
MS6G-180XX15xx5-43P3	400VAC	3.3	1500	21.0	13.8	3000	63	42.0	1.52	104	0.34	5.88	10	54.9(61.4)
MS6G-180XX15xxK5-43P3	400VAC	3.3	1500	21.0	18.5	4500	63	56.3	1.14	77.7	0.19	3.37	10	54.9(61.4)

MS6G-180XX15xx5-44P4	400VAC	4.4	1500	28	18.2	3000	84	55.4	1.54	105	0.23	4.55	10	70.5(77.0)
MS6G-180XX15xxK5-44P4	400VAC	4.4	1500	28	23.9	4500	84	72.7	1.17	80	0.14	2.55	10	70.5(77.0)
MS6G-180XX15xx5-45P5	400VAC	5.5	1500	35	21.9	3000	105	66.5	1.60	109.6	0.167	3.58	10	93.7(100.2)
MS6G-180XX15xxK5-45P5	400VAC	5.5	1500	35	29.8	4500	105	90.2	1.17	80.8	0.089	1.94	10	93.7(100.2)
MS6G-180XX15xx5-47P5	400VAC	7.5	1500	48	27.2	3000	144	82.8	1.76	121	0.15	3.42	10	115.5(122.0)
MS6G-180XX15xxK5-47P5	400VAC	7.5	1500	48	40.8	4500	144	123.9	1.18	81	0.0678	1.48	10	115.5(122.0)
MS6H-60XX30xx5-20P2	230VAC	0.20	3000	0.64	1.46	6000	1.92	4.6	0.41	30.4	10.7	17.8	10	0.22(0.23)
MS6H-60XX30xx5-20P4	230VAC	0.40	3000	1.28	2.92	6000	3.84	9.4	0.43	30.4	4.18	7.41	10	0.39(0.40)
MS6H-80XX30xx5-20P7	230VAC	0.75	3000	2.38	5.14	6000	7.14	15.5	0.46	31.6	1.5	3.74	10	1.55(1.60)
MS6H-80XX30xx5-21P0	230VAC	1.0	3000	3.18	6.75	6000	9.54	20.2	0.47	31.1	0.94	2.58	10	2.00(2.05)
MS6G-130XX15xx5-20P8	230VAC	0.85	1500	5.4	5.57	3000	16.2	17.4	0.97	67	1.26	7.3	10	8.9(9.8)
MS6G-130XX15xxK5-20P8	230VAC	0.85	1500	5.4	8.40	4500	16.2	26.1	0.64	44.6	0.59	3.25	10	8.9(9.8)
MS6G-130XX15xx5-21P3	230VAC	1.3	1500	8.3	8.70	3000	24	26.0	0.96	67	0.88	5.4	10	11.5(12.4)
MS6G-130XX15xxK5-21P3	230VAC	1.3	1500	8.3	12.8	4500	24	38.6	0.65	44.60	0.41	2.4	10	11.5(12.4)

Motor model	Working voltage	Power rating Kw	Rated speed Rpm	Rating torque Nm	Rated current A	Peak speed Rpm	Peak torque Nm	Peak point current A	Torque constant-hot state Nm/a	Voltage constant V/1krp	Winding Resistance (20°c) Ω	Winding Inductance (20°c) Mh	Polar order	Inertia (without brakes) /Inertia (with brake) kg·cm²
MS6G-130XX15xx5-21P8	230VAC	1.8	1500	11.5	12.1	3000	34.5	37.7	0.95	67	0.52	3.54	10	16.7/17.6
MS6G-130XX15xxK5-21P8	230VAC	1.8	1500	11.5	17.8	4500	34.5	55.5	0.65	44.60	0.23	1.57	10	16.7/17.6
MS6G-130XX15xx5-22P3	230VAC	2.3	1500	14.6	15.2	3000	43.8	47.5	0.96	66.10	0.261	2.05	10	27.1/28.0
MS6G-130XX15xxK5-22P3	230VAC	2.3	1500	14.6	22.2	4500	43.8	69.1	0.66	45.50	0.127	0.97	10	27.1/28.0
MS6G-180XX15xx5-22P9	230VAC	2.9	1500	18.5	19.8	3000	55.5	60.2	0.93	64.00	0.174	2.6	10	48.7/55.2
MS6H-60XX30xx5-50P2	48VDC	0.20	3000	0.64	5.40	6000	1.92	17.3	0.119	8.20	0.82	1.09	10	0.22/0.23
MS6H-60XX30xx5-50P4	48VDC	0.40	3000	1.28	10.44	6000	3.84	33.4	0.123	8.51	0.34	0.59	10	0.39/0.40

MS6H-80XX30xx5-50P7	48VDC	0.75	3000	2.38	20.56	6000	7.14	61.6	0.116	8.12	0.09	0.24	10	1.55/1.60
MS6G-130XX15xx5-50P8	48VDC	0.85	1500	5.4	22.90	3000	16.2	71.4	0.236	16.30	0.079	0.42	10	8.9/9.8
MS6G-130XX15xx5-51P3	48VDC	1.30	1500	8.3	34.30	3000	24	103.0	0.242	16.70	0.055	0.33	10	11.5/12.4
MS6G-180XX15xx5-52P5	48VDC	2.5	1500	16	63.3	3000	48	192.5	0.253	17.30	0.0138	0.191	10	48.7/55.2

Table 5: II C-T5 Data Table

Motor model	Working voltage VAC	Power rating Kw	Rated speed Rpm	Rating torque Nm	Rated current A	Peak speed Rpm	Peak point current A	Peak torque Nm	Torque constant-hot state Nm/a	Voltage constant V/1krp	Winding resistance (20°c) Ω	Winding inductance (20°c) Mh	Polar order	Inertia (without brakes) /inertia (with brake) kg·cm²
MS6H-60XX30xx5-20P4	230VAC	0.40	3000	1.28	2.95	6000	9.41	3.84	0.43	30.4	4.78	7.41	10	0.39/0.40
MS6H-80XX30xx5-20P9	230VAC	0.90	3000	2.86	6.07	6000	20.22	9.54	0.47	31.1	0.94	2.58	10	2.00/2.05
MS6G-130XX15xx5-41P3	380VAC	1.3	1500	8.3	7.5	4500	32.2	34.5	1.11	76.9	0.676	4.67	10	16.7/17.6
MS6G-130XX15xx5-41P8	380VAC	1.8	1500	11.5	10.7	4500	42.3	43.8	1.07	74.4	0.326	2.59	10	27.1/28.0
MS6G-180XX15xx5-43P3	380VAC	3.3	1500	21	17.9	4500	72.7	84	1.17	80	0.14	2.55	10	70.5/77.0
MS6G-180XX15xx5-45P5	380VAC	5.5	1500	35	29.8	4500	123.9	144	1.18	81	0.0678	1.48	10	115.5/122.0

3.3 Characteristic Curve Diagram

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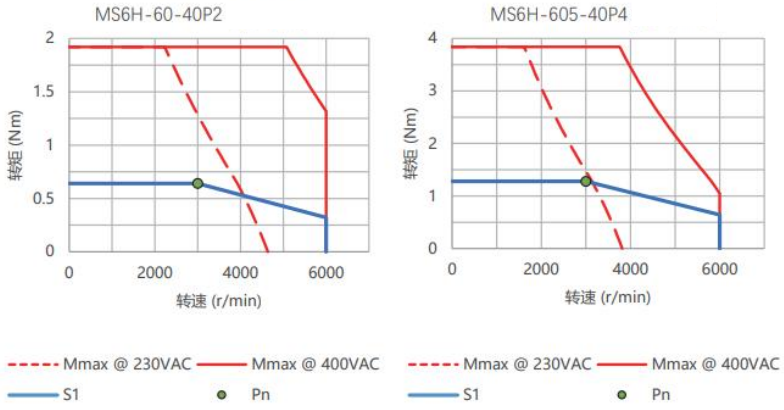
<tr><td></td><td> 
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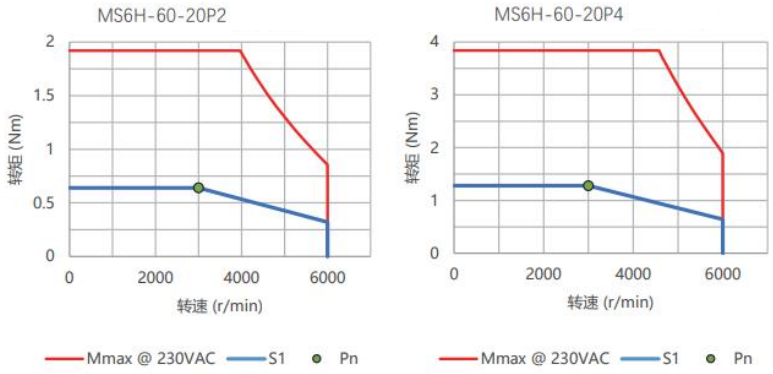
<tr><td>MS6H-60</td><td> 
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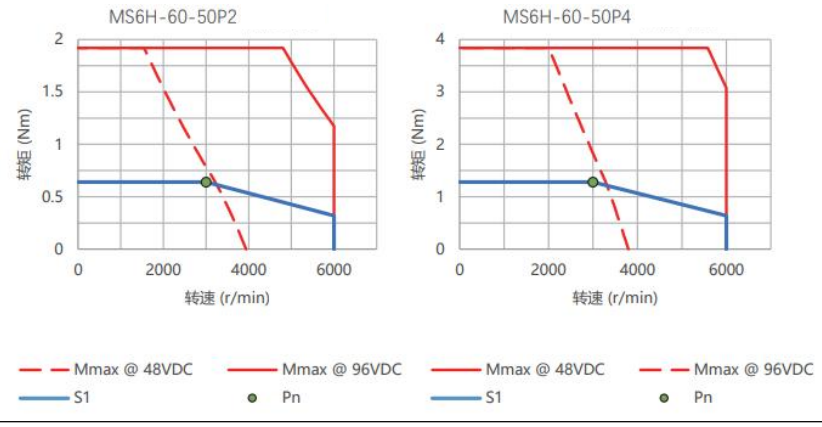
<tr><td></td><td> 
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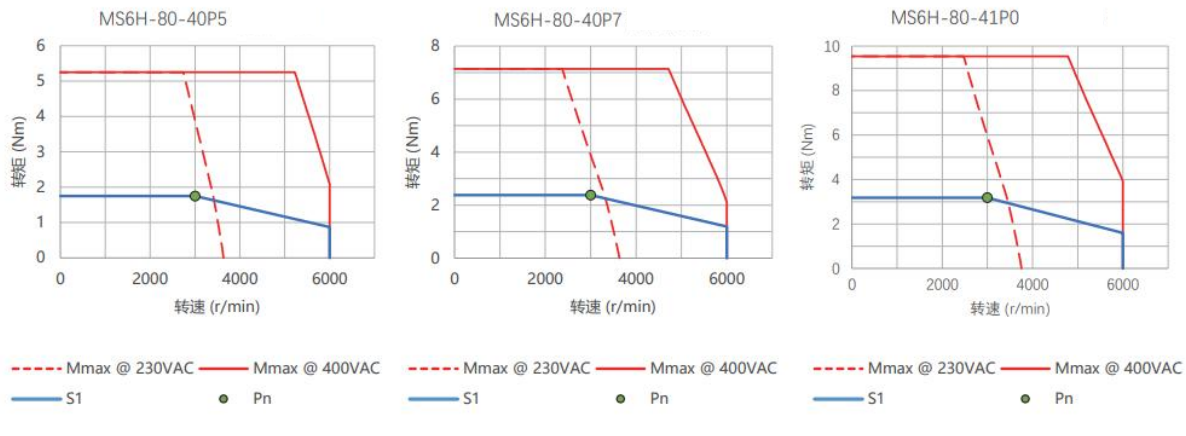
<tr><td>MS6H-80</td><td> 
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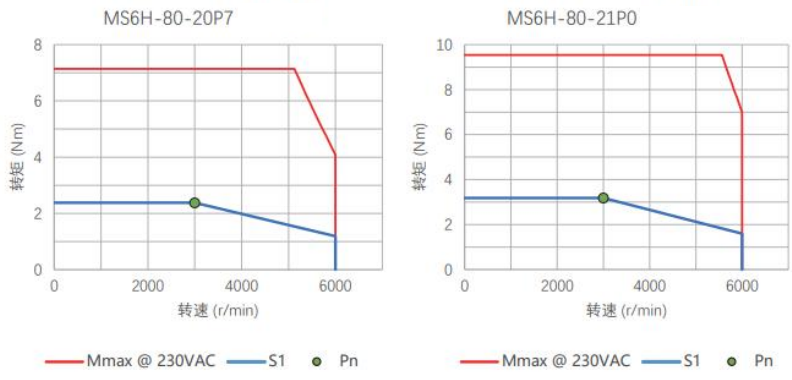
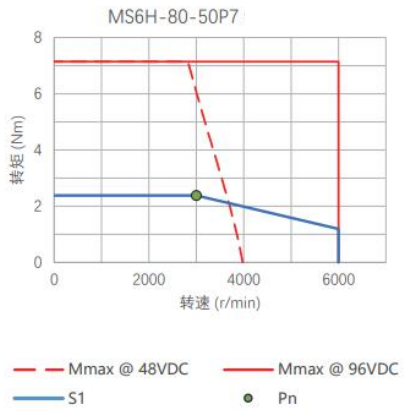
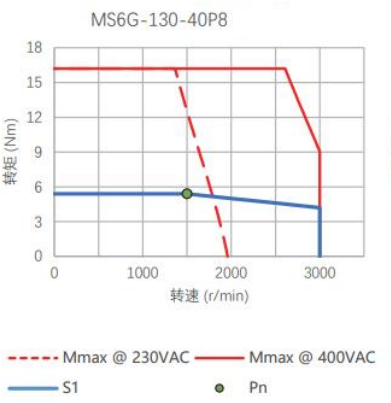
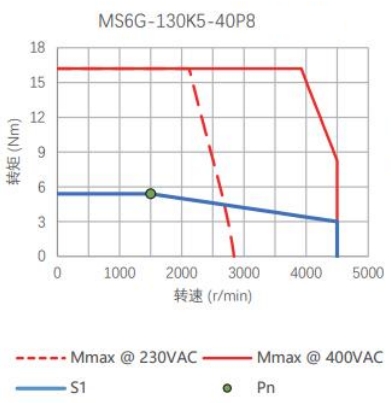
MS6H-80

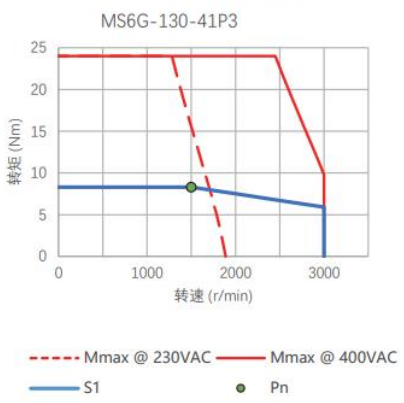


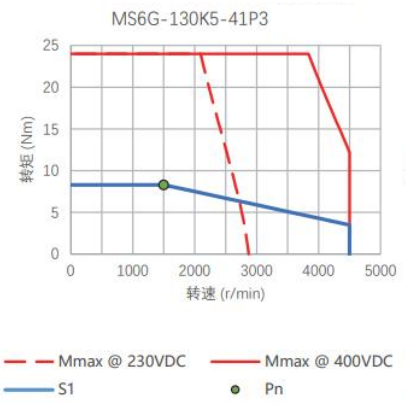


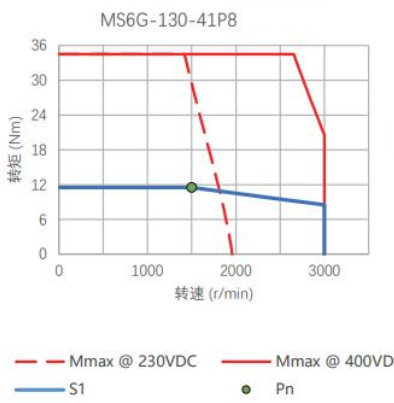
MS6G-130

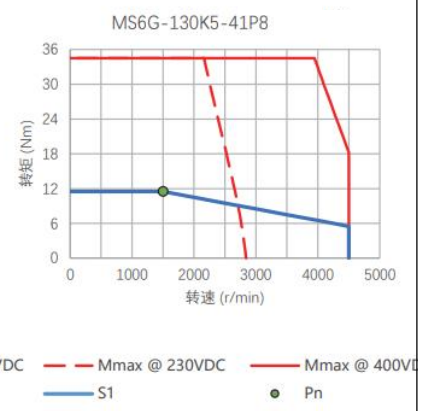




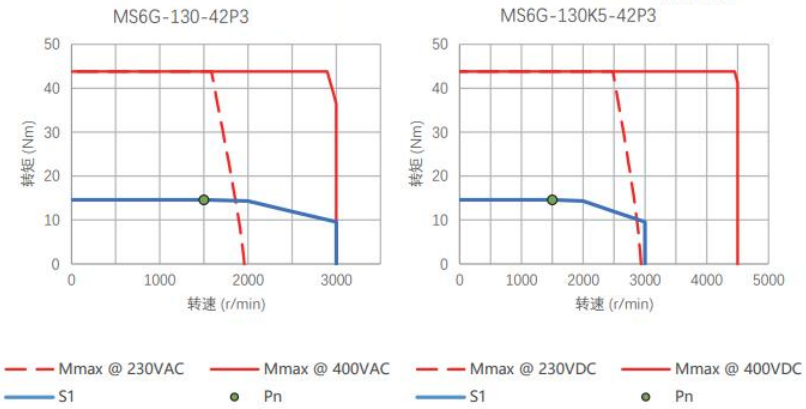


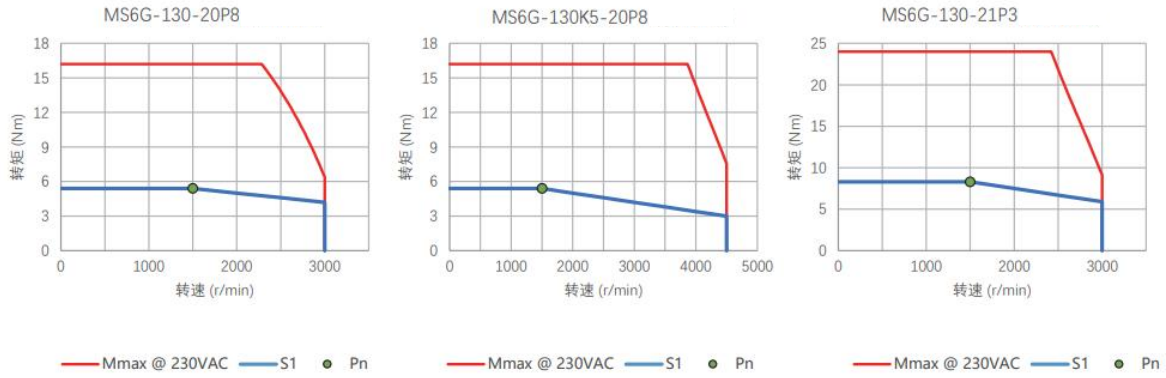


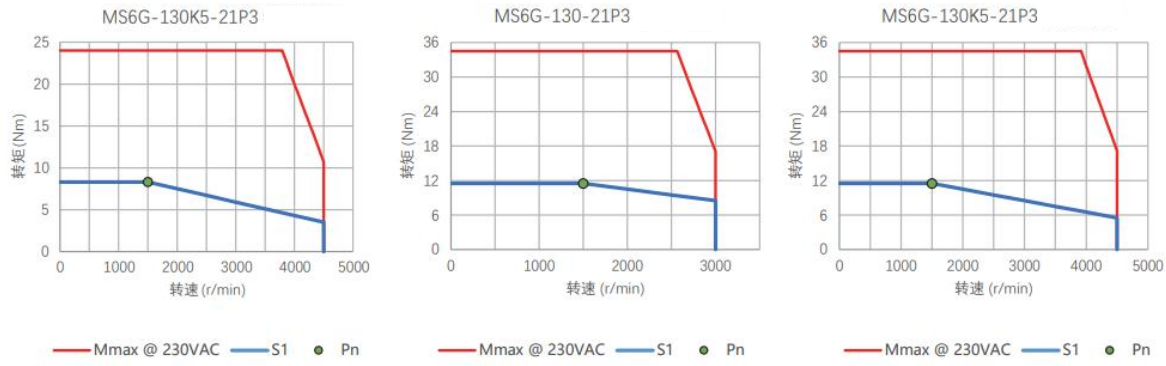


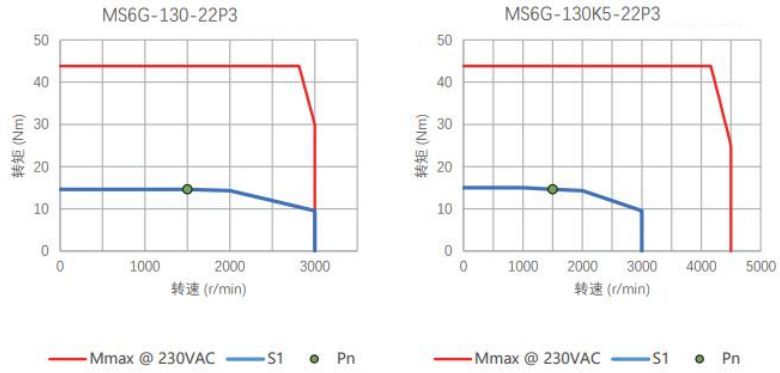


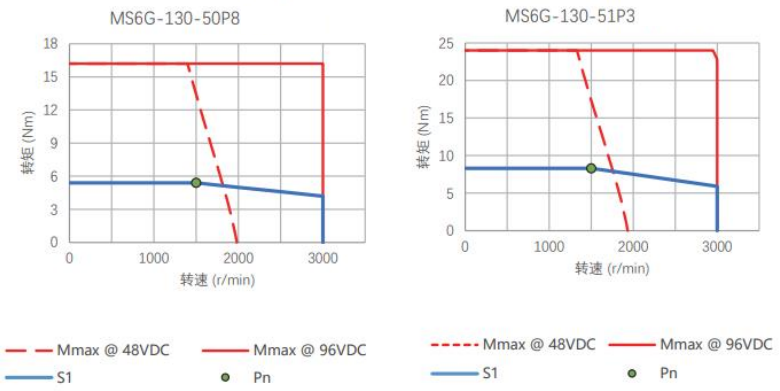
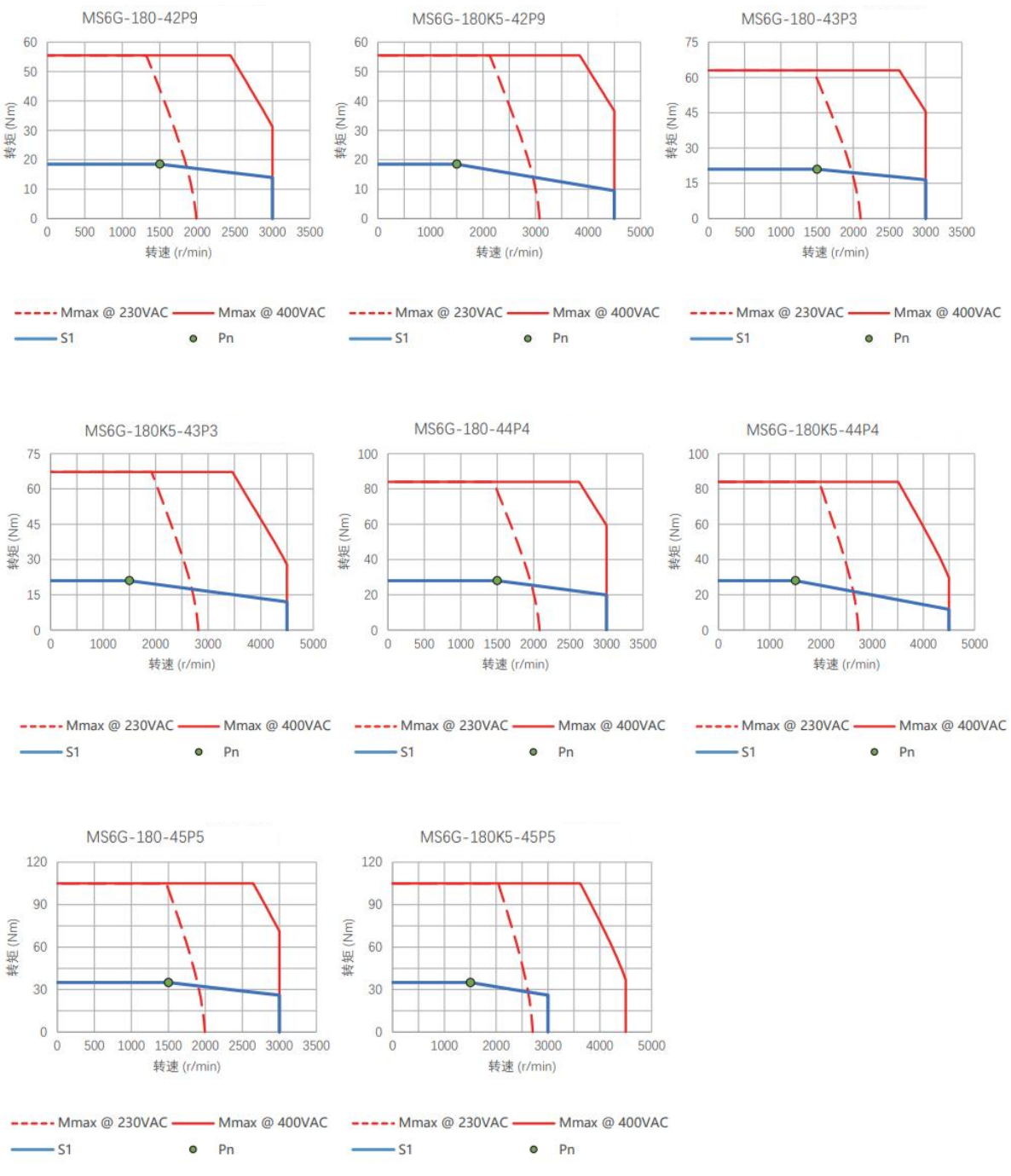
MS6G-130

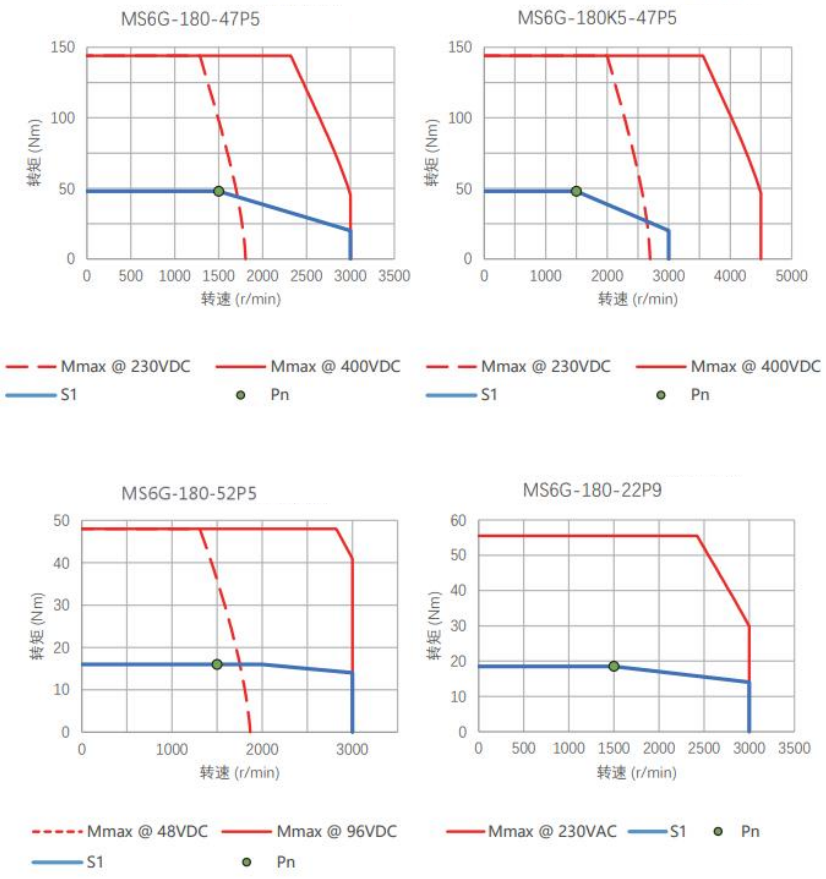
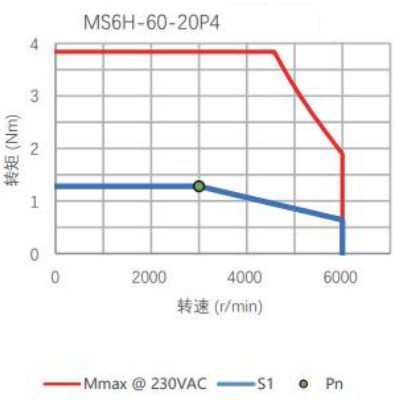
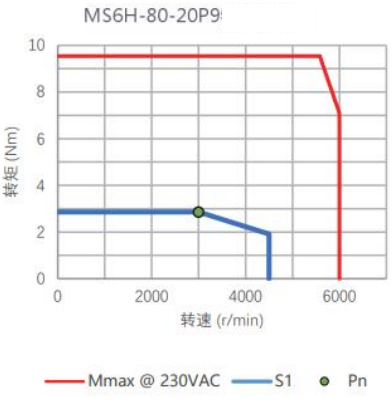

MS6G-130-42P3
MS6G-130K5-42P3
转矩 (Nm)
转速 (r/min)
Mmax @ 230VAC
Mmax @ 400VAC
Mmax @ 230VDC
Mmax @ 400VDC
S1
Pn

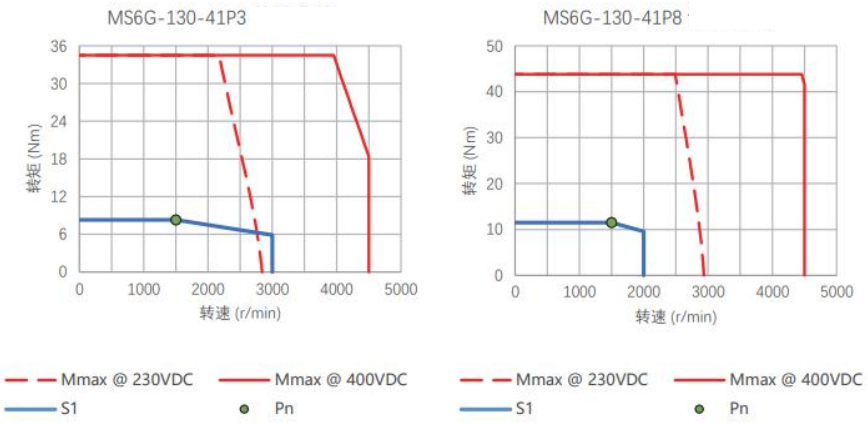
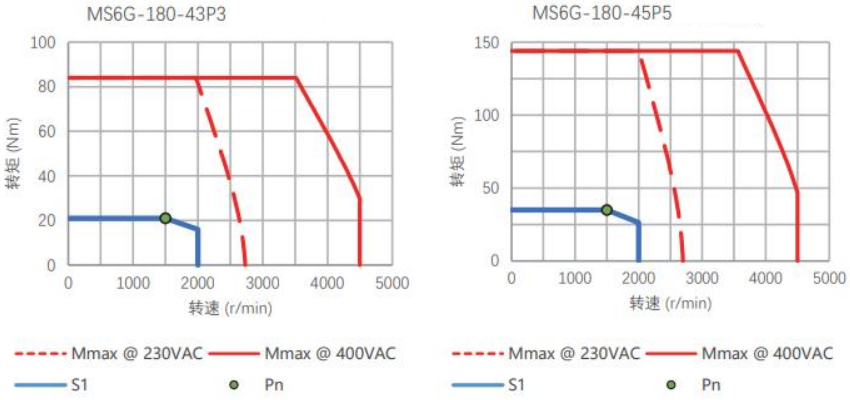

MS6G-130-20P8
MS6G-130K5-20P8
MS6G-130-21P3
转矩 (Nm)
转速 (r/min)
Mmax @ 230VAC
S1
Pn


MS6G-130K5-21P3
MS6G-130-21P3
MS6G-130K5-21P3
转矩 (Nm)
转速 (r/min)
Mmax @ 230VAC
S1
Pn


MS6G-130-22P3
MS6G-130K5-22P3
转矩 (Nm)
转速 (r/min)
Mmax @ 230VAC
S1
Pn

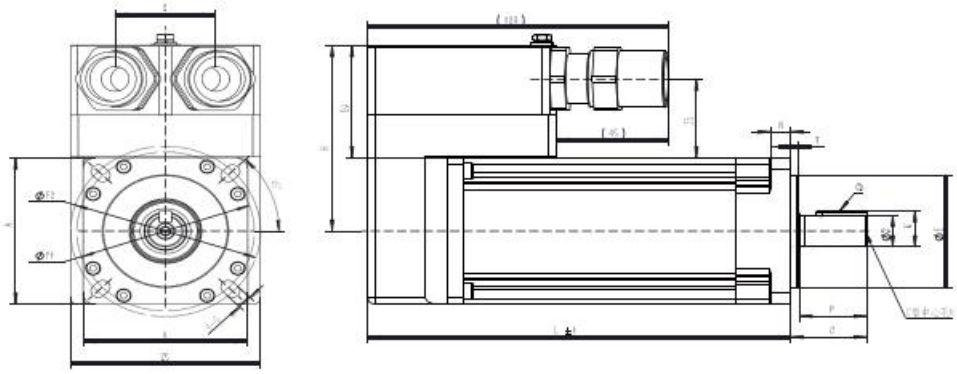
MS6G-130	
MS6G-180	

MS6G-180	
MS6H-60-T5	
MS6H-80-T5	

MS6G-130-T5	
MS6G-180-T5	

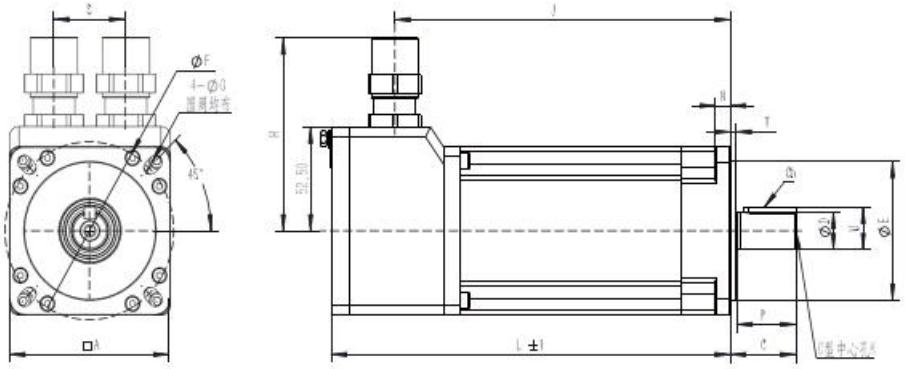
3.4 Mechanical Drawings

The dimensional specifications of the MS6 explosion-proof permanent magnet synchronous servo motor are illustrated in Figures 1–4. Its installation dimensions and tolerances must comply with the requirements specified in Tables 6–7.



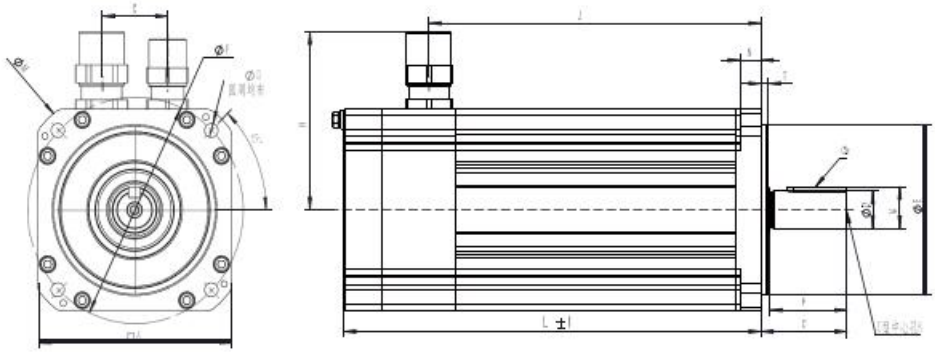
Model	L（mm）	
	Without brakes	With brakes
MS6H-60-0P2	122	150
MS6H-60-0P4	140	168
MS6H-60-0P4-T5	140	168

Figure 1: External appearance diagram of the MS6H-60 motor



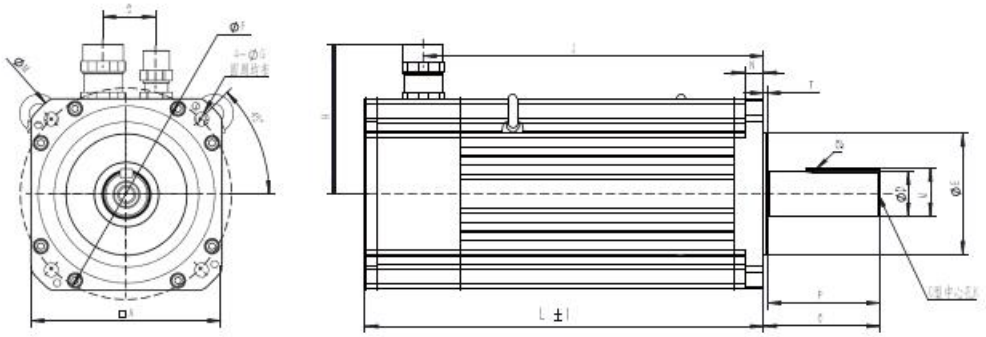
Model	L（mm）	
	Without brakes	With brakes
MS6H-80-0P5	174	201
MS6H-80-0P7	174	201
MS6H-80-0P9-T5	186	213

Figure 2: External appearance diagram of the MS6H-80 motor



Model	L（mm）	
	Without brakes	With brakes
MS6G-130-0P8	192	212
MS6G-130-0P8-T5	222	242
MS6G-130-1P8	222	242
MS6G-130-1P8-T5	262	282
MS6G-130-2P3	262	282

Figure 3: External appearance diagram of the MS6G-130 motor



Model	L（mm）	
	Without brakes	With brakes
MS6G-180-2P5	260.6	286.6
MS6G-180-2P9	260.6	286.6
MS6G-180-3P3	268.6	294.6
MS6G-180-3P3-T5	288.6	314.6
MS6G-180-4P4	288.6	314.6
MS6G-180-5P5	316.6	342.6
MS6G-180-5P5-T5	344.6	370.6
MS6G-180-7P5	344.6	370.6

Figure 4: External appearance diagram of the MS6G-180 motor

Table 6 Motor Dimensions and Tolerances (T4)

Motor Model	A (mm)	L (No brakes) (mm)	L (Brake-equipped) (mm)	C (mm)	P (mm)	ΦD (mm)	ΦE (mm)	ΦF (mm)	ΦG (mm)	H (mm)	T (mm)	J (No brakes) (mm)	J (Brake-equipped) (mm)	K	ΦM (mm)	N (mm)	U (mm)	axle key Ch	S (mm)	Weight No brake engagement /Brake engagement Kg
MS6H-60-0P2	65	122	150	30	26.5	14 h6	50 h7	70~75	5.8	82.5	3	/	/	M4 depth 16	/	8	16	C5×5×20	40	2.2/2.7
MS6H-60-0P4		140	168																	2.5/3.0
MS6H-80-0P5	85	174	201	35	31.5	19 h6	70 h7	90~98	7	97.5	3	140	167	M6 depth 20	/	8	21.5	C6×6×28	38	3.7/4.4
MS6H-80-0P7		174	201									140	167							3.7/4.4
MS6H-80-1P0		186	213									152	179							4.2/4.9
MS6G-130-0P8	130	192	212	58	52	24 h6	110 h7	145	9	135	5	134	154	M6 depth 20	165	14	27	C8×7×40	44	8.2 /9.5
MS6G-130-1P3		202	222									144	164							9.1 /10.4
MS6G-130-1P8		222	242									164	184							10.9 /12.2
MS6G-130-2P3		262	282									204	224							14.3/15.6
MS6G-180-2P9	180	260.6	286.6	79	75	35 h6	114.3 h7	200	13	157	3.2	205.6	231.6	M12, depth 25	230	18	38	C10×8×63	50	22.9/27.0
MS6G-180-3P3		268.6	294.6									213.6	239.6							24.2/28.3
MS6G-180-4P4		288.6	314.6									233.6	259.6							27.3/31.4
MS6G-180-5P5		316.6	342.6	110	106	42 h6						261.6	287.6	M16 depth 32			48	C12×8×70		33.2/37.3
MS6G-180-7P5		344.6	370.6									289.6	315.6							37.7/42.0

Motor Model	A (mm)	L (No brakes) (mm)	L (Brake-equipped) (mm)	C (mm)	P (mm)	ΦD (mm)	ΦE (mm)	ΦF (mm)	ΦG (mm)	H (mm)	T (mm)	J (No brakes) (mm)	J (Brake-equipped) (mm)	K	ΦM (mm)	N (mm)	U (mm)	Axle key Ch	S (mm)	Weight: No brake engagement/Brake engagement Kg
MS6H-60-0P4-T5	65	140	168	30	26.5	14 h6	50 h7	70~75	5.8	82.5	3	/	/	M4 depth 16	/	8	16	C5×5×20	40	2.5/3.0
MS6H-60-0P9-T5	85	186	213	35	36.5	19 h6	70 h7	90	7	97.5	3	152	179	M6 depth 20	/	8	21.5	C6×6×28	38	4.2/4.9
MS6G-130-1P3-T5	130	222	242	58	52	24 h6	110 h7	145	9	135	5	164	184	M6 depth 20	165	14	27	C8×7×40	44	10.9/12.2
MS6G-130-1P8-T5		262	282									204	224							14.3/15.6
MS6G-130-3P3-T5	180	288.6	314.6	79	75	35 h6	114.3 h7	200	13	157	3.2	233.6	259.6	M16 depth 32	230	18	38	C10×8×63	50	27.3/31.4
MS6G-130-5P5-T5		344.6	370.6	110	106	42 h6						289.6	315.6				48	C12×8×70		37.2/42.0

Table 7 Motor Dimensions and Tolerances (T5)

3.5 Rated shaft load capacity

During motor operation, the shaft load remains constant. The positions and directions of radial and axial load forces are shown in Figure 5, while the maximum rated load values are listed in Table 8-9.

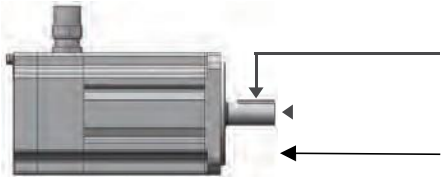


Figure 5 Schematic diagram of radial and axial forces acting on the motor

Table 8-9 presents the maximum radial force that the MS6 series motor shaft end can withstand at various rotational speeds, with a L10 bearing fatigue life of 20,000 hours, along with the maximum axial force corresponding to that radial force. Note: This 20,000-hour bearing life does not account for potential lifespan reductions due to specific applications, such as contamination from external sources like bearing grease. Table 8 shows the maximum radial force the motor can withstand; Table 9 shows the maximum axial force the motor can withstand under that radial force condition.

Table 8 Maximum radial force that the motor bearing can withstand

Motor Model	Maximum radial force (N) that the motor bearing can withstand					
	1000 RPM	1500 RPM	2000 RPM	3000 RPM	4500 RPM	6000 RPM
MS6H-60-0P2	290	265	230	201	176	160
MS6H-60-0P4	312	283	248	216	189	172
MS6H-80-0P5	624	544	495	432	378	343
MS6H-80-0P7	624	544	495	432	378	343
MS6H-80-0P0	650	567	516	450	394	358
MS6G-130-0P8	818	765	644	563	492	---
MS6G-130-1P3	909	850	722	630	514	---
MS6G-130-1P8	959	893	761	665	551	---
MS6G-130-2P3	1000	928	793	693	605	---
MS6G-180-2P5	1526	1300	---	---	---	---
MS6G-180-2P9	1526	1300	1131	988	867	---
MS6G-180-3P3	1457	1317	1156	1010	886	---
MS6G-180-4P4	1528	1387	1212	1058	928	---
MS6G-180-5P5	1469	1323	1165	1017	888	---
MS6G-180-7P5	1542	1384	1223	1068	932	---
MS6H-60-0P4-T5	312	283	248	216	189	172
MS6H-80-0P9-T5	650	567	516	450	394	358
MS6G-130-1P3-T5	909	850	722	630	551	---
MS6G-130-1P8-T5	1000	928	793	693	605	---
MS6G-180-3P3-T5	1528	1387	1212	1058	888	---
MS6G-180-5P5-T5	1542	1384	1223	1068	932	---

Motor Model	Maximum radial force (N) that the motor bearing can withstand					
	1000 RPM	1500 RPM	2000 RPM	3000 RPM	4500 RPM	6000 RPM
MS6H-60-0P2	152	137	110	96	89	65
MS6H-60-0P4	160	144	115	100	93	69
MS6H-80-0P5	189	182	150	131	98	90
MS6H-80-0P7	189	182	150	131	98	90
MS6H-80-1P0	198	190	157	137	103	94
MS6G-130-0P8	363	325	288	252	220	---
MS6G-130-1P3	375	335	298	260	228	---
MS6G-130-1P8	396	353	314	274	228	---
MS6G-130-2P3	470	418	338	295	258	---
MS6G-180-2P5	533	500	---	---	---	---
MS6G-180-2P9	533	500	423	408	358	---
MS6G-180-3P3	543	509	431	416	365	---
MS6G-180-4P4	567	528	450	434	381	---
MS6G-180-5P5	548	510	435	420	367	---
MS6G-180-7P5	573	532	455	439	384	---
MS6H-60-0P4-T5	160	144	115	100	93	69
MS6H-80-0P9-T5	198	190	157	137	103	94
MS6G-130-1P3-T5	396	353	314	274	240	---
MS6G-130-1P8-T5	470	418	338	295	258	---
MS6G-180-3P3-T5	567	528	450	434	367	---
MS6G-180-5P5-T5	573	532	455	439	384	---

Table 9 Maximum axial force that the motor bearing can withstand under maximum radial force

3.6 Brake Electrical Specifications

Table 10 Brake Electrical Specifications

Base Number	Maintain torque (N·m)	Power supply voltage (VDC) ±10%	Power rating (W)	Current (A)	Release time (ms)	Engagement time (ms)	Rotary clearance (°)
MS6H-60	2	24	7.3±7%	0.30	≤ 20	≤ 60	≤ 1
MS6H-80	6	24	8.5±7%	0.35	≤ 40	≤ 80	≤ 1
MS6G-130	20	24	23±7%	0.96	≤ 40	≤ 100	≤ 1
MS6G-180	55	24	28±7%	1.17	≤ 60	≤ 200	≤ 1

IV. Motor Installation

1. Before unpacking and installing the motor, conduct a thorough inspection. If any transportation damage is detected, contact the supplier immediately. The specific inspection procedures are as follows:

(1) Before opening the motor package, inspect whether the packaging is intact and undamaged, and check for any signs of moisture.

(2) After opening the motor box, inspect for deformation or damage, verify the rotor's smooth rotation, check whether the rotor rotates flexibly and the nameplate data complies with requirements, and ensure all accessories are complete.

(3) Sufficient clearance shall be maintained in the motor installation area to facilitate installation, inspection, monitoring, and cleaning.

2. The installation of the motor shall comply with the provisions of GB 3836.15-2024, "Explosive Atmospheres – Part 15: Design, Selection and Installation Specifications for Electrical Installations".

⚠	**Note**	Please carefully verify whether the motor's explosion-proof marking is compatible with the surrounding explosive environment.

3. For large motors, use lifting rings and lifting beams to transport the motors, ensuring smooth movement during transportation as shown in Figure 6.

Figure 6 Transportation using lifting rings and lifting beams

4. When securing the motor with a flange, screws with a strength grade of 8.8 or higher shall be used.

5. When installing transmission units such as couplings, pulleys, or loads, ensure that the motor shaft centerline aligns with the load shaft centerline, and avoid exceeding the maximum radial and axial forces on the shaft; utilize the threaded holes on the shaft journal; heat the transmission unit if necessary; during disassembly, use washers to protect the shaft journal center, as shown in Figure 7.

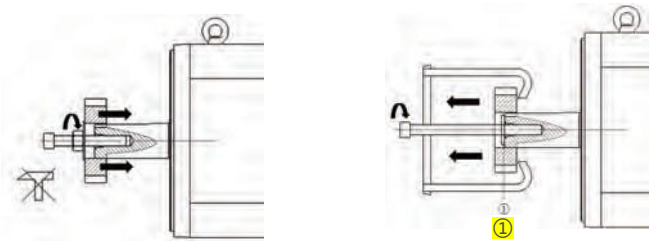


Figure 7 Installation and Disassembly of the Transmission Unit ①: Gasket (for protecting shaft extension alignment)

Note

During the installation of the coupling and pulley, if the shaft suffers severe impact, it may damage the motor bearings and feedback equipment.

Applying lever force to the motor mounting surface during disassembly and reinstallation of equipment onto the motor shaft may damage the feedback device.

6. When the motor is installed horizontally, it is recommended to position the connector below the motor housing for better environmental protection (Figure 8-①); when the motor shaft is installed with its extended end facing upward, a shaft seal must be installed to prevent water or oil from entering the motor interior (Figure 8-③).

Figure 8 Common motor installation methods

7. Do not strike or squeeze the shaft extension during motor installation or disassembly.

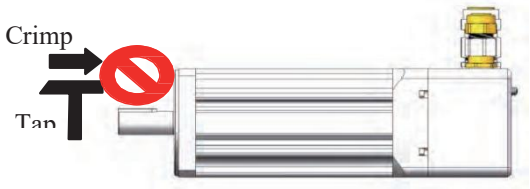


Figure 9: Tapping of the extrusion motor shaft end is prohibited

8. When disassembling a motor with a key, do not strike the shaft extension or the keyway.

9. Before starting the motor, release the brake lock.

10. To prevent magnetic interference with the encoder, avoid using electromagnetic devices such as memory sticks, memory cards, or key cards near the encoder.

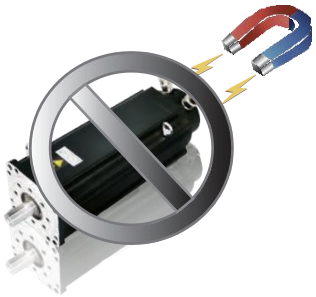


Figure 10: Electromagnetic equipment must not be placed near the motor

V. Motor Wiring and Cable Installation

5.1 Terminal Block Layout and Wiring Definition

According to the customer's specific requirements, our company can connect the power cable and signal cable for the motor directly to the motor itself; the customer only needs to connect the driver end. In general, however, the customer must connect the motor and cables independently (for motor disassembly procedures, refer to Chapter 7 – Motor Inspection, Maintenance, and Repair).

The motor's internal connection to the cable employs terminal blocks, with five distinct configurations of the motor terminal block structures for each flange size illustrated in Figure 11-15.

Figure 11 Schematic diagram of power terminals for MS6-60/80 motor

Figure 12 Schematic diagram of internal terminals for MS6-130 motor

Figure 13 Schematic diagram of internal terminals for MS6-180 motor

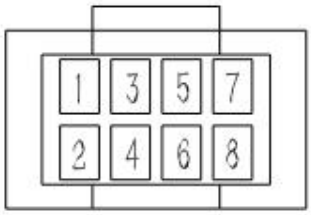


Figure 14 Schematic diagram of signal terminal terminals for MS6-60/80/130 motor

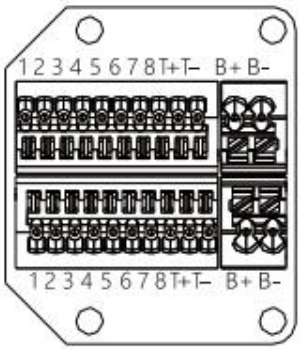


Figure 15 Schematic diagram of signal terminal terminals for MS6-180 motor

The detailed wiring specifications for the terminal blocks and power/signal cables are shown in Table 11-15.

Table 11 Definition of Power Terminal Blocks and Power Cable Wiring for MS6-60/80 Motors

Wiring Definition	U	V	W	Landing	Brake	Brake engagement
Pin Identification	1	2	3	PE	4	5
Power cable color	Black 1	Black 2	Black 3	Yellow-green	Black 4	Black 5

Table 12: Definition Table of Power Terminal Blocks and Power Cable Wiring for the MS6-130 Motor

Wiring Definition	U	V	W	Landing	Brake	Brake engagement
Pin Identification	1	2	3	4	5	6
Power cable color	Black 1	Black 2	Black 3	Yellow-green	Black 4	Black 5

Table 13: Definition Table of Power Terminal Blocks and Power Cable Wiring for the MS6-180 Motor

Wiring Definition	U	V	W	Landing	Brake	Brake engagement
Pin Identification	U	V	W	PE	B+	B-
Power cable color	Black 1	Black 2	Black 3	Yellow-green	Black 4	Black 5

Table 14 Definition of Terminal and Signal Cable Wiring for MS6-60/80/130

Wiring Definition	Interface 1	Interface 2	Interface 3	Interface 4	Interface 5	Interface 6	Temperature Sensor +	Temperature Sensor -
Pin Identification	1	2	3	4	5	6	7	8
Signal cable color	white	Brown	Green	Huang	Gray	Pink	Black	Purple

Table 15: Definition Table for MS6-180 Terminal and Signal Cable Wiring

Wiring Definition	Interface 1	Interface 2	Interface 3	Interface 4	Interface 5	Interface 6	Temperature Sensor +	Temperature Sensor -
Pin Identification	1	2	3	4	5	6	TS+	TS-
Signal cable color	white	Brown	Green	Huang	Gray	Pink	Black	Purple

5.2 Encoder Interface Definition

Given the varying performance parameters of motors and differing customer requirements for motor applications, our company offers the following encoder types for selection. Each encoder type employs distinct terminal interface connections, with their corresponding signal definitions detailed in Table 16.

Table 16 Correspondence Table of Encoder Signals and Terminal Interfaces

Encoder Protocol	T-format/RS485	BISS-C	Rotary transformer
Interface 1	VCC	5V	R1
Interface 2	GND	0V	R2
Interface 3	SD+	Data+	COS+
Interface 4	SD-	Data-	COS-
Interface 5	VB	CLOCK+	SIN+
Interface 6	GND	CLOCK-	SIN-

5.3 Explosion-proof Cable Introduction Device

Typically, motors are equipped with explosion-proof cable entry devices. The motor is fitted with the SA-BDM-8 series packing-sealed explosion-proof cable entry device, as shown in Figure 16. The cable glands fitted to this product have obtained CCC certification. They are normally delivered complete with cables and pre-packed with sealing compound at the factory, requiring no additional filling by the customer. If damage occurs during installation or use requiring replacement of the packing gland, the packing seal must be reapplied according to the user manual. The selected explosion-proof cable entry device must meet the corresponding certification requirements, as indicated on the motor (Figure 17).

⚠	**Note**	IIC-class motors must be equipped with explosion-proof cable installation devices featuring packing seals.

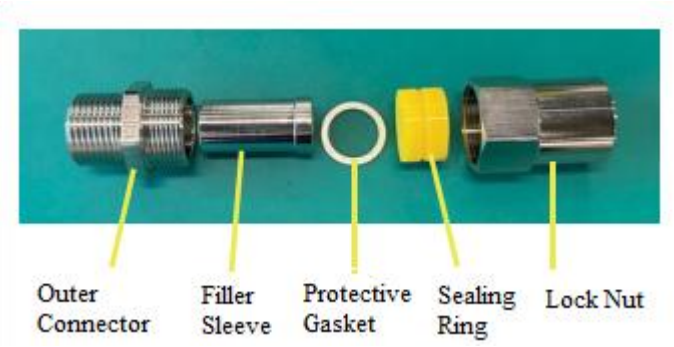


Figure 16: WT-T series explosion-proof cable installation device with packing seal

Figure 17: Thread specification guide for motor inlet port

The thread specifications of the inlet ports for the explosion-proof cable installation devices corresponding to different motors are shown in Table 17.

Our company's standard explosion-proof cable entry device features internal threads for connecting explosion-proof conduits, with thread specifications identical to those of the cable inlet (see Table 17).

Table 17

Motor Model	Cable inlet port thread specifications			Introduce the cable outer diameter range (mm)		
	Power (no brake)	Power (with brake)	Signal	Power (no brake)	Power (with brake)	Signal
MS6H-60	M20×1.5-6H	M20×1.5-6H	M20×1.5-6H	7-14	7-14	7-14
MS6H-80	M20×1.5-6H	M20×1.5-6H	M20×1.5-6H	7-14	7-14	7-14
MS6G-130	M25×1.5-6H	M25×1.5-6H	M20×1.5-6H	10-20	10-20	7-14
MS6G-180	M32×1.5-6H	M32×1.5-6H	M20×1.5-6H	12-26	12-26	7-14

The tightening torque requirements for the nut and external connector of the explosion-proof cable installation device are specified in Table 18.

Table 18

Specifications for	M16×1.5	M20×1.5	M25×1.5	M32×1.5
Nut installation torque (Nm)	9-10	12-13	14-16	20-22

⚠	**Note**	If the torque specified in Table 18 is not applied during tightening, the explosion-proof rating may fail.

5.4 Cable Selection

The cross-sectional diagrams of the power and signal cables used in the MS6 series explosion-proof motors are shown in Figures 18–19. The cables feature a circular, regular-shaped cross-section with evenly distributed internal conductors isolated by filler rope, and an outer shielding layer ensures enhanced safety during operation and more efficient signal transmission, making them ideal for explosion-proof cable entry systems.

⚠	**Note**	The outer diameter of the selected cable must match the permitted diameter range for explosion-proof cable inlet devices (refer to Table 17), and the cable must have a minimum temperature resistance of 105°C.

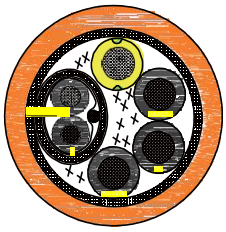


Figure 18 Power cable

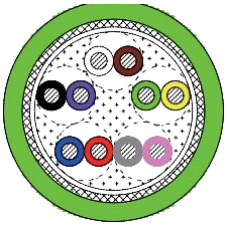
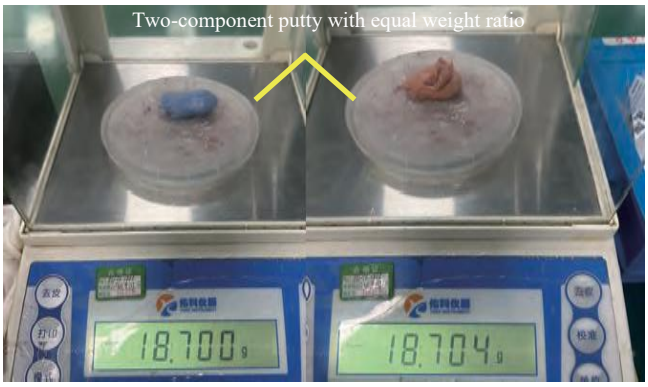
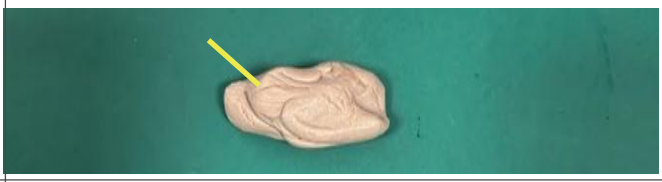
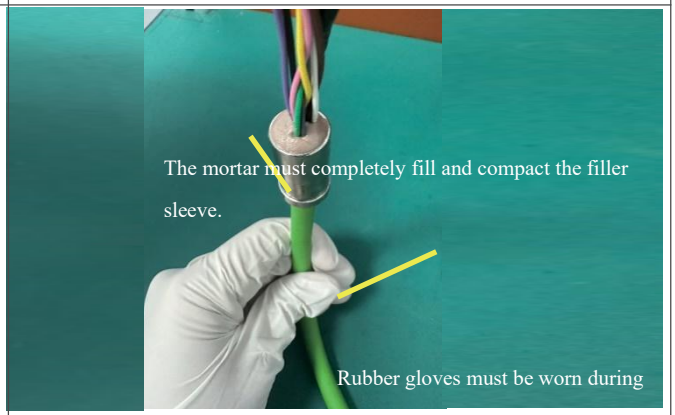


Figure 19 Signal cable

Table 19: The installation procedure for the filler-sealed explosion-proof cable introduction device is as follows:

1. Install the hexagonal nut, sealing ring, gasket, and packing sleeve sequentially onto the cable.	
2. The sealant mixture is a two-component compound, with one variant in light apricot color and the other in sky blue.	
3. The two-component mortar should be mixed uniformly in a 1:1 weight ratio until it reaches a powder-gray consistency before use. The mixed filler must be used within 30 minutes to prevent curing. If ambient temperatures are too low and the filler becomes too hard during application, the mortar can be pre-heated appropriately (below 80°C) before mixing until it becomes slightly softer before use. However, once the mortar has been thoroughly mixed, heating is strictly prohibited; direct exposure to open flames for drying is also forbidden. The two-component mortar filler is non-irritating, non-toxic, and harmless to the human body. It is a flexible flame-retardant material with excellent plasticity, fire resistance, water resistance, corrosion resistance, and rapid drying properties. It will not peel off even when exposed to temperatures exceeding 140°C.	 
4. Pull the packing sleeve to the cable untangle point, allowing the cable insulation to enter the packing sleeve. For dimensions of 2–4 mm, use wooden strips to embed the kneaded clay filler around and into the gaps of the core wire within the filler sleeve. Subsequently, insert the filler sleeve into the outer connector. However, rubber gloves must still be worn during the construction process. If filler adheres to the skin, it can be easily removed using solvents such as alcohol, acetone, or gasoline.	

Note The adhesive mortar must fully fill and compact the filler sleeve; otherwise, the explosion-proof design may fail.	
5. Do not tighten the nut initially; wait until the external connector is connected to the motor inlet before tightening the nut.	
Note The adhesive mortar must fully fill and compact the filler sleeve; otherwise, the explosion-proof design may fail.	
6. Tighten and secure the external connector to the motor power inlet thread or the power inlet thread (specifications of the power inlet threads are shown in Table 17); align the cable vertically, tighten the hex nut, and apply the specified torque as indicated in Table 18.	

VI. Operation of the Motor

1. The MS6 series explosion-proof motors are rated based on continuous operation (S1), serving as a standard continuous rating (though other operating modes are also available).

2. The MS6 series explosion-proof motors feature F-class insulation throughout. The stator winding temperature rise limits are specified as follows: T4 temperature group at 95 K (resistance method) and T5 temperature group at 65 K (resistance method). For environments exceeding the standard ambient temperature by 40°C, the motors may be used with reduced ratings as required.

3. During operation, the motor surface must remain consistently clean, and the air intake should not be obstructed by dust or fibers.

4. For motors operating at 230VAC or 400VAC, the operating supply voltage shall not exceed 480VAC; for motors operating at 24VDC–96VDC, the operating supply voltage shall not exceed 160VDC.

5. Motors operating continuously must not be subjected to prolonged overload conditions; the motor current must not exceed 10% of the rated current.

6. The motor should not produce intermittent or abnormal noises or vibrations during no-load or loaded operation, especially at the motor bearings and brakes.

7. This series of motors employs PT1000 platinum resistors as thermal protection devices, which work in conjunction with the servo driver. When the temperature exceeds the preset limit, the servo driver triggers an alarm and halts output. If both the thermal protection and short-circuit protection devices activate consecutively, the cause of the fault must be investigated (whether due to motor malfunction, overload, or excessively low protection settings). The motor may only be operated again after the fault is resolved.

8. To maintain motor braking, the brake power supply should only be disconnected after the motor speed has decreased to below 100 rpm during normal power shutdown.

9. The MS6 series explosion-proof motors feature sealed bearings with built-in grease, designed for a service life of 20,000 hours. Under normal operating conditions, the bearings require no maintenance. If abnormal noises, sticking, or other damage are detected, the motor should be returned to the manufacturer for repair; customers must not replace the bearings themselves.

10. The shaft seal is prone to wear and requires regular inspection and replacement. Based on usage conditions, it is recommended to replace the seal every 5,000 hours, with a maximum replacement interval not exceeding 10,000 hours.

	**Note**	Failure to replace the shaft seal over an extended period may render the dust-proof and explosion-proof components ineffective.

VII. Inspection, Maintenance, and Repair of Motors

7.1 Disassembly and Installation of the Wiring Chamber

The wiring chamber is a space where customers connect their own wiring, requiring opening and installation at the client site. Below are the key maintenance considerations for this area:

1. Loosen the rear cover fastening screw, as shown in the figure below.

Figure 20: Loosen the rear cover screw

2. Remove the rear cover; the nut of the cable entry device mounted on the rear end cover must be tightened until the rear cover is removed, as shown in the figure below.

Figure 21: After removing the rear cover

3. Inspection and Removal of Wiring: Check whether the internal wiring is correct; refer to Table 20 for other inspection items.

4. Inspect the explosion-proof surface and sealing ring

Check whether the O-ring rubber seal has aged or failed, and whether the explosion-proof surface has sustained any impact damage during maintenance. If any of these conditions are detected, the component must not be used further and should be replaced before reuse.

5. After closing the rear cover, tighten the securing screws. If the cable introduction device becomes loose during maintenance or inspection, tighten the nut at its upper end using the specified torque (refer to Table 18).

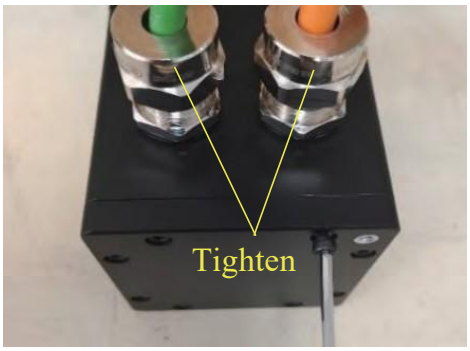


Figure 22: Closed rear cover

Note	Except for the operations specified in this document, do not disassemble or modify the motor. If any issues arise, please contact our company and return the unit to the factory for inspection and repair if necessary.

7.2 Inspection Methods and Standards

The inspection and maintenance of motors shall comply with the provisions of the standard GB 3836.16-2024 "Explosive Atmospheres – Part 16: Specifications for Inspection and Maintenance of Electrical Installations."

Motor maintenance shall comply with the provisions of the standard GB/T 3836.13-2021 "Explosive Atmospheres – Part 13: Repair, Maintenance, Repair and Modification of Equipment".

When used in explosive dust environments, clean and maintain with a damp cloth to avoid electrostatic discharge risks. During inspection and maintenance, ensure protection of the explosion-proof joints.

Check whether the surface and protective measures are intact, and whether the seals have aged or failed. Based on the production conditions of motors, our company has summarized the normal operating parameters for motors under standard working conditions.

The key inspection items are shown in Table 20. Motor users may also perform specialized inspections based on the actual operating conditions of the motor to ensure its safe operation.

Table 20 Inspection Methods and Standards

	Check point	Methods and Standards
Environment	Check the ambient temperature, humidity, and vibration. Check for dust, oil stains, or water droplets.	Conduct visual inspection and measure environmental conditions. Compare with the standard value.
Motor components	Is there any abnormal noise or vibration?	Visual and auscultatory examination
	Are there any loose screws?	Tighten the screw
	Are there any bent or damaged parts?	Visual inspection.
	Has any color change occurred due to overheating?	Visual inspection.
	Is there any dust or dirt buildup?	Visual inspection.
	Are the explosion-proof connectors, motors, and cables loose?	Tighten according to the specified torque.
	Has the bearing grease in the motor leaked out and dried up? (If applicable)	Visual inspection.
	Is there any overheating phenomenon during normal operation?	temperature measurement
Internal	Is the wiring cavity clean?	Visual inspection.

wiring	Has the wire undergone any color or shape change due to the increased motor temperature?	Visual inspection.
	Is the wiring insulation damaged or discolored?	Visual inspection.
	Is the terminal connector damaged or discolored?	Visual inspection.
	Are the wiring fastening screws missing or loose?	Replace the screws or tighten them individually.
	Is the cable shielding and grounding damaged or loose?	Replace or tighten the screw

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