

FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

HPG^{SERIES}

High precision planetary rotary actuator

Application Area

Our products are widely used in four-axis and five-axis machine tools, 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

High precision

Positioning accuracy is less than 20 arcsec, and repeatability is less than 5 arcsec.

High rigidity

Due to its planetary design, it offers 3 to 4 times the torsional rigidity of the HAT series for the same torque rating.

Impact-resistant

The reducer has a high torque capacity, with peak start-up and stop torque reaching 2.5 times the motor's rated overload.

High efficiency

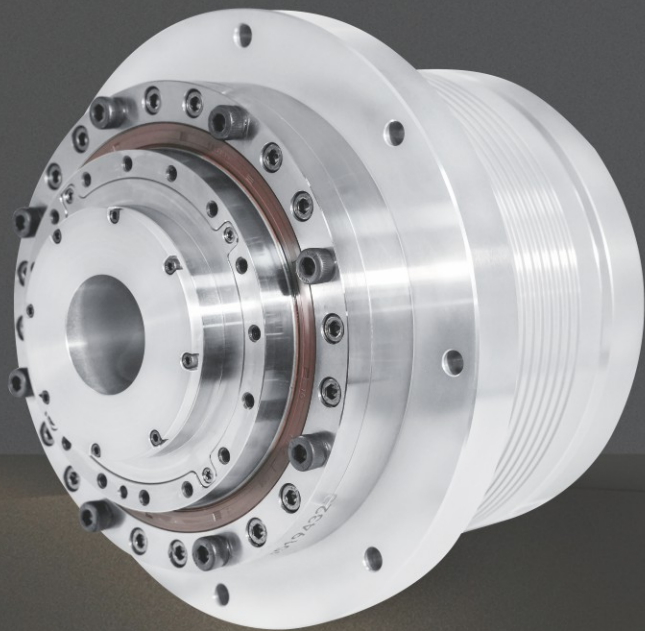
The reducer achieves an efficiency of over 88%; this high efficiency ensures excellent dynamic response, making it particularly suitable for the machine tool industry.

Hollow bore

Internal cable routing is available, facilitating the passage of air hoses, cables, and other components.

Easy to use

Installation is straightforward, with compatibility for mainstream drives on the market. It comes standard with the Tamagawa protocol (BISS; SSI optional) and is plug-and-play.



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Product Mix

Planetary gear reducer

Standard High-Precision Backlash-Free Planetary Gear Reducer

Cable outlet

Standard Side-exit and end-exit options available

Encoder

Standard Absolute encoder, 23-bit per revolution, 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; Operating temperature: 0 - 40° C; Storage temperature: - 20 - 60° C.

Model definition

HPG - 20 - T - XXX - AC - 1 - 30 - A - C - K003

Series

HP: HP Series Planetary Gear Rotary Actuators
G: High precision, high rigidity, high sensitivity

Part Number

20、30、40、80

Version Number

T: T Version

Reduction ratio

T Series: 45:1

Power Supply Voltage Versions

AC: 220 V AC

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 per multi-lap)

Internal version number

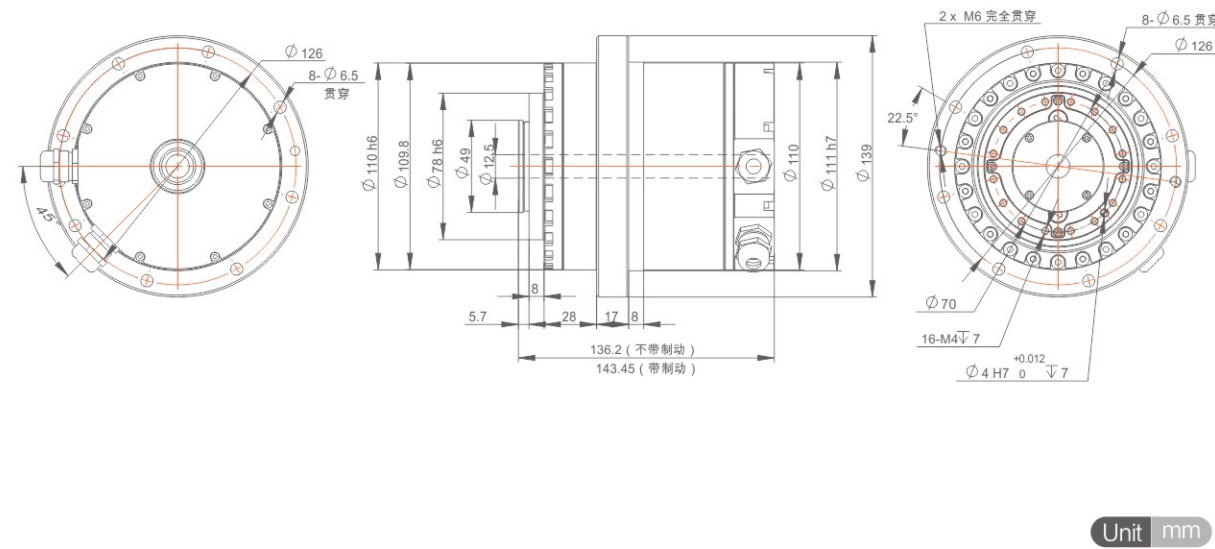
Internal Configuration

HPG-10T SERIES

Rotary Actuator Performance Specifications				
Model Selection HPG-			10T	
Gear ratio			74	
AC voltage 220V	Peak torque	N.m	200	
	Rated torque	N.m	91	
	Maximum speed	rpm	65	
	Rated speed	rpm	34	
	Maximum current	Arms	8.38	
	Rated current	Arms	3.81	
	Torque constant	N.m/Arms	23.87	
	Motor phase-to-phase resistance	Ohms (20℃)	3.55	
	Motor phase-to-phase inductance	mH	10	
	Motor back-EMF constant	Vrms/krpm	40	
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)	
Angular transmission accuracy		Arcsec (角秒)	≤20	
Repeatability		Arcsec (角秒)	≤5	
Torsional stiffness		N.m/Arcmin	46	
Allowable overturning moment		N.m	315	
Rotor moment of inertia	Without brakes	kg*m ²	2*10 ⁻⁴	
	With brakes	kg*m ²	3.81*10 ⁻⁴	
Quality	Without brakes	Kg	4.5	
	With brakes	Kg	4.89	
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	
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)	

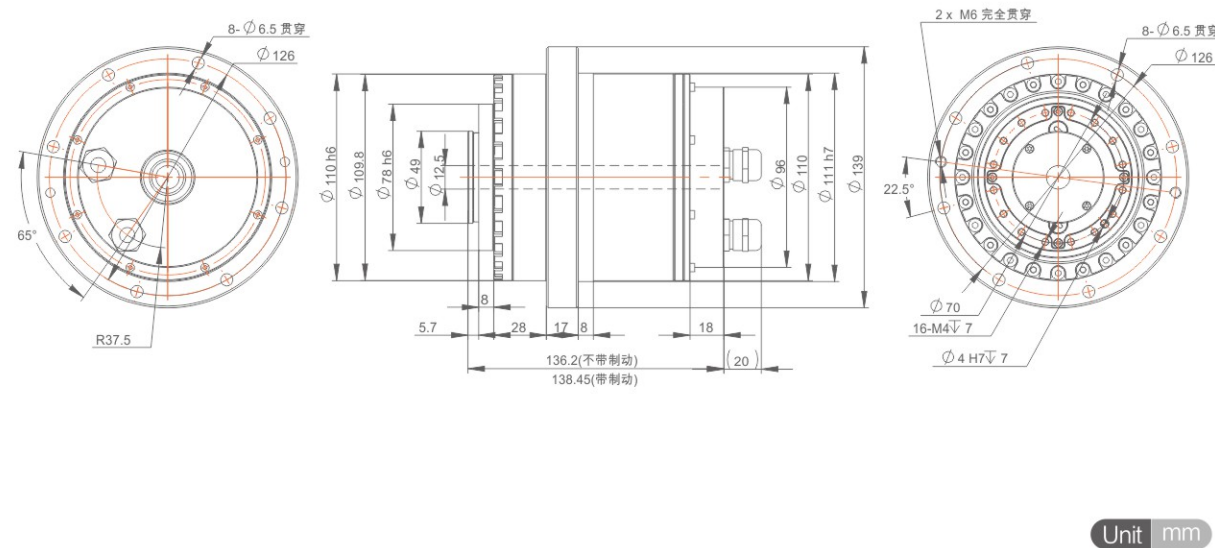
HPG-10T

Side cable exit



HPG-10T

End-face cable exit

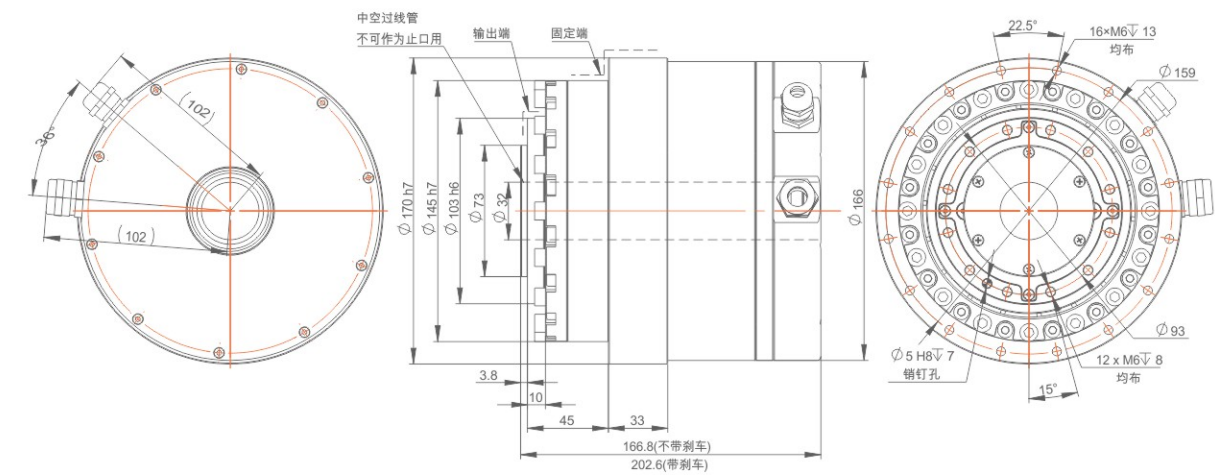


HPG-20T SERIES

Rotary Actuator Performance Specifications			
Model Selection HPG-			20T
AC voltage 220V	Gear ratio		45
	Peak torque	N.m	358
	Rated torque	N.m	180
	Maximum speed	rpm	91
	Rated speed	rpm	44
	Maximum current	Arms	18.00
	Rated current	Arms	9.05
	Torque constant	N.m/Arms	19.89
	Motor phase-to-phase resistance	Ohms (20℃)	0.8
	Motor phase-to-phase inductance	mH	8
	Motor back-EMF constant	Vrms/krpm	44
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)
Angular transmission accuracy		Arcsec (角秒)	≤ 18
Repeatability		Arcsec (角秒)	≤ 5
Torsional stiffness		N.m/Arcmin	120
Allowable overturning moment		N.m	1030
Rotor moment of inertia	Without brakes	kg*m ²	1.17*10 ⁻³
	With brakes	kg*m ²	1.34*10 ⁻³ /
Quality	Without brakes	Kg	10.92
	With brakes	Kg	12.33
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	
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)	

HPG-20T

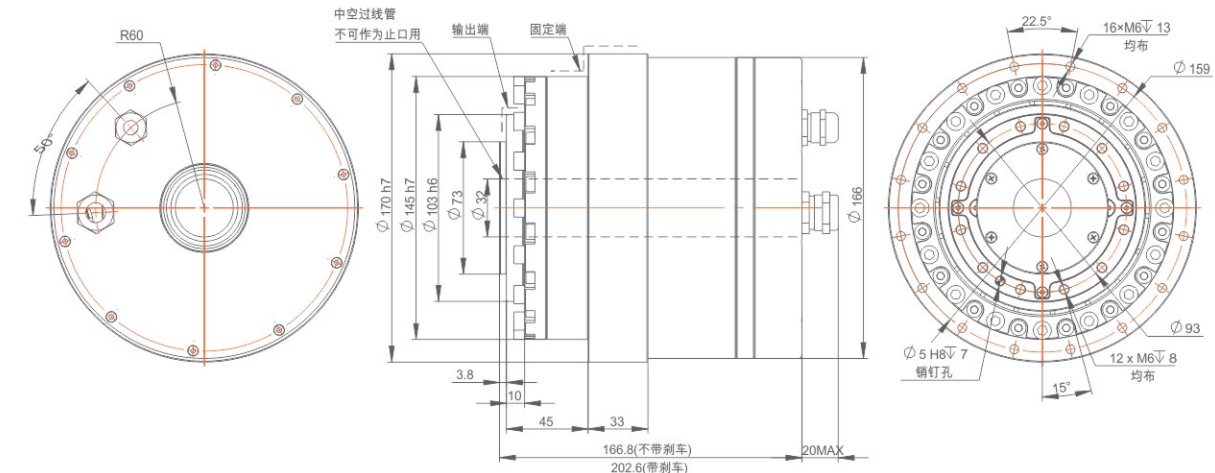
Side cable exit



Unit mm

HPG-20T

End-face cable exit



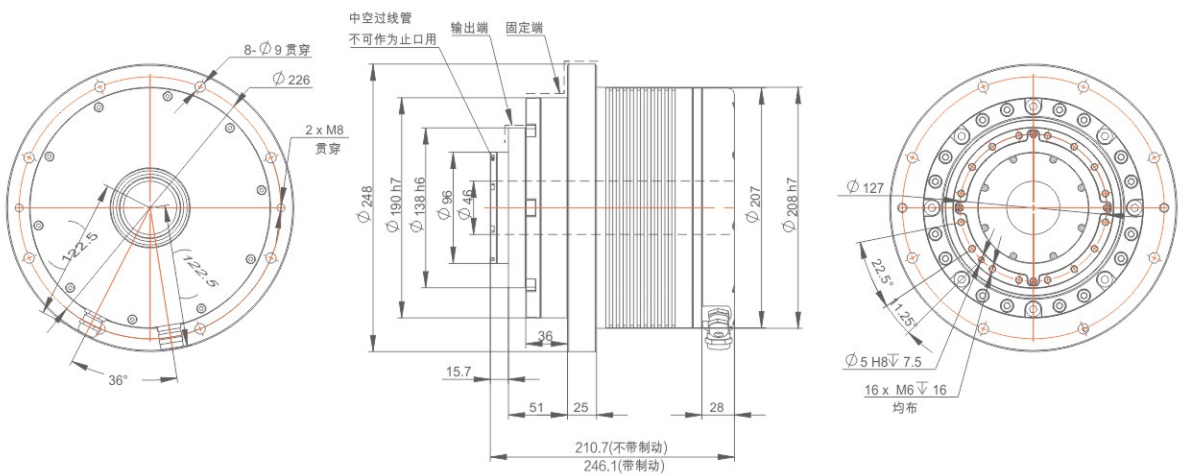
Unit mm

HPG-40T SERIES

			40T
Gear ratio			45
AC voltage 220V	Peak torque	N.m	840
	Rated torque	N.m	420
	Maximum speed	rpm	67
	Rated speed	rpm	49
	Maximum current	Arms	34.60
	Rated current	Arms	17.30
	Torque constant	N.m/Arms	24.28
	Motor phase-to-phase resistance	Ohms (20℃)	0.126
	Motor phase-to-phase inductance	mH	0.65
Motor back-EMF constant	Vrms/krpm	52	
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)
Angular transmission accuracy		Arcsec (角秒)	≤15
Repeatability		Arcsec (角秒)	≤2
Torsional stiffness		N.m/Arcmin	240
Allowable overturning moment		N.m	2170
Rotor moment of inertia	Without brakes	kg*m ²	1.51*10 ⁻³
	With brakes	kg*m ²	1.56*10 ⁻³
Quality	Without brakes	Kg	22.7
	With brakes	Kg	25.1
Number of motor poles		Pole	20
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
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)

HPG-40T

Side cable exit



HPG-40T

End-face cable exit

