

Datasheet

2001P Series Single-Axis Precision Positioning and Rate Table System

STANDARD FEATURES

- Position Accuracy: ±1 arc sec
- Rate Accuracy: ±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
- Slipring 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.



2001P Series Tables

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 slipring 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.

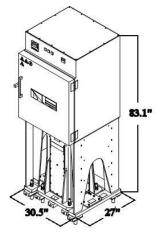
For much more detailed information, contact Ideal to request a 2001P Series Specification Document or AERO 4000 Controller Data Sheet

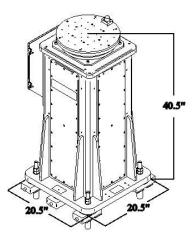
Performance Specifications by Series		
Model	2001P-10	2001P-30
Positioning		
Accuracy, arc sec (deg)	± 1 (0.00028)	± 1 (0.00028)
Repeatability, arc sec (deg)	± 1 (0.00028)	± 1 (0.00028)
Display Resolution, deg	0.00001	0.00001
Rate		
Maximum, deg/sec	1,000	3,000
Minimum, deg/sec	0.00001	0.00001
Display 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

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	
Slipring Package Options	Standard: 34, 64, or 108 lines Larger or custom slipring 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	 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 I