



STANDARD FEATURES

- **Position Accuracy:** ± 15 Arc Sec
- **Rate Accuracy:** $\pm 0.001\%$
- Roll axis rates up to 50 Hz (3000 RPM)
- Direct-drive, DC brushless servo system
- Precision-ground 10 inch diameter tabletop
- Fail-safe brakes
- AERO 5 Elite Controller
- 20 kHz Servo update rate
- Local and remote operation
- User-friendly Ideal Aerosmith Table Language (ATL)
- Trapezoidal velocity profiles with programmable velocity and acceleration
- Sinusoidal motion profiles with programmable amplitude and frequency
- Position Profile, Velocity Profile and Flight Profile Modes for simulating complex motion profiles
- Analog position and velocity input
- Analog velocity output

DESCRIPTION

The 1583VE Three-axis Positioning and Rate Table System is optimized to provide high dynamic Hardware-In-The-Loop (HWIL) testing for smart weapons technology.

The 1583VE Test Table is a servo-controlled system that features 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 5 ELITE Controller 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 AERO 5 ELITE controller comes standard with three remote computer interfaces, RS-232, IEEE-488 and Ethernet.

OPTIONS

- Various slinging packages or wire wrap configurations

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

Rev E

1583VE Performance Specifications

| | Inner (Roll) Axis | | Middle (Pitch) Axis | Outer (Yaw) Axis |
|--|---|-------------------|--|--|
| Rotational Freedom Options | Unlimited | | 1) ± 185 deg (wire wrap) 2) unlimited (sliprings) | 1) ± 185 deg (wire wrap) 2) unlimited (sliprings) |
| Positioning | Standard | High Speed | | |
| • Accuracy, arc sec (deg) | ± 15 | ± 10 | ± 15 | ± 15 |
| • Repeatability, arc sec (deg) | ± 3 | ± 5 | ± 3 | ± 5 |
| • Command/Display Resolution, deg | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| Rate | | | | |
| • Maximum, deg/sec | $\pm 1,080$ | $\pm 18,000$ | $\pm 360^*$ | $\pm 360^*$ |
| • Minimum, deg/sec | ± 0.00001 | ± 0.00001 | ± 0.00001 | ± 0.00001 |
| • Command/Display Resolution, deg/sec | 0.00001 | 0.00001 | 0.00001 | 0.00001 |
| • Accuracy, % \pm Resolution | ± 0.001 (measured over 360 degrees of travel) | | ± 0.001 (measured over 360 degrees of travel) | ± 0.001 (measured over 360 degrees of travel) |
| Acceleration Maximum, deg/sec² (sinusoidal move, no payload) | 9600* | | 8500* | 2200* |
| Bandwidth, -3dB | 15 Hz* | | 15 Hz* | 15 Hz* |

*Values listed are maximum values and are dependent upon system configuration. Performance parameters may vary between various configurations of the Model 1583P.

System Physical Configuration

| | |
|-----------------------------|---|
| Tabletop | Standard tabletop size is 10 inch diameter (254 mm). Test load mounting provisions are six 3/8-16 threaded holes on a 9 inch (228.6 mm) diameter bolt circle. Custom tabletop and interface patterns available upon request. |
| Tabletop Connectors | One MS style connector centered on the table top |
| Number of User Lines | Standard slipring package is 48 lines at 5 amps per line. Custom packages are available. |
| Test Load Capacity | 33 Lbs (15Kg) Centered. 10 in. (254 mm) diameter x 15.75 in. (400 mm) high |
| Controller | Request data sheet for AERO 5 ELITE Controller for more information. |
| • Type & Configuration | AERO 5 ELITE Controller configured in a console |
| • Communication Interfaces | IEEE-488, RS-232 and Ethernet ports available to user |

Rev E