

ID-200-3P-01

High-precision three-axis rotary stage

This high-precision three-axis rotary stage features a U-O-O configuration and comprises a mechanical base and a control system. It is designed to provide continuous 360° rotation along three axes, as well as high-precision angular position and velocity control, for the testing and calibration of inertial components and systems.



Product Features

- U-O-O configuration, high rigidity
- Continuous, infinite 360° rotation in three axes
- Maximum angular velocity: $\pm 150^\circ/\text{s}$
- Angular acceleration: $> 100^\circ/\text{s}^2$
- Positioning accuracy: $\leq 0.01^\circ$
- Velocity stability: on the order of 10^{-5}

Suitable scenarios

Suitable for the aerospace, defence and military, and instrumentation industries, it is primarily used for the high-precision testing and calibration of inertial navigation components such as gyroscopes and accelerometers.

Technical Specifications

Parameter categories	Parameter items	Parameter values
Accuracy Performance	Angular position accuracy	$\leq 0.01^\circ$
	Angular position repeatability	$\leq 0.005^\circ$
	Tracking/pointing accuracy	$\leq 0.01^\circ$
	Rate stability	Better than 3×10^{-5} (when $> \pm 10^\circ/\text{s}$)
Dynamic Performance	Maximum angular velocity	$\pm 150^\circ/\text{s}$
	Maximum angular acceleration	$> 100^\circ/\text{s}^2$
	Range of motion (azimuth/elevation)	All three axes: 360° continuous
Mechanical Specifications	Load capacity	$\leq 2 \text{ kg}$
	Table diameter/dimensions	200 mm
Environmental Protection	Protection rating	Ip20
	Operating temperature	10°C to 40°C
Power and Communications	Power supply requirements	220 V $\pm 10\%$, 50 Hz, single-phase
	Control interface	Ethernet/RS422