

1572P-12-TL Series Two Axis Automatic Positioning and Rate Table Systems

STANDARD FEATURES

- Position Accuracy:
 - Model 1572P10: ± 10 arc sec
 - Model 1572P20: ± 20 arc sec
- Rate Accuracy: $\pm 0.001\%$ \pm Resolution
- Direct-drive, DC brushless servo system
- 12-inch diameter tabletop
- Integrated Thermal Chamber
- 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-12-TL 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 1572P-12-TL 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

- Various slinging packages or wire wrap Configurations
- RF or fiber optic rotary joints
- Customer specified wiring configuration
- Custom tabletop mounting hole pattern
- High-speed inner 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	± 720 or unlimited	± 720 or unlimited
Position		
• Accuracy, arc sec (deg)	P10: ± 10 (0.00278) P20: ± 20 (0.00556)	P10: ± 10 (0.00278) P20: ± 20 (0.00556)
• Repeatability, arc sec (deg)	± 3 (0.00083)	± 3 (0.00083)
• Display Resolution, deg (approx)	0.0001	0.0001
Rate		
• Maximum, deg/sec*	Standard ± 1,080 Optional** ± 2,000	± 360
• Minimum, deg/sec (approx)	0.00001	0.00001
• Display Resolution, deg/sec (approx)	0.00001	0.00001
• Accuracy, % ± Resolution (average of 10 readings, measured over 1 rev)	± 0.001%	± 0.001%
Acceleration/Bandwidth		
• Peak, deg/sec ²	44,000***	150
• Max Continuous, deg/sec ²	12,300***	39
• -3dB Bandwidth (no load)	75 Hz	15 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 may not be achievable as it is dependent upon acceleration capabilities which vary with payload.

** High speed option requires unlimited rotation.

*** Accelerations listed are for a maximum rate of 1,080 deg/sec. Performance diminishes at higher rates.

System Physical Configuration

Table Interface Characteristics	
• Diameter	Standard size: 12 inches (305 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 3.5 inch (88.9 mm) radius measured over 1 revolution
• Material & Surface Finish	Aluminum with 32 RMS Surface Finish
• Tabletop Connectors	One or two 66 pin MS style connectors
Test Load Capacity, lbs (Kg)	30 (13.7) (Centered) CG 8 inches above the table top
User Harness/Slip ring Options	Standard wire wrap package is 130 lines. Standard slip ring packages are 30 & 120 (inner axis unlimited, outer axis limited) and 30, 100, & 120 (inner & outer axes unlimited) Custom slip ring packages are available.
Integral Thermal Chamber	LN2 cooling and electrical resistance heaters
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.

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