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XINJE

Explosion-Proof | Dust Ignition Protection

MS6 Series

Explosion-Proof Permanent Magnet Synchronous Servo Motor

To be the Most Trusted Partner in Automation

MS6 Series

Explosion-Proof Permanent Magnet Synchronous Servo Motor

MS6 Series Explosion-proof Permanent Magnet Synchronous Servo Motors are specially designed for explosive atmosphere, combining reliable explosion-proof protection, high precision, and high protection performance. They meet both gas and dust explosion protection requirements and are widely used in hazardous applications such as painting, chemical, petroleum, lithium battery, and printing & packaging industries.

Core Compliance Standards

- GB/T 3836.1-2021 Explosive atmosphere Part 1: Equipment – General requirements
- Explosive atmosphere Part 2: Equipment protected by explosion-proof enclosure “d”
- Explosive atmosphere Part 31: Equipment protected by dust ignition protection enclosure “t”

MS6 Permanent Magnet Synchronous Servo Motors Series Explosion-Proof

01 Reliable Structure

Robust explosion-proof enclosure with Class 8.8 or higher fasteners. Energized opening is strictly prohibited, providing enhanced safety redundancy.

02 Easy Installation and Maintenance

Standardized interfaces, explosion-proof cable glands, and convenient wiring.

03 Dual Explosion Protection

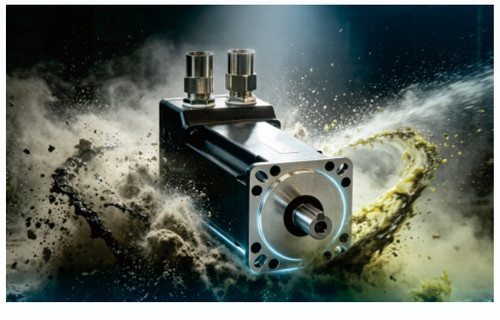
Meeting the highest-level explosion protection requirements for both Gas Group IIC and Dust Group IIIC, the motor is suitable for hazardous areas in Zone 1/2 and Zone 21/22.

04 Wide Power Range

0.2kW~7.5kW, multiple frame sizes and voltage options available.

05 High Protection Level

IP66-rated protection for the entire motor, ensuring dust and water resistance in harsh operating environments.



06 High Precision

Low cogging torque for precise positioning and fast dynamic response.

Applications

Applications include painting equipment, printing and packaging machinery, chemical machinery, oil and gas equipment, industrial robots, automated production lines in flammable and explosive environments, grain and food processing industries, warehousing and logistics systems, lithium battery and photovoltaic production lines, as well as other hazardous workstations.

Naming Rules

MS6S - 60 T L 30 B Z 5 - 2 0P4 - Ex d - T4

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

□ Inertia Type

Display	Inertia
MS6S	Low-Inertia Servo Motor
MS6G	Mid-Inertia Servo Motor
MS6H	High-Inertia Servo Motor

□ Frame Size

Display	Frame Size
60	Frame size 60
80	Frame Size 80
130	Frame Size 130
180	Frame Size 180

③ Encoder Specification

Display	Specification
M	Mechanical Encoder
T	Optical Encoder

□ Encoder Accuracy

Display	Encoder Accuracy
L	23-bit Multi-turn

⑤ Speed

Display	Rated Speed
15	1500rpm
17	1700rpm
30	3000rpm

⑥ Motor Shaft Specification

Display	Motor Shaft Specification
A	Keyed shaft, without oil seal, with threaded hole
B	Keyed shaft, with oil seal, with threaded hole
C	Non-keyed shaft, without oil seal, with threaded hole
D	Non-keyed shaft, with oil seal, with threaded hole
E	Special Shaft Specifications (Length, Diameter, etc.)

⑦ Brake

Display	Brake
Empty	Without Brake
Z	With Brake

□ Motor Connector Type

Display	Connector Type
5	Explosion-Proof Cable Gland

□ Voltage Rating

Display	Voltage Rating
2	220V
4	380V

⑩ Rated Power

Display	Rated Power	Display	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

□ Explosion Protection Type

Display	Explosion Protection Type
Ex d	Explosion-Proof

□ Maximum Surface Temperature

Display	Maximum Surface Temperature
T4	135°
T5	100°

Technical Specifications

Project	Specifications
Motor Type	Three-Phase AC Permanent Magnet Synchronous Servo Motor
Protection Rating	IP66
Insulation Class	Class F
Duty Type	S1 Continuous Duty
Operating Temperature	-20℃~+40℃
Altitude	0~1000m（Derating at Extremely High Temperature）
Relative Humidity	5~85% Non-Condensing
Cooling Method	IC410 SELF-COOLING
Mounting Type	IM B5（Available for IM V1/V3 Mounting）
Temperature Class	T4（135℃）、T5（100℃）

Electrical Specifications Overview

◆ T4 Data Sheet

Motor Model	Operating Voltage	Rated Power (kW)	Rated Speed (rpm)	Rated Torque (Nm)	Rated Current (A)	Max. Speed (rpm)	Max. Torque (Nm)	Max. Current (A)	Inertia(W/O Brake) /Inertia(W/ Brake)
MS6H-60XX30XX5-40P2	400VAC	0.20	3000	0.64	0.92	6000	1.92	3.0	0.22/0.23
MS6H-60XX30XX5-40P4	400VAC	0.40	3000	1.28	1.42	6000	3.84	4.6	0.39/0.40
MS6H-80XX30XX5-40P5	400VAC	0.55	3000	1.75	2.04	6000	5.25	6.1	1.55/1.60
MS6H-80XX30XX5-40P7	400VAC	0.75	3000	2.38	2.78	6000	7.14	8.3	1.55/1.60
MS6H-80XX30XX5-41P0	400VAC	1.0	3000	3.18	3.85	6000	9.54	11.6	2.00/2.05
MS6G-130XX15XX5-40P8	400VAC	0.85	1500	5.4	3.34	3000	16.2	10.4	8.9/9.8
MS6G-130XX15XXK5-40P8	400VAC	0.85	1500	5.4	4.85	4500	16.2	15.1	8.9/9.8
MS6G-130XX15XX5-41P3	400VAC	1.3	1500	8.3	4.95	3000	24	14.9	11.5/12.4
MS6G-130XX15XXK5-41P3	400VAC	1.3	1500	8.3	8.00	3000	24	25.5	11.5/12.4
MS6G-130XX15XX5-41P8	400VAC	1.8	1500	11.5	7.10	3000	34.5	22.2	16.7/17.6
MS6G-130XX15XXK5-41P8	400VAC	1.8	1500	11.5	10.4	4500	34.5	32.2	16.7/17.6
MS6G-130XX15XX5-42P3	400VAC	2.3	1500	14.6	9.03	3000	43.8	28.2	27.1/28.0
MS6G-130XX15XX5-42P3	400VAC	2.3	1500	14.6	13.5	4500	43.8	42.3	27.1/28.0
MS6G-180XX15XX5-42P9	400VAC	2.9	1500	18.5	11.5	3000	55.5	35.1	48.7/55.2
MS6G-180XX15XXK5-42P9	400VAC	2.9	1500	18.5	18.0	4500	55.5	54.5	48.7/55.2
MS6G-180XX15XX5-43P3	400VAC	3.3	1500	21.0	13.8	3000	63	42.0	54.9(61.4)
MS6G-180XX15XXK5-43P3	400VAC	3.3	1500	21.0	18.5	4500	63	56.3	54.9(61.4)
MS6G-180XX15XX5-44P4	400VAC	4.4	1500	28	18.2	3000	84	55.4	70.5(77.0)
MS6G-180XX15XXK5-44P4	400VAC	4.4	1500	28	23.9	4500	84	72.7	70.5(77.0)
MS6G-180XX15XX5-45P5	400VAC	5.5	1500	35	21.9	3000	105	66.5	93.7(100.2)
MS6G-180XX15XXK5-45P5	400VAC	5.5	1500	35	29.8	4500	105	90.2	93.7(100.2)
MS6G-180XX15XX5-47P5	400VAC	7.5	1500	48	27.2	3000	144	82.8	115.5(122.0)
MS6G-180XX15XXK5-47P5	400VAC	7.5	1500	48	40.8	4500	144	123.9	115.5(122.0)
MS6H-60XX30XX5-20P2	230VAC	0.20	3000	0.64	1.46	6000	1.92	4.6	0.22(0.23)
MS6H-60XX30XX5-20P4	230VAC	0.40	3000	1.28	2.92	6000	3.84	9.4	0.39(0.40)
MS6H-80XX30XX5-20P7	230VAC	0.75	3000	2.38	5.14	6000	7.14	15.5	1.55(1.60)
MS6H-80XX30XX5-21P0	230VAC	1.0	3000	3.18	6.75	6000	9.54	20.2	2.00(2.05)
MS6G-130XX15XX5-20P8	230VAC	0.85	1500	5.4	5.57	3000	16.2	17.4	8.9(9.8)
MS6G-130XX15XXK5-20P8	230VAC	0.85	1500	5.4	8.40	4500	16.2	26.1	8.9(9.8)
MS6G-130XX15XX5-21P3	230VAC	1.3	1500	8.3	8.70	3000	24	26.0	11.5(12.4)
MS6G-130XX15XXK5-21P3	230VAC	1.3	1500	8.3	12.8	4500	24	38.6	11.5(12.4)
MS6G-130XX15XX5-21P8	230VAC	1.8	1500	11.5	12.1	3000	34.5	37.7	16.7/17.6
MS6G-130XX15XXK5-21P8	230VAC	1.8	1500	11.5	17.8	4500	34.5	55.5	16.7/17.6
MS6G-130XX15XX5-22P3	230VAC	2.3	1500	14.6	15.2	3000	43.8	47.5	27.1/28.0
MS6G-130XX15XXK5-22P3	230VAC	2.3	1500	14.6	22.2	4500	43.8	69.1	27.1/28.0
MS6G-180XX15XX5-22P9	230VAC	2.9	1500	18.5	19.8	3000	55.5	60.2	48.7/55.2
MS6H-60XX30XX5-50P2	48VDC	0.20	3000	0.64	5.40	6000	1.92	17.3	0.22/0.23
MS6H-60XX30XX5-50P4	48VDC	0.40	3000	1.28	10.44	6000	3.84	33.4	0.39/0.40
MS6H-80XX30XX5-50P7	48VDC	0.75	3000	2.38	20.56	6000	7.14	61.6	1.55/1.60
MS6G-130XX15XX5-50P8	48VDC	0.85	1500	5.4	22.90	3000	16.2	71.4	8.9/9.8
MS6G-130XX15XX5-51P3	48VDC	1.30	1500	8.3	34.30	3000	24	103.0	11.5/12.4
MS6G-180XX15XX5-52P5	48VDC	2.5	1500	16	63.3	3000	48	192.5	48.7/55.2

◆ T5 Data Sheet

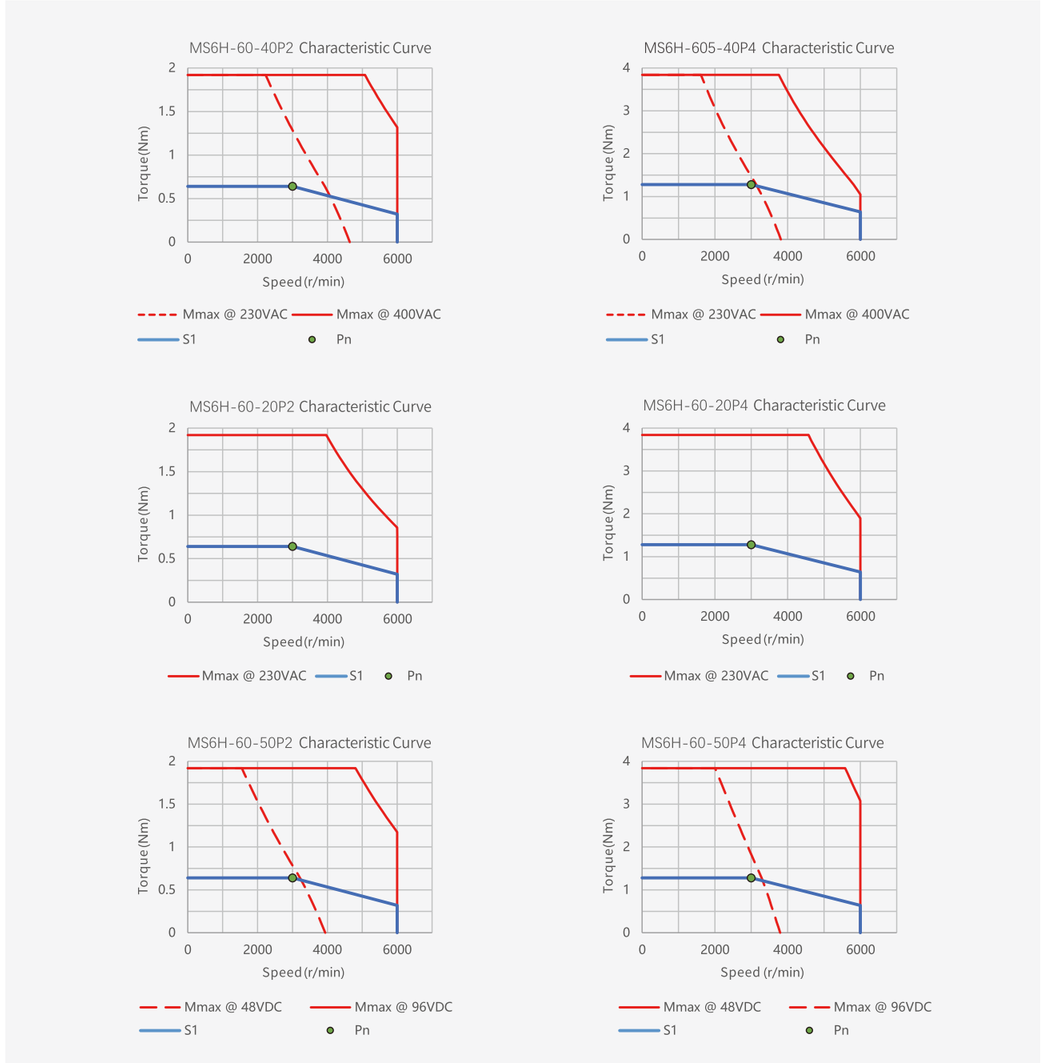
Motor Model	Operating Voltage	Rated Power (kW)	Rated Speed (rpm)	Rated Torque (Nm)	Rated Current (A)	Max. Speed (rpm)	Max. Torque (Nm)	Max. Current (A)	Inertia(W/O Brake) /Inertia(W/ Brake)
MS6H-60XX30XX5-20P4	230VAC	0.40	3000	1.28	2.95	6000	3.84	9.41	0.39/0.40
MS6H-80XX30XX5-20P9	230VAC	0.90	3000	2.86	6.07	6000	9.54	20.22	2.00/2.05
MS6G-130XX15XX5-41P3	380VAC	1.3	1500	8.3	7.5	4500	34.5	32.2	16.7/17.6
MS6G-130XX15XX5-41P8	380VAC	1.8	1500	11.5	10.7	4500	43.8	42.3	27.1/28.0
MS6G-180XX15XX5-43P3	380VAC	3.3	1500	21	17.9	4500	84	72.7	70.5/77.0
MS6G-180XX15XX5-45P5	380VAC	5.5	1500	35	29.8	4500	144	123.9	115.5/122.0

Brake Specification (Optional)

Frame Size	Holding Torque□ N·m□	Power Supply（VDC）	Release/Engagement Time
MS6H-60	2	24	≤20ms/≤60ms
MS6H-80	6	24	≤40ms/≤80ms
MS6G-130	20	24	≤40ms/≤100ms
MS6G-180	55	24	≤60ms/≤200ms

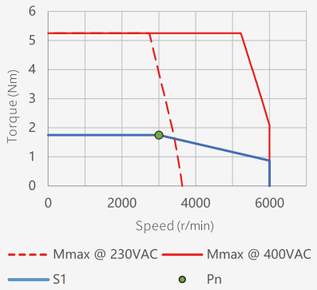
Characteristic Curve

◆ MS6H-60-T4

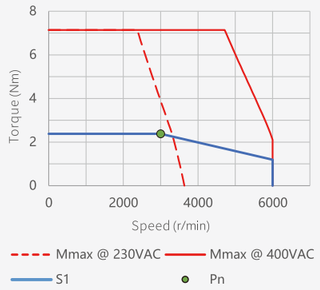


◆ MS6H-80-T4

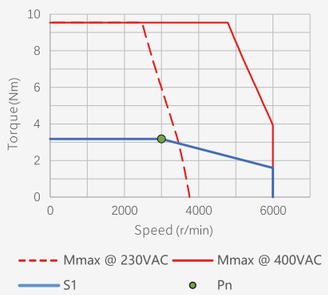
MS6H-80-40P5 Characteristic Curve



MS6H-80-40P7 Characteristic Curve

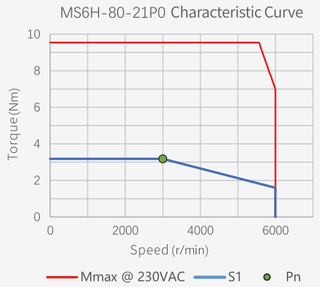


MS6H-80-41P0 Characteristic Curve



MS6H-80-20P7 Characteristic Curve

MS6H-80-21P0 Characteristic Curve



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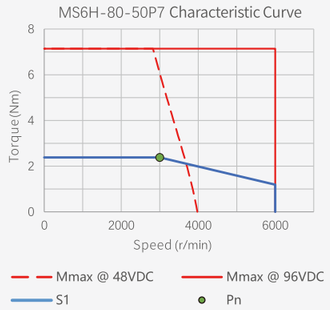
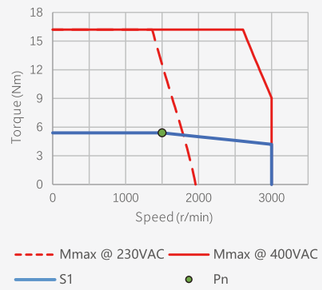
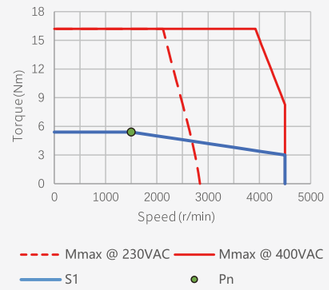


◆ MS6G-130-T4

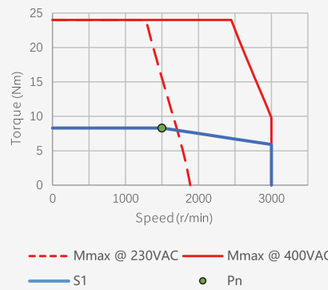
MS6G-130-40P8 Characteristic Curve



MS6G-130K5-40P8 Characteristic Curve



MS6G-130-41P3 Characteristic Curve



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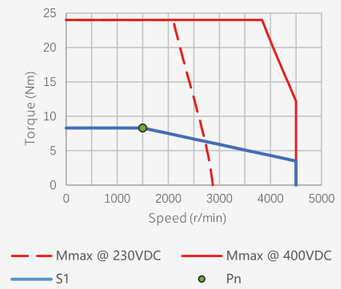

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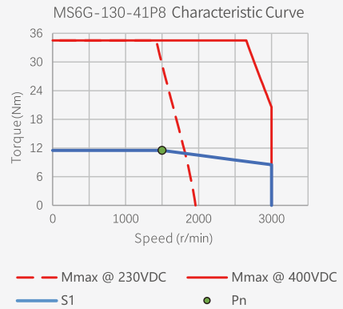
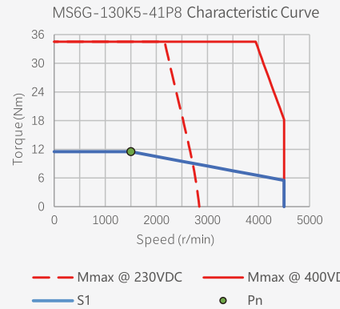
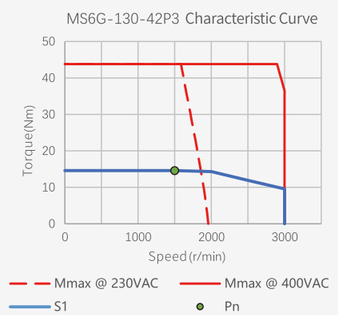


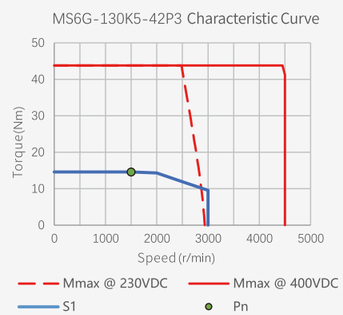
MS6G-130K5-41P8 Characteristic Curve



MS6G-130-42P3 Characteristic Curve



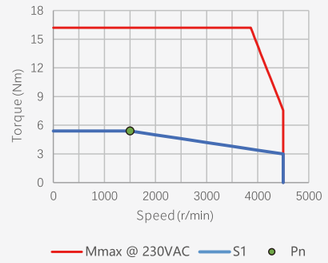
MS6G-130K5-42P3 Characteristic Curve



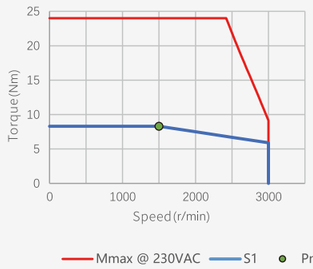
◆ MS6G-130-T4

MS6G-130-20P8 Characteristic Curve

MS6G-130K5-20P8 Characteristic Curve



MS6G-130-21P3 Characteristic Curve



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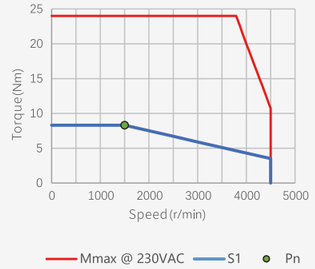

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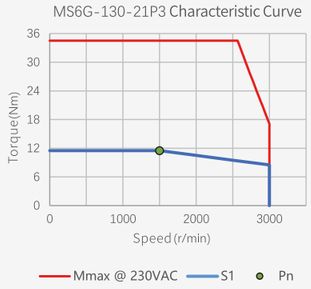
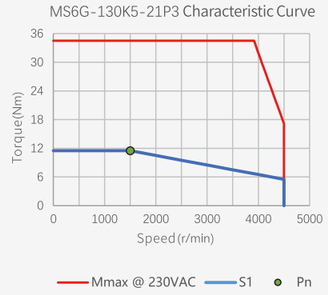
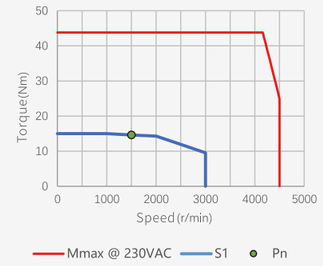


MS6G-130K5-21P3 Characteristic Curve



MS6G-130-22P3 Characteristic Curve

MS6G-130K5-22P3 Characteristic Curve



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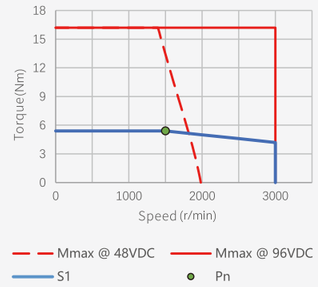
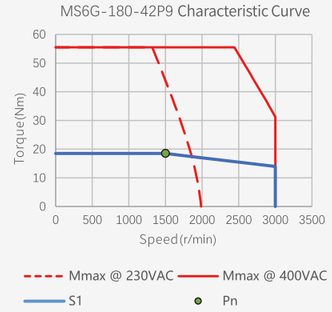


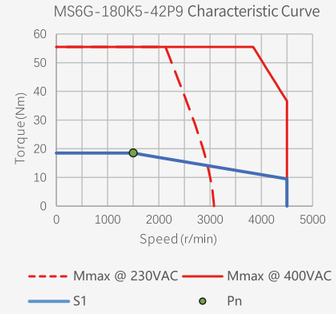
MS6G-130-51P3 Characteristic Curve

◆ MS6G-180-T4

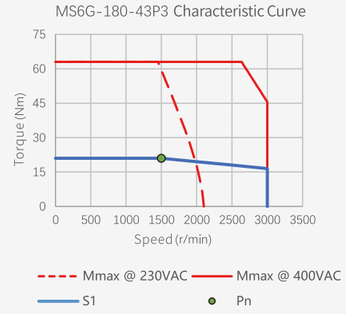
MS6G-180-42P9 Characteristic Curve



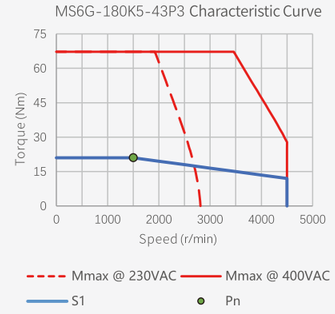
MS6G-180K5-42P9 Characteristic Curve



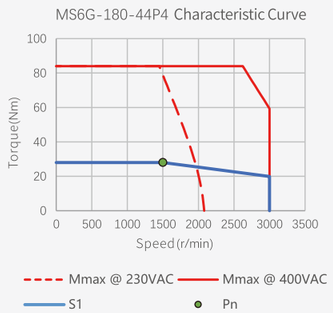
MS6G-180-43P3 Characteristic Curve

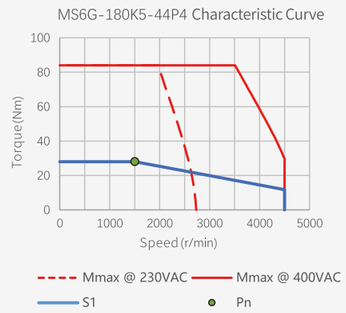


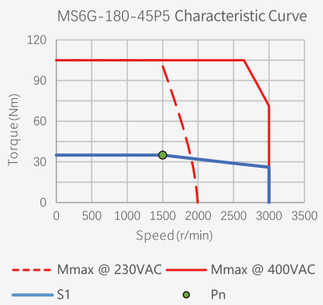
MS6G-180K5-43P3 Characteristic Curve

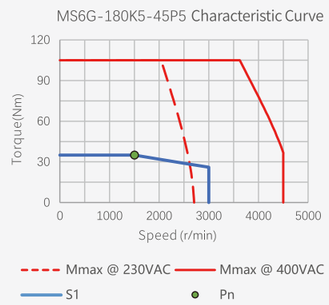


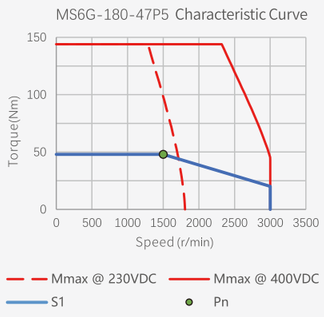
◆ MS6G-180-T4

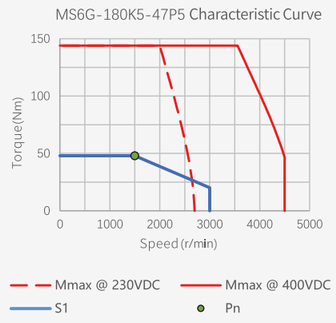


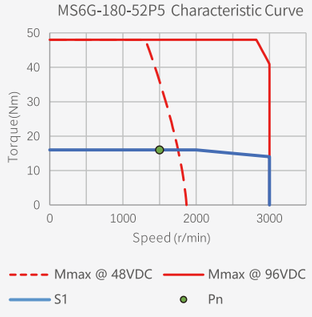


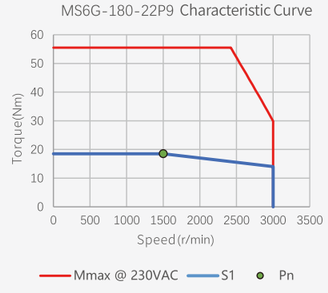




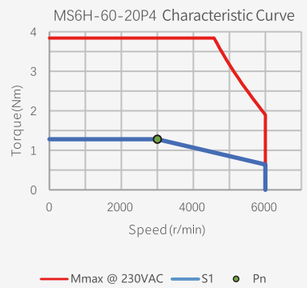




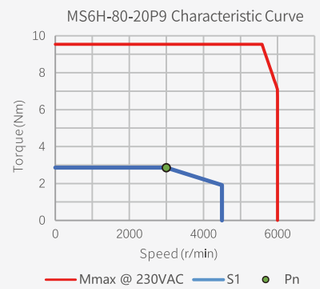




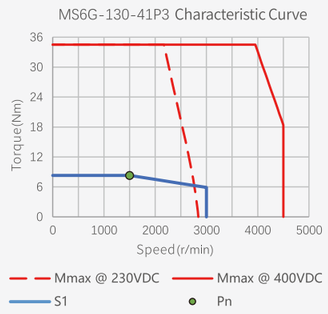
◆ MS6H-60-T5

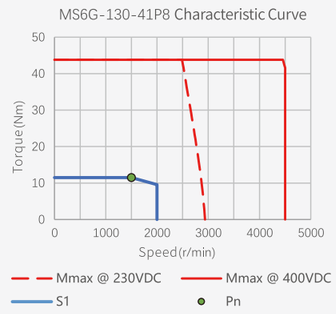


◆ MS6H-80-T5

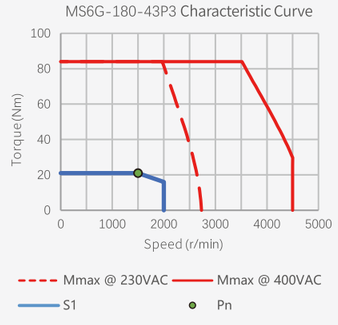


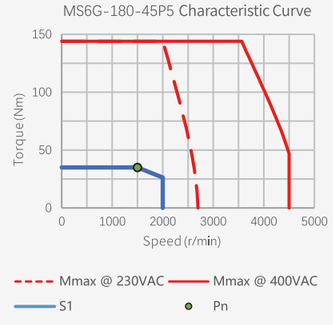
◆ MS6G-130-T5





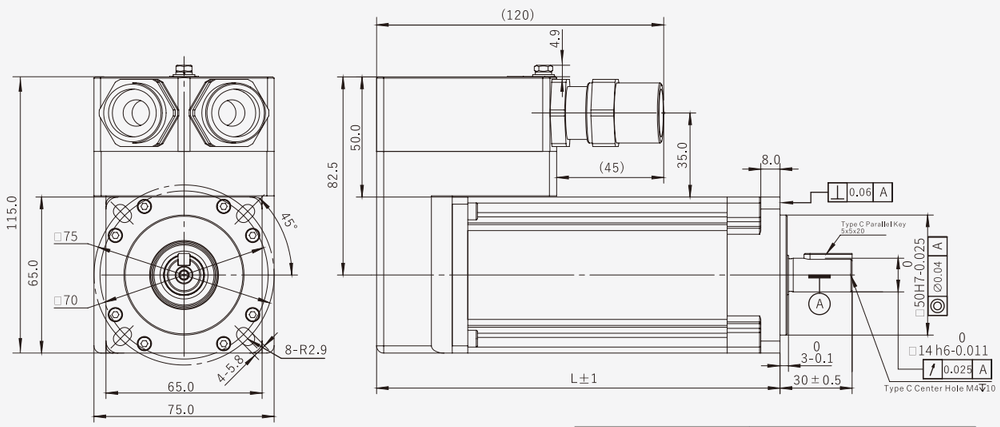
◆ MS6G-180-T5





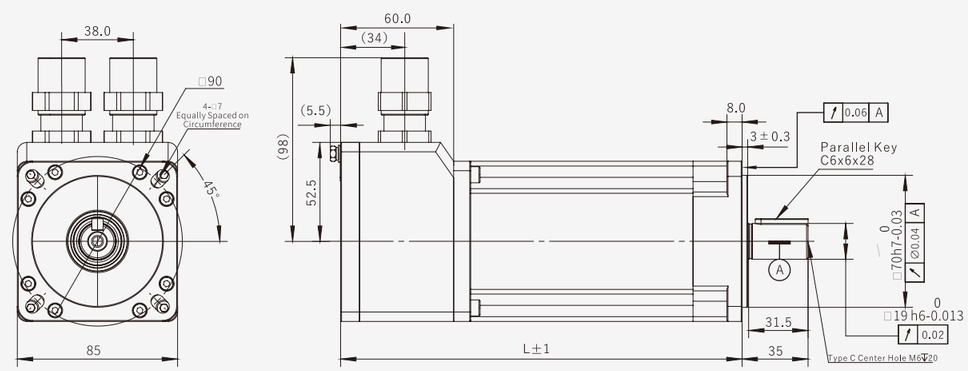
Dimensions

◆ MS6H-60



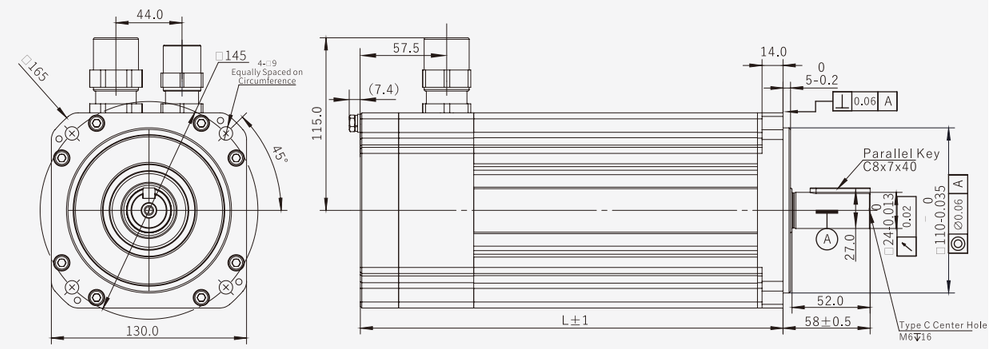
Motor Model	L (mm)	
	Without Brake	With Brake
MS6H-60-0P2	122	150
MS6H-60-0P4	140	168
MS6H-60-0P4-T5	140	168

◆ MS6H-80



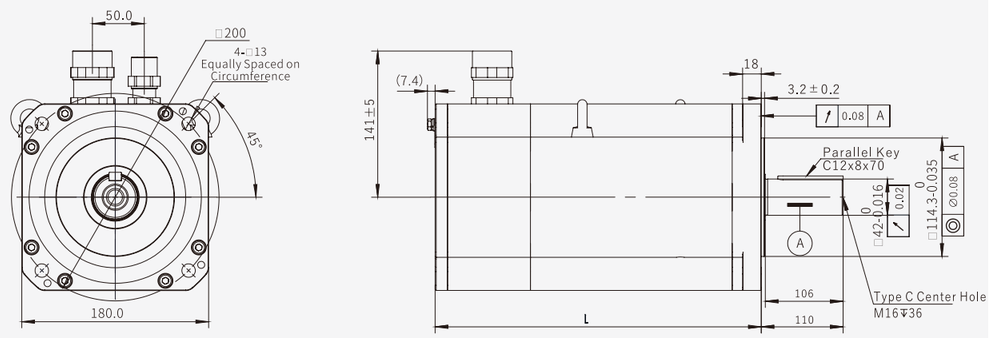
Motor Model	L (mm)	
	Without Brake	With Brake
MS6H-80-0P5	174	201
MS6H-80-0P7	174	201
MS6H-80-0P9-T5	186	213

◆ MS6G-130



Motor Model	L (mm)	
	Without Brake	With Brake
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

◆ MS6G-180



Motor Model	L (mm)	
	Without Brake	With Brake
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

Motor Model	L (mm)	
	Without Brake	With Brake
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