

EVO-AMI

Compact two-axis positioning and rate table

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



BENEFITS

- Best price/performance ratio on the market
- Compact size
- Maintenance free
- Automated testing
- Lowest cost of ownership
- Can operate within climatic chambers for temperature and motion simulation

TABLE FEATURES

- Direct drive brushless electric motors
- High accuracy optical encoders
- Horizontal outer axis configuration can independently simulate three axes of motion.
- Correct orientation of axes for full 6 DOF IMU calibration

CONTROLLER FEATURES

- iXblue nGine controller including:
 - Patented auto-tuning of controller parameters
 - Patented adaptive sine bandwidth enhancement
 - Auto tuned anti-cogging
 - Real-time built-in-test
 - Advanced unbalance and fault detection
- iXblue ProaXe Graphical User Interface (GUI)

TRACK RECORD

iXblue leverages 60 years of unique experience in the design and manufacturing of advanced position/rate tables and motion simulators. This includes over 15 years of expertise combining direct drive brushless electric motors and optical encoders. This unique experience allows iXblue to build the most accurate, stable and dynamic systems, meeting all the requirements for testing of inertial and optronic payloads.

ADVANCED PERFORMANCE

EVO-AMI 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-AMI comes with iXblue nGine controller and ProaXe Graphical User Interface, which are the most advanced control electronics in terms of performance, efficiency and safety.

SCALABILITY

EVO-AMI can evolve with your process. The compact, two-axis test-table may be combined with an EVO-10M single-axis test-table to create a three-axis solution.

TECHNICAL SPECIFICATIONS

Payload definition

Nominal payload mass	12 kg
Maximum payload mass	20 kg
Dimensions (L x W x H)	280 x 190 x 170 mm

Mechanical specifications (both axes)

Angular freedom	Unlimited
Position accuracy	$\leq \pm 10$ arc sec
Position repeatability	$\leq \pm 2$ arc sec
Wobble	≤ 15 arc sec
Orthogonality between axes	≤ 20 arc sec

Table interfaces

Mechanical interface (tabletop)	Custom tabletop adapters according to end-user (Unit Under Test)
Standard slip-ring	20 ways: 2 A, 240 VAC
Alternative slip-rings	Customer specified

nGine controller interfaces

Remote communication interfaces	Standard: RS-232 and Ethernet Optional: IEEE-488.2 (GPIB) or USB
Inputs and 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 PC

Options

Mechanical Limit Option	Both axes ± 180 deg Electromechanical brakes
-------------------------	---

Physical characteristics

	Table	Rack
Weight	35 kg	6 kg
Dimensions (L x H x W)	549 x 272 x 503 mm	426 x 360 x 127 mm

Dynamic specifications (both axes)

Rate range	± 300 deg/s
Maximum acceleration	150 deg/s ²
Bandwidth at ± 1 dB and ± 5 deg-phase (adaptive sine)	> 5 Hz
Slew profiling	Rate and acceleration limited
Rate stability over 360 deg	0.005 % (50 ppm)
Rate command resolution	± 0.001 deg/s

Environmental specifications

Power voltage	115/230 VAC 50/60 Hz
Operating temperature	-40°C to +85°C