



1572 Series Two Axis Positioning and Rate Table Systems

STANDARD FEATURES

- Position Accuracy: ± 20 arc sec
- Rate Accuracy: $\pm 0.005\%$
- Direct-drive, DC brushless servo system
- 24 inch diameter tabletop
- Fail-safe brakes
- Available with sliping package for unlimited rotation or a wire wrap design for a limited rotation system
- AERO 822 Digital Controller
 - Local and remote operation
 - User-friendly Ideal Aerosmith Table Language (ATL)
 - Front panel display of status and data
 - Trapezoidal velocity profiles with programmable velocity and acceleration
 - Sinusoidal motion profiles with programmable amplitude and frequency
 - Position Profile and Velocity Profile Modes for simulating complex motion profiles
 - Analog velocity / position input
 - Analog velocity output
 - High speed position latching

DESCRIPTION

The 1572 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. The 1572 Series Table Systems come standard with two remote computer interfaces, IEEE-488 and RS-232.

OPTIONS

- Integral Thermal Chamber
- Various sliping packages or wire wrap configurations
- 18 to 32 inch diameter Tabletops
- High speed inner or outer axis
- Enhanced analog velocity output update rate (8 KHz – standard is 1 KHz)
- Rack-mount cabinet for controller
- *For special requirements, please contact Ideal Aerosmith regarding system customization.*

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

1572 Series Performance Specifications

	Inner Axis	Outer Axis
Angular Freedom		
• Configuration 1	± 540 deg	± 540 deg
• Configuration 2	Unlimited	± 540 deg
• Configuration 3	Unlimited	Unlimited
Position		
• Accuracy, arc sec (deg)	± 20 (.00556)	± 20 (.00556)
• Repeatability, arc sec (deg)	± 5 (.00139)	± 5 (.00139)
• Display Resolution, deg	0.00025	0.00025
Rate		
• Maximum, deg/sec* by axis	Standard ± 1080 Optional ± 1500	Standard ± 360 Optional ± 600
• Minimum, deg/sec	0.0005	0.0005
• Display Resolution, deg/sec	0.0005	0.0005
• Accuracy, % ± Resolution (average of 10 readings, measured over 1 rev)	± 0.005%	± 0.005%
Acceleration/Bandwidth**		
• Peak, deg/sec ² by axis	5200	550
• Max Continuous, deg/sec ² by axis	1150	150
• Minimum/Resolution, deg/sec	0.256	0.256
• -3dB Bandwidth by axis	75 Hz	20 Hz
Axis Wobble, arc sec	10	10
Orthogonality, arc sec	± 10 between 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 24 inch aluminum tabletop without payload. Values are reduced with the optional thermal chamber. Peak Acceleration is for a 2 second duration.

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 threaded holes on a two-inch (50 mm) grid pattern. Custom tabletop and interface patterns available upon request.
• Face Flatness	0.005 inches (.127 mm) TIR (for 14 inch diameter tabletop)
• Face Runout	0.002 inches (.051 mm) @ 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	150 lb (68 Kg) Centered. With thermal chamber: 125 lbs (57 Kg) Note: The accuracy performance specifications shown are based on a centered, 150 lb maximum payload. The system is rated for much larger loads, but some performance specifications may be affected.
User Harness/Slipping Options	Standard wire wrap package is 156 lines. Standard slipping packages are 100, 120, 180 and 210 lines. (Availability varies by axis configuration.) Custom slipping packages are available.
Integral Thermal Chamber	Integral Thermal Chamber options are available. Contact Ideal for more information regarding options.
Controller	Consult AERO 8x2 Data Sheet for more detailed information
• Type and Configuration	AERO 822 in a 19 inch Rack-Mountable Chassis
• Communication Interface	RS-232 and IEEE-488 ports available to user

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

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