Surface Texture and Contour Measuring Instruments 〉〉〉

Advanced Functions and Superior Operational Ease

SURFCOM 1800D

SURFCOM 1800D-12
* Printer is optional.

[TIMS] Integrated Measuring System (Roughness/Contour)
● Simply touch the icon to change between the roughness and contour measuring modes. Measured data can be combined when printed.

AI Function (Roughness) (patented)
● The AI function automatically sets the measuring conditions and executes measurement.

Automatic Operation Log/Playback Function (Roughness/Contour)
● This function automatically stores measurement and analysis procedures in the memory, including drive unit and column movements. This enables CNC measurements to be performed.

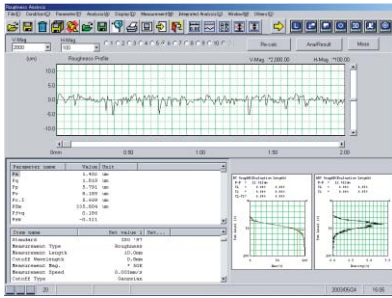## Automatic Element Discrimination Function [AI Function] (Contour)
● The element (point, line, circle) is automatically determined without being specified.

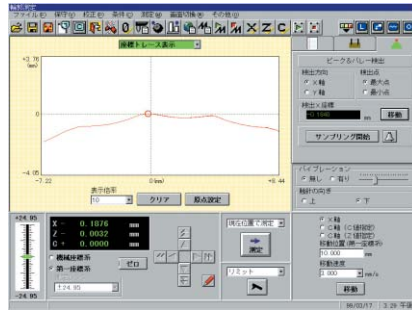## Dimension Line Display Function (Contour)
● This enables dimension lines to be drawn on the diagram along with actual measured values for parameters and geometric deviation.

Profile Synthesis Function
● The profile synthesis function eliminates the analysis range limitation created by the stylus angle.
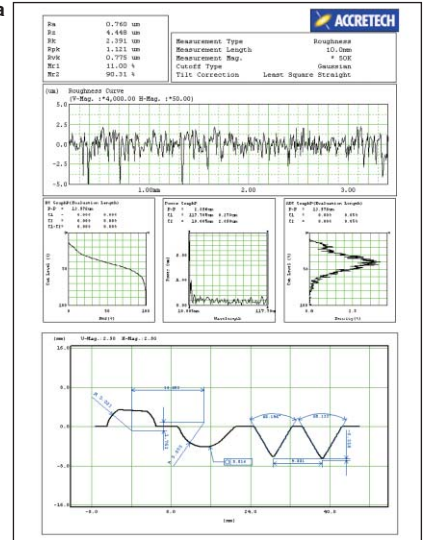
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Print data

Roughness analysis function

Peak and valley function

Specifications

Model		SURFCOM 1800D	
		Surface Texture Evaluation	Contour Evaluation
Measuring range	Z axis (vertical)	800 μm	50 mm
	X axis (horizontal)	100 mm (200 mm with –22 system)	100 mm (200 mm with –22 system)
Accuracy	Z axis indication accuracy (vertical)	–	$\pm$ 0.25% full scale ($\pm$4 μm or less for 5 mm range)
	Resolution	–	0.1μm/$\pm$2.5mm, 0.4μm/$\pm$10mm, 1μm/$\pm$25mm,
	X axis indication accuracy (horizontal)	–	$\pm$ (1 + 2L / 100) μm L: Measuring length [mm]
	Resolution	–	0.1 μm
Straightness accuracy		(0.05 + 1.5L / 1000) μm (L: Measuring length [mm])	1 μm / 100 mm
Sensing method	Z axis (vertical)	Differential transformer ducer	Differential transformer ducer
	X axis (horizontal)	Moiré striped scale	Moiré striped scale
Processing functions	Parameters / calculation processing	Complies with JIS-2001, JIS-1994, JIS-1982, ISO, DIN, ASME & CNOMO Ra, Rq, Ry, Rp, Rv, Rc, Rz, Rmax, Rt, Rz.J, R3z, Sm, S, RΔa, RΔq, Rλa, Rλq, TILT A, Ir, Pc, Rsk, Rku, Rk, Rpk, Rvk, Mr1, Mr2, VO, K, tp, Rmr, tp2, Rmr2, Rδc, Hmax, Hmin, AREA, NCRX, R, Rx, AR, NR, CPM, SR, SAR	Point, line, circle, partial circle, ellipse, max. point/min. point, distance, coordinate difference, polar coordinate difference, orthogonal/polar coordinate difference display, intersecting elements (point-line, line-line, circle-line, circle-circle, line-ellipse), symmetric elements (point-point, point-circle, point-ellipse, line-line, circle-circle, circle-ellipse, ellipse- ellipse), surface calculation, over-pin calculation, dimension line display function, calculation result/nominal value collation, mirror reversal, profile synthesis function, macro function, automatic element discrimination, calculation point repeat function, workpiece trace function, peak and valley function, auto operation log/playback function
	Evaluation curves	Section profile curve, roughness curve, filtered waviness curve, filtered center line waviness curve, rolling circle waviness curve, rolling circle center line waviness curve, DIN4776 special curve, roughness motif curve, waviness motif curve, envelope waviness curve	–
	Surface characteristics graphs	Load curve graph, power graph, amplitude distribution (ADF) graph	–
	Tilt correction	Linear correction, round surface correction, first half correction, latter half correction, both end correction, spline curve correction (linear, round surface and both end correction possible at arbitrary range)	Zero point setting, X axis setting, parallel movement, rotary movement
Recording	Vertical magnification	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 50K, 100K, 200K*, 500K*, arbitrary, auto	0.01 - 10,000,000 (Possible for any or automatic value) 0.01 - 10,000,000 (Possible for any or automatic value)
	Horizontal magnification	1, 2, 5, 10, 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, arbitrary, auto	–
Type of filter		Standard filter (2RC), phase compensation filter (2RC), phase compensation filter (Gaussian)	–
Cut-off value		Set: 0.025, 0.08, 0.25, 0.8, 2.5, 8, 25 mm (7 stages)	–
Speed	Column up/down (Z axis)	3 mm/s	
	Measuring speed (X axis)	0.03, 0.06, 0.15, 0.3, 0.6, 1.5, 3, 6 mm/s (8 speeds)	
Sensor unit	Stylus	Replaceable	Replaceable
	Measuring force	0.75 mN	30 mN or less
	Stylus radius	2 μm R	0.025 mm R
	Stylus material	Diamond	Carbide alloy
Measuring feed direction		–	Push/pull, both directions
Measuring orientation		–	Up/down, both directions
Power source		Single phase 100 VAC$\pm$10%, 50/60 Hz	
Power consumption		380 VA	
Installation dimensions		1850 (W) $\times$ 800 (D) $\times$ 750 (H) mm	
Weight		150 kg	

* When high-magnification pickup is used.

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