

ST-020-1T

Horizontal Single-Axis Temperature-Controlled Turntable

This horizontal single-axis temperature-controlled turntable comprises a work surface, a drive system and an angular measurement system, and is equipped with temperature control functionality. It is used to simulate angular motion and temperature conditions, enabling high-precision angular position, rate and wobble control for testing the performance of inertial devices.



Product Features

- Load capacity 20 kg, table diameter $\phi 1200$ mm
- Residual magnetic field ≤ 2 Gs, low magnetic interference
- Angular position accuracy $\pm 5''$, repeatability $\pm 3''$
- Wide angular velocity range (0.001°/s to 1000°/s)
- Angular acceleration $\geq 1500^\circ/\text{s}^2$, high dynamic performance
- Tilt range: $\pm 45^\circ$, frequency: 0.02–10 Hz

Suitable scenarios

Suitable for the inertial navigation and aerospace testing industries, it is used for the calibration and temperature-controlled environmental simulation testing of inertial components such as gyroscopes and accelerometers.

Technical Specifications

Parameter categories	Parameter items	Parameter values
Accuracy Performance	Angular position accuracy	$\pm 5''$
	Angular position repeatability	$\pm 3''$
	Speed smoothness	$\omega < 1^\circ/\text{s}: 2 \times 10^{-1}$ (averaged over 1°) $1^\circ/\text{s} \leq \omega < 10^\circ/\text{s}: 2 \times 10^{-4}$ (averaged over 10°) $\omega \geq 10^\circ/\text{s}: 2 \times 10^{-5}$ (averaged over 360°)
Dynamic Performance	Maximum angular velocity	$1000^\circ/\text{s}$
	Maximum angular acceleration	$\geq 1500^\circ/\text{s}^2$
	Range of motion	Angular position: 0.0001° to 359.9999° Tilt: 0° to $\pm 45^\circ$
Range of Motion	Load capacity	20kg
	Table diameter/dimensions	$\phi 1200\text{mm}$
Mechanical Specifications	Operating temperature	-55°C to $+85^\circ\text{C}$
Power and Communication	Power supply requirements	AC 220V/50Hz
	Control interface	Rs232