TESA TECHNOLOGY

TESA Rugosurf 90G nr: 06930012

Rugosurf 90G

Compact unit and versatile roughness tester. Easy to use due to the colour touch screen to set, execute and analyse results. The firmware concept and icon system is intuitive and similar between instruments and software. High precision measurements according to two different measuring processes, with skid or without skid.
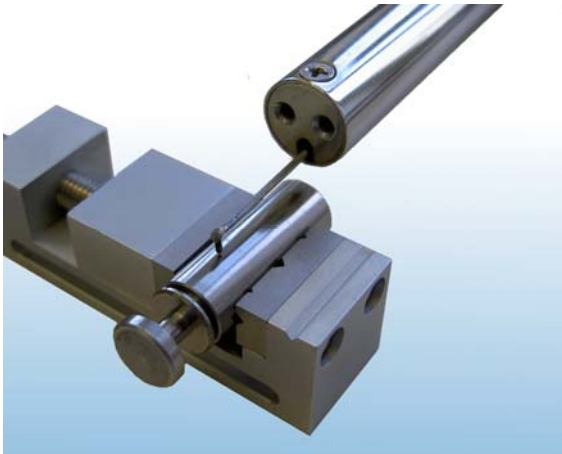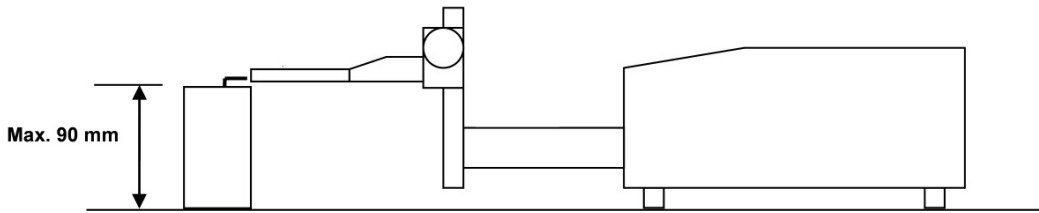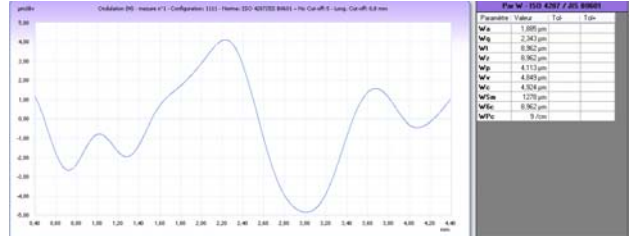
	Main characteristics	- *easy measuring* → *3 keys, direct measure key* - *colour display for quick result analysis using tolerances* - *48 roughness parameter with tolerances* - *3 profiles and 9 different portance curves* - *battery use and internal memory for easy displacement* - *USB interface for PC or direct print* - *large range of accessories* - *optional probes, easy to exchange* - *no extra stand need to measure without skid until 90mm high on the part*

Environnement

Rugosurf 90G

| Difficult environment | Shop floor | Factory Stabilised environnement | Laboratory | Calibration laboratory |

Features

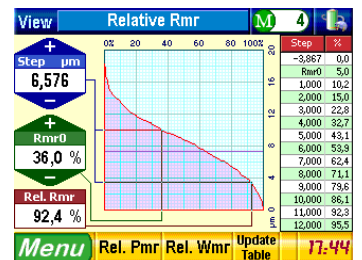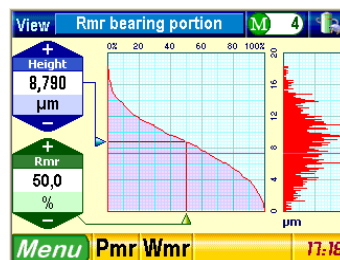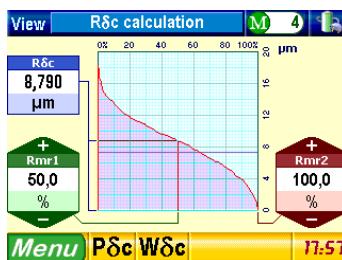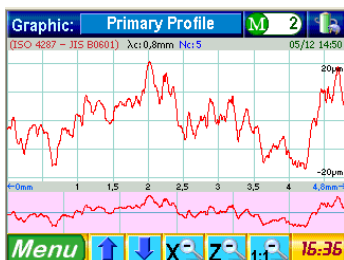| X axis	Z axis	Parameters	Display	Measuring process	Accuracy
50 mm	1000 μm	48	3.5" color touchscreen	with / without skid	ISO 3274

Rugosurf 90G

Measuring without skid alows not only to measure on very small surfaces but mainly to calculate parameters related to the part wawiness. In fact this property is totally canceled by the process of measure with skid.

The Rugosurf 90G has a fine adjustement over 90mm that allows easy positionning without aditional stand.

Max. 90 mm

No extra stand needed to measure on parts until 90mm height.

More than a very accurate measuring system, the 90G allows with the touch screen various calculations and analysis of graphics and curves. The complete list of parameters with background that changes according to tolerances. All graphics, roughness, primary profil and wawiness are displayed and use zoom function for more details, for example on scratch zone. Distribution curves with specific calculated values, directly on the instrument.

Versatil but still simple to use, the Rugosurf 90G fit perfectly between laboratory and shop floor

Rugosurf 90G

Characteristics

Name	Rugosurf 90G
Product number	06930012
Display	TFT 3.5" color touchscreen display
Roughness parameter	According to ISO 4287-1997/JIS B0601/ASME B46-2002 Ra - Rq (RMS) - Rt - Rz – Rp – Rc – Rv - RSm – Rdc – Pa – Pq – Pt – Pp – Pc – Pv – PSm – Pdc – Wa – Wq – Wt – Wz – Wp- -Wv – Wc – WSm – Wdc According to PrEN 10049 RPc – PPc – WPc According to ISO 13565 Rk – Rpk – Rvk – Mr1 – Mr2 According to DIN 4776 Rmax According to DB N31007 R3z – R3zm According to ISO 12085 (CNOMO) Pt - R - Rx - AR – W – AW – Wx – Wte
Measuring range	
X axis	50 mm
Z axis	1000 µm
Measure units	mm & inches
Display range	Ra 0 ÷ 250 µm
	Rt 0,05 ÷ 1000 µm
Resolution	0,001 µm
Cut-off length	0.08 - 0,25 - 0,8 - 2,5 - 8 mm
Filter	Gaussian according to ISO 11562
Travelling length lt	(nbr of cut-offs + 1) x λc (max 50mm)
Measuring length lc	Nbr of cut-offs x λc
Speed	0.5 or 1mm/s
Cut offs amount	1 to 19 (cut off 0.08 to 2.5) 1 to 5 (cut off 8)
Accuracy	ISO 4287-1997
Keypad	Protected with 3 keys.
Measure system	Inductive
Stylus	Diamond
Stylus radius	5 µm, 90° (2 µm and 60° optional)
Measuring force	0,75 mN (ISO 3274)
Languages	German, French, English, Italian, Spanish, Portuguese
Memory capacity	999 measures
Power supply	Internal 12V battery
Power needs	20 VA, 100 - 240 V
Autonomy	~ 2000 measures // 10 hours continuous use
Dimensions	270 x 140 x 90 mm without probe and fine adjustment
Weight	3 kg

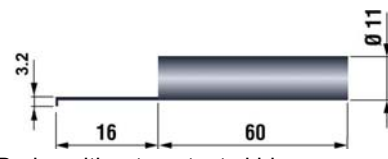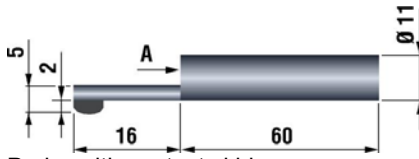The Rugosurf 90G is delivered in a plastic case that contains also following parts.

Delivery content

Roughness standard, Ra = 2,97µm (117µin) (06960041)		Stylus for touch screen
		Hexagon key, 2.5mm
		Cross screwdriver
Standard probe SB60 / 10		(06960049)
Probe holder with fine adjustment		
Printed user manual		
Power adapter with EU and US cable		

Optional probes

SB 60 / 10 06960049	90° conus / 5µm radius	

Probe with contact skid
- For surfaces and bores
- with external ∅ >10 mm or internal ∅ > 6 mm

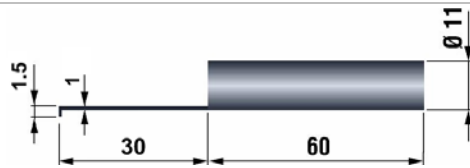Probe without contact skid
- For surfaces, profiles and small bores with diameter from ∅ 4 mm.

SB 60 / 10 2µm 06960067   Same dimensions and characteristics than 06960049 but with a special diamond tip with 2 µm radius
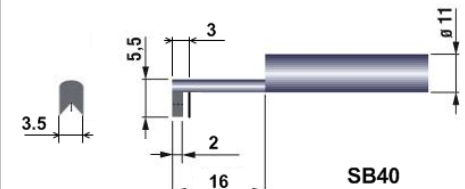

SB 60 – D2   06960061
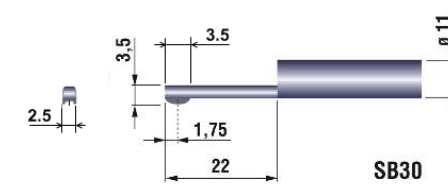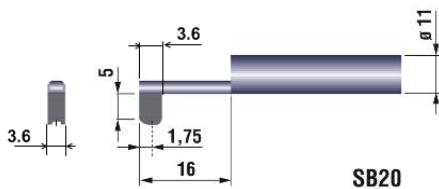

Probe without contact skid
For surfaces, profiles and small bores with diameter from ∅ 2 mm.

SB 20 P 06960050	SB 30 P 06960051	SB 40 P 06960052

Probe for grooves, max. depth 5 mm.
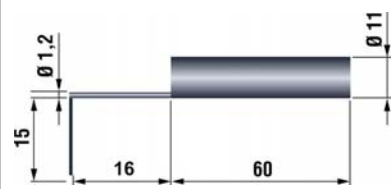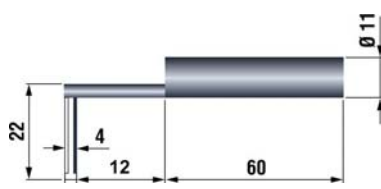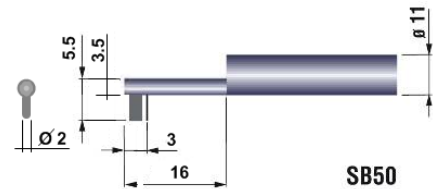
Probe for small bores from ∅ 4 mm.

Probe with V-skid for cables with external ∅ >1 mm

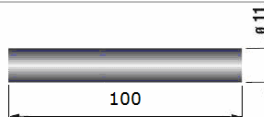| SB 50 P 06960053	SB 120 P 06960054	SB 120 S 06960058

Probe with contact skid for concave surfaces. Ideal for 90° measurement.

Probe for grooves, max. depth 20 mm.

Probe for grooves, without skid, max. depth 15 mm.

06960056

Extension 100 mm.

Optional roughness standards

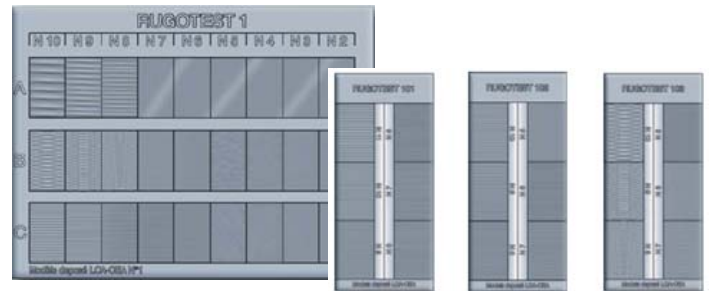In case of low Ra we advise to use a standard closer to the expected value.

Description	Ra = 2.97µm *	Ra = 0.1 µm	Ra =0.5 µm	Ra = 1 µm
Product number	06960041	06960064	06960065	06960066

* Default roughness standard. Suitable for most application (expected Ra > 1.5µm)

Optional roughness specimens

Made by Rust-resistant nickel, delivered in a leather case

Product nr.	Rugotest nr.	Description	Number of specimens	ISO roughness parameters	Dimensions	Weight [g]
081112053	1	Metal working	27	N2 – N10	135x105	160
081112054	2	Hand grinding	6	N6 – N11	120x90	160
081112055	3	Shot blasting	18	N6 – N11	120x90	190
081112056	4	Hand filing	6	N6 – N8	120x90	160
081112057	5	Hand polishing	8	N0 – N4	120x90	200
081112058	101	Planning	6	N6 – N11	110x50	110
081112059	102	Turning	6	N5 – N10	110x50	105
081112060	103	Face milling	6	N5 – N10	110x50	10
081112061	104	Surface grinding	8	N1 – N8	130x50	125
081112062	105	Circular grinding	8	N1 – N8	130x50	130
081112063	107	Spark ersosion	6	N5 – N10	110x50	110
081112345	A6	N° 101 to 107			330x250	780
081112346	A4	N° 1 to 4			330x250	710
081112344		Spark erosion	12	Charmille roughness parameters (VDI 3400) 12 / 15 / 18 / 21 / 24 / 27 / 30 / 33 / 36 / 39 / 42 / 45		

Accessories for Rugosurf 90G
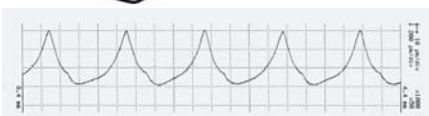
Stand

Product nr: 06960055

Massive granite stand for Rugosurf 90G. Adjustment on Z axis over the full height, fine adjustement with mechanism of the 90G

Granite surface 630 x 400mm
Z setting height 200mm

Printer

Product nr: 06960033

Little printer direct to connect on the instrument. It's printing not only the list of parameters but also the graphics.

Deliver content:
- Battery block
- connection cable for 10 / 10G / 90G

06960043	Inked ribbon (3 items)	
06960044	Paper roll, 57mm wide (10 units)	

Cable for DataDirect

Product nr: 06960062

USB cable to connect the Rugosurf 10 / 10G / 90G to TESA DataDirect (04981001).

This solution transfers the selected roughness parameters directly to any other open program on the computer. This feature needs TESA DataDirect software (to order separately).
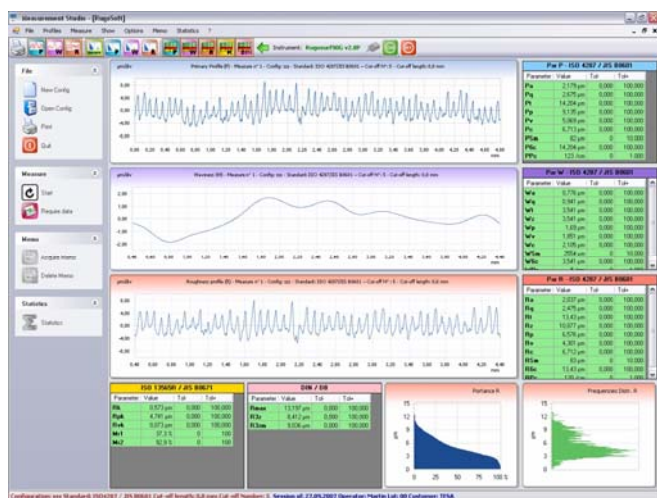
Measurement Studio

Product nr: 06960048

Program that allows to set, execute and display measurements. Everything is automatically save and available as various saved protocols.
Export of parameter results or complete graphics also as coordinates

Deliver content:
- installation CD 6 languages
- USB connection cable

Hand switch

Product nr: 06960042

Hand switch to start and stop the measure. Useful if the instrument is positioned on a stand.

Y connector for printer and hand switch

Product nr: 06960059

Accessory to connect simultaneously hand switch and printer or PC to one instrument. (Rugosurf 10 / 10G and 90G)