



New at Mahr: Pocket Surf®, the portable surface roughness gage

Federal's patented* Pocket Surf® gage is a pocket-sized economically priced, completely portable instrument which performs traceable surface roughness measurements on a wide variety of surfaces. The Pocket Surf gage is solidly built, with a durable cast aluminum housing, to provide years of accurate, reliable surface finish gaging.

Compact, versatile and easy to operate though ...

The Pocket Surf can be used confidently in production, shop floor, and in the laboratory, in any position – horizontal, vertical, and upside down-. Because of the four switchable probe positions – axial or in at 90°, 180° or 270°- it offers various measurement applications for surfaces. Even difficult-to-operate surfaces such as inside and outside diameters are reachable.

The easy-to-read LCD readout presents the measured roughness value, in microinches or micrometers, promptly after the surface is traversed. The battery warning symbol and the signals for "Out-of-range" (high or low) guarantee a secure functioning. The Pocket Surf has an integrated data output for SPC-processing units and it is compatible for the most common data processing systems.

Pocket Surf® is used to measure any one of four, switch-selectable, parameters.

- Ra – Average Roughness
- Rmax/Ry – Maximum Roughness Depth
- Rz – Mean Roughness Depth

* US-patent no. 4.776.212



E X A C T L Y

Pocket Surf® is a portable gage to control the surface roughness. It is powered by a 9 volt consumer-type alkaline battery.

The variety of optional probes is increasing the gage's capability for a wide range of applications. Thus it is possible to measure surfaces of O.D.'s/I.D.'s (including small bores), sharp edges, inside "O"-ring grooves, short lands, shoulders and many others.

Appropriate accessories

**Compact measuring station with vee fixture
EAS-2421 Order no. 2008023**
for measuring small cylindrical parts with outside diameters up to 25 mm/1 in.

Bottom Plate EAS-2584 Order no. 2008022
for measuring workpieces too short (less than 89 mm/3.5 in long); for workpieces with short O.D.'s from 6.35 mm/.25 in (minimum 38 mm/1.5 in long).

Vee-Adapter Kit EAS-2739 Order no. 2008020
attaches to bottom of Pocket Surf unit, permitting convenient, hand-held measurements of hard-to-reach cylindrical surfaces, such as crankshaft journals. Appropriate for parts with diameters from 5.0 mm/.19 in to 125 mm/5 in.

Height Stand EAS-2496 Order no. 2008024
a compact, convenient fixture with a bracket to hold the Pocket Surf gage. Designed for making measurements on a granite surface plate or on any suitable, flat working surface.

Bore Adapter Kit EAS-2839 Order no. 2008021
for time saving hand-held measurement of bores without having to fixture the workpiece. Accommodates all inside diameters from 25 mm/1 in to 150 mm/6 in, and depths from 25 mm/1 in to 60 mm/2.4 in.

Universal Stand EAS-2426 Order no. 2008025
a heavy duty stand equipped with an adjustable bracket to hold the Pocket Surf for measuring of workpieces, up to 213 mm/8.375 in tall. The Pocket Surf can also be used separately together with the Column Clamp and Bracket (EAS-2567) on a bench comparator or height stand having a 31.7 mm/1.25 in diameter column.

Mahr GmbH Esslingen

Postfach 100254
D-73702 Esslingen
Reutlinger Straße 48
D-73728 Esslingen
Phone +49-711-9312600
Fax +49-711-3160953
e-mail: mahr.es@mahr.de
Internet: <http://www.mahr.de>
<http://www.mahr.com>

Technical Data

Overall Dimensions	140 mm x 76 mm x 25 mm 5.5 in x 3 in x 1 in		
Weight	435 g		
Measuring Ranges	Ra – 0.03 µm to 6.35 µm/ 1 µin to 250 µin Ry – 0.2 µm to 25.3 µm/ 8 µin to 999 µin Rmax – 0.2 µm to 25.3 µm/ 8 µin to 999 µin Rz – 0.2 µm to 25.3 µm/ 8 µin to 999 µin		
Display Resolution	0.01 µm/1 µin		
Measuring Accuracy	meets DIN, ISO, ASME-B46.1, standard		
Digital Readout	3 digit LCD readout with Battery warning signal; as well as display for out-of-range measured values		
Single length parameters	1, 3 or 5		
Traverse- and Evaluation lengths			
Measuring Range	Traverse Length	Evaluation Length	No. of Cut offs/ Switch Position
Ra/Ry	2.0mm/.075in 3.5mm/.135in	0,8mm/.030in 2.4mm/.090in	1 3
Ra/Rz/Rmax	5.0mm/.195in	4.0mm/.150in	5
Traverse Speed	5.08 mm/2 in per second		
Cutoff	0.8 mm/.030, 2RC filter		
Probe Type	Piezoelectric		
Maximum Stylus Force	15,0 mN		
Power supply	9 volt consumer-type alkaline battery, battery capacity approx. 3000 measurements, depending on frequency of use and output option		
Operating Temperature	10° to 45°C		
Storage Temperature	-20° to 65°C		
Pocket Surf Set	Pocket Surf is delivered completely in a case-set with:		
EMD-1500-311 Order no. 2008000	Probe EGH-1019, 90°, 10 µm radius Precision specimen PMD-90101, incl. Calibration certificate		
EMD-1500-312 Order no. 2008001	Probe EGH-1019, 90°, 10 µm radius, Precision specimen EMD-90010		
EMD-1500-321 Order no. 2008002	Probe EGH-1026, 90°, 5 µm radius Precision specimen PMD-90101, incl. Calibration certificate		
EMD-1500-322 Order no. 2008003	Probe EGH-1026, 90° 5 µm radius Precision specimen EMD-90010		

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