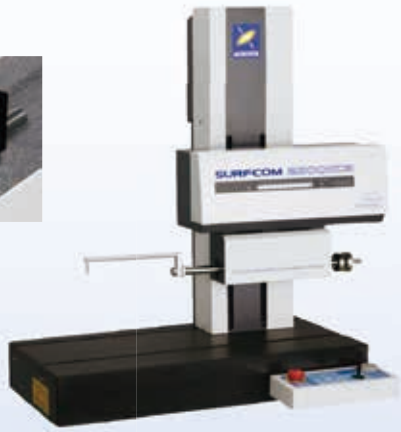
Linear series

SURFCOM 2900DX3/SD3

Integrated Roughness Measuring and High Accuracy Contour Measuring Instrument



Printer is optional

SURFCOM 2900SD3

SURFCOM 2900DX3

A Choice of All-In-One Space-Saving

Linear series DX type or conventional separate style SD type to suit specific requirements.

High Accuracy Contour Detector (Digital)

- Contour detector is a high accuracy detector equipped with an optical diffraction scale.
- With minimum resolution of 0.025 µm, this instrument provides high accuracy measurement covering the entire detection range of 50 mm in the Z direction.

New High-Accuracy Contour Detector that Weighs 40% Less Than Previous Models

- The laser optical diffraction scale ensures high resolution over the entire range.
- Contours can be measured and analyzed with high accuracy and high resolution.

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.

2-In-1 Measuring Instrument

Compact high performance detector for roughness measurement and high accuracy contour detector are provided as standard.

Roughness Pickup for Large Magnification (Option)

- A roughness measurement range of 1000 µm enables provision of minute contour and rough alignment measurement.
- To support large magnification measurement of high-precision processed parts, magnification of up to 500,000x is provided.

High Accuracy, Wide-Range Hybrid Detector (Option)

- SURFCOM 2900DX3/SD3 comes with a roughness detector and a contour detector as standard. A high accuracy, wide-range hybrid detector can also be added.
- Accurate, efficient measurement of workpieces with various profiles is possible.

For details about the high accuracy, wide-range hybrid detector, see SURFOCM 2000DX3/SD3 (P.14).

Note that this detector is a factory option. Adding the detector to an existing instrument requires that the instrument be shipped to our factory.

Specifications

Model				SURFCOM 2900DX3/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		0.02 µm/1000 µm range to 0.0001 µm/6.4 µm range							
	Contour detector	Z-axis indication accuracy (vertical)		± (0.8 + |2H|/100) µm (H: Measuring height mm)							
		Resolution		0.025 µm/Full range							
	Roughness tracing driver	X-axis resolution		0.04 µm or 32000 points (300000 data uptake points)							
	Contour tracing driver	X-axis indication accuracy (horizontal)		± (1.0 + L/100) µm (L: Measuring length mm)							
		Resolution		0.016 µm							
Straightness accuracy				Roughness system: (0.05 + L/1000) µm (L: Measuring length mm), Contour system: 1 µm/100 mm, 2 µm/200 mm							
Sensing method		X-axis (horizontal)		Linear scale							
		Z-axis (vertical)	Roughness detector	Differential inductance							
			Contour detector	Laser optical diffraction 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 µmR (60° conical diamond), one piece equipped as standard							
	Contour	Stylus, measuring force		Replaceable, 10 mN to 30 mN or less, and stepless(retract) function							
		Stylus radius (stylus material)		25 µmR (24° conical carbide), two pieces 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 ±10% (grounding required), 50 Hz/60 Hz, 670 VA							

★Dimensions and weight are for the DX type.