MEAX MT20

Full check of the geometric status of a turning centre

www.meax.com

Meax
ACOEM Group

The future of machine measurement

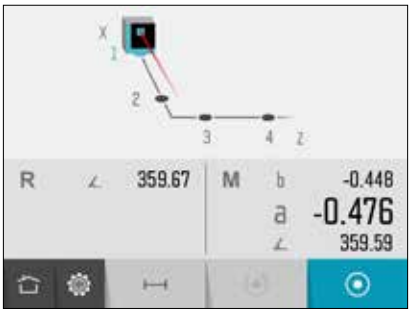
As ever-increasing demands are being placed on machine tools, we have arrived at the conclusion that an optimally functional machine forms the basis for better business. Modern machine tools must maintain a high level of flexibility, a high degree of utilization and a minimum downtime which calls for the correct geometry in all the machine's movements.
So we created MEAX and started to sketch solutions for machine tool measurements that, in our opinion, are so self-evident that they should have been developed a long time ago. By performing fast measurements, possessing a logical user interface, smart applications and fewer complicated functions, we can now build a future for machine tool measurement.

MEAX MT20

Straightness Level | Spindle Alignment | Coaxiality | Squareness

Effective checks on turning centres

With MEAX MT20 you can carry out a full check of the geometric status of a turning centre in less than 30 minutes. The instrument measures the geometry and movements in four simple steps.
The tailored software takes you through the measurements, allowing MEAX MT20 to be used by anyone. The measurements are performed with four sensors wirelessly connected to the MEAX display unit, which displays the result directly. The measurements are saved and can then be transferred to create additional documentation.
MEAX MT20 sensors are high-precision instruments and will provide accurate measurements down to 0.001 mm.
The complete system comes supplied in a small robust case which is easy to carry around with you.



FEATURES MEAX MT20

 # Quick installation –
no settings, no adjustments of lasers, no control of centre.

 # Wireless –
Enable rotating the machine spindle during the measuring process. Doors can be closed when measuring.

 # 2-axis sensors –
MEAX MT20 reads two angles in the same measurement.

 # STREVEL™ –
Several results available from one measurement

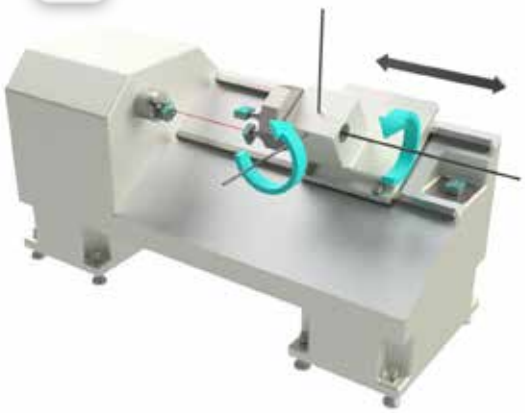
 # Logical interface –
Easy-to-understand user interface. Guides you through the measurements

 # Portable –
Fits in a carrying case, easy to carry with you

 # IP65-classed –
Water and dust resistant

Meax

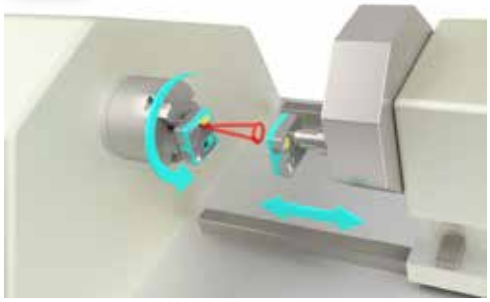
Measuring STREVEL™



Straightness and pitch/roll of the machine bed

To check that the machine's movements run straight without any pitch and roll, a solution with multiple sensors is required.
The MEAX LR sensor is positioned on the machine bed and the LM sensor is fitted to the tool holder using the attachment supplied. The SR sensor is mounted in the main spindle and the MEAX SM sensor in the tool holder.
The result is displayed as a set of measured points along the length of the movement.
In this way MEAX MT20 checks the straightness of the machine's movement, at the same time as measuring the angular deviation of the movement in relation to the machine bed. The result is displayed in both graphic and text form, and can easily be exported via USB.

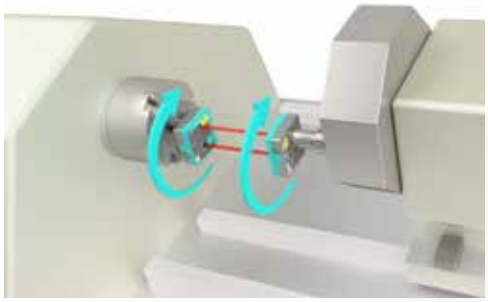
Measuring Spindle



Measuring spindle direction

Because deviations in spindle direction impact on the machined part, it is important that this can be easily measured.
You check the deviation via four measured points in two positions along the Z axis.
By rotating the laser in the spindle and moving the MEAX SM sensor along the Z axis, you obtain result for parallel alignment between the rotational axis of the spindle to the 2-axis movement. The results are displayed in graphic form in two directions: at square and parallell to the machine bed and in parallel with it.

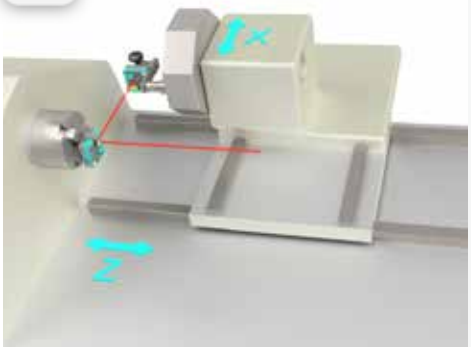
Measuring Coaxiality



Measuring and adjusting the tool holder

Using the MEAX SR and SM sensors, you can measure alignment between the main spindle and the tool holder to quickly set a zero point in the tool holder.
The measuring instrument guides you through the entire measuring process. The software shows you how to take measurements in four rotation positions and then calculates a result that shows the angular error and centre deviation between spindle and tool holder. Adjustments can then be made in the live function unique to MEAX.

Measuring Squareness



Measuring squareness

By fitting a prism to MEAX SR, you can measure whether the machine's movements are square with each other. The measurement is performed in two steps: first by measuring the X axis and then the Z axis. The software helps you perform the measurement; you will see the angle deviation directly. The customized fixture makes it easy to fit the sensors, thus ensuring a correct result.

MEAX MT20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1. Meax DU **2.** Meax SM 201 **3.** Meax LM 201 **4.** Meax SR 201 **5.** Meax LR 201 **6.** Power cable 2pcs. **7.** USB-cable A-mini 0,5 m 4pcs. **8.** Meax magnet base 2pcs. **9.** Meax SQ 201 **10.** Meax Bracket 90 degr **11.** Collet C25-16 2pcs **12.** Allen key **13.** Power supply 4 USB-ports 5VDC **14.** Meax tape measure **15.** Meax USB

MEAX SM/SR

Housing material: plastic	Anodized Aluminum and ABS
Operating Temp:	15 to 30°C (59 to 86°F)
Weight:	306 g (10.9 oz)
Dimensions:	82mm x 86mm x 33mm (3.2 in x 3.4 in x 1.3 in)
Environmental protection:	IP 65
Laser:	650 nm class II diode laser
Laser power:	< 1mW
Measure distance	Up to 5 m
Detector:	2-axis PSD
Detector size:	16mm x16mm (0.6in x 0.6in)
Detector resolution:	1µm
Measurement accuracy:	1% ± 3 µm
Inclinometer resolution:	0.01°
Inclinometer accuracy:	± 0.1°
Communication range:	10 m (33 ft)
Power supply:	High performance Lithium Ion battery or external power
Battery charging time (system off, room temp):	8 h
Battery LED indicators:	Unit state, laser transmission, battery status and Bluetooth

MEAX LM/LR

Operating Temp:	15 to 30°C (59 to 86°F)
Storage Temp:	-20 to 70°C (-4 to 158°F)
Relative humidity:	10 – 90%
Weight:	386 g (13.6oz)
Dimensions:	77mm x 84mm x 45mm (3.0 in x 3.3 in x 1.8 in)
Environmental protection:	IP 65
Inclinometer:	High performance MEMS inclinometers
Calibrated measuring range:	±50mm/m
Internal resolution:	0.001mm/m
Displayed resolution:*	0.001 mm/m
Inclinometer accuracy:	1% ± 0.005mm/m
Temperature error:	0.015 mm/m/°C
Communication range:	10 m (33 ft)
Warming up time:	30 min
Operating time:	12 hours continuously
Battery Charging time:	8 h
Wireless communication:	Class I Bluetooth transceiver with multi-drop capability.

DISPLAY UNIT

Weight:	1,2 kg (2,6 lbs) with battery
Dimensions:	124 mm x 158 mm x 49 mm (4,9 in x 6,2 in x 1,9 in)
Environmental protection:	IP 65 (Dust tight and protect ed against water jets)
Display size:	6,5" (165 mm) diagonal (133 x 100 mm)
Operating time	10 hours continuous use (with 50% LCD backlight)
Environmental protection:	IP 65
Battery charging time (system off, room temperature):	1 hour charge – 6 hours operating time

ACOEM AB is a global player and leader of innovation in monitoring, maintenance and engineering. By helping industries worldwide to become perfectly measured and eliminating anything that might not be, we minimize unnecessary wear and production stoppages. This will ultimately make our customers more profitable and our environment more sustainable.

ISO 9001
ISO 14001

acoem

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