

## Integrated Roughness Measuring and High Accuracy Contour Measuring Instrument



## **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.

Linear series DX type or conventional separate style SD type

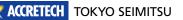
- •Contour detector is a high accuracy detector equipped with
- provides high accuracy measurement covering the entire



## **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.





# SURFCOM 2900DX3/SD3

## 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.26).

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



					SURFCOM 2900DX3/SD3							
Model				-12	-13	-14	-15	-22	-23	-24	-25	
Measuring range Z-axis (vertical) X-axis (horizontal)			50 mm									
			100 mm 200 mm									
Accuracy	Roughness detector	Resolution		0.02 µm/1000 µm range to 0.0001 µm/6.4 µm range								
		Z-axis indication accuracy (vertical)		± (0.8 +  2H /100) µm (H: Measuring height mm)								
	Contour detector	Resolution		0.025 µm/Full range								
	Roughness tracing driver	X-axis resolution		0.04 µm or 32000 points (300000 data uptake points)								
	Contour tracing	X-axis indication accuracy (horizontal)		± (1.0 + L/100) μm (L: Measuring length mm)								
	driver	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								
X-axis (horizontal)			ntal)	Linear scale								
Sensing method		Z-axis	Roughness detector	Differential inductance								
		(vertical)	Contour detector	Laser optical diffraction scale								
Column up/down speed (Z-a			wn speed (Z-axis)	10 mm/s								
Speed		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 x 3	317 mm	1000 x	450 mm	600 x 3	317 mm	1000	x 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	168	) 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								





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