

# ELECTROPULS® | E10000 LINEAR-TORSION ALL-ELECTRIC DYNAMIC TEST INSTRUMENT

The ElectroPuls® E10000 Linear-Torsion is a state-of-the-art, all-electric test instrument designed for dynamic and static testing on a wide range of materials and components. It includes Instron® advanced digital control electronics, bi-axial Dynacell™ load cell, Console software, and the very latest in testing technology – hassle-free tuning based on specimen stiffness, electrically operated crosshead lifts, a T-slot table for flexible test set ups and a host of other user-orientated features. Powered from a single-phase supply it requires no additional utilities for basic machine operation (for example, pneumatic air, hydraulics, or water).

## FEATURES

- Oil-Free linear and rotary motor technology for clean conditions
- De-coupled linear/rotary actuators
- Designed for both dynamic and static testing on a variety of materials and components
- High dynamic performance, capable of performing at over 100 Hz
- ±10 kN dynamic linear load capacity and ±100 Nm dynamic torque capacity
- Electrically powered from single phase main supply, no need for hydraulic or pneumatic air supplies
- Temperature-controlled air-cooling system
- High-stiffness, precision-aligned twin column load frame with actuator in upper crosshead
- Versatile T-slot table for regular and irregular grips and specimens
- Compact instrument - frame requires less than 0.8 m<sup>2</sup> (8.6 ft<sup>2</sup>) of floor space

## HARDWARE AND SOFTWARE INTERFACES DESIGNED TO PUT YOU IN CONTROL

- Console software control interface - engineered with Instron's knowledge of machine usability
- Rigidly mounted control pod with critical controls and emergency stop at your fingertips
- Electrically powered crosshead lift system with manual lever clamps for ease of test space adjustment
- System Status Indicator shows system conditions (off, on, emergency stop, and fault)

## HIDDEN TECHNOLOGY DESIGNED TO IMPROVE YOUR TEST

- Patented, stiffness-based loop tuning system in both axes
- Unique actuator bearing system that maintains load string alignment when offset or lateral loads are induced by specimens or fixtures
- An optical encoder for precise digital extension control and a dedicated position channel for set up and end of test
- Digital two-axis control based on the industry's most advanced controller
- Dynacell advanced load cell technology for faster testing and reduction of inertial errors



## A HIGH LEVEL OF VERSATILITY

- Readily adjustable test space to suit a wide variety of specimens, grips, fixtures, and accessories
- 60 mm (2.36 in) linear stroke, ±135° rotation for a wide range of tests, as well as ease of specimen set up
- Twin column configuration provides easy access to the test area
- Compatible with WaveMatrix™2, Bluehill® Universal® and Application Specific software
- Compatible with a large range of grips, fixtures, chambers, saline baths, video extensometers, and other accessories

\*Only supported in desktop mode

## SPECIFICATIONS

Linear Dynamic Capacity	±10 kN (±2250 lbf)
Linear Static Capacity	±7 kN (±1570 lbf)
Torsional Dynamic	±100 Nm (±800 in-lb)
Stroke	60 mm (2.36 in)
Rotation	±135° or ±16 revolutions
Load and Torque Weighing Accuracy	±0.5 % of indicated load or torque, or ±0.005 % of load cell capacity, whichever is greater
Daylight Opening	877 mm (34.5 in) maximum with actuator at mid stroke
Configuration	Twin-column with actuator in upper crosshead
Mounting	Floor: Vertical
Lift and Locks	Electrically powered lifts with manual lever clamps
Load Cell	±10 kN ±100 Nm Dynacell™ mounted to base
Weight	994 kg (2190 lb) [frame] 40 kg (88 lb) [controller]
Electrical Supply	208 VAC to 240 VAC 32A single phase 50/60 Hz
Cooling	Temperature-controlled air cooling
Operating Temperature	+10 to +30 °C (+50 to +86 °F)

## INTERFACES

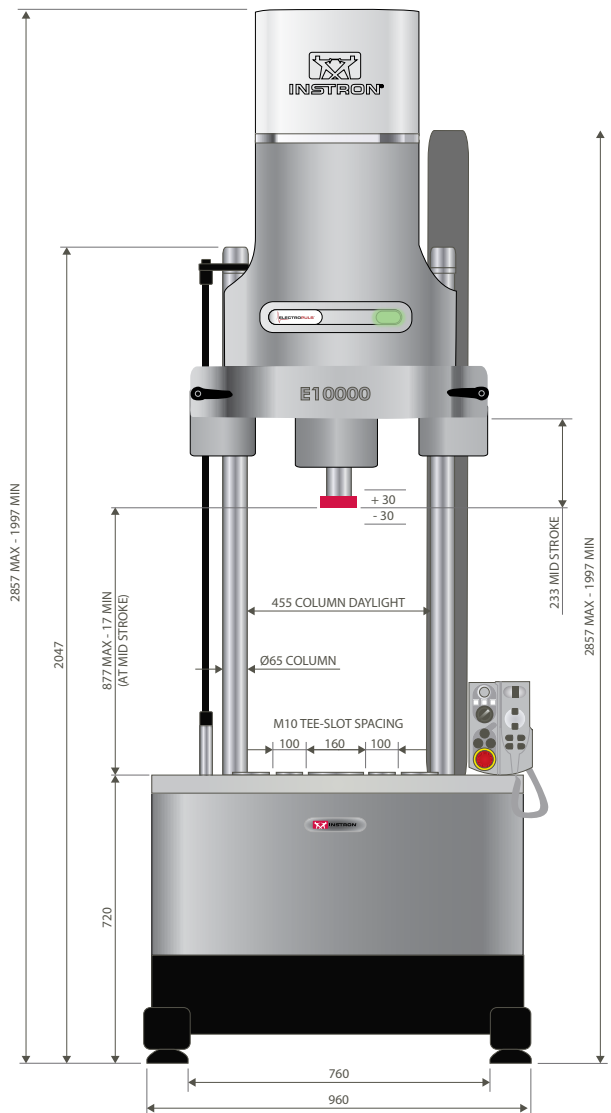
Actuator	M20 x 1.5 central thread 6 x M8 on 75 mm PCD 6 x M8 clearance holes on 75 mm PCD
T-Slot Table	M12 x 1 right hand central thread 3 x M6 holes on 57 mm PCD 6 x M10 holes on 100 mm PCD 3 x M10 holes on 125 mm PCD 4 x M10 holes on a 280 mm x 90 mm accessory rectangle 4 x M6 T-slots spaced 80 mm from centre

## ACCESSORIES

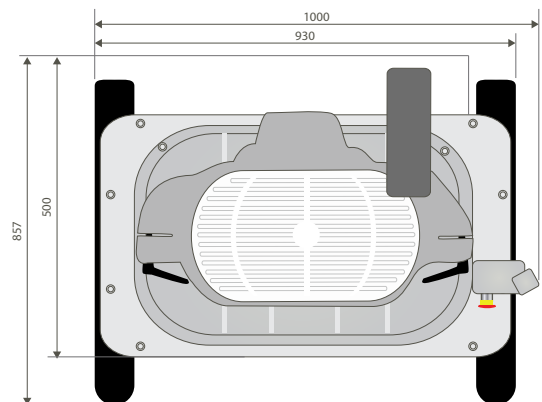
1300-303	Safety Screen for E10000 test instrument
2718-012 <sup>1</sup>	High-Pressure Pneumatic grip air kit for E10000
2718-014 <sup>2</sup>	High-Pressure Pneumatic grip air kit for E10000
2742-206	±3 kN ±25 Nm Linear-Torsion Mechanical Wedge-Action Grips
2742-305	±10 kN ±100 Nm Linear-Torsion Pneumatic Wedge-Action Grips
3117-082	ElectroPuls Pullrod kit
3119-605 <sup>3</sup>	Environmental Chamber
2810-500	3-Point Bend Fixture
2810-505	4-Point Bend Conversion Kit
2840-030	20 kN Compression Platens

### Notes:

1. Only compatible with 8800 Tower Controller
2. Only compatible with 8800MT Controller
3. Requires Pull-rods & Mounting Brackets



E10000 Linear-Torsion dimensions: front view



E10000 Linear-Torsion dimensions: plan view

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## FEATURES

- Oil-Free linear motor technology for clean conditions
- Designed for both dynamic and static testing on a variety of materials and components
- High dynamic performance, capable of performing at over 100 Hz
- Up to  $\pm 10$  kN dynamic load capacity and  $\pm 7$  kN static capacity
- Electrically powered from single phase main supply, no need for hydraulic or pneumatic air supplies
- Temperature-controlled air-cooling system
- High-stiffness, precision-aligned twin column load frame with actuator in upper crosshead
- Versatile T-slot table for regular and irregular grips and specimens
- Compact instrument - frame requires less than 0.8 m<sup>2</sup> (8.6 ft<sup>2</sup>) of floor space
- Clamp status indicators ensure that the minimum amount of clamping force is applied to the crosshead before starting a test

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Load Weighing Accuracy	±0.5 % of indicated load or ±0.005 % of load cell capacity, whichever is greater
Daylight Opening	877 mm (34.5 in) maximum with actuator at mid stroke
Configuration	Twin-column with actuator in upper crosshead
Mounting	Floor: Vertical
Lift and Locks	Electrically powered lifts with manual lever clamps
Load Cell	±10 kN Dynacell™ mounted to base
Weight	950 kg (2095 lb) [frame] 22 kg (48 lb) [controller]
Electrical Supply	208 VAC to 240 VAC 32A single phase 50/60 Hz
Cooling	Temperature-controlled air cooling
Operating Temperature	+10 to +30 °C (+50 to +86 °F)

## INTERFACES

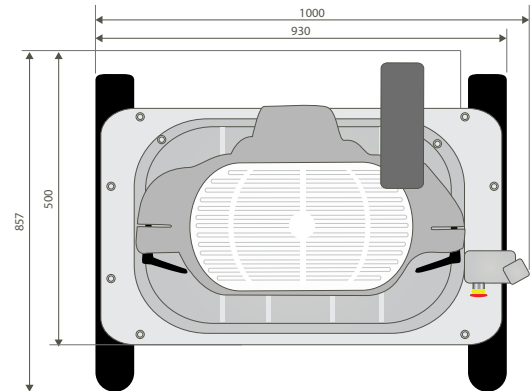
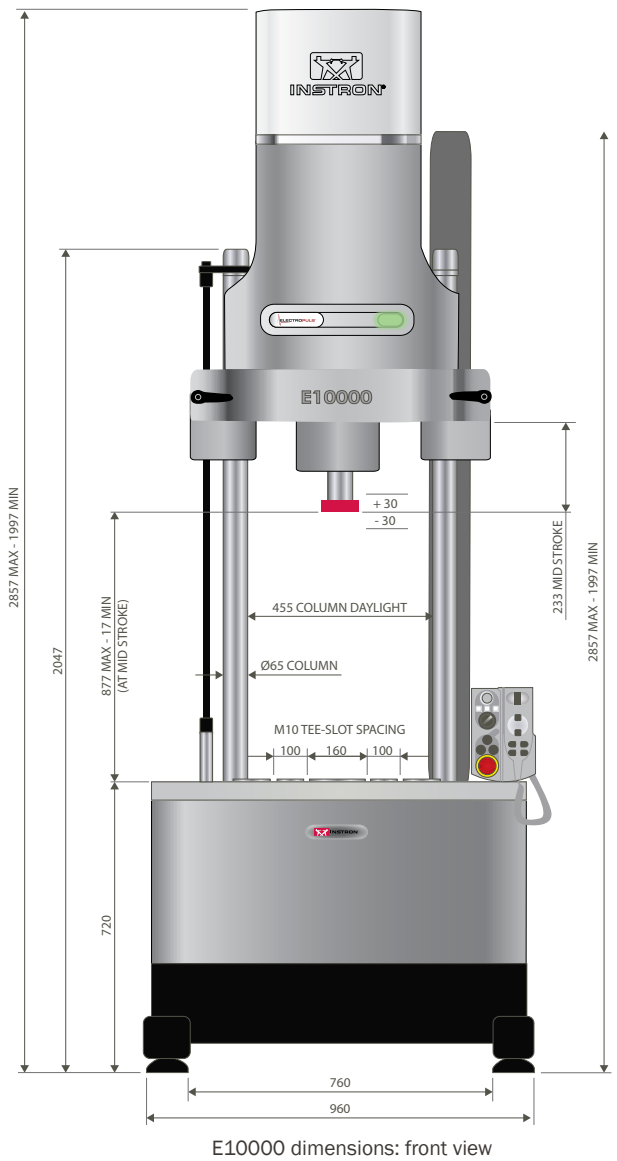
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