

SURFCOM CREST

Dedicated catalog is available.



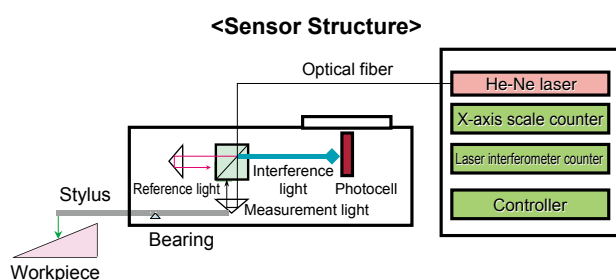
SURFCOM CREST DX

World's highest Class of high accuracy, high speed and wide range.

Flagship model for SURFCOM to attain the ultimate perfection level with brand-new linear motor drive as the main machine

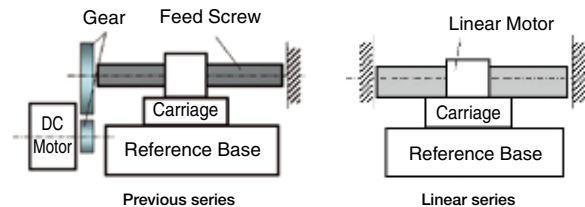
Highly Stable Optical Path Type Laser Interferometer

- This measuring machine adopts an optical fiber-based laser interferometer, one of Tokyo Seimitsu's constituent technologies, and incorporates a newly developed highly stable optical path type laser interferometer having a resolution of 0.31 nm.
- This system features a dynamic range as well as a resolution ratio of 42,000,000:1. This means that in a single trace you can evaluate contour profiles in wide ranges and also hidden fine surfaces.



Linear Motor Drive **patented**

- Linear motor drive ensures high accuracy and high-speed movement.
- Also, low vibration ensures more stable measurement at high magnifications.



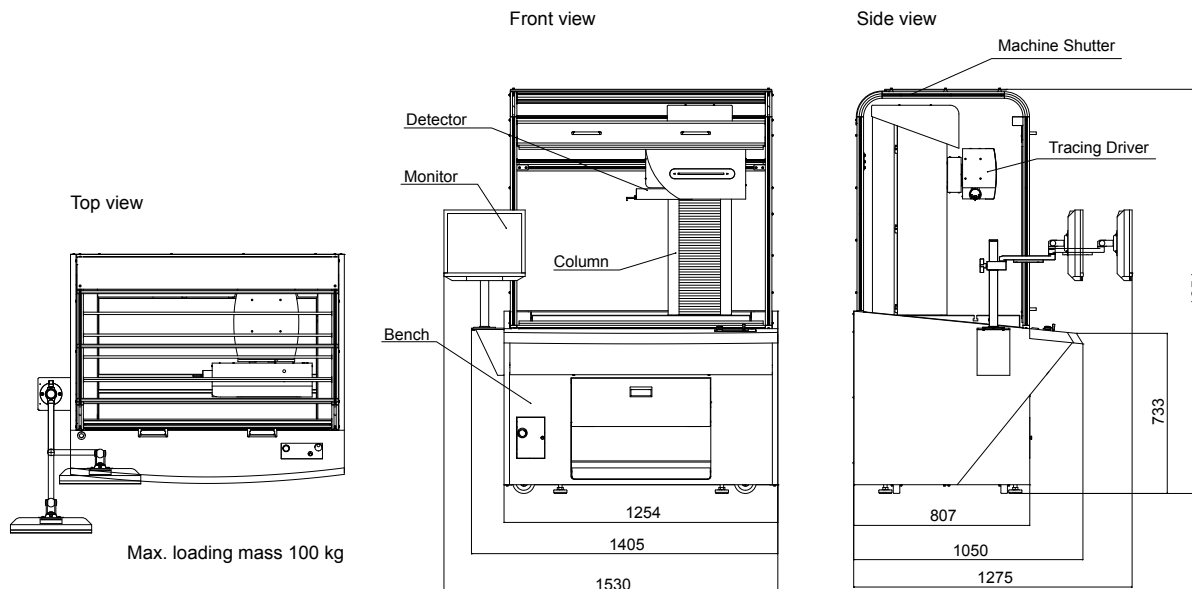
Roughness and Contour Analyzed in a Single Measurement

- Measurement efficiency improved and high accuracy is maintained at the same time.

Wide Range

- Wide measuring range of 200 mm (horizontal direction) and 13 mm (vertical direction)
- Motorized tilting unit capable of tilting to 45° also available. (SURFCOM CREST-T type)

External View



Specifications

Item		SURFCOM CREST		
Measuring range	Z-axis (vertical)	13 mm/50 mm arm, 26 mm/100 mm arm		
	X-axis (horizontal)	200 mm		
Accuracy	Z-axis indication accuracy (vertical)	$\pm 0.2 + H /1000 \mu\text{m}$ (H: Measuring height mm)		
	Resolution	0.31 nm/50 mm arm		
	X-axis indication accuracy (horizontal)	$\pm 0.2 + L/1000 \mu\text{m}$ (L: Measuring length mm)		
	Resolution	0.54 nm		
Straightness accuracy ^{*1}		$0.05 + 3 L/10000 \mu\text{m}$ (L: Measuring length mm)		
System accuracy ^{*1}	System noise ^{*2}		Ra $\leq 2 \text{ nm}/0.4 \text{ mm}$ Rz $\leq 10 \text{ nm}/0.4 \text{ mm}$	
	Form error ^{*3}		Pt $\leq 0.1 \mu\text{m}$ ($\Phi 30 \text{ mm}$ or smaller)	
	Maximum Permissible error	Radius measurement ^{*4}	$\leq \pm 1.0 \mu\text{m}$ ($\Phi 30 \text{ mm}$ or smaller)	
		Distance measurement ^{*5}	$\leq \pm (1 + L/150) \mu\text{m}$ (L: Measuring length mm)	
	Angle measurement ^{*6}	$\leq \pm 0.5 \text{ min}$ ($\pm 45 \text{ deg.}$)		
Sensing method	Z-axis (vertical)	Highly stable optical path type laser interferometer		
	X-axis (horizontal)	Optical diffraction scale		
Drive speed	Column up/down speed (Z-axis)	to 200 mm/s		
	Drive unit measuring speed (X-axis)	0.03 to 3 mm/s (during roughness measurement), 0.03 to 20 mm/s (during contour measurement)		
	Drive unit movement speed (X-axis)	0.02 to 60 mm/s		
Drive unit tilt		$\pm 45^\circ$ (T type)		
Sensor unit	Stylus		Replaceable	
	Measuring Force ^{*1}		0.75 mN	
	Stylus radius ^{*1}		Rtip 2 μm standard accessory (50 mm arm)	
	Stylus material ^{*1}		Diamond	
	Functions		Retract function	
Dimensions and weight	Power Requirements		Single-phase AC100 to 240 V $\pm 10\%$, 50/60 Hz	
	Air Source		Supply Pressure: 0.45 to 0.7 MPa, Working Pressure: 0.4 MPa, Air Consumption Volume Max: 8 L/min	
	Installation dimensions (W x D x H)		1405 mm x 1050 mm x 1851 mm	
	Weight		700 kg	

*1: at using DM84145 (Standard accessories)

*2: 0.03mm/s, Gaussian filter : $\lambda_c=0.08 \text{ mm}$, $\lambda_s=2.5 \mu\text{m}$

*3: $\pm 45 \text{ deg.}$, 0.3 mm/s, Least square circle, Gaussian filter : $\lambda_s=0.08 \text{ mm}$

*4: $\pm 45 \text{ deg.}$, 0.3 mm/s, Gauge uncertainty is included

*5: 0.3 mm/s, Gauge uncertainty is included

*6: The length of one side sloop is 5 mm or more, 0.3mm/s, Gauge uncertainty is included