

ST-040-2T-01

Dual-axis temperature chamber turntable

This dual-axis temperature-controlled rotary stage comprises a mechanical base, a temperature control unit and a measurement and control system. It is used for research and testing, production commissioning, and maintenance and calibration of fibre-optic gyroscopes and IMUs, to provide rate and position functional testing.



Product Features

- Rated load 40 kg, table diameter 500 mm
- Dual-axis rotation accuracy of $\pm 2''$
- Inner frame speed range: ± 0.001 to $\pm 800^\circ/\text{s}$
- Temperature control range: -60°C to $+150^\circ\text{C}$
- Supports high-speed RS422 and Ethernet communication
- Features speed, position and oscillation functions

Suitable scenarios

Suitable for the inertial technology sector, for research and testing, production commissioning, and maintenance and calibration of fibre-optic gyroscopes and IMUs (inertial measurement units).

Technical Specifications

Parameter categories	Parameter items	Parameter values
Accuracy Performance	Angular position accuracy	Outer frame: $\pm 3''$, inner frame: $\pm 2''$
	Angular position repeatability	$\pm 1''$
	Speed stability	$\omega \leq 1^\circ/\text{s}$: 5×10^{-3} $1-10^\circ/\text{s}$: 5×10^{-4} $\geq 10^\circ/\text{s}$: 5×10^{-5}
Dynamic Performance	Maximum angular velocity	Inner frame: $\pm 800^\circ/\text{s}$ Outer frame: $\pm 500^\circ/\text{s}$
	Maximum angular acceleration	Inner frame: $> 400^\circ/\text{s}^2$ Outer frame: $> 100^\circ/\text{s}^2$
	Range of motion	Continuous, unlimited
Mechanical Specifications	Load capacity	40 kg
	Table diameter/dimensions	500 mm
Environmental Protection	Operating temperature	Inside the temperature chamber: -60°C to $+150^\circ\text{C}$
Power and Communications	Power supply requirements	380 V $\pm 10\%$ (three-phase) 220 V $\pm 10\%$ (single-phase)
	Control interface	High-speed RS422 serial port, Ethernet