



## Taylor Hobson Surtronic Duo surface roughness tester

The Surtronic Duo roughness tester is portable and easy to use with one click measurement of the five most used roughness parameters. The large 2.4" LCD colour screen also displays results in a graph for easy visual identification of surface defects. The robust rubberized housing and powerful Li-Poly battery make the Surtronic ideal for portability and shop floor environment. The Surtronic Duo can be split into a separate display and sensor unit using Bluetooth for wireless communication between the two units.

- Remote operation with display unit via Bluetooth.
- Simple calibration with the supplied calibration standard.
- User-friendly, with a 2.4" clear LCD color display.
- With 9 parameters: Ra, Rz, Rv, Rp, Rt, Rz1Max, Rsk, Rq, Rku.
- Measuring range:  
Ra: 0.1 - 40  $\mu\text{m}$ ,  
Rz, Rv, Rp, Rt: 0.1 - 199  $\mu\text{m}$ .
- Resolution: 0.01  $\mu\text{m}$ .
- Traverse length: 5 mm.
- Accuracy: 5% + 0.1  $\mu\text{m}$ .
- mm/inch conversion.
- Measuring force: 2 mN.
- Cut-off lengths: 0.8 mm.
- Diamond stylus tip: radius 5  $\mu\text{m}$ .
- Probe measuring range (piezoelectric): 200  $\mu\text{m}$ .
- Filter: Gaussian.
- Dimensions:  
Display unit: 100 x 54 mm.  
Sensor unit: 92 x 35 x 45 mm.  
Compound instrument: 105 x 54 x 70 mm.
- Weight: 400 g.
- Delivery in a case incl. calibration standard and charger.
- Power supply: rechargeable Li-Poly battery (included).

**NEW**



Item No.	Type	Price EUR
371.009	Surtronic Duo	

## Mitutoyo Surftest SJ-210 surface roughness tester

The portable Mitutoyo Surftest SJ-210 is a compact tester of surface roughness parameters, that can also function in hard-to-reach places because of the separable drive unit and probe. The diamond stylus has a radius of 2  $\mu\text{m}$  and is retracted by the drive unit. After selection of the desired parameters, they can be read out clearly on the display. The SJ-210 has a USB, an RS232C and a Digimatic data output to which the Mitutoyo u-wave system can be connected for wireless data transfer. The data can also be stored on a micro-SD card. A large selection of probes and accessories is available.

An S-Drive unit is available on request, with a transverse tracing drive unit, for example for measuring in narrow spaces like crankshafts. Also available on request is the Front Lift model, where the drive lifts the diamond stylus at the end of the measurement and is retracted without touching the surface again.

- Parameters: Ra, Rc, Ry, Rz, Rq, Rt, Rmax, Rp, Rv, R3z, Rsk, Rku, Rc, R<sub>Pc</sub>, Rsm, Rz1max, S, HSC, RzJIS, R<sub>ppi</sub>, R $\Delta$ a, R $\Delta$ q, Rlr, Rmr, Rmr(c), R $\delta$ c, Rk, Rpk, Rvk, Mr1, Mr2, A1, A2, Vo, Rpm, tp, Htp, R, Rx, AR.
- Resolution: 0.02  $\mu\text{m}$ , 0.006  $\mu\text{m}$  or 0.002  $\mu\text{m}$ .
- Traverse length: 0.3-17.5 mm.
- Primary profile, roughness (R), DF profile, R-Motif.
- Measuring accuracy according JIS, ISO, VDA, ANSI.
- 2.4" TFT color display.
- Display of: roughness profile and ADC/BAC curves.
- User rights protection (password protection).
- Easy calibration procedure.
- Automatic switch-off.
- Memory: 10 settings and 1 profile.
- Go/NoGo tolerance evaluation.
- Measuring speed: 0.25, 0.5 or 0.75 mm/s.
- Probe: 0.75 mN/2  $\mu\text{m}/60^\circ$ .
- Cut-off lengths: 0.08 mm, 0.25 mm, 0.8 mm and 2.5 mm.
- Probe measuring range: 360  $\mu\text{m}$ .
- Filters: 2CR75, Gaussian and PC75.
- Dimensions: 160 x 65.8 x 52.1 mm.
- Weight: display unit: 290 g, drive unit: 190 g.
- ISO 4287.
- Power supply: AC adapter and battery.
- After use the probe can be retracted to prevent the diamond stylus tip from being damaged.
- Memory card: micro-SD 2 GB (optional). Storage for 10000 measured profiles.
- Also probes available for example for deep grooves or small holes.
- USB and RS232C cables available.
- USB data analysis software can be downloaded for free.



S-Drive unit

Item No.	Type/description	Price EUR
178.560	Surftest SJ-210P	
<b>Options:</b>		
120.210	Extension 50 mm	
178.029*	Stand	
120.221	Adapter for stand ( $\varnothing$ 8 mm)	
120.222	Adapter for height gauge (9x9 mm)	
120.218	Nosepiece for cylindrical workpieces	
178.296	Standard insert	

\* Adapter 120.221 required.

### Standard accessories:

- standard probe,
- extension cable for the probe unit for measuring in small spaces,
- roughness normal,
- setting piece for calibration,
- AC adapter,
- handy carrying bag.





## Mitutoyo Surftest SJ-310 surface roughness tester

The Mitutoyo Surftest SJ-310 is a compact, portable roughness tester with the possibility to print on location the measuring results and roughness curves with the built-in thermo printer. Measurements can be set using the 5.7" color touch screen and measurements can be read. Measurements can be stored on a SD memory card. On request, as for the SJ-210, an S-Drive or Front Lift model is available.

- Parameters: Ra, Rc, Ry, Rz, Rt, Rp, Rq, Rv, Sm, Rmax, S, Pc, R3z, Rsk, Rku, Rz1max, Rir, Rpm, mr (c), Rpk, Rvk,  $\delta_c$ , Rk, Mr1, Mr2, Lo, Ppi, R, AR, Rx, A1, A2, Vo, HSC, Rmr, SK, Tp, Htp,  $\Delta a$ ,  $\Delta q$ , Wte, Wx, W, AW,  $\lambda a$ ,  $\lambda q$ , RzJIS.
- Resolution: 0.002  $\mu\text{m}$  - 0.02  $\mu\text{m}$ .
- Traverse length: 16 mm.
- Measuring accuracy according ISO, VDA, ANSI and JIS.
- Cut-off lengths: 0.08 mm, 0.25 mm, 0.8 mm, 2.5 mm and 8 mm.
- Probe measuring range: 360  $\mu\text{m}$ .
- Built-in printer for statistical process control.
- ISO 4287.
- Power supply: AC adapter and battery.



### Standard accessories:

- standard probe,
- roughness normal,
- support feet,
- nosepiece for flat surface,
- nosepiece for cylinder,
- extension cable for the probe unit,
- touch pen,
- touch panel protection foil,
- printer paper (5 rolls),
- setting piece for calibration,
- AC adapter and battery,
- carrying case.

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the detailed  
brochure

Item No.	Type	Price EUR
178.570	Surftest SJ-310	

## Mitutoyo Surftest SJ-410 surface roughness testers

The Mitutoyo Surftest SJ-410 is unique by skidless measuring. Only the stylus follows the product and no skid is used. The probe features a measuring range of 800  $\mu\text{m}$ . The built-in straight guide enables measuring the primary profile, the roughness profile and the waves. By surface radius compensation it is possible to measure radially on a cylinder.

- Parameters: Ra, Rc, Ry, Rz, Rt, Rp, Rq, Rv, Sm, Rmax, S, Pc, R3z, Rsk, Rku, Rz1max, Rir, Rpm, mr (c), Rpk, Rvk,  $\delta_c$ , Rk, Mr1, Mr2, Lo, Ppi, R, AR, Rx, A1, A2, Vo, HSC, Rmr, SK, Tp, Htp,  $\Delta a$ ,  $\Delta q$ , Wte, Wx, W, AW,  $\lambda a$ ,  $\lambda q$ , RzJIS.
- Resolution: 0.0001  $\mu\text{m}$  - 0.01  $\mu\text{m}$ .
- Measuring accuracy according ISO, VDA, ANSI and JIS.
- Cut-off lengths: 0.08 mm, 0.25 mm, 0.8 mm, 2.5 mm and 8 mm.

- Probe measuring range: 800  $\mu\text{m}$ .
- Straightness x-axis: SJ-411: 0.3  $\mu\text{m}/25$  mm,  
SJ-412: 0.5  $\mu\text{m}/50$  mm.
- Built-in printer for statistical process control.
- ISO 4287.
- Power supply: AC adapter and battery.

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Item No.	Type	Traverse length/mm	Price EUR
178.580	Surftest SJ-411	25	
178.582	Surftest SJ-412	50	

## TESA Rugosurf 10G/20 surface roughness testers

Robust, versatile and compact roughness tester, designed for inspecting any workpiece surface finish and capturing roughness parameter values. Possible tolerancing of each parameter available. Interchangeable probe, swivelling through to 90° to let you measure even in hard-to-reach recesses. A large selection of probes and accessories is available.

The Rugosurf has an USB data output and a rechargeable battery, and is provided with a graphic color display (10G) for optimum visual representation of the measured parameters and workpiece profiles. Fast and easy analysis of the results obtained from the measured parameters with assigned tolerances.

- Parameters: Ra, Rq (RMS), Rt, Rz, Rc, Rsm, Pt, Pmr and Rmr according ISO 4287; R, Rx and AR according ISO 12085 (CNOMO). Rmax according DIN 4768.
- Resolution: 0.001 µm.
- Traverse length: 0.25 - 16 mm.
- USB data output.
- Automatic switch-off.
- Memory for last 999 (10G) measuring values.
- Storage for 20 measurements with additional graphics or 1000 measurements with roughness parameters (only Rugosurf 20).
- Go/NoGo tolerance evaluation.
- Max. measuring force: 0.75 mN (ISO 3274).
- Cut-off lengths: 0.25 mm, 0.8 mm and 2.5 mm.
- Diamond stylus tip: radius 5 µm.
- Probe measuring range: 300 µm (10G), 400 µm (20).
- Filter: Gaussian according ISO 11562.
- Dimensions: 10G: 122 x 53 x 75 mm, 20 : 122 x 60 x 62 mm.
- Weight: 590 g (10G), 650 g (20).
- Power supply: AC adapter, and rechargeable battery 7.2 V.



782.584



783.499



### Standard accessories:

- standard probe (type SB10),
- roughness specimen (Ra=2.97 µm),
- adapter 8 mm for stands,
- positioning support,
- rechargeable battery,
- battery charger,
- user manual with a declaration of conformity,
- case.

Item No.	Type	Price EUR
782.584	TESA Rugosurf 10G	
783.499	TESA Rugosurf 20	
<b>Options:</b>		
783.282	USB cable for Rugosurf 20	
783.283	USB cable for Rugosurf 10G	
782.847	Rugosoft software	



## Roughness specimens

Series of roughness specimens, type Microsurf, covering the nine most frequently occurring manufacturing operations; per set eight specimens will be delivered. In addition to the roughness value  $R_a$  in  $\mu\text{m}$ , the roughness value  $CLA$  in  $\mu\text{in}$  and the  $N$  values are specified.



Item No.	Machining-method	Number of specimens per set	Roughness $R_a$ $\mu\text{m}$	Roughness $CLA$ $\mu\text{in}$	Roughness class $N$	Price
850.315	Surface grinding	8	0.025 - 3.2	1 - 125	1 - 8	
850.316	Cylindr. grinding	8	0.025 - 3.2	1 - 125	1 - 8	
850.319	Face turning	8	0.4 - 50	16 - 2000	5 - 12	
850.320	Turning	8	0.4 - 50	16 - 2000	5 - 12	
850.321	End milling	8	0.4 - 50	16 - 2000	5 - 12	
850.322	Reaming & drilling	8	0.4 - 12.5	16 - 500	5 - 10	
850.323	Horizontal milling	8	0.4 - 50	16 - 2000	5 - 12	
850.325	Planing	8	0.8 - 100	32 - 4000	6 - 13	
850.331	Spark erosion	8	0.4 - 50	16 - 2000	5 - 12	

Available with declaration of conformity on request.

## Wall chart

Eight Microsurf roughness specimens, mounted on a general reference chart, can be obtained for the following manufacturing operations:

- Surface grinding, cylindrical grinding, face turning, turning, end milling, reaming & drilling, horizontal milling and planing.
- Dimensions  $w \times h$ : 740 x 310 mm.

Item No.	Description	Price
850.314	Microsurf	



## Roughness specimens in a set

This set consists of 30 specimens, mounted in an attractive wallet with instruction card. In addition to the  $R_a$  values, the standardized  $N$  values and the  $R_z$  values are specified.



### Set composition

Number of specimens	Machining method	Roughness $R_a/\mu\text{m}$	Roughness class $N$
3	Flat lapping	0.05 - 0.2	2, 3, 4
3	Reaming	0.4 - 1.6	5, 6, 7
6	Grinding	0.05 - 1.6	2, 3, 4, 5, 6, 7
6	Horizontal milling	0.4 - 12.5	5, 6, 7, 8, 9, 10
6	Vertical milling	0.4 - 12.5	5, 6, 7, 8, 9, 10
6	Turning	0.4 - 12.5	5, 6, 7, 8, 9, 10



850.130

Item No.	Language	Price
850.130	English	
850.131	French	
850.132	German	

On request available with a declaration of conformity.

## Roughness specimens for blasted surfaces

- Each plate consists of four roughness specimens for grit and shot blasting, in 4 segments.
- Delivery in a solid, leather wallet.
- Standardized to ISO specifications.

Item No.	Description	Price
850.017	Shot blasting	
850.018	Grit blasting	

