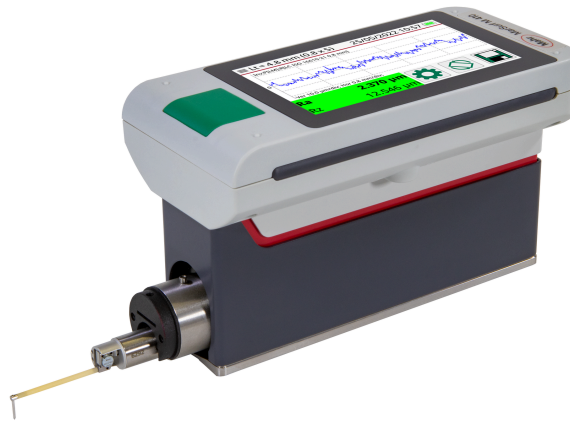# Product information

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./li>
- 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 lebel C in µm or in % of Rz for the characteristic values Rmr and tp/li>
- 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.: **6910290**

Technical data

Traversing length (Lt)	till 26 mm
Measuring principle	Tactile stylus method
Unit of measurement	metrisch/inch
Measuring force (N)	0.00075
Probe tip radius	2 µm
Filter according to ISO/JIS	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)
Cutoff lc according to ISO/JIS	0,08 mm, 0,25 mm, 0,8 mm, 2,5 mm, automatic filter detection, variable
Short stroke under ISO/JIS	selectable
Number n of sampling length according to ISO/JIS	selectable: 1 to 16
Measuring speed	0.1 mm/s to 1 mm/s
positioning speed X-axis max.	3 mm/s
Positioning speed X axis	till 3 mm/s
Surface parameters	Über 55 Kennwerte für R-, P-, W-Profil gemäß aktueller Normung ISO/JIS/ASME/Motif
Energy supply	Integrated rechargeable battery (min. 1200 measurements) or via charging unit
Data interface	USB A, MarConnect (RS-232), Micro SD slot for SD / SDHC cards up to 32 GB
Languages	German, English, French, Italian, Spanish, Portugese, Dutch, Swedish, Russian, Polish, Czech, Japanese, Chinese, Korean, Hungarian, Turkish, Romanian
Storage capacity	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)
Probe	inductive skidless probe system
IP protection category	IP 40
Relative humidity	30 % to 85 %, non-condensing!
Weight (gross)	1.42 KG
Weight measuring instrument	300 g
Weight drive unit	1120 g
Dimensions in mm	198 mm x 77 mm x 97 mm
Dimensions (L x W x H) for measuring instrument in mm.	162 mm x 77 mm x 35 mm
Dimensions (L x W x H) for drive unit in mm.	194 mm x 38 mm x 72 mm
Other functions	Lock/code word protection, date/time
Stylus	2 µm; 5 µm

Product information

Mobile surface measuring instrument MarSurf M 410

- 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.

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

Technical data

Parameters	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)
System of protection	IP 40
Rechargeable batteries	Li-Ion battery, 3.7 V, nominal capacity 11.6 Wh, min. 500 measurements
Wide range power supply	100 to 264 V
Measuring range mm	500 µm (±250 µm) for probe arm length 45 mm to 1500 µm (±750 µm) for probe arm length 135 mm

Dimensions

Dimensions in mm	198 mm x 77 mm x 97 mm

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