

Surftest SJ-310

SERIES 178 – Portable Surface Roughness Tester

Technical Data

Detector	
Skid radius of curvature:	40 mm
Skid force:	Less than 400 mN
Type:	Differential inductance
External I/O:	USB, Digimatic output, RS-232C, external software interface
Data storage:	Memory card (option 12AAL069)

Evaluation Capability

Applicable standards:	JIS'82, JIS'94, JIS'01, ISO'97, ANSI, VDA
Digital filter:	2CR, PC75, Gaussian
Cutoff length:	lc: 0.08, 0.25, 0.8, 2.5, 8 mm ls: 2.5, 8 µm
Sampling length:	0.08, 0.25, 0.8, 2.5, 8 mm
Number of sampling lengths (x n):	x1, x2, x3, x4, x5, x6, x7, x8, x9, x10 arbitrary length (0.3 to 16.0 mm: 0.01 mm interval) x1, x2, x3, x4, x5, x6, x7, x8, x9, x10 arbitrary length (0.3 to 5.6 mm: 0.01 mm interval)*
Printer:	Thermal type
Printing width:	48 mm (paper width: 58 mm)
Recording magnification	
Vertical:	10X to 100,000X, auto
Horizontal:	1X to 1,000X, auto

* Only for transverse tracing drive unit type.

Functions

Customization:	Desired parameters can be selected for calculation and display
Statistical processing:	Maximum value, minimum value, mean value, standard deviation, pass rate, histogram of each parameter
GO/±NG judgement:	Maximum value rule, 16% rule, average value rule, standard deviation (1σ, 2σ, 3σ)
Storage	
Internal memory:	Setups (10 sets)
Memory card (option):	500 setups, 10,000 measured profiles, 500 display images, text file (setups / measured profile / assessed profile / bearing area curve / amplitude distribution curve), 500 statistical data, etc.
Calibration:	Auto-calibration with the entry of numerical value / average calibration with multiple measurement (max.12 times) is available
Power saving function:	Auto-sleep-function, auto shutdown of backlight by ECO mode

Optional Accessories

Refer to pages L-05 to L-06.

- The handheld data processing unit and the 5.7-inch colour graphic LCD touch-panel provide superior readability and operability. The LCD also includes a backlight for improved visibility in dark environments.
- The excellent user interface provides intuitive and easy-to-understand operability.
- Complies with the following standards: JIS (JIS-B0601-2001, JIS-B0601-1994, JIS B0601-1982), VDA, ISO- 1997, and ANSI.
- The Measure-Start and other frequently used buttons are strengthened to resist wear and the detrimental effects of workshop contaminants.
- Equipped with a large-capacity battery allowing approximately 1500 measurements when fully charged.
- Includes convenient carrying case for protection in the field.
- A high-speed printer is built into the main unit. Either landscape or portfolio mode can be selected according to the application. Paper saving mode is supported.
- The display interface supports 16 languages, which can be freely switched.
- 10 setups can be saved in the measurement unit. An optional memory card can save setups and the measured profile.

MeasurLink ENABLED
Data Management Software by Mitutoyo



Surftest SJ-310

Specifications/Configuration

Model		SJ-310					
Code No. (inch/mm)		178-571-01E	178-571-02E	178-573-01E	178-573-02E	178-575-01E	178-575-02E
Drive unit	Type	Standard		Retractable		Transverse tracing	
	Code No.	178-230-2		178-235		178-233-2	
Measuring range		17.5 mm				5.6 mm	
Measuring speed		0.25, 0.5, 0.75 mm/s (returning: 1 mm/s)					
Measuring method		Skidded					
Stylus tip	Angle	60°	90°	60°	90°	60°	90°
	Radius	2 µm	5 µm	2 µm	5 µm	2 µm	5 µm
Detector	Range	360 µm (-200 µm to +160 µm)					
	Measuring force	0.75 mN	4 mN	0.75 mN	4 mN	0.75 mN	4 mN
	Code No.	178-296	178-390	178-296	178-390	178-387	178-386
Assessed profiles		P (primary profile), R (roughness profile), DIN4776, roughness motif, waviness motif					
Evaluation parameters		Ra, Ry, Rz, Rt, Rp, Rq, Rv, Rsk, Rku, Rc, RSm, S, RPl, R3z, Rmr (c), Rpk, Rvk, Rdc, Rk, Mr1, Mr2, Lo, Rppi, R, AR, Rx, A1, A2, Vo, HSC, Rmr, SK, Ku, RDa, RΔq, Rlr, λa, λq, Rpm, RzJIS (JIS'01), tp (ANSI), Htp (ANSI), Wte, Wx, W, AW, Rz1max (ISO), Rmax (VDA, ANSI, JIS'82), possible to customize					
Analysis graphs		Bearing area curve (BAC), amplitude distribution curve (ADC)					
Power supply		AC adapter and rechargeable battery					
Battery	Charge time	Max. 4 hours					
	Endurance	Approx. 1500 measurements (differs slightly due to usage and environmental conditions)					
Dimensions (WxDxH)	Display unit	275 x 109 x 198 mm					
	Drive unit	115 x 23 x 26 mm					
Mass	Display unit	Approx. 1.7 kg					
	Drive unit	0.2 kg					

