

2001P SERIES SINGLE AXIS PRECISION POSITIONING AND RATE TABLE SYSTEM



STANDARD FEATURES

- Position Accuracy: ± 1 arc sec
- Rate Accuracy: $\pm 0.0001\%$
- Maximum Rate: 2001P-10: 1,000 deg/sec
2001P-30: 3,000 deg/sec
- Direct-drive, DC brushless servo system
- Precision-ground anodized aluminum tabletop
- 14 inch diameter tabletop
- Fail-safe brake
- Slipping lines for unlimited rotation
- Electronics Console for AERO 4000 Controller and Servo Amplifiers

AERO 4000 CONTROLLER FEATURES

- .NET interface over Ethernet
- Front panel display of status and data
- Local and remote operation
- Trapezoidal velocity profiles with programmable velocity and acceleration
- Sinusoidal motion profiles with variable amplitude and frequency
- Profile Modes for simulating complex motion

DESCRIPTION

The 2001P Series Automatic Positioning and Rate Table Systems are designed to provide precise position, rate and acceleration motion for the development and/or production testing of navigation sensor systems such as Fiber Optic Gyros (FOG), Ring Laser Gyros (RLG), Inertial Navigation Systems (INS) and accelerometers. The 2001P test table is a servo-controlled system featuring a direct-drive DC brushless motor, precision optical encoder and a microprocessor that provides accurate and reliable motion control. The table can be operated from the AERO 4000 Controller front panel for local control or through a computer interface for remote control.

EASE OF INTEGRATION

- LabVIEW™ Virtual Instrument (.vi) driver included
- GPIB and 100base-T Ethernet interfaces standard
- Available control languages: ATL (Aerosmith Table Language) and MPACS (Legacy Carco and Contraves Controllers)

OPTIONS

- Integral Thermal Chamber with electric heating and LN₂, CO₂ or mechanical cooling
Testing range: -65 to +150 deg C
- Custom tabletop
- Higher torque motor
- Various slipping packages
- RF Rotary Joint
- Fiber Optic Rotary Joint
- Wire-wrap option available for limited rotation applications
- Vacuum Chamber System
- Horizontal axis configuration
- High Speed Reflective Memory Interface
- *For special requirements, please contact Ideal Aerosmith regarding system customization.*

For much more detailed information, contact Ideal to request a 2001P Series Specification Document or AERO 4000 Controller Data Sheet

Rev J

Performance Specifications by Series		
Model	2001P-10	2001P-30
Positioning		
• Accuracy, arc sec (deg)	± 1 (0.00028)	± 1 (0.00028)
• Repeatability, arc sec (deg)	± 1 (0.00028)	± 1 (0.00028)
• Display Resolution, deg	0.00001	0.00001
Rate		
• Maximum, deg/sec	1,000	3,000
• Minimum, deg/sec	0.00001	0.00001
• Display Resolution, deg/sec	0.00001	0.00001
• Accuracy (measured over 360 deg), ± Resolution	0.0001%	0.0001%
• Stability (measured over 360 deg)	0.0001%	0.0001%
Model	2001P-10 and 2001P-30	
Acceleration (based on 14 inch dia tabletop and no load)	Peak Acceleration (2 second period of sin movement)	Maximum Continuous Acceleration
• Standard –T36 motor	25,600 deg/sec ²	6,300 deg/sec ²
• Optional High Torque –T95 motor	44,500 deg/sec ²	11,100 deg/sec ²
Bandwidth	-T36 Motor	-T95 Motor
-3dB Bandwidth with 14 in tabletop, no load	75 Hz	100 Hz
Axis Wobble	3 arc sec (0.0008 deg)	

NOTE: The –T95 will exhibit less acceleration degradation as the payload size increases. Listed accelerations may not be available over the full rate range

System Physical Configuration	
Table Surface Characteristics	
• Diameter	Standard size: 14 inch (356 mm) Optional: 18, 22, 24, 36 and 40 inch (457, 559, 610, 914, 1016 mm) Test load mounting provisions are 1/4-20 threaded holes on a two-inch (50 mm) grid pattern. Custom tabletop and interface patterns available upon request.
• Material & Surface Finish	Aluminum with 32 RMS Surface Finish
Test Load Capacity (Vertical Axis Config)	200 lbs. (91 Kg) Centered with 18 inch (457 mm) maximum height
Slipping Package Options	Standard: 34, 64, or 108 lines Larger or custom slipping packages are available. Please consult Ideal.
Controller	Refer to AERO 4000 Data Sheet for more detailed information.
• Type & Configuration	AERO 4000 Test Table Controller configured in a 19 inch Cabinet
• Communication Interfaces	IEEE-488 and Ethernet ports available to user
• Architecture	DSP based Motion Control installed on a PCI bus with distributed processing
• Servo Update frequency	5 kHz
• Control Modes	Position, Rate, Profile, Stop
• Miscellaneous Features	<ul style="list-style-type: none"> 19 inch flat panel monitor with powerful, user-friendly GUI Digital capture, display and logging of data variables Multiple control options including local, ATL, MPACS emulation, real-time reflective memory, analog and a .NET interface.

For special requirements or custom specifications, contact Ideal Aerosmith. Specifications subject to change without notice. Please call for pricing. Rev J

