IDEAL AEROSMITH
Earned Expertise

Datasheet

1572P Series
Two Axis Positioning and Rate Table Systems

STANDARD FEATURES

- Position Accuracy:
  - Model 1572P15: ±15 arc sec
  - Model 1572P8: ±8 arc sec
- Rate Accuracy: ±0.001% ± Resolution
- Direct-drive, DC brushless servo system
- 24-inch diameter tabletop
- Fail-safe brakes
- Available with slip ring package for unlimited rotation or a wire wrap design for a limited rotation system

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 1572P 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 inertial packages and their components.

The 1572 Series test tables are servo-controlled systems that feature direct-drive DC brushless motors, precision optical encoders and a microprocessor that provides accurate and reliable motion control. The table can be operated from the AERO Controller front panel for local control or through a computer interface for remote control.

This test table system is designed for ease of operation and is programmed with the Ideal Aerosmith Table Language (ATL) for remote operation.

OPTIONS

- Integral Thermal Chamber
- Various slipring packages or wire wrap configurations
- 18 to 32-inch diameter Tabletops
- High-speed inner or outer axis
- *For special requirements, please contact Ideal Aerosmith regarding system customization.*

For much more detailed information, contact Ideal to request a Specification Document.

1572P Series Performance Specifications		
	Inner Axis	**Outer Axis**
Range of Motion, deg	± 540 Optional ±720 or Unlimited	± 540 Optional ±720 or Unlimited
Position		
• Accuracy, arc sec (deg)	P15: ±15 (0.00416) P8: ±8 (0.00222)	P15: ±15 (0.00416) P8: ±8 (0.00222)
• Repeatability, arc sec (deg)	± 3 (0.00083)	± 3 (0.00083)
• Display Resolution, deg (approx)	0.0001	0.0001
Rate		
• Maximum, deg/sec*	Standard ±360 Optional ±1080 Optional ±1800	Standard ±360 Optional ±600
• Command/Display Resolution, deg/sec	0.00001	0.00001
• System Resolution, deg/sec (approx)	0.00001	0.00001
• Accuracy, % ± Resolution (average of 10 readings, measured over 1 rev)	0.001%	0.001%
• Stability (measured over 1 rev)	0.001%	0.001%
Acceleration/Bandwidth		
• Peak, deg/sec^2 **	14800	575
• Max Continuous, deg/sec^2 ***	3250	150
• -3dB Bandwidth (no load)	75 Hz	20 Hz
Axis Wobble, arc sec (deg)	5 (0.00139)	5 (0.00139)
Axis Orthogonality, arc sec (deg)	± 5 (0.00139) between consecutive axes	

* For a limited rotation axis, maximum rate is limited to ±360 deg/sec and may not be achievable as it is dependent upon acceleration capabilities (varies with load) and travel limits.

** Acceleration is based on a standard 18 inch aluminum tabletop without payload and a maximum rate of 950 deg/sec for the inner axis and 240 deg/sec for the outer axis. Performance diminishes at higher rates. Peak Acceleration is for a 2 second duration.

*** Acceleration is based on a standard 18 inch aluminum tabletop without payload and a maximum rate of 950 deg/sec for the inner axis and 360 deg/sec for the outer axis. Performance diminishes at higher rates.

System Physical Configuration	
Table Interface Characteristics	
• Diameter	Standard sizes: 18, 24, 28 or 32 inches (457, 610, 711, or 813 mm) Test load mounting provisions are 1/4-20 tapped holes on a two-inch (50.8 mm) grid pattern. Custom tabletop and interface patterns available upon request.
• Face Flatness, inches (mm)	0.005 (0.127) TIR
• Face Runout, inches (mm)	0.002 (0.051) at a 6 inch (152.4 mm) Radius
• Material & Surface Finish	Aluminum with 32 RMS Surface Finish
• Tabletop Connectors	Two 128-pin MS style connectors
Test Load Capacity, lbs (Kg)	Without thermal chamber: 150 (68) (Balanced). With thermal chamber: 125 (57) Balanced.
User Harness/Slip ring Options	Standard wire wrap package is 156 lines. Standard slip ring packages are 100, 120, 180 and 210 lines. (Availability varies by axis configuration.) Custom slip ring packages are available.
Integral Thermal Chamber	Integral Thermal Chamber options are available. Contact Ideal for more information regarding options.
Controller	Consult AERO 4000 Data Sheet for more detailed information
• Size, inches (mm)	23.3 (592) W x 31.0 (787) D x 82.2 (2088) H
• Weight, lbs (Kg)	575 (261)

For additional information or special requirements, contact Ideal Aerosmith. Specifications subject to change without notice. Please call for pricing. Rev C