Surftest

Performs brilliantly in many situations such as in the quality control room, on the factory floor and on the production line.

Surftest SJ-410 SERIES 178 — Compact Surface Roughness Tester



SPECIFICATIONS

Code Ro.htm inch/mm 178-581-01 178-581-02 178-583-01 178-583-01 Measuring range Z axis (detector) 25mm 50mm 50mm Inge Z axis (detector) 800µm.8µm Up to 2,400µm when using an optional Differential inductance Detection method 0.01µm (80µm ranee), 0.001µm (80µm ranee), 0.011µm (80µm rane	Model No.		SJ-411		SJ-412		
Inchrimm TX8-581-01 TX8-581-02 TX8-581-01 TX8-581-0	odo No mm	mm	178-580-01	178-580-02	178-582-01	178-582-02	
range Z axis (detector) 800µm, 80µm, 8µm Up to 2,400µm when using an optional Differential inductance Detector Resolution 0.01µm (800µm range), 0.001µm (80µm range), 0.000µm (8µm range), Measuring force 0.01µm (800µm range), 0.001µm (8µm range), 90° Drive unit (X axis) Skides / skid curvature 40mm Measuring methods Skides / skided (switchable) Drive unit (X axis) Drive speed 0.05, 0.1, 0.2, 0.5, 1.0mm/s Drive unit (X axis) Drive speed 0.5, 1.1, 2, 0.5, 1.0mm/s Straightness 0.3µm / 25mm 0.5µm / 50mm Up/down Up/down movement 10mm Inclination adjustment ±1.5° Applicable standards Ra, RG, RZ, RY, RD, RV, RL R32, RSK, RU, RC, RPC, RSM, RAM, RA2, VD, A2,	ode No.mm	inch/mm	178-581-01	178-581-02	178-583-01	178-583-02	
Detection method Differential inductance Resolution 0.01µm (800µm range), 0.001µm (80µm range), 0.0001µm (8µm range) 0.001µm (80µm range), 0.0001µm (8µm range), 0.0001µm (8µm range) Detector Measuring force 0.75mN 4mN 0.75mN 4m Measuring methods Skidless / Skidded (switchable) 0.75mN 4mm 0.75mN 4mm Drive unit Measuring speed 0.05, 0.1, 0.2, 0.5, 1.0mm/s 0.75mN 4mm Dyrive speed 0.5, 1, 2, 5mm/s 5traightness 0.3µm / 25mm 0.5µm / 50mm Dpl/down Up/down movement 10mm 10mm 1.5 Applicable standards Ra, Rq, Rz, Ry, Ry, Rv, Rt, R3z, Rsk, Rku, Rc, RPC, RSm, Rmax**, R1 max**, S, HSG 4kg (Sk RV,	leasuring	X axis	25mm		50r	nm	
Resolution 0.01µm (800µm range), 0.001µm (80µm range), 0.0001µm (8µm range) Detector Stylus tip shape (AngleRadius) 607/2µm 907 Measuring force 0.75mN 4mN 0.75mN 4 Measuring force 0.75mN 4mN 0.75mN 4 Drive unit Measuring speed 0.05, 0.1, 0.2, 0.5, 1.1, 0.2, 0.5, 1.1, 0.75mN 4 Drive speed 0.3µm / 25mm 0.5µm / 50mm 0.5µm / 50mm Up/down Up/down novement 10mm 1.05µm / 50mm Applicable standards 1.1594 / 1/15:001 / 1/15:01997 / ANSI / VDA Assessed profile Primary profile, Roughness profile, Nrg, Alw, Alw, MW, Witz, Al, Alay, Alw, Alw, Alw, Alw, Alw, Alw, Alw, Alw	ange	Z axis (detector)	800µm、80µm、8µm Up to 2,400µm when using an optional stylus.				
Stylus tip shape (Angle/Radius) 60"/2µm 90"/5µm 60"/2µm 90" Measuring force 0.75mN 4mN 0.75mN 4 Radius of skid curvature 40mm 4m 0.57mN 4m Measuring methods 5kidles: / Skidded (switchable) 5kidles: / Skidded (switchable) 5 Orive unit Measuring speed 0.5, 1.2, 5mm/s 5 Jpdown Updown movement 10mm 0.5, 1.2, 5mm/s Agplicable standards Ra, Ra, Rz, Ry, Rp, Rv, Rt, Rz, Rsk, Rku, Rc, Rc, Rr, Rmax*1, Rztmax*2, S, HSC Skiggraph Parameters Ra, Ra, Rz, Ry, Rp, Rv, Rt, Rz, Ra, Rx, Rku, WW, WV, WV, WV, WV, VV, Ap, Ap, Xagraph Material ratio curve, Profile, Drofile, Roughness motif profile, Wavnes Stata compensation functions Parabola, Hyperbolic, Ellipse, Circle, Conic, Tilt, No compensation 2.5, 0.8, 2.5, 8mm Cutoff value Åc 0.08, 0.25, 0.8, 2.5, 8, 2.5, 8, 2.5mm 0.1 to 50mm Vo. of sampling length X1, X2, X3, X4, X5, K5, X7, X8, N8, X9, X1, X1, X12, X13, X14, X15, X16, X17, X4 X1, X2, X3, X4, X5, K6, X7, X8, N8, Y8, Y1, X12, X13, X14, X15, X16, X17, X4 Statistical processing Calculates the maximum value, eminimum value, average value, standard deviation (10, 2,		Detection method	Differential inductance				
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Measuring force 0.75mN 4mN 0.75mN 44 Radius of skid curvature 40mm 50mm	Detector	Stylus tip shape (Angle/Radius)					
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limensions Up/down inclination unit 130.9×63×99mm			275×198×109mm				
	dimensions						
		Drive unit	128×35.8×46			8×46.6mm	
Calculation display unit 1.7kg							
	Mass						
Drive unit 0.6kg 0.64kg			0.6kg				
Detector*7/Standard stylus*8 178-601 Roughness specimen (Ra3um) AC adapter, Power cable, Flat-bla 270723 Printer page Standard tag VS pack) consulting power cable, Flat-bla	Standard Accessories		Detector* ⁷ /Standard stylus* ⁸ 178-601 Roughness spec 270732 Printer paper: Star 12BAL402 Protective sheet fr	cimen (Ra3µm) Indard type (x5 packs)	AC adapter, Power ca screwdriver, Phillips so Strap for the touch pe	ble, Flat-blade rewdriver, Hex wrench en, Operation manual,	

*2: Calculation is available only when selecting the ISO 1997 standard.

2: Calculation is available only when selecting the IS 2001 standard.
 3: Calculation is available only when selecting the IS 2001 standard.
 4: Calculation is available only when selecting the ANSI standard.
 5: Not available when selecting the IS 12 standard.
 6: Only the mean value rule is available for the ANSI standard.
 7: Depending on the Code No. of the SI-410 series main unit, No.178-396 or No.178-397 is provided as standard.

L-7

*8: Standard stylus (No. 12AAC731 or No.12AAB403) supporting the provided detector is provided as standard To denote your AC line voltage add the following suffixes (e.g. 178-580-01A). A for 120V, C for 100V, D for 230V, E for 230V (for UK), DC for 220V (for China), K for 220V (for Korea)





An inspection certificate is supplied as standard. Refer to page X for details.

Dramatic improvement on compact type surface roughness testers

- Equipped with the touch-screen large color graphic LCD to achieve both of the intuitive operation and high operability
- Skidded and skidless measurement are switchable to perform the optimum evaluation according to the measurement condition.
- A wide-range, high-resolution detector and a drive unit provide superior high-accuracy measurement in its class. Detector
 - Measuring range: 800µm
 - Resolution: 0.0001µm (at 8µm range) Drive unit
 - Straightness/traverse length: 0.3µm/25mm (SJ-411) Straightness/traverse length: 0.5µm/50mm (SJ-412)
- Simplified contour analysis (Step, Step quantity, Area, Coordinate difference) is available using the point cloud data collected to evaluate the surface roughness. Allows the evaluation of detailed shapes that cannot be achieved by contour measuring instruments.



(Coordinate difference)

- Allows the evaluation of surface roughness in a circumferential direction using the skidless measurement and R-surface compensation functions.
- Conforms to the latest ISO standard and ANSI/ VDA standard in addition to the JIS standard (2001/1994/1982).
- Achieves the performance of a desktop type surface roughness tester in combination with the simplified stand and associated optional accessories.

Optional Accessories for SJ-410 Consumables

- Printer paper: Standard type (x5 packs): No.270732
 Printer paper: High-durability type (x5 packs):
- No.12AAA876 • Protective sheet for the touch panel (x10 sheets)
 - No.12AAN040
- Memory card (2GB): No.12AAL069



Mitutoyo

Refer to the Surftest SJ-410 series (Catalog No.E15014) for more details.