Technical data	MFX 500-B
Accuracy class EN ISO 9513	0.5
Indication error (rel.)*	0.5 %
Indication error*	1.5 µm
Error in gauge length (L_e)	± 0.5 %
Gauge length (L_e)	10... 500 mm minus travel
Activating force	max. 10 cN
Clamping force	50 - 100 cN
Operating temperature range	0 - 50 °C
Weight	approx. 30 kg

Measuring system (2 outputs)	Standard	Optional
Name	LIDA 48	LIDA 47
Interface (each output)	1 Vpp	RS422/TTL
Measurement principle	Optic-incremental	
Travel	500 mm minus L_e and position	
Signal period	20 µm	0.2 µm
Resolution max.	0.01 µm	0.05 µm
Voltage supply	DC 5 V ±0.25 V	
Current consumption	<100 mA	<255 mA (without load)
Integrated interpolation	———	100-fold
Sampling rate	———	25kHz
Edge distance	———	0.080 µs
Movement speed	≤480 m/min	≤30 m/min
Input frequency of the subsequent electronics	———	8 MHz
Edge separation of the subsequent electronics	———	≥0.05 µs

* The larger of the values is admissible

Sample dimensions

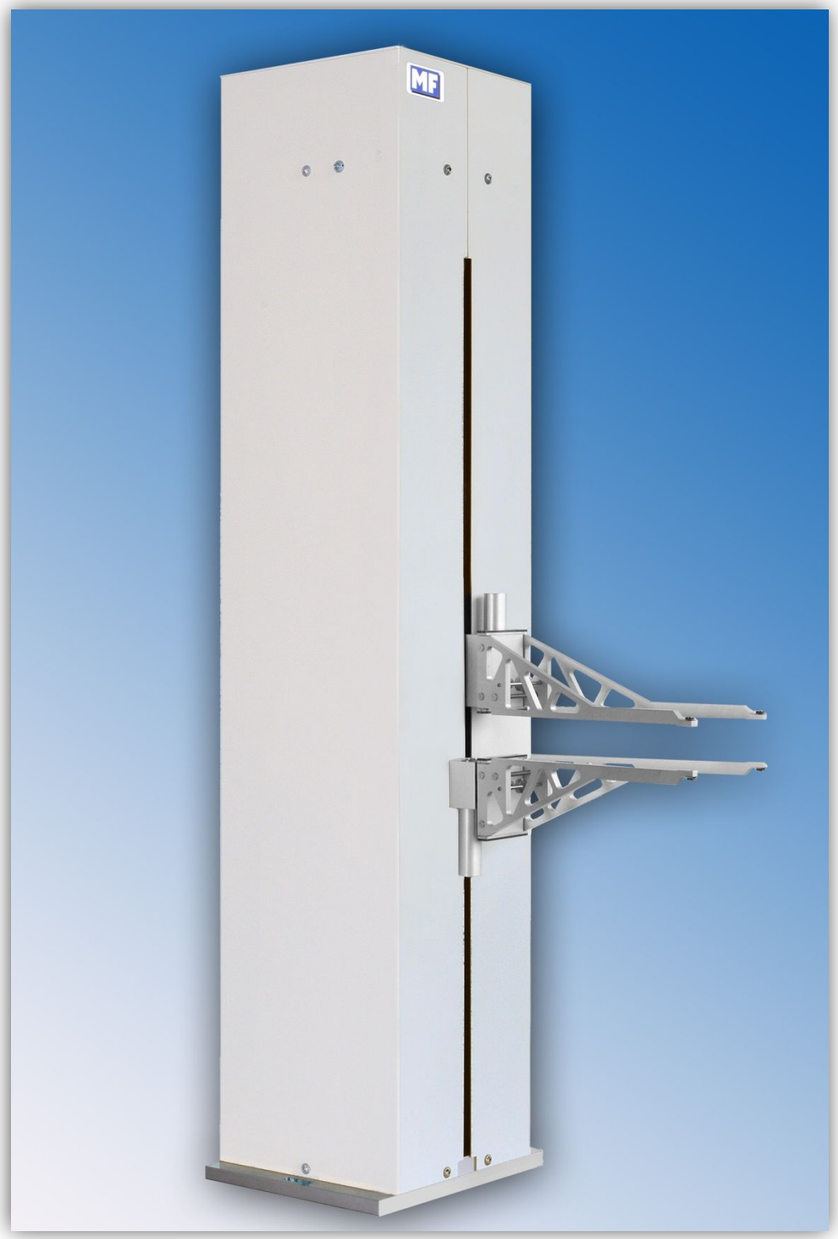
Round samples	up to Ø 80 mm
Square samples	up to 70 x 70 mm
Rectangular samples (width / thickness)	360 / 50 mm
Other dimensions are available on request	

Device options

1. Measuring arms with tilting mechanism with tungsten carbide knife edge circular/straight
2. Adjustable clamping force 20… 100cN
3. Extended measuring arms +45 mm or +90 mm
4. Measuring head for climatic chamber -50° … + 350° C / Arm length 400 mm and 490 mm
5. Measuring arm for bending tests / Arm length 400 mm and 490 mm

MFX 500-B

Feeler arm extensometer - automated -



Mess- & Feinwerktechnik GmbH

Precision testing of linear strain

Review 2017.06.

Area of application

The extensometer MFX 500-B is suitable for almost all samples of a gauge length (L_e) from 10 mm. Because of its rugged construction and high accuracy the MFX nearly meets all applications in measurement of linear strain (determination of the E-modulus up to sample fracture). The MFX works without restrictions in both the upper as well as the lower test area.
When used in combination with the MFQ-A the MFX is highly suitable for testing the deep-drawing properties (vertical anisotropy r) of thin sheets.

Design and function

The MFX 500-B has a smooth running and nearly frictionless linear guidance of the measuring heads. Due to the non-contact incremental gauge the MFX meets all requirements of class 0.5 (EN ISO 9513) over the whole travel.
The measuring heads may easily and quickly be removed from the device by unlocking two screws with pin guidance.
As an option also version with measuring arms for a climatic chamber is available (up to 350 C).

Control

The MFX 500-B can be controlled via a computer or a manual control board (see operating instructions).

Measuring signal

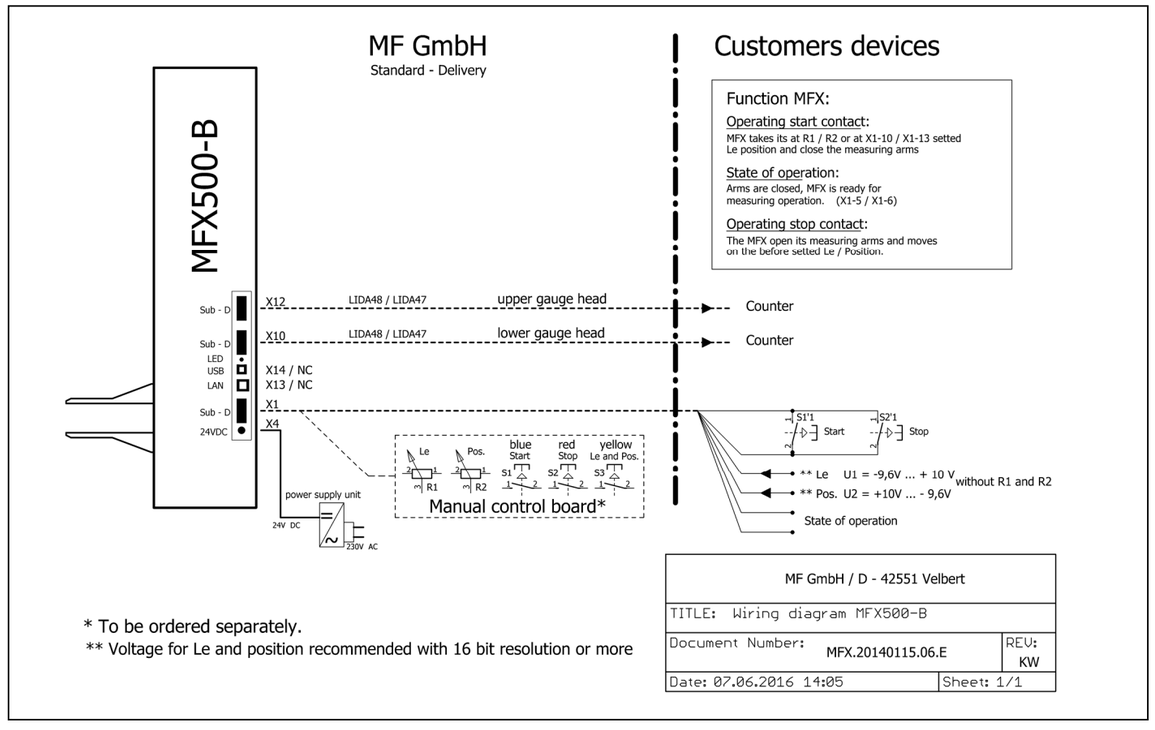
Two non-contact inbuilt measuring systems from company Heidenhain are available. For more information see the technical data's at back of the page or the operator's instructions of the MFX500-B.
Each measuring head produces a measuring signal, which can be acquired via plug X12 (the top measuring head) and X10 (the bottom measuring head).
The initial output signals of the 2 LIDA gauge heads first have to be evaluated separately and afterwards have to be taken in account.
For digitalization respectively counting offers e.g. the company Doli different following electronics or the company Heidenhain a countercard IK 220 (1 Vss) but without software.
The connectors x13/ LAN and X14/ USB are in progress and must not be connected.

Attention!

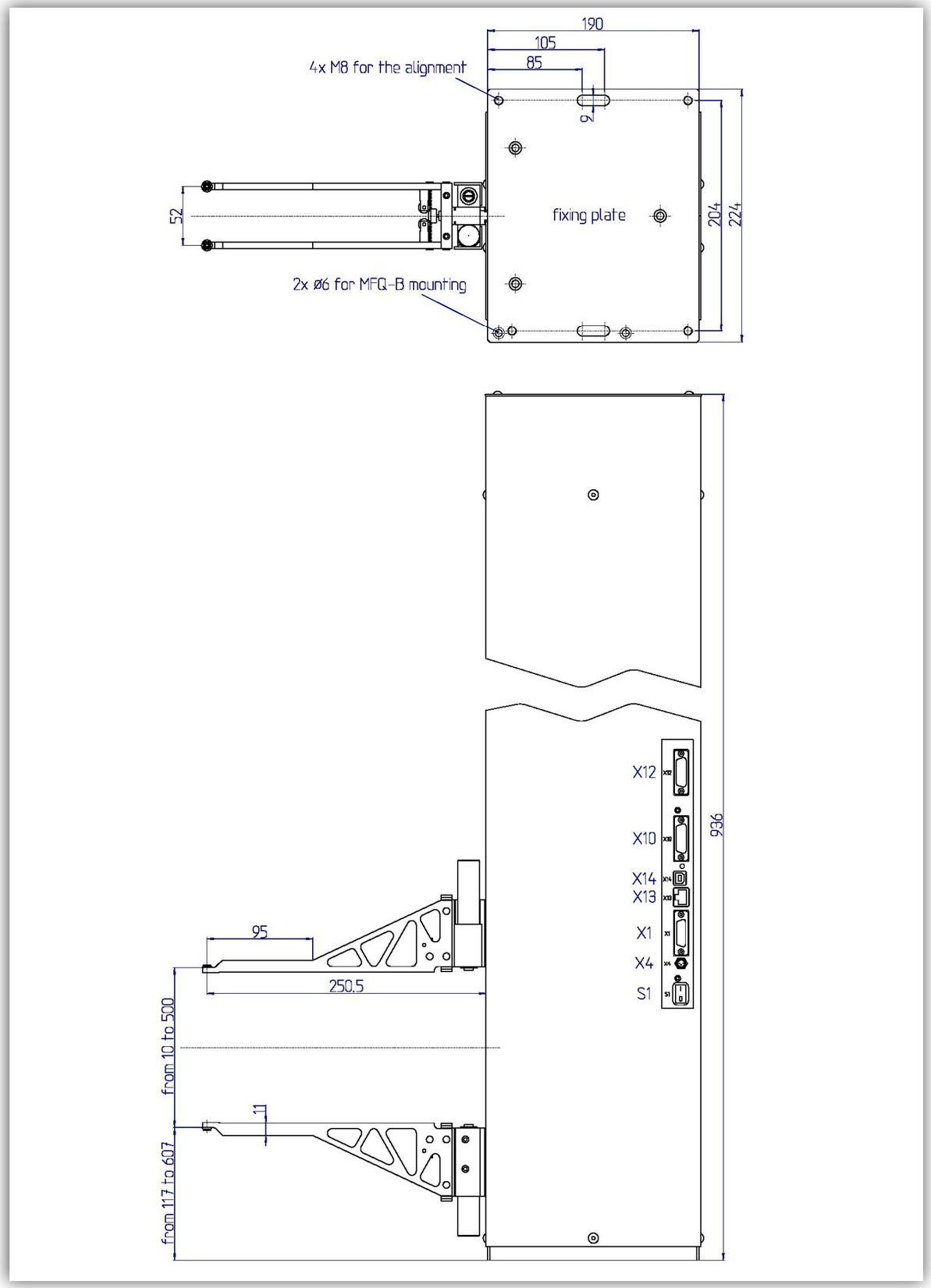
When the MFX 500-B is set up and fixed to the testing machine it is absolutely necessary to straighten the exact position of the device by means of a spirit level. This is essential for the balance weight to hang absolutely free.

Delivery Scope

1	MFX 500 - B
1	Power supply 230 V AC/ 24 V DC
1	D-Sub-connector, 15pin (pin) for X1
1	D-Sub-connector, 15pin (socket) for X10 + X12
1	Hexagon key 3 mm
1	Fixing plate
1	Test report



Picture 1: MFX 500-B - Connecting diagram



Picture 2: MFX 500-B - Dimensions