

EVO-10S

Compact single-axis positioning and rate table

EVO-10S is a compact, single-axis positioning and rate table which features all required performance parameters for test and calibration of MEMS or FOG-based inertial navigation systems, accelerometers or optronic payloads.



BENEFITS

- Best price/performance ratio on the market
- Compact size
- Horizontal or vertical use
- Best-in-class rate stability
- Unrivalled dynamic performance
- Maintenance free
- Lowest cost of ownership

FEATURES

- Direct drive brushless electric motors
- High accuracy optical encoders
- Compatible with climatic chamber operations
- Full tabletop surface available for payloads mounting (no connectors restriction)

CONTROLLER FEATURES

Exail nGine controller including:

- Auto-tuning of controller parameters
- Adaptive sine
- Auto-tuned anti-cogging
- Real-time built-in-test
- Real time interface options
- Advanced unbalance and fault detection

Exail ProaXe Graphical User Interface (GUI)

TRACK RECORD

Exail has been providing position/rate tables and motion simulators for more than 60 years, including more than 20 years with the combination of direct drive brushless electric motors and optical encoders. This unique experience allows exail to build the most accurate, stable and dynamic systems, fulfilling all the needs for testing of inertial and optronic payloads.

ADVANCED PERFORMANCES

EVO-10S is designed with key components chosen for having the best quality. Brushless motors, optical encoders and slip-ring capsules are critical to the performance of the complete system. Every EVO-10S comes with Exail nGine controller and ProaXe Graphical User Interface, which are the most advanced control electronics in terms of performance, efficiency and safety.

A SCALABLE TEST-TABLE

EVO-10S can evolve with your process. The compact, single-axis test-table may be used in vertical operation as a rate table or in horizontal operation to measure gravity ($\pm 1g$). The integration through a thermal chamber wall is optional.

TECHNICAL SPECIFICATIONS

Payload definition

Nominal payload mass	kg	10 in vertical operation 5 in horizontal operation
Maximum payload mass	kg	20 in vertical operation
Tabletop diameter *	mm	250

Dynamic specifications

Angular freedom	deg/s	∞
Maximum rate	deg/s	±3,000
Peak acceleration	deg/s ²	±40,000
Rate accuracy over 360 deg	%	< 0.001
Rate stability over 360 deg	%	< 0.001
Bandwidth (-3dB/-90 deg)	Hz	> 150

Geometrical specifications

Position accuracy *	arcsec	< ±5
Position repeatability *	arcsec	≤ ±2
Maximum wobble *	arcsec	< 5

Slip-ring | ROTARY JOINT

Lines *	50 lines - 2A - 210VDC
Data type *	Ethernet, RS232, RS422

Thermal chamber | OPTIONAL

Cooling options	Air cooled cascade mechanical refrigeration	
Range	°C	-70 to +125
Stability	°C	< ±1
Gradient	°C/min	-3 for cooling +4 for heating
Homogeneity	°C	< ±1

* Subject to custom specification/configuration

TECHNICAL SPECIFICATIONS

nGine controller features

Main features	Auto-tuning of controller parameters, adaptive sine bandwidth, auto tuned anti-cogging, real-time built-in-test, trajectory-file, advanced unbalance and fault detection
Remote interfaces	Standard: RS-232 and Ethernet Optional: USB, IEEE-488.2 (GPIB), SCRAMNet or VMIC
Analog inputs/outputs	Scalable analog inputs and outputs for position and rate Digital inputs for control and trigger Digital outputs, event pulse generation
Graphical User Interface	ProaXe GUI software supplied for user computer
Options	Pedestal (to bring the TT to a convenient working height) Safety enclosure. Compliant with Machinery Directives (CE)

Physical characteristics



EVO-10S

395 x 270 x 330 mm-height
25 kg



Thermal chamber (optional)

805 x 955 x 1870 mm-height
240 kg

Power and control characteristics



Desktop

360 x 430 x 130 mm-height
6 kg



4U - 19"

485 x 625 x 180 mm-height
14 kg