

8802 Servohydraulic Fatigue Testing System | Up to 250 kN

The Instron® 8802 is a versatile servohydraulic fatigue testing system that meets the challenging demands of a varied range of static and dynamic testing requirements. 8802 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 available, the 8802 system provides a versatile platform for any laboratory.

Features

- Double-acting servohydraulic actuator with force capacity up to ± 250 kN (± 56 kip)
- High-stiffness, precision-aligned load frame with twin columns and actuator in lower base or upper crosshead
- 150 mm (6 in) of usable stroke
- 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 locks fitted as standard for easy adjustment of daylight
- Patented¹, Dynacell™ advanced load cell technology for faster testing and reduction of inertial errors
- Floor-standing servohydraulic fatigue testing system – frame requires less than 1.2 m² (12.9 ft²) of floor space
- Optional hydrostatic bearing actuators for higher side-load resistance or material critical applications, such as low-cycle fatigue
- 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 8802 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.



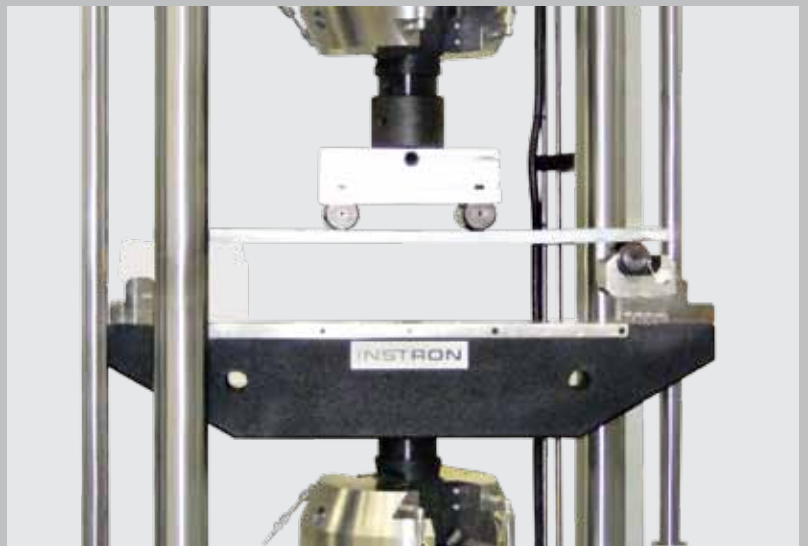
Typical Testing Applications

A wide range of system options, grips, fixtures, and accessories, allow Instron® 8802 systems to be customized for specific applications. Whether the test application demands low or high temperatures, crack measurement, or complex specimen gripping geometry, Instron offers a complete tailored package.



Fatigue Testing

Mechanical or hydraulic wedge-action or collet grips, fastener grips, and dynamic extensometers allow high-frequency fatigue testing of a variety of specimens. Tests can be at ambient conditions or combined with environmental accessories for testing at higher temperatures.



Fracture Mechanics and Additional Tests

The Instron 8802 can be configured with CT grips and crack measurement sensors for crack growth and fracture toughness studies of metallic materials. It can also be configured with flexure fixtures for bend tests.

High-Temperature Testing

Low-cycle fatigue (LCF) and other tests can be carried out at very high temperatures using furnace technologies and specialized load strings.



T-Slot Table Options

T-Slot base machines with the actuator in crosshead are available for testing components and structures.



Thermomechanical Fatigue (TMF)

Using specialized heating technologies, TMF systems simulate the combined effects of mechanical fatigue with the thermal cycling, normally experienced by gas turbines and similar equipment during operation.

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	1240	1700	2100
	in	48.8	66.9	82.7
Dynamic Load Capacity	kN	Up to 250		
	kip	Up to 56		
Actuator Stroke (Total)	mm	150		
	in	5.9		
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	5, 10, 20, 40, 65 or 230		
	GPM	1, 2.5, 5, 10, 16.5 or 60		
Hydraulic Pressure Supply (Required)	bar	207		
	psi	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	585		
Maximum Frame Weight (Dependent on Final Configuration)	kg	1330		
	lb	2929		

Mechanical Interfaces

Load Cell	M48 x 2 Right Hand Female Central Thread
Actuator	M48 x 2 Right Hand Female Central Thread
Table and Crosshead	4 x M10 Holes on a 280 mm x 90 mm for Accessory Mounting

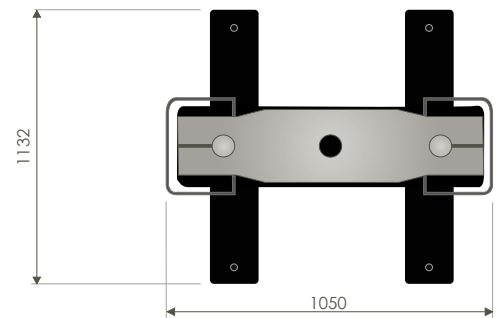
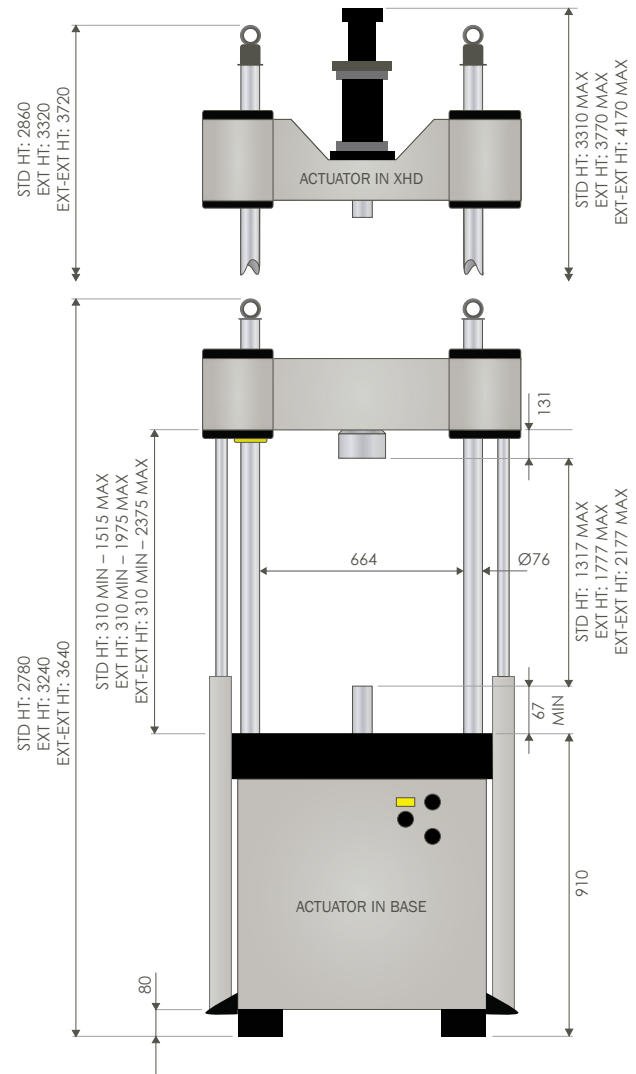
Accessories

Catalog Number

2742-501	±250 kN Fatigue-Rated Hydraulic Wedge Grips
8000-092	M48 to M48 Attachment Kit
2750-119	Fracture Mechanics Grips for 25 mm Wide Compact Tension Specimen
2501-132	Adapters Kit for 2750-119 Clevis Grips
2750-120	Fracture Mechanics Grips for 50 mm Wide Compact Tension Specimen
2810-200	250 kN Fatigue-Rated 3-Point Bend Fixture
2810-201	4-Point Conversion Kit for 2810-200
2840-119	150 mm (6 in) Diameter Compression Platens

Note: Dimensions and specifications relate to a 250 kN system with a ±75 mm (±2.95 in) stroke actuator. Smaller capacity actuators may change certain specifications. Check with your local Instron office for further information.

1) US Patent Number 6508132



Instron® 8802 Dimensions (All Dimensions are in mm)

www.instron.com



Worldwide Headquarters
825 University Ave, Norwood, MA 02062-2643, USA
Tel: +1 800 564 8378 or +1 781 575 5000

European Headquarters
Coronation Road, High Wycombe, Bucks HP12 3SY, UK
Tel: +44 1494 464646

Instron Industrial Products
900 Liberty Street, Grove City, PA 16127, USA
Tel: +1 724 458 9610

Instron is a registered trademark of Illinois Tool Works Inc. (ITW). Other names, logos, icons and marks identifying Instron products and services referenced herein are trademarks of ITW and may not be used without the prior written permission of ITW. Other product and company names listed are trademarks or trade names of their respective companies. Copyright © 2012 Illinois Tool Works Inc. All rights reserved. All of the specifications shown in this document are subject to change without notice.