SURFCOM CREST

Dedicated catalog is available.

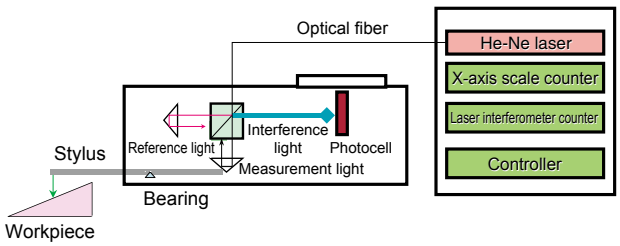
World No.1 Class of high accuracy, high speed and wide range.

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

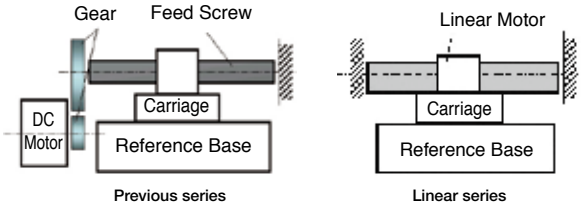
- This measuring machine adopts an optical fiber-based laser interferometer, one of Tokyo Seimitsu's constituent technologies, and incorporates a newly developed highly stable optical path type laser interferometer having a resolution of 0.31 nm.
- This system features a dynamic range as well as a resolution 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.

<Sensor Structure>



Linear Motor Drive patented

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



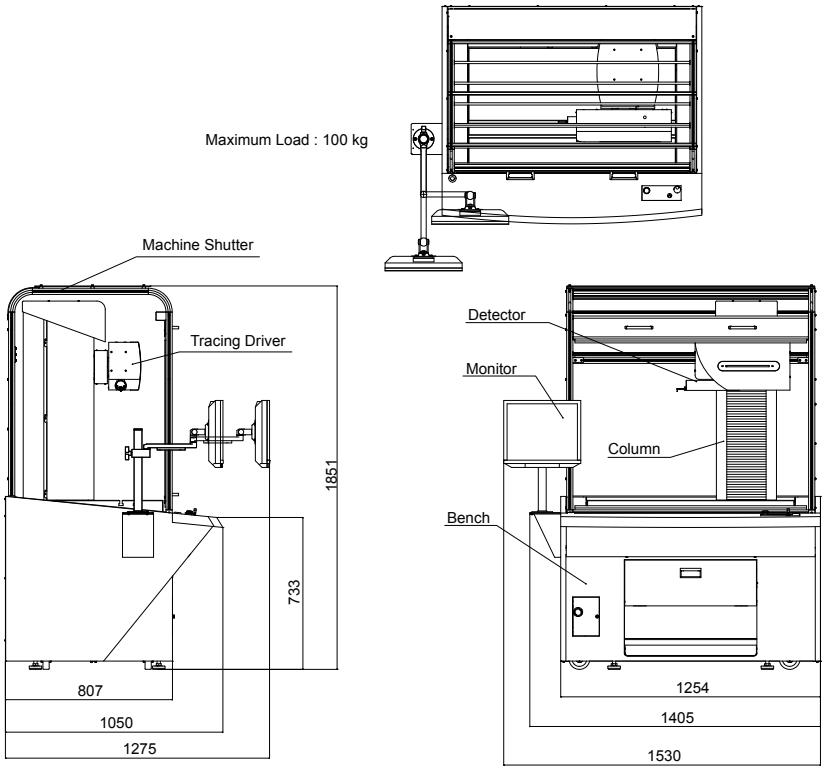
Roughness and Contour Analyzed in a Single Measurement

- Measurement efficiency imporved 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)

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)		±0.2+IHI/1000 μm H: Measuring height (mm)
	Resolution		0.31 nm/50 mm arm
	X-axis indication accuracy (horizontal)		±0.2+L/1000 μm L: Measuring length (mm)
	Resolution		0.54 nm
Straightness accuracy *1			0.05+3 L/10000 μm L: Measuring length (mm)
System accuracy *1	System noise *2		Ra ≤ 2 nm/0.4 mm Rz ≤ 10 nm/0.4 mm
	Form error *3		Pt ≤ 0.1 μm (Φ30mm or smaller)
	Maximum Permissible error	Radius measurement *4	≤± 1.0 μm (Φ30mm or smaller)
		Distance measurement *5	≤± (1+L/150) μm L : Measuring length (mm)
		Angle mesurment *6	≤± 0.5 min (-45 -+45 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			±45° (T type)
Sensor unit	Stylus		Replaceable
	Measuring Force		0.75 mN
	Stylus radius		2 μmR standard accessory (50 mm arm)
	Stylus material		Diamond
	Functions		Retract function
Dimensions and weight	Power Requirements		Single-phase AC100 to 240 V ±10%, 50/60 Hz
	Air Sourse		Supply Pressure: 0.45 to 0.7MPa, Working Pressure: 0.4MPa, Air Consumption Volume Max: 8 L/min
	Installation dimensions (W x D x H)		1405 mm × 1050 mm × 1851 mm
	Weight		700 kg

*1 : at using DM84071 (Standard accessories)
*2 : 0.03mm/s, Gaussian filter : λc=0.08 mm, λs=2.5 μm
*3 : ±45deg., 0.3 mm/s, Least square circle, Gaussian filter : λs=0.08 mm
*4 : ±45deg., 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