



P r e c i s i o n   t e s t i n g   o f   l i n e a r   s t r a i n

MF Mess- & Feinwerktechnik GmbH is a powerful company which constructs and produces high-class fine-mechanical extensometers for more than 30 years.

At the end of the seventies the company MF GmbH had been founded by Konrad Müller-Falkenberg. Since the beginning he developed and produced extensometers at the highest stage. Due to his retirement the company has newly been founded in January 1997 under the name of MF Mess- & Feinwerktechnik GmbH. The company now is located in Velbert.

The new Managing Directors Mr. U. Klein and Mr. B. Kroll improved and enlarged the manufacturing essentially so that the further development of the whole range of products is subject to stable growth to date.

Quality and precision are our strengths which we improve and further develop constantly and creatively.

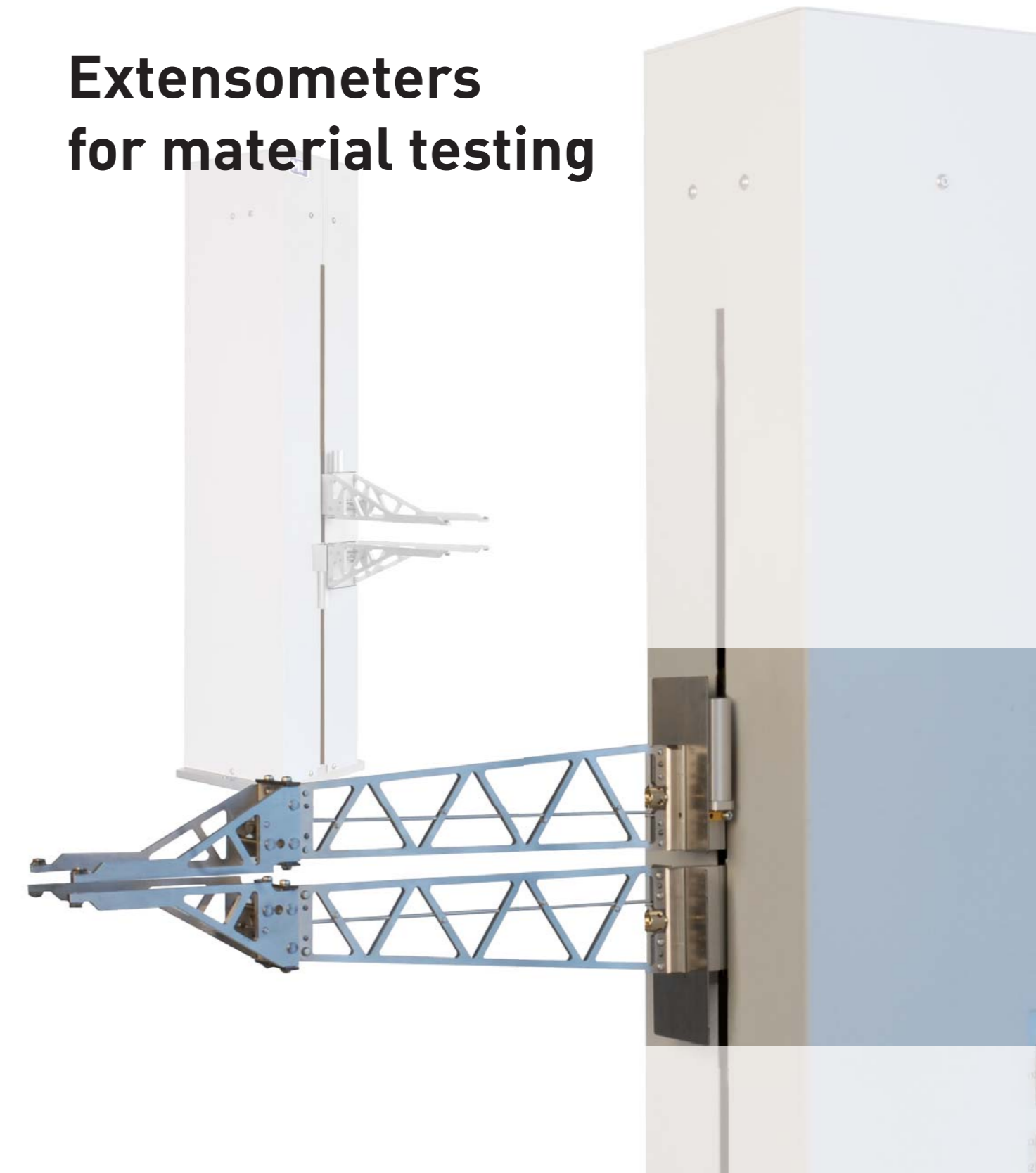
Well-known companies from the material testing industry, manufacturers of testing machines, materials testing institutes, universities and various users in the metal and plastics industries belong to our content customers who are served world-wide.

On our website we overview our products which are produced as standard devices or especially adapted to our customers' needs.



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## Extensometers for material testing



## Extensometers



**MFA 2**  
This measuring device guarantees a high level of reliability and a long service life, even under difficult operating conditions. It is also available as double-side device.

Technical data  
Accuracy class: 0.2 [EN ISO 9513]  
Full scale range: + 2 mm (+ 3 mm)  
Lo: 25...100 mm (Other gauge lengths are available on request.)



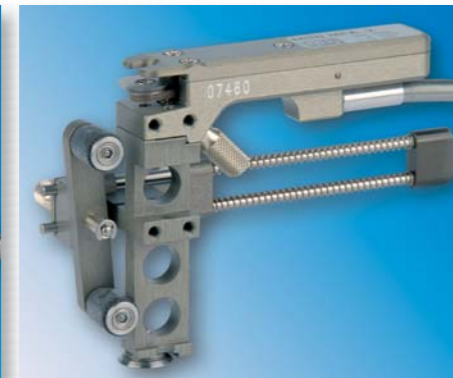
**MFI**  
The extensometer MFI is suitable for testing deformation of samples with a large gauge length, for example wire, ropes, chains, belts and as a nonstandard version also for wooden samples.

Technical data  
Accuracy class: 1 [EN ISO 9513]  
Full scale range: 20 mm / 40 mm / 100 mm  
Lo: 200...1000 mm



**MFA 25 / 12**  
The pivoted device allows for a full scale range of 25 respectively 12 mm. It can be used for metal as well as for synthetic test pieces. The MFA 25 / 12 version for applications in a climatic chamber can be used from + 1 to + 260 °C.

Technical data  
Accuracy class: 0.5 / 0.2 [EN ISO 9513]  
Full scale range: 25 mm / 12 mm  
Lo: 25...100 mm (Other gauge lengths are available on request.)



**Mini MFA 2**  
The MINI MFA 2 is a filigree and light device with high accuracy. It is especially appropriate to small and sensitive specimens. The MINI MFA 2 is also available as double-side device.

The MINI MFA 2 version for applications in a climatic chamber can be used from - 50 to + 260 °C.

Technical data  
Accuracy class: 0.2 [EN ISO 9513]  
Full scale range: + 2 mm (+ 3 mm)  
Lo: 10...100 mm



**MFQ-H**  
The hand-clamped transverse extensometer MFQ-H (with one or two measuring locations) is designed for testing thin metal sheets (determination of the r-value). It is equipped with fixed B-stops.

Technical data  
Accuracy class: 0.2 [EN ISO 9513]  
Full scale range: 4 mm  
Specimen widths: 13 / 20 / 25 / 30 mm



**MFQ-R**  
The hand-clamped transverse extensometer MFQ-R (with one or two measuring locations) is designed for testing round samples (determination of the „Poisson“ value). It is infinitely variable to each diameter of specimens.

Technical data  
Accuracy class: 0.2 [EN ISO 9513]  
Full scale range: 4 mm  
Specimen widths: infinitely variable (max. 25/50 mm)



**MFA 20**  
The MFA 20 is equipped with a parallel guidance. Because of its extremely robust design the instrument is suited for heavy duty service such as testing of concrete reinforcing rods and rough samples.

As double-side device it is also usable for testing the connection of reinforcing steels.

Technical data  
Accuracy class: 0.5 [EN ISO 9513]  
Full scale range: 20 mm  
Lo: 50...200 mm (in steps of 10 respectively 5 mm)

## Long travel extensometers



**MFL 300-B / 500-B**  
The MFL can be connected to partly or fully automatic testing machines. Its low clamping forces combined with high measurement accuracy makes it highly suitable even for small, notch sensitive test samples. All functions are computer-controlled via one or more interfaces.

Technical data  
Accuracy class: 0.5 [EN ISO 9513]  
Full scale range: 300 (500) mm  
Min. Lo: 10 mm



**MFN**  
The extensometer MFN is available in 14 models in a modular design. The MFN-A offers both a small (4mm) and a large measuring range. The MFN-A is highly suitable for determining the Young's Modulus at very short paths and for recording fracture elongation of LO + DL = 800 mm. In addition to the automated version also a manual version with suitable measuring arms is available.

Technical data  
Accuracy class (depending on version): 0.2 respectively 1 [EN ISO 9513]  
Full scale range: up to max. 790 mm  
Min. Lo: 10 mm



**MFQ-A**  
The transverse extensometer MFQ-A (with two measuring locations) - especially when combined with the extensometers MFL and MFX - is very well suitable for the determination of the r-value of fine sheet metal specimens. The universal attachment system of the MFQ-A allows to combine it with almost any lateral measuring instrument or with the testing machine itself. The MFQ-A works fully automated via a control board. It is brought into contact with the specimen utilising a pneumatic sled.

Technical data  
Accuracy class: 0.2 [EN ISO 9513]  
Full scale range: 4 mm  
Specimen widths: 1/2" / 1" / 20 mm / 30 mm (Other dimensions are available on request.)



**MFX 200**  
Because of its rugged construction and high accuracy the versatile extensometer MFX 200 is suitable for almost all samples. From the E-modulus up to sample fracture all elongations can be recorded.

The MFX 200 version for applications in a climatic chamber can be used up to + 350 °C.

Technical data  
Accuracy class: 0.5 [EN ISO 9513]  
Full scale range: 200 mm  
Min. Lo: 10 mm



**MFE**  
The MFE extensometer is specifically designed for applications with highly lengthening materials such as plastics and rubber, incorporating long travel (up to 900 mm).

The MFE version for applications in a climatic chamber can be used up to + 350 °C.

Technical data  
Accuracy class: 2 [EN ISO 9513]  
Full scale range: 900 mm  
Lo: 10...100 mm (Other gauge lengths are available on request.)

## Calibration devices



**KMF 20 OP**  
The device KMF 20 OP is used for the exact measurement of the gauge length (Lo) of extensometers (as MFL, MFX, MFE) by means of a microscope.

Technical data  
System accuracy: 20 µm  
Full scale range: 300 / 600 mm



**MFTM 1500**  
The MFTM 1500 is suitable to inspect the crosshead travel of tensile testing machines corresponding to the standard EN ISO 9513.

Technical data  
Travel: 1500 mm  
Indication error\*: 3 µm  
Indication error (rel.)\*: 0.1 %  
\* The larger value is admissible.



**KMF 100**  
The universal design of the KMF 100 allows to test the linearity of a variety of extensometers with highest accuracy easily and rapidly, as also to calibrate amplifiers with respect to the rated stroke of extensometers.

Technical data  
Indication error (rel.)\*: 0.06 %  
Indication error\*: +/- 0.2 µm  
Full scale range: 100 mm

\* The larger value is admissible.



**KMF 3**  
The KMF 3 is an economical and universal instrument for checking a large variety of extensometers and for setting the gain of their measurement amplifiers. A linearity test of extensometers is possible only within the system accuracy of the KMF 3.

Technical data  
System accuracy: 4 µm  
Full scale range: 50 mm

## Nonstandard devices



**MFS 150**  
This measuring device is suitable for testing screws in a tensile strain application. The strain is recorded by means of measuring tips over the total length of the screw.

Technical data  
Accuracy class: 0.5 [EN ISO 9513]  
Travel: 3 mm  
Smallest screw length: 15 mm  
Largest screw length: 150 mm



**MFD 3**  
The extensometer system MFD 3 is suitable to determine the strength of pressure (ASTM D-2938) or respectively the modulus of elasticity (ASTM D-3148) of concrete cylinders under longitudinal compressive stress. The application is carried out with two or three gauge lines.

Technical data  
Accuracy class: 0.5 [EN ISO 9513]  
Full scale range: 3 mm  
Lo: 50 bis 300 mm (optionally on request)



**MFT 4**  
The MFT is a gauge head with highest accuracy based on a full bridge strain gauge. Having a travel of 4 mm it is suited for many measuring tasks. The MFT is superior compared to inductive transducers due to its markedly higher accuracy and smaller size. Also a version with a pneumatic lifting of the measuring tip (MFTP 4) is available.

Technical data  
Indication error (rel.)\*: 0.2%  
Indication error (abs.)\*: +/- 0.6 µm  
Full scale range: 4 mm

\* The larger value is admissible.



**MFU 4**  
The MFU 4 is suitable for measuring the static modulus of elasticity and poisson's ratio of concrete in compression in accordance to the standard ASTM C-469.

Technical data  
Indication error (rel.)\*: 0.5 %  
Indication error (abs.)\*: +/- 1.5 µm  
Full scale range: 4 mm

\* The larger value is admissible.