

### 830E5 All-Electric Dynamic Axial Torsion Test System

Axial Force Capacity: 30 kN (6750 lbf)

Torsional Capacity: 100 Nm (880 in-lbf)

#### Overview

The 830E4 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 30 kN (6750 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 dual column floorstanding system - frame requires approximately 0.5 m<sup>2</sup> (5 ft<sup>2</sup>) of floor 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
- 30 kN (6750 lbf) axial load capacity for static and fatigue testing applications
- 100 Nm (880 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
- 240 mm (9.6 in) stroke provides easy specimen set-up and is ideal for a wide range of tests
- Rotation is continuous CW/CCW and configured  $\pm 20$  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

<b>Configuration</b>	<b>830E5AT100</b>
Actuator Force Capacity *	±31.8 kN (±7150 lbf)
Actuator Stroke *	240 mm (9.6 in)
Position Resolution	0.1 micron (0.04 micro-in)
Maximum Speed *	100 mm/sec (4 ips)
Maximum Test Frequency	15 Hz
Torsional Force Capacity *	±100 Nm (±880 in-lbf)
Rotation *	±20 revolutions standard
Maximum Torsion Frequency (Typ)	15 Hz
Frame Configuration	Axial Actuator in upper crosshead; Torsion Actuator in base
Frame Style *	Dual Column Floorstanding; Vertical
Crosshead Locks	Manual clamps
Crosshead Lift *	Mechanical lift
Load Cell *	Fatigue Rated - mounted on linear actuator
Vertical Test Space *	1370 mm (54 in)
Column Spacing *	506 mm (20 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.*