

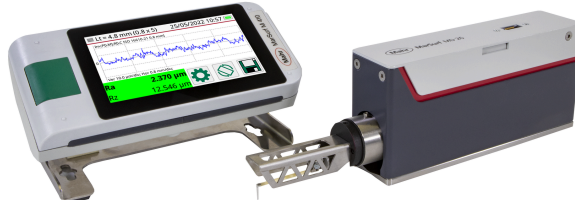
# Product information

## Mobile surface measuring instrument MarSurf M 410

### Product features

#### Simple, innovative, flexible – modern surface metrology for handheld use

- Handy roughness tester for mobile use
- Simple and intuitive operation: As easy as operating a smartphone
- Large, backlit 4.3" TFT touch display
- Rotatable display
- Magnetic probe holder: Fast probe arm change without tools
- Thanks to skidless probe: measurements of roughness as well as waviness – no extra measuring station required, determination of R, W and P parameters
- Simple alignment of the probe system: The inclination can be easily corrected using the menu-guided graphic instructions.
- Process and material safety thanks to automatic zeroing
- Micro USB interface for remote control via ASCII commands, e.g. via software for statistical process control
- USB-A interface for connecting e.g. a USB wireless adapter or the USB wireless printer
- Wireless transmission of measurement results via wireless stick to the free MarCom software
- Remote start of measurement via cable or wireless
- Connection of a scanner for automatic start of the measuring programs or reading of protocol texts via barcode or QR code
- Specification of the profile section label C in  $\mu\text{m}$  or in % of  $R_z$  for the characteristic values  $R_{mr}$  and  $tp$
- Data backup as TXT, X3P, CSV and PDF file
- Transmission of measurement protocols and data optionally via cable or wireless
- IATF 16949 compliant - secure traceability with MarConnect.
- Print directly to the mobile printer (as an option or directly in the set with printer)
- Creation of finished PDF protocols directly in the measuring device



Item no.: **6910291**

### Technical data

<b>Traversing length (Lt)</b>	till 26 mm
<b>Measuring principle</b>	tactile stylus method, tactile skidless probe
<b>Unit of measurement</b>	metric/inch
<b>Measuring force (N)</b>	0.00075
<b>Probe tip radius</b>	2 $\mu\text{m}$
<b>Filter according to ISO/JIS</b>	Gaussian filter according to DIN EN ISO 16610-21, robust Gaussian filter according to DIN EN ISO 16610-31, special filter according to DIN EN ISO 13565-1, ls filter according to DIN EN ISO 3274 (can be switched off)
<b>Cutoff <math>f_c</math> according to ISO/JIS</b>	0,08 mm, 0,25 mm, 0,8 mm, 2,5 mm, automatic filter detection, variable
<b>Short stroke under ISO/JIS</b>	selectable
<b>Number n of sampling length according to ISO/JIS</b>	selectable: 1 to 16
<b>Measuring speed</b>	0.1 mm/s to 1 mm/s
<b>Positioning speed X axis</b>	till 3 mm/s
<b>Surface parameters</b>	Over 55 characteristic values for R-, P-, W-profile in accordance with current ISO/JIS/ASME/Motif standardization
<b>Energy supply</b>	Integrated rechargeable battery (min. 1200 measurements) or via charging unit
<b>Data interface</b>	USB A, MarConnect (RS-232), Micro SD slot for SD / SDHC cards up to 32 GB
<b>Languages</b>	German, English, French, Italian, Spanish, Portugese, Dutch, Swedish, Russian, Polish, Czech, Japanese, Chinese, Korean, Hungarian, Turkish, Romanian

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- Customer-specific comments for the PDF log are entered directly on the MarSurf M 410
- MRK and ADK curve display and printing
- Measuring programs are saved (Quick & Easy)
- Mains-independent operation: over 1200 measurements without having to recharge the device
- Everything in the palm of your hand. Small size and low weight (approx. 500 g)
- Flexible device: Removable drive unit
- More than 50 parameters: Offer a performance range like a laboratory instrument.
- Quick access to your desired functions through favorites storage in the display
- Automatic cutoff selection: ensures correct measurement results even for the non-measuring technician
- Free software "MarWin Easy Roughness Viewer" for further documentation (statistics, multiple profiles and results on one page etc.) available for download on the Mahr website.

### Technical data

<b>Storage capacity</b>	min. 3900 profiles, min. 500,000 results, min. 1500 PDF logs, expandable with microSD card up to 32 GB (increases storage capacity by a factor of 320)
<b>Probe</b>	inductive skidless probe system
<b>IP protection category</b>	IP 40
<b>Relative humidity</b>	30 % to 85 %, non-condensing!
<b>Operating temperature</b>	10 °C to 45 °C
<b>Lagertemperatur</b>	-10 °C to 60 °C
<b>Weight measuring instrument</b>	300 g
<b>Weight drive unit</b>	1120 g
<b>Dimensions in mm</b>	198 mm x 77 mm x 97 mm
<b>Dimensions (L x W x H) for measuring instrument in mm.</b>	162 mm x 77 mm x 35 mm
<b>Dimensions (L x W x H) for drive unit in mm.</b>	194 mm x 38 mm x 72 mm
<b>Other functions</b>	Lock/code word protection, date/time
<b>Stylus</b>	2 µm; 5 µm
<b>Parameters</b>	Ra, Rq, Rz, Rz (JIS), Rz (Ry (JIS) is equivalent to Rz), Rmax, Rp, Rp (ASME), Rpm (ASME), Rv, R3z, Rk, Rpk, Rvk, Mr1, Mr2, A1, A2, Vo, Rt, RPc, Rmr (tp (JIS, ASME) is equivalent to Rmr), RSm, RS, Rdq, RSk, Rku, Rdc, RHtp, Pdc, Pa, Pt, PMr, Wa, Wq, WSm, WSk, Wt, CR, CF, CL, R, Ar, Rx, W, AW (MOTIF), Wx (MOTIF), Wte (MOTIF), NW (MOTIF), NR (MOTIF), NCRX (MOTIF), CPM (MOTIF)
<b>System of protection</b>	IP 40
<b>Rechargeable batteries</b>	Li-Ion battery, 3.7 V, nominal capacity 11.6 Wh, min. 500 measurements
<b>Wide range power supply</b>	100 to 264 V
<b>Measuring range mm</b>	500 µm (±250 µm) for probe arm length 45 mm to 1500 µm (±750 µm) for probe arm length 135 mm

### Dimensions

<b>Dimensions in mm</b>	198 mm x 77 mm x 97 mm
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#### Application

##### Mechanical engineering

Bearings, shafts, racks, valves, various components from the engineering and precision mechanics industries

##### Automotive

Steering, brake systems, transmissions, crankshafts, camshafts, cylinder heads, cylinder blocks, turbochargers

##### Medical

Roughness measurement on hip and knee endoprostheses

##### Aerospace

Turbine components

##### Optics

Diverse optical components

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### Accessories

Order no.	Designation	Product type
4102603	Data cable USB bidirectional	DK-U1
6852403	Probe arm	BFW
6710803	Measuring stand 300 mm with cast iron base	ST-D
6710806	Measuring stand 300 mm with granite plate	ST-F
6710807	Measuring stand 300 mm with granite plate and T-slot	ST-G
6710401	V-block	PP
6710604	Parallel vice	PPS
6710529	XY table	CT 120
4246819	Set of miniature precision vises	109 PS
6820420	Roughness standard with Mahr calibration certificate, profile depth 10 µm	PRN 10