

# Micron

## Extensometer Self-Bearing

### Field of application:

The MICRON extensometer is indicated for the largest part of the tests which sizes and characteristics fall within the technical specification.

The high resolution, the accuracy and the long stroke allow to determine almost all the characteristics desired in the most part of the tests, including Young modulus,  $R_{p0.2}$ , A%.

This extensometer is not suitable for compression tests.

Cyclical tests are admitted as long as the required deformation does not fall under the initial zero.

The device is placed on the back of the testing machine and the support can be chosen in one or two hinges (the last one allow to turn out the extensometer without remove the sample). In case of single-column machine, the extensometer can be mounted on left or right side of the frame.

### Specific function:

- Easy exclusion and reactivation
- Measurement Base with continuous regulation (over 25 mm)
- High measurement resolution for small displacements, coupled with long a stroke measurement (with lower resolution)
- Automatic closure/opening of the arms
- Self-adaptability to the specimen thickness
- Unlimited deformation speed

### Construction and principle of functioning

The MICRON extensometer uses a double measurement system: deformation up to 2 mm are measured using a LVDT probe with high resolution; differential encoders linked to the arms through a inextensible wire are instead used for high deformation measurement. The arms are free to move for the effect of the specimen dragging; counterbalances assure the minimum strength.

The measurement base is easily configurable using a computer assisted procedure that drive the user in the device setup. Different bars/ extensions are provided to cover all the required Measurement Bases.

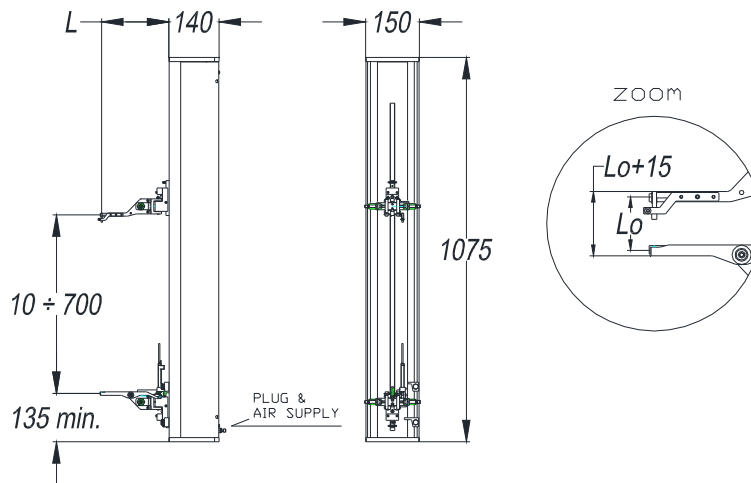
Standard kit is supplied for Measurement Bases from 25 up to 100 mm. Additional kit (optional) allow base up to 250 mm. Bases less than 25 mm are also available (optional) in fixed steps (not adjustable): 10, 15 & 20 mm

Two versions of the device are available:

- Short arms for machines up to 100 KN (bench machine)
- Long arms for machines up to 2000 KN (floor machine)

Note: the MICRON extensometer can be used exactly as a PLAST extensometer. If necessary is also possible to replace the steel knives with rubber knives (depending on the material to be tested).





## TECHNICAL SPECIFICATIONS:

ITEM	TQ09.02.02 <sup>(1)</sup>	
	Bench machine up to 100 KN	Floor machine over 100 KN
Measurement base (standard)	25÷100 mm continuous adjustable <sup>(2)</sup>	
Distance L	187 mm	307mm
Drag force	1 N approx. every arm	
Accuracy (ISO 9513)	High resolution stroke	Class 0.5
	Low resolution stroke	Class 1
High resolution stroke (resolution 0.1 µm)	2 mm <sup>(3)</sup>	
Low resolution stroke (resolution 10 µm)	700 mm <sup>(4)</sup> (longer stroke available on request)	
Max dimension of sample (ø)	50 mm (15 mm with rubber knives)	80 mm (45 mm with rubber knives)
Air Supply	5 bar	< 5 Litres/min. (electric supply not required)
Finishing	Aluminium / Black RAL 9011	
Ambient temperature	From +5 to +40 °C	
Air humidity (without condensing)	Max 80%	
Returning position	Automatic (gravity)	
Opening/closing arm	Automatic (pneumatic) and programmable during test	
Base adjustment	Manual (software assisted)	

<sup>(1)</sup> Item number is the same for both model (long or short arm)

<sup>(2)</sup> See also the optional bases

<sup>(3)</sup> Most used value. It is adjustable via software

<sup>(4)</sup> Effective stroke depend from initial position and original gauge length

## MAIN OPTIONAL:

ITEM	
Reduced base of measure 10, 15 or 20 mm (not adjustable)	TQ09.02.02.02A
Increased base of measure until 250 mm continuously adjustable	TQ09.02.02.01
Set of 4 rubber knives	TQ09.02.02.02
Two hinges support (support with one hinge supplied as standard)	TQ09.02.03.05

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Specification are subject to change without prior notice

