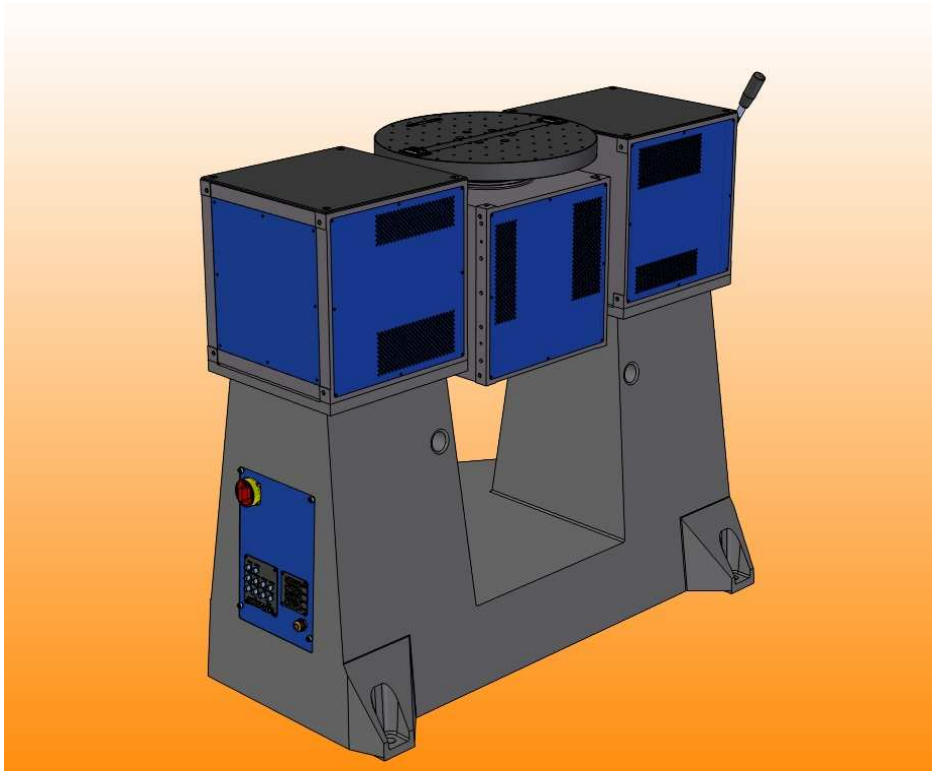
Test Fixture Series TES-4H4

Features

- Positioning: absolute with a Resolution of <0.00001deg.
- Rate: no drift, good instantaneous rate stability with a Resolution of <0.0001deg/sec
- Indexing: for tracking applications
- Analog command and optional analog readout with 14 bit resolution
- Independent position readout for safety measures



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 modules consists of a cast aluminum housing. High dynamic applications and large payload require the fixture to be bolted to a rigid support surface. 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. A special bearing arrangement takes care of low friction.

The fixture is furnished with a large slipring capsule rated for different amperes and high data speed. The lines are terminate in four D-sub connectors at the platen and the corresponding connectors at the base.

The controller and the power supplies are part of the drive cubes. The controller is operated via a handheld terminal or a host computer. Its software is based on LabView™ and comes along with the controller on a CD ROM containing also the documentation.

The system is fully modularized having for all axis the same drive modules and identical slipring units which easily exchangeable.

Specification Summary

General Configuration

Payload nominal	560dia x 400mm 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 orthogonality	±<3arcsec between inner and outer axis
Axis wobble	±<2arcsec

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		Inner Axis	Outer Axis
Dynamic	Rate	+/-1000deg/s	+/-500deg/s
	Acceleration (no load)	2'500deg/s^2	2'500deg/s^2
	Torque	140Nm	280Nm
	Axis inertia, (no load)	3kgm^2	6kgm^2
	Bandwidth (-3dB)	>30Hz	>20Hz
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	<0.01arcsec	
	Position accuracy	<2arcsec$_{RSS}$	
	Position repeatability	better ±1arcsec	
Rate command	Rate slew	Profiling within acceleration and jerk limits	
	Rate resolution	<0.2arcsec/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 arcsec/s^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 compatible input device or host computer.