

# Test Fixture Series TES-3

## Modes of Operation

- Positioning: absolute with a Resolution of <math><0.0001\text{deg}</math>.
- Rate: no drift, good instantaneous rate stability with a Resolution of <math><0.001\text{deg/sec}</math>
- Indexing: for tracking applications
- Analog: command and optional analog readout with 14 bit resolution

## Description

The Test-Fixtures are designed for angular positioning, precise uniform rotation and angular motion profiling. The fixture accommodates a wide variety of payloads. The rigid table top platen has a pattern of threaded holes to fasten the payload.

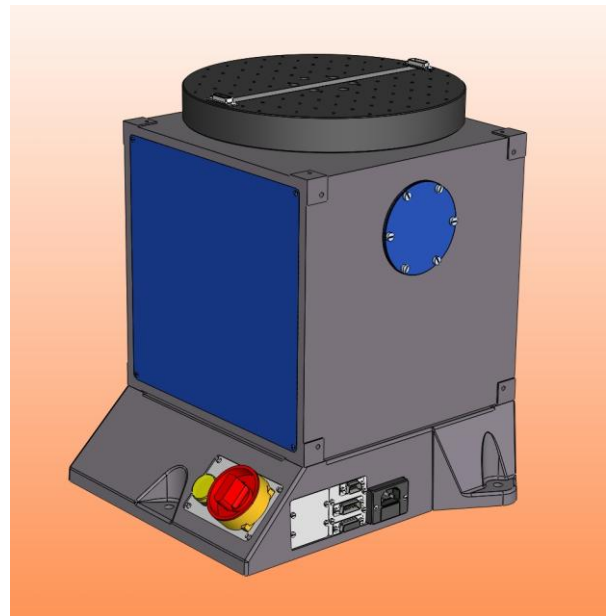
The drive assembly consists of a cast aluminum housing and separate base. The Test-Fixture can be ordered with the rotational axis vertical or horizontal. The three support points are machined perpendicular or parallel to the rotating axis. High dynamic applications and large payload require the fixture to be bolted to a rigid support surface.

A direct drive brushless servo motor delivers high torque and smooth rates over a wide speed range. Ripple and cogging torque are reduced by the skewed motor stator design.

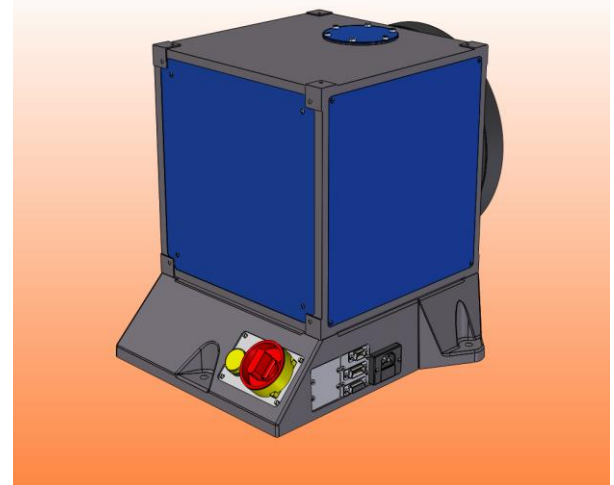
The fixture is furnished with a 30-line slipring or optional 40-lines. The lines terminate in two D-sub connectors at the platen and the corresponding connectors at the base.

The controller and the power supplies are part of the drive cube.

The controller is operated via a host computer or optional via a handheld terminal. Its software is based on LabView™ and comes along with the controller on a CD ROM.



Model TES-3V; Axis Vertical



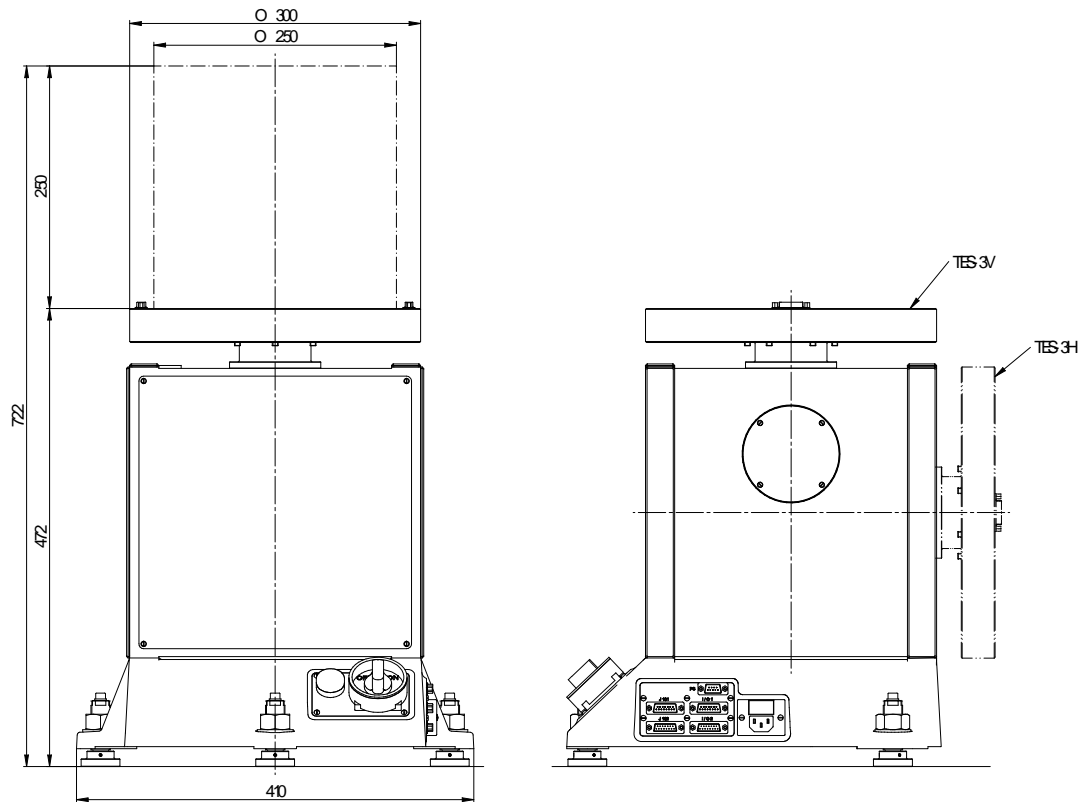
Model TES-3H: Axis Horizontal

## Specification Summary

General Configuration	Payload nominal	245dia x 250mm cylinder, 20kg; (30kg max.)	
	Sliprings to UUT	terminated in two pairs D-Sub connectors on table top and base	
	standard	28 lines rated for 2A and 2 lines rated for 5Amp	
	optional	36 lines rated for 2A and 4 lines rated for 5Amp	
	Mounting platen	300mm dia., aluminum hard anodized with grid of threaded mounting holes, M5 with Heli-coil insert on 25mm spacing,	
	Platen flatness	$\pm 0.05\text{mm}$	
	Axis alignment	support point perpendicular or orthogonal to the drive axis within $\pm <3\text{arc sec}$	
	Axis wobble	$\pm <2\text{arcsec}$	
Dynamic	Torque	<b>nominal, cont.</b>	<b>peak</b>
	Axis inertia, (no load)	20Nm	40Nm
	Acceleration (no load)	$0.09\text{kgm}^2$	
	Bandwidth (-3dB)	$\pm 10'000\text{deg/s}^2$	$\pm 20'000\text{deg/s}^2$
	Rate range	$>60\text{Hz}$	
		$\pm 1500\text{deg/sec}$	

## Series TES-3

<b>Position command</b>	Position transducer Position range Position slew Position resolution Position accuracy Position repeatability	SIN/COS high-resolution, absolute 0 to 359.9999deg unlimited rotation Profiling within rate and acceleration limits <0.04arcsec <3arcsec <sub>RSS</sub> or <±4,5arcsec <sub>peak-peak</sub> better ±2arcsec
<b>Rate command</b>	Rate slew Rate resolution Rate stability Event pulse	Profiling within acceleration and jerk limits <1 arcsec/s 0.001% of commanded rate over one revolution 1/revolution
<b>Acceleration Control</b>	Rate changes can be performed with controlled acceleration. Acceleration Limit Command Resolution	can be set within the dynamic range <25arcsec/s <sup>2</sup>
<b>Command</b>	Through RS-232/484 interface, at a baud rate of 115200, or optional high-speed data interface or via handheld	



## Options

Table-Top: of different Sizes  
Sliprings: 40Way- or 60 Way  
Interfaces: High-Speed Data Interface or Handheld terminal