

TRIAXIAL TEST SYSTEM

LF-03-0250

Testing and validation of biomaterials used in medical implants and devices is crucial to assure performance and durability. Triaxial testing of tissues adds a unique shear component to examination of mechanical behaviour. For this, Instron provides a unique solution through its high precision and modular LF-XXX Triaxial Test System. This system is ideally designed for testing of a wide range of materials ranging from polymers, rubbers to tissues such as brain, stomach and thus is an ideal instrument for research and development. The LF-XXX system is well-suited to perform triaxial testing on animal/human or other tissue samples which makes it an attractive instrument for tissue engineering, mechanobiology and regenerative medicine research labs.

Triaxial Test System

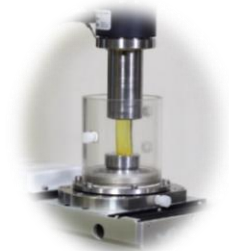
LF-XXX is capable of applying compressive and shear loads on specimens in three orthogonal axes.

- Fully integrated electric system rated from 200N-2kN
- Simultaneous measurement of loads in three orthogonal directions
- High precision, low cross talk three axis load sensor
- Displacement resolution across all three axis: < 0.25 micron
- Suitable for static and cyclic testing
- Testing of tissues, hydrogels, soft polymers
- Fixtures made from biocompatible material



Grips and Saline Chamber

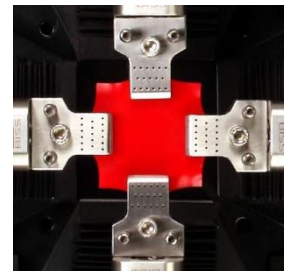
- Flat compression grips for cuboidal specimens
- Temperature controlled saline chamber for testing under physiological conditions
- All grips are autoclave and UV sterilization compatible
- Custom grips based on user requirement can also be made as optional items



Mechanical Stimulator

LF-XXX is available with upto 500N capacity configurations for wide variety of applications

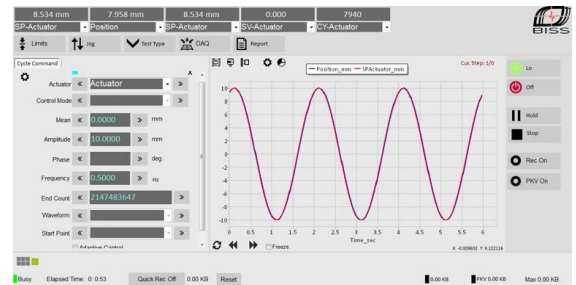
- High stiffness load frame with top mount axial actuator
- Integrated XY linear stage for triaxial testing
- Static and dynamic testing can be performed
- Independent control for axial actuator and linear stage



Control System and 'Growthworks' Software

Simple, adaptable and modular GrowthWorks Package provides an ideal control for triaxial testing.

- Controller configured for triaxial testing
- Real time visualization of load displacement data and single click report generation for analysis.
- Software allows for static testing as well as dynamic testing with preloaded waveforms. Custom waveforms can also be set according to user requirements.



Perfusion Module

For long term experiments requiring supply of fluid. Instron provides a unique perfusion module integrated with the Triaxial Test system. This optional module is designed to provide saline medium flow around the sample

Why Choose Instron?

- Instron offers a fully integrated and a comprehensive thermo mechanical fatigue test solution with a high-performance state of the art controller and a dedicated user-friendly application software. The key benefits include
- A multi-coil induction head that allows more complex designs that optimize coupling between coils and specimen to improve heating rates and specimen temperature gradients
- Integrated extensometer with minimal setup time and roller mount for quick and precise adjustment of extensometer position
- Real time thermal strain compensation where the extensometer readout doesn't change even with change in mechanical strain of the specimen due to the variations in temperature
- Optional multi zone temperature tracking: multi point thermocouple-based temperature tracking with guaranteed uniformity across multi zones
- Adjustable induction coil mount that allows easy and precise movement of the induction system to fit specimen size
- Self-aligning, self-locking, zero backlash water cooled hydraulic grips to test threaded and tubular samples.

NOTE

CE certification on Demand
Specifications are subject to change without prior notice

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Low Force Triaxial System_V1