

Two-Axis Motion Simulator Model AC2247



The Series AC2247 Two-Axis Test Tables are part of an economic series of rate tables. The model allows testing of several medium Inertial Measurement Units (IMU's) or Micro Electro Mechanical Systems (MEMS) sensors simultaneously.

The axes are driven by direct drive brushless motors. The brushless motors offer excellent torque and since they have no wear parts the reliability is excellent. AC drive amplifiers produce the required current to power the motors. The table features excellent instantaneous rate stability and precise, stable absolute positioning.

The elevation axis is equipped with a stow lock to facilitate the safe loading/unloading of the UUT.

Slipping capsules take the signals and or power from the table base to the device under test. ACUTRONIC offers three standard slipping packages for better economy.

The table is controlled by the ACUTROL®3000 digital controller. The controller has a touch sensitive display and a scalable analog input/output interface. Optionally, the standard digital interfaces of IEEE-488 and Ethernet (TCP/IP) can be supplemented with VMIC or SCRAMNet reflective memory interfaces. For more details, please refer to the ACUTROL®3000 datasheet.

Dimensions	Height, max	mm	1380
	Height of outer axis	mm	850
	Width across outer axis	mm	1575
	Base dimension	mm	1450x750 (LxW)
	Table top diameter	mm	450 (60xM6 helicoils)
	Table top offset	mm	87
	Table top flatness	mm	0.05
Unit Under Test (UUT)	Payload weight	kg	20 (nominal)
	Clearance envelope	mm	450 x500 (ØxH)

Mech. specifications	Inner Axis	Outer Axis
Orthogonality	+/-5"	
Wobble	<5"	<5"
Static and dynamic performances		
Angular freedom	Continuous	Continuous
Positioning accuracy	5 arcsec RSS	5 arcsec RSS
Rate range	+/-1'200°/s	+/-600°/s
Acceleration, no load	3'000°/s ²	250°/s ²
with load	Inertia load dependent	Inertia load dependent

Slipring Configuration according to standard wiring schematics		
	Ways	Connectors
Wiring Typ 1A	70 lines rated 2A, 150VDC	2x 37pin D-Sub
Wiring Typ 2A	45 lines rated 2A, 150VDC +10 lines rated 5A, 150VAC	1x 50pin D-Sub 1x 15pin D-Sub
Wiring Typ 3A	45 lines rated 2A, 150VDC +4 lines rated 20A, 400VDC	1x 50pin D-Sub 1x 5pin D-Sub (5W5)

Options

- Standard (300mm, 600mm) or customized (up to max. 650mm) table top (dynamic specification subject to change)
- RF (up to 18GHz) rotary joints for GPS signals
- Base template
- North alignment kit (requires base template option)

Installation requirements

- 3 x400VAC +/-8% with ground (PE; no neutral required), 50/60Hz, 16Amps fused.

Packing details (approximate)

- Box 1 (simulator): 225x130x175cm (WxDxH), Grossweight: 855kg, Netweight: 520kg
- Box 2 (console): 85x100x235cm (WxDxH), Grossweight: 440kg, Netweight: 285kg

Delivery time

- 6 months average

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Two-Axis Motion Simulator Model AC2247-TC



The Series AC2247-TC Two-Axis Test Tables are part of an economic series of rate tables.

The model allows testing of several medium Inertial Measurement Units (IMU's) or Micro Electro Mechanical Systems (MEMS) sensors simultaneously.

The axes are driven by direct drive brushless motors. The brushless motors offer excellent torque and since they have no wear parts the reliability is excellent. AC drive amplifiers produce the required current to power the motors. The table features excellent instantaneous rate stability and precise, stable absolute positioning.

The elevation axis is equipped with a stow lock to facilitate the safe loading/unloading of the UUT within the temperature chamber. There are three cooling systems offered: cooling by the expansion of either Liquid Nitrogen LN₂ (-TCN) or Carbon Dioxide CO₂ gas (-TCC) or cooling by a free-standing electromechanical R404a (single compressor) air-cooled refrigeration system (-TCM).

Slipping capsules take the signals and or power from the table base to the device under test. ACUTRONIC offers three standard slipping packages for better economy.

The table is controlled by the ACUTROL®3000 digital controller. For more details, please refer to the ACUTROL®3000 datasheet.

Dimensions	Height, max	mm	1465
	Height of outer axis	mm	850
	Width across outer axis	mm	1865
	Base dimension	mm	1450x750 (LxW)
	Table top diameter	mm	450 (60xM6 helicoils)
	Table top offset	mm	25
	Table top flatness	mm	0.05
Unit Under Test (UUT)	Payload weight	kg	20 (nominal)
	Clearance envelope	mm	450 x380 (ØxH) inside chamber
Thermal Chamber	Temperature Range	degC	-55 / +100 (-45 for TCM)
	Cooling gradient	degC/min	-4 (-2 for TCM)
	Heating gradient	degC/min	+4
	Stability	degC	+/-1.5

Mech. specifications	Inner Axis	Outer Axis
Orthogonality	+/-5 arcsec	
Wobble	<5 arcsec	<5 arcsec
Static and dynamic performances		
Angular freedom	Continuous	Continuous
Positioning accuracy	5 arcsec RSS	5 arcsec RSS
Rate range	+/-1'200°/s	+/-600°/s
Acceleration, no load with load	3'000°/s ² Inertia load dependent	200°/s ² Inertia load dependent

Slipping Configuration according to standard wiring schematics		
	Ways	Connectors
Wiring Typ 1B	52 lines rated 2A, 150VDC	2x 37pin D-Sub
Wiring Typ 2B	28 lines rated 2A, 150VDC +10 lines rated 5A, 150VAC	1x 50pin D-Sub 1x 15pin D-Sub
Wiring Typ 3B	28 lines rated 2A, 150VDC +4 lines rated 20A, 400VDC	1x 50pin D-Sub 1x 5pin D-Sub (5W5)

Options

- Standard (300mm) or customized (up to max. 500mm) table top (dynamic specification subject to change)
- RF (up to 18GHz) rotary joints for GPS signals
- Base template
- North alignment kit (requires base template option)
- Water cooled refrigeration unit

Installation requirements

- 3 x400VAC +/-8% with ground (PE; no neutral required), 50/60Hz, 25Amps fused.
- CO₂ or LN₂ supply

Packing details (approximate)

- Box 1 (simulator): 225x130x175cm (WxDxH), Grossweight: 875kg, Netweight: 540kg
- Box 2 (console): 85x100x235cm (WxDxH), Grossweight: 440kg, Netweight: 305kg
- Box 3 (cooling unit): 100x110x185cm (WxDxH), Grossweight: 325kg, Netweight: 440kg

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