VAXOR MOTOR

Disruptive Innovation, Driving the Future

VAXOR

20mm Micro Joint Module Specifications

20mm Micro Joint Module

*This product is primarily used in dexterous hands, highly integrated robots, and other fields requiring mechanical motion control actuators.
*Caution:Please refer to the specifications during use and avoid exceeding the parameter range to prevent damage.
We welcome inquiries and discussions regarding product-related questions.

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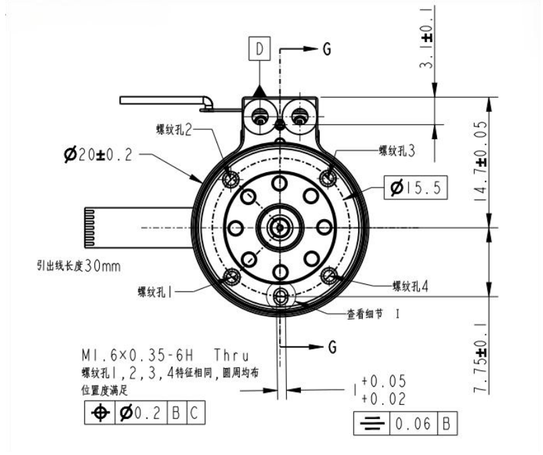
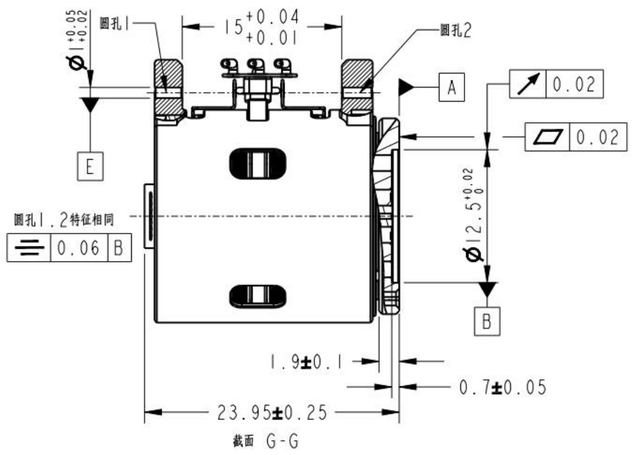
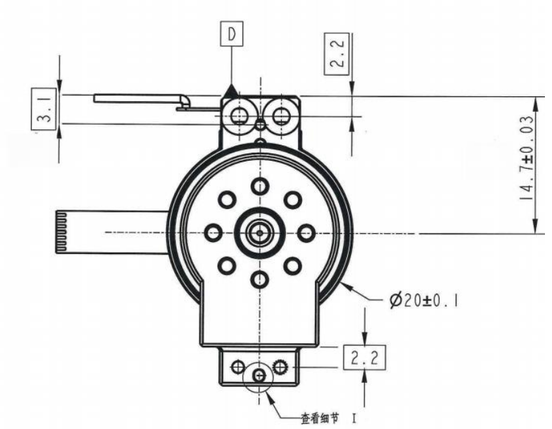
01. Appearance Reference

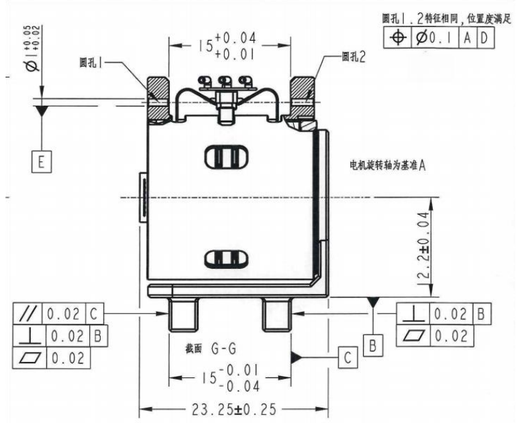
X20S-UM15/30/50-MH-1



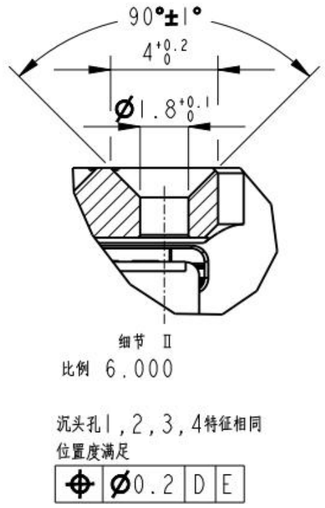


X20L-UM15/30/50-MH-1

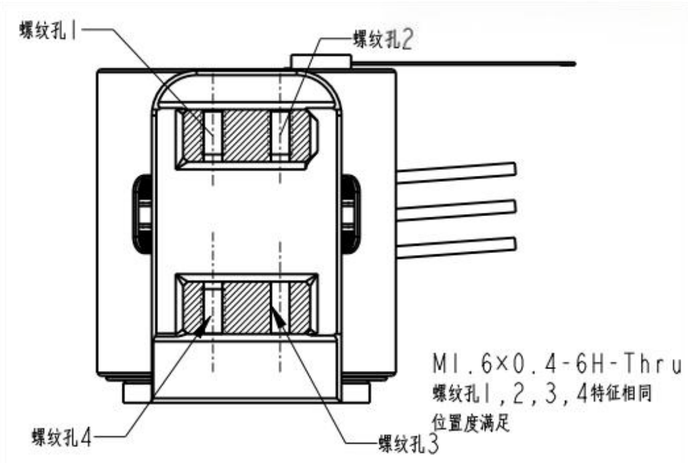




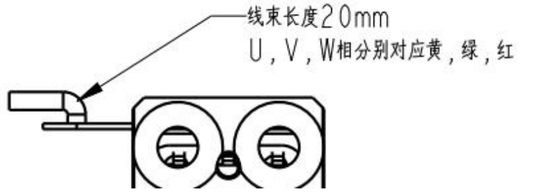
Housing Mounting Holes Detail



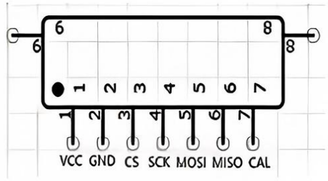
L-shaped Bracket Mounting Holes Detail



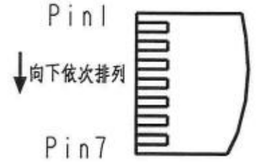
02. Wiring Appearance Reference



接口



尺寸:FPC 7PIN 间距:0.5mm
VCC: 电源3.3V-5V
GND: 电源地
CS: 片选
SCK:时钟
MOSI:数据
MISO:数据
CAL:校准

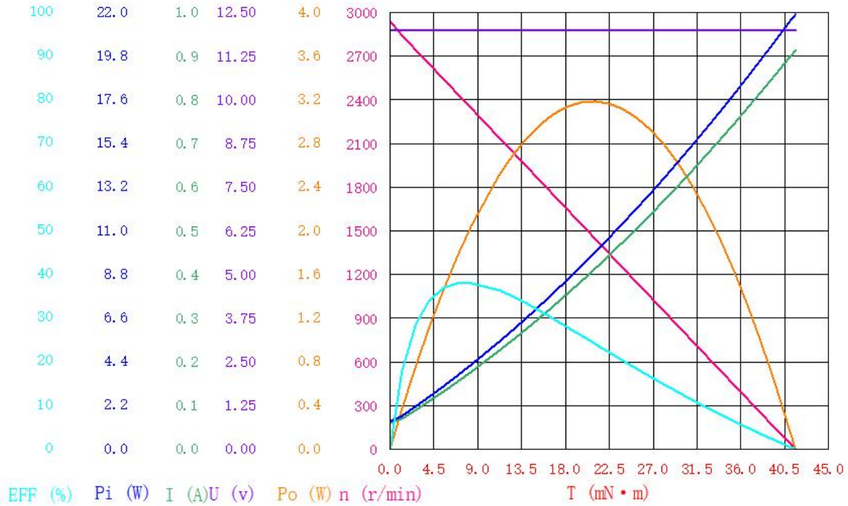


03. Technical Specifications

Motor Data		Unit	X20S-UM15/30/50-MH-1 X20L-UM15/30/50-MH-1		
1	Nominal Voltage	V	12/24/48		
2	No Load Speed	Rpm	⩽3000		
3	Nominal Speed	Rpm	⩽2000		
4	*Continuous Stalling Torque	mNm	>17.2		
5	*Initial Torque (cold state)	mNm	>24.9		
6	*Continuous Stalling Current	A	0.73		
7	*Stalling Torque (Max)	mNm	>35.3		
8	*Stalling Current(Max)	A	1.5		
9	*Terminal Resistance	Ω	6.6		
10	Unbalanced Three-Phase Resistance	%	⩽2		
11	*Terminal Inductance	mH	1.2		
12	Unbalanced Three-phase Inductance	%	⩽2		
13	Torque Constant	mNm/A	28.1		
14	Speed Constant	rpm/V	339		
15	Rotor Inertia	gcm^2	1		
Electric Drive Assembly					
16	Gear Ratio	/	15	30	50
17	Gear Efficiency (maximum)	%	65	65	64
18	Gear Efficiency (Stalling Point)	%	55	55	58
19	Continuous Stalling Torque	mNm	180	350	450
20	Initial Torque (cold state)	mNm	280	550	800
21	Counter-Drive Torque	mNm	<95	<180	<250
22	Backlash of Gears	Arcmin	20		
23	Encoder	Absolute Magnetic Encoder			
24	Communication Protocol	SPI			
25	Total Weight	g	37.2(S)/41.6(L)		
26	Total Inertia	gcm^2	2.52		
Thermal Data					
27	Loss Power	w	3	5	7.8
28	Chassis Temperature	℃	80	115	145

*Indicates a deviation of ±10% between actual and theoretical values

Single Motor Test Data (DC Bus Voltage: 12 V, Duty Cycle: 0.8)



Electric Drive Assembly Test Data (Gear Ratio: 50, DC Bus Voltage: 12 V, Duty Cycle: 0.8)