

Heavy-Duty Fully Automatic Extensometer Series MFL

The extensometers series MFL are fully digital, high precision and high resolution units suitable for almost all specimens and materials with an initial gauge length starting from 10 mm.

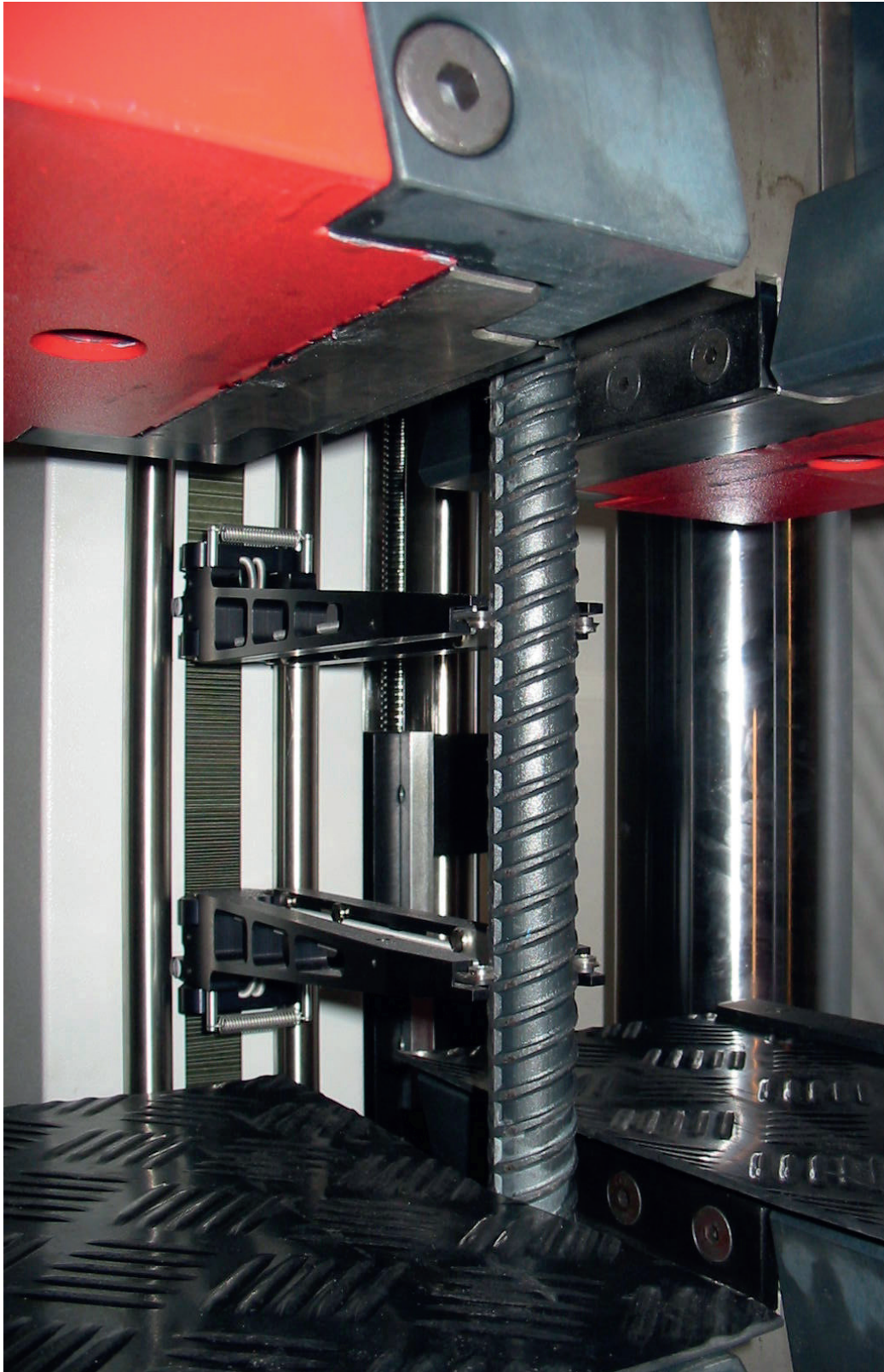
There low clamping force combined with high measurement accuracy makes them suitable for a wide range of specimens and materials, even for small, notch sensitive test samples.

The MFL can be connected to partly or fully automatic testing machines with hydraulic grips. The strain can be measured from the elastic range to fracture for almost all types of samples. The strain can be measured from the elastic range to fracture for nearly all types of samples. When used in combination with the transverse models, the MFL extensometers are ideal for testing the deep-drawing properties of thin sheets.



Key Features

- Two-sided measurement by means of four measuring sensors
- Very low clamping forces even allow testing of thin wires and foils
- Very high resolution of up to 0.1 μm over the complete measuring range
- The gauge length position and value can be precisely set under computer control
- The round knife edges can be utilized along their whole perimeter by rotating them
- Accuracy class 0.5 (EN ISO 9513)
- The gauge length (L_e) is adjusted automatically set through the Application Software and the measuring levers are automatically open and closed
- Measuring until sample failure or to a reference load, stress, strain or drop of a load or stress
- Automatic returning to initial position and adjustment of L_e ready for the next test
- The measuring springs of a right and left arm pair are connected in parallel to obtain an average value which is important if the sample deforms none homogeneously
- Initial gauge length from 10 mm
- Automatic movement to the position and gauge length
- Automatic attachment to specimen
- Very low clamping forces (ca. 0.5 N)
- Measuring displacement of 300 (MFL-300), 500 (MFL-500) or 800 mm (MFL-800) mm minus gauge length
- Lowest activating forces (<1 cN)

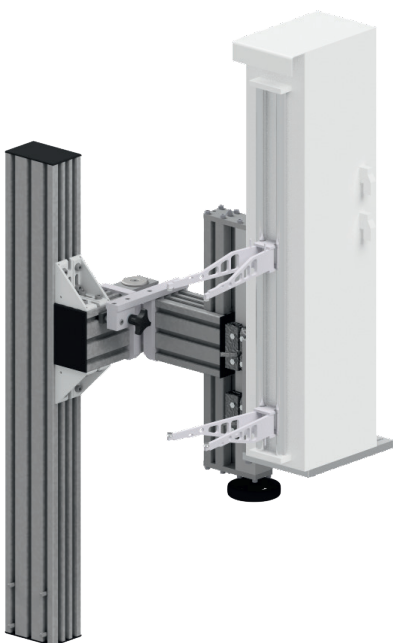


Option

- Measurement in compression or deflection. The MFL models work in tension or compression, however, an optional module can be incorporated that will permit the models to work in both directions.
- Different lengths of measuring arms, and higher travel available. Measuring arms of either an extra 75 mm or 200 mm length (additional to the standard length of 254 mm) can be used to follow the specimen movement, enabling the extensometer to be used at a greater distance from the specimen.
- The installation of a fan/ventilator for use in dusty/dirty environments. Any dust or dirt can be disastrous with electronics and fine measuring systems, so putting the extensometer under a positive pressure prevents the ingress of dirt and dust.

Type MFL	300	500	800
Accuracy class EN ISO 9513	0.5	0.5	0.5
Accuracy class ASTM E83	B1	B1	B1
Measurement principle	opto-incremental	opto-incremental	opto-incremental
Travel (minus gauge length)	300 mm	500 mm	800 mm
Positioning distance	190 mm	190 mm	190 mm
Gauge length (L0)	10 - 300 mm	10 – 500 mm	10 – 800 mm
Indication error (rel.)*	0.5 %	0.5 %	0.5 %
Indication error *	1.5 µm	1.5 µm	1.5 µm
Error in full range value	0.010 %	0.010 %	0.010 %
Error in linearity	0.005 %	0.005 %	0.010 %
Error in gauge length (L0)	± 0.5 %	± 0.5 %	± 0.5 %
Resolution	1 or 0.1 µm	1 or 0.1 µm	0.1 µm
Activating force	< 0.01 N	< 0.01 N	< 0.01 N
Clamping force **	0.5 N	0.5 N	0.5 N
Operating temperature range	0 – 50 °C	0 – 50 °C	0 – 50 °C
Weight	approx. 26 kg	approx. 31 kg	approx. 38 kg
* The larger of the values is admissible. ** The clamping force can be adjusted by springs up to 1 N.			

Sample Dimensions	
Specimen diameter	Up to Ø 80 mm
Flat specimen	Up to thickness 30 mm x width 50 mm Option for thicker specimen with wider width available



The MFL Series is compatible and supplied with mounting bracket to all our electromechanical and hydraulic testing machines.

Available are the following mounting brackets:

- **Mounting Bracket** which allows to swivel the extensometer out of the testing space as well as adjust the height of the extensometer.
- **Mounting Bracket** which allows withdrawing of the extensometer from the testing space as well as to adjust the height of an extensometer.
- **Motorized Mounting Bracket** which allows withdrawing of the extensometer from the testing space with motorized height adjustment of the extensometer.
- **Mounting Bracket for Multiple Test Rooms**
for the installation on the testing machine, allows to swivel the extensometer out of the testing space, adjust the height of the unit and allows the translation of the extensometer from one test space to another (designed for machines with several testing rooms)

MFL 300-B = 823
MFL 500-B = 1023
MFL 800-B = 1323