

ID-200-2

Dual-axis U-shaped position-velocity turntable

This dual-axis U-shaped position-rate turntable comprises a mechanical base and a measurement and control system. It is used to provide motion inputs such as angular position, angular velocity and angular acceleration, and can be used to simulate the static orientation of test specimens and to calibrate their accuracy.



Product Features

- Load capacity: 5 kg; work surface: 200 mm × 200 mm
- Two axes with continuous, infinite 360° rotation
- Angular velocity range: $\pm 0.01^\circ/\text{s}$ to $\pm 200^\circ/\text{s}$
- Positioning accuracy: $\leq \pm 45''$; repeatability: $\leq \pm 20''$
- Maximum angular acceleration: $100^\circ/\text{s}^2$
- Supports RS232/422 computer-based automatic control

Suitable scenarios

Designed for the inertial device testing and calibration industry, it is used for static attitude simulation, angular motion excitation and accuracy calibration of test items such as gyroscopes and accelerometers.

Technical Specifications

Parameter categories	Parameter items	Parameter values
Parameter categories	Angular position accuracy	$\leq \pm 20''$
	Angular position repeatability	5×10^{-3} ($\omega \geq 1^\circ/\text{s}$);
	Speed smoothness	2×10^{-2} ($\omega < 1^\circ/\text{s}$)@ $\pm 200^\circ/\text{s}$
Dynamic Performance	Maximum angular velocity	$100^\circ/\text{s}^2$
	Maximum angular acceleration	Continuous rotation of 360° on both axes
Range of Motion	Azimuth/elevation movement range	5 kg (rated load)
Mechanical Specifications	Load capacity	$\phi 200 \text{ mm} \times 200 \text{ mm}$ (maximum load dimensions)
	Table diameter/dimensions	Mounting surface: $200 \text{ mm} \times 200 \text{ mm}$
Environmental Protection	Operating temperature	-10°C to $+35^\circ\text{C}$
Power and Communications	Power supply requirements	220 V $\pm 10\%$, 50 Hz, 2 kW
	Control interface	Rs232 / Rs422