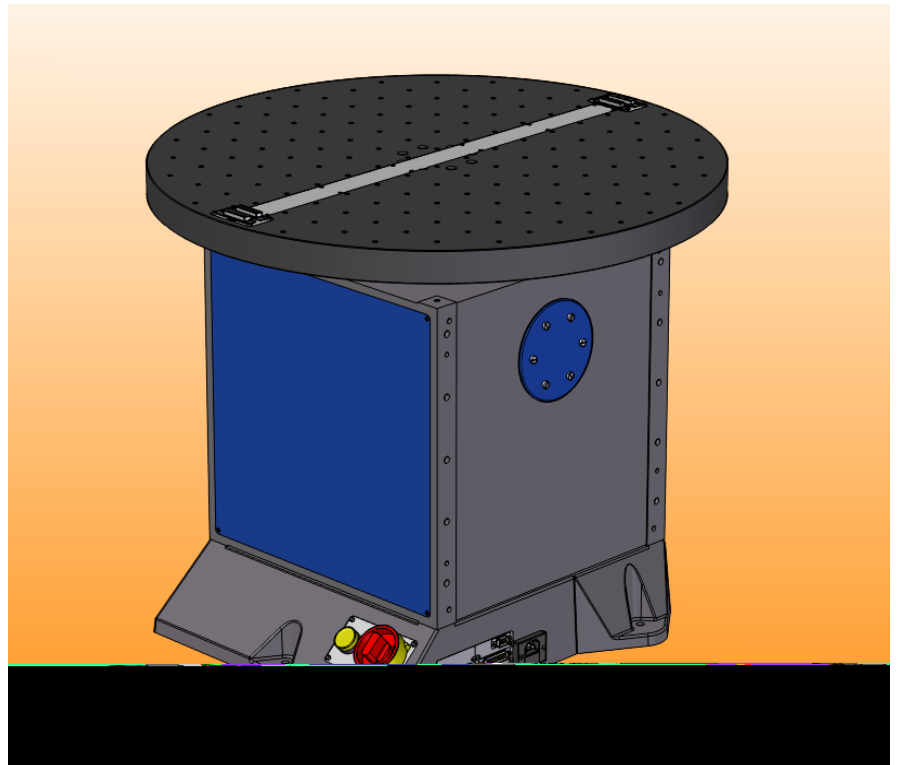


Test Fixture Series TES-4

Modes of Operation

- xPositioning: absolute with a Resolution of <math><0.00001\text{deg}</math>.
- xRate: no drift, good instantaneous rate stability with a Resolution of <math><0.0001\text{deg/sec}</math>
- xIndexing: for tracking applications
- xAnalog command and optional analog readout with 14 bit resolution



Description

The Series TES-4 Test-Fixtures offer accurate angular positioning, precise uniform rotation and angular motion profiling. All operations are commanded via the handheld paddle or by an optional host computer. The control software delivered with the instrument is based on LabView™. The fixture is designed for the testing and calibration of integrated packages and subassemblies.

Payloads are mounted on table top platen. A pattern of threaded holes accept a variety of test loads. Electrical access to the payload is dimensioned for different power ratings and signals. The lines terminate on the platen and the base casting by D-Sub connectors.

The Series TES-4 Test-Fixture consists of modular cube assemblies with precision bearings and the required servo components. The drive module houses the direct drive brushless torquer, the high resolution encoder, the slip ring capsule, the amplifier/controller assembly and power supply. All components are interchangeable facilitating repair and spare part supply management.

Specification Summary

General Configuration

Payload nominal	560dia x 500mm cylinder, 60kg; (100kg max.)
Sliprings to UUT	4 lines 5Amp twisted pairs 20 lines 2Amp twisted shielded pairs 20 lines 2Amp single shielded (different sliprings are optional available)
Mounting platen	600mm dia., aluminum hard anodized with grid of threaded mounting holes, M6 with Heli-coil insert on 50mm spacing,
Platen flatness	+/- 0.05mm
Axis alignment	support point perpendicular or orthogonal to the drive axis within $\pm<2\text{arc sec}$
Axis wobble	$\pm<2\text{ arcsec}$

Test Fixture Series TES-4

Dynamic

Rate	$\pm 1000 \text{deg/s}$
Acceleration (no load)	$2'500 \text{deg/s}^2$
Torque	140Nm
Axis inertia, (no load)	3kgm^2
Bandwidth (-3dB)	$>50 \text{Hz}$

Position command

Position transducer	SIN/COS high-resolution, absolute
Position range	0 to 359.9999deg unlimited rotation
Position slew	Profiling within rate and acceleration limits
Position resolution	$<0.01 \text{arcsec}$
Position accuracy	$<2 \text{arcsec}_{\text{RSS}}$ or $\pm <3 \text{arcsec}_{\text{peak-peak}}$
Position repeatability	better $\pm 1 \text{arcsec}$

Rate command

Rate slew	Profiling within acceleration and jerk limits
Rate resolution	$<0.2 \text{arcsec/s}$
Rate stability	0.0005% of commanded rate over one revolution
Event pulse	1/revolution

Acceleration Control

Rate changes can be performed with controlled acceleration.	
Acceleration Limit	can be set within the dynamic range
Command Resolution	$<4 \text{arcsec/sec}^2$

External Analog Command

Analog signals can be entered via a D-Sub connector.

Command

Through RS-232 interface, at a baud rate of 115200, via a host computer or optional handheld.

