

8803 Servohydraulic Fatigue Testing System | Up to 500 kN

The Instron® 8803 is a versatile servohydraulic fatigue testing system that performs static and dynamic tests on materials and components up to 500 kN. 8803 systems provide complete testing solutions to satisfy the needs of advanced materials and component testing, and are ideally suited for fatigue testing and fracture mechanics. With a large number of configurations and options, including lower t-slot tables, the 8803 makes an ideal platform for any laboratory.

Features

- Double-acting servohydraulic actuator with force capacity up to ± 500 kN (± 110 kip)
- High-stiffness, precision-aligned load frame with twin columns and actuator in lower base or upper crosshead
- 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 and Extra-extra height frame options for testing longer load strings
- Adjustable upper crosshead with hydraulic lifts and lock fitted as standard for easy adjustment of daylight
- Up to 250 mm (9.8 in) of usable stroke
- Patented₁ Dynacell™ advanced load cell technology for faster testing and reduction of inertial errors
- Floor-standing servohydraulic fatigue testing system—frame requires less than 1.6 m² (16.6 ft²) of floor space
- Hydrostatic bearing actuators for high side-load resistance and better alignment during testing
- 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 and Software

The Instron 8803 is supplied with a 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 adaptive control technology. It also allows access to WaveMatrix™ Dynamic Testing Software, Bluehill® Software for static tests, and other application specific software, such as the Low Cycle Fatigue or Fracture Mechanics suite.



Specifications

		Standard Height Frame	Extra Height Frame	Extra-Extra Height Frame
Daylight Opening (Maximum Between Load Cell and Actuator at Mid-stroke, with Largest Capacity Actuator)	mm in	1465 57.7	1905 75.0	2265 89.2
Dynamic Load Capacity	kN kip	Up to 500 Up to 110		
Actuator Stroke (Total)	mm in	250 9.8		
Configuration		Twin-Column High-Stiffness Load Frame with Actuator in Lower Table or Upper Crosshead		
Lift and Locks		Hydraulically-Powered Lifts and Locks		
Load Cell		Patented ¹ Dynacell™ Fatigue-Rated Load Cell with Capacity to Suit Actuator		
Load Weighing Accuracy		±0.5% of Indicated Load or ±0.005% of Load Cell Capacity (1-100), Whichever is Greater		
Manifold Options		Single Valve, Dual Valve, or High-Flow Manifold		
Servo-Valve Options	l/min GPM	5, 10, 20, 40, 65 or 230 1, 2.5, 5, 10, 16.5 or 60		
Hydraulic Pressure Supply (Required)	bar psi	207 3000		
Electrical Supply		Single-Phase Mains 90-132 or 180-264 V 45/65 Hz with Power Consumption 800 VA Max		
Operating Environment		+10 to +38°C (+50 to +100°F) with 10 to 90% Humidity Non-Condensing		
Frame Stiffness	kN/mm	1066		
Maximum Frame Weight (Dependent on Final Configuration)	kg lb	2450 5396		

Mechanical Interfaces

Load Cell	M72 x 3 Right Hand Female Central Thread
Actuator	M72 x 3 Right Hand Female Central Thread
Table and Crosshead	4 x M10 Holes on a 280 mm x 90 mm for Accessory Mounting

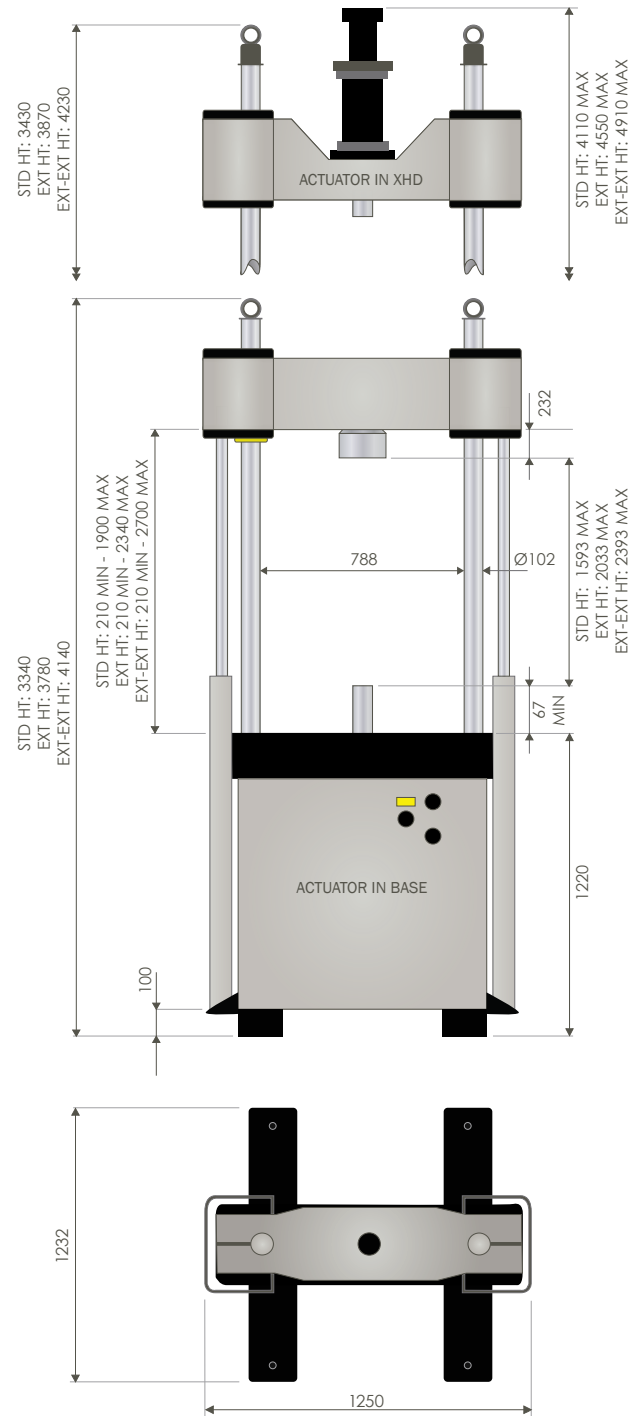
Accessories

Catalog Number

2742-601	±500 kN Fatigue-Rated Hydraulic Wedge Grips
8000-095	M72 to M72 Attachment Kit
2750-120	Fracture Mechanics Grips for 50 mm Wide Compact Tension Specimen
8000-096	Attachment Kit to Suit 2750-120 Grips on 8803 (500 kN)
2810-250	500 kN Fatigue-Rated 3-Point Bend Fixture
2840-119	150 mm (6 in) Diameter Compression Platens

Note: Dimensions and specifications relate to a 500 kN system with a ±125 mm (±4.9 in) stroke actuator. Other capacity actuators may change certain specifications. Check with your local Instron office for further information.

1) US Patent Number 6508132



Instron® 8803 Dimensions (All Dimensions are in mm)

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