

ST-040-3T

Three-axis temperature-controlled chamber turntable

This three-axis temperature-controlled rotary stage comprises a mechanical base, a temperature control unit and a measurement and control system. It is primarily used for rate and position function testing of fibre-optic gyroscopes and IMUs (inertial measurement units), providing precision testing for research, production commissioning, and maintenance and calibration.



Product Features

- Rated load: 40 kg
- Three-axis rotational accuracy: $\pm 3''$
- Wide speed range (up to $\pm 500^\circ/\text{s}$)
- Temperature control range: -55°C to $+100^\circ\text{C}$
- Stable performance and simple operation
- Low purchase cost

Suitable scenarios

Suitable for the inertial navigation industry (fibre-optic gyroscopes and IMUs), for research and testing, production commissioning, maintenance and calibration, and the testing of inertial components.

Technical Specifications

Parameter categories	Parameter items	Parameter values
Accuracy Performance	Angular position accuracy	Outer frame/middle frame: $\pm 2''$ Inner frame: $\pm 3''$
	Rate stability	$\omega \leq 1^\circ/\text{s}$: 2×10^{-3} (1° averaging method) $1 \leq \omega < 10^\circ/\text{s}$: 2×10^{-4} (10° averaging method) $\omega \geq 10^\circ/\text{s}$: 2×10^{-5} (360° averaging method)
Dynamic Performance	Maximum angular velocity	Inner frame: $\pm 500^\circ/\text{s}$ Middle frame: $\pm 200^\circ/\text{s}$ Outer frame: $\pm 100^\circ/\text{s}$
	Maximum angular acceleration	All three axes $> 100^\circ/\text{s}^2$
Range of Motion	Range of azimuth/pitch movement	Continuous, unlimited on all three axes (rate mode)
Mechanical Specifications	Load capacity	40 kg
	Table diameter/dimensions	$\Phi 550$ mm
Environmental Protection	Operating temperature	Operating temperature
Power and Communication	Power supply requirements	Power supply requirements
	Control interface	Control interface