INSTRON®

The difference is measurable®

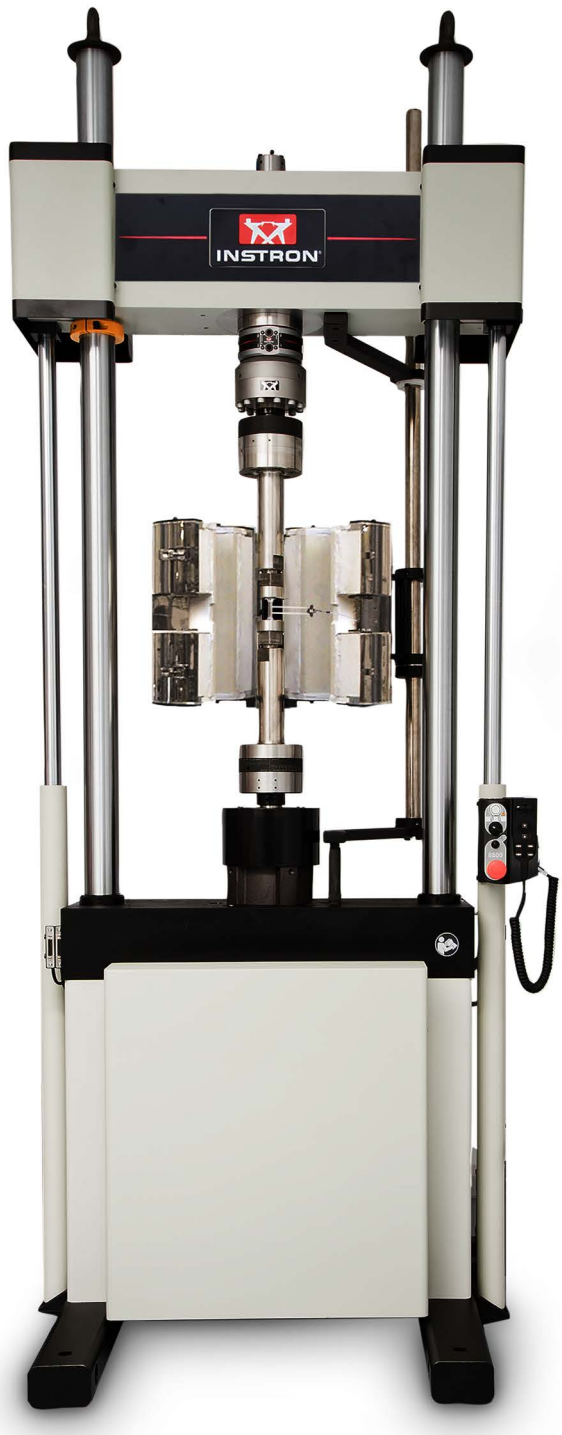
8862 LOW CYCLE FATIGUE TESTING SYSTEM

100 kN Servo-Electric Actuator

8862 systems have been the industry choice for Low Cycle Fatigue (LCF) testing for decades and are now fully integrated with our latest controller platform. Instron® has developed this system specifically to address the challenges of reverse-stress Low Cycle Fatigue and Thermomechanical Fatigue (TMF) testing. The unique actuator technology utilizes an all-electric, backlash free, ball-screw drive, eliminating the need for hydraulic infrastructure to support the machine.

FEATURES AND BENEFITS

- High capacity loading frame that maximizes lateral and axial stiffness during reverse stress testing
- Precision control achieved by our unique backlash free actuator design delivering actuator velocities down to just 1µm/hour
- Easy installation into any lab space with minimal infrastructure requirements
- Virtually silent operation creating an ideal working environment for your operators
- Low power consumption reducing your annual cost of running tests
- Minimal maintenance required compared with a fully hydraulic system
- Integration with Uninterruptable. Power Supply to protect your specimen from overloading in the event of power loss
- Patented stiffness based tuning algorithm that enables users to tune a variety of specimens in seconds
- Dedicated LCF and TMF software packages make it easy to carry out complex tests and get the results you need first time, every time
- Complete alignment solutions are included on all high temperature systems. This means that you can measure and adjust loadstring alignment with the AlignPro package. The guided software will tell you exactly which adjustments are required to achieve perfect alignment
- Instron's core transducer technology is designed and manufactured by Instron in our UK centre of excellence and verified in our own on-site accredited facility
- Years of experience and expertise in the changing demands of international high temperature standards and the technical challenges of testing up to and beyond 1000 °C

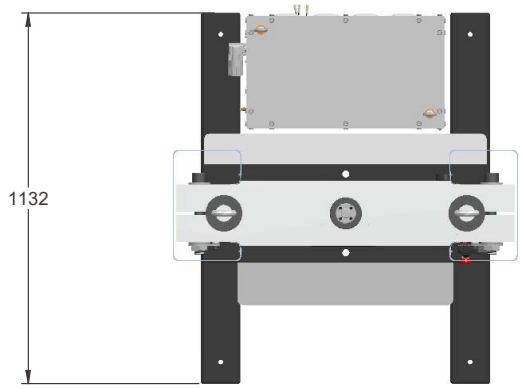


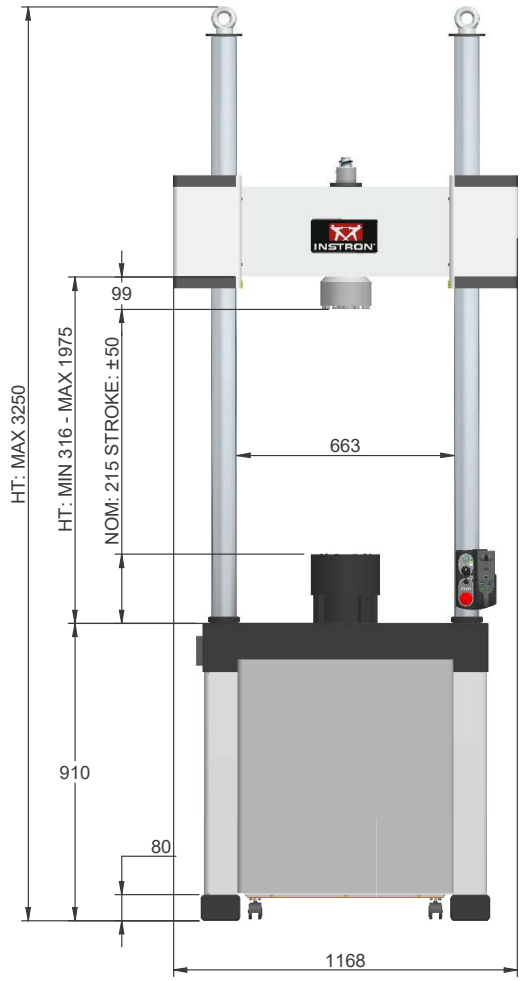
CONTROLLER AND SOFTWARE

The Instron 8862 is supplied with a digital 8800MT controller that provides full system control, including features such as stiffness based tuning, amplitude control, specimen protect, up to 24-bit resolution across the full range of transducers, and adaptive control technology. It also allows access to WaveMatrix™3 Dynamic Testing Software, Bluehill Universal® Software for axial static tests, and other application specific software, such as Bluehill Fracture.application specific software, such as Bluehill Fracture.

FRAME SPECIFICATIONS

Daylight Opening (Maximum Between Load Cell and Actuator at Mid-stroke)	mm	1660
	in	65.3
Dynamic Load Capacity	kN	Up to 100
	kip	Up to 22
Actuator Stroke (Total)	mm	100
	in	4
Configuration		Twin-Column High-Stiffness Load Frame with Actuator in Lower Table
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
Max Actuator Speed	mm/min	300
Min Actuator Speed	µ/hr	1 requires suitable transducer
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	595 (at 1000 mm crosshead height)
Maximum Frame Weight (Dependent on Final Configuration)	kg	1460
	lb	3219





MECHANICAL INTERFACES

Load Cell	M30 × 2 Right Hand Female Central Thread
Actuator	M30 × 2 Right Hand Female Central Thread

ACCESSORIES

Heating	1000°C Furnace or Induction Coil
Gripping	Reverse stress pull-rods or water cooled Grips
Software	WaveMatrix3 or Thermomechanical fatigue
Alignment	Mechanical alignment fixture and Alignment software
Extensometry	High temperature extensometers (12.5 mm and 25 mm GL)

Instron® 8862 Dimensions (All Dimensions in mm)
Drawings not to scale, for reference use only

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INSTRON®

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