

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

HAM/HAMF SERIES

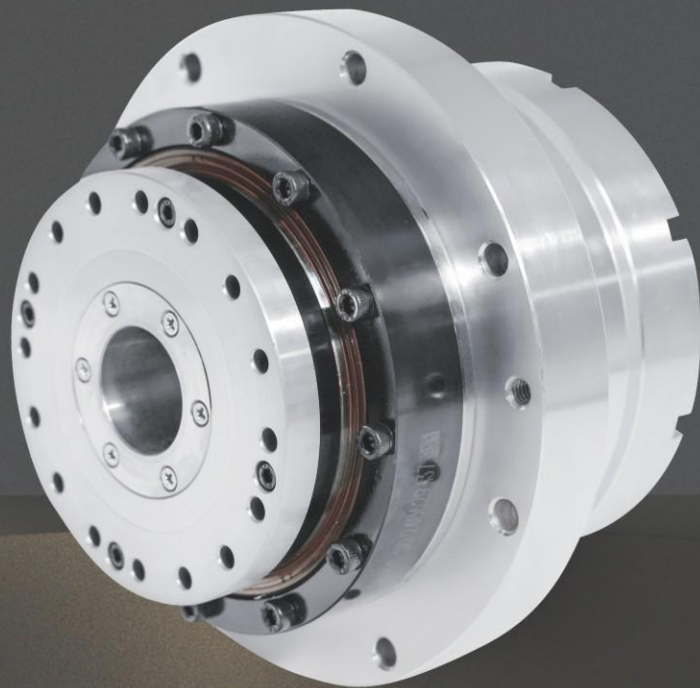
Hollow Shaft Rotary Actuator With Enlarged Bore

Application Area

Our products are widely used in a variety of fields, including electronic and semiconductor equipment, precision CNC machine tools, 3C equipment, precision laser processing equipment, LED equipment, testing equipment, medical devices, robots and specialized robotic arms, printing machinery, large-format printing equipment, glass processing equipment, and precision measuring instruments.

Product characteristics

- Large-bore** The HAMF series features a larger aperture than the HAT series, allowing for the passage of more cables, air tubes, and other components.
- High performance** Based on high-torque frameless torque motors, it offers extremely low cogging torque fluctuations, excellent dynamic response, high torque, high precision, and high rigidity.
- Standardized** The reducer and motor are based on a standardized, modular design, making them easy to disassemble and assemble, and facilitating quick replacement of spare parts.
- Maintenance-free** No grease replacement is required during operation; no periodic maintenance is needed.
- High protection** The entire series features an IP65 protection rating (IP67 available as a custom option).
- Easy to use** Direct-drive integrated, fully sealed design for easy installation and plug-and-play operation.
- Long service life** Precision retention lifespan of over 15,000 hours at rated torque.



FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

Product Mix

Harmonic reducer

Standard Comes standard with the leader harmonics

Cable outlet

Standard Side-exit and end-exit options available

(Each cable is 0.5 meters long as standard; they can be connected together or extended directly)

Encoder

Standard Absolute encoder, 23-bit per revolution, 17-bit optional, 16-bit multi-turn (depending on the specific model)

Frameless torque motor

Standard 220V or 48V (optional)

Brake

Standard Available with or without brakes

Note Environmental Specifications: Protection Rating: Standard configuration is fully enclosed, self-cooled (Ip65); IP67 available upon request; CE certified; Operating temperature: 0 - 40° C; Storage temperature: - 20 - 60° C.

Model definition

HA MF - 40 - XXX - AC 1 - 30 - A - D - KXX

Company Code
HA Series Harmonic Suppressor

Structural Configuration
M: Large-bore standard type
MF: Large-bore flanged type

Part Number
25 32 40

Gear ratio
51: Gear ratio 51
81: Gear ratio 81
101: Gear ratio 101
121: Gear ratio 121
161: Gear ratio 161

Power Supply Voltage Versions
AC: 220 V AC
DC: 48 V DC bus voltage

Custom Customer Number
No label by default

Qualification Format
D: End-face cable exit
C: Side cable exit

Braking System
A: Without an electromagnetic brake
B: With an electromagnetic brake

Servo Encoder Configuration
30: Multi-lap absolute value Tamagawa protocol (23 bits per lap / 16 bits for multiple laps)
31: Multi-lap absolute value Tamagawa protocol (17 bits per lap / 16 bits for multiple laps)
For specific encoder configurations, please contact our sales representatives.

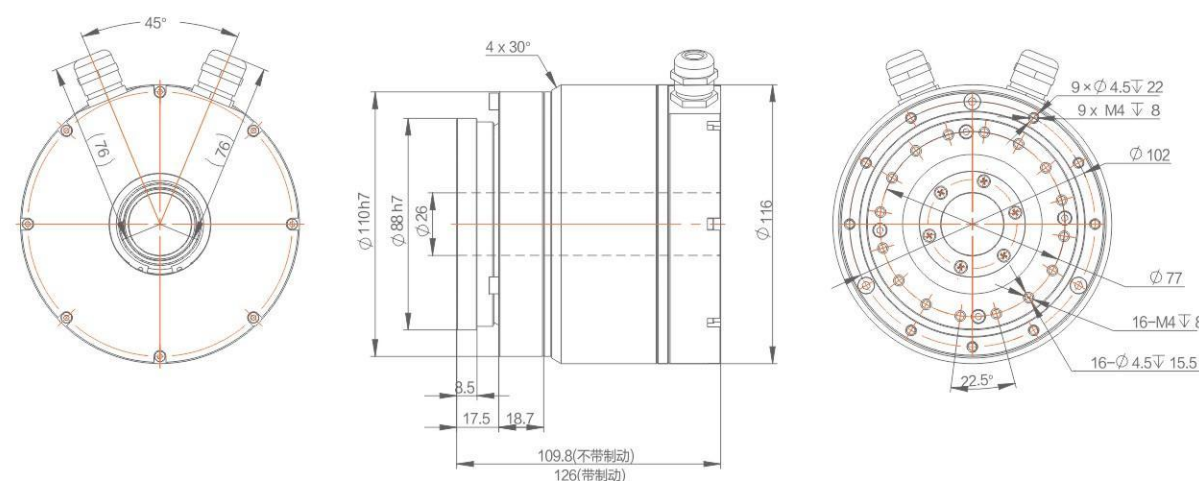
Internal version number
Internal Configuration

HAM/HAMF-25 SERIES

Rotary Actuator Performance Specifications							
Model Selection HAM-			25				
Gear ratio			51	81	101	121	161
AC voltage 220V	Peak torque	N.m	121	169	194	207	217
	Rated torque	N.m	68.5	107	133	133	133
	Maximum speed	rpm	94	59	48	40	30
	Rated speed	rpm	49	31	25	21	16
	Maximum current	Arms	6.90	6.07	5.58	4.97	3.92
	Rated current	Arms	3.90	3.84	3.83	3.20	2.40
	Torque constant	N.m/Arms	17.54	27.86	34.74	41.62	55.38
	Motor phase-to-phase resistance	Ohms (20℃)	3.55				
	Motor phase-to-phase inductance	mH	10				
	Motor back-EMF constant	Vrms/krpm	40				
DC Bus Voltage 48 VDC	Peak torque	N.m	121	169	194	207	217
	Rated torque	N.m	64	100	125	133	133
	Maximum speed	rpm	69	43	35	29	22
	Rated speed	rpm	49	31	25	21	16
	Maximum current	Arms	26.96	23.71	21.83	19.44	15.32
	Rated current	Arms	14.26	14.03	14.06	12.49	9.39
	Torque constant	N.m/Arms	4.49	7.13	8.89	10.65	14.17
	Motor phase-to-phase resistance	Ohms (20℃)	0.13				
	Motor phase-to-phase inductance	mH	0.36				
	Motor back-EMF constant	Vrms/krpm	10.5				
Absolute encoder	Encoder Type		Absolute encoder				
	Encoder Resolution (Per Revolution)	bit	2 ²³ (8,388,608) 或 2 ¹⁷ (131,072)				
	Encoder Multi-Revolution Counter	bit	2 ¹⁶ (65,536)				
Unidirectional positioning accuracy		Arcsec	≤60	≤50	≤50	≤40	≤40
Repeatability		Arcsec	≤10	≤10	≤10	≤10	≤10
Tipping stiffness		x10 ⁴ N.m/rad	38				
Torsional stiffness		x10 ⁴ N.m/rad	3.4	4.6			
Rotor moment of inertia	Without brakes	kg*m ²	2.1*10 ⁻⁴				
	With brakes	kg*m ²	2.2*10 ⁻⁴				
Quality	Without brakes	Kg	3.6				
	With brakes	Kg	4.2				
Number of motor poles		Pole	16				
Environmental conditions			Operating temperature: 0-40° C / Storage temperature: -20-60° C Operating humidity / Storage humidity: 20-80% RH (non-condensing) Vibration resistance: 24.5 m/s ² (frequency: 10-400 Hz) Free from dust, metal particles, corrosive gases, flammable gases, oil mist, etc. For indoor use only; avoid direct sunlight Altitude below 1,000 m				
Safety Specifications			CE Certification				
Motor Insulation			Insulation resistance: 100 MΩ or higher (500 V DC)				
			Insulation withstand voltage: 1500 V AC for 1 minute				
			Insulation class: Class F				
Protection Rating			Fully enclosed, self-cooled type (Ip54)				

HAM-25

Side cable exit

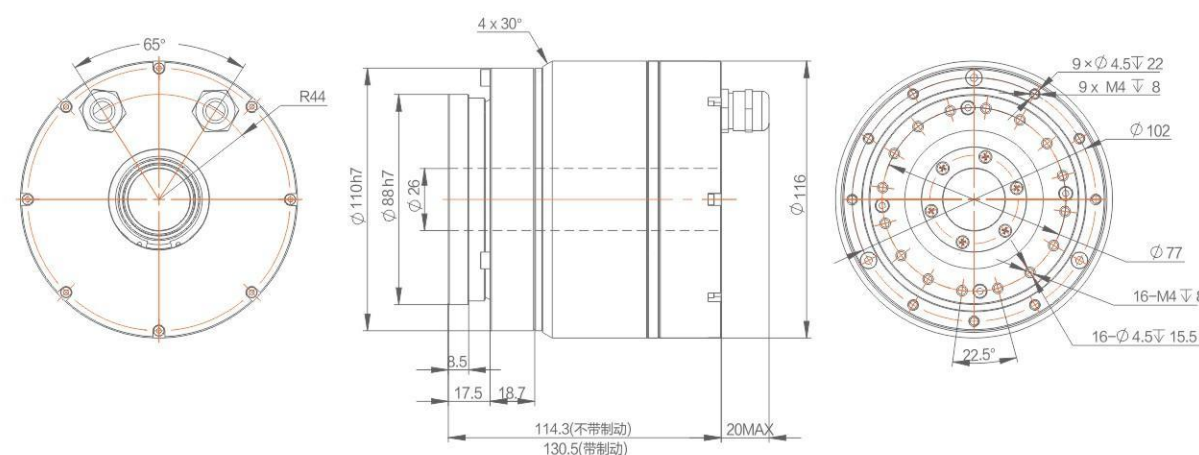


Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

HAM-25

End-face cable exit



Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

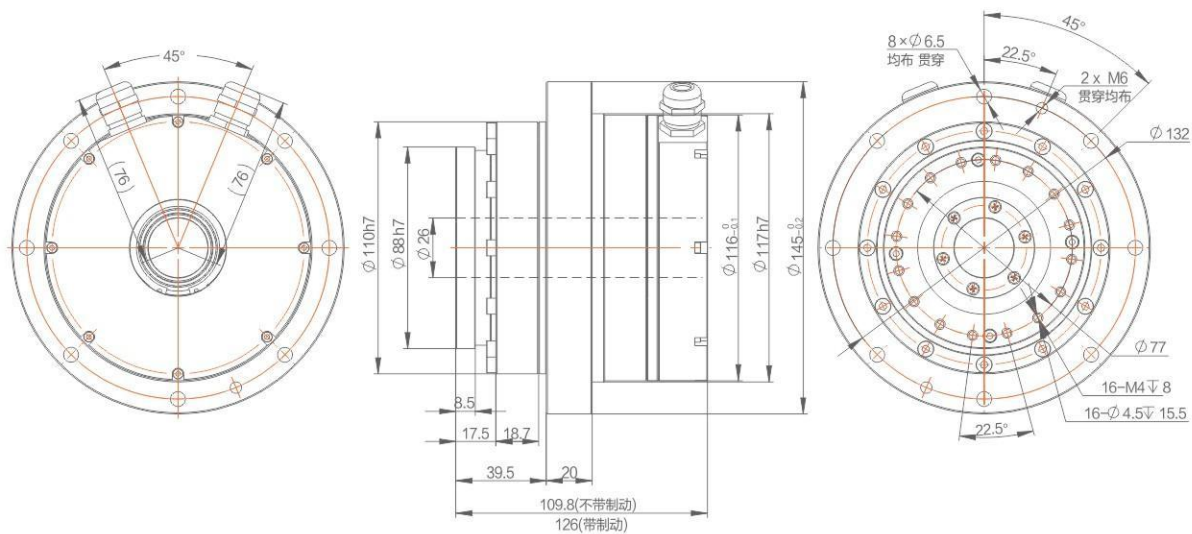
Unit mm

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

HAMF-25

Side cable exit

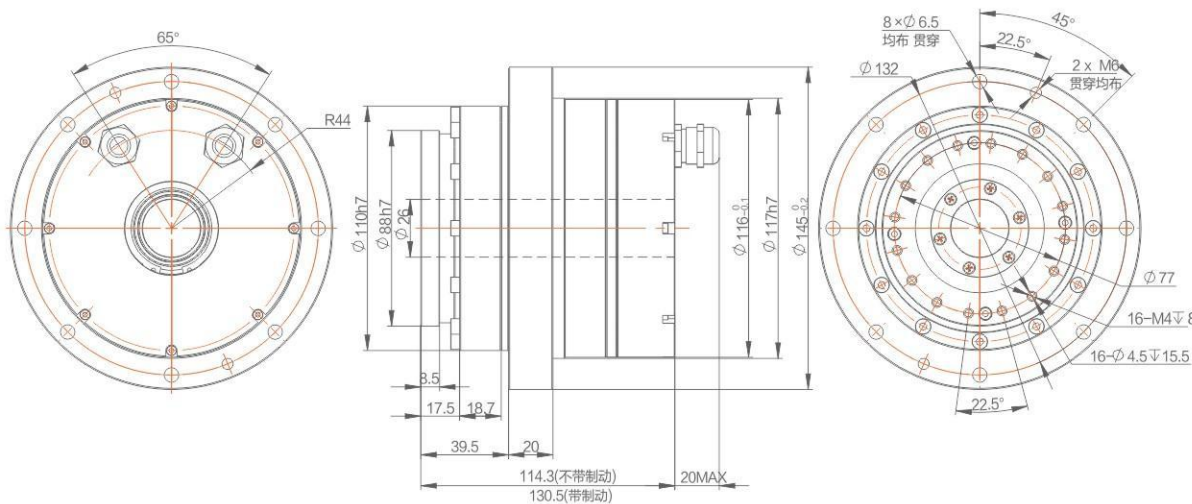


Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

HAMF-25

End-face cable exit



Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

HAM/HAMF-32 SERIES

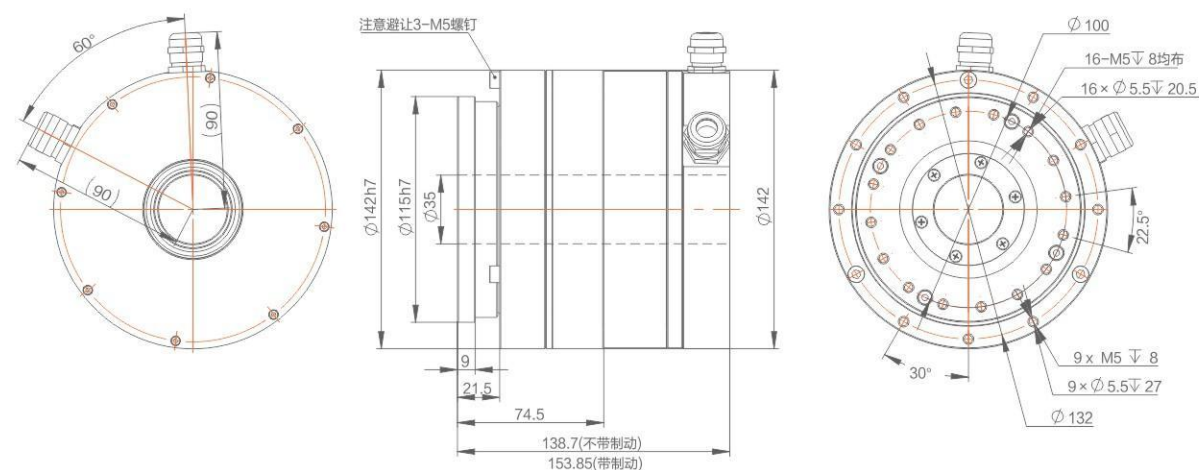
Rotary Actuator Performance Specifications

Model Selection HAM-			32				
Gear ratio			51	81	101	121	161
AC voltage 220V	Peak torque	N.m	267	376	411	436	459
	Rated torque	N.m	133	206	264	267	267
	Maximum speed	rpm	90	57	46	38	29
	Rated speed	rpm	45	28	23	19	14
	Maximum current	Arms	11.69	10.36	9.08	8.04	6.36
	Rated current	Arms	5.82	5.68	5.83	4.93	3.70
	Torque constant	N.m/Arms	22.85	36.29	45.25	54.21	72.13
	Motor phase-to-phase resistance	Ohms (20℃)	0.88				
	Motor phase-to-phase inductance	mH	6.1				
	Motor back-EMF constant	Vrms/krpm	40				
DC Bus Voltage 48 VDC	Peak torque	N.m	267	376	411	436	459
	Rated torque	N.m	131	206	260	267	267
	Maximum speed	rpm	59	37	30	25	19
	Rated speed	rpm	39	25	20	17	12
	Maximum current	Arms	40.90	36.27	31.79	28.15	22.27
	Rated current	Arms	20.07	19.87	20.11	17.24	12.96
	Torque constant	N.m/Arms	6.53	10.37	12.93	15.49	20.61
	Motor phase-to-phase resistance	Ohms (20℃)	0.088				
	Motor phase-to-phase inductance	mH	0.39				
	Motor back-EMF constant	Vrms/krpm	10.5				
Absolute encoder	Encoder Type		Absolute encoder				
	Encoder Resolution (Per Revolution)	bit	2 ²³ (8,388,608) 或 2 ¹⁷ (131,072)				
	Encoder Multi-Revolution Counter	bit	2 ¹⁶ (65,536)				
Unidirectional positioning accuracy		Arcsec	≤60	≤50	≤50	≤40	≤40
Repeatability		Arcsec	≤10	≤10	≤10	≤10	≤10
Tipping stiffness		x10 ⁴ N.m/rad	95				
Torsional stiffness		x10 ⁴ N.m/rad	7.6	9.9			
Rotor moment of inertia	Without brakes	kg*m ²	1.0*10 ⁻⁴				
	With brakes	kg*m ²	1.19*10 ⁻⁴				
Quality	Without brakes	Kg	6.8				
	With brakes	Kg	7.56				
Number of motor poles		Pole	16				
Environmental conditions			Operating temperature: 0-40° C / Storage temperature: -20-60° C Operating humidity / Storage humidity: 20-80% RH (non-condensing) Vibration resistance: 24.5 m/s ² (frequency: 10-400 Hz) Free from dust, metal particles, corrosive gases, flammable gases, oil mist, etc. For indoor use only; avoid direct sunlight Altitude below 1,000 m				
Safety Specifications			CE Certification				
Motor Insulation			Insulation resistance: 100 MΩ or higher (500 V DC)				
			Insulation withstand voltage: 1500 V AC for 1 minute				
			Insulation class: Class F				
Protection Rating			Fully enclosed, self-cooled type (Ip54)				

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

HAM-32

Side cable exit



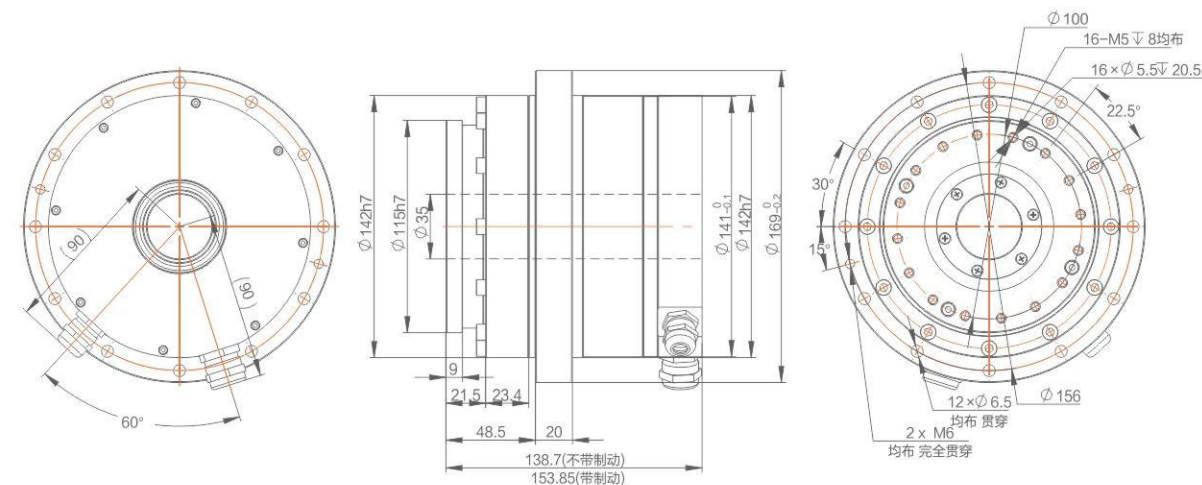
Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

HAMF-32

Side cable exit

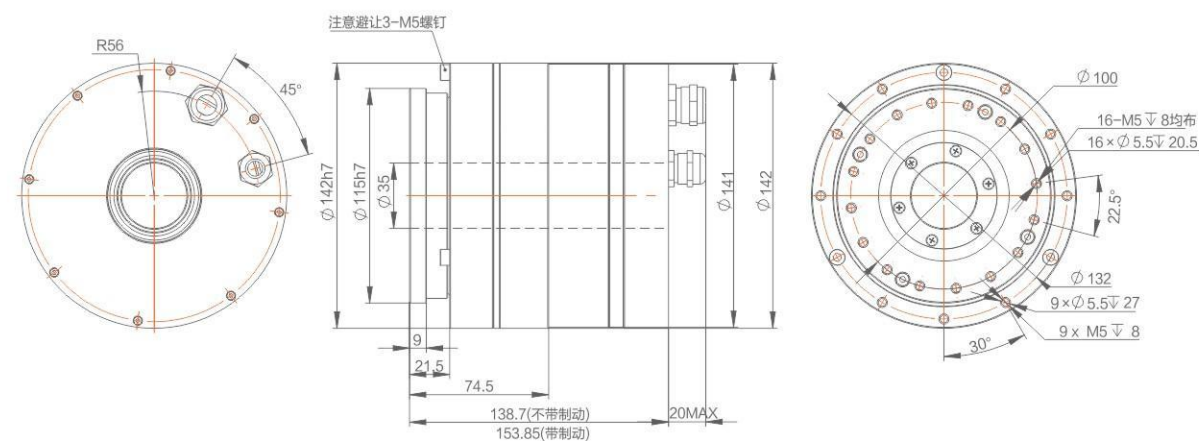


Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

HAM-32

End-face cable exit

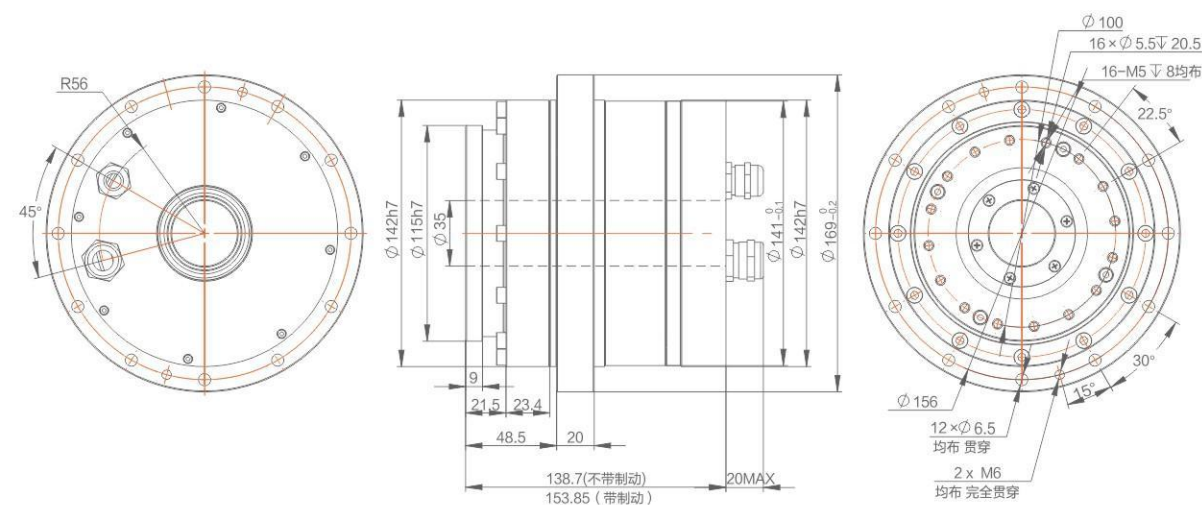


Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

HAMF-32

End-face cable exit



Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

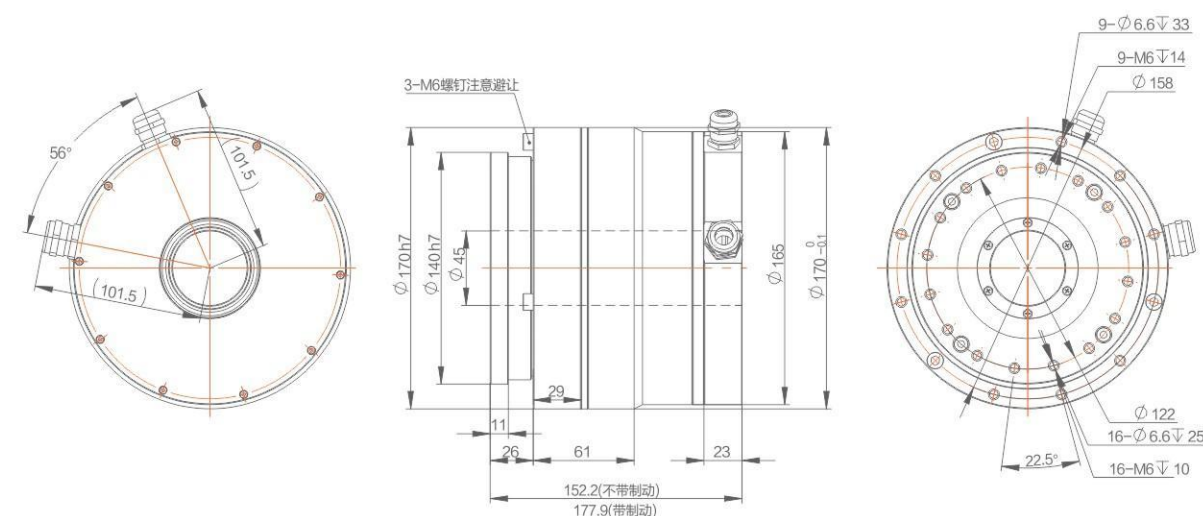
HAM/HAMF-40 SERIES

Rotary Actuator Performance Specifications

Model Selection HAM-			40				
Gear ratio			51	81	101	121	161
AC voltage 220V	Peak torque	N.m	497	641	702	762	800
	Rated torque	N.m	242	351	460	557	557
	Maximum speed	rpm	80	51	41	34	25
	Rated speed	rpm	39	25	20	17	12
	Maximum current	Arms	17.91	14.55	12.78	11.58	9.13
	Rated current	Arms	8.72	7.97	8.37	8.46	6.36
	Torque constant	N.m/Arms	27.74	44.06	54.94	65.82	87.58
	Motor phase-to-phase resistance	Ohms (20℃)	0.8				
	Motor phase-to-phase inductance	mH	8				
	Motor back-EMF constant	Vrms/krpm	44				
DC Bus Voltage 48 VDC	Peak torque	N.m	280	440	550	660	800
	Rated torque	N.m	140	230	280	340	450
	Maximum speed	rpm	43	27	22	18	14
	Rated speed	rpm	31	20	16	13	10
	Maximum current	Arms	42.89	42.44	42.54	42.61	38.82
	Rated current	Arms	21.45	22.18	21.66	21.95	21.84
	Torque constant	N.m/Arms	6.53	10.37	12.93	15.49	20.61
	Motor phase-to-phase resistance	Ohms (20℃)	0.074				
	Motor phase-to-phase inductance	mH	0.3				
	Motor back-EMF constant	Vrms/krpm	15				
Absolute encoder	Encoder Type		Absolute encoder				
	Encoder Resolution (Per Revolution)	bit	2 ²³ (8,388,608)				
	Encoder Multi-Revolution Counter	bit	2 ¹⁶ (65,536)				
Unidirectional positioning accuracy		Arcsec	≤60	≤50	≤50	≤40	≤40
Repeatability		Arcsec	≤10	≤10	≤10	≤10	≤10
Tipping stiffness		x10 ⁴ N.m/rad	175				
Torsional stiffness		x10 ⁴ N.m/rad	14	18.6			
Rotor moment of inertia	Without brakes	kg*m ²	1.72*10 ⁻³				
Quality	Without brakes	Kg	12.2				
Number of motor poles		Pole	16				
Environmental conditions			Operating temperature: 0-40° C / Storage temperature: -20-60° C Operating humidity / Storage humidity: 20-80% RH (non-condensing) Vibration resistance: 24.5 m/s ² (frequency: 10-400 Hz) Free from dust, metal particles, corrosive gases, flammable gases, oil mist, etc For indoor use only; avoid direct sunlight Altitude below 1,000 m				
Safety Specifications			CE Certification				
Motor Insulation			Insulation resistance: 100 MΩ or higher (500 V DC)				
			Insulation withstand voltage: 1500 V AC for 1 minute				
			Insulation class: Class F				
Protection Rating			Fully enclosed, self-cooled type (Ip54)				

HAM-40

Side cable exit

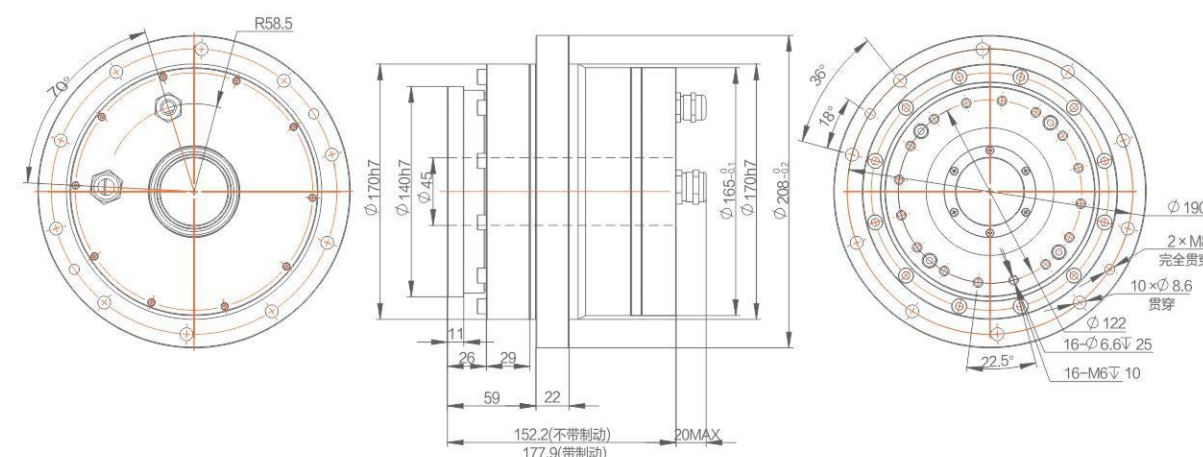


Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm

HAMF-40

End-face cable exit



Note The drawings above do not include brake components.
If you require brakes, please contact our sales department.

Unit mm