

MODEL MUF-404

Dynamic Testing Machines for tensile-compression tests



MUF-404 Description



This model is well-suited for low and middle frequency cyclic tests.

The actuator is always in the upper bridge. All versions incorporate 4 columns.

One of the main purposes of these machines is tensile and cyclic tests of round metallic specimens.

They are built for forces between 500 and 2500 kN. For fewer capacities, Servosis can offer model MUF-401, between 10 and 250 kN.

The upper bridge is hydraulically displaced and blocked. The axial distance can be adapted to the type of test, although in the standard version it is usually 700 mm.



They have a Model CH4 (pseudo-static) hydraulic actuator for frequencies up to 10 Hz, and Model CH9 for higher frequencies. The stroke can vary depending on the use of the machine, standard is 200 mm.

Sealing system on CH4 is based on low friction and high speed joints, and they have a drainage circuit to collect the small leaks that dynamic work normally cause.

Sealing system on CH9 is based on pressure rings, and they require a direct drainage to the hydraulic power supply.

The force and the stroke are adapted to the machine's requirements.

Hydraulic power supply in dynamic testing machines are standard, and the magnitude will depend on the flow rate required. This flow rate will be chosen depending on the cylinder section and the maximum test speed to perform. With a power supply as shown in the picture, we can make tests between 28 and 90 l/min.

The working pressure is usually 210 Bar. The cooling system is based on an air-oil exchanger.

For higher flow rates than 90 l/min, the motor pump unit is not placed on the tank, but on a side bench close to the tank. If more than 90l/min are required, we install two or more pumps, and the flow rates are added. In this case, the cooling system is based on a water-oil exchanger.

MUF-404 Description

MAIN ACTUATOR

HYDRAULIC ACTUATOR MODEL CH9



Model CH9 Servosis hydraulic actuator is well-suited for high accuracy fatigue tests.

The seal rings are eliminated. A suction pump is incorporated to collect the drained oil.

We manufacture standard and custom models upon request, to meet any requirements you may have.

Available standard specifications: Stroke ± 5 mm to ± 300 mm; Load capacity: 5 to 250 kN.

HYDRAULIC ACTUATOR MODEL CH4



They are designed to work in static and pseudo-static tests, and they can occasionally be used in cyclic tests up to 10 Hz.

Sealing system is based on low friction and high speed joints.

They have a drainage circuit to collect the small leaks that dynamic work normally causes.

Minimum available specifications are: Stroke 50 mm; Load capacity 10 kN. In each case, we select the most suitable actuator for the client's purpose.

GRIPS



MODEL	LOAD RANGE	ACTION	CLAMPING SYSTEM	LOAD CAPACITY THROUGH THE WEDGES
4011 ACH	50- 1000 kN	Hydraulic. Oil 200 Bar	Wedge	100% Tensile 10 % Compression
4013 ALH	100-2500 kN	Hydraulic. Oil 200 Bar.	Side	100% Tensile 100% Compression
4011 ACH	50- 1000 kN	Hydraulic. Oil 200 Bar	Wedge	100% Tensile 100% Compression

MUF-404 accessories: Extensometers

Model CDD

Axial extensometer for tensile tests through specimen failure.



- Gauge length 100-200 mm (can be built in other sizes).
- Maximum strain 50 -100 mm (can be built in other sizes).
- Manual or automatic clamp.
- For round or flat specimen.
- Operating principle: digital encoder.

Model CDA

Axial extensometer for tensile tests through failure.

- Gauge length 100,-200 - 500 mm (can be built in other sizes),
- Maximum strain 50 -100 mm (can be built in other sizes).
- Automatic clamp from PC.
- For round or flat specimen.
- Operating principle: digital encoder.



Epsilon extensometers

For several purposes.

Model 3560.- Biaxial extensometer:

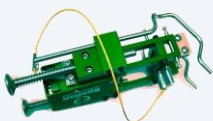
Provides simultaneous lateral (transverse) and axial strain measurement.



Model 3542.- Axial extensometer

Gauge length 10-80 mm.

Operating principle: wheatstone bridge.



Model CDR

Extensometer for yield strength and young modulus

- Gauge length 50-100 mm.
- Max. Strain 2,5 mm.
- Possibility of double mounting.
- Manual clamp.
- For round or flat specimen.
- Operating principle: wheatstone bridge



Model CDL

Diametral extensometer

- Manual clamp.
- Nominal stroke: 3 to 10 mm.
- Resolution: 0,001 mm.
- Linearity: 1 %,
- Specimen width: 10-25 mm. (it can be modified upon request)
- Operating principle: LVDT transducer.



MUF-404 accessories: Extensometer

CDO Videoextensometers



Model CDO / 1 / 50

Optical extensometer for general purpose

- Non-contact measurement.
- Includes a highly accurate camera.
- For all kinds of materials.
- Accuracy: 0,01mm to 0,002 mm.
- Local strain measurements (fracture mechanics...)

Laser Extensometer



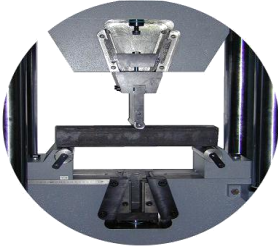
Laser extensometer

- Non-contact measurement.
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MUF-404 ACCESSORIES:

FLEXURE TEST ACCESSORIES

The lower grip can be built with a longitudinal groove to locate the rollers for flexure tests. We offer different fixtures to be placed in the upper grip for 3 or 4 point configurations, and also deflection transducers.



COMPRESSION TEST ACCESSORIES

Wide variety of compression platens diameters.

Easy to assemble on grips.

Machined to allow for the assembly other fixtures.

Hardening process.



ENVIROMENTAL TESTS

We manufacture systems for climate and controlled temperature testing, allowing temperature control by software PCD2K.

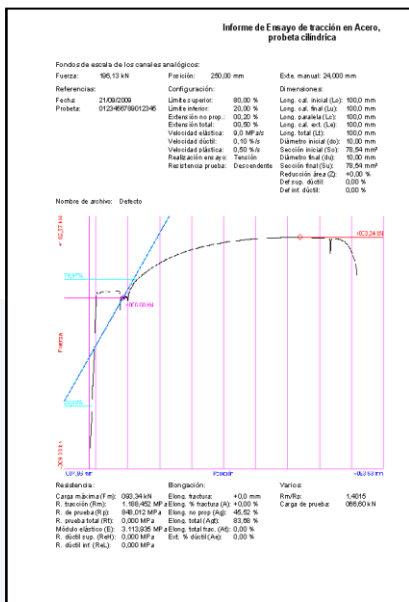
- Furnaces.
- Cold-heat chambers.
- Heated platens.

Servosis designs and manufactures all types of accessories, both standard and custom made, to help you meet the needs of your application.

MUF-404 Control software



Test window



Test report.

Customized with your logo



The machine is controlled by PCD2K test software, where the user has different ways of managing:

The **general purpose**, where you can have the maximum possibilities in test performance. The customer can set up a custom test, and obtain the intended data.

The **custom test windows under Standard**, which brings together in a single window only the necessary elements for a specific test. All necessary calculations required by the Standard are directly obtained.

You can have as many Standard windows as you need in the same machine, with the only limit being the force and speed capacity of the test frame, or the hydraulic power supply.

You will have a test report with the Standard reference, required calculations and test results, data and graphics.

