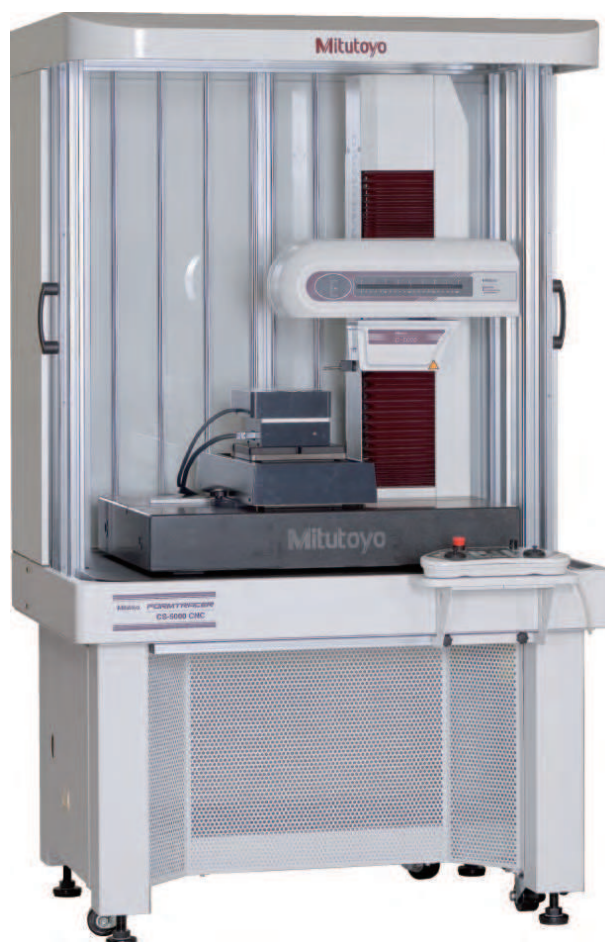


Formtracer Extreme CS-5000CNC / CS-H5000CNC

Series 525 - CNC Surface and Contour Measuring Instruments

- High-accuracy stylus type CNC Surface and Contour Measuring Instrument that allows simultaneous measurement of surface roughness and form/contour.
- The X1 and Z2-axis have maximum drive speeds of 40 mm/s and 200 mm/s, respectively. This permits high-speed positioning that has the potential to produce a large increase in the throughput of multiple-profile/multiple-workpiece measurement tasks.
- A Mitutoyo Laser HoloScale is incorporated in the X1- and Z1-axes so that high resolution (X1-axis : 6.25 nm, Z1-axis : 4 nm / 8 nm) is achieved and batch measurement of form/contour and surface roughness can be made.
- The active control method is employed for the Z1-axis detector to implement a wide-range measurement capability wherein the variation in dynamic measuring force is restricted.
- Since the Z1-axis detector incorporates an anti-collision safety device, the detector unit will automatically stop even if its main body collides with a workpiece or jig.
- For models with the α axis, it is possible to perform continuous measurement over horizontal and inclined surfaces by power tilting the X1-axis.
- For models with the Y-axis table, it is possible to expand the measuring range for multiple workpieces, etc., through positioning in the Y-axis direction.
- Supplied with the easy-to-operate Remote Box, on which the user can make any movement by selecting the required axis which is easily identified by the icon on the key top.



CS-H5000CNC



Wide range detector employing active control technology

Specifications

X1-axis	
Measuring range	200 mm
Resolution	0,00625 μ m
Scale	Laser HoloScale
Drive speed	Max. 40 mm/s (CNC mode) 0 - 40 mm/s (joystick control mode)
Measuring speed	0,02 - 0,2 mm/s (surface) 0,02 - 2 mm/s (contour)
Measuring direction	Forward/backward
Traverse straightness	CS-5000CNC : (0.1+0.0015L) μ m with standard stylus (0.2+0.0015L) μ m with 2X-long stylus CS-H5000CNC : (0.05+0.0003L) μ m with standard stylus (0.1+0.0015L) μ m with 2X-long stylus CS-5000CNC : $\pm(0.3+0.002L)$ μ m CS-H5000CNC : $\pm(0.16+0.001L)$ μ m L : Measured length (mm)
Linear displacement accuracy (at 20°C)	
Z1-axis	
Measuring range	12 mm (with standard stylus), 24 mm (with 2X-long stylus)
Resolution	CS-5000CNC : 0,004 μ m (with standard stylus) 0,008 μ m (with 2X-long stylus) CS-H5000CNC : 0,001 μ m (with standard stylus), 0,002 μ m (with 2X-long stylus)
Linear displacement accuracy (at 20°C)	CS-5000CNC : $\pm(0.3+0.02H)$ μ m CS-H5000CNC : $\pm(0.07+0.02H)$ μ m H : Measured height (mm)
Stylus up/down operation	Arc movement
Scale	Laser HoloScale
Measuring force	4 mN (with standard stylus) 0.75 mN (with 2X-long stylus)
Traceable angle	60° ascending, 60° descending (depending on the workpiece surface condition)
Stylus tip (ball stylus)	Diamond
Stylus orientation	(Sapphire) Downward
Z2-axis (column)	
Measuring range	300 mm or 500 mm
Resolution	0,05 μ m
Scale	Reflective-type linear encoder
Drive speed	Max. 200 mm/s (CNC mode) 0 - 50 mm/s (joystick control mode)
Base size (WxD)	750 x 600 mm
Base material	Granite
Y-axis (for specific models)	
Measuring range	200 mm
Resolution	0,05 μ m
Drive speed	Max. 200 mm/s (CNC mode) 0 - 50 mm/s (joystick control mode)
Max. table loading allowable	20 kg
Traverse straightness	0,5 μ m/200 mm
Linear displacement accuracy (at 20°C)	$\pm(2+2L/200)$ μ m L : Length between arbitrary two points (mm)
Congestion	
Dimensions main unit (WxDxH)	800 x 620 x 1000 mm
Dimensions high column type (WxDxH)	800 x 620 x 1200 mm (high column type)
Mass	240 kg 250 kg (high column type)