ZCT85

USER MANUAL | Precision Rotary Platform

Product information, technical specifications, installation guidance and reference drawings.

1. Product Overview

The ZCT85 is a motor-driven rotary platform incorporating a cross roller bearing. This manual covers the ZCT85 model with 5:1 and 10:1 reduction ratios. Refer to the selected motor-interface drawing before installation.

2. Features

- **Cross Roller Bearings:** Designed to support axial loads up to 500N.
- **Load Capacity:** Design load-bearing capacity of 28kg.
- **Reduction Ratios:** 5:1 and 10:1.
- **Rated Output Torque:** 28N.m (5:1) or 18N.m (10:1).
- **Precision Positioning:** Positioning accuracy of 1arcmin or better and repeatability of 15arcsec or better.
- **Adjustable Backlash:** Adjustable structure specified as no backlash in the supplied data.
- **Motor Compatibility:** NEMA23 57x57mm stepper motor configurations with 6.35mm or 9.525mm input shaft diameter options; 200W-400W servo motor compatibility subject to the selected motor interface.
- **Applications:** Rotary positioning, indexing tables and automated equipment.

Operating temperature: -25 to +90 deg C is customer-supplied information; this temperature range was not shown in the provided ZCT85 specification chart. Confirm with the supplier for critical applications.

3. Specifications - ZCT85

Parameter	Value
Model	ZCT85
Bearing Type	Cross Roller Bearing
Reduction Ratio	5:1 / 10:1
Rated Output Torque	28N.m (5:1) / 18N.m (10:1)
Maximum Output Torque	3 x rated output torque
Positioning Accuracy	<=1arcmin
Repeatability	<=15arcsec
Maximum Platform Speed	200RPM (intermittent operation)
Allowable Axial Load	500N
Allowable Moment of Inertia	10N.m (as supplied)
Torsional Rigidity	6N.m/arcmin
Backlash	No backlash (adjustable structure)
Platform Concentricity	<=0.01mm
Platform Parallelism	<=0.01mm
Transmission Efficiency	95%
Noise Level	<=55dB
Design Load Capacity	28kg
Net Weight	1.4kg
Protection Rating	IP50
Lubrication	Long-term lubrication
Installation Orientation	Any orientation (as supplied)
Accuracy Life	30000h (intermittent operation)

4. Variant Reference

Reduction ratio	Rated output torque
5:1	28N.m
10:1	18N.m

5. Motor Interface and Installation

Motor options: The provided ZCT85-10 drawing shows an AC servo motor mounting version (400W, 60x60mm) and a NEMA23 stepper motor version (57x57mm). The drawing notes that input shaft diameters of 6.35mm or 9.525mm are available. Check the ordered interface and the actual motor shaft before assembly.

Prior to installation: Verify the delivered model and reduction ratio, inspect for transit damage, and check that mounting faces are clean and free of burrs. Keep the platform unpowered during fitting.

Mechanical mounting: Secure the unit to a rigid, level support using the mounting features shown in the dimension drawing. Avoid forcing mismatched shafts or applying impact loads to the output table. Confirm free movement and clearance before coupling the driven equipment.

Motor and electrical connection: Use the motor manufacturer's documented wiring diagram, driver settings and protective measures. Motor wiring, pin assignments, tightening torques and control signals are not specified in the supplied ZCT85 documents and must be confirmed for the actual configuration.

6. Operation and Safety

Keep personnel, tools and loose clothing clear of moving parts. Do not exceed the rated output torque, allowable axial load or platform speed. The 200RPM platform speed is specified for intermittent operation. Confirm load inertia, center of gravity and dynamic duty cycle during system design.

Before initial production use, run the installed assembly at low speed without the application load, then increase operating demand gradually while observing noise, vibration, temperature and positioning response. Stop and investigate abnormal behavior.

7. Inspection and Maintenance

Inspect fasteners, mounting interfaces, cable routing and the connected motor periodically. The technical chart describes long-term lubrication; it does not supply a relubrication interval or lubricant grade. Do not disassemble or adjust the bearing or backlash mechanism without approved service instructions.

8. Basic Troubleshooting

Observation	Check
Platform does not move	Motor power, driver enable, coupling fit and control command.
Abnormal noise or vibration	External load, fastener security, alignment and obstruction.
Positioning deviation	Motor feedback/steps, backlash adjustment, load and mounting rigidity.
Excessive heating	Operating speed, duty cycle, load and motor drive settings.

This manual is based on customer-supplied product data and images. Technical drawings and motor-specific installation instructions take precedence for fitment.

9. Product Image

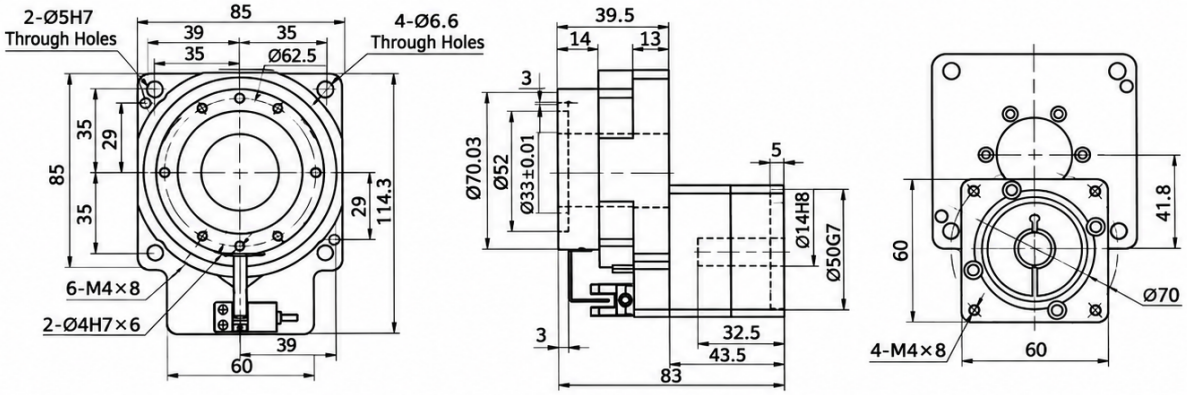
ZCT85 product view. Appearance may vary by supplied configuration.



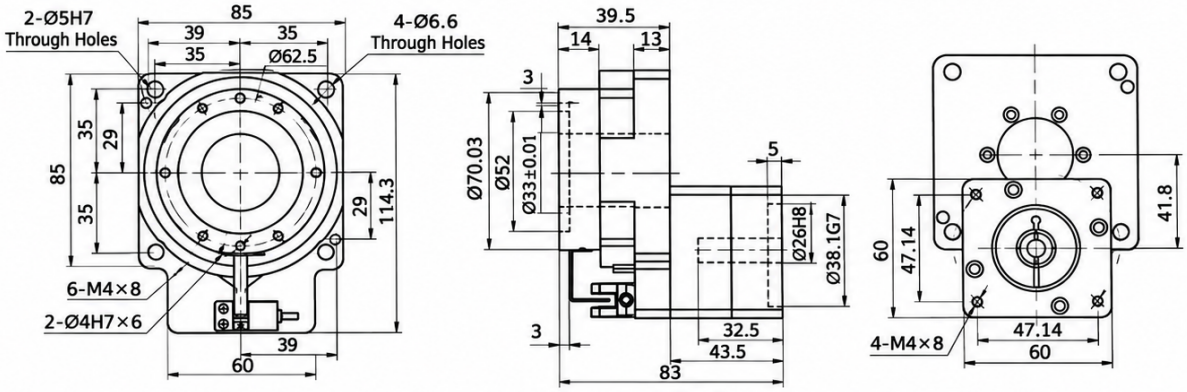
10. Installation and Dimension Drawings

ZCT85-10 motor mounting versions; all dimensions in mm. Verify selected shaft and flange sizes.

ZCT85-10 for 400W NEMA23 (60×60mm) AC Servo Motor



ZCT85-10 for NEMA23 57×57mm Stepper Motor



Input shaft diameters of 6.35mm or 9.525mm are available.

11. Original Specification Chart

Reference chart supplied with this manual. The ZCT85 values are in the two columns under ZCT85; other columns describe the separate RL/RY/RZ(JS) series.

Model		ZCT85		ZCT85RL/RY/RZ(JS)				
Bearing structure		Cross roller bearing						
Reduction ratio	i	5	10	5	10	20	25	50
Rated output torque	N.m	28	18	28	28	18	23	15
Output torque	N.m	3 Times rated torque						
Positioning accuracy	arc-min	≤1		≤3				
Repeated positioning accuracy	arc-sec	≤15		≤30				
Allowable disk speed	rpm	200 Intermittent operation						
Adapt to servo motor	W	200-400						
Suitable for stepping motor		Nema 23 (57 x 57mm) Stepper Motor						
Allowable axial load	N	500						
Allowable moment of inertia	N.m	10						
Torsional rigidity	N.m/arcmin	6						
Backlash		No backlash (Adjustable structure)						
Accuracy life	h	30000h Intermittent operation						
Protection level	IP	50						
Lubrication method		Long-term lubrication						
Installation method		Arbitrary						
Concentricity of rotating platform	mm	≤0.01						
Parallelism of rotating platform	mm	≤0.01						
Transmission efficiency	%	95		90				
Noise	dB	≤55		≤63				
Weight	kg	1.4		2.6				
Design load	kg	28		20				

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