

SERIES AC1125 SINGLE AXIS RATE AND POSITION TABLE



Series AC1125 with 415 mm diameter Table Top



Series AC1125 with TC (mechanical refrigeration)

Description

The ACUTRONIC single axis test tables are precision systems specifically designed to provide stimuli in the form of angular rate, acceleration and position to angular sensors such as gyroscopes, accelerometers and inertial platforms. All test tables feature a highly reliable closed-loop direct drive servo system consisting of a drive assembly, a servo controller and power amplifier.

The drive assembly comprises a direct drive brushless torque motor, an Inductosyn[®] or optical encoder, a precision-machined tabletop, and a slipping assembly.

Precision, pre-loaded angular contact ball bearings permit load capacities up to 454 kg (1000 pounds). All systems are provided with required interconnecting cables, mating connectors for customer interface, and two complete sets of system schematics, part lists, and technical manuals.

Control and readout functions are performed by the advanced instrumentation ACUTROL[®]3000e.

Control System

ACUTRONIC rate tables are integrated with the ACUTROL[®]3000e control system. The ACUTROL[®] has a touch screen and can be configured as determined by the customer's application. The controller is installed into a 19" cabinet using only 6U (10.5 in) of vertical space.

The ACUTROL[®]3000e is a digital controller combining microprocessor, discrete logic, and analog inputs/outputs in one chassis. It is capable of providing position, rate and acceleration control either manually from the touch panel or remotely through the standard in IEEE-488 or Ethernet (TCP/IP) computer interfaces.

Standard systems utilize a 720-pole Inductosyn[®] and a two-pole resolver as position transducers. A highly precise digital rate mode is derived from the incremental position data.



System Flexibility

ACUTRONIC offer a full range of precision rate tables, motion simulation systems and matching system components. Performance can be precisely tailored to the requirements of the test or simulation task. Drive assemblies, power amplifiers, optional control features and accessories can be combined to accommodate present needs and permit future growth and flexibility.

The standard system configurations and options described in this brochure can also form building blocks for non standard system requirements.

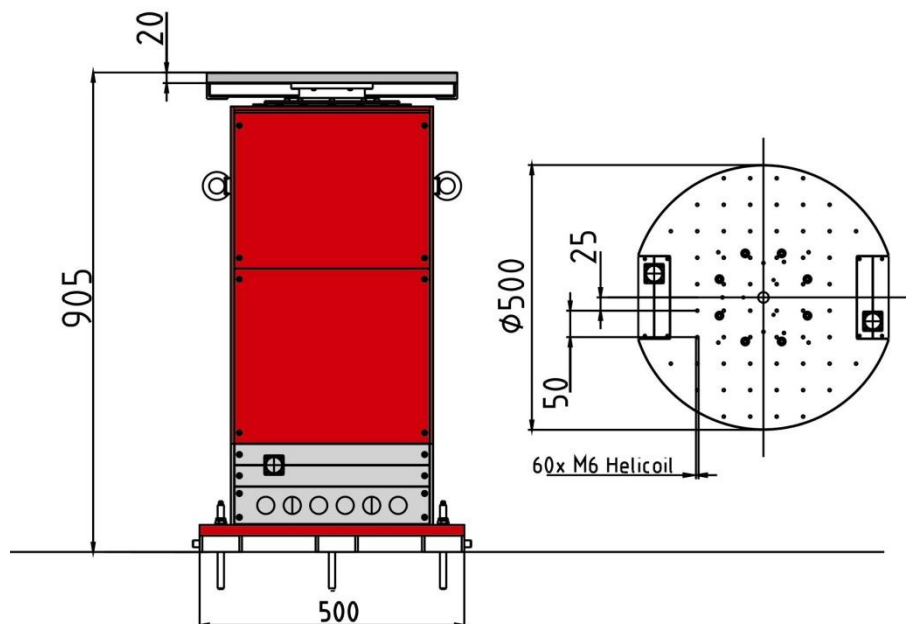
Options

Available options are special slipping configurations, hydraulic or pneumatic rotary joints, custom designed table tops and environmental test chambers.

Performance Specification

Two standard models are available with different torque levels. Custom speed and torque combinations are available.

	Units	AC-1125-100	AC1125-350
Position Accuracy	sec RSS	1	1
Position Resolution	deg	0.00001	0.00001
Position Transducer		Inductosyn [®] / resolver	Inductosyn [®] / resolver
Wobble	arc sec	2	2
Rate Range	deg/sec	+/-1'200	+/-1'200
Rate Resolution, Command	deg/sec	0.00001	0.00001
Rate stability			
Over 360 deg	%	0.0001	0.0001
Over 10 deg	%	0.005	0.005
Over 1 deg	%	0.05	0.05
Inertia (no load) (Aluminium 500 mm dia Table top)	kgm ²	0.5	0.5
Acceleration no load (Aluminium 500 mm dia. table top)	deg/sec ²	12'000	45'000
Bandwidth (-90 deg or-3dB)	Hz	60	60
Controller		ACUTROL [®] 3000e	ACUTROL [®] 3000e
Amplifier		In 19" Cabinet	In 19" Cabinet



Series AC1125 with 500 mm dia. Table Top
 Table top flatness 0.05 mm/m
 Material: Aluminium, hard anodized

Slipring ways for customer
 (choice of two standard capsules)

Standard 1
 22 lines @ 2 Amps
 6 lines @ 20 Amps

Standard 2
 47 lines @ 2 Amps
 6 lines @ 20 Amps

Options

- Large range of slipring capsules
- Table tops with customer specified diameter, materials or interfacing
- Real time digital interfaces; SCRAMNet+ or VMIC
- Temperature Chambers with either Gas (LN₂ or CO₂) or mechanical refrigeration
- Vacuum Chambers

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