

902LX Series

Servohydraulic Fatigue Test System

Static and Fatigue Testing of Materials and Products

Force Ratings 250 and 300 kN (67,000 lb)

Applications

- Fatigue Crack Propagation
- Fracture Mechanics
- Load and Strain Controlled Fatigue
- Static Tension and Compression
- Dynamic and Fatigue Test Modes
- Quality Control
- R & D

Overview

The 902 Series servo hydraulic test machine is a popular configuration that matches a wide range of needs. The force is sized to handle metals and composites with test speeds to 100 hz possible with a properly sized hydraulic power unit. The load frame, actuator, and hydraulic power pack are configured to your speed, load and stroke requirements. The servocontroller features high resolution (24 bit) measurement and control based on the latest 2370 Series Digital Servocontroller equipped with control software.

Includes

- Hydraulic power pack – requires 220V electrical power.
- Actuator with servovalve, load cell and LVDT
- Controller with load, position, and strain channels.
- Computer
- General purpose test control software
- Wide range of fixtures, grips, extensometers, ovens)
- Support services including on-site services and internet based remote access support.

Test Controller

The system includes a single channel servocontroller (model 2370) that was created for materials testing applications and offers the latest in electronic performance, functionality and affordability. It includes three strain bridge feedback channels for load cells or extensometers, a conditioner for LVDT position transducers, or any transducer that can provide a high level 10V analog input signal. A digital encoder is included as the fifth feedback and control channel. Data are acquired at adjustable speeds up to 5000 samples per second on all feedback channels. The LVDT can be set to a 500 micron range, producing reliable measurements to 0.5 micron resolution. The same precision ratios are true of strain bridges as well.



902LX Specifications and Ordering Information

Actuator & Frame

Load Frame Model	902LX250	902LX300
Fatigue Force Capacity	± 250 kN (55,000 lb)	±300 kN (67,000 lb)
Actuator Model	B2-250	B2-300
Actuator Stroke	± 50 mm (2 in)	± 50 mm (2 in)
Frame Column Clearance	600 mm (24 in)	
Vertical Test Space (max)	1500 mm (60 in)	
Frame Height	2.7 m (110 in)	

Notes – Overall load-stroke-frequency performance depends on servovalve and hydraulic power pack selection and requirements. Actuators are made to stroke requirements. Performance curves are available. Discuss all critical specifications with an application engineer. Note that actuator stroke length is optional

Dual Column Fatigue Rated Load Frame

The 902 load frame and servo hydraulic actuator are both fatigue rated to force capacity. The load frame features 24 inches (600 mm) between columns with a maximum vertical daylight of 60 in (1.5 m). The servoactuator is a double ended dual actuating unit mounted in the baseplate. The frame includes hydraulic operated crosshead lifts and locks with vibration isolators and a user control panel to operate the pump, crosshead, and E stop. The actuator assembly includes an internal LVDT to control actuator stroke, an actuator manifold, servovalve and two accumulators.

Hydraulic Power Pack

The power pack is sized to match actuator force, speed and stroke requirements. Power packs are available from 100 (400) to 0.5 GPM (LPM).

Test Software

2370 Software Products are all compatible with Global Data Sharing (GDS) which requires a PC with Microsoft Operating System.

MachineBuilder Software (MTL32) enables the user to change machine configuration and resources (e.g. transducers). Panels for servotuning, calibration, and global limit setting make it possible to set up and switch test station configurations easily.

TestBuilder Software (MS32) enables users to set up, launch, and monitor static and fatigue tests. Test data are stored and exportable for reports. Separate user panels are available for static and fatigue tests. Users create, store and execute tests including command signal, data acquisition and export of data to Excel.