

ST-060-1T

Single-axis temperature-controlled turntable

This single-axis temperature-controlled rotary stage comprises a temperature control unit, a single-axis mechanical stage, and a drive and angular measurement system. It is primarily designed to provide single-axis angular position, rate and wobble motion for the test specimen, whilst precisely controlling the temperature environment, and is used for the calibration and testing of inertial components and systems.



Product Features

- Temperature-controlled environmental simulation
- High-precision angular positioning ($\pm 5''$)
- Wide rate range ($0.001^\circ/\text{s}$ – $1000^\circ/\text{s}$)
- Excellent rate stability (up to 2×10^{-5})
- High angular acceleration ($\pm 500^\circ/\text{s}^2$)
- Tilt function ($\pm 45^\circ$, 0.02–10 Hz)

Suitable scenarios

Suitable for use in the fields of inertial navigation, aerospace and defence, for high-precision dynamic testing and performance calibration under temperature-controlled conditions of inertial navigation systems, gyroscopes and accelerometers.

Technical Specifications

Parameter categories	Parameter items	Parameter values
Accuracy Performance	Angular position accuracy	$\pm 5''$
	Angular position repeatability	$\pm 2''$
	Speed smoothness	Better than 2×10^{-5} (averaged over 360°)
Dynamic Performance	Maximum angular velocity	$1000^\circ/\text{s}$
	Maximum angular acceleration	$\pm 500^\circ/\text{s}^2$
Range of Motion	Range of motion (azimuth/elevation)	Azimuth: Continuous, infinite (angular position $0.0001^\circ - 359.9999^\circ$) Tilt: $\pm 45^\circ$
Mechanical Specifications	Load capacity	1.60 kg
	Work surface diameter/dimensions	$\Phi 600$ mm
Environmental Protection	Protection rating	Ip20
	Operating temperature	-40°C to $+70^\circ\text{C}$
Power and Communications	Power supply requirements	220 V $\pm 10\%$ / 50 Hz
	Control interface	Ethernet/RS232