

Formtracer

Hybrid machine with dual-role capability

Formtracer Extreme SV-C4500CNC/SV-C4500CNC HYBRID TYPE1 SERIES 525 — CNC Surface Roughness and Contour Measuring Systems

MeasurLink⁺ ENABLED
Data Management Software by Mitutoyo

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Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).



An inspection certificate is supplied as standard. Refer to page U-11 for details.



SV-C4500CNC (Contour detector shown mounted together with the inclinable drive unit and Y-axis table)

SV-C4500CNC HYBRID TYPE1 (Mounting example of non-contact detector)

SV-C4500CNC SPECIFICATIONS

Model No.		SV-C4500CNC	
X1 axis (Drive unit)	Contour	Measuring range	200 mm
		Resolution	0.05 μm
		Scale type	Reflective-type linear encoder
	Surface roughness	Straightness	2 μm/200 mm
Accuracy (20 °C)		±(0.8+4L/200) μm L: Measuring length (mm)	
Z1 axis (Detector)	Contour	Straightness	0.5 μm/200 mm
		Measuring range	60 mm (±30 mm from the horizontal)
		Resolution	0.02 μm
	Surface roughness	Scale type	Arc
		Accuracy (20 °C)	±(0.8+ 2H /100) μm H: Measuring height from horizontal position (mm)
		Measuring range	800 μm, 80 μm, 8 μm
Z2 axis (Column)	Resolution	0.01 μm, 0.001 μm, 0.0001 μm	
	Drive range	Specification is selectable from 300 mm or 500 mm.	
	Resolution	0.05 μm	

Note: While the appearance of the natural stone measuring table varies according to the source, the high stability for which this material is known can always be relied upon.

SV-C4500CNC HYBRID TYPE1 SPECIFICATIONS

Model No.		SV-C4500CNC HYBRID TYPE1	
X1 axis (Drive unit)	Contour	Measuring range	200 mm
		Resolution	0.05 μm
		Scale type	Reflective-type linear encoder
	Surface roughness	Straightness (20 °C)	2 μm/200 mm
		Accuracy	±(0.8+4L/200) μm L: Measuring length (mm)
	Non-contact type	Straightness	0.5 μm/200 mm
	Accuracy	±(0.8+4L/200) μm L: Measuring length (mm)	
Y axis	Measuring range	200 mm	
	Resolution	0.05 μm	
	Maximum table loading	20 kg	
Z1 axis	Contour	Measuring range	60 mm (±30 mm from the horizontal)
		Resolution	0.02 μm
		Scale type	Arc
	Surface roughness	Accuracy (20 °C)	±(0.8+ 2H /100) μm H: Measuring height from horizontal position (mm)
		Measuring range	800 μm, 80 μm, 8 μm
		Resolution	0.01 μm, 0.001 μm, 0.0001 μm
	Non-contact type detector CPS2525*1	Measuring range	1.2 mm
		Resolution	25 nm
	Non-contact type detector CPS0517*1	Measuring range	0.1 mm
Resolution		5 nm	
Z2 axis	Drive range	500 mm	
	Resolution	0.05 μm	

*1 Select either CPS2525 or CPS0517.

Note: While the appearance of the natural stone measuring table varies according to the source, the high stability for which this material is known can always be relied upon.

SV-C4500CNC

- High-accuracy stylus type CNC Surface Roughness/Contour Measuring System that allows measurement of surface roughness and form/contour with one unit through detector replacement.
- For models with the α axis, it is possible to perform continuous measurement over horizontal and inclined surfaces by power-tilting the X1 axis. In addition, automatic measuring force adjustment function of Z1-axis detector for contour measurement enables automatic measurement with constant measuring force even with the X1-axis tilted.
- For models with the Y-axis table, it is possible to expand the measuring range for multiple workpieces through positioning in the Y-axis direction.
- Since the Z1-axis detector incorporates an anti-collision safety device, the machine will automatically stop if the detector touches a workpiece or jig.
- Optional external control function (Ext I/O) through bidirectional communication (RS-232C) with the PLC (programmable logic controller) is available.

SV-C4500CNC HYBRID TYPE1

- CNC Surface Roughness/Contour Measuring System equipped with a non-contact type detector as well as a contact type surface roughness contour measuring detector.
- Equipped with the Y-axis table, it is possible to expand the measuring range for multiple workpieces through positioning in the Y-axis direction.
- Since the Z1-axis detector incorporates an anti-collision safety device, the machine will automatically stop if the detector touches a workpiece or jig.
- Optional external control function (Ext I/O) through bidirectional communication (RS-232C) with the PLC (programmable logic controller) is available.