



TRANSVERSAL EXTENSOMETERS Models MFQ-H and MFQ-R

The MFQ-H and MFQ-R manual transversal extensometers are designed for checking thin plates (**MFQ-H: R-value determination** (vertical anisotropy) or round samples, respectively (**MFQ-R: Poisson value determination**).

DESIGN AND FUNCTION

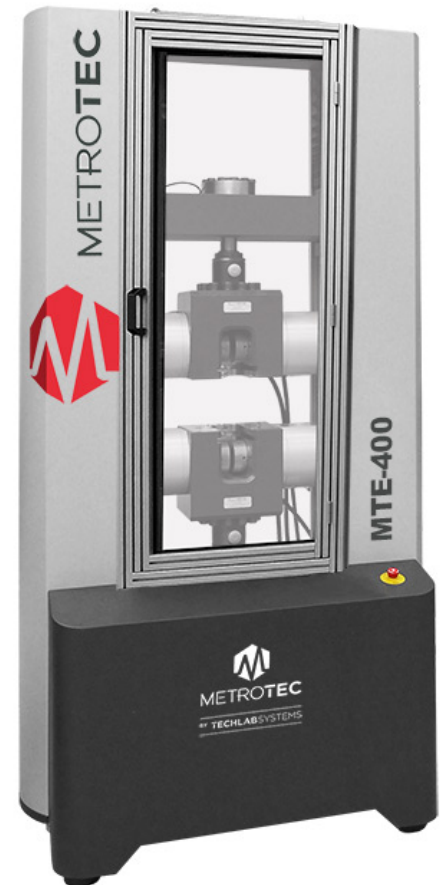
Whereas the MFQ-R is infinitely variable to each diameter of specimens the MFQ-H is equipped with fixed B0 -stops for fixed initial width of metal sheets. The stoppers are easy and quick to change without any tools. MFQ-H and MFQ-R are both deliverable with two measuring locations (parallel switched for determination of the average value) as well as with only one measuring location.

TEMPERATURE CHAMBER

A special model of the MFQ-H / MFQR can be supplied for tests in the temperature range of +1 °C to + 200 (260) °C.

OPERATION

The adjustable stops in the measurement brackets of the MFQ have to be set in such a way that the center line of the sample approximately matches the center line of the measuring pins. In order to clamp the MFQ the measuring pins are fully retracted by turning the knurled knobs counterclockwise. Then the MFQ is slightly pressed against the sample by means of the adjustable stops and clamped to the sample by turning the knurled knobs clockwise all the way. After uniform deformation, the MFQ should be removed from the sample in order to prevent damage of the MFQ.

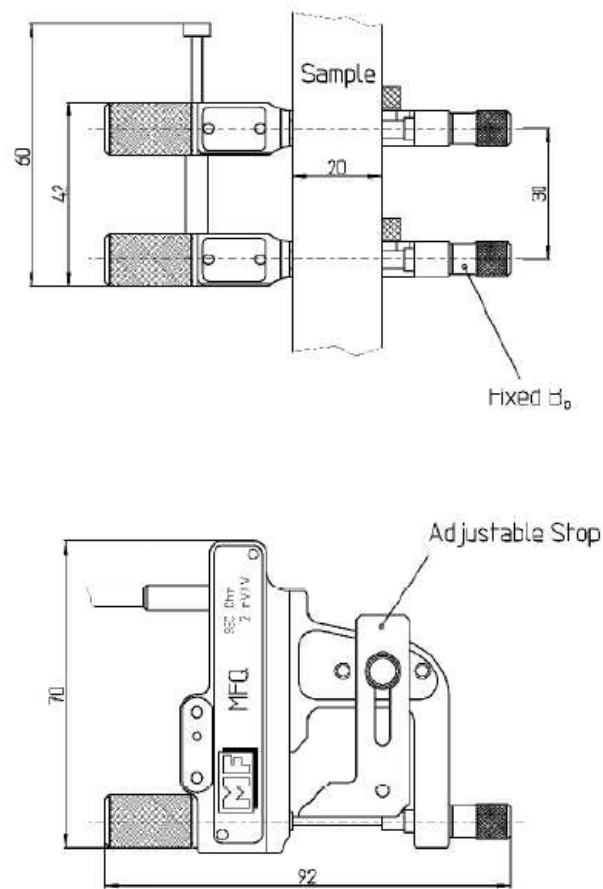


ADVANTAGES OF THE EXTENSOMETER MFQ

- ✓ Low weight
- ✓ Comfortable clamping
- ✓ Easy adjustment to different diameters of specimens
- ✓ Maintenance of the position of the measuring points also during the tension test through a smooth-running guide rail system (MFQ with two measuring heads)

CALIBRATION OF MFQ

The MFQ gauge blocks are supplied for sensitivity calibration of the measurement amplifier. For example, with the gauge block of 16.5 mm the amplifier can be set at zero and with the calibration block of 20.5 mm it can be set to its nominal sensitivity (also view the operating instructions).



Picture 1: Schematic of the MFQ-H2 Extensometer with two measurement lines (Bo Fixed)



Picture 2: MFQ-R Extensometer With a measuring line (Bo adjustable)

Delivery scope

- * 1 MFQ with **one** or **two** measuring heads
- * 2 gauge blocks for calibration (corresponding to gauge length position)
- * 1 Deflection pulley with weight (only with weight compensated MFQ)
- * 1 Storing case
- * 1 Test report

Conditions for connection

- ✓ ws Ua / Output strain gauge
- ✓ br Ue / Supply voltage
- ✓ gr Ue / Supply voltage
- ✓ ge Ua / Output strain gauge

To change measuring direction:
exchange leads 1 + 4 or 2 + 3

Cable length 5 m

TECHNICAL DATA OF EXTENSOMETERS

Accuracy class EN ISO 9513

Measuring principle

Nominal measuring travel (standard)

Indication error (rel.)*

Indication error*

Sensitivity

Max. voltage input

Specimen thickness

Specimen dimensional tolerance B0

Pressing force of the measuring pins

Standard temperature range

Type for temperature chamber

Specimen widths (fixed)

Specimen cross-section:

- Diameter

- Thickness x width

Weight

- One measuring location

- Two measuring locations

MFQ - H

0.2

DMS-full bridge

4 mm

0.2 %

0.6 µm

2 mV/V

14 V

0.4 . 30 mm

± 0.3 mm

4 N (2 N)

+1 °C to + 60 °C

+1 °C to + 200 °C

13, 20, 25, 30 mm

4-25 mm (4-50 mm optional)

0.4 x 4 up to 30 x 25 (30 x 50 mm optional)

100 g

180 g

MFQ - R

0.2

DMS-full Bridge

4 mm

0.2 %

0.6 µm

2 mV/V

14 V

4 N (2 N)

100 g

180 g

* The larger value is admissible



Example for Calculations of values

“n and “r”, in this image are
combined the
2 Extensometers:

- * MFQ - R Transversal
- * MFA - 25 Longitudinal