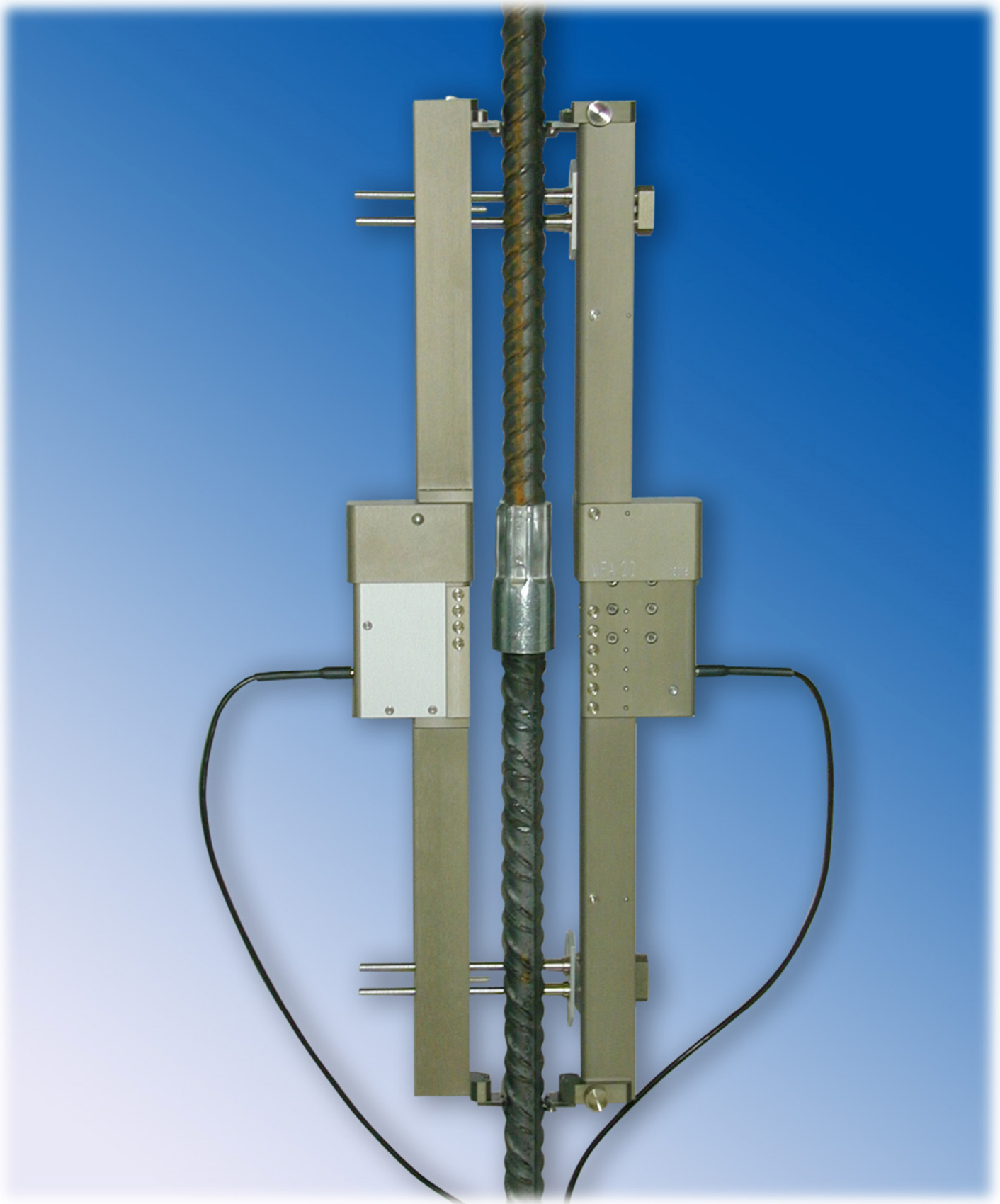




Mess- & Feinwerktechnik GmbH



MFA 20

Double-sided clip-on extensometer

Area of application

The double-sided clip-on extensometer MFA 20 is suitable for determination of the yield point and uniform deformation of test samples above 4 mm diameter and 15 mm width. The measurement accuracy corresponds to the accuracy class 0.5 of the EN ISO 9513. Because of its extremely robust design, the instrument is suited for heavy-duty application such as testing of construction steel and rough samples with scale etc. The gauge length can be adjusted for example very quickly and precisely from 50 to 500 mm in 10 (5) mm steps by shifting the lower knife edge holder. The attachment is very easy and can be done by one person. The parallel positioning of the MFA 20 in respect to the axis of round samples is guaranteed by centring between the two double knife edges (see top view of the drawing).

Design and function

Each MFA 20 consists of two casing halves which moves parallel and easily towards each other on play-free guidance bars. The upper casing overlaps the lower casing for the total extension so that the parallel guide and the measuring system are protected from damage and dust. A measuring spring with a temperature-compensated full bridge strain gauge serves as the measuring system for the MFA 20. The knife edge holders and the clamping device can be positioned easily by loosening just one knurled screw. Alignment pins fix them in their exact position.

The initial gauge length can be adjusted from 50 to 100 mm in steps of 10 mm (5 mm) and with separate available extension arms like drawing 2 with gauge length until 500 mm or more on request. Even intermediate lengths like e.g. 55 to 195 mm may be obtained by additional shifting of the upper and lower knife edges (see diagram).

Opening width and clamping force are continually adjustable. For initial gauge lengths greater than 100 mm the holder that belongs to the extension arm and with the greater distance between the counter rollers must be used.

The casing is made of a high strength aluminum alloy and has a long lasting and scratch-resistant hard anodized surface. The round knife edges can be utilized along the entire perimeter by rotating them. Thereby a longer lifetime is achievable.

One averaging or two single signals of the measuring outputs are possible.

Operation

To attach the double-sided MFA 20 on the specimen, open the upper and lower clamping device with thumb and fore- as well as the second finger. While mounting care has to be taken that the lower knife edges are placed on the sample at first. The measurement can be started then. No unlocking or adjustments have to be made to operate the MFA 20.

Recommendation

If the gauge length has to be changed very often to intermediate lengths an additional set of knife edge holders may be useful and time-saving. The calibration instruments KMF 100 and KMF 02 are suitable for linearity checks.

Note on requests

Illustrations of drawing 1 and 2 only show examples of how this device can be designed. In case of enquiries, please provide us with details of

the application such as sample diameter and all measuring lengths!

Delivery scope

2	MFA 20 devices
2 (1)	MFA 20 double clamping devices
2	Upper knife edge holders
2	Lower knife edge holders
2	Cable (5 m)
2	Spare fastening screws M3x8 T10
1	Screw driver TORX T10
1	Test report
1	Storing case

Spare parts and accessories

Special clamping device for samples of 60 mm width and 60 mm thickness
Various extension arms for big gauge lengths
Spare screws M3 x 8 T10 for knife edges and extension arms
Spare knife edge, Ø 9 mm
Upper knife edge holder with knurled screw
Lower knife edge holder with knurled screw

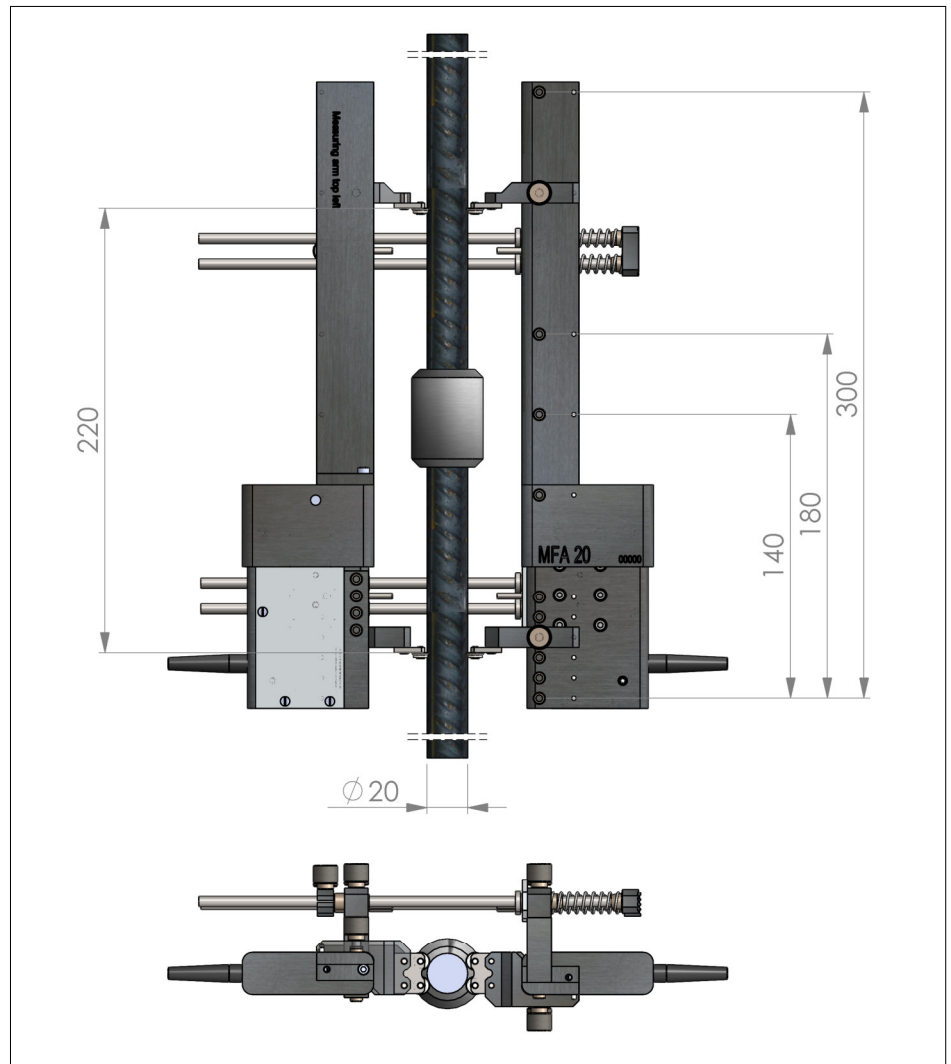


Illustration 1: Double-sided MFA 20 with upper gauge length extensions

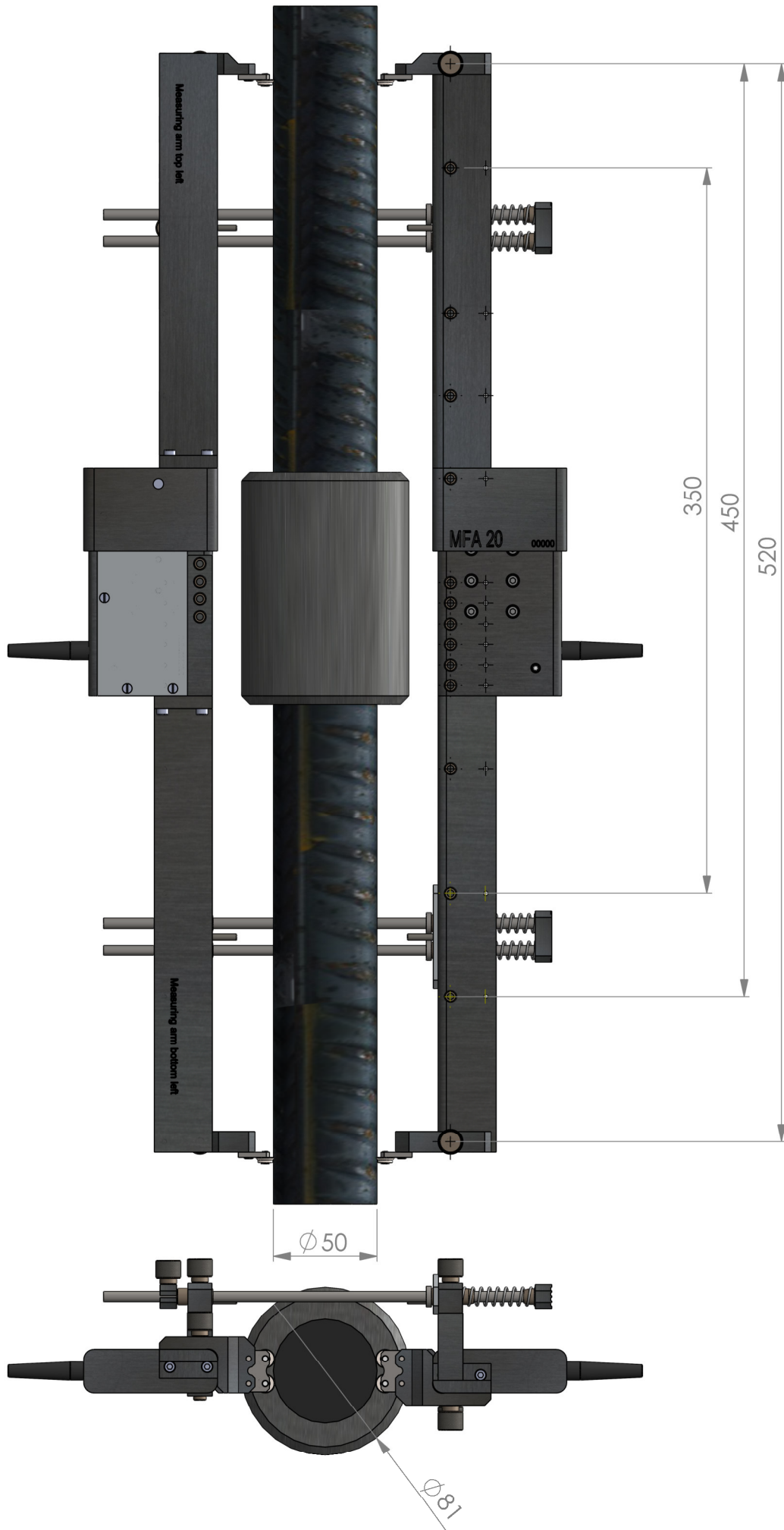


Illustration 2: Double-sided MFA 20 with gauge length extensions till 520 mm

Technical Data**MFA 20**

Accuracy class EN ISO 9513	0.5
Measuring principle	Strain gauge
Travel for tensile testing	20 mm
Activating force	150 cN
Standard – Anfangsgerätemesslänge (L _e)	50 – 100 mm (steps of 10 (5) mm)
Option: Gauge length	from 40 mm
Accessory: Gauge length	Up to 500 mm
Weight	ca. 480 g

Adjustable to sample sizes

Round	Ø 7-30 mm
Flat	15 x 1 bis 30 x 30 mm
With special clamping device	Ø 7 up to 60 mm
With special clamping device	60 mm thickness und 60 mm width
Cable length	5 m

Strain gauge measuring system

Sensitivity	1 mV/V
Rated resistance of bridge	350 Ω
Voltage input	5 V
Carrier circuit	5 kHz