

步进系列电机样册

STEPPER MOTOR SERIES



COMPANY PROFILE

企业简介

杭州米格电机有限公司是一家面向全球市场的企业，不仅是集电机研发、电机制造、电机销售、自动优化方案提供、技术服务为一体的国家高新技术企业；还是国家高效节能电机推广企业、电机行业骨干企业，负责制定GB 30253-2013国家标准《稀土永磁电动机能效限定值和能效等级》等10余项电机系列标准。公司坐落于杭州仁和先进制造基地内，位于浙江省杭州市余杭区仁和镇境内，建筑面积43000平方米（占地35亩），现有员工400多名（其中研发技术团队60多人）。

公司拥有符合精密制造、先进制造、高效制造的厂房和设备，以此打造永续经营的创新型企业，为客户及战略伙伴提供最完善、最具效益、最可靠的产品和服务。公司核心产品包括通用伺服电机、大功率永磁电机、主轴伺服电机、步进电机以及驱动器等5大类15个应用系列1600多种型号规格产品，年产70万台。产品广泛应用于绣花机、横织机、数控机床、工业机器人、包装机械、雕刻机、注塑机、空压机等自动化控制领域以及新能源电动汽车领域。公司服务遍布全球，在印度苏拉特、北京、深圳、山东、福建等地设有办事处。公司自2005年成立以来，秉承可持续发展的战略和与客户共同提升的理念，努力实现成为世界一流的控制电机供应商之目标！

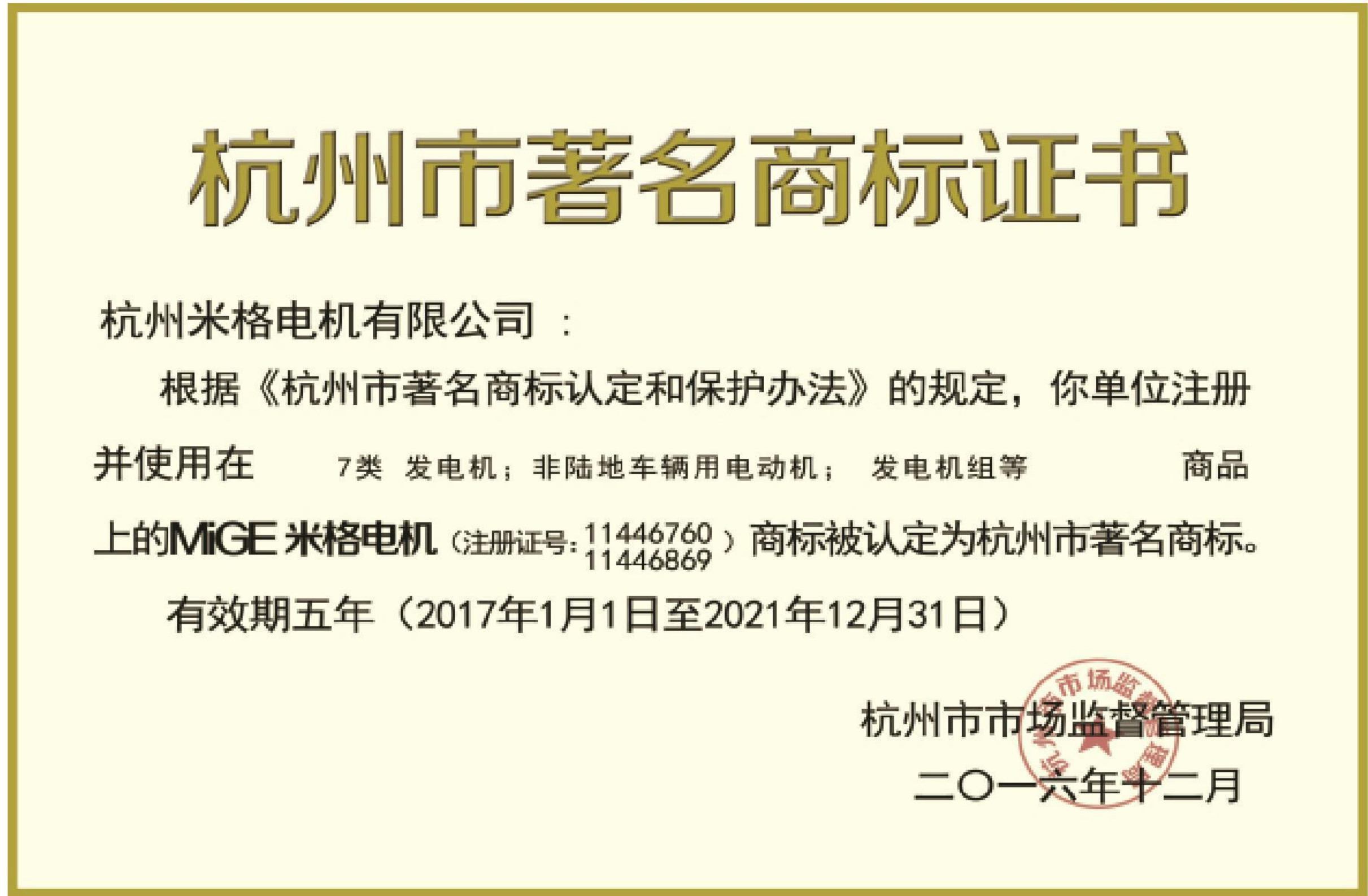
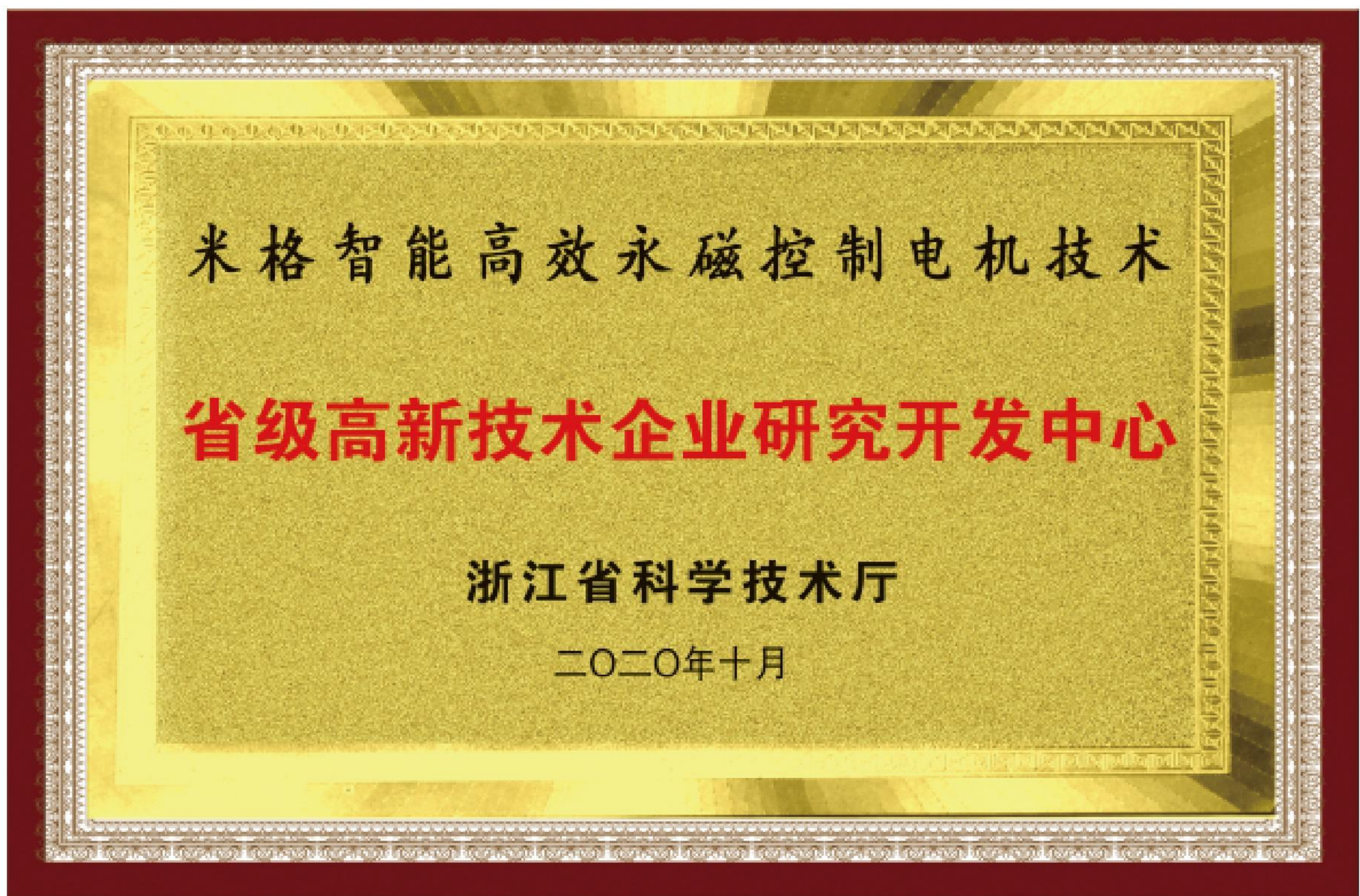
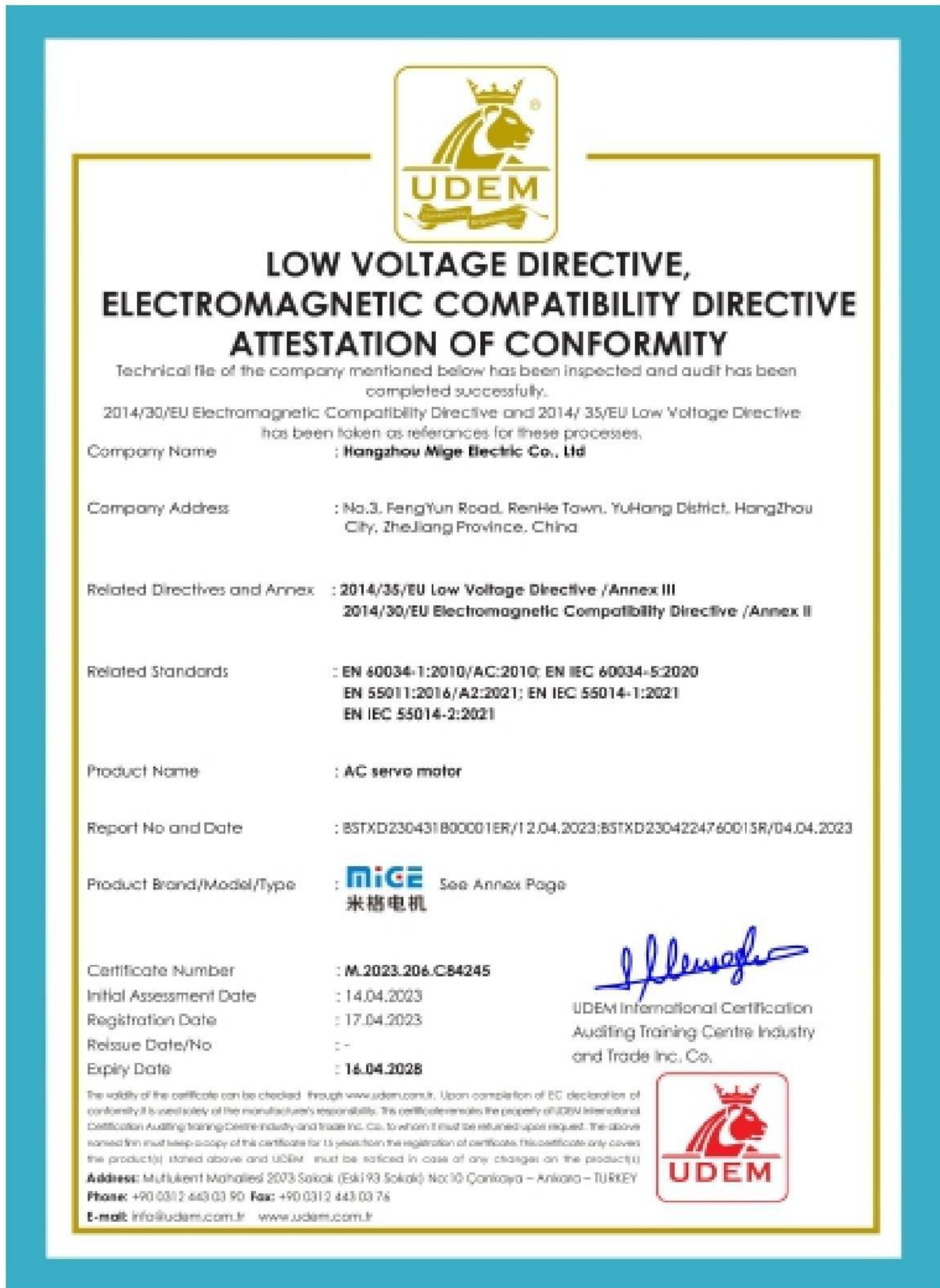
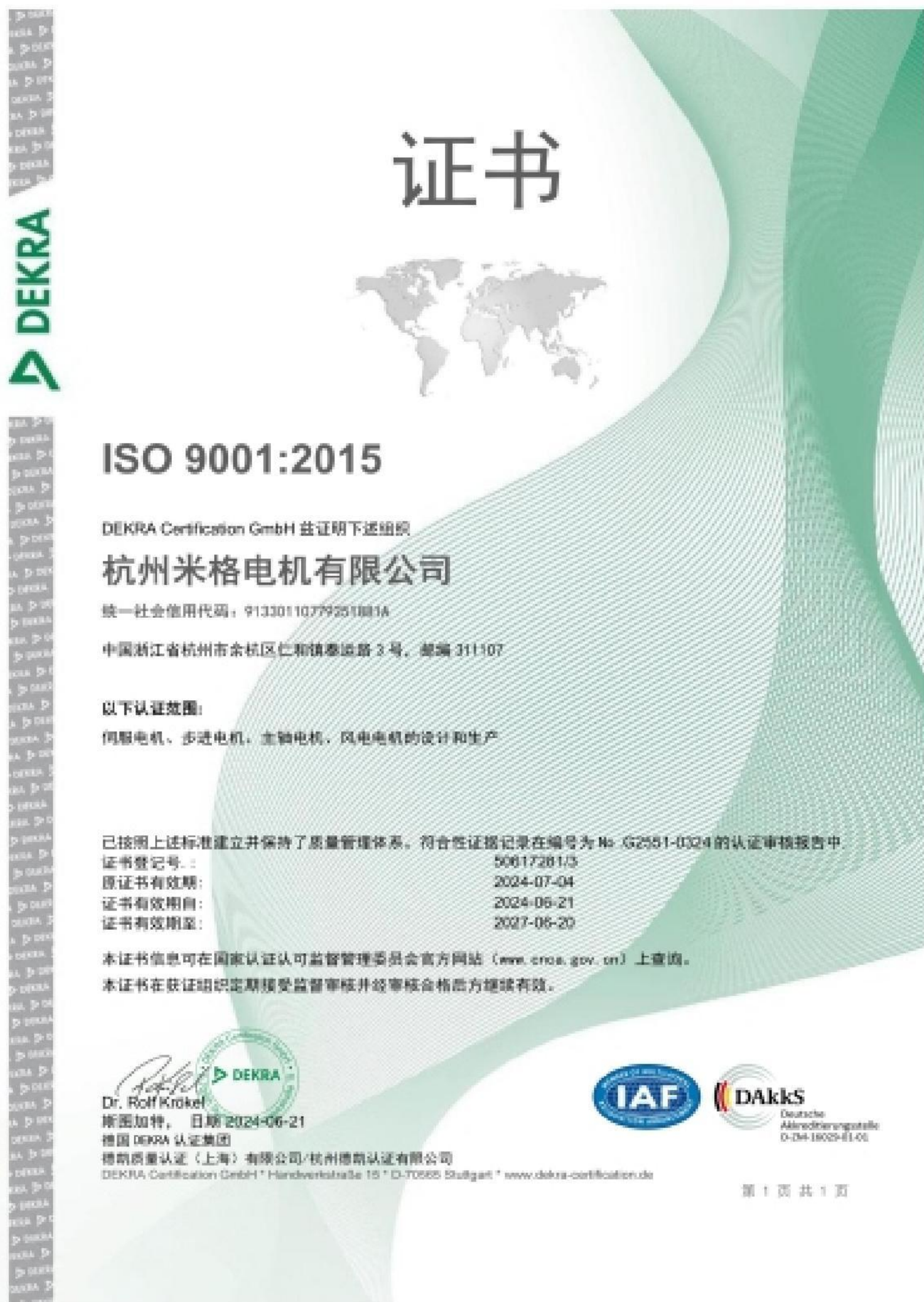
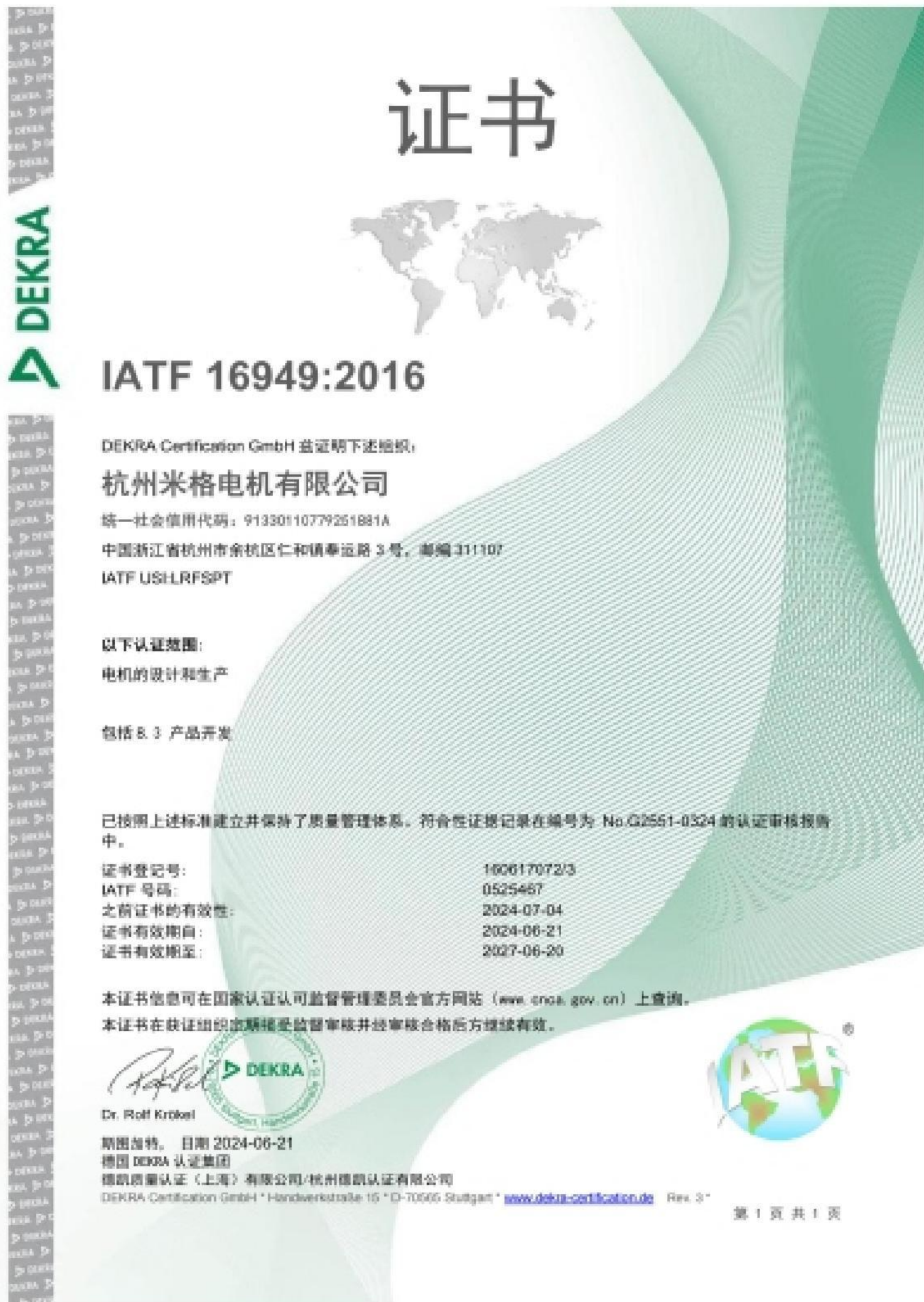
热忱欢迎国内外客户来公司参观指导，真诚期待与您的全方位合作！

Hangzhou Mige Electric Co., Ltd. is a market-oriented enterprises. It is not only one of the national high-tech enterprises for motor development, production and sale, as well as the project self-improvement and the technocial service, but also one of the national Energy-efficient promote enterprises and key enterprises in electrical industry. It is responsible for making out more than 10 motor series standards. For example, the national standards GB 30253-2013 "rare earth permanent magnet motor energy efficiency limit value and energy efficiency rating". It is located in Renhe Town, Yuhang District, Hangzhou City, Zhejiang Province, which takes 43000 square meter(covering 35 acres). The number of the empolyees are more than 400, in which the R&D takes more than 60.

It has owned the workshops and equipments that are conform to the sophisticated manufacture, advanced manufacture, and Highefficiency manufacture. It makes itself as a innovation-type Enterprice, providing its clients and partners with high quality products and service. The core products are include the universal servo motor, high-power permanent magnet motor, the spindle servo motor, stepper motor and drive. There are more than 1,600 different product types in 15 application systems. The annual output of our Enterprice is 700000 pieces, which are widely used in Automatic control and new energy electric automobile areas, such as Embroidery machine, Transverse weaving machine, CNC machine, Industrial robot, Packing machine, Engraving machine, Injection molding machine, air compressor, and so on.. Established in 2005, It has its clients both at home and abroad. Offices are set in Surat of Indian, Beijing, Shenzhen, Shandong, Fujian.In order to complete the target of becoming the word-top supplier , It adheres to sustainable development and win-win belief.

Welcome all the friends both at home and abroad coming to our factory. Sincerely wanting to establish the all-around cooperation with you!





产品简要说明
 BRIEF INTRODUCTION OF OUR PRODUCTS

二相步进电机 / TWO PHASE STEPPING MOTORS

例: F 57 - H56 ① ② ③	① 混合式步进电机; Hybrid Stepping Motor ② 电机机座号[mm]; Frame size [mm] ③ 机身长度[mm]; Motor Length [mm]	例: F 42 C - H34 ① ② ③ ④	① 混合式步进电机; Hybrid Stepping Motor ② 电机机座号[mm]; Frame size [mm] ③ 步距角0.9°; Step Angle ④ 机身长度[mm]; Motor Length [mm]
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三相步进电机 / THREE PHASE STEPPING MOTORS

例: FHB 3 11 18 ① ② ③ ④	① 混合式步进电机; Hybrid Stepping Motor ② 3为三相; Three Phase ③ 电机机座号[mm]; Frame size [mm] ④ 机身长度[mm]; Motor Length [mm]	例: FHB 3 97 H ① ② ③ ④	① 混合式步进电机; Hybrid Stepping Motor ② 三相混合式步进电机; Three Phase Stepping Motors ③ 电机机座号[mm]; Frame size [mm] ④ 机身长度[mm]; Motor Length [mm]
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注：三相110、130系列均为高压电机

步进电机驱动器 / STEPPER MOTOR DRIVER

例: HBQ 3 06 4D ① ② ③ ④	① 混合式步进电机驱动器; Hybrid Stepping Motor Drive ② 3为三相, 2为两相; 3 is three phase, 2 is two phase	③ 驱动器最大输出电流[A]; The max output current[A] ④ 驱动器最大输入电压[×10v], 后面带D为直流输入, A为交流输入, DA为交直流均可; The max output voltage[×10v],D is direct-current input,A is alternating current input,DA is direct-current input & alternating pcurrent in put
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*型号各种的参数均为大致参数，具体参数查看后继说明。
 *The type of parameters are general parameters ,specific parameters see follow — up introduction

特点 / FEATURE

保持转矩高，频繁启动反应速度快、运转噪音低、运行平稳、控制性能好、整机成本低。
 High holding torque, frequent start fast response, low noise operation, smooth operation, good control performance and low overall cost.

应用行业 / BY INDUSTRY

纺织机械设备、ATM机、喷绘机、刻字机、写真机、喷涂设备、医疗仪器及设备、精密仪器、工业控制系统、办公自动化、机器人等领域。
 Textile machinery and equipment, ATM machines, inkjet machine, cutting plotter, photo machine, spraying equipment, medical instruments and equipment, precision instruments, industrial control systems, office automation, robotics and other fields.

安装注意 / INSTALLATION PRECAUTION

应安装于少尘埃、无腐蚀性气体、易燃气体的地方，应避免金属粉尘导电体、避免油、水进入壳体的地方。避免有强烈振动的地方。
 所有信号线均采用双绞线或屏蔽线，输入相线线芯截面s > 1mm2,输入输出信号应与电机线电源线隔开，因为接近高压电源，电磁开关，高频电源灯噪声源是产生误动作的原因。
 驱动器之间及与其他设备之间只是应保持4公分以上，以利通风。
 电机需高速运行时，必须进行升降频处理，升降频曲线处理不好往往是电机高速上不去的主要原因。
 电机的温升根据电压，电机转速及驱动负载的不同而不同。通常，在长时间高速运转时，电机易发热，请务必保持电机的温度不超过100度。
 驱动电源发生故障，可直接与本公司联系，一年内给予保修，经拆装后，本公司不予负责，请用户谅解。
 Should be installed in less dust, corrosive gas, flammable gas areas should be avoided conductor metal dust, avoid oil and water from entering the housing areas. Avoid strong vibrations. All signal lines are twisted pair or shielded cable, wire core wire input phase carrier plane s> 1mm2, input and output signals should be separated from power lines and electrical lines, as close to the high voltage power supply, electromagnetic switches, high-frequency power source is a light noise Malfunction causes.
 But it should be maintained between the driver and other equipment between 4 cm or more, in order to facilitate ventilation.
 The motor must be running at high speed, lifting frequency processing must be carried out, lifting frequency curve handled properly is often the main reason for the motor speed falters.The temperature rise of the motor based on the voltage, different motor speed and drive the load varies. Typically, when high-speed operation for a long time, the motor is easy to heat, be sure to keep the motor temperature does not exceed 100 degrees.
 Drive power failure, you can directly contact with the company, given the warranty for one year, after disassembly, the Company shall not be responsible for, please user understanding.

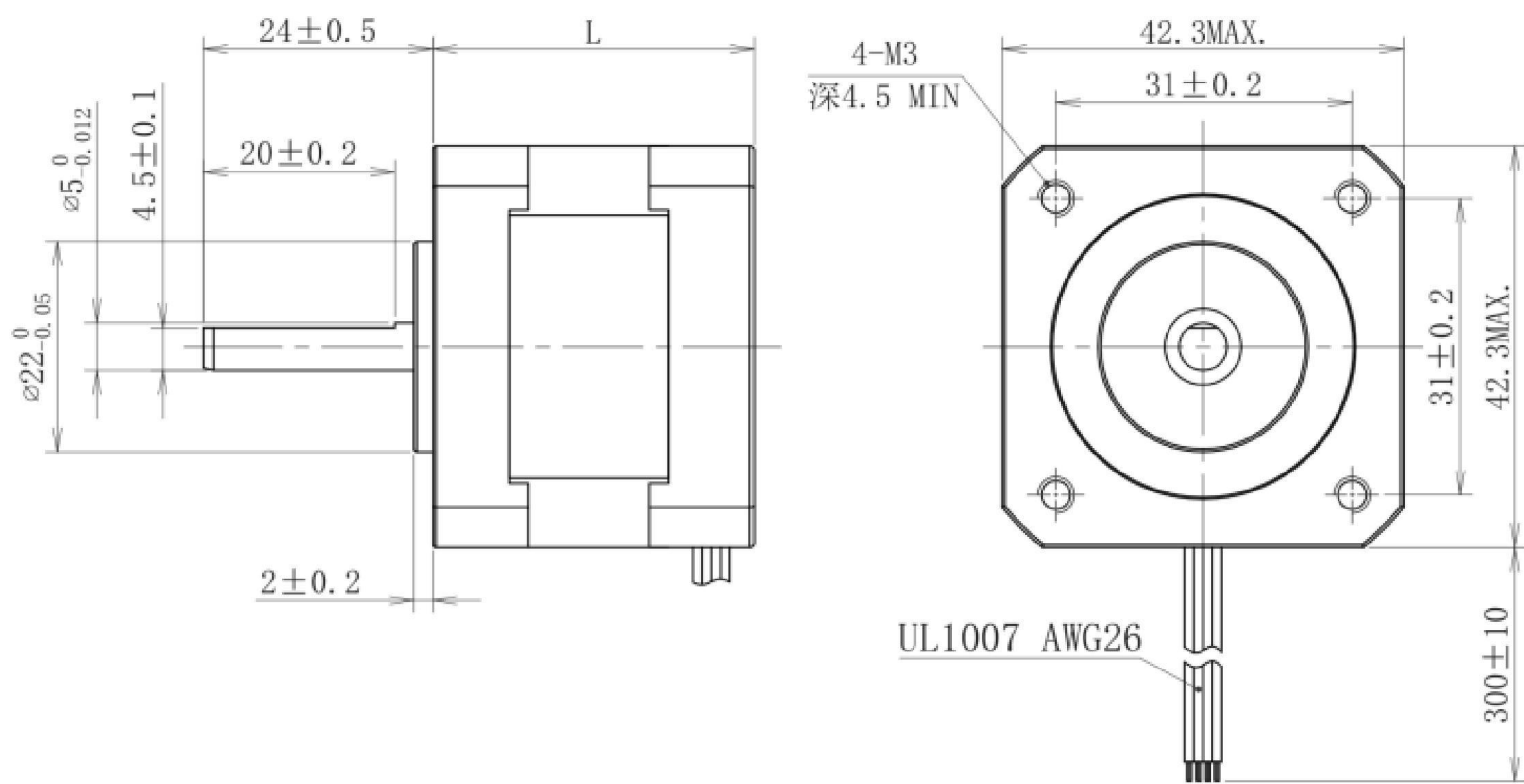
步进电机适配驱动对照表

THE TABLE OF MATCHED DRIVER FOR STEPPING MOTOR

步进电机型号 STEPPING MOTOR MODEL	适配步进驱动大致参数 GENERGE PARAMETER ADAPTATION STEP DRIVE		
	驱动电压 VOLTAGE(V)	细分 SUBDIVIDE	电流 CURRENR(A)
F42-H34	DC 24-50V	1-200	0.8-4.5
F42-H40	DC 24-50V	1-200	0.8-4.5
F42-H44	DC 24-50V	1-200	0.8-4.5
F42-H48	DC 24-50V	1-200	0.8-4.5
F42-H60	DC 24-50V	1-200	0.8-4.5
F57-H41	DC 24-50V	1-200	0.8-4.5
F57-H51	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F57-H56	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F57-H64	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F57-H76	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F57-H84	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F57-H100	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F57-H112	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H65	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H80	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H96	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H114	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H118	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H125	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H145	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F86-H150	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F110-H88	AC 24-60V / DC 24-80V	1-200	2.5-6.2
F110-H99	AC 40-13V	1-200	0.5-8
F110-H115	AC 40-13V	1-200	0.5-8
F110-H150	AC 40-13V	1-200	0.5-8
F110-H201	AC 40-13V	1-200	0.2-5.8
FHB364	DC 24-80V	1-200	2.5-6
FHB366	DC 24-80V	1-200	2.5-6
FHB368	DC 24-80V	1-200	2.5-6
FHB3610	DC 24-80V	1-200	2.5-6
FHB397	DC 24-80V	1-200	2.5-6
FHB3910	DC 24-80V	1-200	2.5-6
FHB3911	DC 24-80V	1-200	2.5-6
FHB3913	DC 24-80V	1-200	2.5-6
FHB3915	DC 24-80V	1-200	2.2-4.8
FHB397-H	AC 120-260V	1-200	2.2-4.8
FHB3910-H	AC 120-260V	1-200	2.2-4.8
FHB3913-H	AC 120-260V	1-200	2.2-4.8
FHB3915-H	AC 120-260V	1-200	1.3-7
FHB31112	AC 160-270V	1-200	1.3-7
FHB31115	AC 160-270V	1-200	1.3-7
FHB31118	AC 160-270V	1-200	1.3-7
FHB31122	AC 160-270V	1-200	1.3-7
FHB31315	AC 160-270V	1-200	1.3-7
FHB31318	AC 160-270V	1-200	1.3-7
FHB31322	AC 160-270V	1-200	1.3-7
FHB31325	AC 160-270V	1-200	1.3-7
FHB31321	AC 160-270V	1-200	1.3-7
两相F42C系列	DC 24-50V	1-200	0.8-4.5
两相F42闭环系列	AC 18-80V / DC 24-110V	1-200	0-6
两相F57闭环系列	AC 18-80V / DC 24-110V	1-200	0-6
两相F86闭环系列	AC 18-80V / DC 24-110V	1-200	0-6

两相高性能混合式步进电机				TWO PHASE STEPPING MOTORS		
步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Strength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.02mm (450g负载)	最大0.08mm (450g负载)

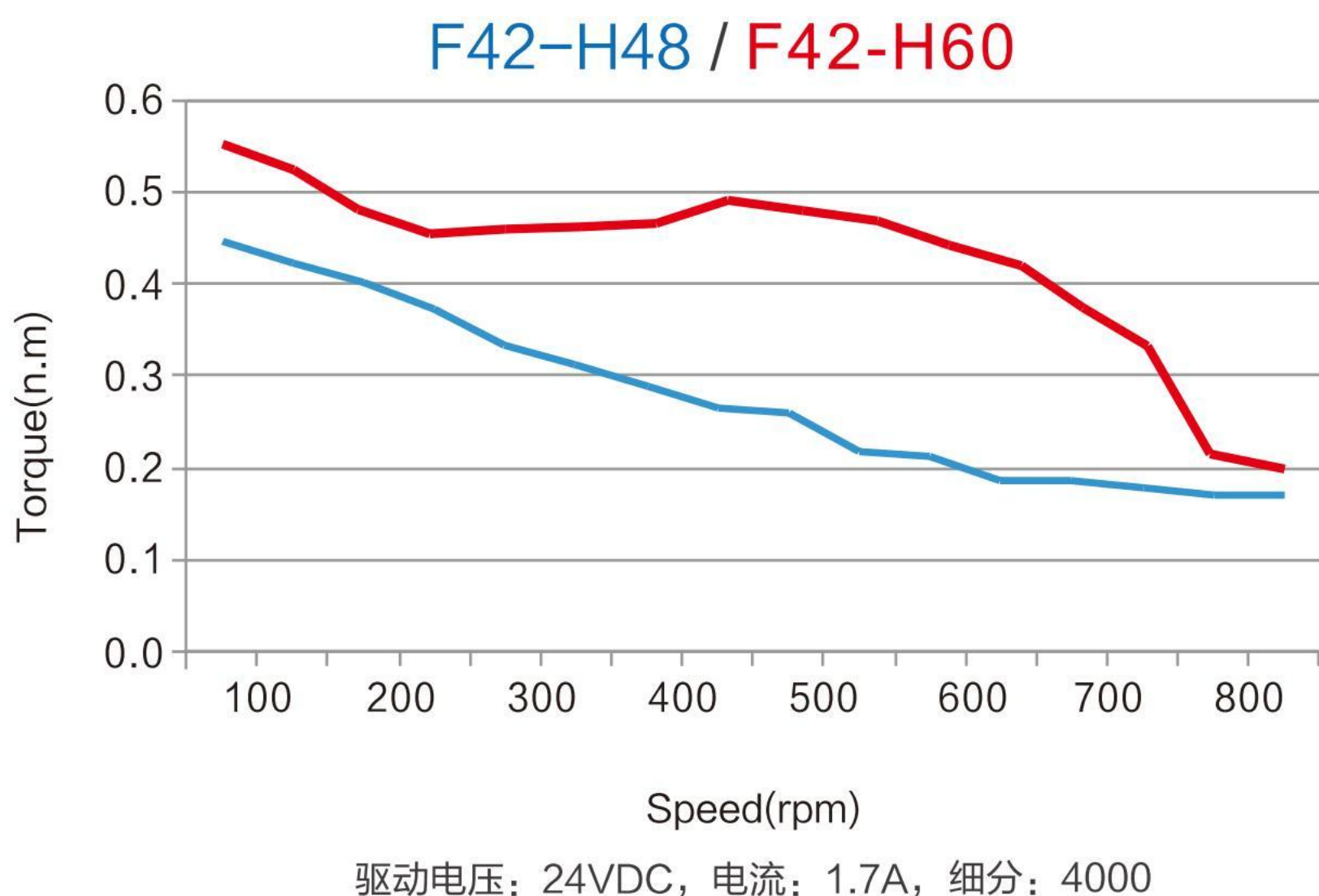
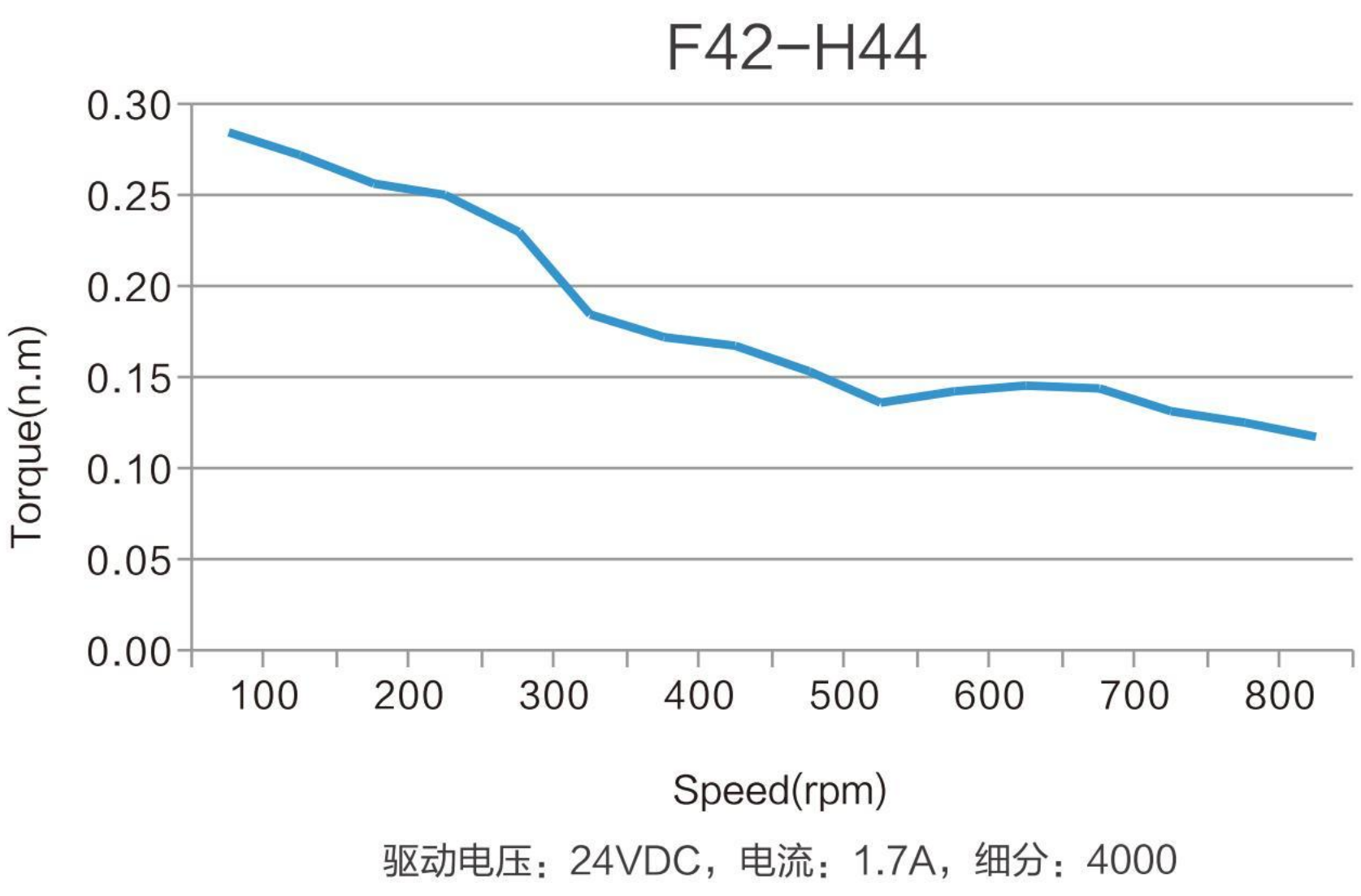
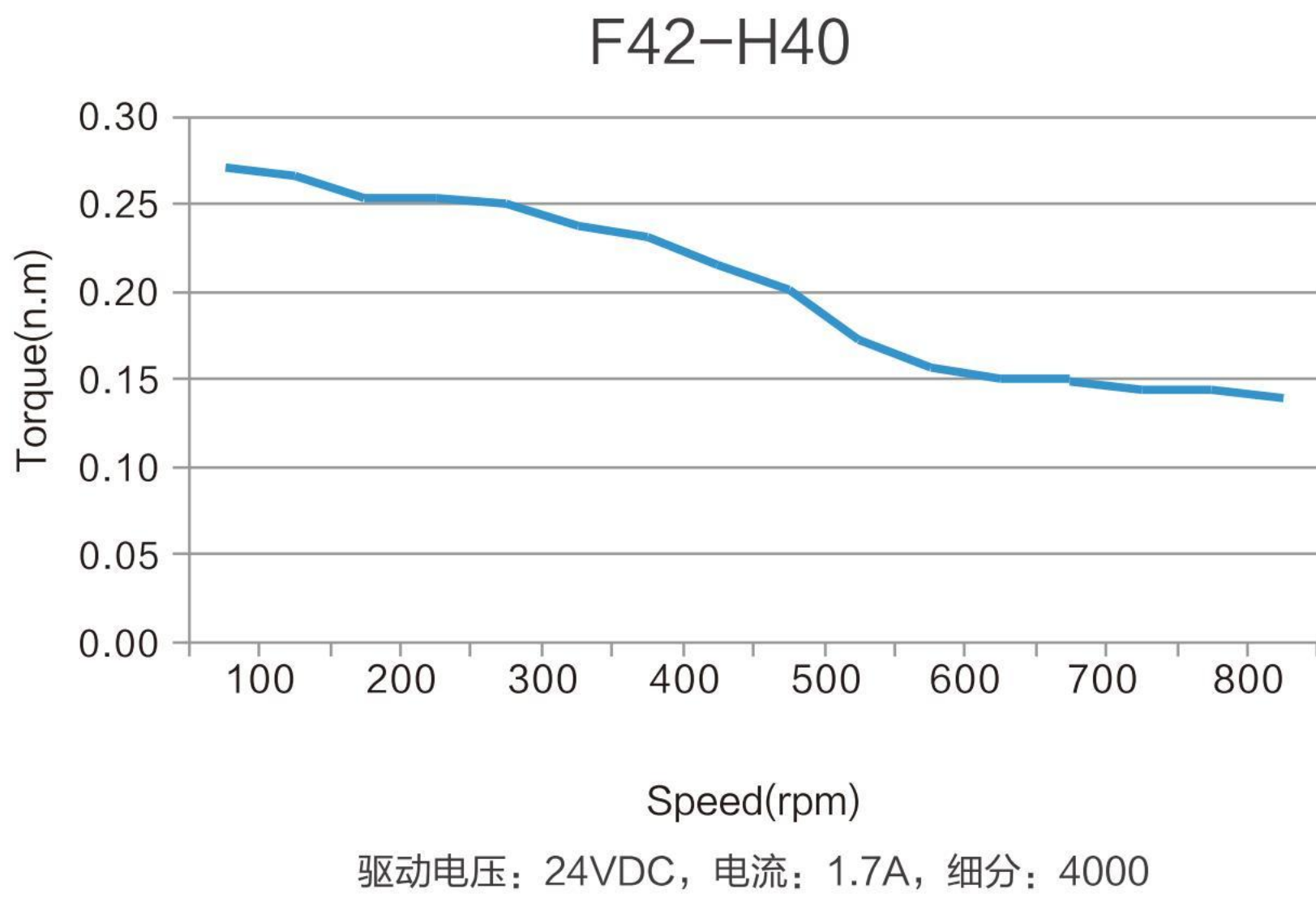
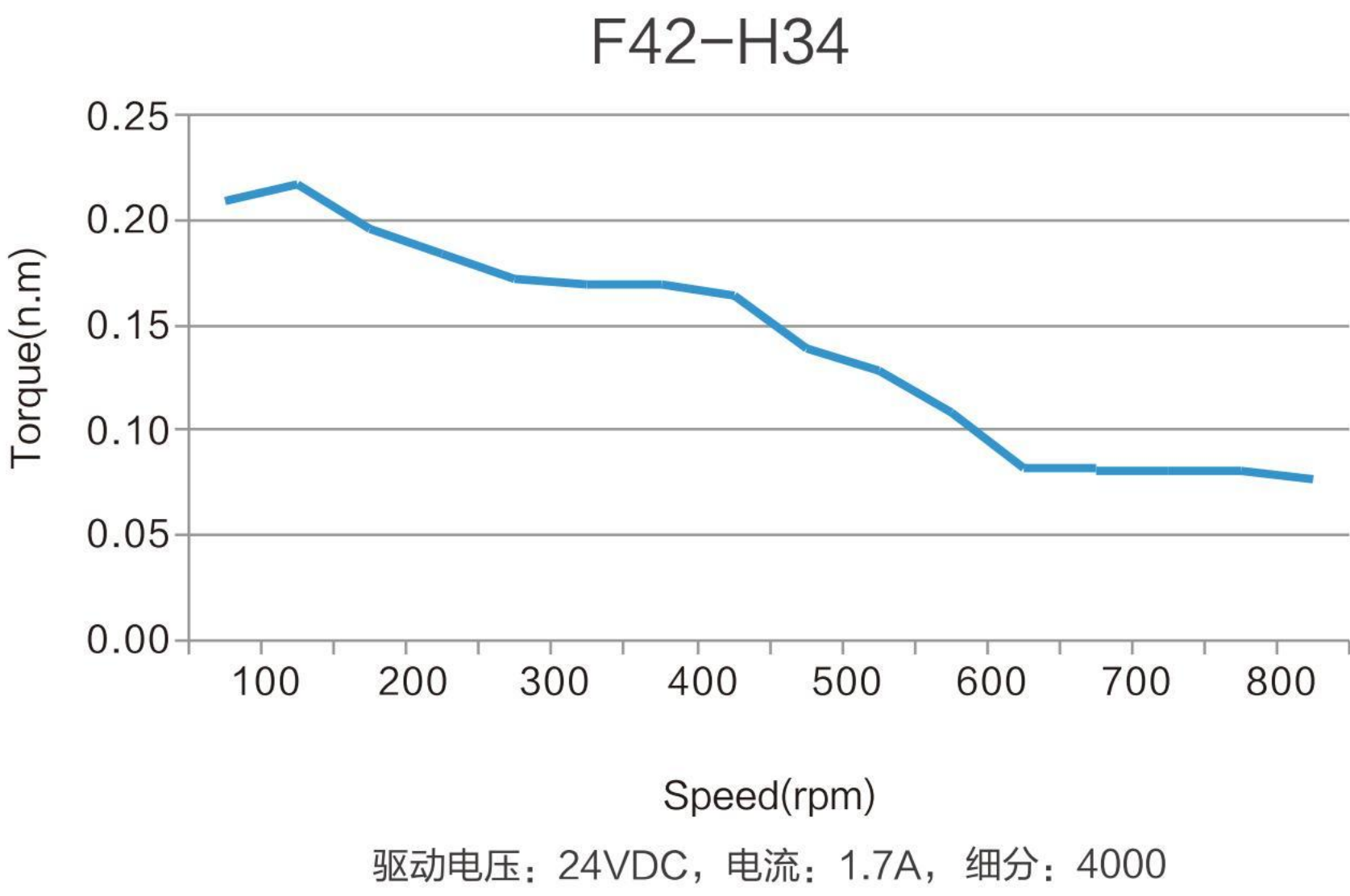
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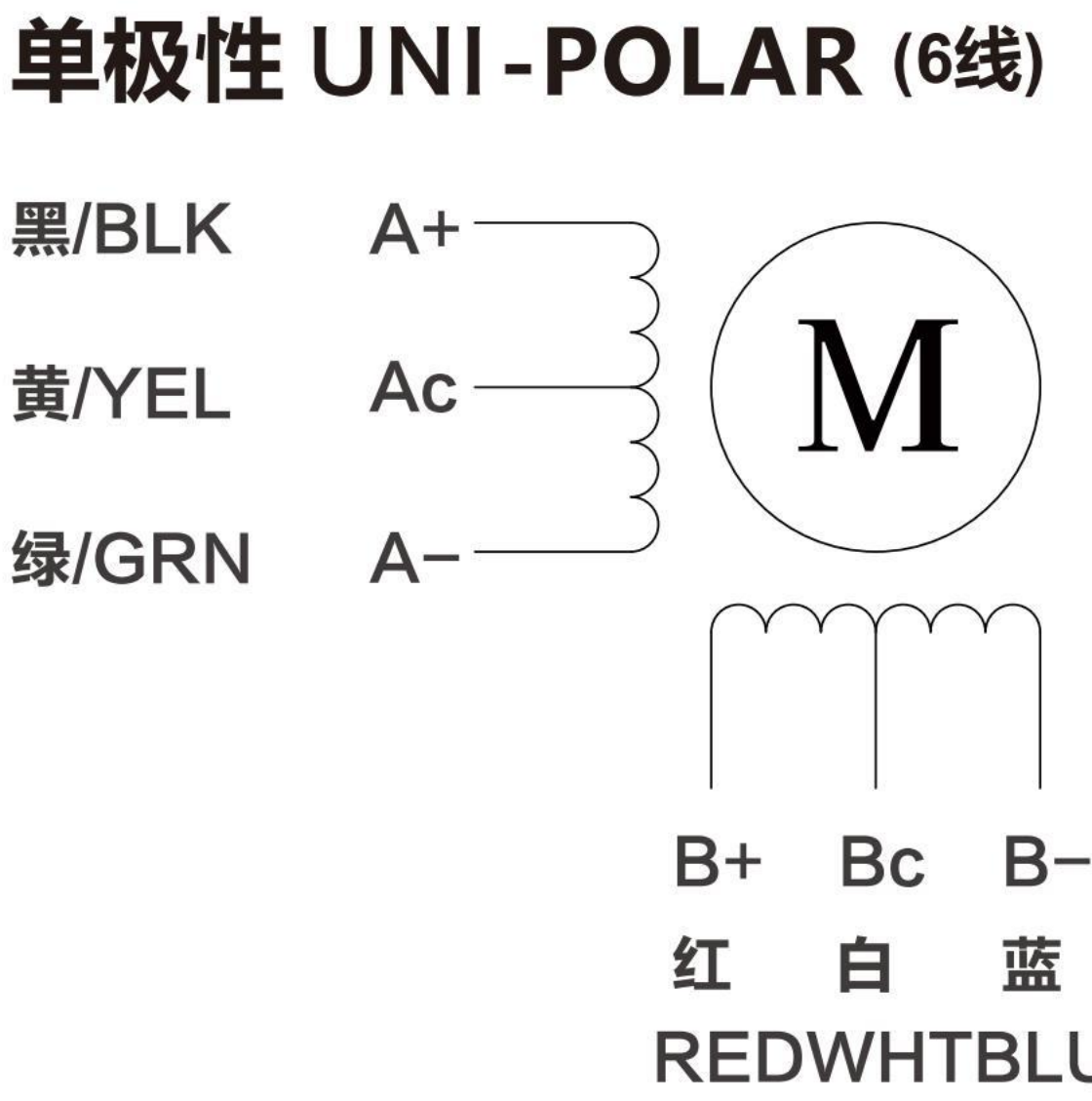
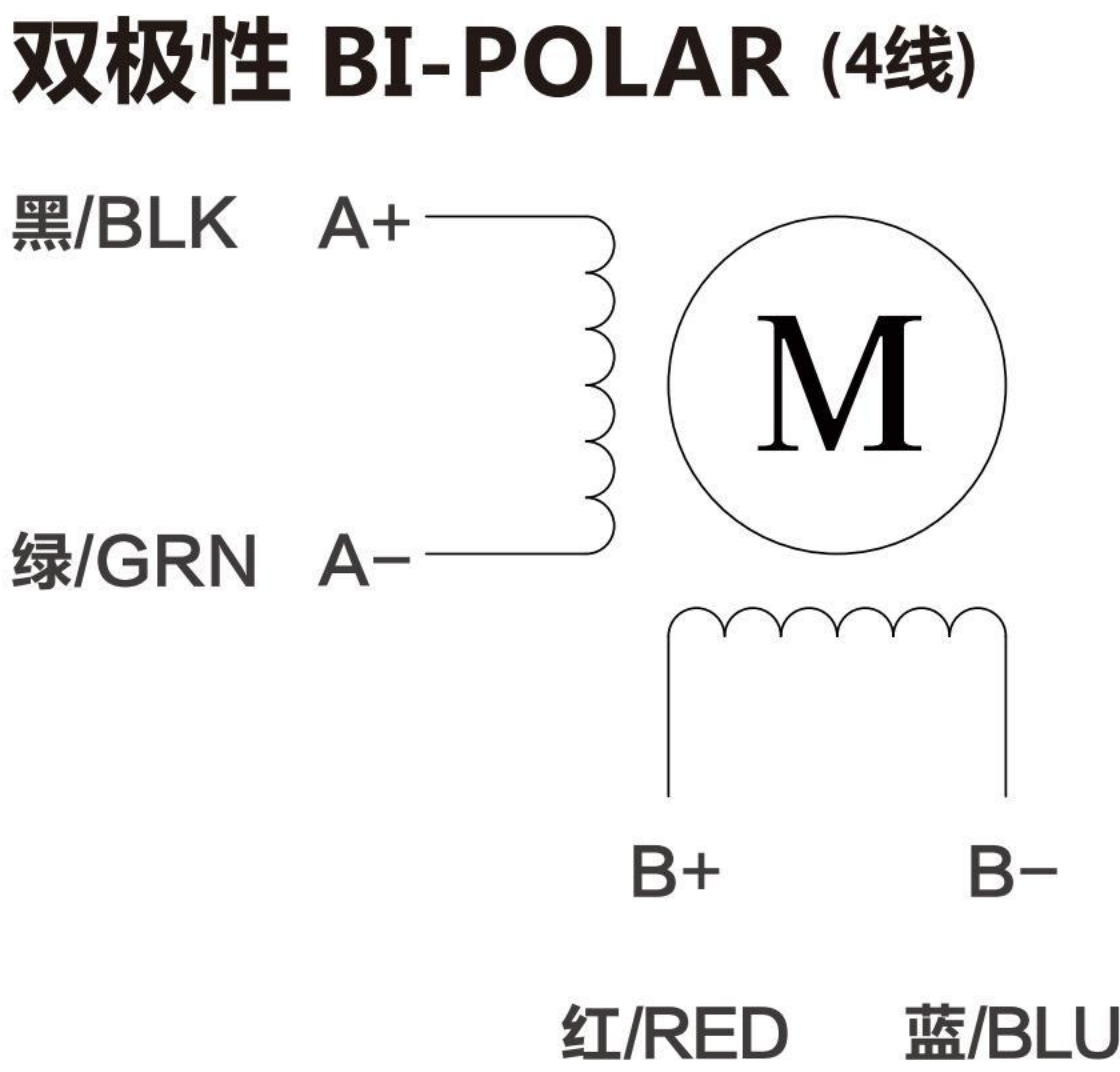
技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	电阻 Resistance (Ω)	电感 Inductance (mH)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (g)	引线数 Lead Wire (No.)
F42-H34	1.8	34	0.31	1.7	1.45	2.2	40	210	4
F42-H40	1.8	40	0.46	1.7	1.75	3	57	280	4
F42-H44	1.8	44	0.51	1.7	1.65	3.5	71	320	4
F42-H48	1.8	48	0.56	1.7	1.8	3.6	82	360	4
F42-H60	1.8	60	0.8	2.0	1.5	3.8	110	470	4

动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS



接线图 / WIRING DIAGRAM



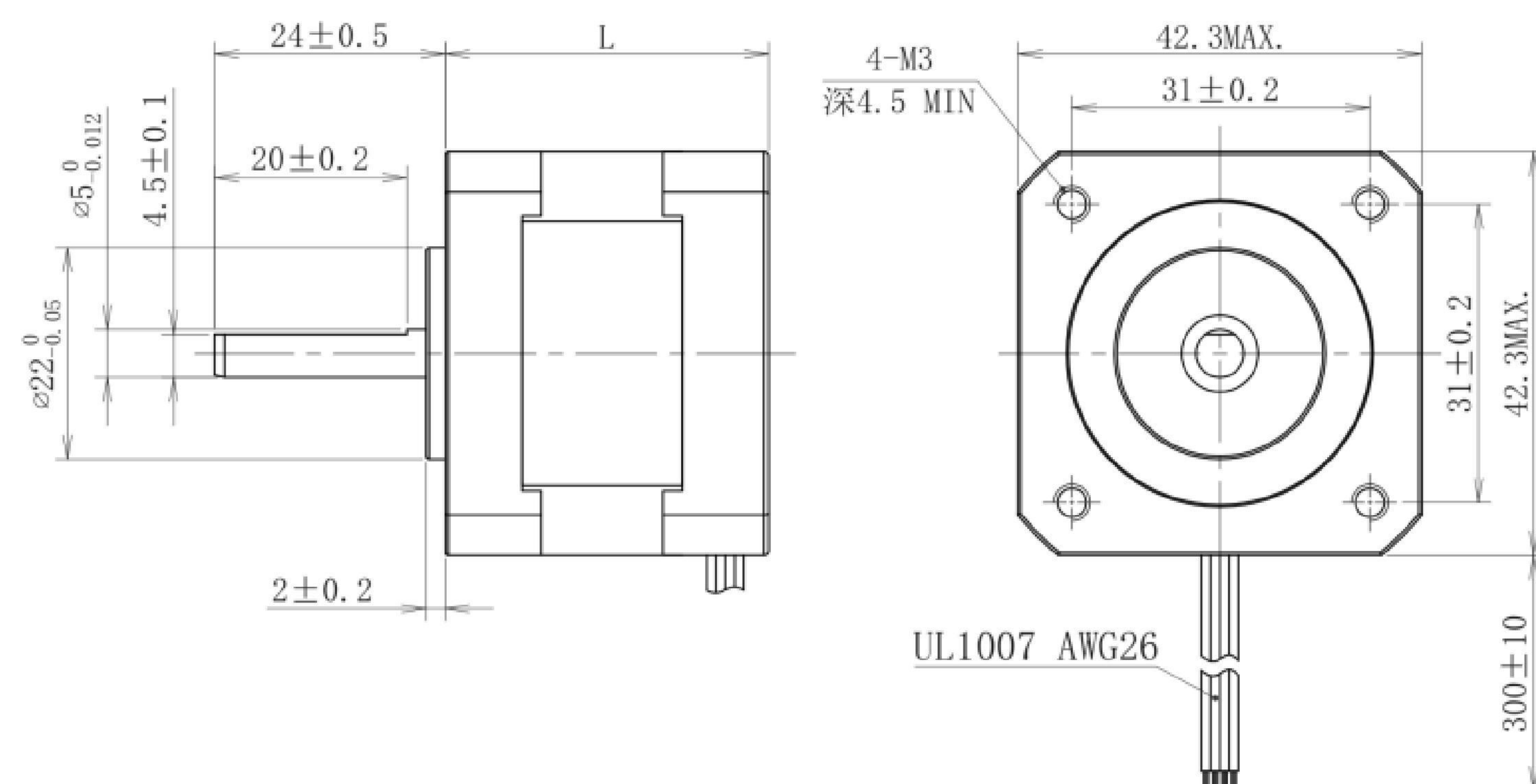
*注：以上仅为代表性产品，派生产品可根据客户要求制作
*Note: We can manufacture products according to customer's requirements

两相高性能混合式步进电机

TWO PHASE STEPPING MOTORS

步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Strength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.02mm (450g负载)	最大0.08mm (450g负载)

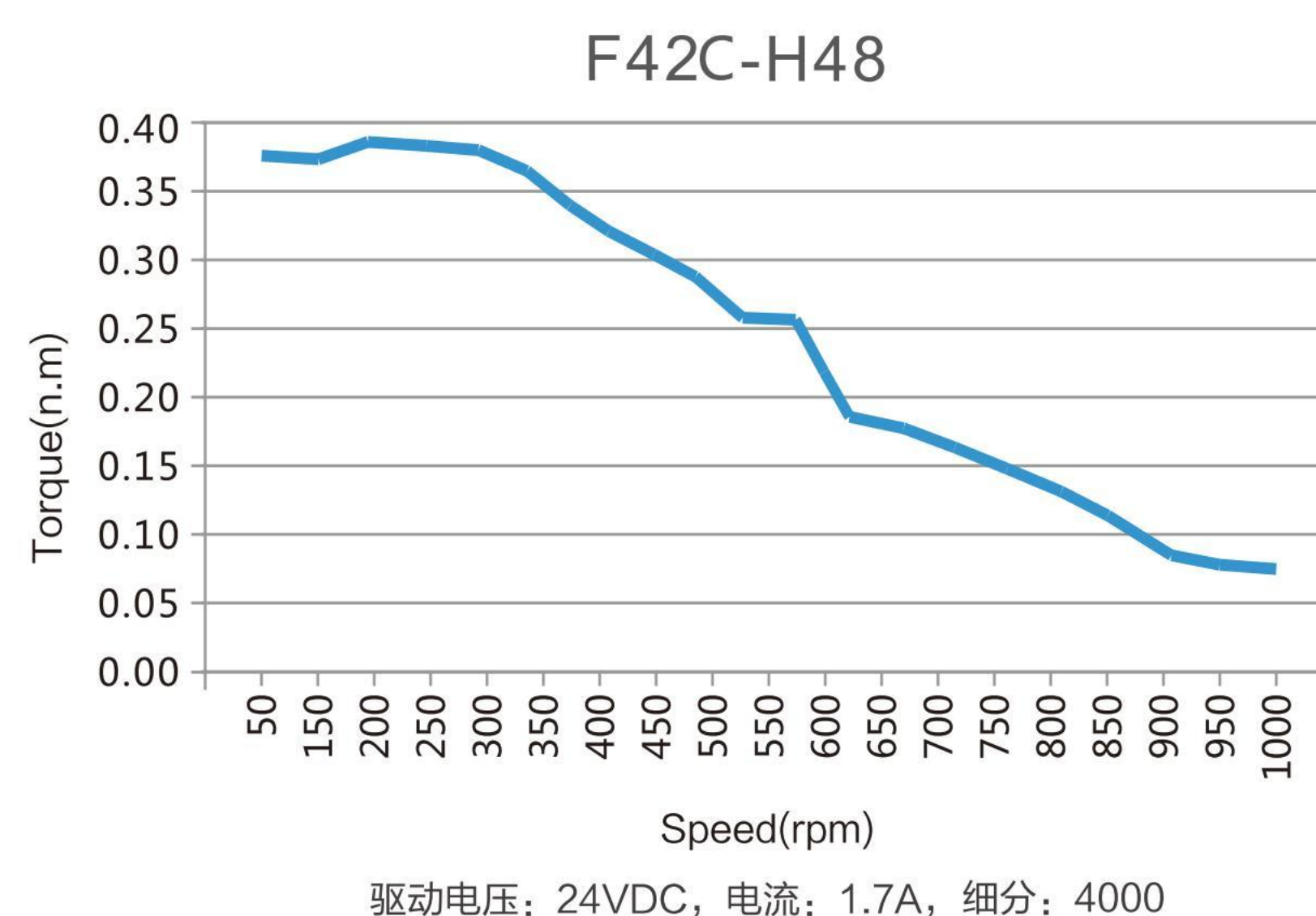
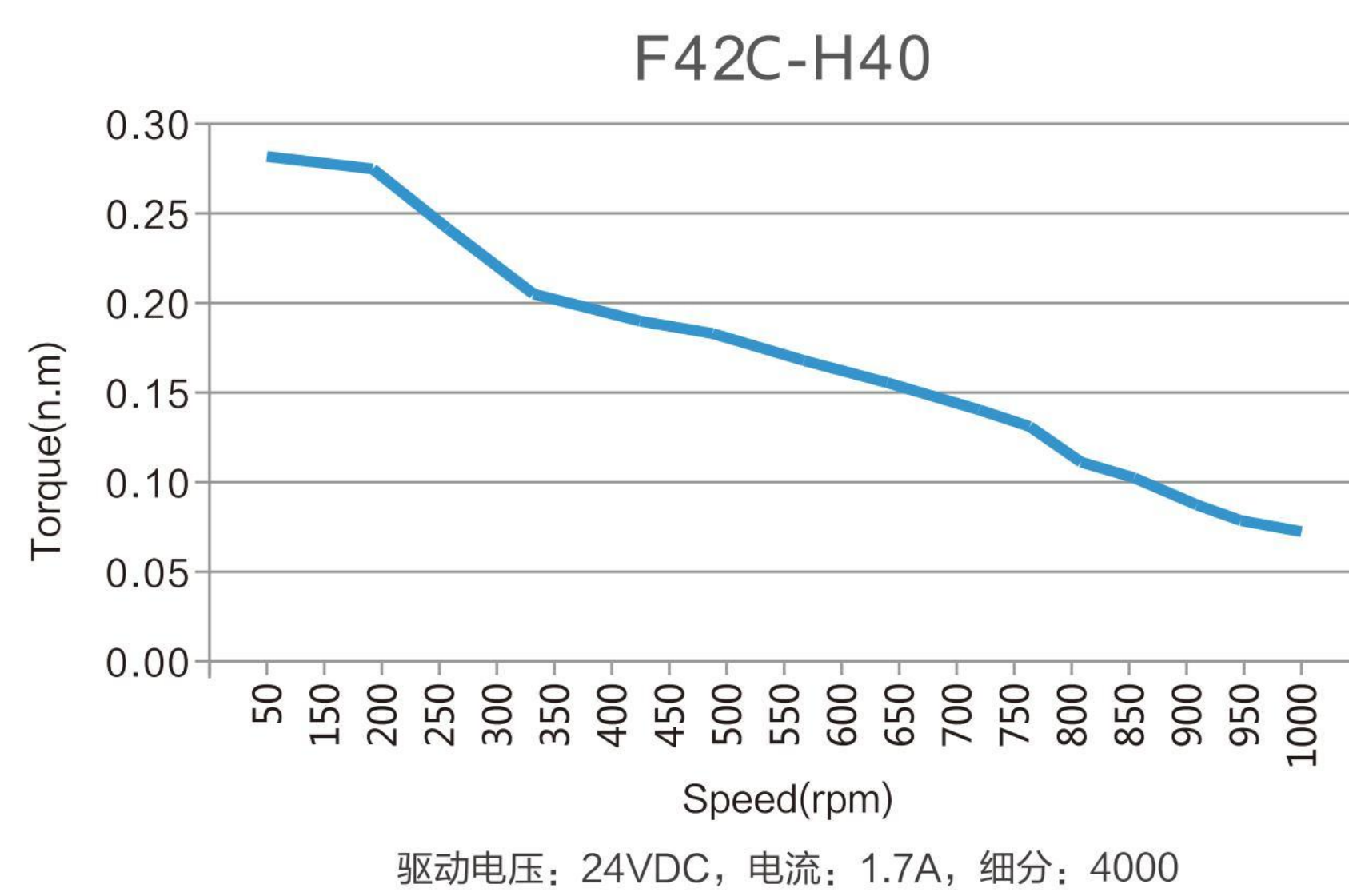
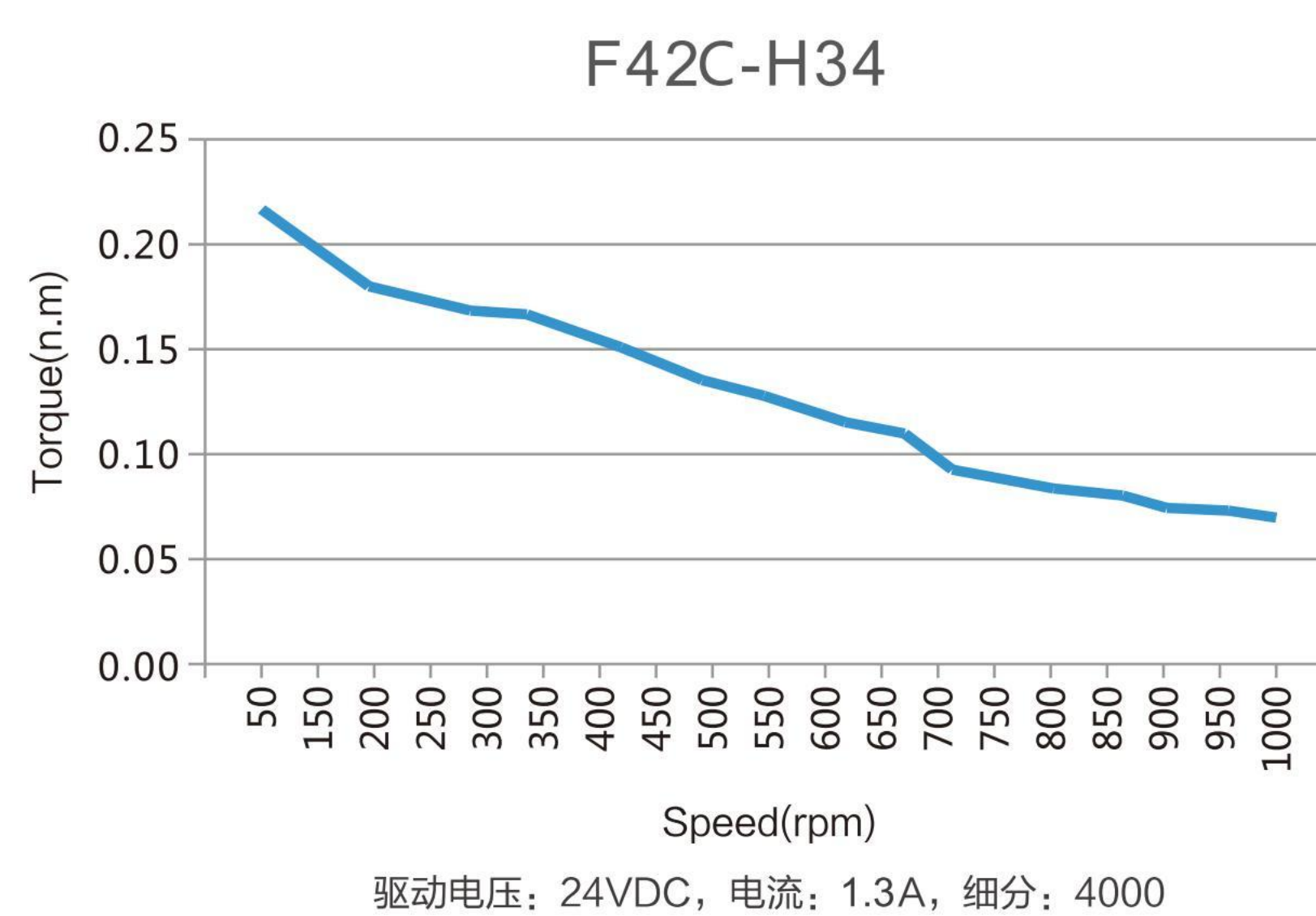
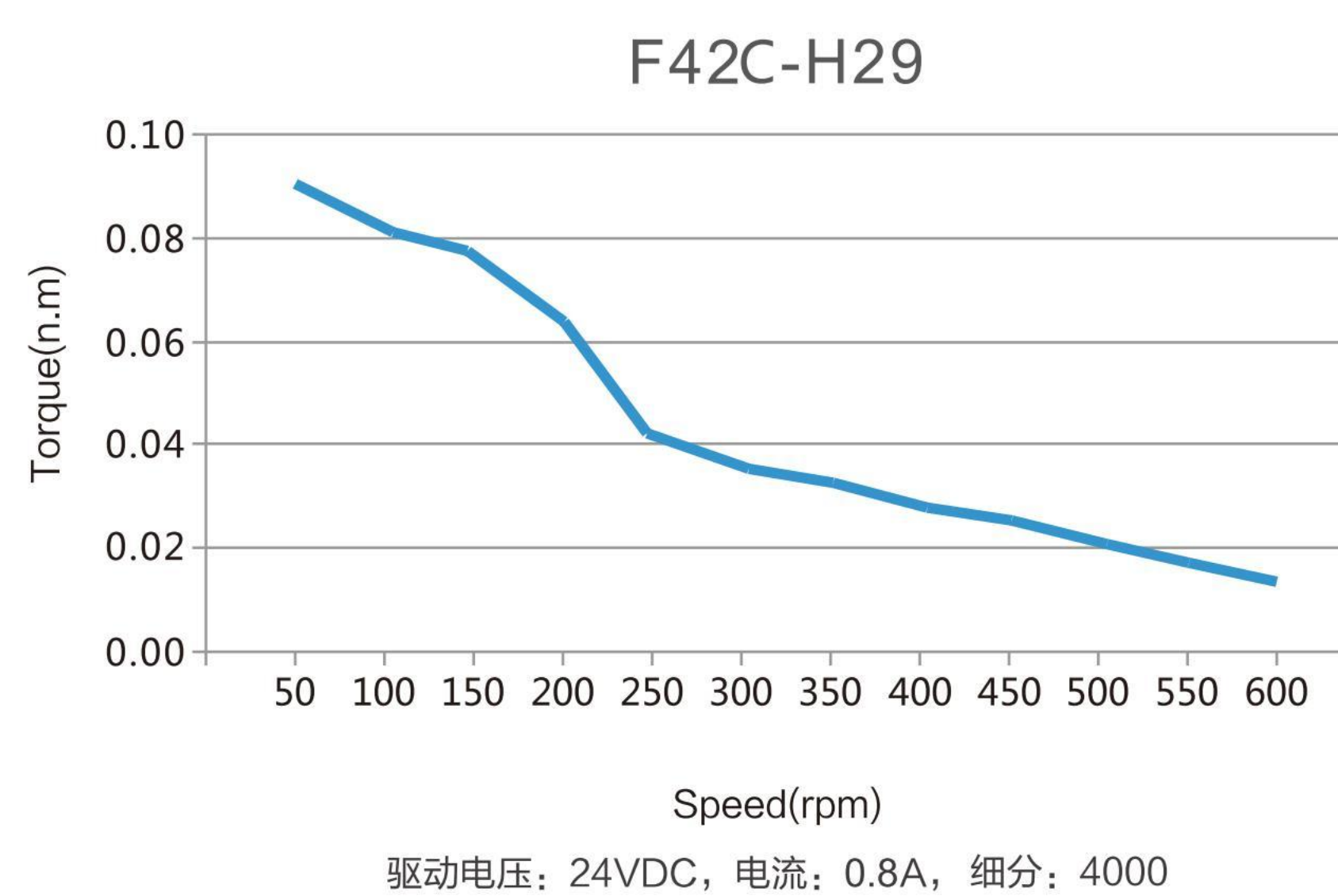
◎ 外形图 / DIMENSION:UNIT=mm



◎ 技术参数 / SPECIFICATIONS

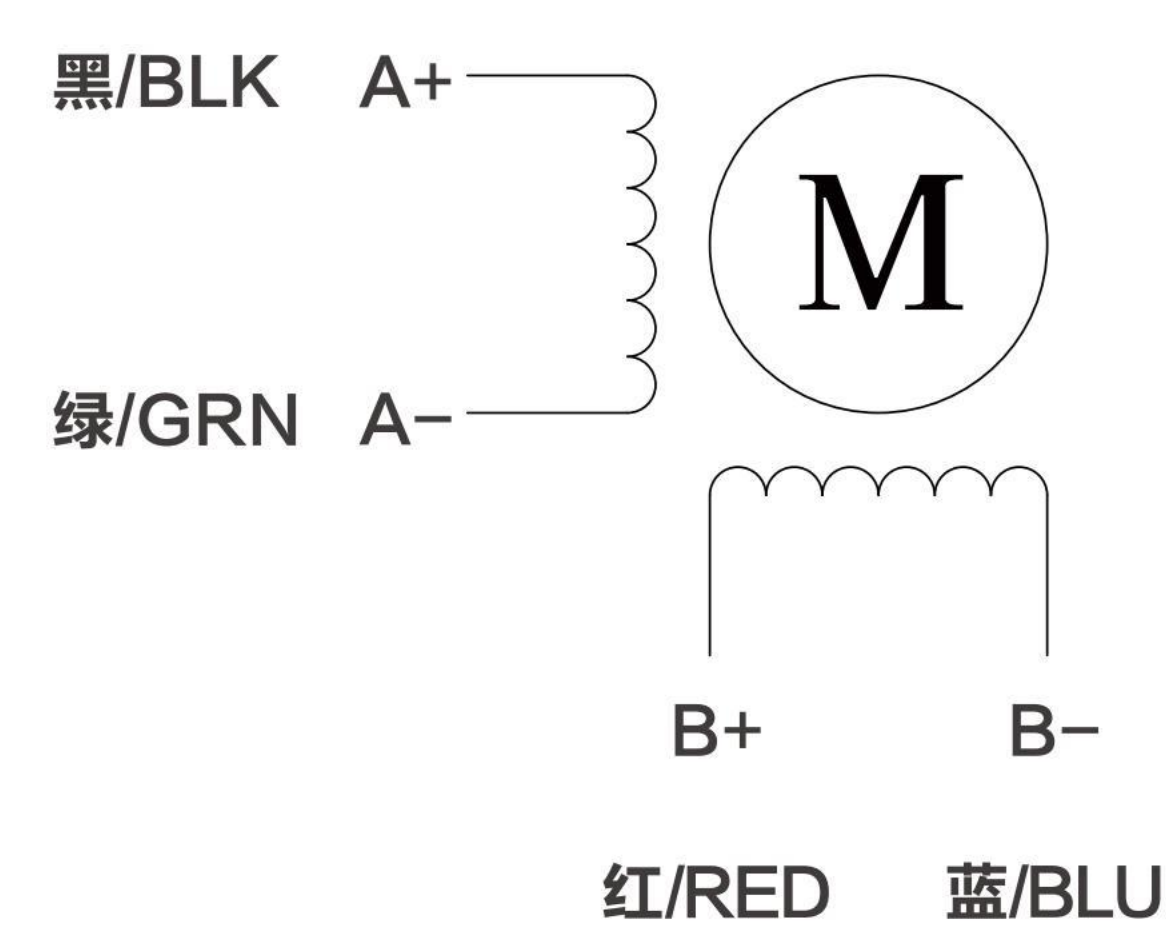
型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	电阻 Resistance (Ω)	电感 Inductance (mH)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (g)	引线数 Lead Wire (No.)
F42C-H29	0.9	29	0.11	0.8	2.3	3.2	25	170	4
F42C-H34	0.9	34	0.24	1.3	2.5	5.7	40	210	4
F42C-H40	0.9	40	0.33	1.7	2.3	5.0	57	280	4
F42C-H48	0.9	48	0.45	1.7	1.9	5.4	82	360	4

◎ 动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS

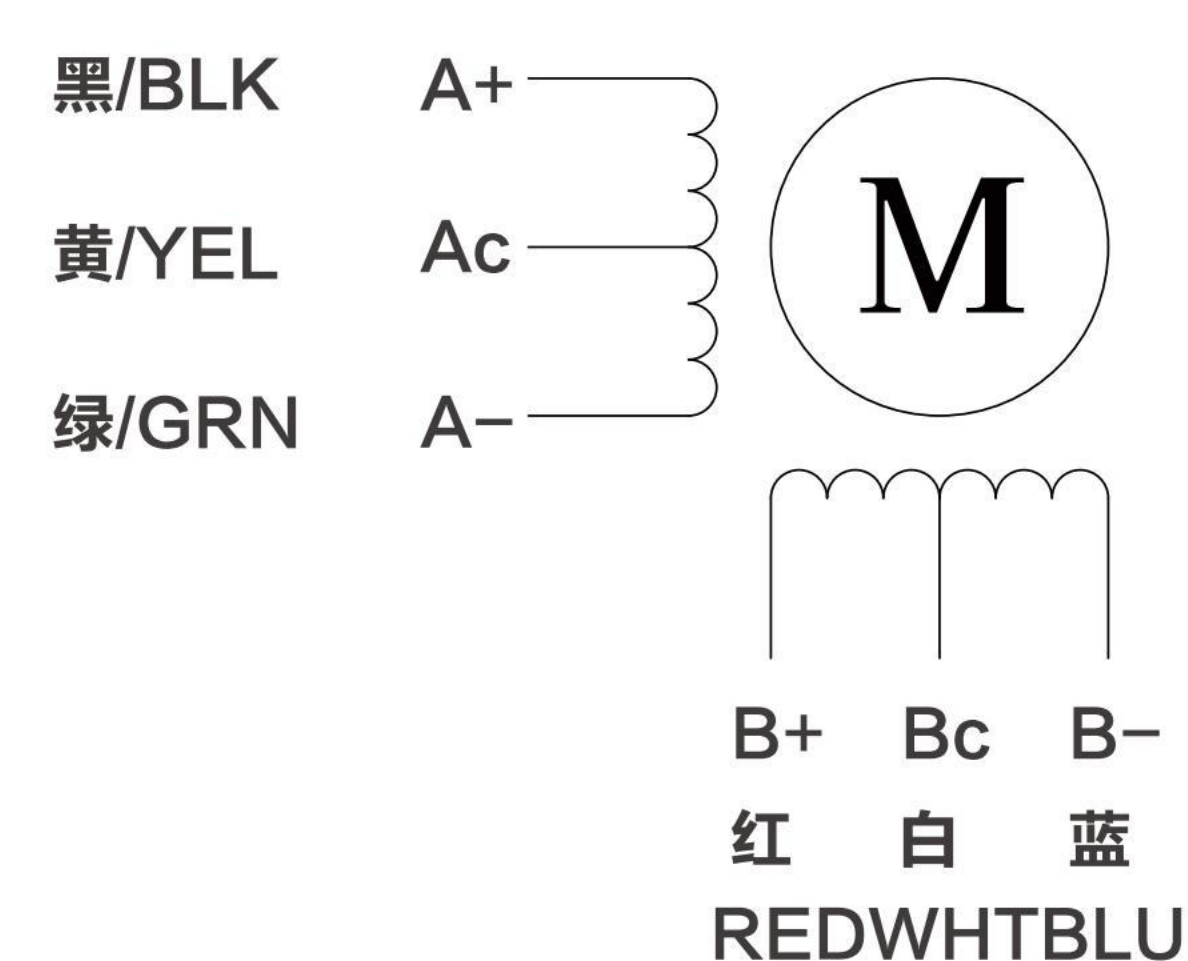


⊙ 接线图 / WIRING DIAGRAM

双极性 BI-POLAR (4线)



单极性 UNI-POLAR (6线)



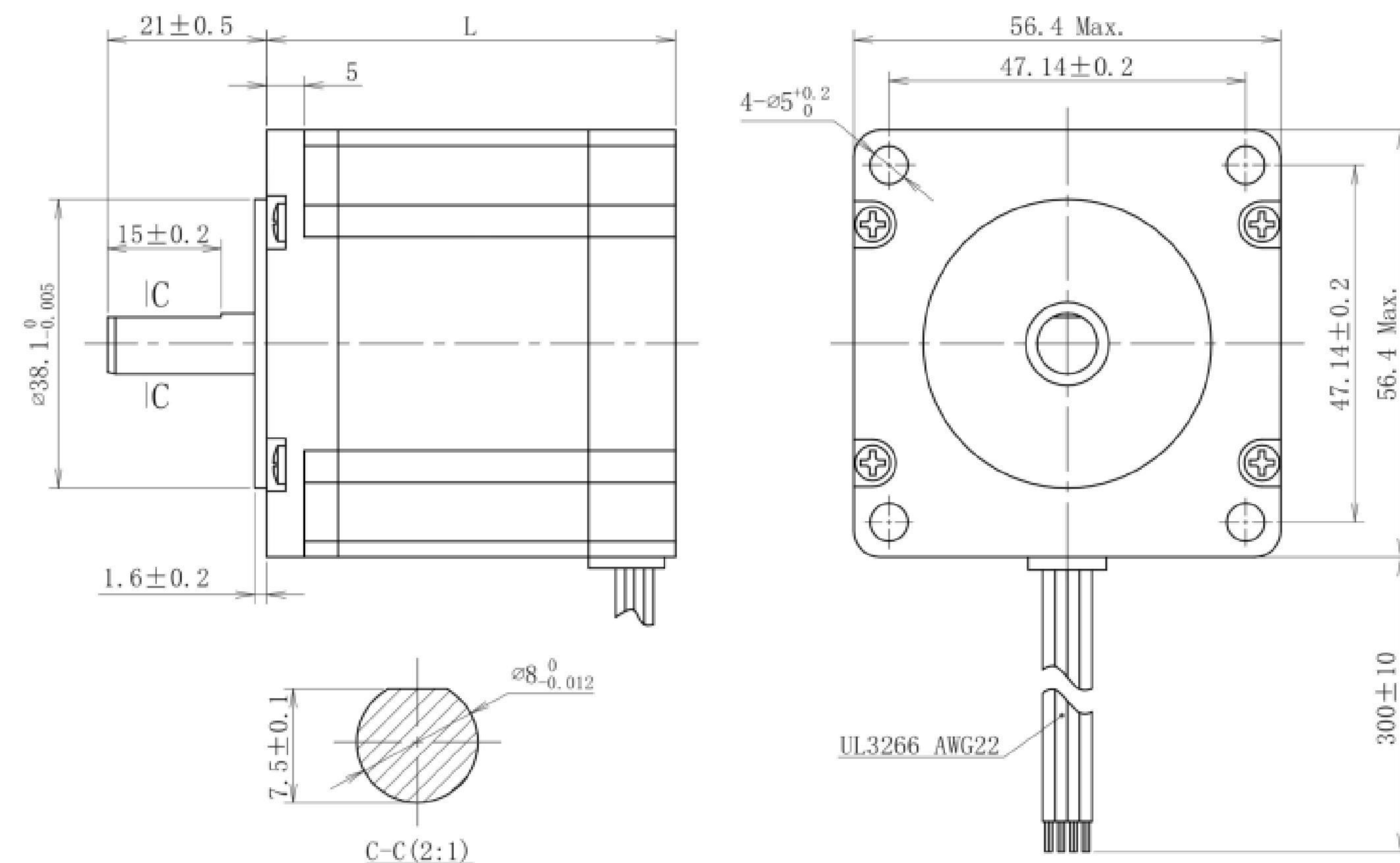
*Note:We can manufacture products according to customer's requirements

两相高性能混合式步进电机

TWO PHASE STEPPING MOTORS

步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Strength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.02mm (450g负载)	最大0.08mm (450g负载)

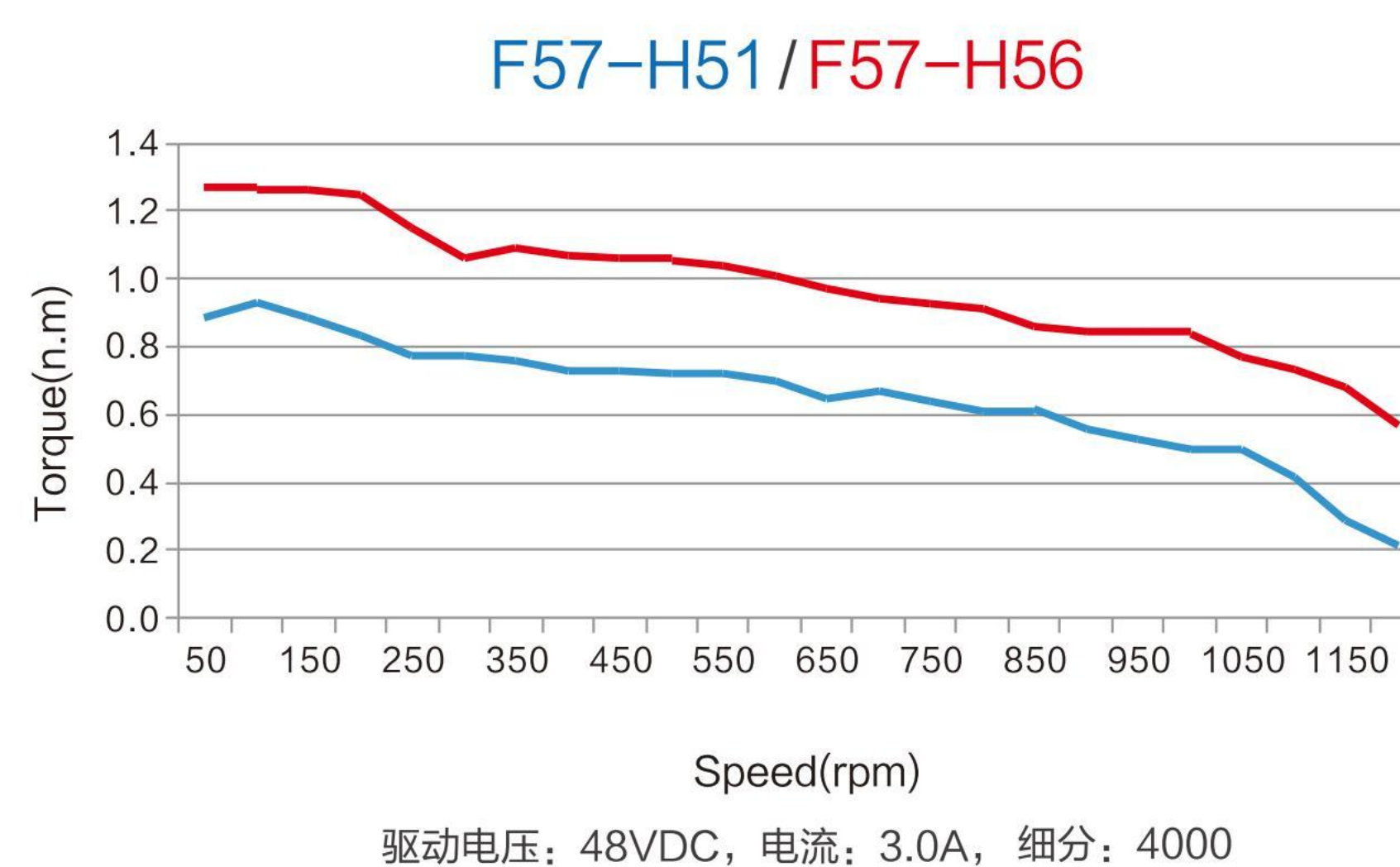
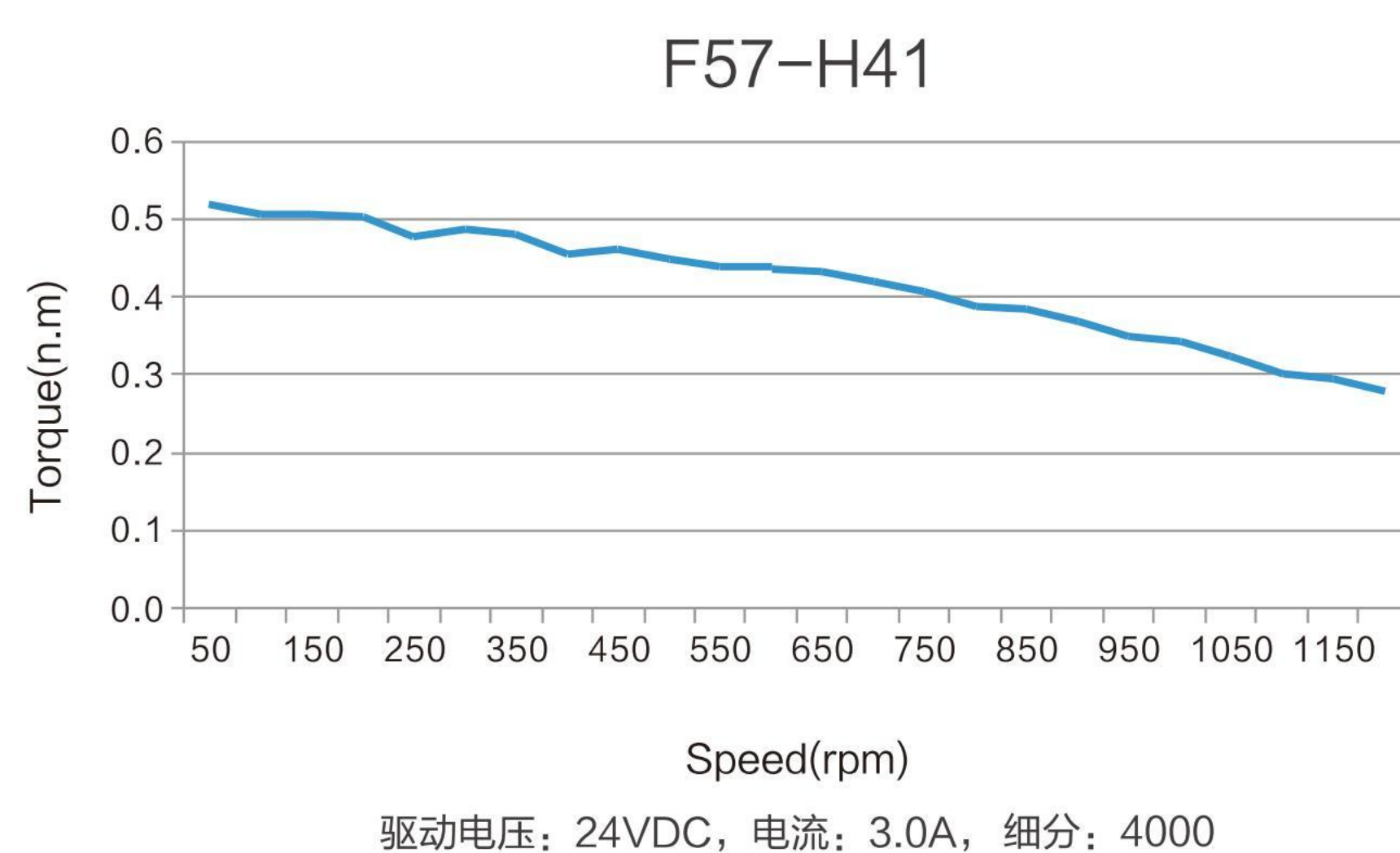
◎ 外形图 / DIMENSION:UNIT=mm



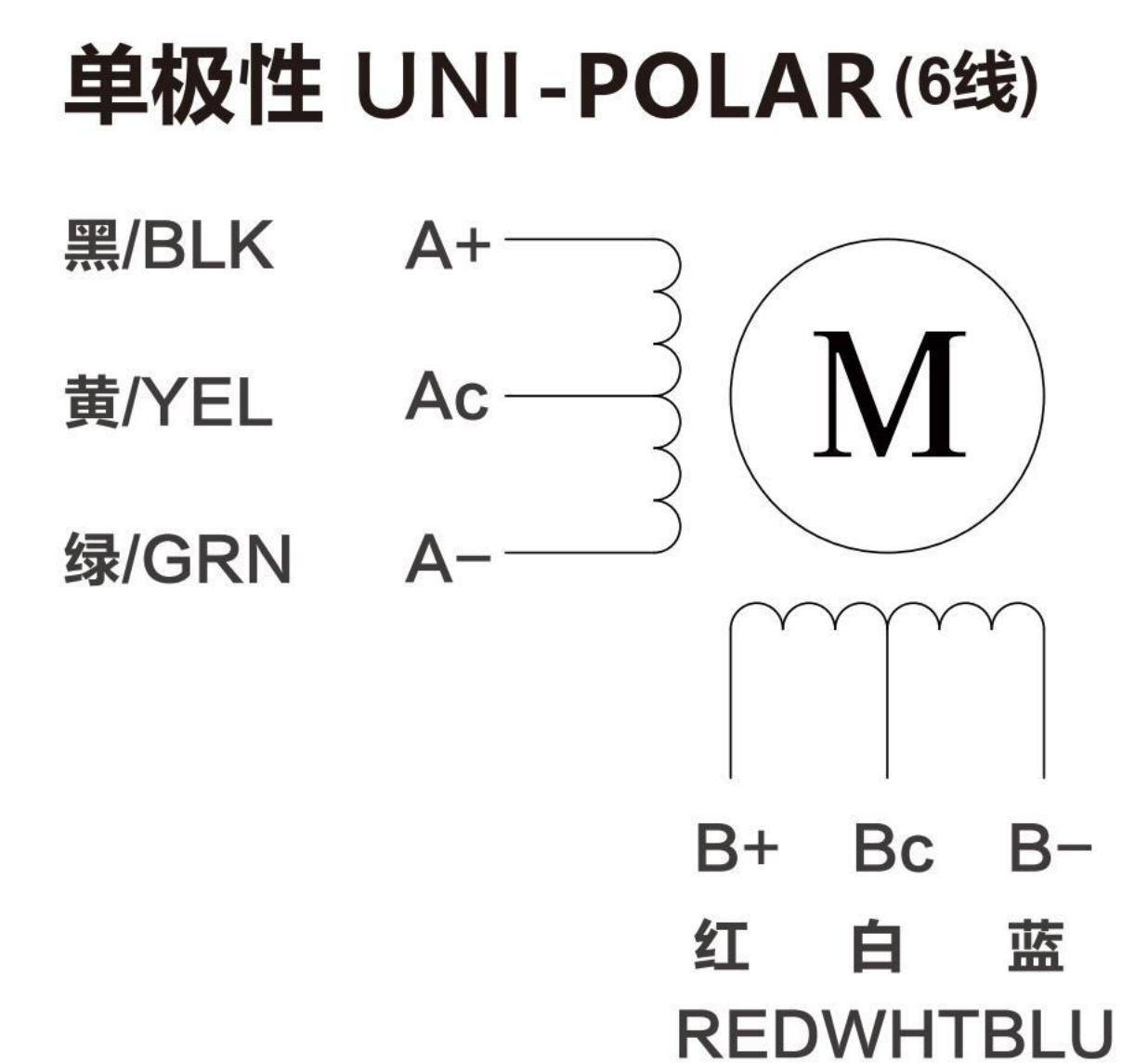
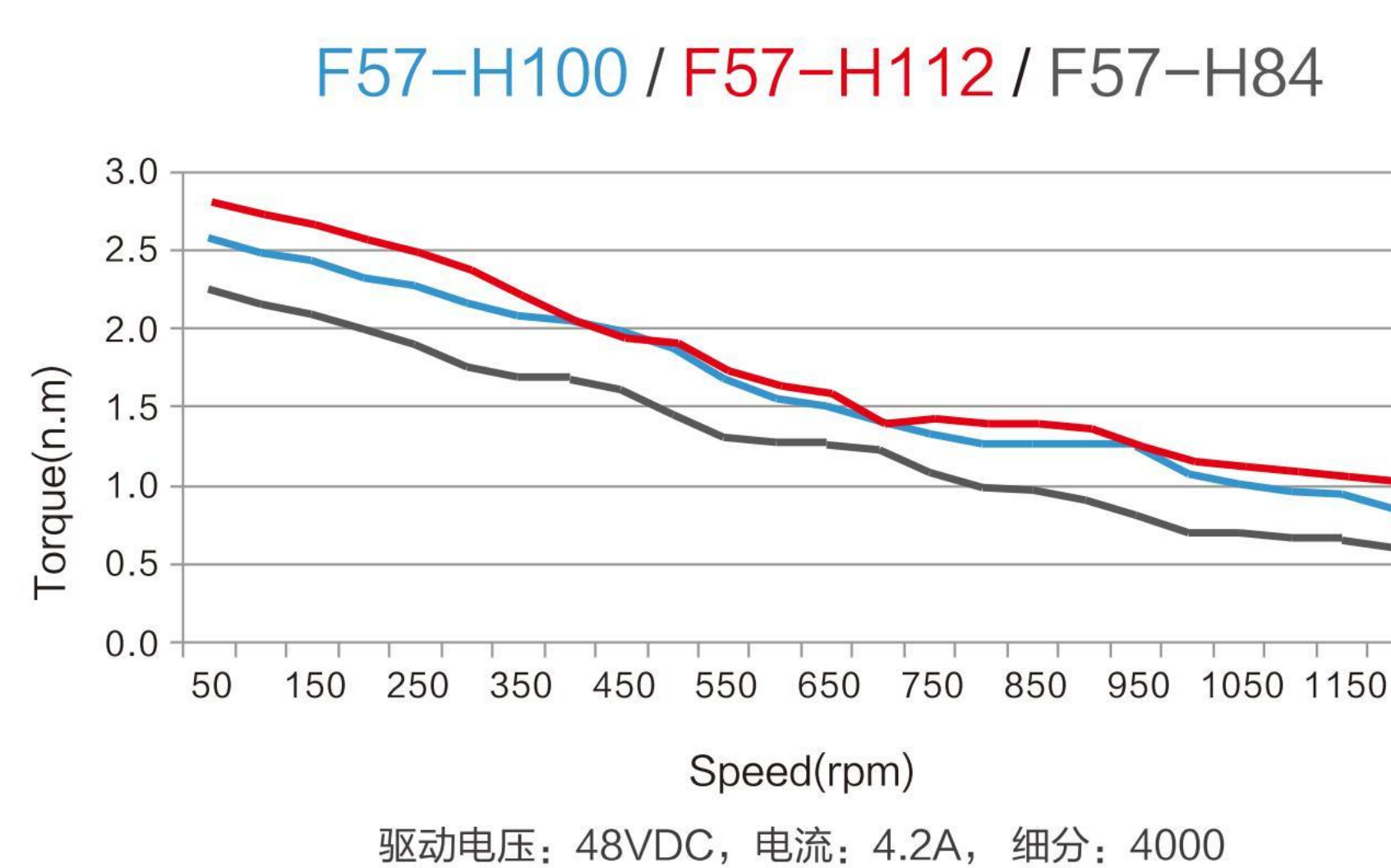
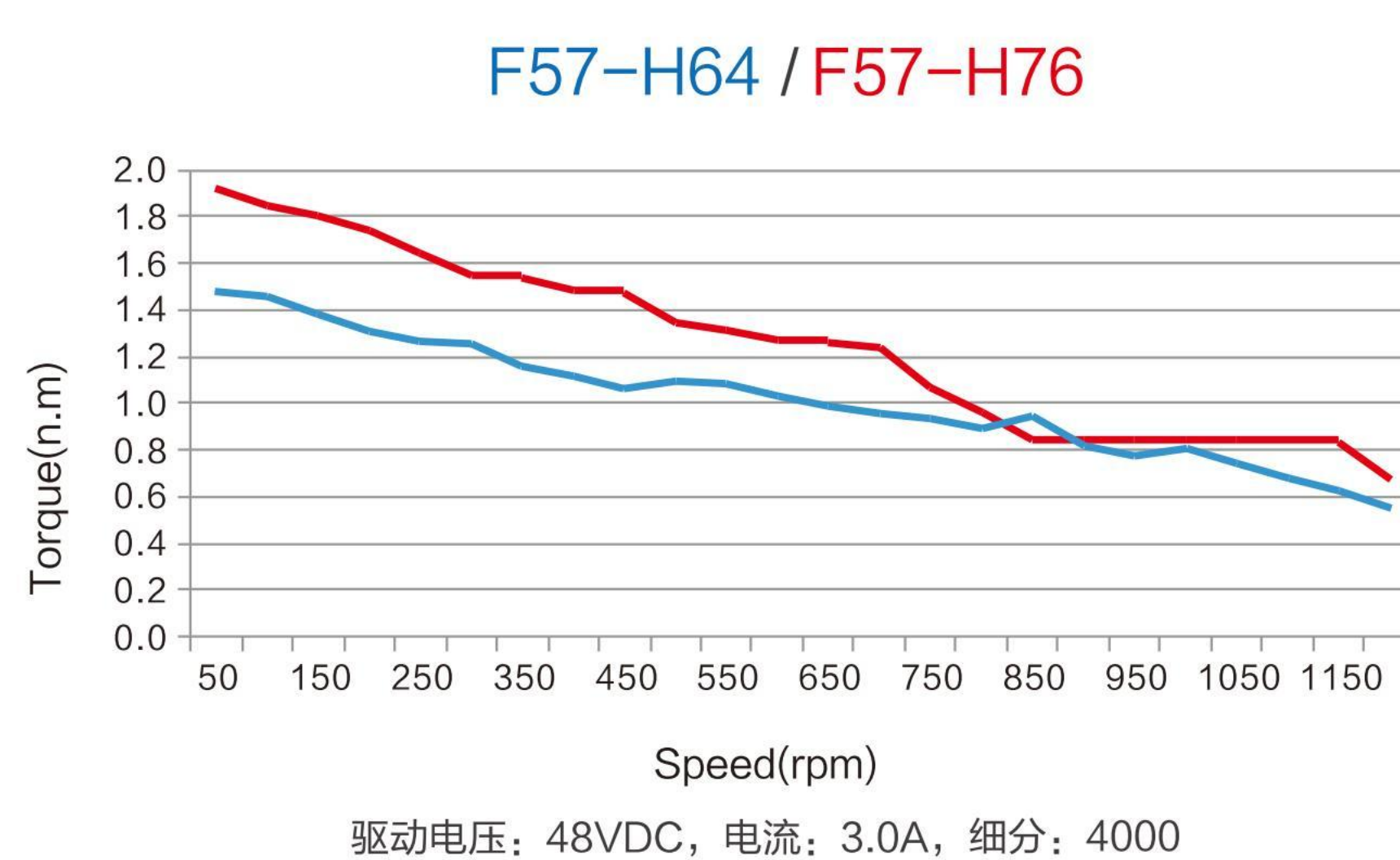
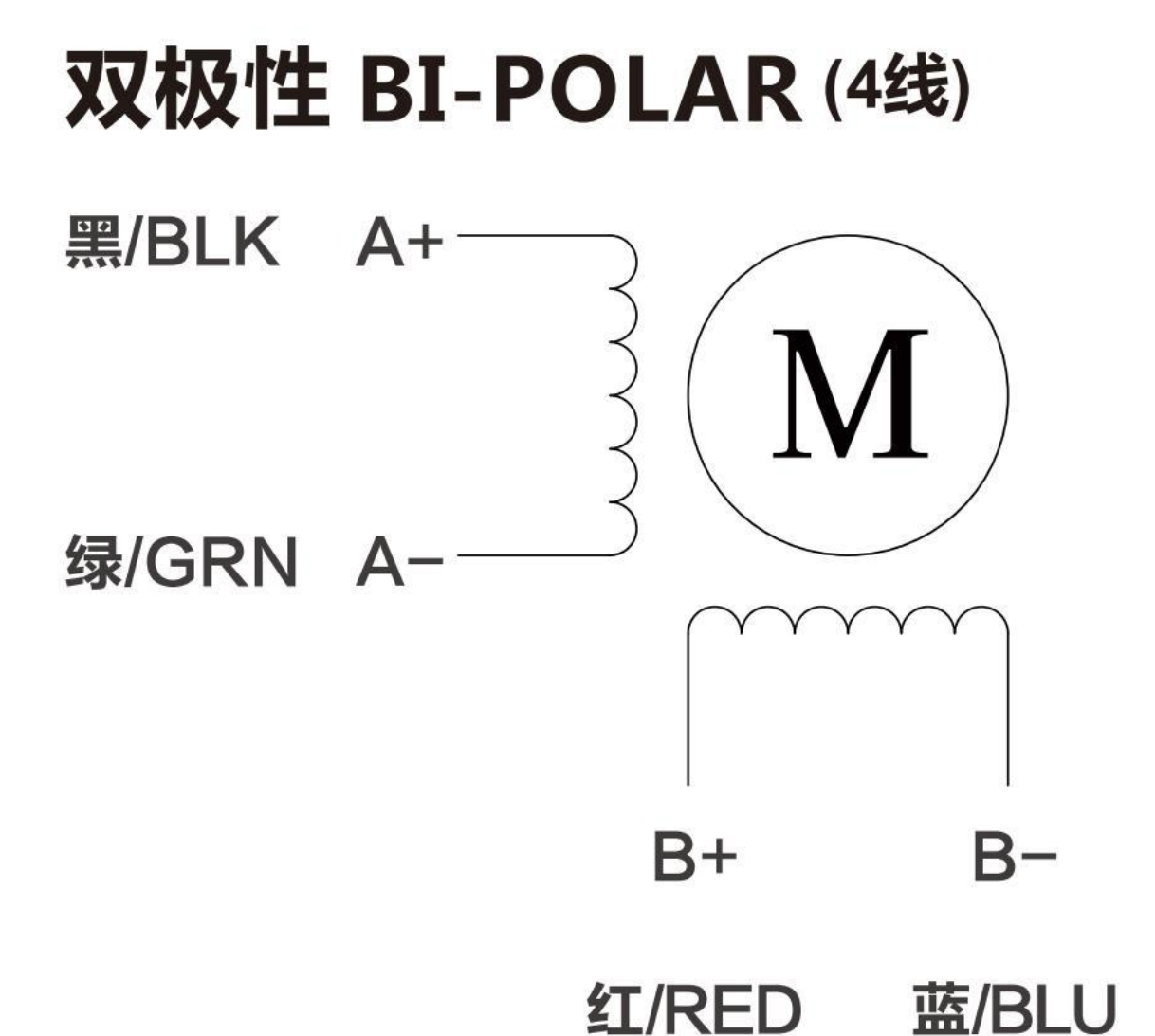
◎ 技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	电阻 Resistance (Ω)	电感 Inductance (mH)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (kg)	引线数 Lead Wire (No.)
F57-H41	1.8	41	0.5	3	0.51	1.1	130	0.46	4
F57-H51	1.8	51	1.0	3	0.65	1.9	240	0.52	4
F57-H56	1.8	56	1.1	3	0.71	2.4	280	0.68	4
F57-H64	1.8	64	1.4	3	0.84	3.2	340	0.85	4
F57-H76	1.8	76	1.9	3	1.00	3.2	470	1.01	4
F57-H84	1.8	84	2.2	4.2	0.6	2.5	510	1.06	4
F57-H100	1.8	100	2.5	4.2	0.85	2.6	680	1.20	4
F57-H112	1.8	112	2.8	4.2	0.85	3.1	800	1.40	4

◎ 动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS



⊙ 接线图 / WIRING DIAGRAM



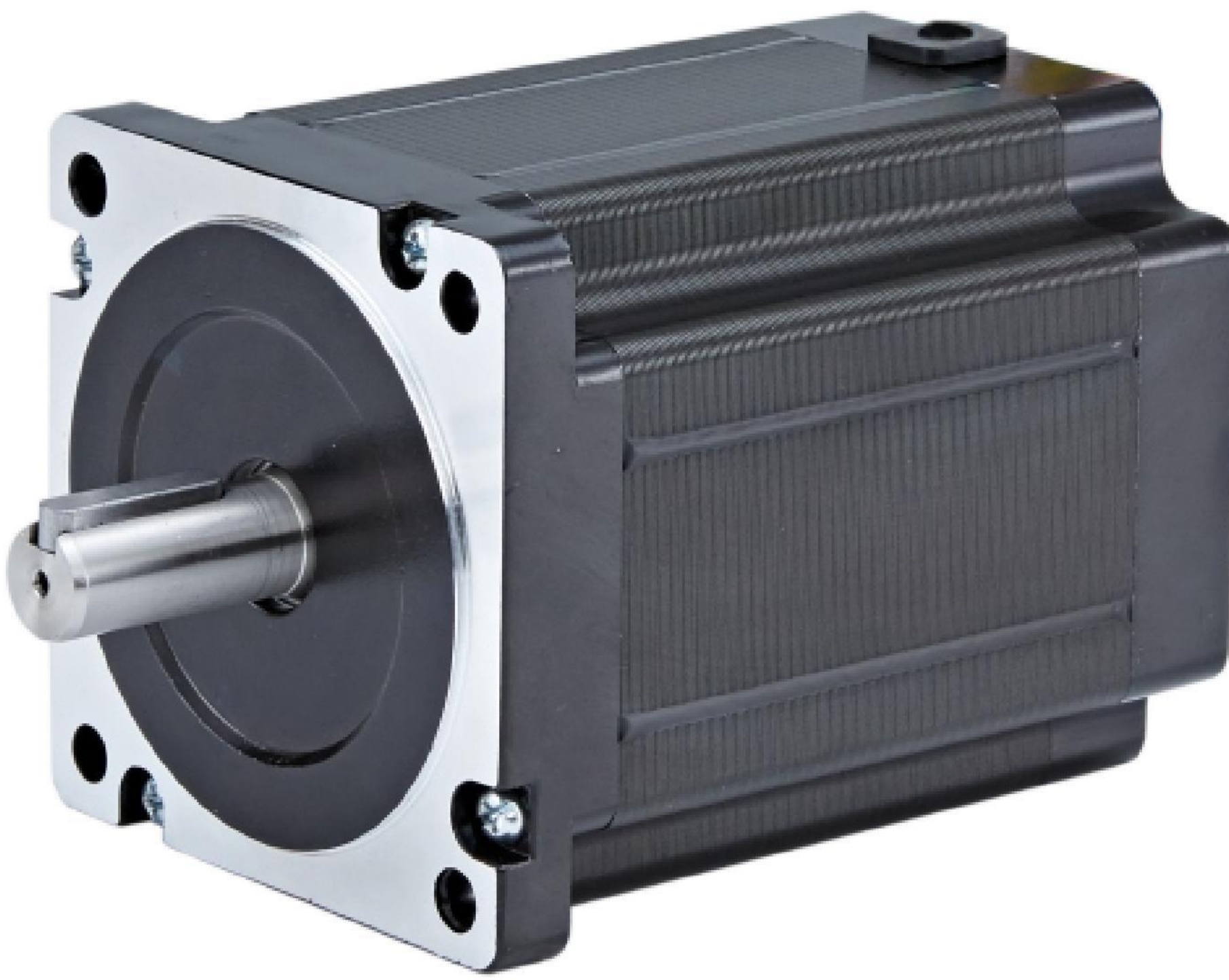
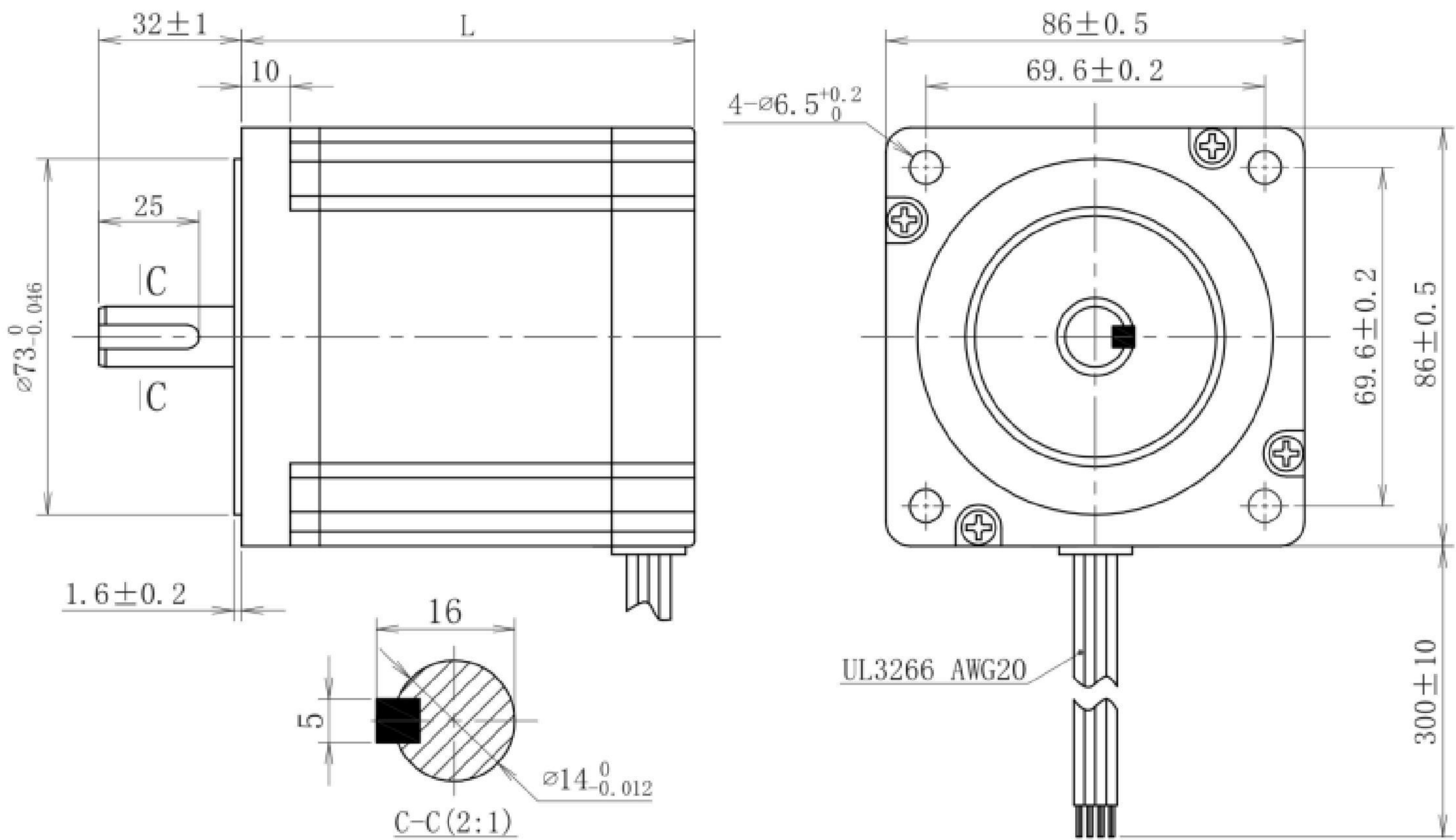
*Note:We can manufacture products according to customer's requirements

两相高性能混合式步进电机

TWO PHASE STEPPING MOTORS

步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Srength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.02mm (450g负载)	最大0.08mm (450g负载)

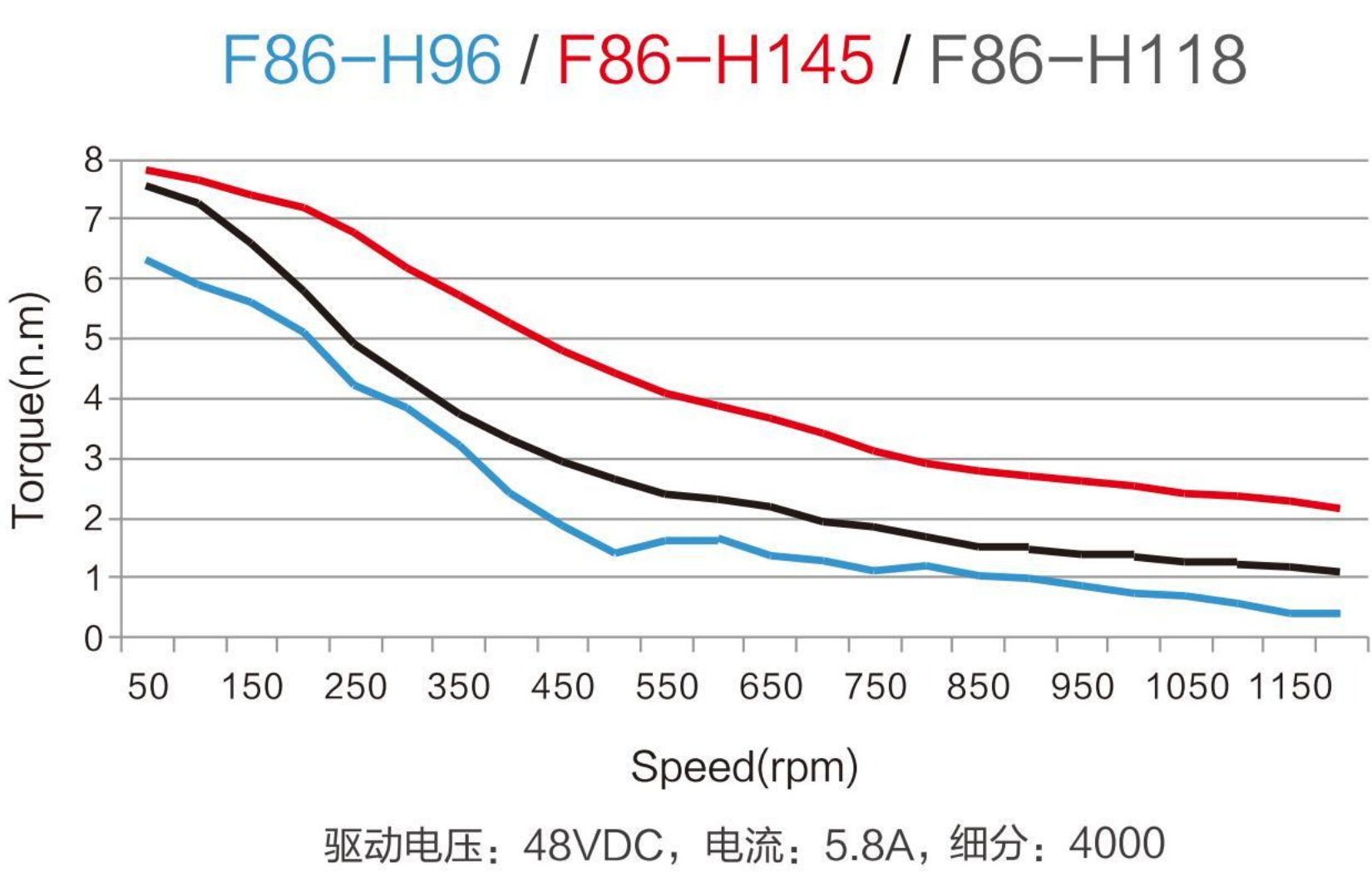
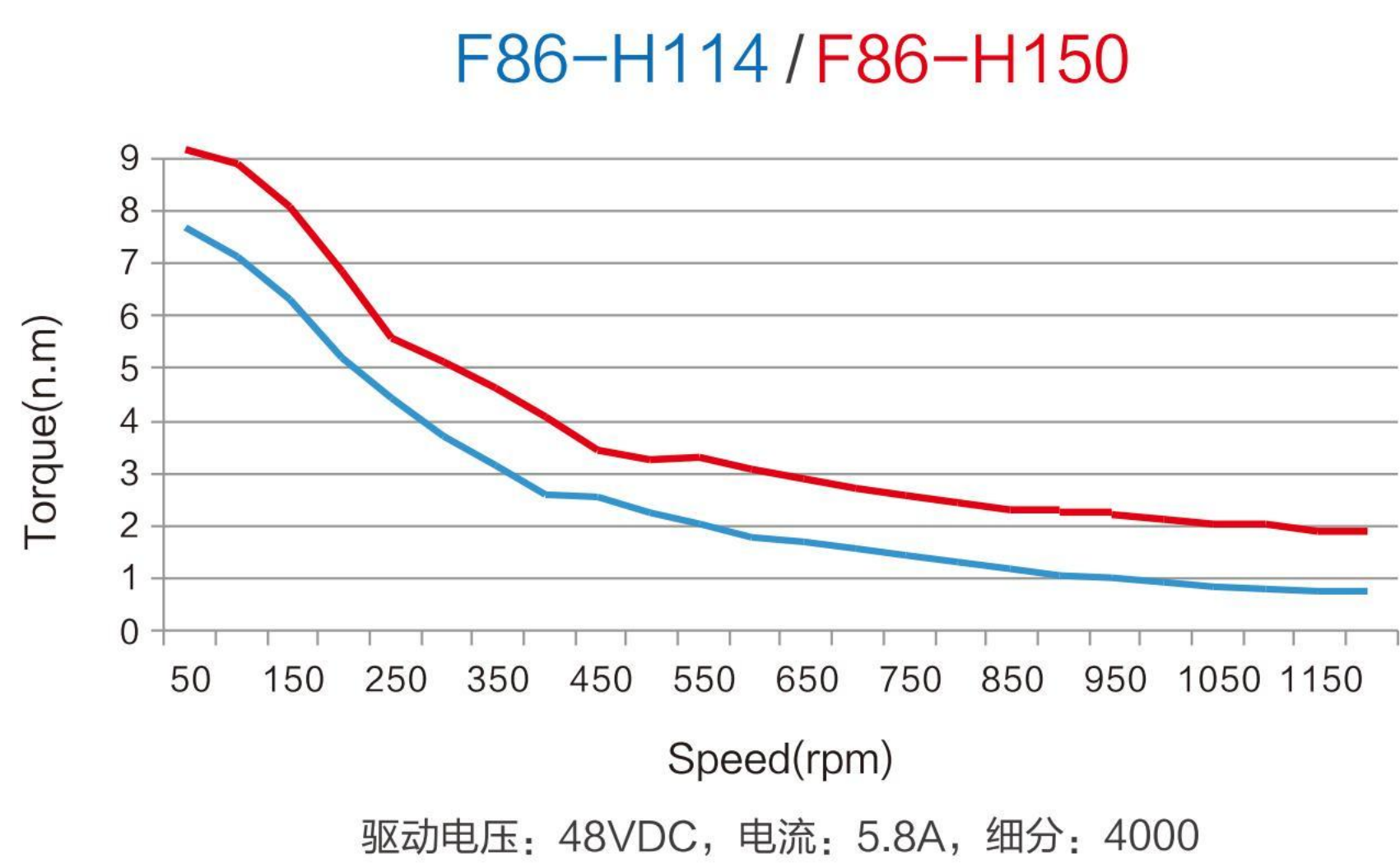
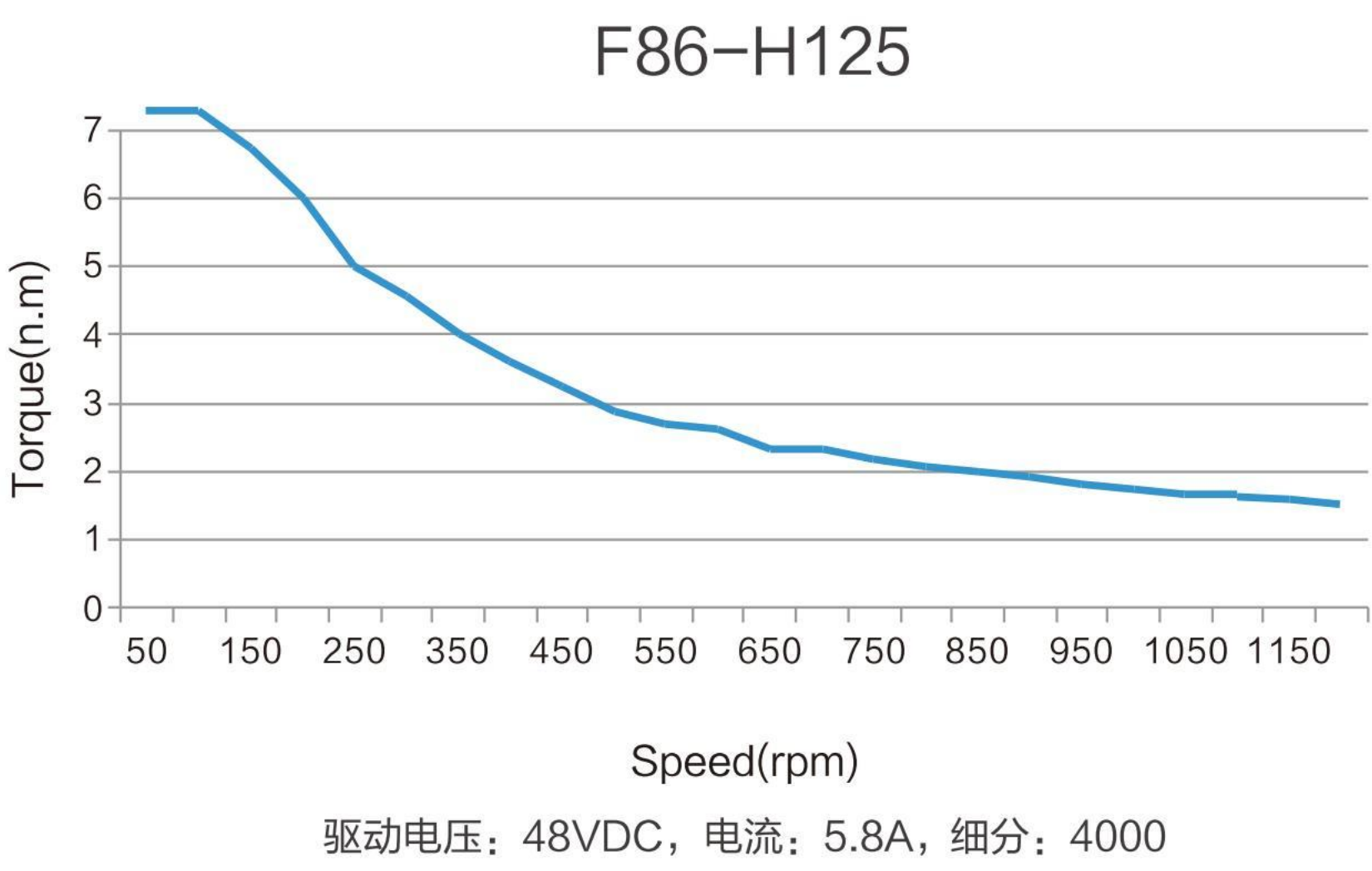
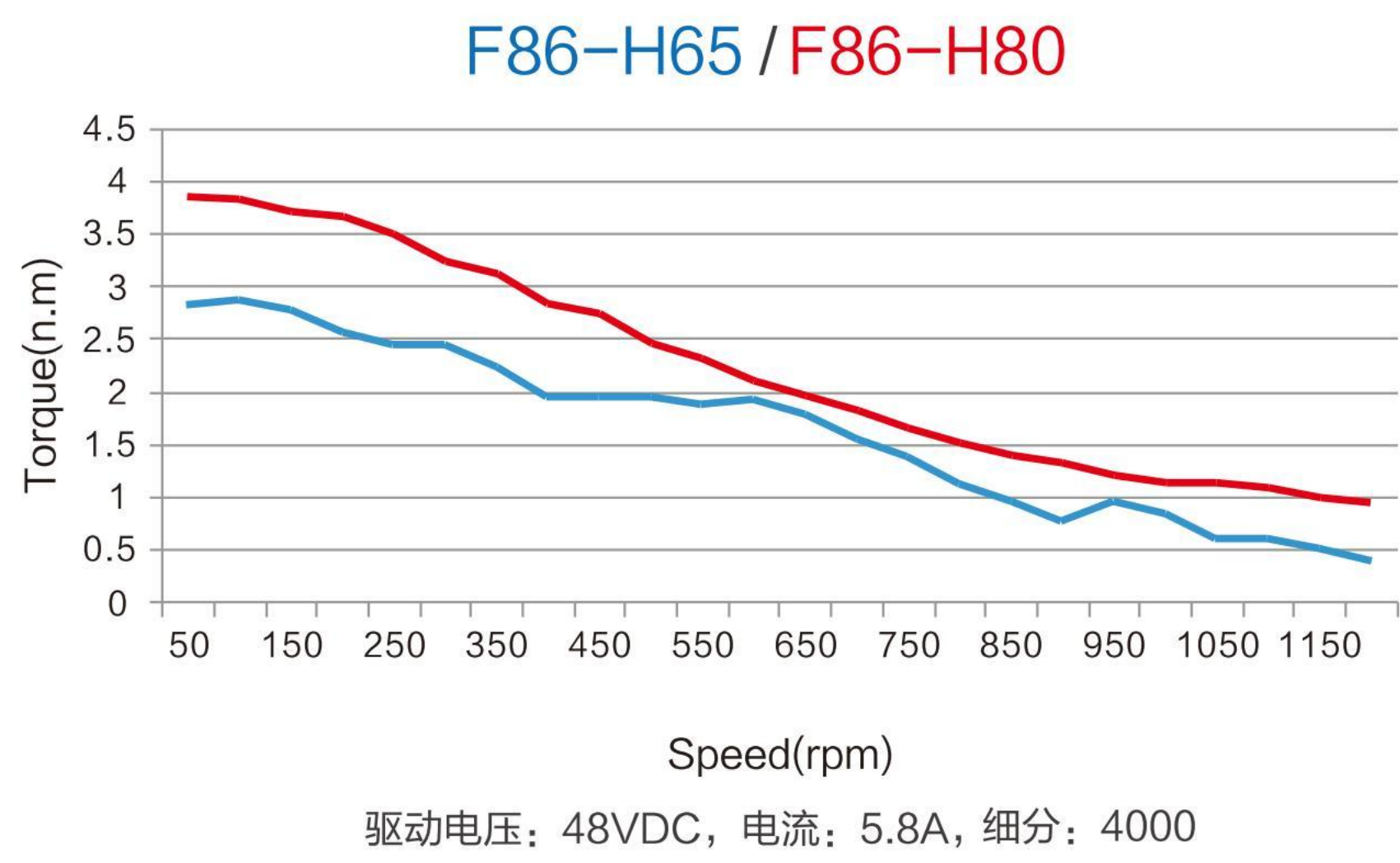
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技术参数 / SPECIFICATIONS

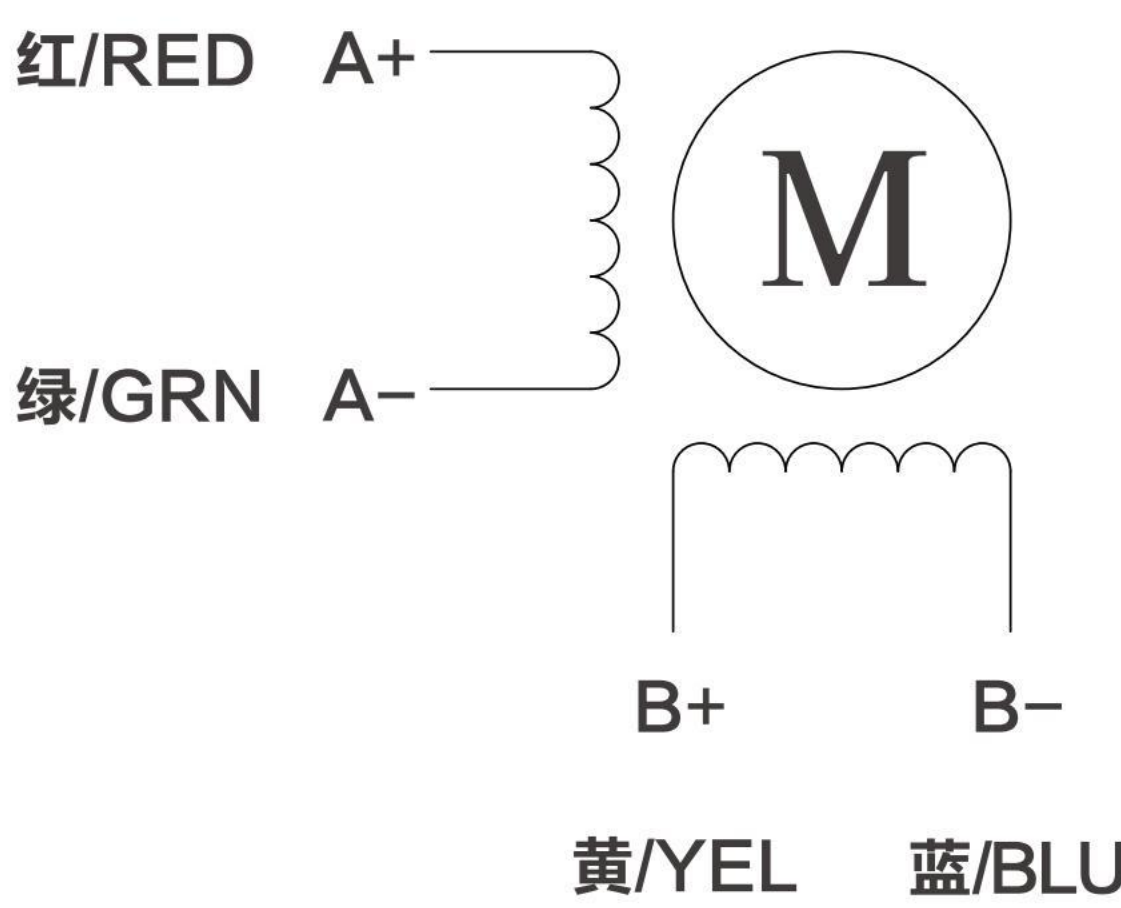
型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	电阻 Resistance (Ω)	电感 Inductance (mH)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (kg)	引线数 Lead Wire (No.)
F86-H65	1.8	67	3.0	5.6	0.29	1.7	950	1.85	4
F86-H80	1.8	78	4.5	5.6	0.32	2.6	1400	2.30	4
F86-H96	1.8	96	6.0	5.6	0.42	3.5	1850	3.00	4
F86-H114	1.8	114	8.2	5.6	0.55	5.0	1800	3.50	4
F86-H118	1.8	118	8.5	5.6	0.55	5.5	2500	4.00	4
F86-H125	1.8	125	9.5	5.6	0.56	6.0	2770	4.25	4
F86-H145	1.8	145	10.5	5.8	0.35	4.4	4100	4.95	4
F86-H150	1.8	150	11.0	5.6	0.65	5.6	4500	5.50	4

动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS

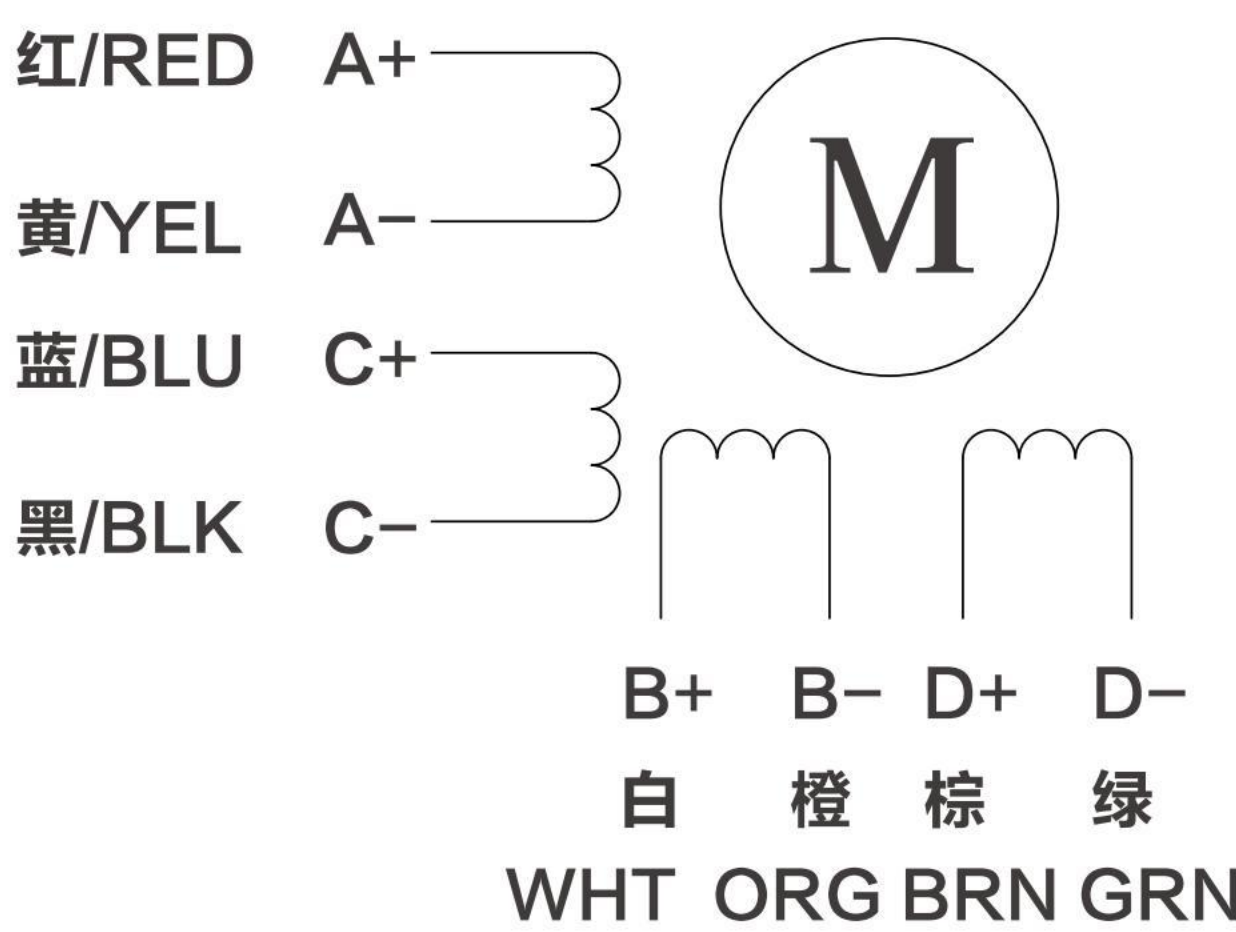


接线图 / WIRING DIAGRAM

双极性 BI-POLAR (4线)



8线接法



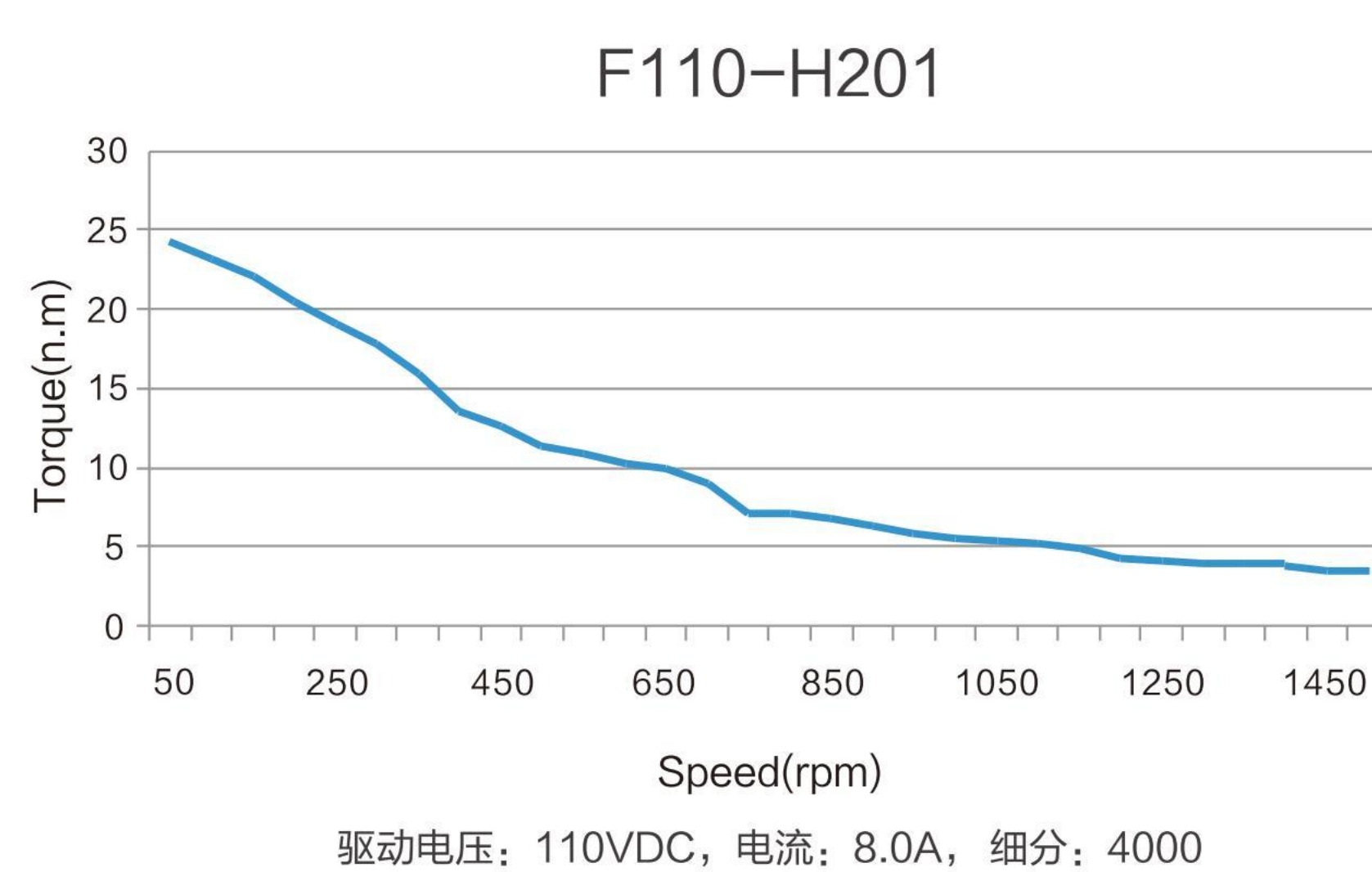
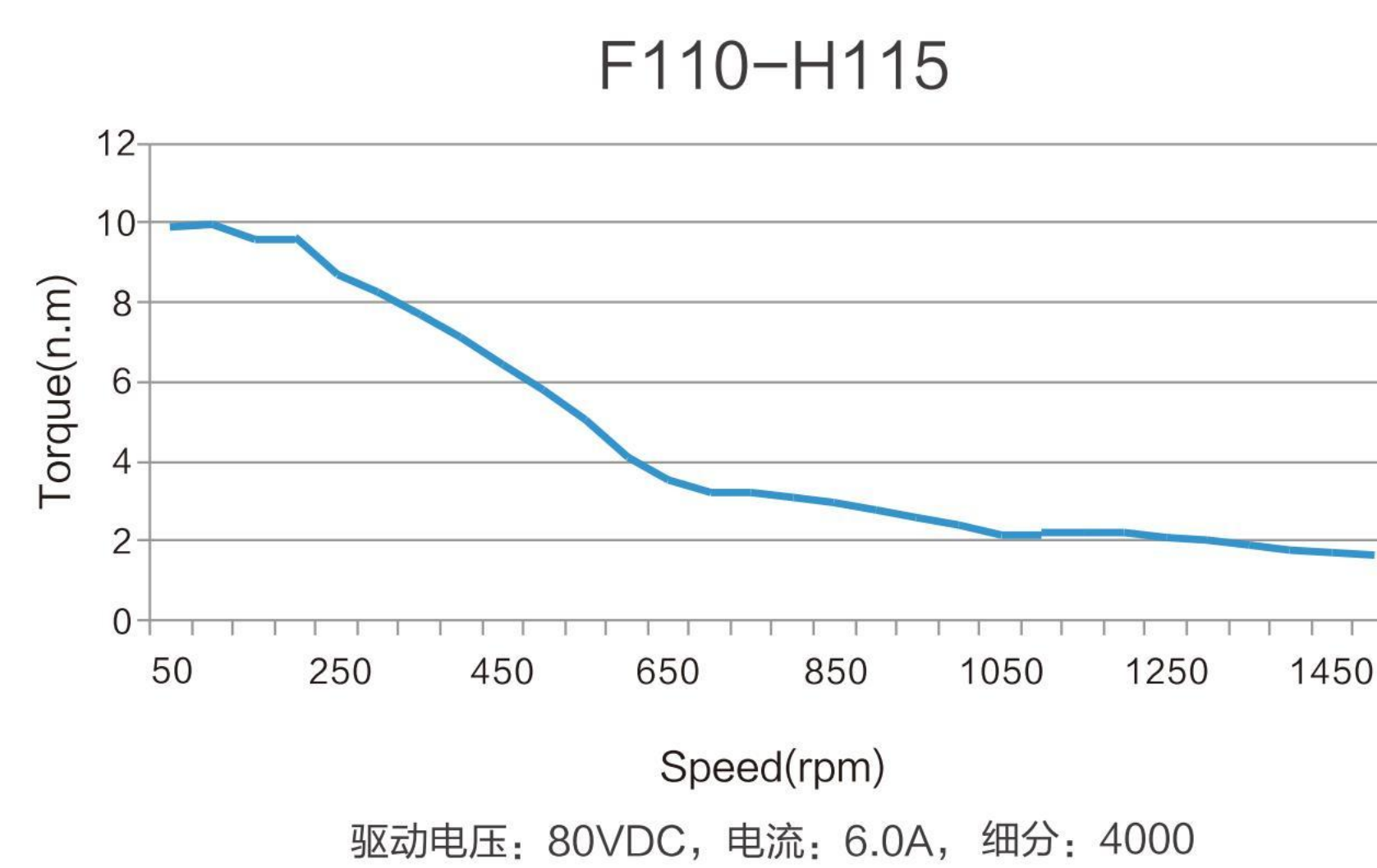
*注：以上仅为代表性产品，派生产品可根据客户要求制作
*Note: We can manufacture products according to customer's requirements

⊙ 外形图 / DIMENSION:UNIT=mm

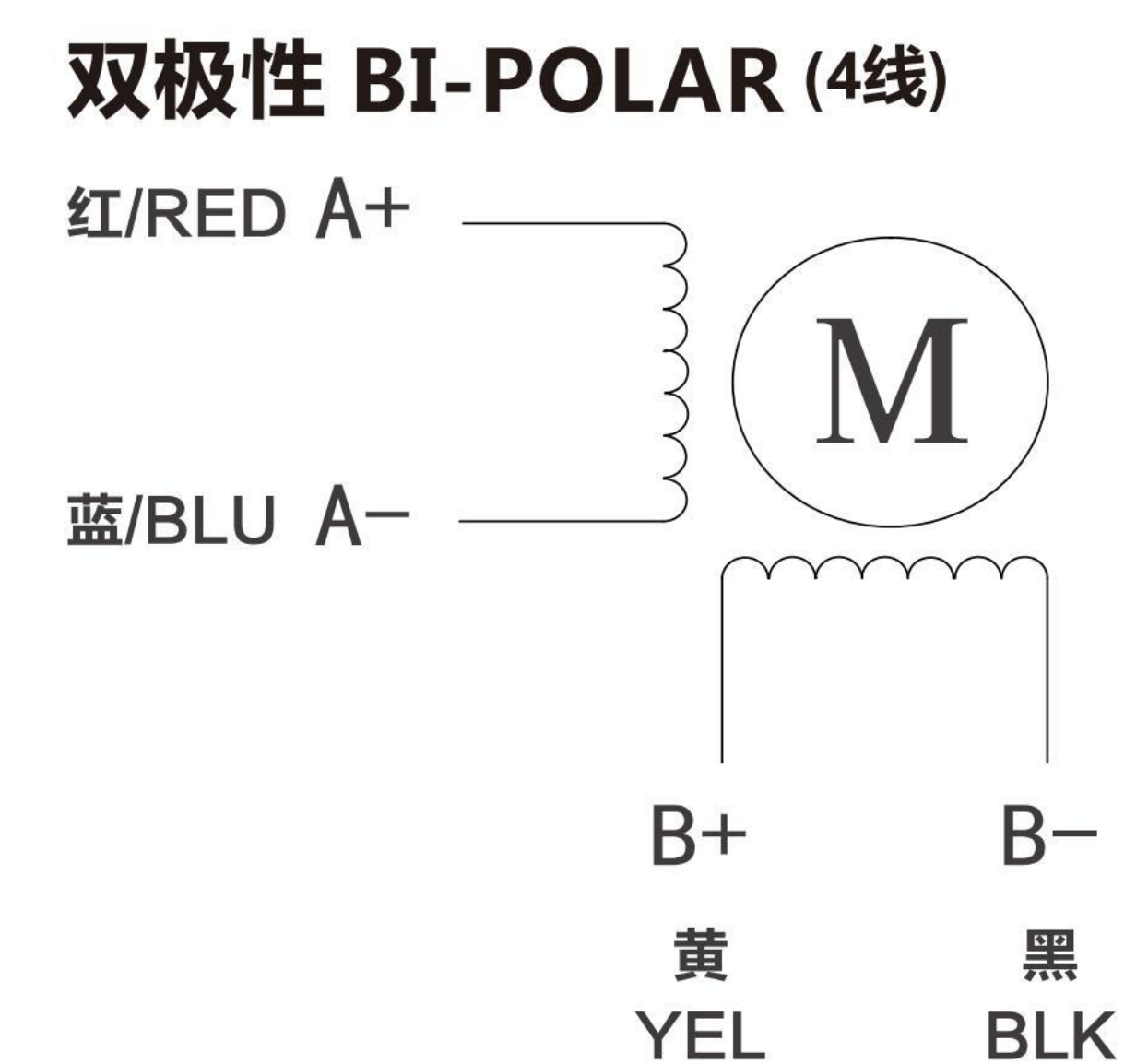


◎ 技术参数 / SPECIFICATIONS

◎ 动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS

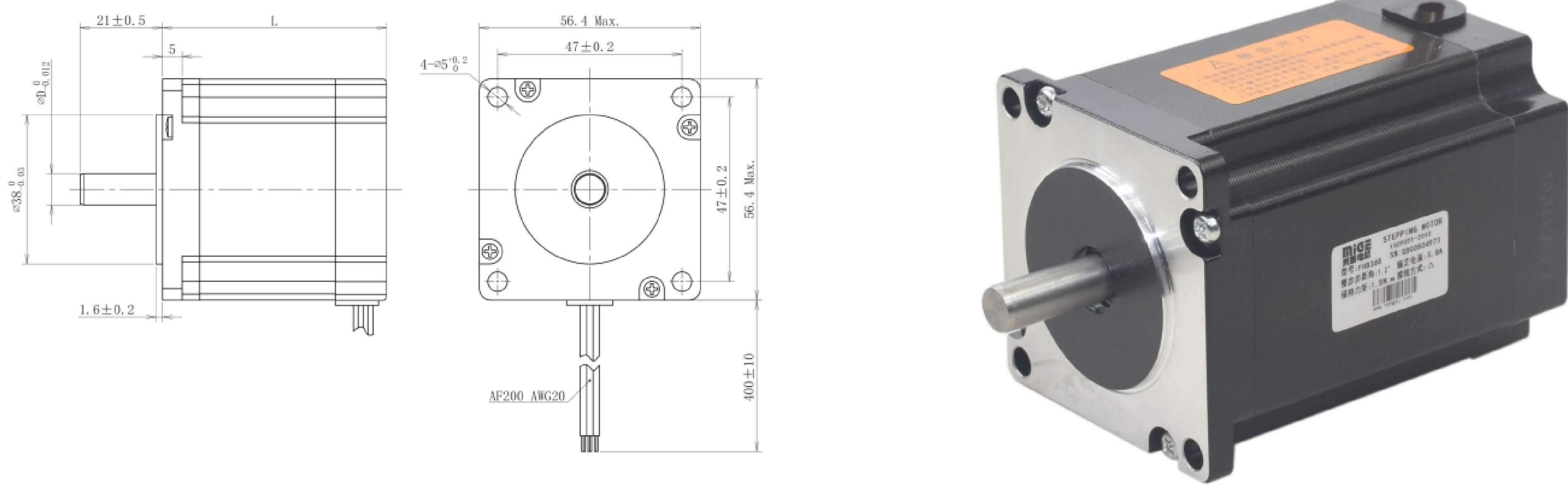


◎ 接线图 / WIRING DIAGRAM



三相高性能混合式步进电机				THREE PHASE STEPPING MOTORS			
步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Srength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play	
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.06mm (450g负载)	最大0.08mm (450g负载)	

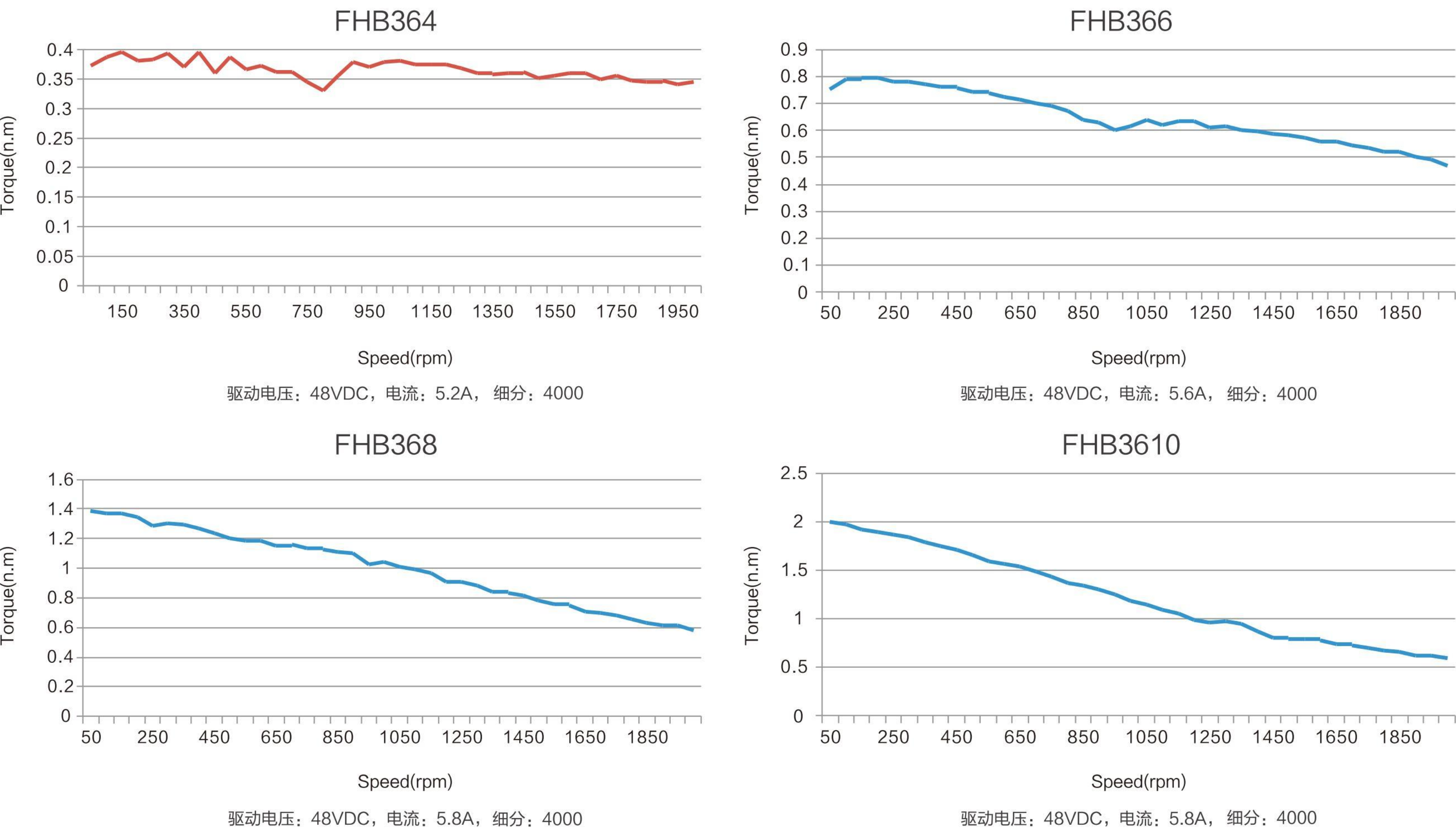
外形图 / DIMENSION:UNIT=mm



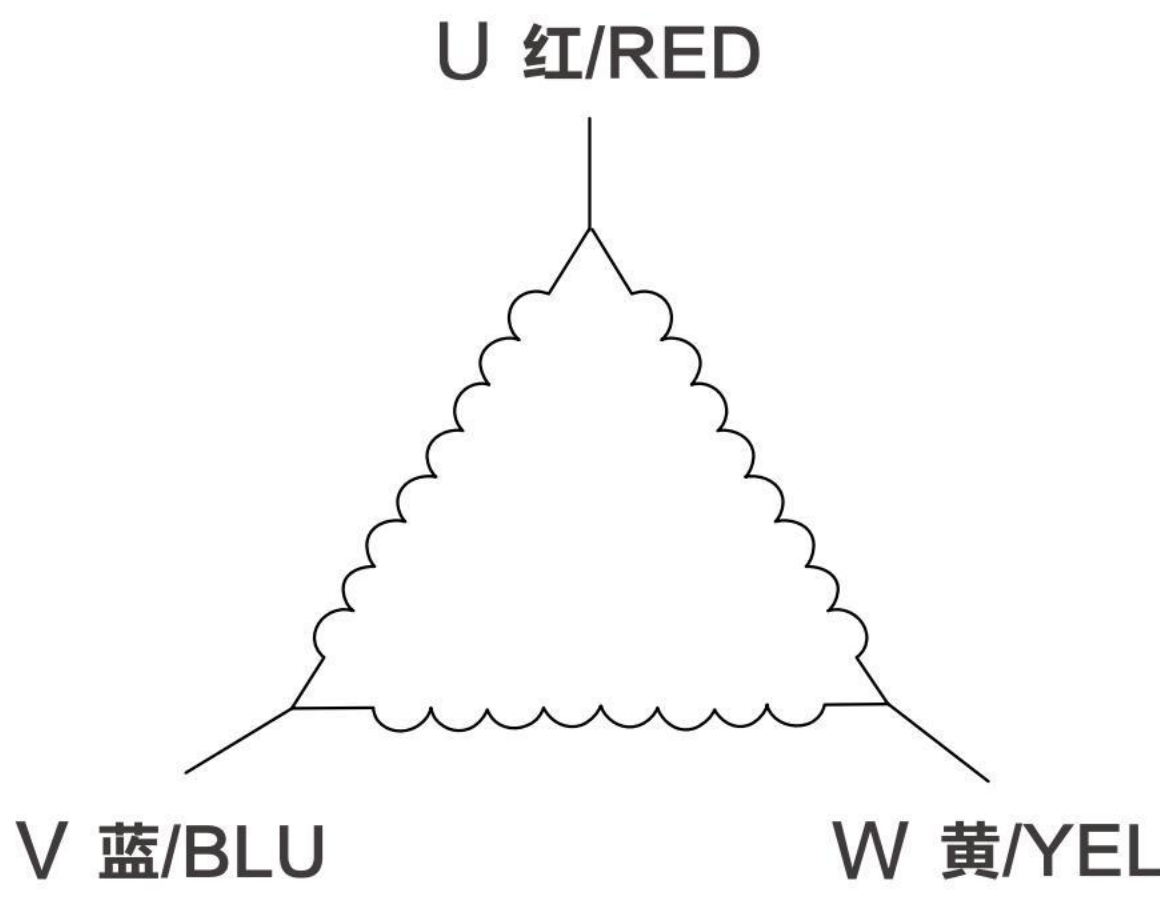
技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (kg)	轴径 Shaft Diameter (mm)	轴特征 Shaft Specification	电阻 Resistance (Ω)	电感 Inductance (mH)	引线数 Lead Wire (No.)
FHB364	1.2	42.5	0.45	5.2	100	0.50	6.35	双平台0.85×8	0.242	0.2	3
FHB366	1.2	55.5	0.9	5.6	220	0.75	6.35	双平台0.85×8	0.24	0.267	3
FHB368	1.2	78.5	1.5	5.8	380	1.10	8.0	平键3×15	0.29	0.39	3
FHB3610	1.2	104.5	2.0	5.8	530	1.57	8.0	平键3×15	0.376	0.5	3

动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS



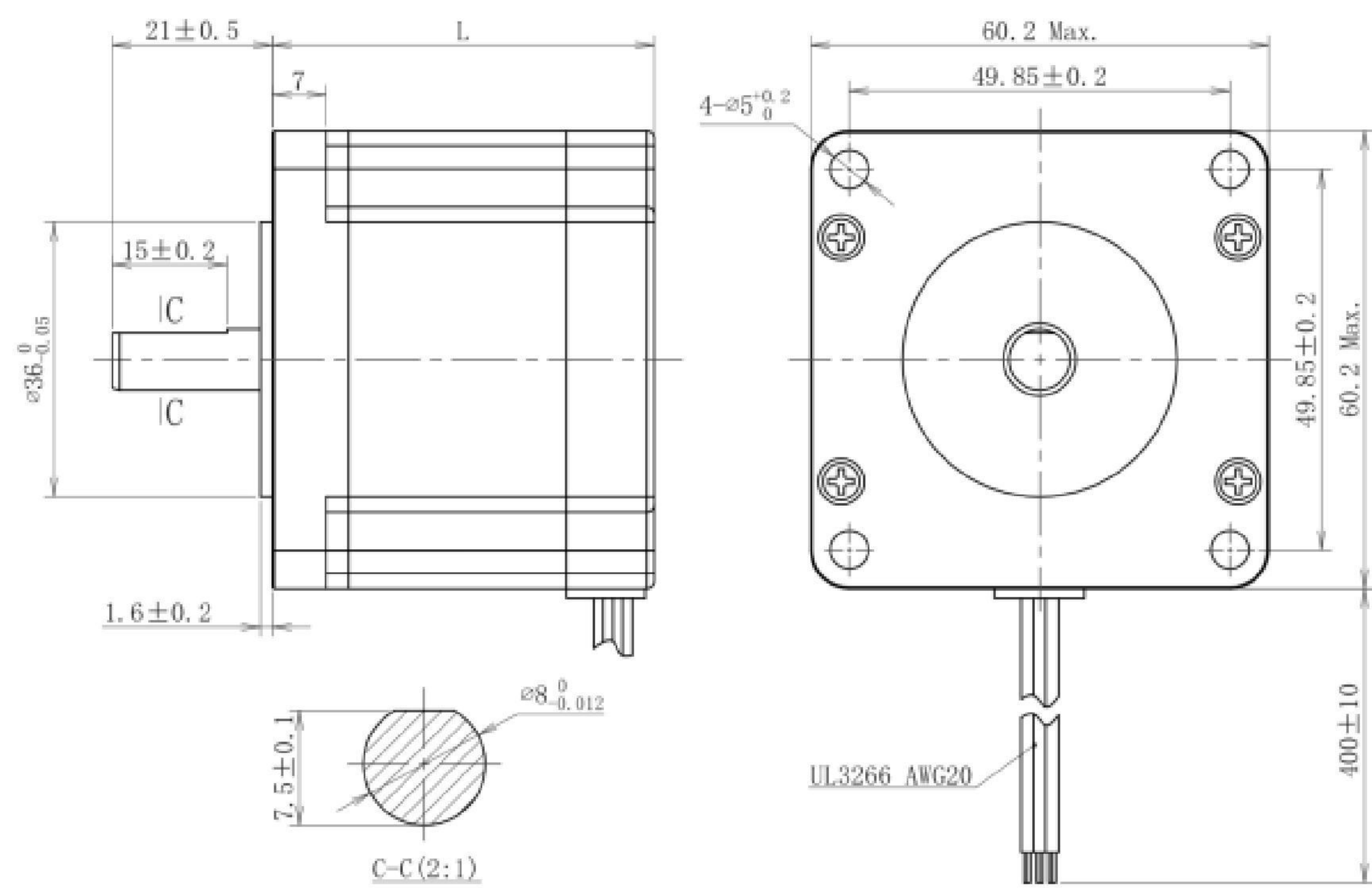
接线图 / WIRING DIAGRAM



*注：以上仅为代表性产品，派生产品可根据客户要求制作
*Note:We can manufacture products according to customer's requirements

三相高性能混合式步进电机			THREE PHASE STEPPING MOTORS				
步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Srength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play	
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.06mm (450g负载)	最大0.08mm (450g负载)	

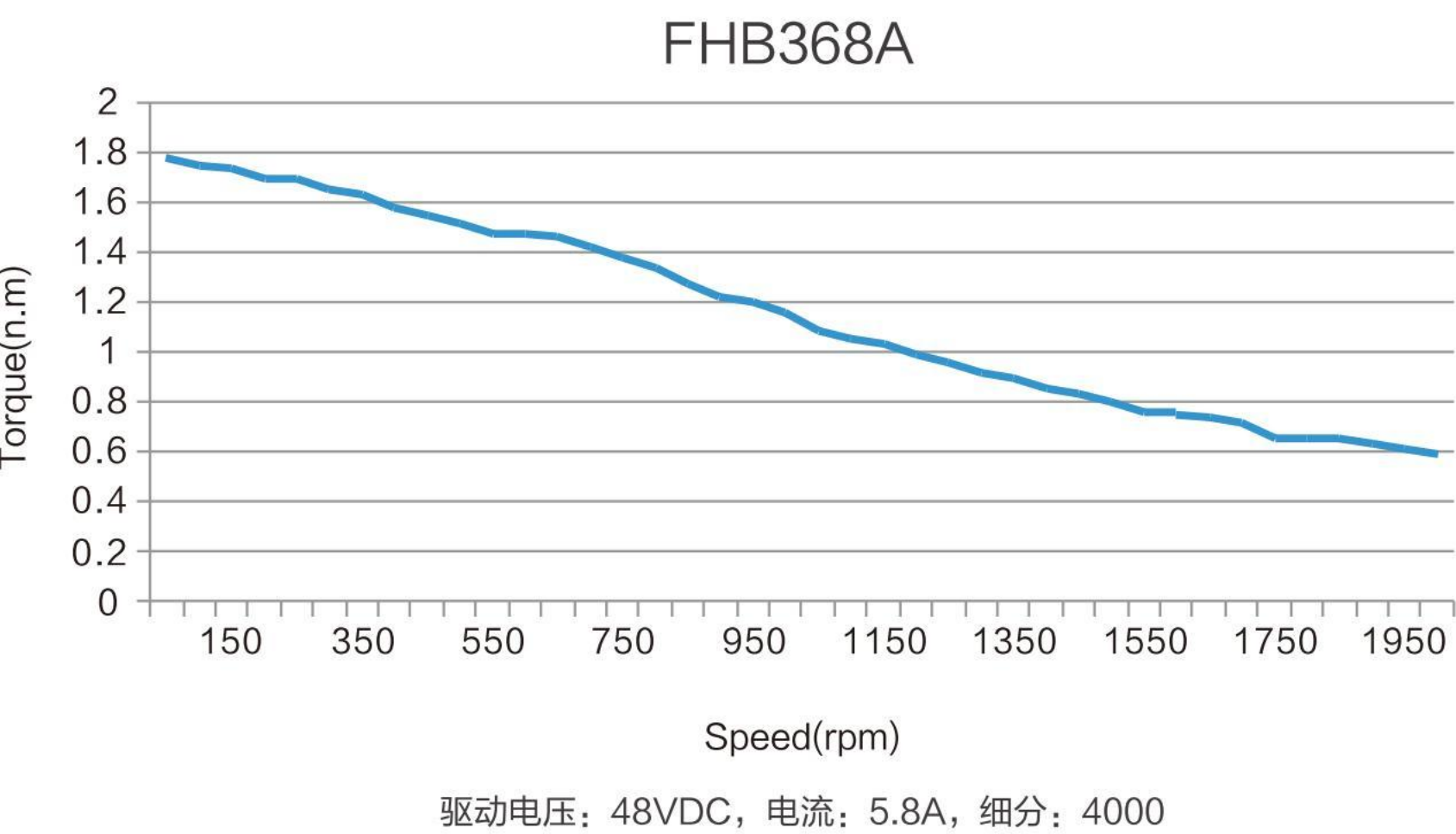
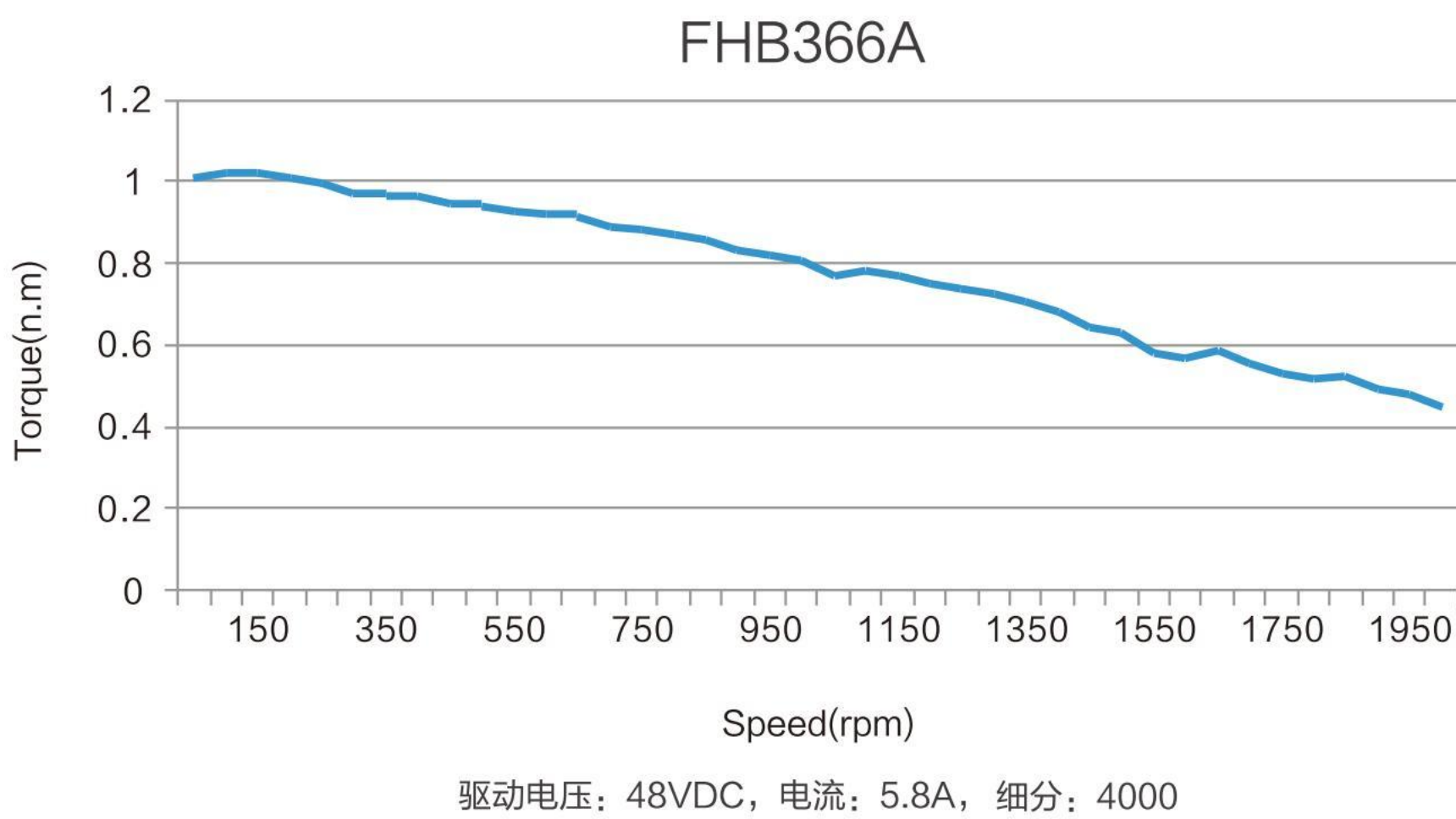
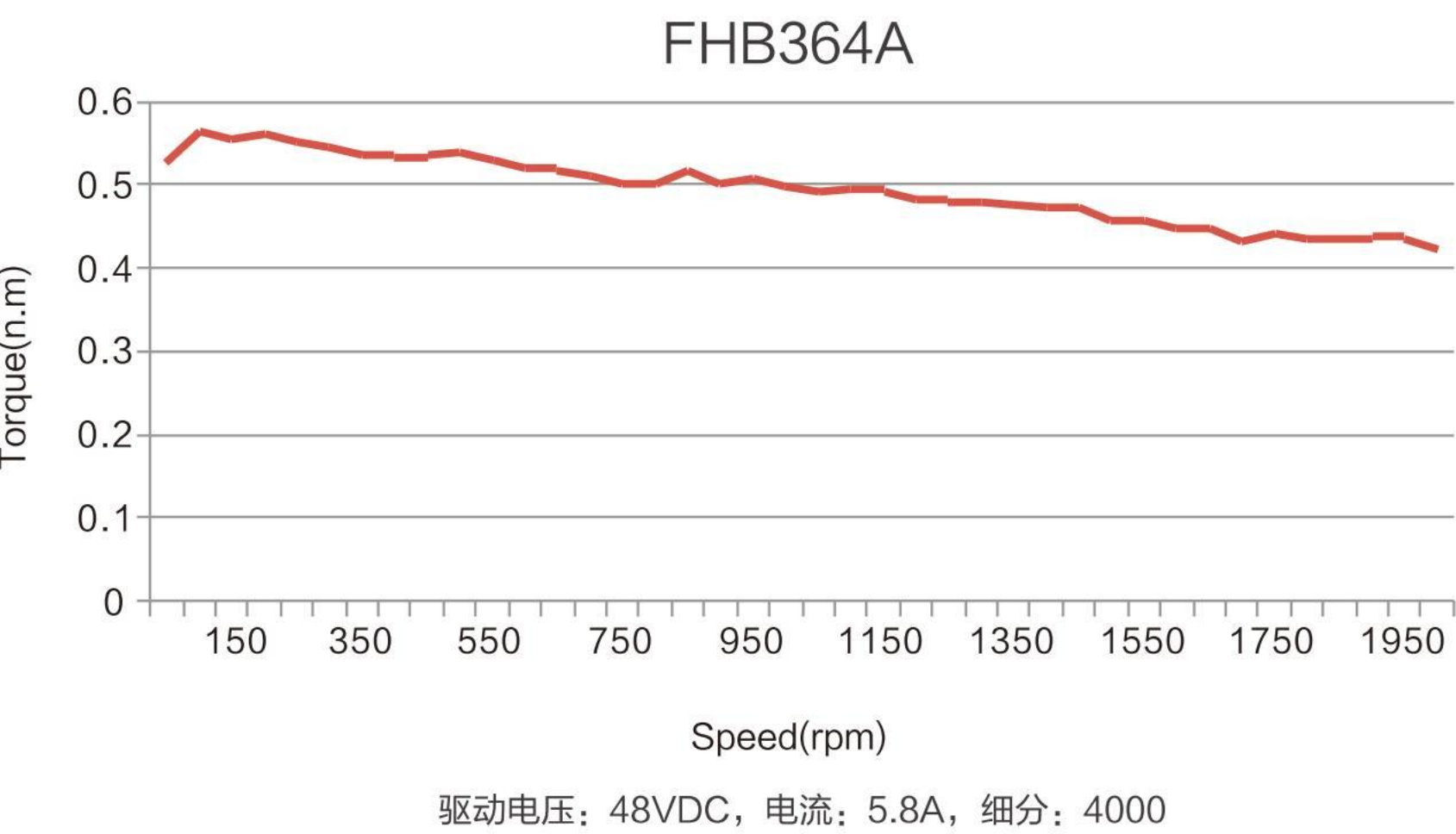
外形图 / DIMENSION:UNIT=mm



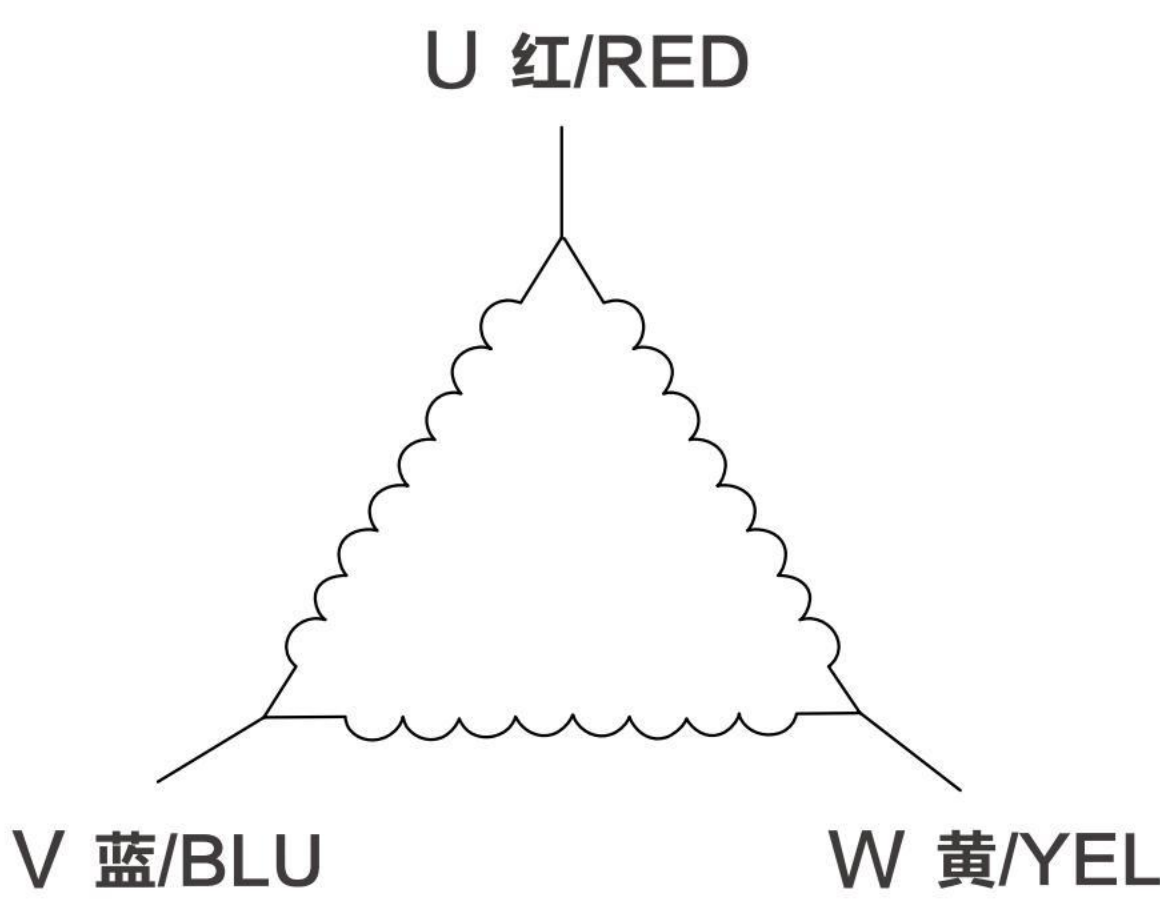
技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (kg)	电阻 Resistance (Ω)	电感 Inductance (mH)	引线数 Lead Wire (No.)
FHB364A	1.2	41	0.5	5.8	120	0.55	0.21	0.5	3
FHB366A	1.2	55	1	5.8	240	0.81	0.26	1	3
FHB368A	1.2	76	1.7	5.8	400	1.26	0.34	1.4	3

动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS



接线图 / WIRING DIAGRAM



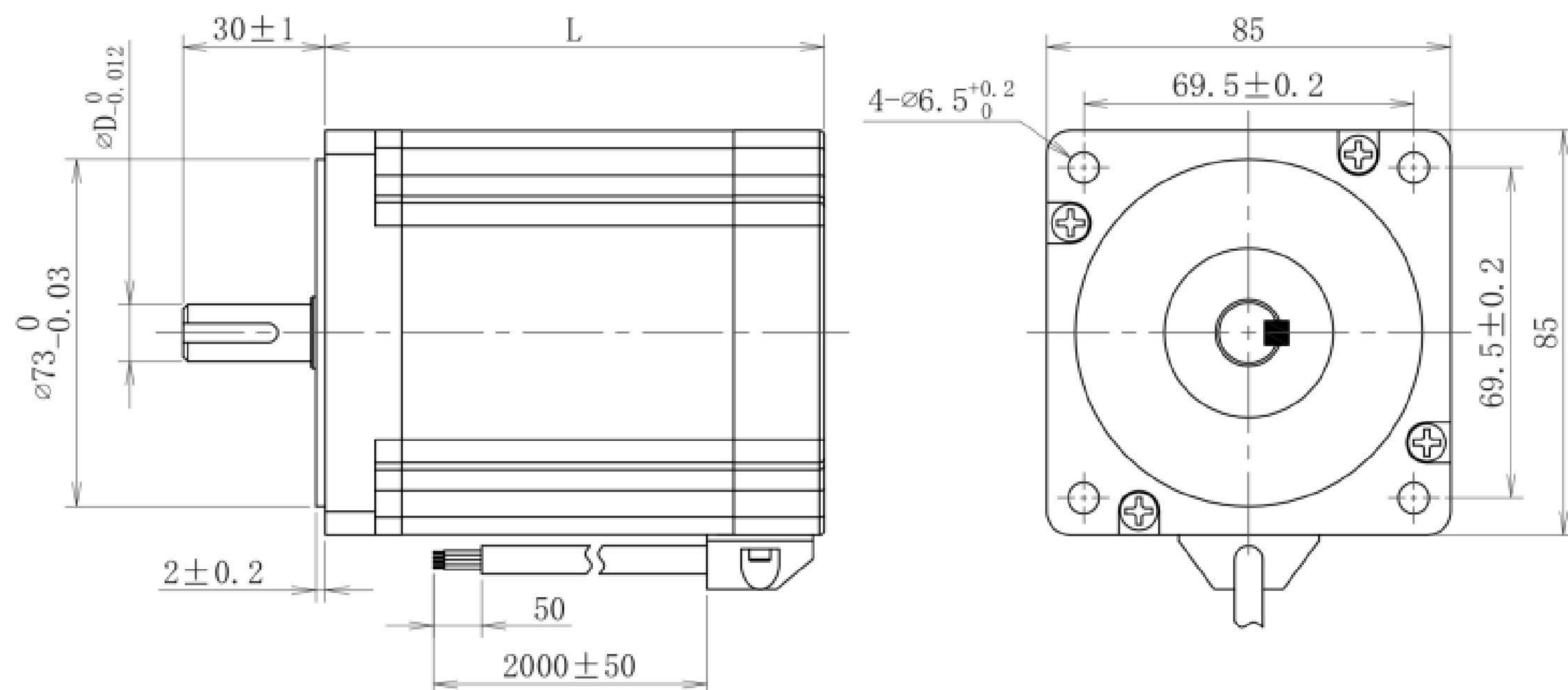
*注：以上仅为代表性产品，派生产品可根据客户要求制作
*Note:We can manufacture products according to customer's requirements

三相高性能混合式步进电机

THREE PHASE STEPPING MOTORS

步距精度 Step Angle Accuracy	升温 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Strength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.06mm (450g负载)	最大0.08mm (450g负载)

⊙ 外形图 / DIMENSION:UNIT=mm

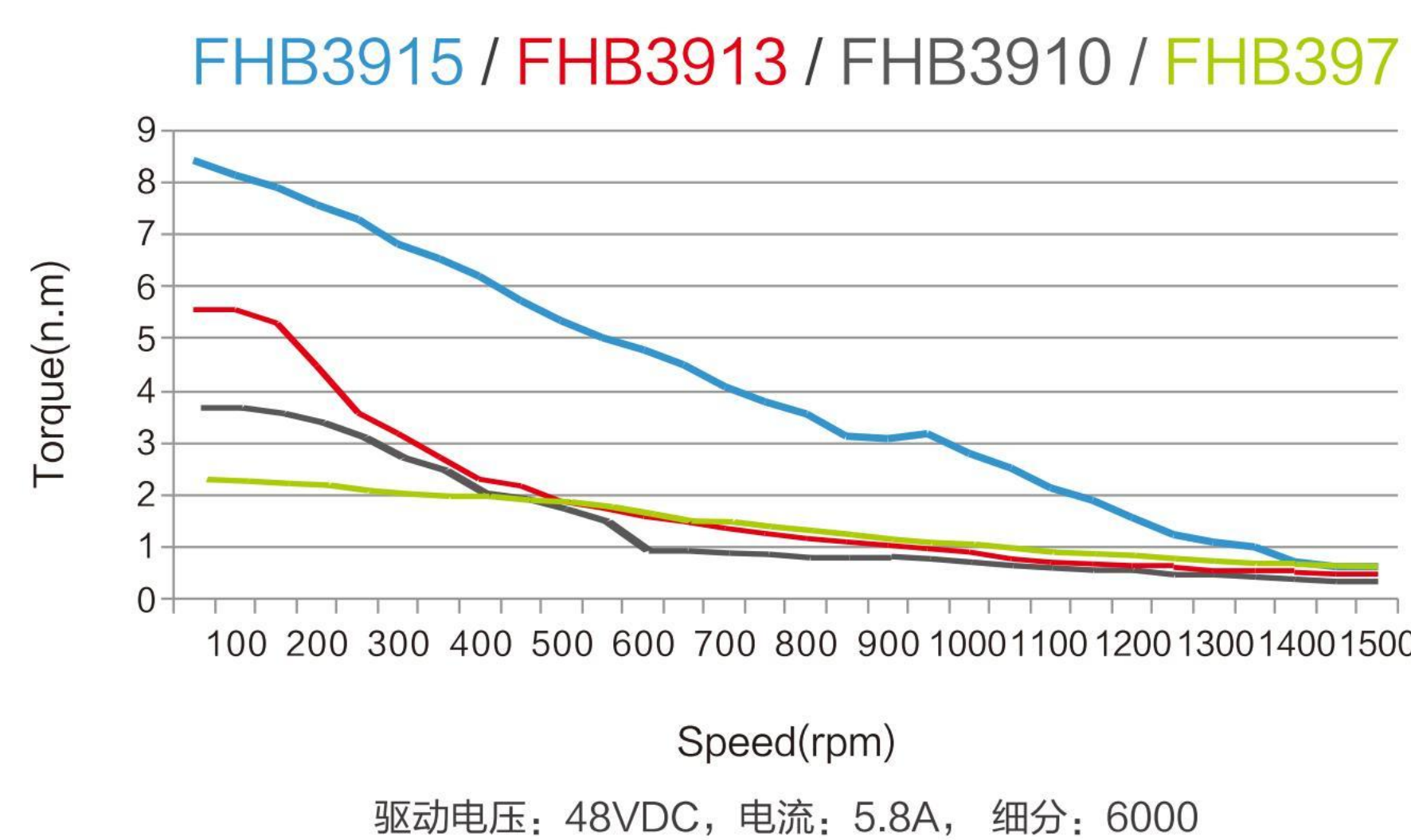
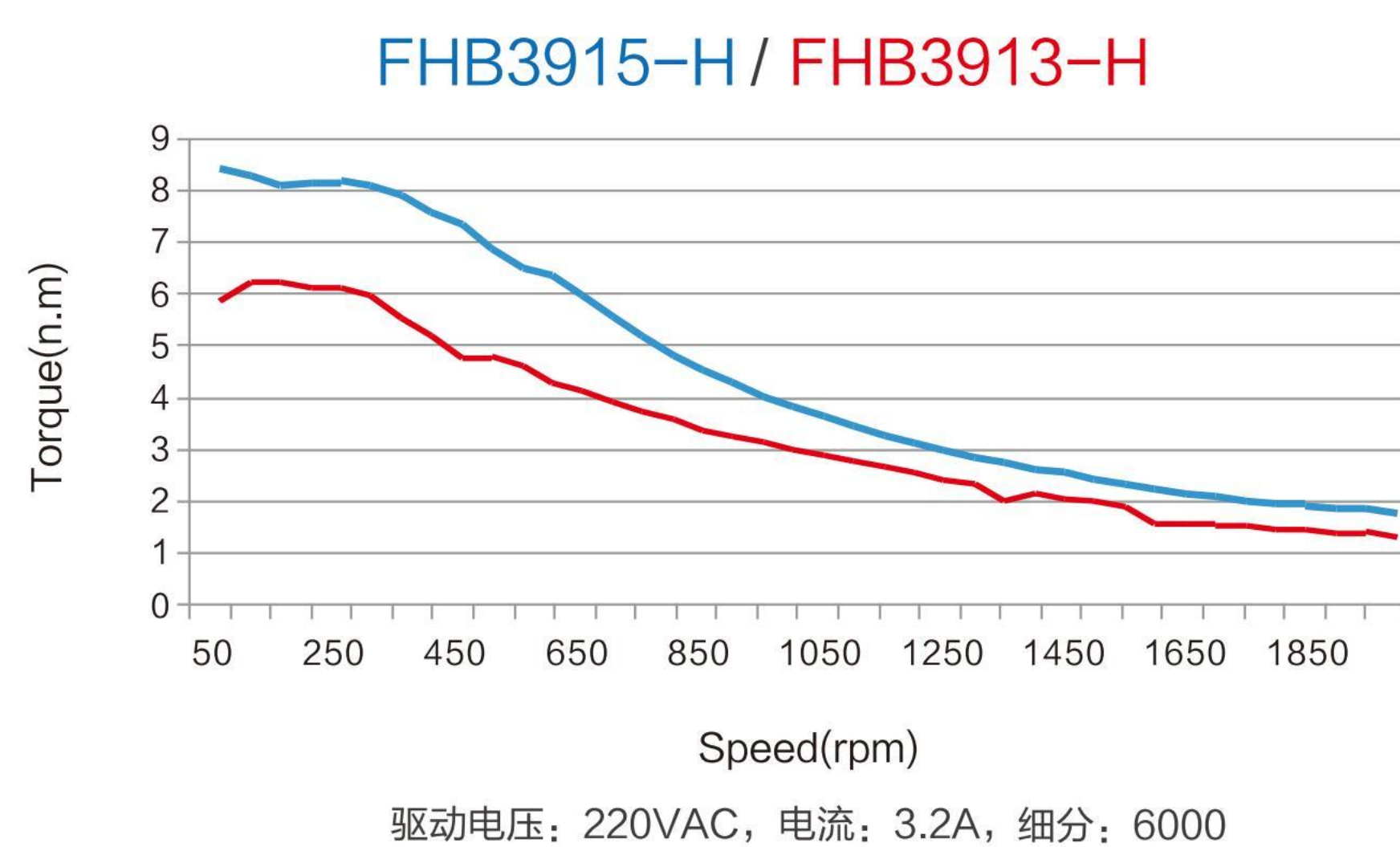
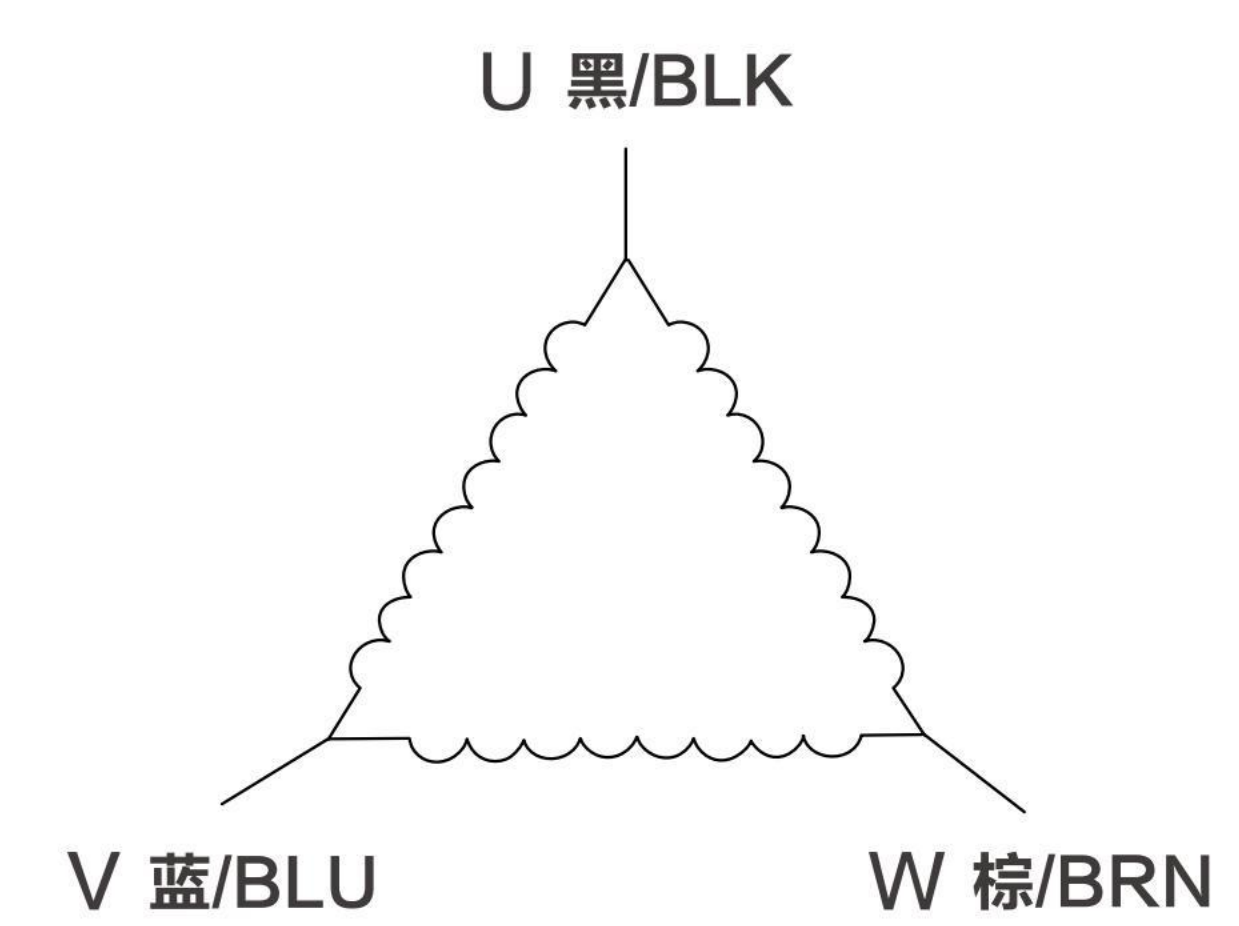
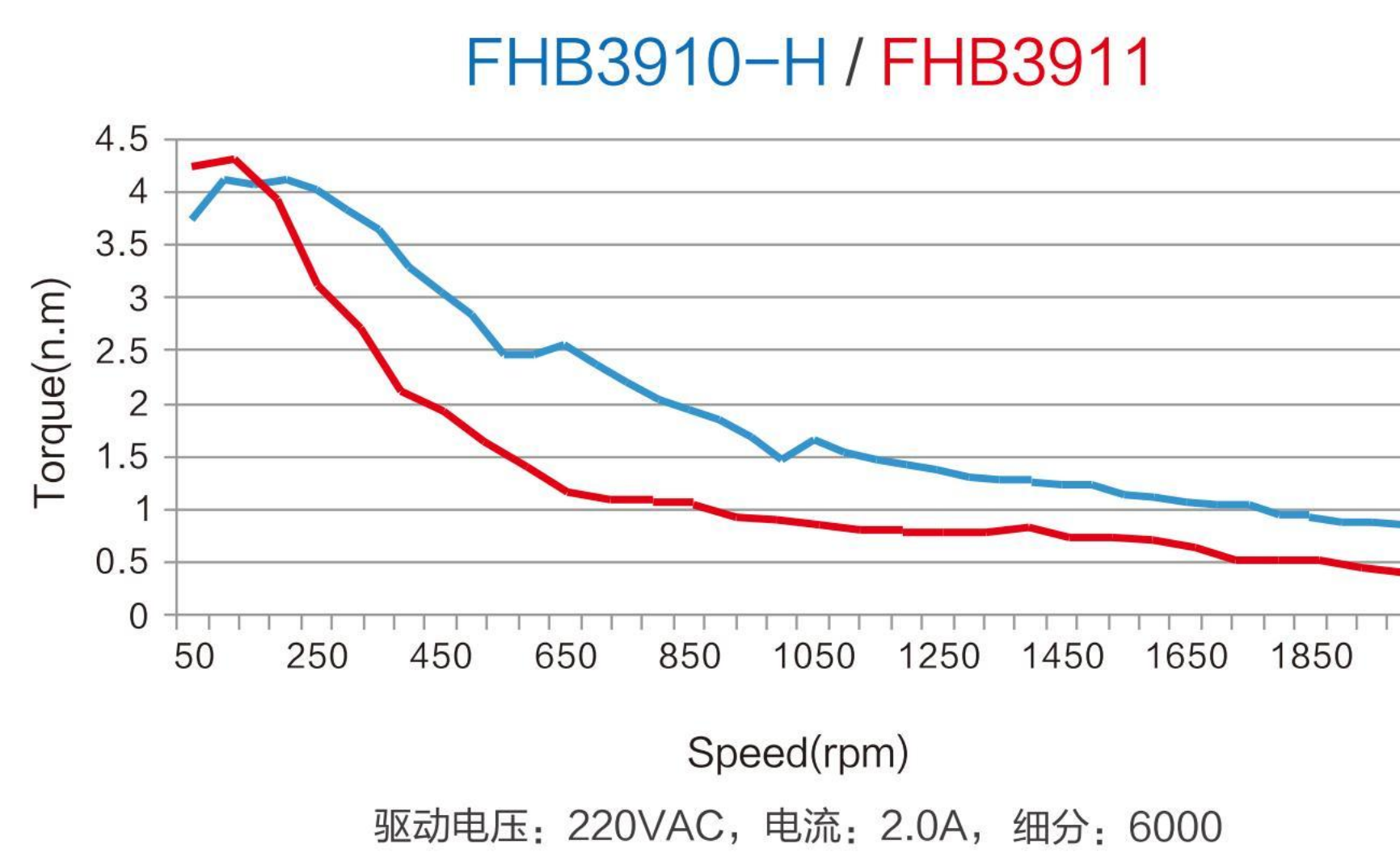
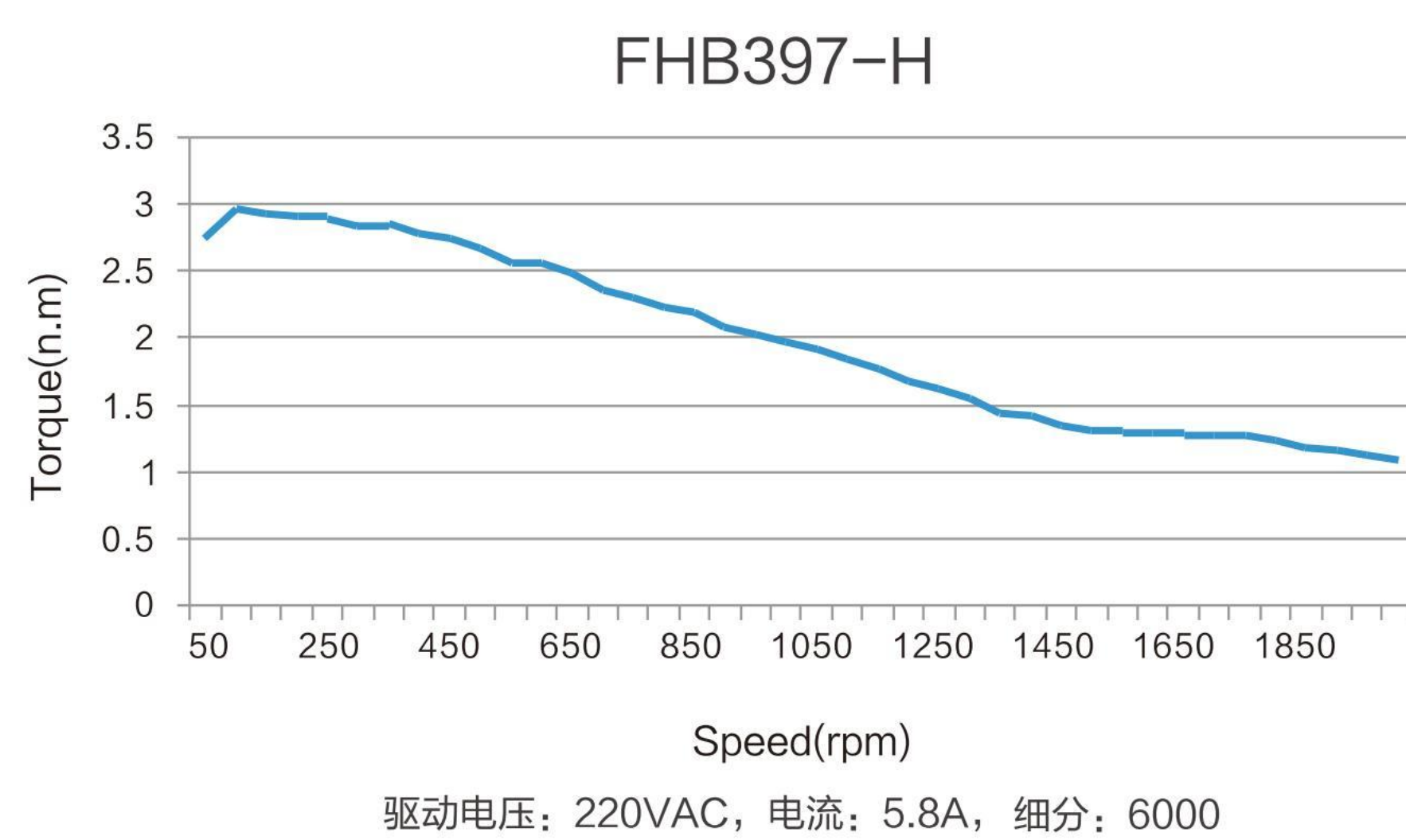


◎ 技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	转子惯量 Rotor Inertia (g.cm ²)	重量 Weight (kg)	轴径 Shaft Diameter (mm)	轴特征 Shaft Specification	电阻 Resistance (Ω)	电感 Inductance (mH)	引线数 Lead Wire (No.)
FHB397-H	1.2	69	2.0	1.75	1320	1.8	12.0	平键4×20	3.77	11.6	3
FHB397	1.2	69	2.0	5.8	1320	1.8	12.0	平键4×20	0.5	0.9	3
FHB3910-H	1.2	97	4.0	2.0	2400	2.8	12.0	平键4×20	4.65	14.6	3
FHB3910	1.2	97	4.0	5.8	2400	2.8	12.0	平键4×20	0.7	1.5	3
FHB3911	1.2	105	4.0	4.0	2700	3.0	12.0	平键4×20	1.04	8.5	3
FHB3913-H	1.2	125	6.0	3.0	3480	3.8	14.0	平键4×20	2.0	8.0	3
FHB3913	1.2	125	6.0	5.8	3480	3.8	14.0	平键4×20	0.9	2.17	3
FHB3915-H	1.2	145	8.5	3.2	4560	4.7	14.0	平键4×20	2.6	9.57	3
FHB3915	1.2	145	8.5	5.8	4560	4.7	14.0	平键4×20	0.88	2.63	3

◎ 动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS

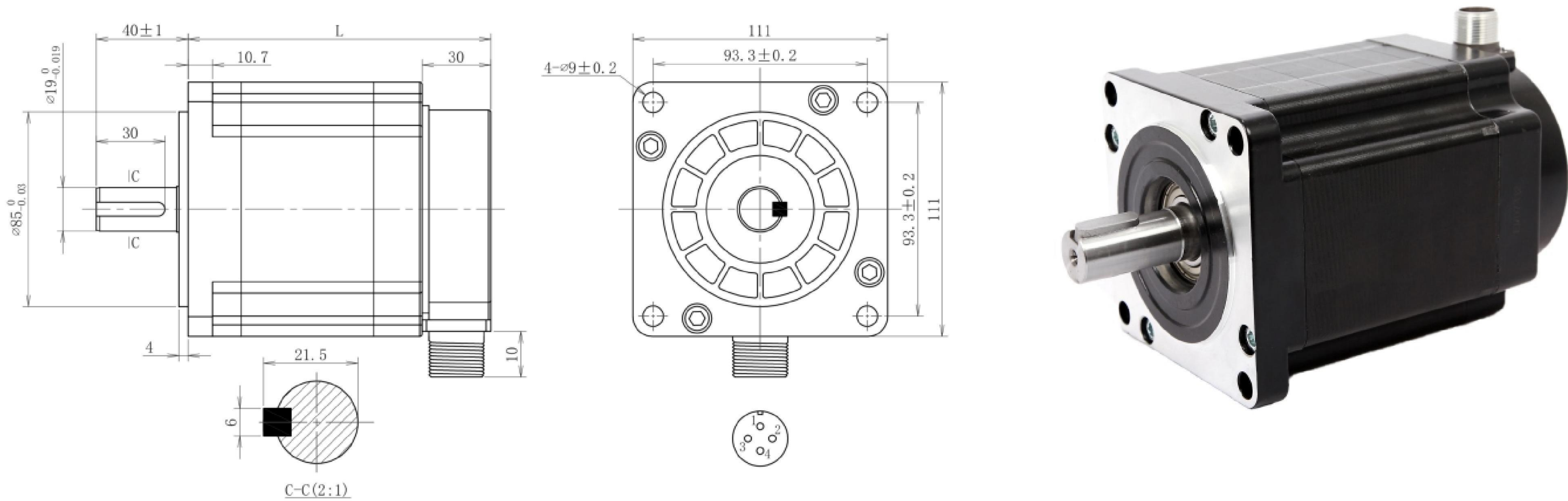
◎ 接线图 / WIRING DIAGRAM



*Note:We can manufacture products according to customer's requirements

三相高性能混合式步进电机				THREE PHASE STEPPING MOTORS			
步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Srength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play	
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.06mm (450g负载)	最大0.08mm (450g负载)	

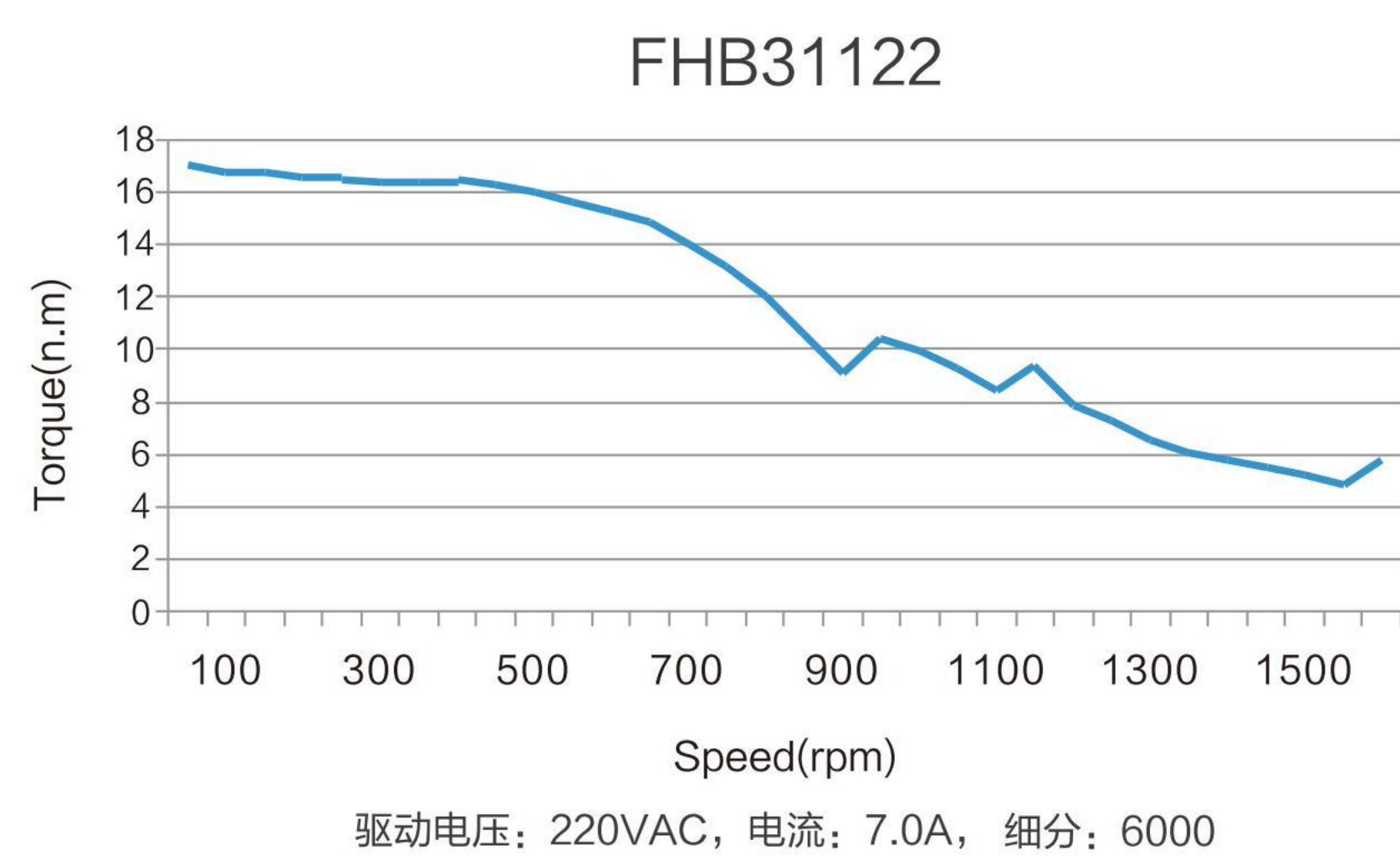
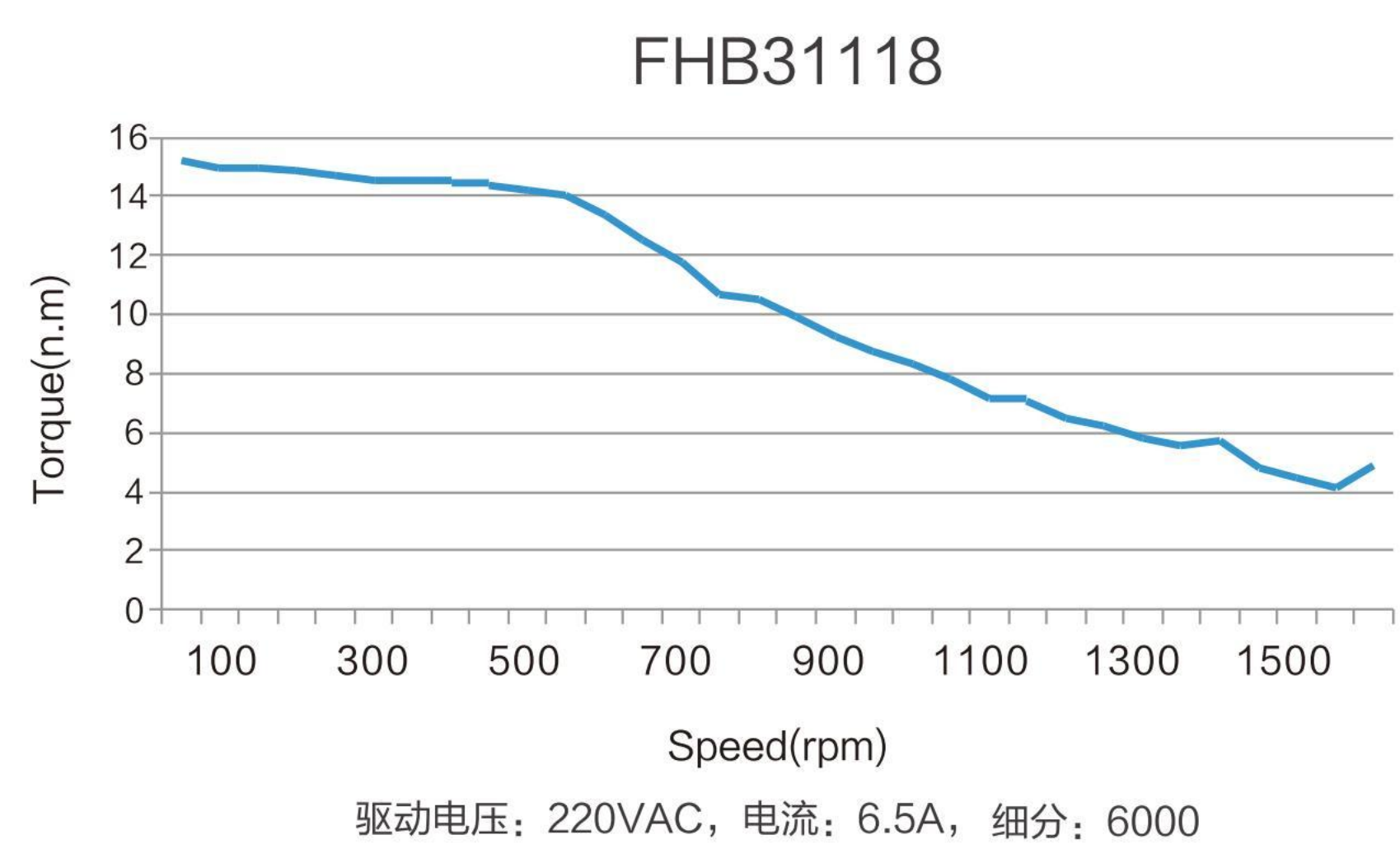
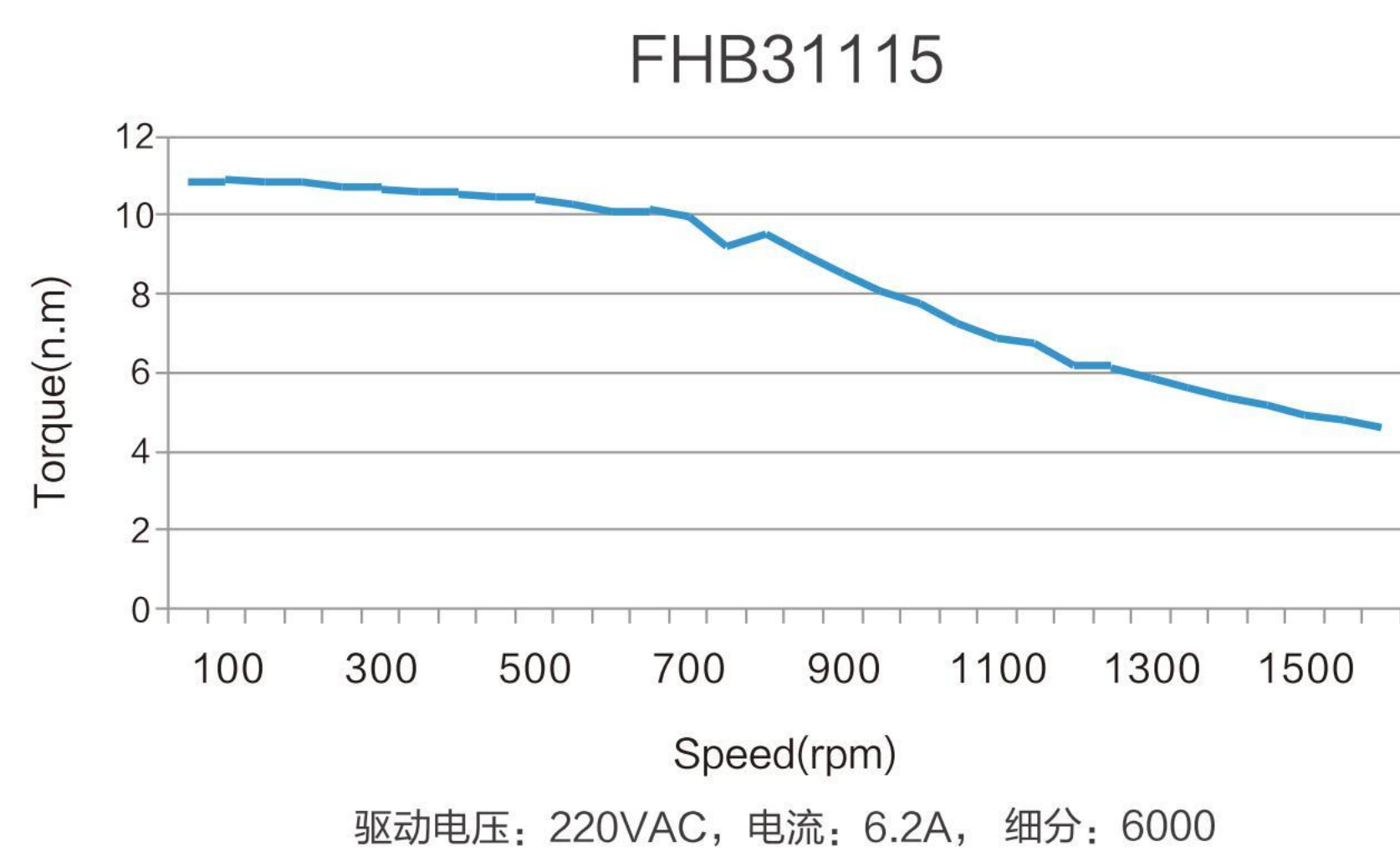
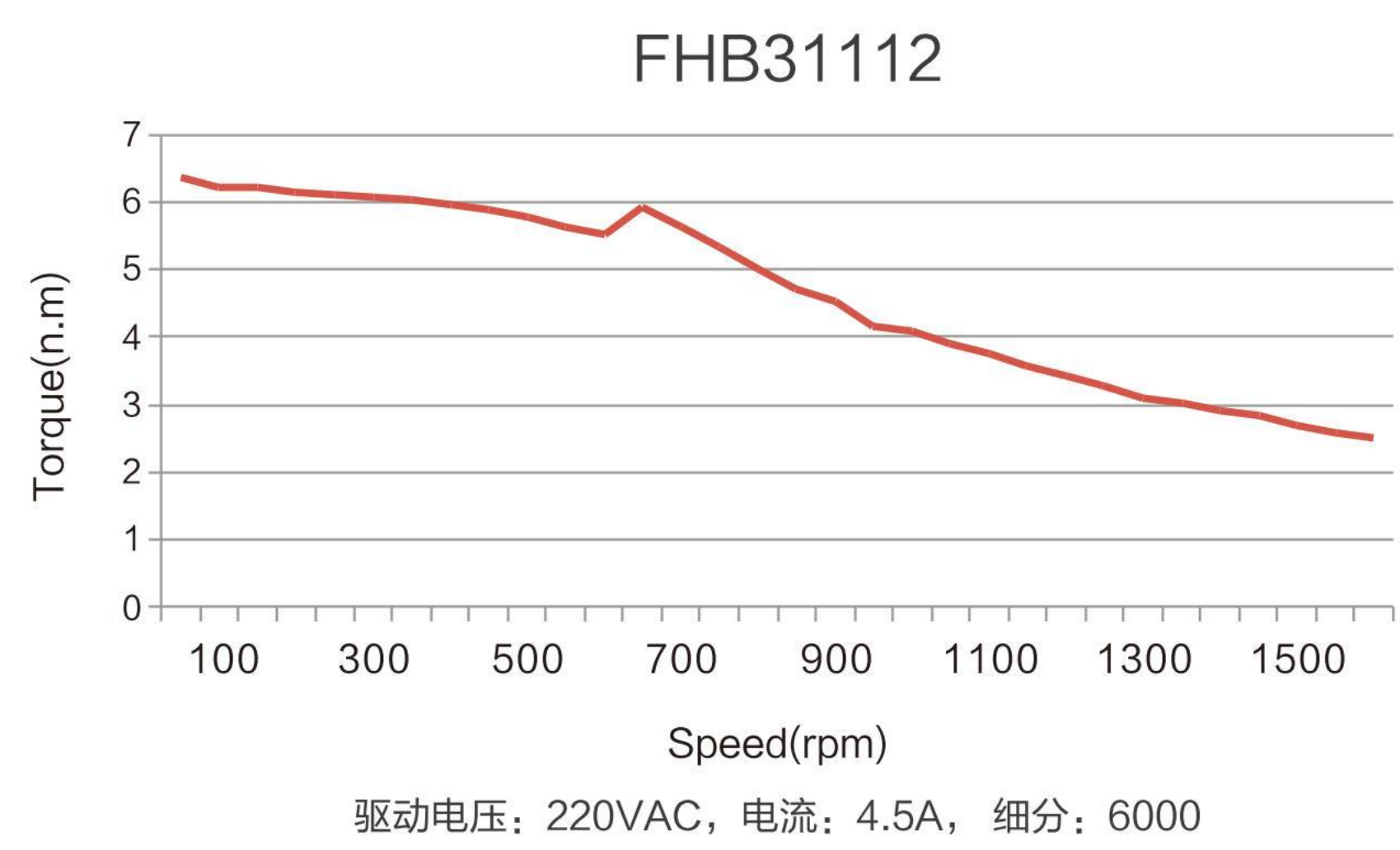
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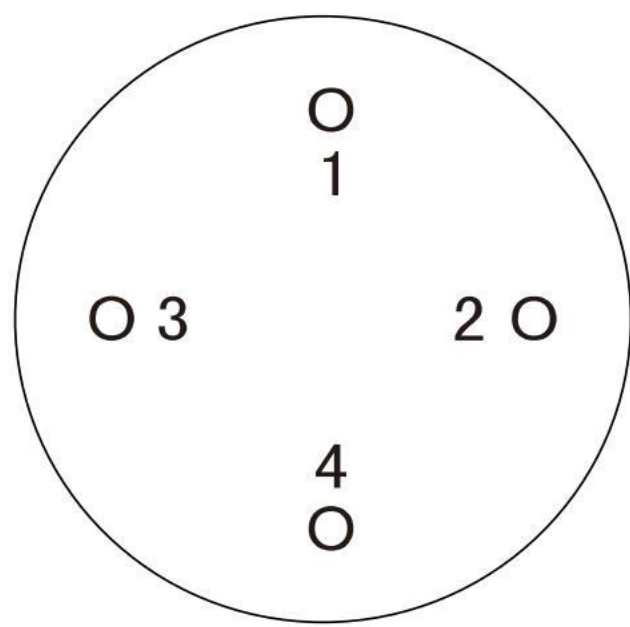
技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (kg)	轴径 Shaft Diameter (mm)	轴特征 Shaft Specification	电阻 Resistance (Ω)	电感 Inductance (mH)	引线数 Lead Wire (No.)
FHB31112	1.2	127	8.0	4.3	6000	5.0	19	平键6×30	1.04	4.3	3
FHB31115	1.2	151	12	6.0	9720	6.3	19	平键6×30	0.6	2.67	3
FHB31118	1.2	185	16	6.4	13560	8.5	19	平键6×30	0.7	2.96	3
FHB31122	1.2	219	20	6.9	17400	10.7	19	平键6×30	0.57	2.46	3

动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS



接线图 / WIRING DIAGRAM



序号	1	2	3	4	备注
相序	U	V	W	GND	四芯插座

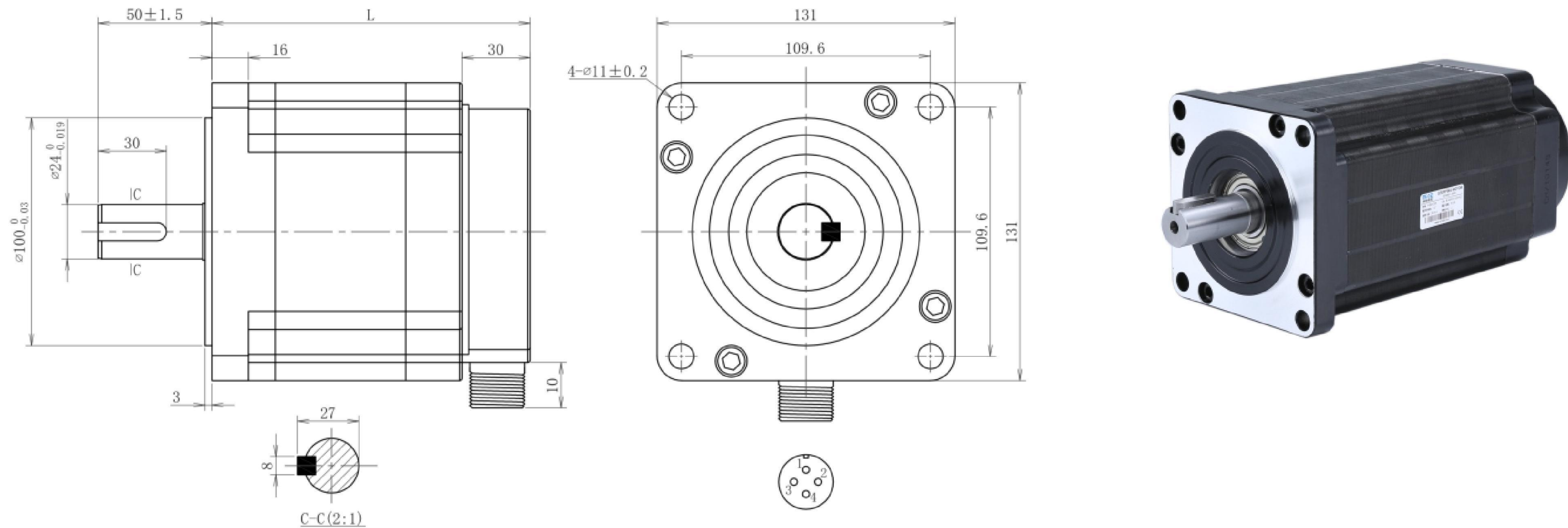
*注：以上仅为代表性产品，派生产品可根据客户要求制作
 *Note:We can manufacture products according to customer's requirements

三相高性能混合式步进电机

THREE PHASE STEPPING MOTORS

步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Srength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.06mm (450g负载)	最大0.08mm (450g负载)

外形图 / DIMENSION:UNIT=mm

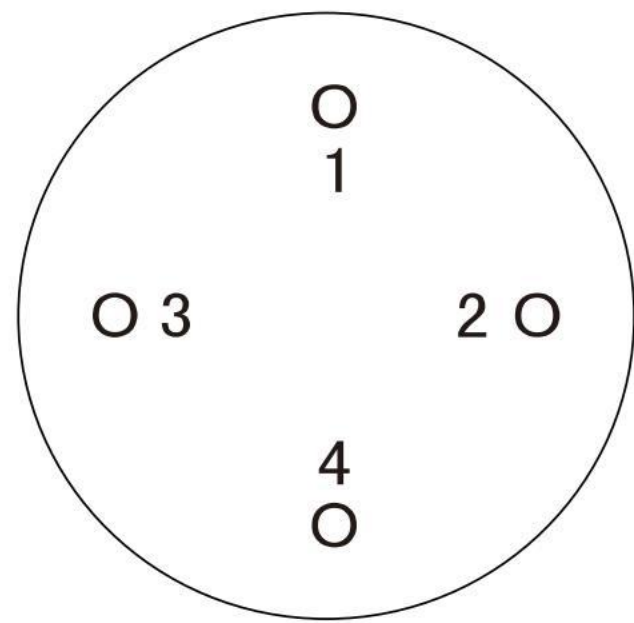
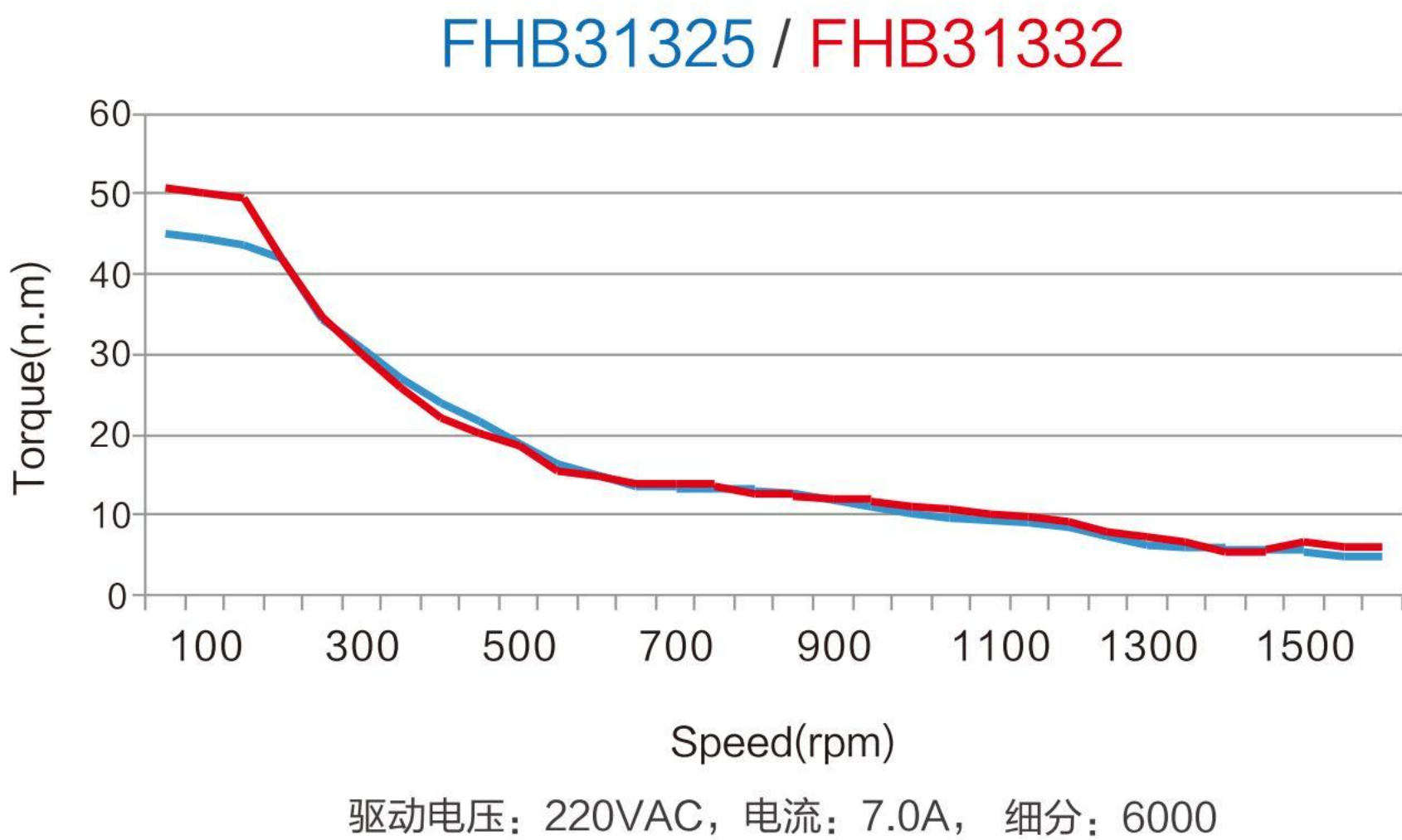
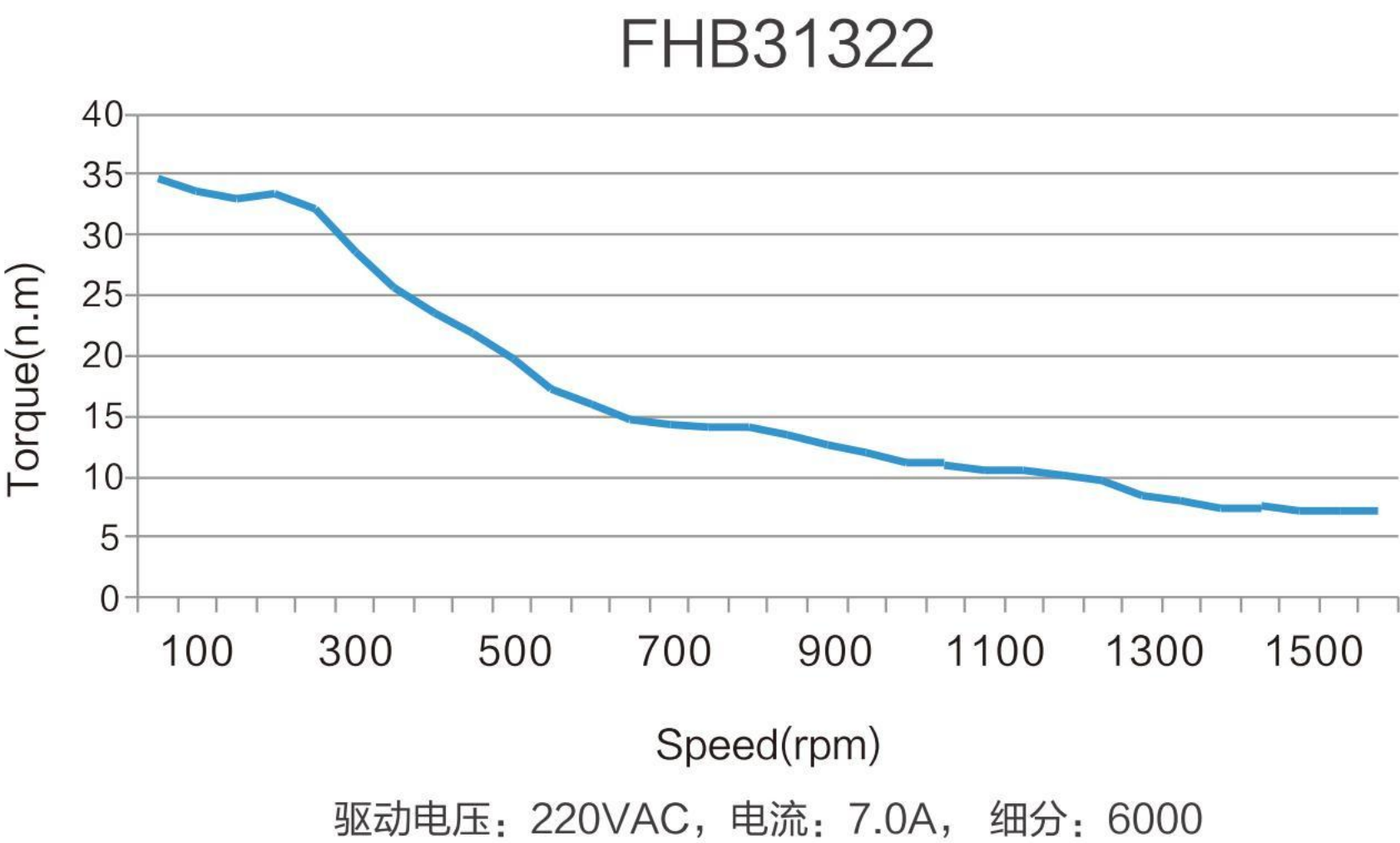
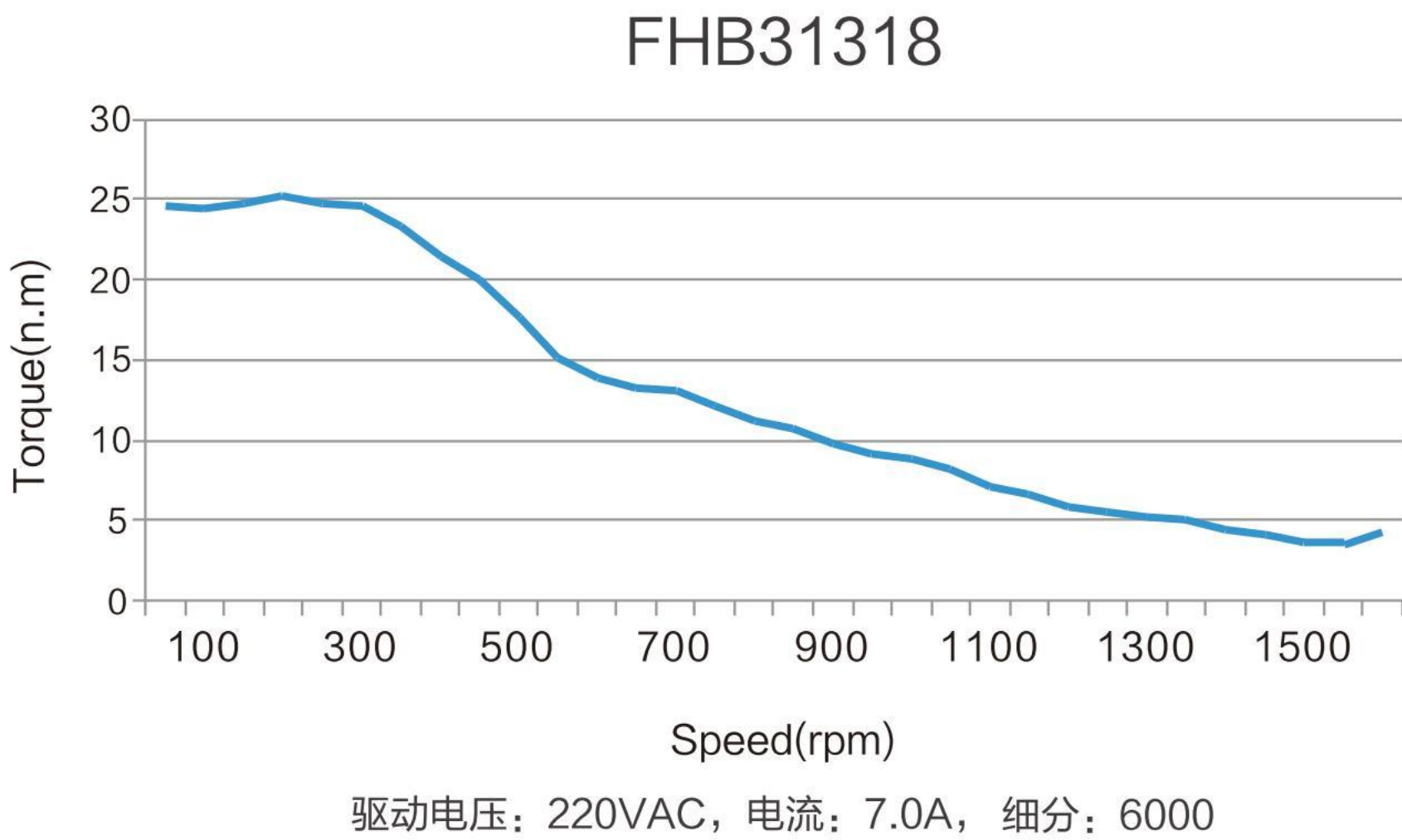
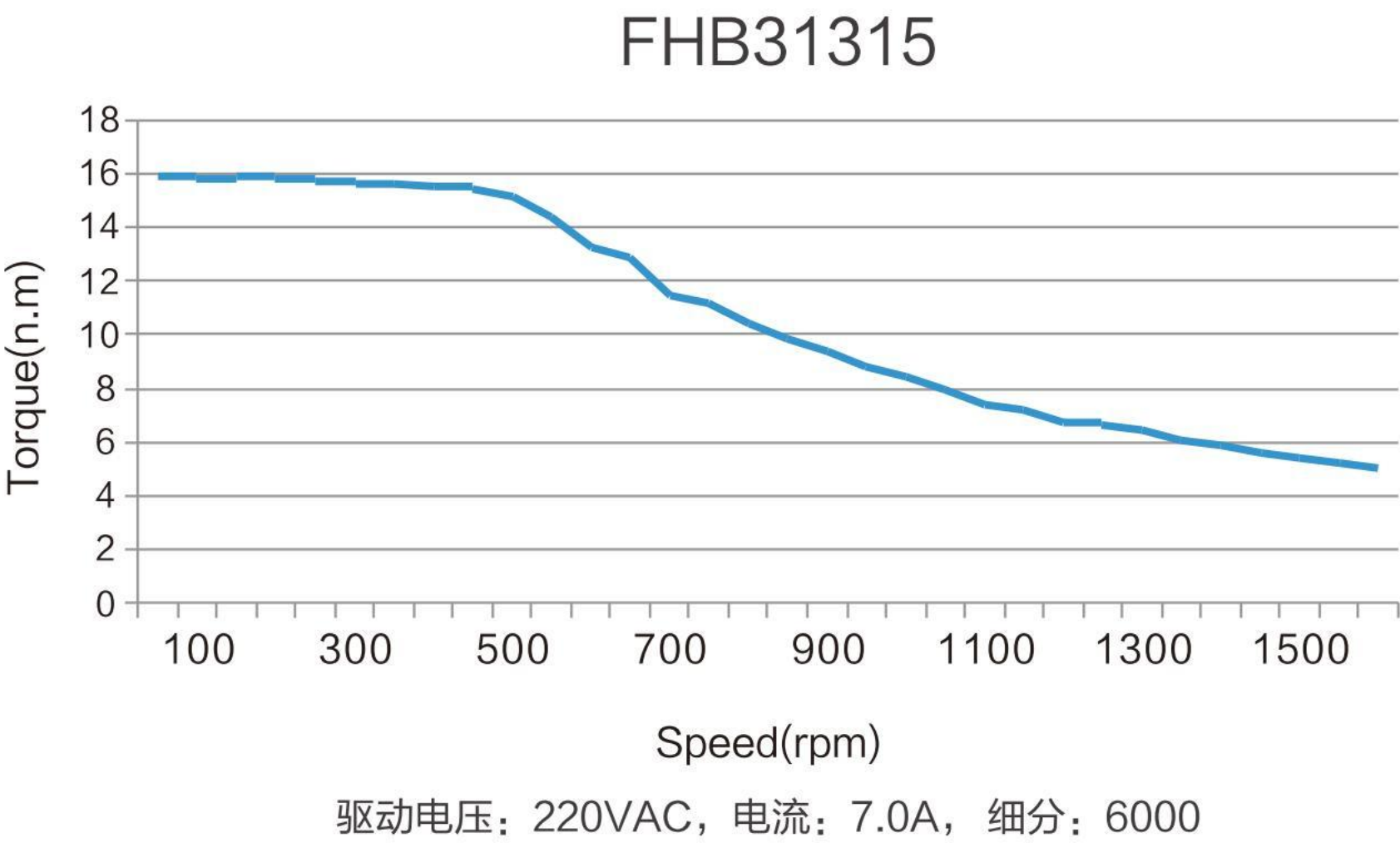


技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (kg)	轴径 Shaft Diameter (mm)	轴特征 Shaft Specification	电阻 Resistance (Ω)	电感 Inductance (mH)	引线数 Lead Wire (No.)
FHB31315	1.2	161	15	6.9	20000	11	24	平键8×30	0.55	3.5	3
FHB31318	1.2	190	20	6.9	26700	14.1	24	平键8×30	0.72	4.7	3
FHB31322	1.2	222	28	6.9	33970	17.2	24	平键8×30	0.95	6.1	3
FHB31325	1.2	254	35	6.9	41240	19.8	24	平键8×30	1.1	7.4	3
FHB31332	1.2	318	50	6.9	55780	26	24	平键8×30	1.4	9.82	3

动态力矩曲线 / FREQUENCY-TORQUE CHARACTERISTICS

接线图 / WIRING DIAGRAM



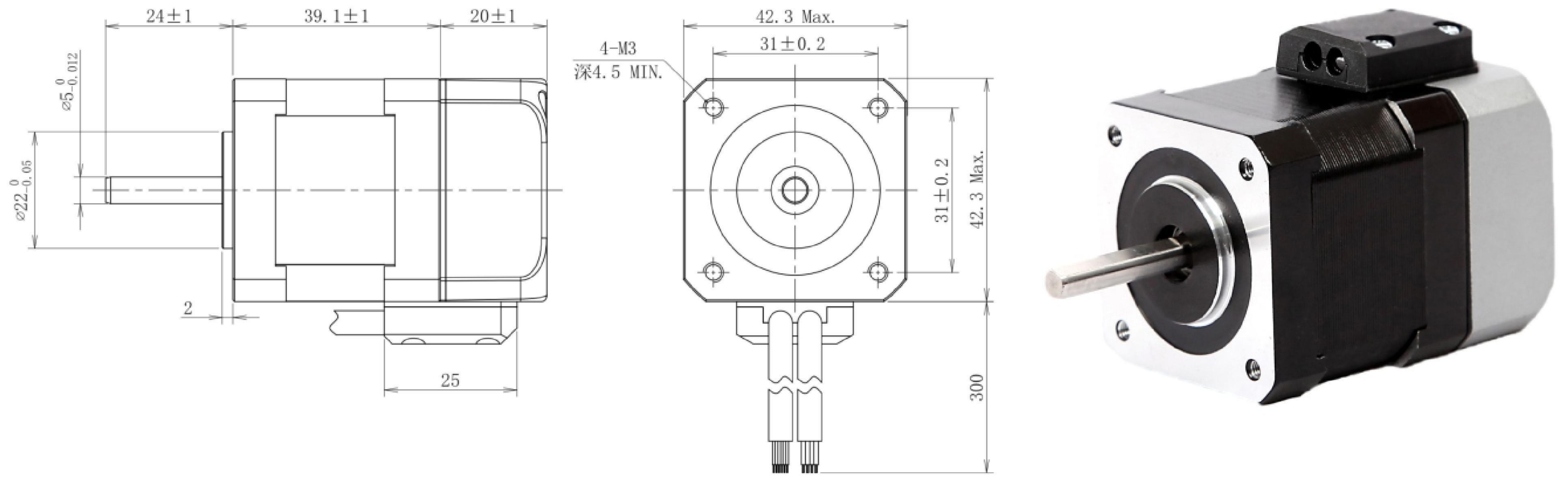
序号	1	2	3	4	备注
相序	U	V	W	GND	四芯插座

*注：以上仅为代表性产品，派生产品可根据客户要求制作
*Note: We can manufacture products according to customer's requirements

两相高性能混合式闭环步进电机 TWO PHASE CLOSED LOOP STEPPING SERVO MOTORS

步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Srength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.06mm (450g负载)	最大0.08mm (450g负载)

外形图 / DIMENSION:UNIT=mm



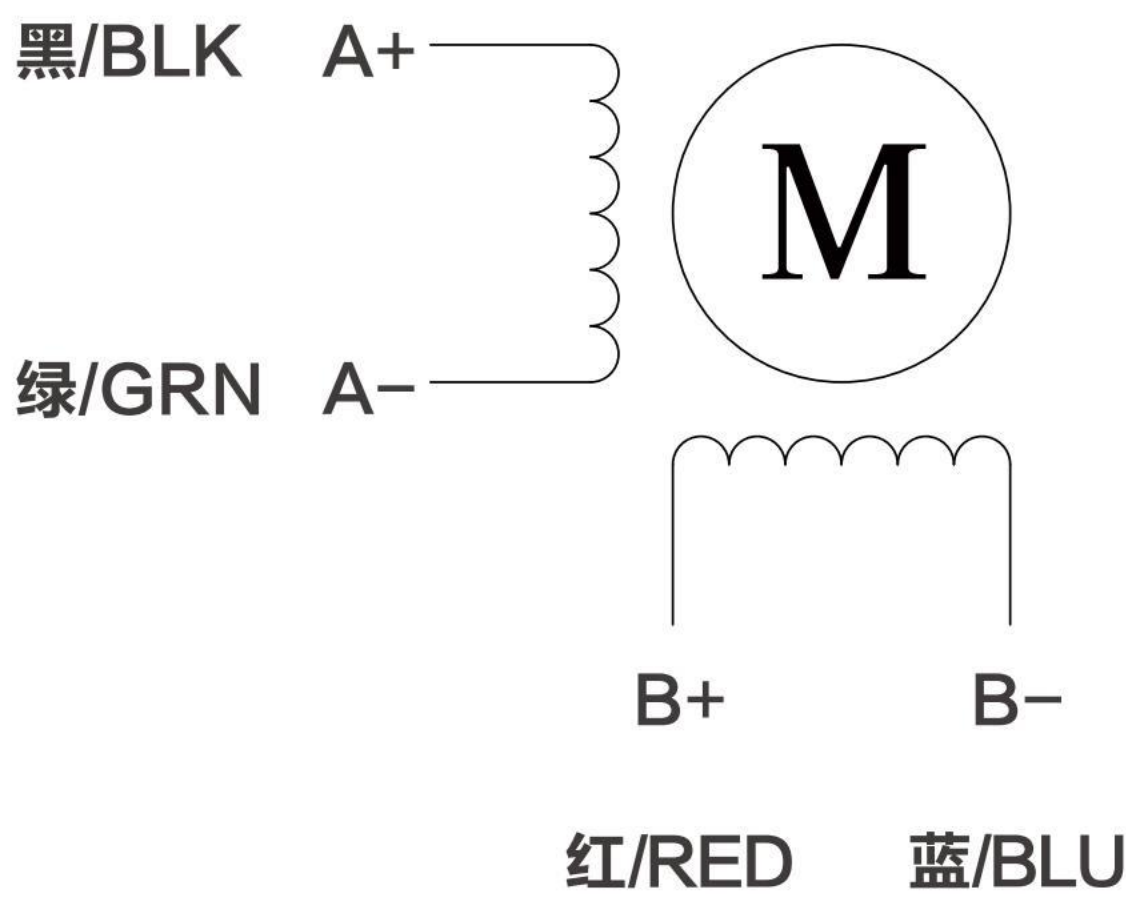
技术参数 / SPECIFICATIONS

型号 Model	步距角 Step Angle (°)	电机长度 Length L (mm)	保持转矩 Holding Torque (N.m)	额定电流 Current (A/phase)	电阻 Resistance (Ω)	电感 Inductance (mH)	转子惯量 Rotor Inertia (g.cm²)	重量 Weight (kg)	引线数 Lead Wire (No.)
F42-H34	1.8	53	0.30	2.0	1.0	1.6	40	0.3	4
F42-H40	1.8	59	0.45	2.0	1.2	2.1	57	0.37	4
F42-H48	1.8	67	0.55	2.5	0.9	1.8	82	0.45	4
F42-H60	1.8	79	0.8	2.0	1.5	3.8	110	0.61	4

编码器技术参数 / TECHNICAL PARAMETERS ENCODER

分辨率 Resolution	使用温度 Operating Temperature	工作电压 Operating Voltage	响应频率 Frequency Response	输出高电压 High-voltage Output	输出低电压 Low-voltage Output
1000线	-20~85℃	5V±0.25	0-100KHz	≥2.5V	≤0.3V

接线图 / WIRING DIAGRAM



编码器接线定义 / ENCODER WIRING DEFINED

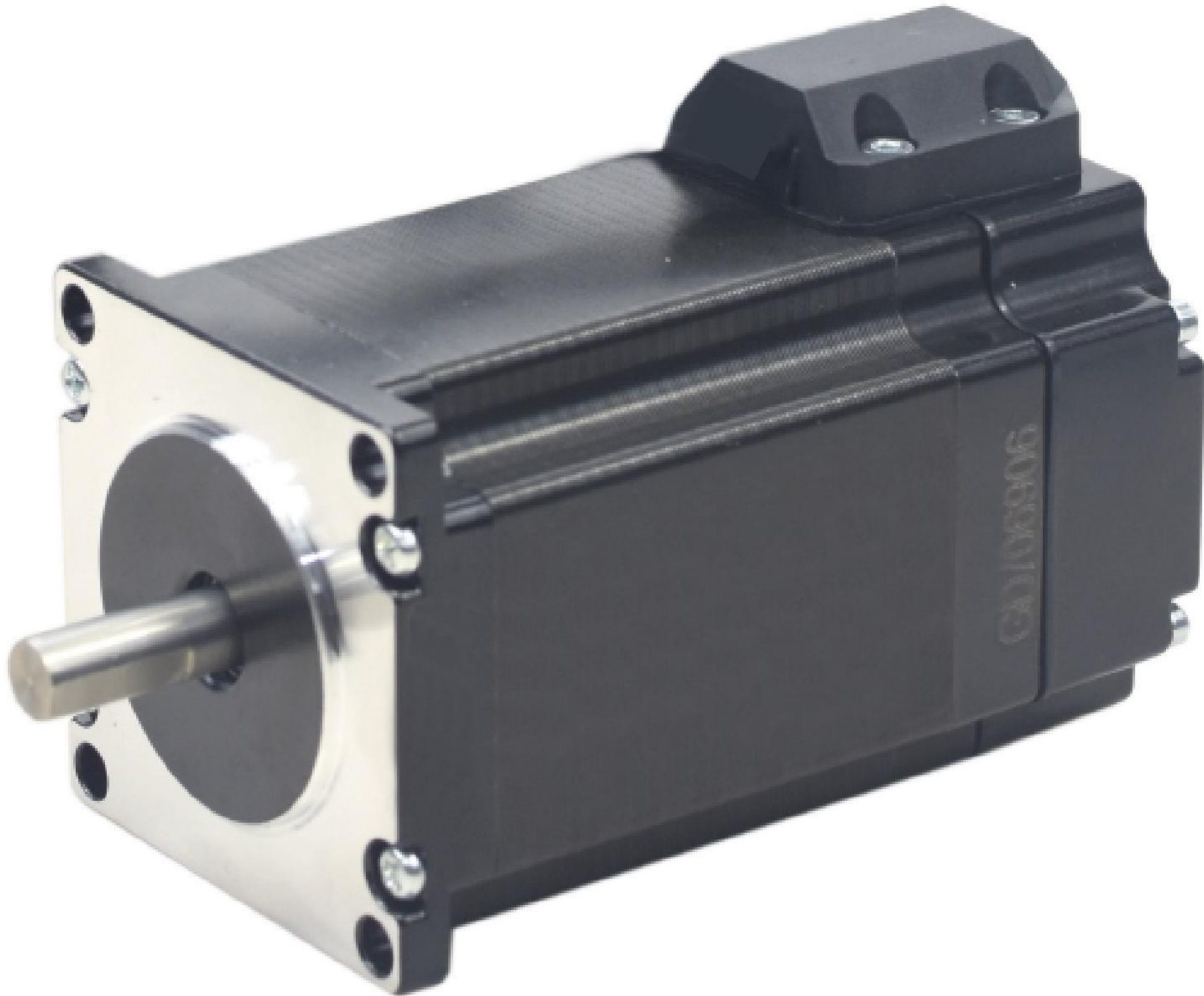
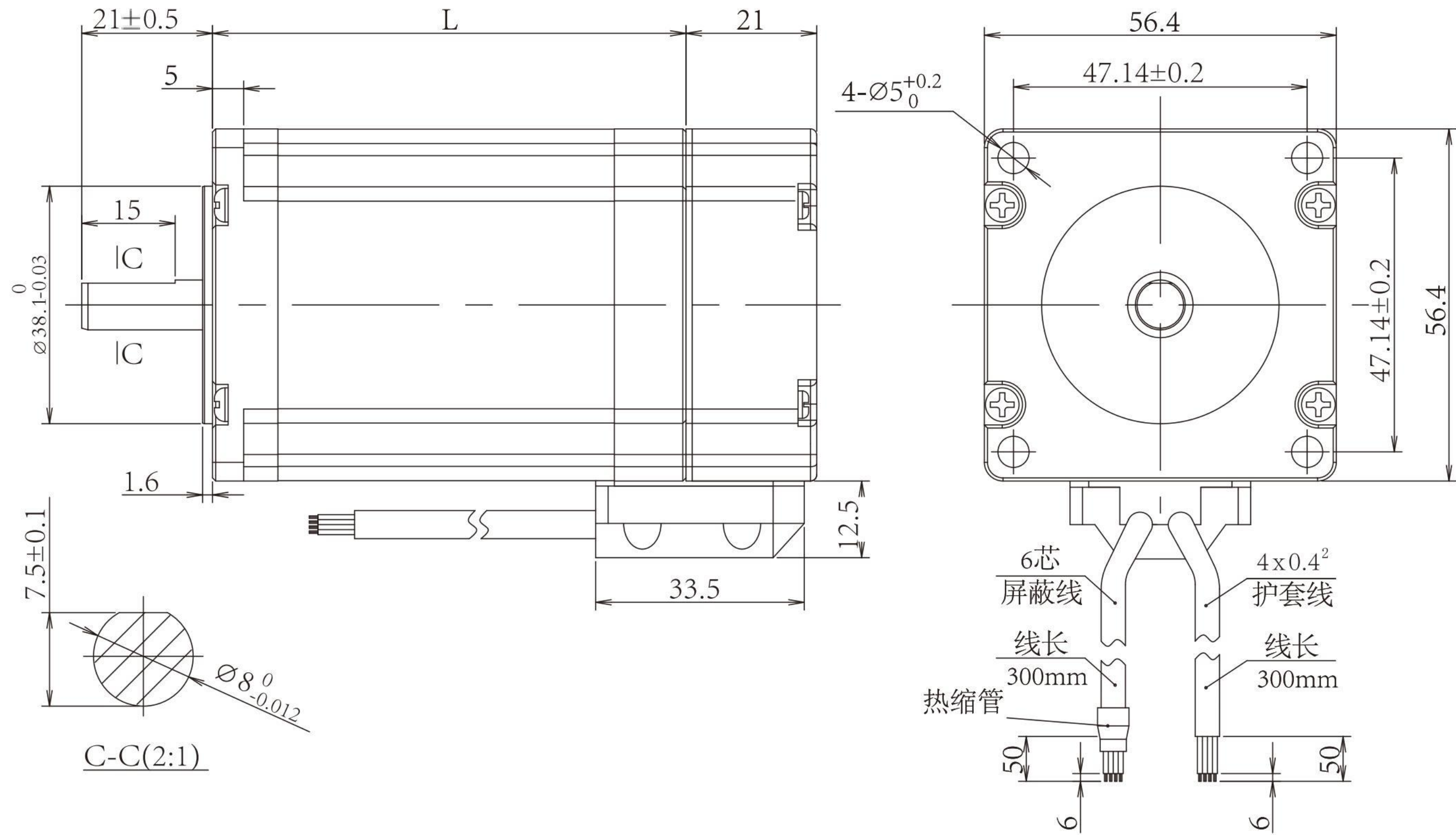
红色 RED	黑色 BLK	绿色 GRN	棕色 BRN	白色 WHT	灰色 GRY
Vcc	GND	A+	A-	B+	B-

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两相高性能混合式闭环步进电机 TWO PHASE CLOSED LOOP STEPPING SERVO MOTORS

步距精度 Step Angle Accuracy	温升 Temperature Rise	环境温度 Ambient Temperature	绝缘电阻 Insulation Resistance	耐压 Dielectric Srength	径向跳动 Shaft Radial Play	轴向跳动 Shaft Axial Play
5%	80℃ Max	-20℃ - +50℃	100MΩ Min (500VDC)	500V AC 1 minute	最大0.06mm (450g负载)	最大0.08mm (450g负载)

外形图 / DIMENSION:UNIT=mm



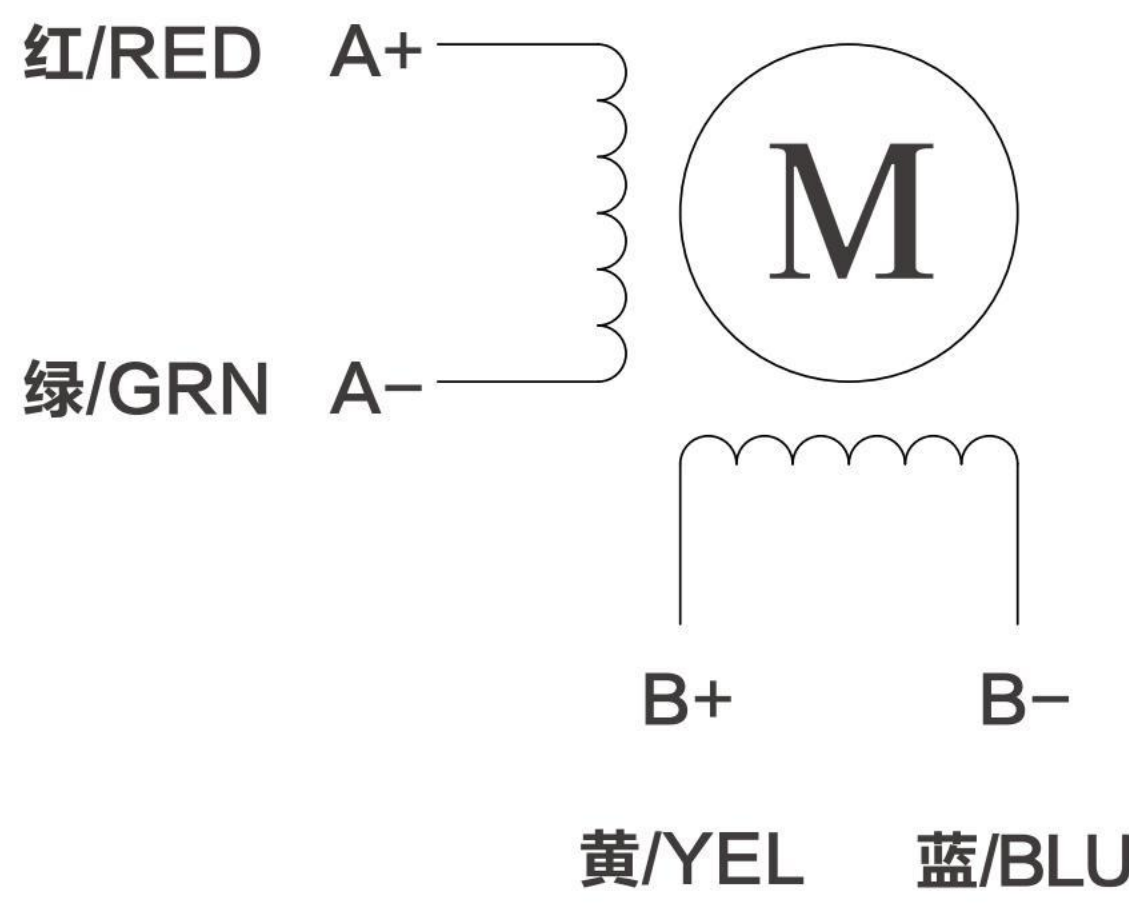
技术参数 / SPECIFICATIONS

型号 MODEL	步距角 Step Angle (°)	电机长度 length L (mm)	保持转矩 holding torque (N.m)	额定电流 current (A/phase)	电阻 resistance (Ω)	电感 inductance (mH)	转子惯量 rotor inertia (g.cm²)	重量 Weight (kg)	引线数 Lead Wire (No.)
F57-H51	1.8	51	1.0	3.0	0.65	1.9	240	0.53	4
F57-H56	1.8	55	1.1	3.0	0.71	2.4	280	0.69	4
F57-H64	1.8	64	1.4	3.0	0.84	3.2	340	0.86	4
F57-H76	1.8	76	2.0	4.0	0.90	2.0	470	1.02	4
F57-H100	1.8	99	2.5	4.0	0.86	2.9	680	1.21	4
F57-H112	1.8	111	3.0	4.0	0.86	3.4	800	1.41	4

编码器技术参数 / TECHNICAL PARAMETERS ENCODER

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接线图 / WIRING DIAGRAM



编码器接线定义 / ENCODER WIRING DEFINED

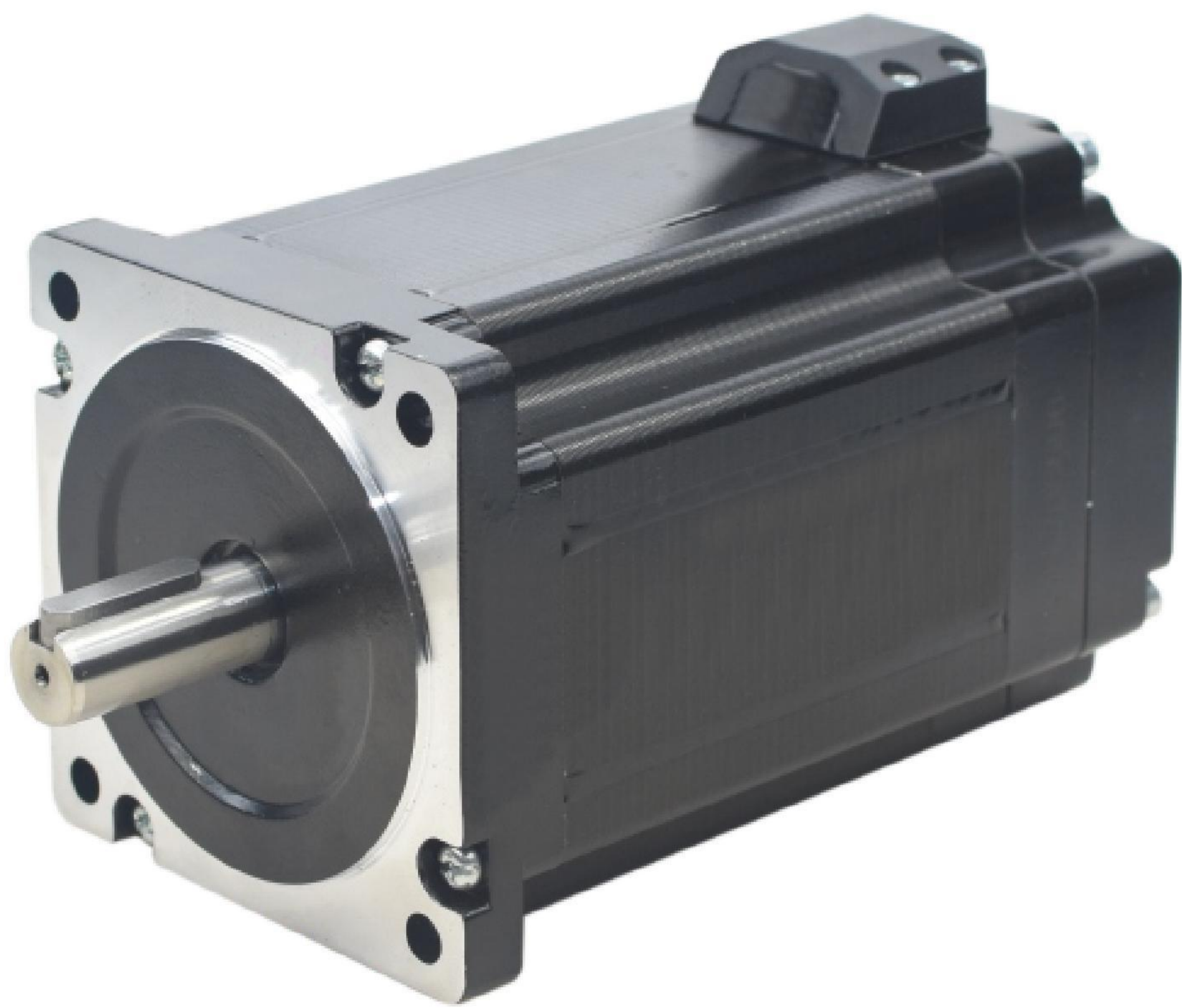
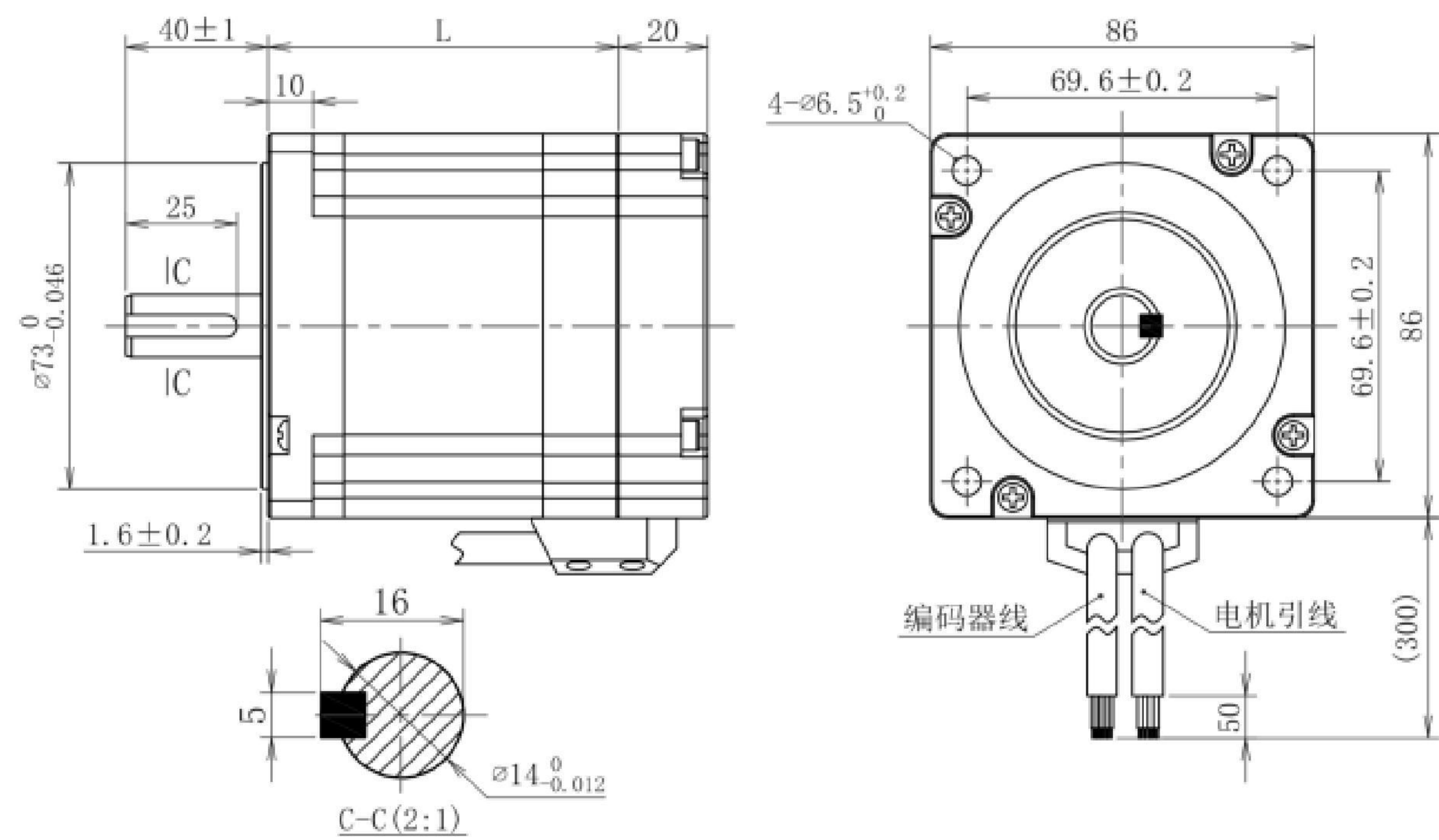
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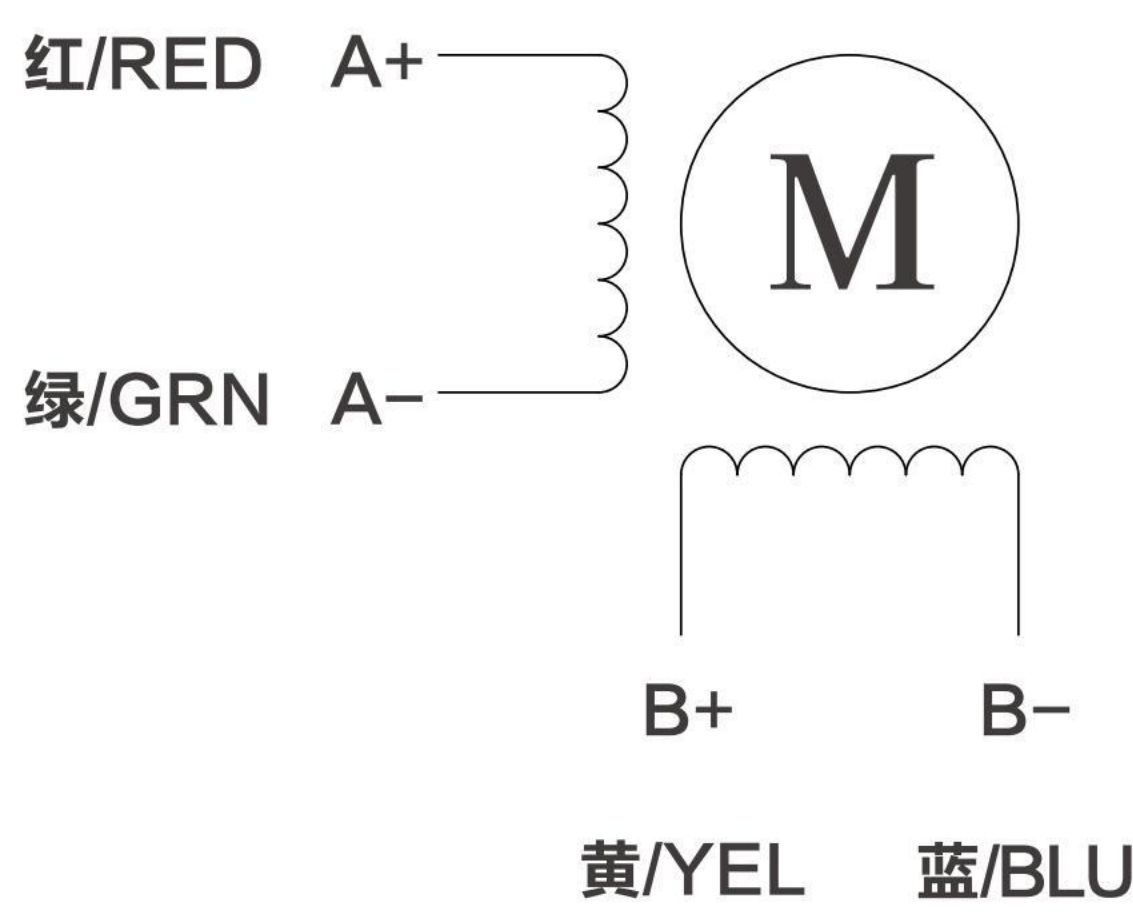
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F86-H65	1.8	67	3.0	6.0	0.22	1.7	950	1.95	4
F86-H80	1.8	78	4.5	6.0	0.27	2.7	1400	2.40	4
F86-H96	1.8	96	6.0	6.0	0.37	3.5	1850	3.10	4
F86-H118	1.8	118	8.5	6.0	0.45	4.6	2500	4.10	4
F86-H125	1.8	124	10	6.0	0.55	5.2	2770	4.35	4
F86-H150	1.8	150	11	6.0	0.48	5.6	4500	5.60	4

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接线图 / WIRING DIAGRAM



编码器接线定义 / ENCODER WIRING DEFINED

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