

SURFCOM NEX (DX2/SD2) Series

SURFCOM NEX

Dedicated catalog is available.

200 DX2/SD2

**High accuracy surface roughness and
contour measuring instrument
Realized simultaneous measurement of
surface roughness and contour**



DX type



SD type

SURFCOM NEX 200 (DX2/SD2) series is an integrated model capable of measuring surface roughness and contour profile. (Not necessary to replace detector)
Please refer to page 16 to 17.

Measuring Unit

Item				Model	SURFCOM NEX (DX2/SD2)							
					12	13	14	15	22	23	24	25
Tracing driver	X-axis (L: measuring length mm)	Sensing method			Linear scale							
		Straightness accuracy (When standard stylus are used)	with Hybrid detector	(0.05+1.0L/1000) μm (L: Measuring length mm) *with LH=50 mm stylus								
				2(0.05+1.0L/1000) μm (L: Measuring length mm) *with LH=100 mm stylus								
		X-axis indication accuracy : horizontal			±(0.8+1.0L/100) μm (L: Measuring length mm) *Contour measurement with 100 mm driver							
					±(0.8+3.0L/200) μm (L: Measuring length mm) *Contour measurement with 200 mm driver							
		Resolution			0.016 μm							
		Speed	Travel speed		0.03 to 100 mm/s							
			Measuring speed		0.03 to 30 mm/s							
Measuring stand	Column	Tilt angle			±15 ° (Optional tilting device)							
		Speed	Travel speed	CNC Joystick	Max. 50 mm/s							
					Max. 35 mm/s							
		Base	Material			Gabbro						

Detector

Hybrid detector	Measuring range	Z-axis: vertical		13 mm (with LH=50 mm stylus) 26mm (with LH=100 mm stylus)
	Roughness and Contour	Sensing method		High accuracy scale
		Resolution		0.9 nm (Full range) *with LH=50 mm stylus 1.8 nm (Full range) *with LH=100 mm stylus
		Indication accuracy: vertical		$\pm(1.0+ 2H /100) \mu\text{m}$ (H: Measuring height mm) *with LH=50 mm stylus $\pm(1.5+ 2H /100) \mu\text{m}$ (H: Measuring height mm) *with LH=100 mm stylus
		Stylus	for Roughness and Contour (LH=50 mm)	Model
	Measuring force			0.75 mN
	Tip material			Diamond
	Tip shape			Rtip 2 $\mu\text{m}/60^\circ$ cone
	for Contour (LH=100 mm)		Model	DM48775 (Standard accessory for NEX 2**)
			Measuring force	4 mN
			Tip material	Cemented carbide
			Tip shape	Rtip 25 $\mu\text{m}/24^\circ$ cone
	Common function			Downward measurement / Collision detection safety function / Retract function

Specifications when using hybrid detector and LH=150 mm, LH=200 mm stylus

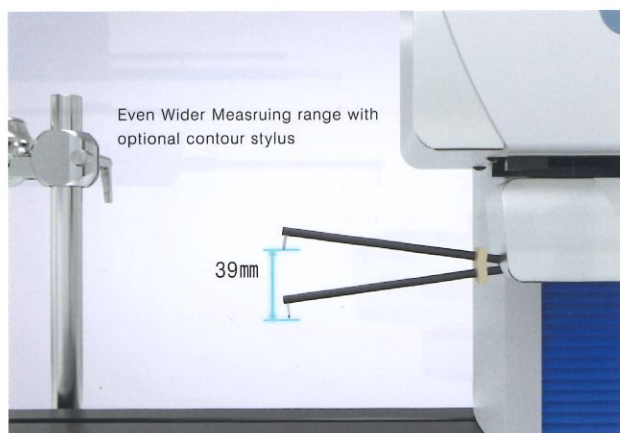


Image of using LH=150mm stylus

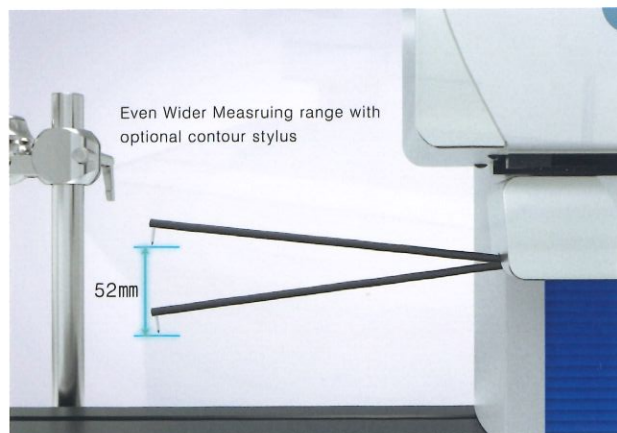


Image of using LH=200mm stylus

Measuring Unit

Item				Model	SURFCOM NEX (DX2/SD2)							
					12	13	14	15	22	23	24	25
Tracing driver	X-axis	Straightness accuracy *2	When hybrid detector and LH=150 mm or LH=200 mm stylus is used		(0.45+3.0L/1000) μm (L: Measuring length mm) *with LH=150 mm stylus							
					(0.8+4.0L/1000) μm (L: Measuring length mm) *with LH=200 mm stylus							

Detector

Hybrid detector (When LH=150 mm or LH=200 mm stylus is used)	Measuring range	Z-axis: vertical		39 mm (with LH=150 mm stylus), 52 mm (with LH=200 mm stylus)	
	Roughness and Contour	Sensing method		High accuracy scale	
		Resolution		2.7 nm (Full range) *with LH=150 mm stylus	
				3.6 nm (Full range) *with LH=200 mm stylus	
		Indicaton accuracy: vertical *2		±(2.0+ 2H /100) μm (H: Measuring height mm) *at 20±2 °C	
	±(2.0+ 10H /100) μm (H: Measuring height mm) *at 20±5 °C				
	Stylus *1	for Roughness and Contour (LH=150 mm)	Model	DM84400 (optional)	
			Measuring force	4 mN	
			Tip material	Diamond	
			Tip shape	Rtip 2 μm/60° cone	
		for Contour (LH=150 mm)	Model	DM84399 (optional)	
			Measuring force	4 mN	
			Tip material	Cemented carbide	
			Tip shape	Rtip 25 μm/24° cone	
		for Contour (LH=150 mm)	Model	DM84409 (optional)	
			Measuring force	4.5 mN	
			Tip material	Cemented carbide	
			Tip shape	Rtip 25 μm/12° angle	
		for Contour (LH=200 mm)	Model	DM84376 (optional)	
			Measuring force	7 mN	
			Tip material	Cemented carbide	
			Tip shape	Rtip 25 μm/24° cone	
	Common function		Downward measurement / Collision detection safety function / Retract function		

^{*1} For calibration with LH=150 mm and LH=200 mm stylus, a 25 mm high block gauge (optional) is required instead of the 10 mm high block gauge normally used with the SURFCOM NEX 200 DX2/SD2.

^{*2} Values in environments with wind speeds of 0.02 m/s or less. It is recommended to use a wind proof cover (optional) because it is easily affected by disturbances such as the wind from the air conditioner and the wind near the entrance. Also, be careful about vibrations.

• For specifications other than the above, follow the SURFCOM NEX (DX2/SD2) specification table on another page.