

MarSurf CD SERIES CONTOUR MEASUREMENT IN A NEW DIMENSION

- Innovative workpiece mount: for 50 mm standard clamping systems
- Fast measuring: X-axis speed up to 200 mm/s
- Automatic probe arm recognition and max. 100 mm measuring range

This is what **EXACTLY** means to us.



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MarSurf CD SERIES CONTOUR MEASURING IN A NEW DIMENSION



The new measuring stations of the MarSurf CD series from Mahr set new standards in contour testing. The new generation of measuring stations offers a new dimension of operating convenience and more advantages in terms of speed, accuracy and flexibility.

Features at a glance

- Automatic probe arm recognition
- Easy probe arm change due to the magnetic probe arm holder. No recalibration necessary.
- Large, flexible mounting plate with 50 mm grid
- Integrated TY axis in the supporting plate with 60 mm travel path
- Positioning speed up to 200 mm/s

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- Fully automatic measuring sequences
- Can be optionally expanded for roughness evaluation

With the new MarSurf CD series, manufacturing companies enter a new dimension to reliably secure and improve the manufacturing quality of workpieces in



the measuring room or production environment. The measuring systems meet today's market requirements and those of the future.

The MarSurf CD measuring stations are operated with the cross-product MarWin measuring and evaluation software (MarWin EasyContour, MarWin EasyRoughness). This enables a wide range of measurement tasks and also guarantees expansion and flexibility in future requirements. Older MarSurf devices remain compatible with MarWin. Thus, data exchange with older Mar-Surf devices is guaranteed.

The software option MarWin EasyContour provides the operator with the patented function "Tangential elements" in the standard configuration of the MarSurf CD series. The function supports the simple and user-independent evaluation of the tangential transitions between radii and straight lines. This ensures that reproducible and user-independent results are achieved.

MarSurf CD Series

APPLICATION FLEXIBILITY - MEASUREMENT WITH PROBE ARM VARIATIONS



Measurement with standard probe CPG A 33-350-25/12° on the training standard



Measurement with long probe tip CPG A 62-350-25/19° enables access to lower lying measuring locations



Measurement with roughness probe CPG A 20-210-5/90° enables evaluation of surface parameters with the option MarWin EasyRoughness



Measurement with transverse probe CPG A 33-210-25/30 q50



Measurement with double probe tip on the calibration standard

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Measurement with probe arm CPG E 3-210-25/19° in small bore with diameter 3 mm or larger

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MarSurf CD SERIES

Setting new standards - The MarSurf CD series has an innovative workpiece mounting plate that comes with each measuring station. This workpiece mounting plate is based on proven standards on the market. For example, the mounting plate uses a 50 mm bore, providing flexibility and speed for workpiece fixtures.

Easily insertable guide rails enable easy positioning of workpieces.

Workpieces, for example, can be mounted in a parallel vice and easily placed on the mounting plate.

The 390 mm x 430 mm mounting plate omits the need for an additional XY table, since a TY adjustment of 60 mm is already integrated in the base. In addition, it allows for a much more free and reproducible positioning of workpieces, since the base area is significantly larger than today's XY tables on the market.

Workpieces up to max. 90 kg can be placed directly on the mounting plate. The TY axis, which is integrated into the basic bed, ensures a low workpiece set-up, which results in an advantageously short measuring circuit.



Insertable guide rails with parallel vice



Mounting plate with "Screw Jack Set" incl. center mount and magnetic holder



Jaw chuck with hip joint ball

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FAST MEASURING

The X-axes of the new generation move the contour probe with positioning speeds of up to 200 mm/s.

This makes the MarSurf CD series up to 25 times faster than the Mahr predecessors MarSurf PCV 200 and Mar-Surf CD120.

The highly dynamic touch probe also allows significantly higher measuring speeds with the newly designed probe arms.

The MarSurf CD series is available in different versions. The variants differ in the length of the X-axis (140 mm or 280 mm), travel distance of the Z-axis (350 mm or 600 mm) and the possibility manually adjust the angle.

All Z-axes of the MarSurf CD series are fully CNCcapable. Especially their high positioning speeds of 50 mm/s reduce the measuring time.

- The Z-axes are thus twice as fast as previous Mahr Z-axes (such as ST 500 CNC)
- The axes are 5 times faster than other axes on the market.
- All Z-axes are CNC-capable

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Mahr has fulfilled the market demands with the design of this series and has laid the necessary cable guides in such a manner so that they are virtually invisible.



Drive unit shows movement of probe arm system



Z-axes show movement of drive unit



Combined movements (path control)

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MarSurf CD SERIES INTELLIGENT PROBE SYSTEM AND PROBE ARMS

Intelligent probe system

Mahr has developed a new probe arm family for the MarSurf CD series and it is the leader worldwide in contour measurement. Features such as probe arm stiffness, probe system dynamics, low vibration behavior are the decisive prerequisites for meeting the high accuracy requirements even at high measuring and positioning speeds. The magnetic probe arm holder ensures a quick changeover without tools. The automatic probe arm recognition contributes to the high flexibility and safety of the system. The CPG probe arms from Mahr are used for various applications and measurement tasks. The probe arms fulfill a wide range of demands so that the measuring points can be reached and reliably measured.





CPG A 36-350-25/12° – included in standard scope of delivery



CPG A 18-350-25/19° - probe arm for double contours



CPG A 20-210-5/90° – probe arm for roughness measurement

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CPG E 3-210-25/19° probe arms for small bores Ø 3 mm and larger



CPG E 2.5-210-25/19° – Probe arm for special tasks with suitable probe tip



CPG A 36-420-25/12° und CPG A 23-490-25/12° – for measuring tasks requiring a larger measuring range or longer probe arm

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OPTIONAL ROUGHNESS MEASUREMENT

Variations of the different machines

Machine	ltem no.	X-axis 140 mm	X-axis 280 mm	Z-axis 350 mm	Z-axis 600 mm	Angle adjustment
MarSurf CD 140 BG 11	6269000	Х		Х		
MarSurf CD 140 BG 12	6269001	Х		Х		х
MarSurf CD 140 BG 21	6269002	Х			х	
MarSurf CD 140 BG 22	6269003	Х			х	х
MarSurf CD 280 BG 11	6269004		Х	Х		
MarSurf CD 280 BG 12	6269005		Х	Х		Х
MarSurf CD 280 BG 21	6269006		Х		х	
MarSurf CD 280 BG 22	6269007		Х		х	Х

	MarSurf CD 140	MarSurf CD 280	
Tracing length (Lt)	0.01 - 140 mm	0.01 - 280 mm	
Positioning speed	0.02 - 200 mm/s		
Measuring speed	0.02 - 10 mm/s		
Resolution in x	0.01 µm (10 nm)		
Straightness	0.125 μm / 60 mm 0.3 μm / 140 mm		
Probe system			
Probe measuring range (w)	70 mm (350 mm probe)		
Uncertainty	± (0.25 + H/250) μm; H in mm		
Measuring force	4 mN to 30 mN, adjustable via software		
Tracing direction	Z+ / Z-		
Vertical axis Z	350 mm or 600 mm		
vt	0.02 - 50 mm/s		



MarSurf CD 280 BG 21



MarSurf CD 140 BG 11

MarSurf CD Series

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Partner of manufacturing companies worldwide.

CLOSE to our customers.

Got QUESTIONS? Want more INFORMATION?

Call us at +49 (0) 551 7073 800 or email us at info@mahr.de



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