



Linear series

# SURFCOM 1910DX3/SD3

Roughness and Contour Detectors Provided as Standard Measurement, Evaluation, Analysis and Printout for Roughness and Contour in One Machine

Improves Work Efficiency Space-Saving DX model Allows Efficient Use of a Measuring Room



SURFCOM 1910DX3



SURFCOM 1910SD3

Printer is optional

## 2-in-1 High-accuracy Measuring Instrument

- Indication accuracy of contour detector:  $\pm(1.8+|2H|/100)$   $\mu\text{m}$
- Resolution: 0.1  $\mu\text{m}$  (full range)
- Measuring magnification of roughness pickup: 500000 times max.
- This detector allows high-accuracy roughness and contour measurements and evaluation of precision processing components.

## High-speed Measurement Dramatically Enhances Productivity

- Roughness Measurement: 3 mm/s max.
- Contour Measurement: 20 mm/s max.
- Moving Speed: 60 mm/s max.
- Measurement Efficiency: 10 times better (compared to previous models)

## Linear Motor Drive (Patented)

- A linear motor drive ensures high accuracy and high-speed movement.
- Low vibration ensures more stable measurement at high magnifications.

\*See page 8 for the details of the linear drive.

## Specifications

Model		SURFCOM 1910DX3/SD3									
		-12	-13	-14	-15	-22	-23	-24	-25		
Measuring range	Z-axis (vertical)	50 mm									
	X-axis (horizontal)	100 mm				200 mm					
Accuracy	Roughness detector	Resolution 0.01 $\mu\text{m}/1000 \mu\text{m}$ range to 0.0001 $\mu\text{m}/6.4 \mu\text{m}$ range									
	Contour detector	Z-axis indication accuracy (vertical) $\pm(1.8+ 2H /100)$ $\mu\text{m}$ (H: Measuring height mm)									
		Resolution 0.1 $\mu\text{m}/\text{Full range}$									
	Roughness tracing driver	X-axis resolution 0.04 $\mu\text{m}$ or 32000 points (300000 data uptake points)									
Contour tracing driver	X-axis indication accuracy (horizontal) $\pm(1.0+L/100)$ $\mu\text{m}$ (L: Measuring length (mm)), Measuring pitch: 0.1 $\mu\text{m}$ min.										
	Resolution 0.016 $\mu\text{m}$										
Straightness accuracy		Roughness system: $(0.05 + L/1000)$ $\mu\text{m}$ (L: Measuring length mm), Contour system: 1 $\mu\text{m}/100 \text{ mm}$ , 2 $\mu\text{m}/200 \text{ mm}$									
Sensing method	Z-axis (vertical)	Roughness detector	Differential inductance								
		Contour detector	Laser optical diffraction scale								
X-axis (horizontal)		Linear scale									
Speed	Column up/down speed (Z-axis)		10 mm/s								
	Measuring speed (X-axis)		0.03 mm/s to 20 mm/s								
	Moving speed (X-axis)		60 mm/s max.								
Detector	Roughness	Stylus, measuring force		Replaceable, 0.75 mN							
		Stylus radius (stylus material)		2 $\mu\text{mR}$ (60° conical diamond), one piece equipped as standard							
	Contour	Stylus, measuring force		Replaceable, 10 mN to 30 mN, and stepless(retract) function							
		Stylus radius (stylus material)		25 $\mu\text{mR}$ (24° conical carbide), one piece equipped as standard							
Measuring direction, position		Pull/push and Up/down directions, Max. following angle: 77°									
Operation range	Tracing driver stroke		100 mm				200 mm				
	Column up/down stroke		226 mm	426 mm	626 mm	226 mm	426 mm	626 mm			
Granite table	Dimensions		600 × 317 mm		1000 × 450 mm		600 × 317 mm		1000 × 450 mm		
	Permissible loading weight★		37 kg	28 kg	93 kg	84 kg	31 kg	22 kg	87 kg	78 kg	
Other	Installation dimensions★	Width	1250 mm		1650 mm		1250 mm		1650 mm		
		Depth	800 mm		900 mm		800 mm		900 mm		
		Height	1480 mm	1680 mm	1880 mm	1480 mm	1680 mm	1880 mm			
	Weight★		225 kg	235 kg	420 kg	430 kg	230 kg	240 kg	425 kg	435 kg	
Power supply, frequency, consumption		Single phase AC 100 V $\pm 10\%$ (grounding required), 50 Hz/60 Hz, 670 VA									

★Dimensions and weight are for the DX type.