



Robot joint output system accuracy $\pm 8''$

CJU Series of Robot Joints

GUANGZHOU ACCUGLEN INTELLIGENT TECH LTD.

📍 Floor 3 in No. 80 Zhujiang Road
Shilou Town Panyu District

☎ 86-20-84656848

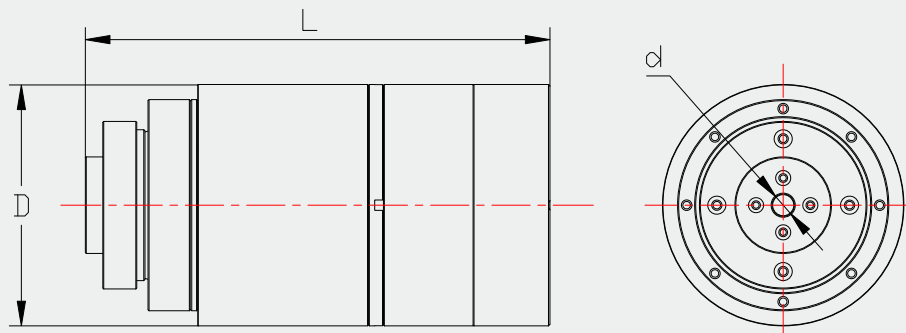
✉ accuglen@accuglen.com

🌐 www.accuglen.com

CJU series of robot joints

- Fusion design on CJU series of robot joints, integrating units for precision outputs, such as precision harmonic reducers, frameless torque motors, precision absolute angle encoders for motors and reducer output shafts, drivers, brakes, torque sensors, etc. Our robot joints are widely used in various applications, such as cobots, wafer robots, service robots, industrial robots, special robots, and special robot arms. Customizations are supported.
- Dual precision absolute angle encoder structure, providing a precision angular position feedback for a high-resolution and precision motion control. The angle encoders have a **25-bit** resolution, and a system accuracy of $\pm 5''$ with BiSS C protocol. The output of CJU series robot joints have a system accuracy of $\pm 8''$ and a repeated positioning accuracy of $\pm 2''$.
- Three double-bearing units for the integrated shafting structure, improving the overall rigidity of the joint and ensuring a high coaxial accuracy, with the output shaft radial runout in **1 μm** , and output shaft surface runout in **1 μm** .
- High torque output and high torque density, such as a CJU-32 robot joint outputs torque up to **302.1 N·m**.
- Hollow shaft, simplifying the system structure of robots, and allowing cables, tubing, gas pipes, optical fibers, etc. to easily pass through.
- Protection rank up to IP65 or IP67, suitable for the applications in a harsh working environment.
- Various product types for meeting customer needs.
- Users can select a servo driver according to the robot joint specifications or use the recommended EtherCAT bus-type servo driver for working with the robot joints. It could help to achieve an ultra-low vibration control and a reliable and stable operation, and to provide an overall solution for drive control.

Robot Joint External Dimensions



CJU series of robot joint specification

Series		CJU14	CJU17	CJU20	CJU25	CJU32					
Model		14A 14B	17A 17B	20A 20B	25A 25B	32A 32B					
Reduction Ratio		1:80 1:100	1:80 1:100	1:80 1:100	1:80 1:100	1:80 1:100					
Permissible Maximum Torque	N·m	27.5 30.1	25.3 31.6	92.7 104.2	123.9 142.6	199.8 302.1					
Permissible Continuous Torque	N·m	11.9 11.9	12.9 19.2	51.1 53.9	86.6 107.9	116.2 151.0					
DC Voltage 48VDC	Maximum Speed	RPM	62 50	62 50	50 40	43 35					
	Rated speed	RPM	37 30	37 30	32 26	25 20					
	Maximum Current	Arms	18 18	18 18	25 25	40 40					
	Rated Current	Arms	5.7 5.7	5.7 5.7	8.5 8.5	15.6 15.6					
	Torque Constant	N·m/Arms	2.08 2.08	2.26 3.38	6.01 6.34	5.55 6.91					
	Phase Resistance (at 20°C)	Ohms	0.55	0.55	0.35	0.24					
	Phase Inductance	mH	0.65	0.65	0.5	0.39					
	Motor back EMF	Vrms/kRPM	6.32	6.32	7.98	10.57					
Absolute Angle Encoder	Encoder type	Two 25-bit hollow hole absolute angle encoders with single revolution counting (multi revolution counting customized)									
	Encoder Resolution for Single Revolution	2 ²⁵ (33554432)									
	Communication Protocol	BiSS C protocol									
	Multi Revolution	Programmable, up to 2 ²¹ (16777216)(customized)									
Communication Bus		EtherCat bus									
System Accuracy	arc sec	$\pm 8''$		$\pm 8''$		$\pm 8''$		$\pm 8''$		$\pm 8''$	
Repeated Positioning Accuracy	arc sec	$\pm 2''$		$\pm 2''$		$\pm 2''$		$\pm 2''$		$\pm 2''$	
Moment Stiffness	$\times 10^4 \text{N·m/rad}$	0.6		1.3		27.3		42.8		100.8	
Moment of Inertia	Kg·m ²	0.23	0.31	0.45	0.56	0.64	0.98	1.3	2.03	1.3	2.03
Weight (with brake)	Kg	2.4		2.45		2.8		3.7		7.1	
Weight (without brake)	Kg	2.1		2.15		2.4		3.2		6.6	
Length (L)	mm	155		159		167		178		190	
Outer Diameter (D)	mm	80		80		90		110		142	
Center Hole Diameter (d)	mm	7		7		10		12		18	
Motor Pole Number		16									
Motor Insulation		Insulation class: F (155°C)									
		Insulation resistance: 200M Ω or more (DC500V)									
		Dielectric strength: 1500V/1 min									
Protection Structure		Totally enclosed self-cooled type (IP54 as default. IP65 or IP67 for customizations)									