Diverse and innovative – our new products for 2023
The new myMahr portal: Everything in one place

In the future, you as a Mahr customer will benefit from the new digital service platform: The myMahr portal centrally combines all of the interfaces between you and us in a clear and user-friendly way. The only prerequisites for accessing the personalized digital services are an Internet connection and an initial registration.

Our myMahr portal will make it considerably easier for you to complete all of the work relating to measuring tasks. This is because it combines all of the important information about the measuring technology in your production department. At a glance, you can thus quickly and accurately determine if the performance in the measuring room is correct and where you can make optimizations. In addition, you can simply and easily order products, spare parts, and accessories directly online. If you should ever require our support, you can contact Mahr quickly via the platform.

The myMahr portal has four functions for you:

1. Monitoring & Assets
2. Online Shop & Order Status
3. Services
4. Training

In the near future, we will be adding further convenient services to the myMahr portal, which will further simplify and support your quality assurance processes. Initially, the platform will be available to customers in Germany, Austria, and Switzerland before we make it available globally.
Advantages

- Intuitive to operate thanks to clear user guidance
- Measuring room performance at a glance
- Direct contact to the Mahr Service team
- Connection to our own online shop

Quality assurance of the future

Here you can access your virtual measuring room including the measuring data and performance in real-time, and all of the relevant documents.

Metrology expertise

You can easily book your professional training, training courses, and seminars here and attend them online.
Full control:  
**All measurement solutions at a glance**

We provide the Monitoring & Assets area in the myMahr portal to ensure you always know what and how everything is running in your measuring room. It is designed to be a control center for your measuring machines and as an archive for all of the relevant documents. This is an important step towards automating quality assurance processes.

The prerequisite for being able to use the full scope of Monitoring & Assets functions, is registering the machines at "**myMahr ready**". During this process, we will record the hardware and software status of all of your Mahr measurement solutions and integrate this data in the asset management feature. You can then organize and arrange your measurement solutions within the asset management in accordance with your individual requirements, for example, according to the different measuring rooms.

**Advantages**

- Automatic integration of your hardware and software data following registration on **myMahr ready**
- Status and performance machine data in real-time
- Condition monitoring and predictive maintenance will be available in the future
- Order accessories and spare parts quickly and easily in the online shop
Hallo Oliver,
im Anhang findet die einmal die blaue Inhaltsseite für die Templates.

Live data: **Monitoring**
The heart of myMahr Monitoring & Assets is the monitoring function. It provides you with the opportunity to transfer and evaluate live data from measuring stations – an Internet connection is a prerequisite. A dashboard provides a clearly structured overview of the status and utilization of your measuring machines and includes the most important figures about the overall equipment effectiveness (OEE). This currently only applies to Mahr machines. However, in future the OPC UA interface standard should make it possible to also integrate machines from other manufacturers.

Machine status: **Service status**
In addition, myMahr Monitoring & Assets will in the future be able to offer you condition monitoring and predictive maintenance. This means you will automatically receive information about the status and service status of your measuring machines so that you can contact Mahr Service sufficiently in advance. You can also order any spare parts or accessories you require easily at any time via our online shop, which is also available in the myMahr portal.

Digital archive: **Documents**
You can also access all of the documents relating to your measuring solutions in myMahr Monitoring & Assets, including operating instructions, calibration certificates, or sales documents such as quotations and delivery slips.
Contemporary online shopping for business customers

Start of our new online shop: With this innovative platform, we are offering you an efficient business-to-business solution to meet your specific requirements as a corporate client. The online shop comprises many practical functions and offers you a comprehensive range of benefits.

An intuitive and user-friendly design guarantees a pleasant shopping experience. You can easily select the right product from a very broad product portfolio that includes hand-held measuring tools, accessories, and spare parts for complex measurement solutions. They are easy to find using the high-performance faceted search function that filters products by their features or using the fast entry screen for the item number. A traffic light system indicates the availability of the relevant item. The online shop also provides important additional information about the individual products, including the measuring range, technical specifications, or drawings.

Customer focus, even for payments: Quick purchases, including payment by credit card or PayPal, can be processed as guest orders without having to register. Registered purchasers with a customer account benefit from many additional advantages. They can, for example, place recurring orders as the customer account saves previous purchases. As our online shop is also optimized for all mobile end devices, you or your measurement engineer can access it from anywhere and order the required products. Overall, we hope that our online shop will improve your purchasing processes and further increase your competitive position.

Advantages

- Simple online shopping with modern user interface
- Accurate and simple searches for required items
- Flexible payment options
- View order status and invoices online
- Additional services for registered customers
Digital services

Logon for existing customers

Registered customers can log in and access their order history, for example.

Efficient search

Products can be found very quickly using the search function.

Simply register

Anyone who wishes to benefit from all the advantages a user account has to offer, can simply register.

Get in touch

If you have any questions, it is easy to contact MAHR.

The new Mahr online shop is here:

The new depth gage for maximum process safety

Measurements are even safer and more efficient using the MarCal 30 EWRi caliper that is more reliable than ever. Thanks to the Integrated Wireless function, you can also transfer your measurement results to all Windows applications at the touch of a button.

Reliable measuring equipment, that can be used flexibly, is essential in the production and quality assurance departments. Mahr has developed this new caliper to help you ensure your measurements achieve an even higher level of process safety and efficiency. In addition to our tried and tested features, such as the practical Integrated Wireless function for wireless measurements, we have focused on providing the best possible flexibility at the workstation. Practical accessories, as well as other useful special designs, offer you a variety of measurement equipment and tools with which you can increase your daily level of efficiency.

Advantages

- Wireless data transfer and free MarCom Professional software
- Hardened stylus element for universal contact even in tight measuring points
- Measurements with a wide measuring surface
- Lapped guide rails ensure the slide runs evenly and smoothly
- Protection rating IP 67 for use in all workshop conditions
- Practical accessories, e.g. long measuring bridges to cover large distances
- Additional model type 30 EWRi-D with twin hook to measure depths, distances, and widths

Ergonomic, workshop-focused design

Even in dirty environments or poor lighting conditions, you can still read off the numbers thanks to the high-contrast 11 mm font. The ergonomic housing makes it easy to handle thus providing safe measuring results.
Handheld metrology

Integrated Wireless
Take measurements completely autonomously without data cables getting in the way and benefit from recording data quickly and safely without the risk of incorrect manual entries. The displayed measured value is wirelessly transferred directly to your Windows application at the touch of a button.

Extra narrow rail cross-section
The particularly narrow rail cross-sections (12 x 3.5 mm) above all enable you to measure narrow measuring points in more detail, while the lightweight design of the caliper makes it easier to handle.

Two measuring surfaces
Perfect for your measuring task, including universal stylus or wide transverse measuring surface – the stylus can be removed for this purpose.

Up to 3 years battery life

Practical accessories:
long measuring bridges 30 EXm
If it does not fit, it can be adjusted. We provide long measuring bridges (300 and 400 mm) to place over and cover distances. Installation is simple and can be adjusted within the hole grid, ensuring you can reach your measuring point even if there are greater distances between the points.
MarCal 30 EWRi / 30 EWR
Digital depth gage

FUNCTIONS

Functions 30 EWRi:
- ON/OFF
- AUTO-ON / OFF
- RESET (set display to zero)
- mm/inch
- PRESET (for entering a numerical value)
- LOCK function (key lock)
- HOLD (storage of measured values)
- Reversal of counting direction
- DATA (data transmission)

Functions 30 EWR:
- AUTO-ON / OFF
- DATA (data transmission via connection cable)
- ON/OFF
- PRESET (for entering a numerical value)
- RESET (set display to zero)
- mm/inch
- LOCK function (key lock)
- High contrast digit display
- Locking screw above
- Lapped guideway
- Measuring surfaces made of steel
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Lapped guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 30 EWRi:
- Digit height: 11 mm
- Data interface: Integrated Wireless
- Energy supply: Battery life approx. 3 years (approx. 0.5 in wireless mode)
- Battery type: CR 2032 (3V Lithium)
- IP protection category: IP 67
- Package contains: battery, test certificate, instruction manual, case

FEATURES 30 EWR:
- Digit height: 8.5 mm
- Data interface: USB, Opto RS–232C, Digimatic
- Energy supply: Battery life approx. 3 years
- Battery type: CR 2032 (3V Lithium)
- IP protection category: IP 67
- Package contains: battery, test certificate, instruction manual, case

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Type</th>
<th>Measuring range</th>
<th>Measuring range</th>
<th>Resolution</th>
<th>Error limit</th>
<th>Standard</th>
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<tbody>
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<td>0 – 150</td>
<td>0 – 6”</td>
<td>0.01 / .0005”</td>
<td>0.03</td>
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<td>0 – 8”</td>
<td>0.01 / .0005”</td>
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<table>
<thead>
<tr>
<th>Order no.</th>
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<td>4102915</td>
<td>230</td>
<td>100</td>
<td>12 x 3.5</td>
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ACCESSORIES

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<th>Description</th>
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<td>Receiver for instruments with Integrated Wireless</td>
<td>i-Stick</td>
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<td>4102357</td>
<td>30 EWR</td>
<td>Data connection cable USB (2 m)</td>
<td>16 EXu</td>
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<td>4102410</td>
<td>30 EWR</td>
<td>Data connection cable RS232C (2 m)</td>
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<td>4102915</td>
<td>30 EWR</td>
<td>Interface adapter with data cable Digimatic (2 m)</td>
<td>16 EWd</td>
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<td>4125611</td>
<td>30 EWRi, 30 EWR</td>
<td>Anvil (4 mm)</td>
<td>Piece</td>
<td>30 ESa</td>
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<tr>
<td>4126510</td>
<td>30 EWRi, 30 EWR</td>
<td>Cross beam extension (300 mm)</td>
<td>30 EXm</td>
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<tr>
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<td>30 EWRi, 30 EWR</td>
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</table>
MarCal 30 EWRi-D / 30 EWR-D

Digital depth gage

FUNCTIONS

Functions 30 EWR-D:
- High contrast digit display
- Locking screw above
- Lapped guideway
- Measuring surfaces made of stainless steel
- Slide and beam made of hardened stainless steel
- Immediate measurements due to the Reference System
- Raised guideway for the protection of the scale
- Excellent resistance against dust, coolants and lubricants
- Dirt wipers are integrated in the slide

FEATURES 30 EWR-D:
- Digit height: 11 mm
- Data interface: Integrated Wireless
- Energy supply: Battery life approx. 3 years (approx. 0.5 in wireless mode)
- Battery type: CR 2032 (3V Lithium)
- IP protection category: IP 67
- Package contains: battery, test certificate, instruction manual, case

FEATURES 30 EWR-D:
- Digit height: 8.5 mm
- Data interface: USB, Opto RS–232C, Digimatic
- Energy supply: Battery life approx. 3 years
- Battery type: CR 2032 (3V Lithium)
- IP protection category: IP 67
- Package contains: battery, test certificate, instruction manual, case

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Type</th>
<th>Measuring range</th>
<th>Measuring range</th>
<th>Resolution</th>
<th>Error limit</th>
<th>Standard</th>
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<td>0 – 12”</td>
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Order no. | a | b | c | Rail cross-section |
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<th>Order no.</th>
<th>For measuring instrument</th>
<th>Description</th>
<th>Type</th>
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<tbody>
<tr>
<td>4102220</td>
<td>30 EWRi-D</td>
<td>Receiver for instruments with Integrated Wireless i-Stick</td>
<td>16 EXu</td>
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<td>4102357</td>
<td>30 EWR-D</td>
<td>Data connection cable USB (2 m)</td>
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<td>4102410</td>
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<td>Data connection cable RS232C (2 m)</td>
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<td>4102915</td>
<td>30 EWR-D</td>
<td>Interface adapter with data cable Digimatic (2 m)</td>
<td>16 EWd</td>
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<tr>
<td>4126510</td>
<td>30 EWR-D, 30 EWR-D</td>
<td>Cross beam extension (300 mm)</td>
<td>30 EXm</td>
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<td>4126511</td>
<td>30 EWR-D, 30 EWR-D</td>
<td>Cross beam extension (200 mm)</td>
<td>30 EXm</td>
</tr>
</tbody>
</table>
New addition with best possible linearity and precision

A new inductive probe has been added to the Millimar range: The P2002 will simplify your measurements, regardless of whether you are measuring the conicity, concentricity, radial runouts, thickness, or diameter. The measuring probe records measured values and deviations reliably and can be used for a variety of applications.

Usually, lengths cannot be recorded linearly over the entire measuring path using an inductive probe. This is not the case with our new all-rounder – the Millimar P2002 – that offers a high level of linearity because of its perfectly coordinated measurement system.

The probe provides a maximum level of measurement accuracy and minimal linearity deviations across the entire measuring range. A revised ball-bearing guide also offers a highly accurate and easy guide.

The excellent electromagnetic shielding provides a high level of protection against external magnetic fields. It can also be used in areas close to production and is available in all leading compatibilities.

Advantages

• Highly accurate, linear probe for diameters, radial runouts, thicknesses and much more
• Universal use in the measuring room or production
• New ball-bearing guide offers highly accurate and easy handling
• Reliable EMC shielding to protect against external magnetic fields

The new P2002 plays to its strengths in all applications where you need to check the length: From brake disks and mobile phone covers through to turbine blades, the new Millimar sensor is a real all-rounder.
FEATURES

- Variant without and with pneumatic lifter or load
- Measuring pin mounted in rotary stroke bearing
- High linearity over the entire measuring range
- Excellent electromagnetic shielding (EMC)
- All probes can be easily converted from axial to radial by mounting a slip on cap, included in the scope of supply
- Chemical resistance data: resistant to oil, gasoline, water and aliphatic compounds. Moderately resistant to acids, bases, solvents and ozone
- Package contains: test certificate, instruction manual, cap for radial cable output, spanner for preliminary stroke setting

TECHNICAL DATA

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<thead>
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<td>Distance to upper stop</td>
<td>mm...mm</td>
<td>1.2 ... 2.4</td>
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<tr>
<td>Distance to lower stop</td>
<td>mm...mm</td>
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<tr>
<td>Lifter / retraction</td>
<td>Standard model</td>
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<td>Measuring force</td>
<td>N</td>
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<td>Sensitivity deviation</td>
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<tr>
<td>Repeatability $f_w$</td>
<td>μm</td>
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<tr>
<td>Measuring value hysteresis $f_u$</td>
<td>μm</td>
<td>0.3</td>
</tr>
<tr>
<td>Error limit</td>
<td>μm</td>
<td>$0.1 + 0.8 \times L^2$</td>
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<tr>
<td>IP protection category</td>
<td>IP 64</td>
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<tr>
<td>Cable length</td>
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<tr>
<td>Temperature coefficient</td>
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<tr>
<td>Compatibility</td>
<td>Mahr-VLDT</td>
<td>Tesa</td>
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<tr>
<th>Order no.</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
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<td>8</td>
<td>14</td>
<td>M 2.5</td>
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</table>
Millimar P2002 MA / P2002 TA

Inductive probe

FEATURES

- Variant without and with pneumatic lifter or load
- Measuring pin mounted in rotary stroke bearing
- High linearity over the entire measuring range
- Excellent electromagnetic shielding (EMC)
- All probes can be easily converted from axial to radial by mounting a slip on cap, included in the scope of supply
- Chemical resistance data: resistant to oil, gasoline, water and aliphatic compounds. Moderately resistant to acids, bases, solvents and ozone
- Package contains: test certificate, instruction manual, cap for radial cable output, spanner for preliminary stroke setting

TECHNICAL DATA

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<td>Distance to upper stop</td>
<td>mm...mm</td>
<td>1.2...2.4</td>
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<tr>
<td>Distance to lower stop</td>
<td>mm...mm</td>
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<td>Lifter / retraction</td>
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<td>Increase in measuring force</td>
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<tr>
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<td>Cable length</td>
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<tr>
<th>Connection thread</th>
<th>M 2.5</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Order no.</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>h</th>
<th>i</th>
<th>j</th>
<th>k</th>
<th>l</th>
<th>m</th>
<th>Connection thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>S323220</td>
<td>88.7</td>
<td>28</td>
<td>21.3</td>
<td>6</td>
<td>9.2</td>
<td>8</td>
<td>14</td>
<td>26.5</td>
<td>3.6</td>
<td>9</td>
<td>8.3</td>
<td>12.5</td>
<td>M 2.5</td>
</tr>
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<td>S323221</td>
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<td>26.5</td>
<td>3.6</td>
<td>9</td>
<td>8.3</td>
<td>12.5</td>
<td>M 2.5</td>
</tr>
</tbody>
</table>
FEATURES

- Variant without and with pneumatic lifter or load
- Measuring pin mounted in rotary stroke bearing
- High linearity over the entire measuring range
- Excellent electromagnetic shielding (EMC)
- All probes can be easily converted from axial to radial by mounting a slip-on cap, included in the scope of supply
- Chemical resistance data: resistant to oil, gasoline, water and aliphatic compounds. Moderately resistant to acids, bases, solvents and ozone
- Package contains: test certificate, instruction manual, cap for radial cable output, spanner for preliminary stroke setting

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Type</th>
<th>Measuring range</th>
<th>Distance to upper stop</th>
<th>Distance to lower stop</th>
<th>Lifter / retraction</th>
<th>Measuring force</th>
<th>Sensitivity deviation</th>
<th>Repeatability $f_r$</th>
<th>Measuring value hysteresis $f_h$</th>
<th>Error limit</th>
<th>IP protection category</th>
<th>Cable length</th>
<th>Temperature coefficient</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>5323230</td>
<td>P2002 MB</td>
<td>$\pm 1$</td>
<td>1.2 . . . 2.4</td>
<td>– 1.2 . . . 0</td>
<td>Compressed air retraction (max. 1 bar)</td>
<td>N</td>
<td>0.3</td>
<td>0.1</td>
<td>0.3</td>
<td>$0.1 + 0.8 \times L^3$</td>
<td>IP 64</td>
<td>2.5</td>
<td>0.15</td>
<td>Mahr-VLDT</td>
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<tr>
<td>5323231</td>
<td>P2002 TB</td>
<td>$\pm 1$</td>
<td>1.2 . . . 2.4</td>
<td>– 1.2 . . . 0</td>
<td>Compressed air retraction (max. 1 bar)</td>
<td>N</td>
<td>Dependent on compressed air</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tesa</td>
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Order no.

<table>
<thead>
<tr>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>h</th>
<th>i</th>
<th>j</th>
<th>k</th>
<th>l</th>
<th>m</th>
<th>Connection thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>5323230</td>
<td>88.7</td>
<td>28</td>
<td>21.3</td>
<td>6</td>
<td>9.2</td>
<td>8</td>
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<td>26.5</td>
<td>3.6</td>
<td>9</td>
<td>8.3</td>
<td>12.5</td>
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<tr>
<td>5323231</td>
<td>88.7</td>
<td>28</td>
<td>21.3</td>
<td>6</td>
<td>9.2</td>
<td>8</td>
<td>14</td>
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<td>3.6</td>
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<td>8.3</td>
<td>12.5</td>
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</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>Order no.</th>
<th>For measuring instrument</th>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5313419</td>
<td>P2002 MA, P2002 TA</td>
<td>Pneumatic foot switch for max. 4 probes</td>
<td>1340/1F</td>
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<tr>
<td>5313420</td>
<td>P2002 MA, P2002 TA</td>
<td>Pneumatic hand lifter for 1 probe</td>
<td>1340/1</td>
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<tr>
<td>5323130</td>
<td>P2002 MA, P2002 MB, P2002 M</td>
<td>Extension cable 2.5 m (Mahr VLDT)</td>
<td>C2025 M</td>
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<tr>
<td>5323131</td>
<td>P2002 T, P2002 TB, P2002 TA</td>
<td>Extension cable 2.5 m (Tesa)</td>
<td>C2025 T</td>
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<tr>
<td>5323140</td>
<td>P2002 MA, P2002 MB, P2002 M</td>
<td>Extension cable 5 m (Mahr VLDT)</td>
<td>C2050 M</td>
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<td>5323141</td>
<td>P2002 T, P2002 TB, P2002 TA</td>
<td>Extension cable 5 m (Tesa)</td>
<td>C2050 T</td>
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<td>5323150</td>
<td>P2002 MA, P2002 MB, P2002 M</td>
<td>Extension cable 7.5 m (Mahr VLDT)</td>
<td>C2075 M</td>
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<tr>
<td>5323151</td>
<td>P2002 T, P2002 TB, P2002 TA</td>
<td>Extension cable 7.5 m (Tesa)</td>
<td>C2075 T</td>
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<tr>
<td>5323160</td>
<td>P2002 MA, P2002 MB, P2002 M</td>
<td>Extension cable 10 m (Mahr VLDT)</td>
<td>C2100 M</td>
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<tr>
<td>5323161</td>
<td>P2002 T, P2002 TB, P2002 TA</td>
<td>Extension cable 10 m (Tesa)</td>
<td>C2100 T</td>
</tr>
<tr>
<td>7026828</td>
<td>P2002 T, P2002 MA, P2002 M, P2002 TA</td>
<td>Measuring spring 0.5 N</td>
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<tr>
<td>7026849</td>
<td>P2002 T, P2002 MA, P2002 M, P2002 TA</td>
<td>Measuring spring 0.75 N</td>
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</tr>
<tr>
<td>7028220</td>
<td>P2002 TB, P2002 MB</td>
<td>Sealing bellows for probes with air retraction</td>
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</tbody>
</table>
**Simple, innovative, flexible** – modern surface metrology to be used by hand

Mobile recording and evaluation of measuring data has never been this easy. The MarSurf M 410 is convenient and flexible to use – just like a modern smartphone. It has a practical touch display, an integrated PDF memory, innovative accessories, and can transfer data via Bluetooth – all of which effectively simplify your workload.

Benefit from functions that only Mahr can offer you. In addition to the practical and efficient design and the flexibility this offers, the MarSurf M 410 also has an automatic filter setting by detecting the surface structure. This automatic contacting also guarantees the unmatched reliability of your measurements. The magnetic 3-point holder for the probe arm and the freely combinable accessories offer additional process security.

**Advantages**

- Increased efficiency thanks to large integrated memory: More than 500,000 measuring programs and 1,500 PDF reports, can be expanded by 32 GB (microSD)
- Skidless probes ensure that the roughness and waviness can be measured without an additional measuring station being required – determination of R-, W-, and P-parameters
- Safe measuring results thanks to automated cutoff option
- Automatic zeroing ensures process and material safety
- IATF ready – simply activate/deactivate in the menu by automatically transferring the item and serial number of the measuring instrument
- Free MarCom software to transfer data

**Possible to separate the display and probe system**

Optionally, you can use the measuring instrument as a mini mobile measuring station, for example by simply attaching the display to the wall using the supplied pivoted docking station.

**Magnetic probe holder**

Probe arms can be changed quickly without tools and with additional protection. The magnetic 3-point holder ensures that the probe will not be broken in the event of a collision; it will simply be released by the magnetic holder.
Simple alignment of the probe system

The inclination is easy to correct via the menu-driven, graphic instructions.

Intuitive operation via touch display

Easy to operate just like a smartphone so that no training or introduction to the operating functions is required – you can just get started.

Creation of PDFs directly on the device

Practical: The device creates a complete PDF file without the need for additional software or transfer to a computer. Information can be added to the PDF files directly on the device.

Wireless data transmission

Connect your measuring instrument to a PC via Bluetooth and transfer your data wirelessly to Excel or another software application, for example.

Importing information using a scanner

Simply start your measuring program by scanning a QR or barcode. You do not need to enter any profile information as your saved measuring programs are linked with a corresponding code.
Flexible all-rounder with various accessories

Measuring results in paper form? Despite sounding a little outdated, even in the digital age it is sometimes the fastest way to simply transfer data or documents. In this case, a mobile Bluetooth printer is the perfect addition to your MarSurf M 410. It will enable you to save your work results directly on thermal paper.

Scan measuring programs quickly and reliably
Save measuring programs and link them directly to a QR or barcode. Or scan additional profile information into your program. The barcodes or QR codes can be easily mapped onto a drawing or workpiece for this purpose. Saves time and avoids errors during measurement – a real benefit for your quality assurance.

Scope of delivery
Remain flexible, especially when taking measurements. In addition to various practical accessories, the MarSurf M 410 already comes with a comprehensive scope of delivery that is tailored to your requirements.

• Docking station
• Probe protection
• Thermal paper
• Sturdy hard case
• Mains adapter with three adapters
Avoid additional work steps. The practical PDF function enables the device to create a complete PDF file directly without the need for additional software or transfer to a computer. Information can be added to the PDF files directly on the device. This will not only save you time but will also eliminate any potential error sources (e.g., due to incorrect assignment).

In production lines the M 410 can, for example, be controlled remotely by ASCII commands via the mini USB port. This ensures that the quality can be checked on a continuous basis by the external software, which in addition to increasing the flexibility also guarantees an increased level of process safety.
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 skipless 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 Bluetooth adapter or the USB Bluetooth printer
- Wireless transmission of measurement results via Bluetooth stick to the free MarCom software
- Remote start of measurement via cable or Bluetooth
- 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 level 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 Bluetooth or cable – 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
- Customer-specific comments for the PDF log are entered directly in the measuring device
- Simple alignment of the probe station required, determination of waviness – no extra measuring station required, determination of R, W and P parameters
- Built-in rechargeable battery
- Charger / 3 mains adapters
- Height adjustment (integrated)
- USB cable
- Extension cable for drive unit (length 1.2 m)
- Operating instructions

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

<table>
<thead>
<tr>
<th>Order no.</th>
<th>6910290</th>
<th>6910291</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP protection category:</td>
<td>IP 40</td>
<td>M 410</td>
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<tr>
<td>Type</td>
<td></td>
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<tr>
<td>Parameters</td>
<td>Ra, Rq, Rz, Rz (JIS), Rz (Ry (JIS) entspr. Rz), Rmax, Rp, Rp (ASME), Rp (ASME), Rv, R3z, Rk, Rpk, Rvk, M1, M2, A1, A2, Vo, Rt, R1p, Rmr (tp (JIS, ASME) entspr. Rmr), RSm, RS, Rsq, Rsk, Rsq, Rdc, RHwp, 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)</td>
<td></td>
</tr>
<tr>
<td>Stylus</td>
<td>2 μm; 5 μm</td>
<td></td>
</tr>
<tr>
<td>Storage capacity</td>
<td>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)</td>
<td></td>
</tr>
<tr>
<td>Languages</td>
<td>German, English, French, Italian, Spanish, Portuguese, Dutch, Swedish, Russian, Polish, Czech, Japanese, Chinese, Korean, Hungarian, Turkish, Romanian</td>
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</tr>
<tr>
<td>Data interface:</td>
<td>USB A, MarConnect (RS–232), Micro SD slot for SD / SDHC cards up to 32 GB</td>
<td></td>
</tr>
<tr>
<td>Relative humidity</td>
<td>30 % to 85 %, non-condensing!</td>
<td></td>
</tr>
<tr>
<td>System of protection</td>
<td>IP 40</td>
<td></td>
</tr>
<tr>
<td>Rechargeable batteries</td>
<td>Li-Ion battery, 3.7 V, nominal capacity 11.6 Wh, min. 500 measurements</td>
<td></td>
</tr>
<tr>
<td>Wide range power supply</td>
<td>100 to 264 V</td>
<td></td>
</tr>
<tr>
<td>H x W x D</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>(L x W x H) for drive unit</td>
<td>198 mm x 77 mm x 97 mm</td>
<td></td>
</tr>
<tr>
<td>(L x W x H) for measuring instrument</td>
<td>194 mm x 38 mm x 72 mm</td>
<td></td>
</tr>
<tr>
<td>Measuring principle</td>
<td>tactile stylus method</td>
<td></td>
</tr>
<tr>
<td>Probe</td>
<td>inductive skipless probe system</td>
<td></td>
</tr>
<tr>
<td>Measuring range</td>
<td>mm</td>
<td></td>
</tr>
<tr>
<td>(500 µm (±250 µm) for probe arm length 45 mm to 1500 µm (±750 µm) for probe arm length 135 mm)</td>
<td></td>
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</tr>
<tr>
<td>Filtering according to ISO/JIS</td>
<td>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)</td>
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<tr>
<td>Cutoff lc according to ISO/JIS</td>
<td>0.08 mm, 0.25 mm, 0.8 mm, 2.5 mm, automatic filter detection, variable selectable: 1 to 16</td>
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<tr>
<td>Number n of sampling length according to ISO/JIS</td>
<td>0.08 mm, 0.25 mm, 0.8 mm, 2.5 mm, automatic filter detection, variable selectable: 1 to 16</td>
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<tr>
<td>Short stroke under ISO/JIS</td>
<td>selectable</td>
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<tr>
<td>Measuring force</td>
<td>N</td>
<td></td>
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<tr>
<td>Measuring speed</td>
<td>0.1 mm/s; 0.5 mm/s; 1.0 mm/s</td>
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<tr>
<td>Positioning speed</td>
<td>3 mm/s</td>
<td></td>
</tr>
<tr>
<td>Weight drive unit</td>
<td>1120 g</td>
<td></td>
</tr>
<tr>
<td>Weight measuring instrument</td>
<td>300 g</td>
<td></td>
</tr>
<tr>
<td>Weight measuring instrument</td>
<td>300 g</td>
<td></td>
</tr>
<tr>
<td>Quick access to your desired functions through favorites storage in the display</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic cutoff selection: ensures correct measurement results even for the non-measuring technician</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free software “MarWin EasyRoughness Viewer” for further documentation (statistics, multiple profiles and results on one page etc.) available for download on the Mahr website.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Package contents:
- MarSurf M 410 operating unit
- Drive unit MD 26
- 1 standard probe arm BPW A 10–45–2/90°, standardized
- Docking station for operating unit
- Probe protection
- Built-in rechargeable battery
- Charger / 3 mains adapters
- Height adjustment (integrated)
- USB cable
- Extension cable for drive unit (length 1.2 m)
- Operating instructions

MarSurf | Mobile surface measuring instrument

22
## MarSurf M 410

Mobile surface measuring instrument

### ACCESSORIES

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6910271</td>
<td>Printer set for MarSurf M 310, MarSurf M 410 and Digmar 817 CLT</td>
<td>DP-B1</td>
</tr>
<tr>
<td>4102603</td>
<td>Data cable USB bidirectional (2 m)</td>
<td>DK-U1</td>
</tr>
<tr>
<td>3028620</td>
<td>USB 2D scanner Honeywell Xenon 1900</td>
<td>Handset scanner cable</td>
</tr>
<tr>
<td>3003856</td>
<td>USB Bluetooth adapter</td>
<td>USB BT</td>
</tr>
<tr>
<td>3028820</td>
<td>2D scanner Bluetooth Zebra DS2278</td>
<td>Handset scanner BT</td>
</tr>
<tr>
<td>6852403</td>
<td>Probe arm</td>
<td>BPW</td>
</tr>
<tr>
<td>6910294</td>
<td>Measuring stand mount MD 26</td>
<td>ST-D</td>
</tr>
<tr>
<td>6710803</td>
<td>Measuring stand 300 mm with cast iron base</td>
<td>ST-D</td>
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<tr>
<td>6710806</td>
<td>Measuring stand 300 mm with granite plate</td>
<td>ST-F</td>
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<tr>
<td>6710807</td>
<td>Measuring stand 300 mm with granite plate and T-slot</td>
<td>ST-G</td>
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<tr>
<td>2247086</td>
<td>Adjustable mounting bracket to connect to 814 SR</td>
<td>814 Sh</td>
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<tr>
<td>4426100</td>
<td>Height measuring and scribing instrument, 0 – 350 mm</td>
<td>814 SR</td>
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<tr>
<td>4426101</td>
<td>Height measuring and scribing instrument, 0 – 600 mm</td>
<td>814 SR</td>
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<tr>
<td>6710401</td>
<td>V-block</td>
<td>PP</td>
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<td>6710604</td>
<td>Parallel vice</td>
<td>PPS</td>
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<td>6710529</td>
<td>XY table</td>
<td>CT 120</td>
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<td>4246819</td>
<td>Set of miniature precision vises</td>
<td>109 PS</td>
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<td>6820420</td>
<td>Roughness standard with Mahr calibration certificate, profile depth 10 µm</td>
<td>PRN 10</td>
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<tr>
<td>4413000</td>
<td>Measuring tripod with triangular pedestal 300 mm</td>
<td>815 GN</td>
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<td>4413001</td>
<td>Measuring tripod with triangular pedestal 500 mm</td>
<td>815 GN</td>
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<td>4413005</td>
<td>Measuring tripod with triangular pedestal 750 mm</td>
<td>815 GN</td>
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<td>4416000</td>
<td>Measuring tripod with magnetic base</td>
<td>815 MA</td>
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<tr>
<td>6299436</td>
<td>software MarWin EasyRoughness mobile</td>
<td>M 310 PC</td>
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<td>6299443</td>
<td>Software</td>
<td>Software</td>
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<td>6910240</td>
<td>Protective films for LCD, real glass (3 pieces)</td>
<td>SF LCD</td>
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<td>6850500</td>
<td>Magnetic fixture PS 10 / M 310</td>
<td>MH</td>
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<tr>
<td>6800000DKS</td>
<td>Geometric standard, sinusoidal profile</td>
<td>MGS 1</td>
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<tr>
<td>6800000KAL</td>
<td>Geometric standard, sinusoidal profile</td>
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<tr>
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<td>Geometric standard, sinusoidal profile</td>
<td>MGS 3</td>
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<tr>
<td>6800001KAL</td>
<td>Geometric standard, sinusoidal profile</td>
<td>MGS 3</td>
</tr>
<tr>
<td>6800002DKS</td>
<td>Geometric standard, sinusoidal profile</td>
<td>MGS 10</td>
</tr>
<tr>
<td>6800002KAL</td>
<td>Geometric standard, sinusoidal profile</td>
<td>MGS 10</td>
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<tr>
<td>6820901DKS</td>
<td>Roughness standard</td>
<td>MRS 1,5</td>
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<td>MRS 1,5</td>
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<td>6820903DKS</td>
<td>Roughness standard</td>
<td>MRS 3</td>
</tr>
<tr>
<td>6820903KAL</td>
<td>Roughness standard</td>
<td>MRS 3</td>
</tr>
</tbody>
</table>
Clever combination: High performer for surface measurements

Combine the new MarSurf M 410 with the tried and tested MarWin EasyRoughness software and use it as a drive unit for your surface measurements. This extends the measuring spectrum by many parameters enabling you to complete even more comprehensive evaluations.

This combines the handiness of the MarSurf M 410 with the wider range of software functions.
The measuring instrument can be easily connected to the computer by cable or Bluetooth wireless technology. The MarWin EasyRoughness software is your first choice for all MarSurf applications thanks to its versatile customization and design options, and comprehensive functions thus providing you with functions to cut profiles, export data, complete multiple measurements, and much more.

Advantages

- Numerous functions already included in the software, such as cutting profiles, exporting data, and completing multiple measurements
- Software can be expanded to include a variety of options, such as "OS-STAT", "Digital I/0", or "Profile processing"
- User administration for logging on and administering users with different rights
- Automatic export of profile files, results files, and records in PDF format
- Interactive zoom to specify a profile section to be evaluated and recalculate selected parameters
Highlights at a glance

Multiple measurement

Measurement of twin contours and multiple measurements with segmentations. Depending on the drive unit selected and the measuring stand, it is possible to perform an automatic zenith search, implement absolute and relative positioning, and program automatic processes. The software provides a measuring station view with operating messages and sometimes photos between measurements.

Profile processing

This function makes it possible to process profiles, such as cutting out valleys or peaks, simulating spheres, mirroring profiles, rotating profiles, adding ranges, or merging two or more profiles into a new one. In addition, edge filters hide topics that should not be evaluated.

Virtual rulers

Interactive setting of distances in X and Z direction in the profile field make it possible to view defined profile sections.

Start program sequences using function keys

Simply click to activate results, profiles, globally standardized parameters, and characteristic curves. They can then simply be output in the record. The entries can be selected directly from the “Surface parameters”, “Evaluation”, “Measuring record”, and “Record preview” tabs, making the system quick and easy to use.
Order no. | 6910290 + 6299436 | 6910292 + 6299436
---|---|---
**Type** | M 410 + Software Easy Roughness | MD 26 + Software Easy Roughness
**Stylus** | 2 µm; 5 µm |
**Rechargeable batteries** | Li-Ion battery, 3.7 V, nominal capacity 11.6 Wh, min. 1200 measurements |
**(L x W x H) for drive unit** | 194 mm x 38 mm x 72 mm |
**Measuring principle** | skidless probe system |
**Probe** | inductive skidless probe system |
**Measuring range** | mm | 500 µm (±250 µm) for probe arm length 45 mm to 1500 µm (±750 µm) for probe arm 135 mm |
**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 Ic according to ISO/JIS** | 0.08 mm, 0.25 mm, 0.8 mm, 2.5 mm, automatic filter detection, variable |
**Number n of sampling length according to ISO/JIS** | selectable: 1 to 16 |
**Short stroke under ISO/JIS** | selectable |
**Traversing length Lt according ISO/JIS** | variable |
**Measuring force** | N | 0.0007 |
**Measuring speed** | mm/s | 0.1 mm/s; 0.5 mm/s; 1.0 mm/s |
**Positioning speed** | mm/s | 3 mm/s |
**Weight drive unit** | g | 1120 g |

**FEATURES**
- Handy roughness tester for mobile use
- 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
- Connection of a scanner for automatic start of the measuring programs or reading of protocol texts via barcode or QR code
- More than 80 parameters for R, P, W profiles according to current standard ISO/JIS or MOTIF (ISO 12085)
- Bandpass filter Ls according to current standard, Ls can also be switched off or freely varied
- Extensive logging
- Quick & Easy measuring programs can be created quickly in the learning procedure
- Automatic function for standard-compliant selection of cutoff and scanning distance
- Support of different calibration methods (static and dynamic) with presetting of the parameter Ra or Rz
- Adjustable maintenance and calibration intervals
- Many measuring station configurations are possible for individual applications
- Flexibility of the system through various options
- Different user levels protect against incorrect operation of the device and ensure that no unauthorized users can use the device

**Package contents:**
- MarSurf M 410 operating unit
- Drive unit MD 26
- 1 standard probe arm BF 10–45–290°, standardized
- Docking station for operating unit
- Probe protection
- Built-in rechargeable battery
- Charger / 3 mains adapters
- Height adjustment (integrated)
- USB cable
- Extension cable for drive unit (length 1.2 m)
- Software MarWin EasyRoughness mobile
- Operating instructions

**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
# MarSurf M 410 / MD 26 with Software Easy Roughness

## Mobile surface measuring instrument

## ACCESSORIES

<table>
<thead>
<tr>
<th>Order no.</th>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6910271</td>
<td>Printer set for MarSurf M 310, MarSurf M 410 and Dignmar 817 CLT</td>
<td>DP-B1</td>
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<tr>
<td>4102603</td>
<td>Data cable USB bidirectional (2 m)</td>
<td>DK-U1</td>
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<tr>
<td>3028620</td>
<td>USB 2D scanner Honeywell Xenon 1900</td>
<td>Handset scanner cable</td>
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<tr>
<td>3003856</td>
<td>USB Bluetooth adapter</td>
<td>USB BT</td>
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<tr>
<td>3028820</td>
<td>2D scanner Bluetooth Zebra DS2278</td>
<td>Handset scanner BT</td>
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<tr>
<td>6852403</td>
<td>Probe arm</td>
<td>BFW</td>
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<td>6910294</td>
<td>Measuring stand mount MD 26</td>
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<tr>
<td>6710803</td>
<td>Measuring stand 300 mm with cast iron base</td>
<td>ST-D</td>
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<tr>
<td>6710806</td>
<td>Measuring stand 300 mm with granite plate</td>
<td>ST-F</td>
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<tr>
<td>6710807</td>
<td>Measuring stand 300 mm with granite plate and T-slot</td>
<td>ST-G</td>
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<td>2247086</td>
<td>Adjustable mounting bracket to connect to 814 SR</td>
<td>814 Sh</td>
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<tr>
<td>4426100</td>
<td>Height measuring and scribing instrument, 0 – 350 mm</td>
<td>814 SR</td>
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<td>4426101</td>
<td>Height measuring and scribing instrument, 0 – 600 mm</td>
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<td>6710401</td>
<td>V-block</td>
<td>PP</td>
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<td>6710604</td>
<td>Parallel vice</td>
<td>PPS</td>
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<td>6710529</td>
<td>XY table</td>
<td>CT 120</td>
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<td>4246819</td>
<td>Set of miniature precision vises</td>
<td>109 PS</td>
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<td>6820420</td>
<td>Roughness standard with Mahr calibration certificate, profile depth 10 µm</td>
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<tr>
<td>4413000</td>
<td>Measuring tripod with triangular pedestal 300 mm</td>
<td>815 GN</td>
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<td>Measuring tripod with triangular pedestal 750 mm</td>
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<td>6910240</td>
<td>Protective films for LCD, real glass (3 pieces)</td>
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<td>6850500</td>
<td>Magnetic fixture PS 10 / M 310</td>
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<td>6910205</td>
<td>Software</td>
<td>SW PS1/ M300 Explorer</td>
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</table>

![814 Sh](image1)

![814 SR](image2)

![109 PS](image3)
Automated measurements
with robot loading

You requested and we have responded: Our department Mahr Engineered Solutions (MES) has developed a cost-effective solution to automate recurring measurements. A collaborative robot loads measuring stations into the measuring room or close to the production area without the need for an operator, thus significantly increasing the efficiency of your measuring station and drastically reducing the overall costs.

The new solution was first implemented on a MarSurf contour and roughness measuring station. It is particularly useful for you if you wish to check a high number of recurring workpieces on a continuous and prompt basis. The system has a workpiece store that comprises removable magazines which contain the parts to be measured. The MarSurf measuring station is positioned on the workpiece store, while a robotic arm is attached to the side so that it can easily access the magazines. The robotic arm then positions the removed component on the workpiece holder of the MarSurf device and the measurement starts automatically. Once the measurement has been completed successfully, the robot returns the part back to the workpiece store.

We are currently designing the robot for MarSurf configurations. However, in future it is also conceivable that it could be implemented for other measuring stations, such as form measurements using our MarForm MMQ range. By the way, the solution is not just suitable for new Mahr systems, you can also upgrade existing devices with it.

Advantages

• Cost-effective and standardized solution for pallet measurements
• Same amount of space required as a standard measuring station
• No personnel requirements, except to load the magazines
• Increased service life of the measuring instrument even with three-shift operation
• Simultaneous loading and measuring possible depending on the application
• Robot can simply be reprogrammed for other workpieces, ensuring it can be used flexibly

Automatic sequence

The robotic arm automatically positions a component for the measurement.
Universal solution
Suitable for new or well-established MarSurf or MarForm: The Mahr Feeder is suitable for lots of measuring stations.

Flexible applications
The robot is easy to reprogramme and can thus process a variety of workpieces.

Automatic workpiece removal
The robot removes a component from the workpiece magazine using a gripper that was produced using a 3D printer to fit accurately.

Time savings
Simultaneous measuring and loading is possible depending on the application.
Fast and precise measurement during production

The cylinder coordinate measuring machines from the Mar4D PLQ product range measure rotationally symmetrical workpieces with more flexibility and more conveniently than ever before. They also operate at the highest speed and level of precision providing fast and reliable measuring results.

The Mar4D PLQ 4200-T2 and Mar4D PLQ 4200-T4 variants offer high-performance measurement solutions for complex rotationally symmetrical workpieces. The multisensor technology covers a particularly broad range of dimensional measuring tasks. The machines also have a particularly sturdy design enabling measurements to be completed directly during production, providing you with shorter processing times and thus increasing your throughput and productivity rates extraordinarily. They are also equipped with a motorized tailstock enabling them to also adjust workpieces between the centering tips. The equipment provided as standard includes a C-axis measuring machine. This machine guarantees highly accurate roundness and radial runout measurements with deviations of <40 nm.

Advantages

• Future-proof thanks to combined measuring technology: optical and tactile solution in one machine
• Versatile: Inspection of several features including the length, diameter, form, position, contour, roundness, roughness, or 3D geometries, such as the symmetry, during a single measuring run.
• Fast and precise: Unique speed and optimum axis accuracy even as the tolerances become smaller achieved thanks to specially developed control architecture
• Ergonomic operation and unique safety concept
The outstanding equipment feature of the Mar4D PLQ 4200-T4 model is the fully automated centering and tilting table that we have newly developed. It aligns workpieces, that are not manufactured and measured between two tips, in the shortest amount of time and with an accuracy of micrometers, for example from 4 mm to 1 μm in just 30 seconds. This completely arithmetic method of correcting alignment errors is thus far superior.

Comparison of Mar4D PLQ models

<table>
<thead>
<tr>
<th>Model</th>
<th>Axes</th>
<th>Sensor technology</th>
<th>Motorized tailstock</th>
<th>Centering and tilting table</th>
<th>Workpiece size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar4D PLQ 4200-T2</td>
<td>C, X1, X2, Z</td>
<td>optical, tactile</td>
<td>x</td>
<td></td>
<td>Ø 200 mm</td>
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<tr>
<td>Mar4D PLQ 4200-T4</td>
<td>C, X1, X2, Z</td>
<td>optical, tactile</td>
<td>x</td>
<td>x</td>
<td>Ø 200 mm</td>
</tr>
</tbody>
</table>
More secure

The motorized tailstock with clamping force monitor secures the workpieces mounted in the centering tips perfectly in alignment without operator intervention.

Process reliability when measuring

Monitoring systems in the machine record and compensate for external influences in real time, such as temperature and vibration.

Reliable software

Thanks to its clearly structured user interface, the MarWin platform software is very user friendly: learn once, apply again and again.

Versatile

The multisensor technology of the Mar4D PLQ 4200-T2/T4 enables the measurement of various rotationally symmetrical workpieces directly during production.

Ergonomic design

The sophisticated mechanical engineering guarantees easy and safe operation.

A variety of products for numerous industries

For more than 160 years the name "Mahr" has stood for modern technology, maximum precision and pioneering inventions. Today, the Mahr Group is a global operation, supporting customers in a wide range of industrial segments. A long-term focus is key to reliable, high-quality products, and sustainable customer relations. Close cooperation with our customers leads to a comprehensive understanding of the special requirements and technical challenges associated with these industries.

Whatever the measuring task you are facing, the right measuring technology will help you tackle the most complex applications. Take advantage of Mahr’s full range of measuring technology: We have everything you need in over 20 different product groups, from manual calipers to customized fully-automated, robot-controlled measuring stations.