

830E3 All-Electric Dynamic Axial Torsion Test System

Axial Force Capacity: 5 kN (1125 lbf)

Torsional Capacity: 20 Nm (177 in-lbf)

Overview

The 830E3 all-electric axial torsion test system is optimized for dynamic and static axial testing, torsion testing and axial torsion testing and is the ideal solution for a wide range of materials and components. This system delivers high performance without the need for expensive hydraulic or pneumatic air supplies, making it an affordable 5 kN (1125 lbf) axial torsional fatigue test solution.



Complete system includes:

- Dual column load frame
- Advanced digital control electronics
- Fatigue rated axial torsion load cell
- All-electric dynamic axial torsion actuators with power pack
- Choice of software package
- Host of other user-orientated features

Features

- Compact tabletop system - frame requires approximately 0.4 m² (4 ft²) of desk space
- Oil-Free all-electric dynamic motor technology for clean operation - Environmentally friendly
- Designed for dynamic and static axial testing, torsion testing and axial torsion testing on a variety of materials and components
- High dynamic performance, capable of performing at 15 Hz
- 5 kN (1125 lbf) axial load capacity for static and fatigue testing applications
- 20 Nm (177 in-lbf) torsion capacity
- Electrically powered, no need for hydraulic or pneumatic air supplies
- High-stiffness, precision-aligned dual column load frame with linear actuator in upper crosshead, and torsion actuator located in base

Controller and Software - Powerful, Scalable & Affordable

- Latest desktop PC or touchscreen controller for biaxial static and fatigue testing applications
- Control pendant with critical controls and emergency stop at your fingertips
- User interface optimized for intuitive workflow and ease of use
- Control up to 20 transducer channels

Exceptional Versatility

- Modular system design makes it possible to engineer a variety of system configurations to different application requirements
- Adjustable test space to suit a wide variety of specimens, grips, fixtures, environmental chambers, biomedical baths and other accessories
- 140 mm (5.6 in) stroke provides easy specimen set-up and is ideal for a wide range of tests
- Rotation is continuous CW/CCW and configured ± 20 revolutions
- Dual column configuration provides easy access to the test area
- Compatible with large library of static and fatigue axial torsion test software packages

System Specifications

Configuration	830E3AT20
Actuator Force Capacity *	±5.6 kN (±1260 lbf)
Actuator Stroke *	140 mm (5.6 in)
Position Resolution	0.1 micron (0.04 micro-in)
Maximum Speed *	125 mm/sec (5 ips)
Maximum Test Frequency	15 Hz
Torsional Force Capacity *	±20 N (±177 in-lbf)
Rotation *	±20 revolutions standard
Maximum Torsion Frequency (Typ)	30 Hz
Maximum Speed *	1800° /sec (30 RPM)
Frame Configuration	Axial Actuator in upper crosshead; Torsion Actuator in base
Frame Style *	Dual Column Tabletop: Vertical
Crosshead Locks	Manual clamps
Crosshead Lift *	Mechanical lift
Load Cell *	Fatigue Rated - mounted on linear actuator
Vertical Test Space *	800 mm (32 in)
Column Spacing *	405 mm (16 in)

* Multiple options are available to satisfy your specific requirements. Discuss all critical specifications with an application engineer.

Controller Specifications

Data Acquisition Rate at the PC	Up to 5 kHz simultaneous on force, displacement, and strain channels
Load Measurement Accuracy	Meets or Exceeds ASTM E4, BS 1610, DIN 51221, ISO 7500-1, EN 10002-2, JIS B7721, JIS B7733, and AFNOR A03-501 standards
Operating Temperature	+5 to 40°C (+41 to 104°F)
Storage Temperature	-25 to +55°C (-13 to +131°F)
Humidity Range	+10 to +90%, non-condensing at 20°C

Popular Options

- Software Options
 - Axial Torsion Essentials Testing Package
 - Axial Torsion Static Materials & Products Testing Package
 - Axial Torsion Fatigue Testing Package
 - TestVideo add-on software module
 - TestConnect add-on software module
- Desktop or Touchscreen Computer (Windows 10)
- Electric Crosshead Lifts
- Non Standard Power Requirements
- Environmental Chambers
 - Furnaces
 - Ovens
 - Baths
- Grips & Test Fixtures - Thousands of static and fatigue rated fixture choices. Made per recognized test standards such as ASTM, ISO, etc.
- Sensors
 - Clip On Extensometers
 - Lower force load cell
 - Lower force torque cells
 - Strain Channel
 - Video Extensometer (DIC)
 - Axial Torsional Extensometers
 - LVDT
 - Deflectometers

Contact an application engineer to configure a solution to your application requirements.



Note: Specifications are subject to change at any time without notice.