

NauMetrics

Precision Measuring Instruments



Portable Roughness Testers

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Inhoudsopgave:

Portable Roughness testers

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Portable Ruwheidsmeter KR-100



Features:

- Pocket-size & economically price;
- Using the high speed microprocessor DSP;
- Using the OLED screen, bright and without visual angle
- USB Charging port
- Large measuring range suitable for most materials
- Measures flat, outer cylinder and sloping surface
- Both Ra and Rz parameters in one instrument
- Works on 3.7V rechargeable lithium-battery, work while charging
- Real time battery indicator

Technical Specifications:

Roughness parameter	Ra,Rz,Rq,Rt
Tracing length	6mm
Tracing speed	1.0mm/sec
Cut-off lengths	0.25mm/0.8mm/2.5mm
Evaluation length	1.25mm/4.0mm
Measuring range	Ra: 0.05-10.0μm Rz: 0.1-50μm
Accuracy	±15%
Repeatability	<12%
Radius and angle of the stylus point	Diamond,Radius : 10μm±1μm Angle: 90°(+5°or -10°)
Power supply	3.7V Li-ion battery
Recharging time	3 hours
Operating temperature	-20-40 °C
Relative humidity	<90%
Dimensions (L×W×H)	106×70×24mm
Weight	200g

Standard delivery:

- Main unit KR-100
- Specimen Ra
- Charger and USB cable
- Instruction Manual

Portable Ruwheidsmeter KR-200



Features:

- Combination of aesthetics and technology;
- **ARM-core control** and data processing to achieve high test speed;
- Wide range, multiple parameters **Ra,Rz,Rq,Rt,Rp,Rv,R3z,R3y,RzJIS,Rsk,Rku,Rsm,Rmr**;
- 128x64 FSTN LCD, Ultra-low power consumption, plenty of display information;
- Available **Blue-tooth** wireless printing;
- Optional PC software with perfect data base function;
- **USB Storage** max. 8GB;
- Embedded RTC and calendar;
- **Integrated transducer**, made of stainless steel, High quality and performance, Durable; Built-in Li-ion Battery, Intelligent battery monitoring,;
- Continuous working for more than **10 hours**;
- **USB communication port** to combine with PC;
- Reliable software of electric motor driving;
- Compatible with **ISO, DIN, ANSI, JIS** standards.

<i>SENSOR</i>	
Item	Description
Principle	Electric Inductor Type
Range	160um
Stylus Material	Diamond
Contact Force	4mN (0.4gf)
Stylus Angle	90 degree
Guide Vertical Radius Specification	45mm
<i>MAIN UNIT</i>	
Max. Drive Travel Length	17.5mm/0.7inch
Error	< ± 10%
Result Variation	< 6%
Measuring Profile	Roughness, Waviness, Primitive profile
Parameters	Ra (0.005um – 16um), Rz (0.02um – 160um), Rq,Rt,Rp,Rv,R3z,RzJIS,Rsk,Rku,Rsm,Rmr
Filter	RC, PCRC, Gauss, ISO13565
Sampling Length (L)	0.25mm, 0.8mm, 2.5mm, 8mm
Evaluation Length (L)	(1-5)L
Data Storage Capacity	2M+2G Byte (standard),max. 8GB
Communication/Interface	USB 2.0
Power	Built-in Li-ion Battery
Dimensions	140mmx55mmx47mm
Net Weight	400g

<i>Standard</i>		
Main unit KR-200	Standard Transducer	Standard specimen Ra
USB cable	Charger/Adapter	SD Card 2GB
Instruction Manual	Test Support	Steel Support
<i>Optional</i>		
Curve Sensor	Small hole Sensor	Measurement Platform
Sensor protecting cover		

TESA RugoSurf 20



RUGOSURF 20 – Portable roughness tester designed for the production workshop

- Measuring range of 400 µm in the Z axis
- Sturdy metallic base
- IP 67 membrane keyboard
- 15 most commonly used roughness parameters
- 2" LCD display, parameters and roughness profile given after each measurement
- Easy to use

Portable roughness gauge, robust and versatile. Well suited for production environments or inspection of inward goods. Measures roughness parameters according to ISO 4287:1997/JIS B0601:2001, DIN and ISO 12085:1998 (MOTIF or CNOMO). Measuring range in the Z-axis of 400 µm (6300 µin). 15 roughness parameters. Each parameter can be activated individually or not. Possible tolerancing of parameter values. Direct display: - of all measured values, with tolerance levels display, - of R roughness profile - the Bearing Area Curve (BAC) - the Amplitude Distribution Curve (ADC). 2" Black&White LCD screen, high contrast for optimum visual representation. Flexible autonomy through mains adapter or battery pack. Storage of the measured parameters. Multilingual menu options. USB cable connection (optional). Direct printing to a dot matrix printer (optional). Measurement transfer, database creation and reporting available using TESA RUGOSOFT software tool (optional). Access to narrow and hard to reach locations possible through 100 mm probe extension (optional). Note: RUGOSURF 20 supplied with probe R = 2µm (product number S69900016) available on request.

Measuring span: 400 µm (0.0157 in) on Z axis, 16 mm (0.63 in) on X axis

Roughness parameters: Ra, Rq, Rt, Rz, Rc, Rsm, Rmr, Pt, Pmr; Rmax; R_{Pc}, P_{Pc}; R, Rx, AR



ISO 3274 (Cl.1)



-10°C to +50°C



10°C to 40°C



Plastic transport case



Declaration of conformity



USB



122 x 60 x 62 mm (without probe)



650 g

TESA RugoSurf 10G



RUGOSURF 10G - Portable Roughness gauge

- range 400 microns in Z
- 3 horizontal measuring positions to -90 °, 0 °, 90 °
- Measurement of roughness parameter of the primary profile in addition to the roughness parameter
- 31 roughness parameters in total
- TFT color graphic display 2" for optimal reading
- Display of parameters and roughness profiles R and P after each measurement
- Membrane keyboard IP 67

Portable, versatile gauge unit with compact design, well suited for use in goods inwards inspection, production or the measurement laboratory. 3 horizontal measuring positions of probe 0°, -90° and +90°. Measures roughness parameters according to standards: ISO 4287 JIS B0601 DIN and ISO 12085 (MOTIF or CNOMO). TFT 2" graphic display for optimum visual representation of any measured parameters and workpiece profiles. Direct displaying of all measured values and computed profiles. 31 roughness parameters available. Flexible autonomy through mains adapter or battery pack. Data storage, printing or transfer to a PC of a maximum of 999 measured results. Possible tolerancing of all parameter values. Multilingual menu options. USB data output enabling a direct connection to a matrix printer unit or a PC equipped with RUGOSOFT 10 software (both are optional).

Measuring span: 400 µm (6300 µin) on Z axis, 16 mm (0.63 in) on X axis

Resolution in µm: 0,001 µm (0.1 µin)

Roughness parameters: 31 parameters: Ra, Rq (Rms), Rt, Rz, Rp, Rc, Rv, Rsm, Rdc; Pa, Pq, Pt, Pp, Pc, Pv, Psm, Rdc; RPC, PPC; Rk, Rpk, Pvk, Mr1, Mr2; Pt, R, Rx, AR; R3, R3zm, Rmax;



ISO 3274 (Cl.1)



-10°C to +50°C



10°C to 40°C



Plastic transport case



Declaration of conformity



USB



122 x 53 x 72 mm (without probe)



590g

TESA RugoSurf 90G



Compact, versatile and powerful roughness gauge

- 1000µm span in the Z axis
- Measuring range of 50 mm in the X axis
- W ripple profiles, P primary profile and R roughness profile measuring
- 3.5" color touch screen for ease of use
- 3-position horizontal measurement at -90 °, 0 °, 90 °
- 49 roughness parameters • Special features of RUGOSURF 90G :
- Supplied with SB60/10 probe with removable pad: one single probe can be used to measure roughness or undulation
- RUGOSURF 90G can measure a components with a height of up to 90mm, thanks to a vertical positioning screw without any additional accessory
- With the PROFILE SET 2 mm (06960100) RUGOSURF 90G becomes a profile measurement instrument with a width of 2000 µm measuring in the Z axis (optional)!

Small-size, versatile roughness gauge with tactile colour screen providing maximum ease of use. Ideally suited for high-precision measurements on the shop floor or in the inspection laboratory. Tactile TFT 3.5" colour screen. Direct display of all measured values and computed profiles. Measuring span Z = 1000 µm (0.039 in) X = up to 50 mm Special 2 in 1 probe can measure with contact skid (roughness measurement) or without contact skid (measure of undulation). Vertical adjusting screw for probe positioning up to a height of 90 mm without the need of an accessory. Tolerancing of all parameters possible. USB digital output for transfer of measured values to a PC with TESA MEASUREMENT STUDIO software (optional). Unique in its category, this instrument can also do profile measurement (Z = 2 mm) if used with PROFIL SET 2 mm (optional). Measures roughness parameters according to standards: - ISO 4287 - 12085 (CNOMO) - ISO 13565 - DIN 4776 - JIS B0601:2001 - ASME B46-2002.

Measuring span: Z Axis = 1000 µm (39370 µin); X Axis = 50 mm (1.969 in)

Resolution in µm: 0,001 µm (0.01 µin)

Roughness parameters: 48 parameters Ra, Rq, Rt, Rz, Rp, Rc, Rv, Rsm, Rdc, RPC, Pa, Pq, Pt, Pp, Pc, Pv, Psm, RPC, PPC, Wa, Wq, Wt, Wz, Wp, Wv, Wc, WSm, Wdc, WPC, Rk, Rpk, Pvk, Mr1, Mr2, Pt, R, Rx, AR, Wte, W, AW, Wte, W, AW, Wx, Rke, Rpk, Rvke, Rmax, R3z, R3zm



ISO 3274 (Cl.1)



-10°C to +50°C



10°C to 40°C



Plastic transport case



Declaration of conformity



USB



270 x 140 x 90 mm (without probe)



3kg

Taylor Hobson Surtronic DUO

What it does

The Surtronic Duo / Mono are superior portable surface roughness testers that measure multiple roughness parameters with a 1- button click. Roughness measurement parameters such as Ra, Rz, Rp, Rv and Rt as a minimum are displayed on a brightly lit intuitive 2.4" LCD colour display. Its rechargeable battery operation makes it a convenient way of performing fast, easy and precise on-the-spot measurements in almost any environment and surface.

How it does it

The hard-wearing diamond stylus is drawn across the part with a precision motorised traverse mechanism to ensure that the correct horizontal distance is travelled. Vertical movement of the stylus is detected by a high quality piezo-electric pick-up as it travels across peaks and valleys which converts mechanical movement into electrical signals. The electrical signal is digitised and sent to a microprocessor for instant calculation of surface parameters using standardised algorithms.



Standards and traceability

The reference standard supplied can be used both to calibrate the instrument and check for stylus wear to ensure the most accurate results are always being achieved.

UKAS calibration and testing

Taylor Hobson provides full certification for artefacts and instruments in our purpose built ISO graded clean room UKAS facility. Our UKAS laboratory is able to measure all of the parameters associated with surface texture, including French, German, USA and Japanese derivatives.

Keeping it simple

The Surtronic philosophy keeps the process simple. It is the perfect tool for any inspector to check surface roughness even in the most demanding applications.

- Incoming inspections
- Final inspection before shipment
- Process control on the production line
- Checking large components or structures

Measurement	Best capability
Roughness standards (Ra)	$\pm(2\% + 0.004 \mu\text{m})$
Workpiece or component surface texture (Ra)	$\pm 3\%$ of measured value per trace

Instrument performance		Duo	Mono
Gauge	Resolution	0.01 μm (0.4 μin) 0.01 μm (0.4 μin)	
Measurement	Range (Ra)	Up to 40 μm (1600 μin) Up to 40 μm (1600 μin)	
	Range (Rz, Rv, Rp, Rt)	Up to 199 μm (7800 μin) Up to 199 μm (7800 μin)	
	Repeatability	2 % of value + noise	2 % of value + noise
	Accuracy	5 % of reading + 0.1 μm (4 μin)	5 % of reading + 0.1 μm (4 μin)
	Noise	0.02 μm (0.8 μin)	
Calibration	Process	Automated software calibration routine	
	Standard	Able to calibrate to ISO 4287 Roughness Standards	
Parameters	Standards	ISO 4287	
	ISO 4287 (Roughness)	Ra, Rz, Rp, Rv, Rt, Rz1max, Rsk, Rq, Rku	Ra, Rz, Rp, Rv, Rt
	ISO 4287 (Primary)	Pa, Pz, Pp, Pv, Pt	-

Taylor Hobson Surtronic S-100



Durable roughness testers for shop floor, industrial & inspection room applications

Working closely with manufacturers across a wide range of industries including precision bearings, automotive and aerospace engineering, Taylor Hobson have focussed on the key attributes that are most important for quality control in today's precision industries.

The new Surtronic S-100 series of instruments offer a versatile solution for all your roughness requirements with a variety of systems and application specific accessories along with fixtures that can be tailored to your specific need.

Standards and traceability

The reference standard supplied can be used both to calibrate the instrument and check for stylus wear to ensure the most accurate results are always being achieved.

Measurement	Best capability
Roughness standards (Ra)	$\pm(2\% + 0.004 \mu\text{m})$
Workpiece or component surface texture (Ra)	$\pm 3\%$ of measured value per trace

Technical		S-116	S-128
Languages	Basic	English, French, German, Italian, Spanish	
	Extended		
	Asian		
Data output	On-screen	up to 7 results per page, selectable on-screen graph with XZ axis	
	Printer	Output settings, results and high resolution profile graph	
	PC Connection	Full data analysis with Talyprofile	
Data storage	Internal	100 measurement results, 1 raw profile	
	USB (4GB supplied)	>39,000 raw profiles, up to 100,000 results per batch (>70 batches)	
	PC connection	Unlimited data storage	
SPC / stats	Internal	Optional	Min, Max, Mean, StdDev of stored results
	USB (4GB supplied)	Optional	ASCII export of all results for SPC
	PC connection	full SPC and tolerancing of all parameters using Talyprofile software	
Battery	Charger	USB 5v 1A 110-240VAC 50/60Hz	
	Charging time	4 hours	
	Battery life	2000 measurements	
	Standby time	5000 hours	
	InstantOn	max 1 sec from standby to ready to measure	
	Auto sleep function	30 sec - 6 hours	