

Fred V. Fowler Company, Inc.



Pocket Surf *Portable Surface Roughness Tester*

Portable & Versatile



Feature packed, compact and economically priced, Fowler's Pocket Surf portable surface roughness tester is the perfect instrument for performing traceable surface roughness measurements on a wide variety of surfaces including small inside diameters.

Robustly constructed, featuring a durable cast aluminum housing, and designed for shop or laboratory use, the Pocket Surf will provide years of reliable and accurate surface finish gaging. The Pocket Surf is also designed to take measurements from a variety of positions and several angles. It works on both horizontal and vertical surfaces and can even be used upside down. For versatility it operates in four probe positions—closed, or with the probe at 90°, 180° or 270°

Use the Pocket Surf for a variety of surface roughness measurements including flat, inside/outside diameters and many difficult to gage surfaces.

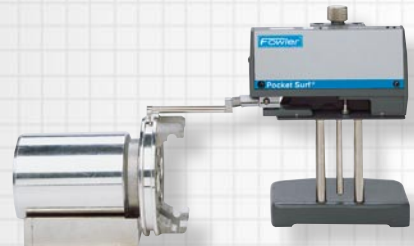
Parameters

The Pocket Surf can take measurements in any one of four selectable parameters:

- Ra Average Roughness
- Ry Maximum Roughness Depth
- Rmax Maximum Roughness Depth (DIN)
- Rz (Rtm) Mean Roughness Depth (DIN)

Electronic Highlights

- The digital display is conveniently located on the top of the unit for optimum visibility.
- Easy to read LCD readout presents measured roughness value in microinches or micrometers.
- Out of range (high or low) and "battery low" signals are also displayed.
- Output designed for SPC applications.



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Miscellaneous Gaging
Surface/Roughness

Probe Variety

Easily interchangeable, a variety of probes are available to expand the Pocket Surf's use to a wide range of applications. These applications include flats, OD's, ID's (including small bores), sharp edges, inside "O" ring grooves, short lands and shoulders. (see following page)

Digital Output

Designed for SPC applications the Pocket Surf will work with most SPC/SQC data collection systems via its RS232 port.

Power Supply

For added convenience the Pocket Surf has been designed so that its power is supplied via a common 9 volt alkaline battery.

Portable Vee Fixture

Order Number: 54-400-421:

The Portable Vee Fixture (complete with a setting pin) is used for simplifying the measurement of small outside diameter parts up to 1" (25mm).

Height Stand

Order Number: 54-400-496:

Portable and convenient, the optional height gage fixture with bracket is perfect for holding the Pocket Surf. The height stand holds the Pocket Surf both vertically and horizontally, perfect for taking easy measurements on any suitable, flat working surface.

Swivel Fixture

Order Number: 54-400-500:

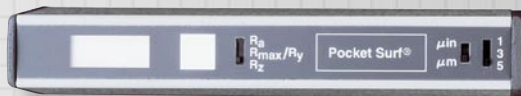
Use the Swivel Fixture to move and lock the Pocket Surf at any angle. Including a T-bar attachment fixture, the Swivel Fixture can be used with most standard column gages and height stands.

Height Stand with Swivel Fixture

Order Number: 54-400-596:

Order Number: 54-400-496 (regular stand):

A fully functioning holding fixture for the Pocket Surf, the Height Stand and Swivel Fixture will allow you to position the gage at any angle horizontally or vertically.



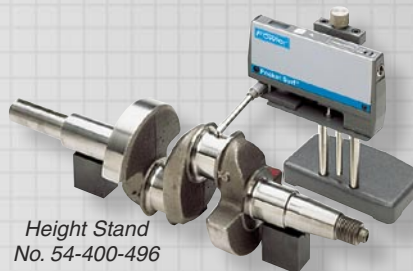
Top view-readout



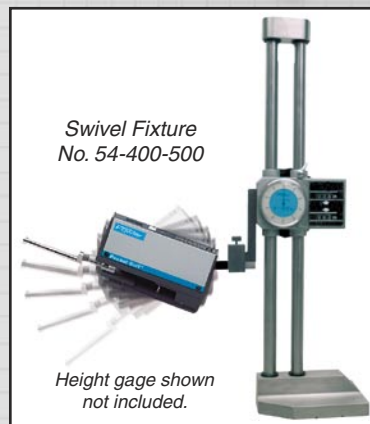
Power supplied
via 9 volt battery



Portable
Vee Fixture
No. 54-400-421



Height Stand
No. 54-400-496



Swivel Fixture
No. 54-400-500

Height gage shown
not included.

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Pocket Surf

Specifications

Overall Dimensions:	Approx. 5.5" x 3" x 1" (140mm x 76mm x 25mm)
Weight: Approx.	14 oz. (435g)
Measuring Ranges:	Ra-1 μ " to 250 μ " (.03 μ m to 6.35 μ m) Ry-8 μ " to 999 μ " (.2 μ m to 25.3 μ m) Rmax*-8 μ " to 999 μ " (.2 μ m to 25.3 μ m) Rz*-8 μ " to 999 μ " (.2 μ m to 25.3 μ m)
Display Resolution:	1 μ " (.01 μ m)
Accuracy:	Meets ANSI-B46.1, ISO, DIN standards & MIL specifications.
Digital Readout:	LCD; 3 digit; "Battery Low" signal, "H" & "L" (out-of-range measured values)
Traverse Speed:	.2" (5.08mm) per second
Cutoff:	.030" (0.8mm) ANSI 2RC filter
Probe Type:	Piezoelectric
Maximum Stylus Force:	1500mgf/15.0mN
Power:	Standard 9 volt battery
Battery Capacity:	Approx. 3000 measurements**
Operating Temperature:	50° to 113°F (10° to 45°C)
Storage Temperature:	-4° to 149°F (-20° to 65°C)



All Pocket Surf sets include:

- Pocket Surf unit • General purpose probe •
- 125 μ (3.2 μ m) (nominal) Certified specimen •
- 9 volt alkaline battery • Riser plate for calibration •

Model 54-400-311 is furnished with a certified specimen and .0004" probe.

Model 54-400-321 is furnished with a certified specimen and .0002" probe.

* per DIN 4768. Note that the .0002" (5 μ m) stylus radius must be used to measure these parameters.

** Depending upon frequency of use and output option.

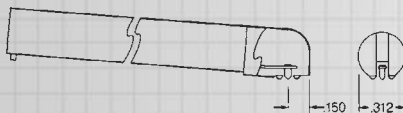
Parameters	Traverse Length	Evaluation Length	Number of Cutoffs/Switch Position
Ra/Ry	.075" (2.0mm)	.030" (.8mm)	1*
	.135" (3.5mm)	.090" (2.4mm)	3*
Ra/Rz/Rmax	.195" (5.0mm)	.150" (4mm)	5

Probes

General Purpose Probes

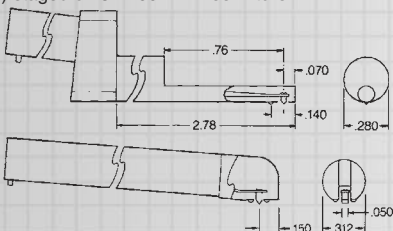
54-400-019 with a 90° conical diamond stylus, .0004" (10 μ m) radius per ANSI-B46, ISO, and MIL specs.

54-400-026 with a 90° conical diamond stylus, .0002" (5 μ m) radius per DIN-4768 and certain ISO specs.



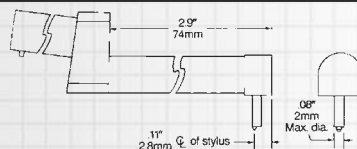
Parallel Chisel Probe (Optional)

54-420-002 with a 90° sapphire chisel, .0004" (10 μ m) radius. Gages sharp edges or small OD's where probe is perpendicular (in 90° or 270° position) to axis of traverse. Also for OD's smaller than .25" (6.35mm) staged on 54-400-421 Vee fixture.



Traverse Chisel Probe (Optional)

54-420-001 with a 90° sapphire chisel, .0004" (10 μ m) radius. Gages sharp edges or small OD's where probe is aligned with (in 180° or closed position) axis of traverse.



Groove Bottom Probe (Optional)

54-420-028 with a 90° conical diamond stylus, .0004" (10 μ m) radius. Gages grooves, recesses and holes to depths of .25" (6.35mm). Also used for short lands and shoulders. (Groove Bottom Probes can only be used in the 180° position with the Pocket Surf, supported in the height stand or a similar fixture.)

Small Bore Probes (Optional)

54-420-021 with a 90° conical diamond stylus, .0004" (10 μ m) radius.

54-420-027 with a 90° conical diamond stylus, .0002" (5 μ m) radius. Gages small bores (1/8" (3.2mm) min. I.D.) up to a depth of 3/4" (19mm).

(Small Bore Probes can only be used in the 180° position with the Pocket Surf, supported in the height stand or a similar fixture.)

Order No.	Description
54-400-311	Set with .0004" probe
54-400-321	Set with .0002" probe
54-400-421	Vee Fixture
54-400-496	Height Stand
54-400-500	Swivel Fixture
54-400-596	Height Stand & Swivel Fixture
54-400-000	SPC Printer
54-400-051	Printer Cable
54-400-035	Optional Printer Battery