

## 8874 Axial-Torsion Servohydraulic Fatigue Testing System | 25 kN / 100 Nm

The Instron® 8874 is a compact tabletop axial-torsion servohydraulic testing system that meets the challenging demands various static and dynamic tests requires. The system carries out axial, torsion, or combined axial-torsion tests. With the actuator in the upper crosshead and a lower t-slot table, the 8874 makes an ideal platform for testing a variety of medical devices, biomaterials, advanced materials, and other components testing.

### Features

- Double-acting servohydraulic actuator with force capacity up to  $\pm 25$  kN ( $\pm 5620$  lbf) and torque capacity of  $\pm 100$  Nm (880 in-lb)
- High-stiffness, precision-aligned load frame with twin columns and actuator in upper crosshead
- 100 mm (4 in) of usable axial stroke and  $\pm 130^\circ$  of rotation
- Designed for both dynamic and static testing on a variety of materials and components
- Choice of hydraulic configuration and dynamic performance to suit application
- Extra-height frame option for testing longer load strings
- Adjustable upper crosshead with hydraulic lifts and manual locks fitted as standard for easy adjustment of daylight
- Patented<sub>1</sub> Dynacell™ load cell technology for faster testing and reduction of inertial errors
- Compact tabletop servohydraulic fatigue testing system – frame requires less than 0.4 m<sup>2</sup> (4.3 ft<sup>2</sup>) of space
- Designed to be used with the 3520 Series of Hydraulic Power Units
- Compatible with a large range of grips, fixtures, chambers, video extensometers, protective shields, and other accessories

### Controller & Software

The 8874 is supplied with a two-axis digital 8800 controller that provides full system control, including features such as automatic loop tuning, amplitude control specimen protect, 19-bit resolution across the full range of transducers, and patented adaptive control technology. It also allows access to WaveMatrix™ dynamic testing software, Bluehill® software for axial static tests, and other application specific software, such as the Low Cycle Fatigue or Fracture Mechanics suite.



# Specifications

		Standard Height Frame		Extra Height Frame	
Daylight Opening (Maximum Between Load Cell and Actuator at Mid-stroke)	mm in	683 26.9		983 40.0	
Dynamic Load Capacity	kN	±10	±25	±10	±25
	lbf	±2250	±5620	±2250	±5620
Torque Capacity	Nm	100			
	inlb	880			
Actuator Stroke (Total)	mm	100			
	in	3.9			
Actuator Rotation	°	±130			
Configuration	-	Twin-Column High-Stiffness Load Frame with Actuator in Upper Crosshead and T-Slot Base			
Lifts and Locks	-	Hydraulically-Powered Lifts and Manual Locks			
Load Cell	-	Patented <sup>1</sup> Biaxial Dynacell™: Fatigue-Rated Load Cell with Capacity to Suit Actuators			
Load Weighing Accuracy	-	±0.5% of Indicated Load or ±0.005% of Load Cell Capacity (1-100%), Whichever is Greater			
Hydraulic Pressure Supply (Required)	bar	207			
	psi	3000			
Electrical Supply	-	Single-Phase Mains 90-132 or 180-264 VAC 45/65 Hz Power Consumption: 800 VA Max			
Operating Environment	°C	+10 to +38 °C (+50 to +100 °F) with 10 to 90% Humidity Non-Condensing			
Frame Stiffness	kN/mm	260			
	lb	634			

## Mechanical Interfaces

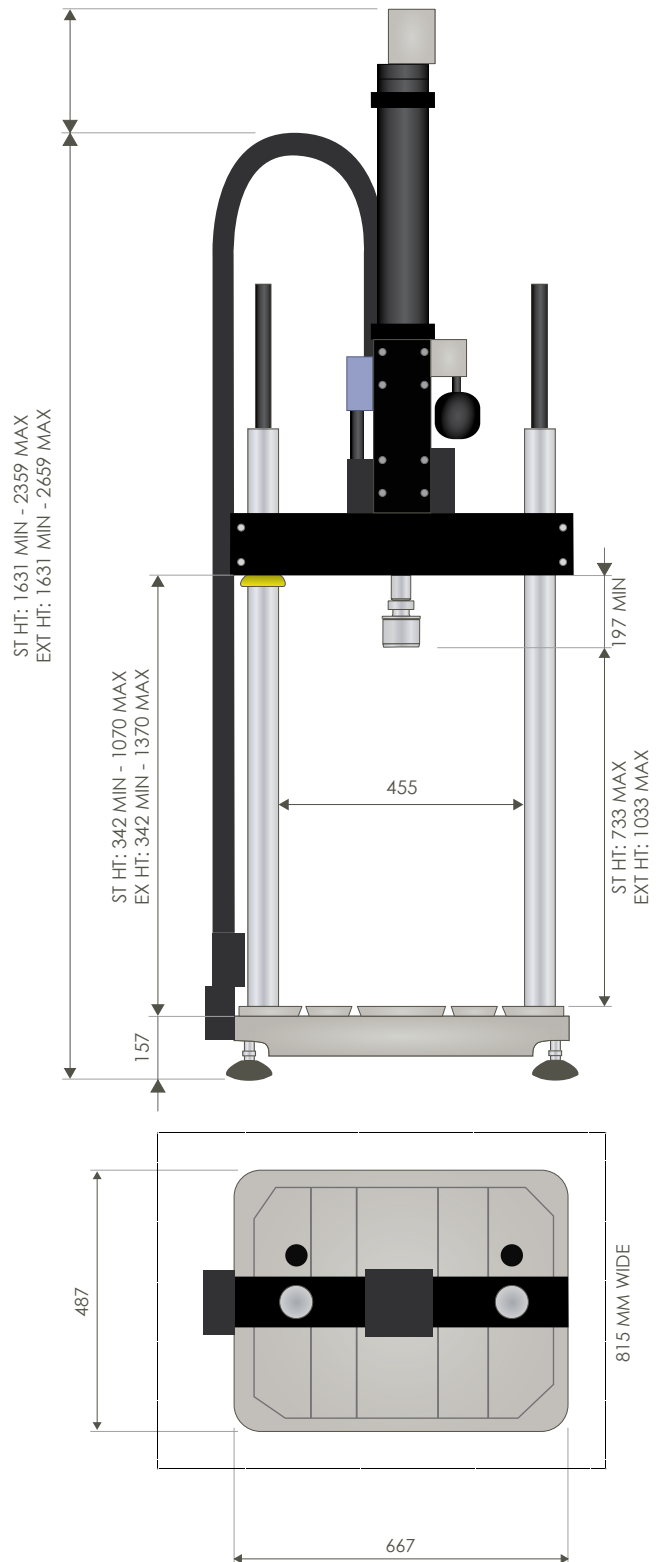
Load Cell	6 x M8 on 75 PCD
Actuator	6 x M8 on 75 mm PCD 6 x 9 mm Diameter Through Holes on 75 mm PCD
Table and Crosshead	4 x M10 Holes on a 280 mm x 90 mm for Accessory Mounting 6 x M10 x 20 Deep on 100 mm PCD (Table) with 40 mm Location Diameter 4 x M10 T-Slots Running Front to Back, Spaced 80 and 100 mm from Centerline

## Accessories

### Catalog Number

8260C	±25 kN / ±100 Nm Fatigue Rated Hydraulic Wedge Grips
8000-101	Attachment Kit to Provide M20 Right Hand Female Thread on 8874 Load Cell or Actuator
8000-050	Flange for 8874 Base to Provide M20 Right Hand Female Thread

1) US Patent Number 6508132



8874 Dimensions (All dimensions in mm)

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