

Formtracer CS-3200

Series 525 - Surface and Contour Measuring System

- Featuring a wide measuring range and high-resolution detector, many kinds of measurement from contours to surface roughness are covered. Single-unit measurement reduces setup labour and measurement time.
- Drastically increased drive speed (X-axis : 80 mm/s, Z2-axis : 20 mm/s) further reduces total measurement time.

Specifications

Common	
Base size (WxD)	600 x 450 mm
Base material	Granite
Dimensions (WxDxH)	756 x 482 x 966 mm (main unit)
Mass	140 kg (main unit)
X-axis	
Measuring range	100 mm
Resolution	0,05 µm
Drive speed	0 - 80 mm/s and manual
Measuring speed	Surface : 0,02/0,05/0,1/0,2 mm/s Contour : 0,02/0,05/0,1/0,2/0,5/1/2 mm/s
Measuring direction	Forward/backward
Traverse straightness	0,2 µm/100 mm (with the X-axis in horizontal orientation)
Linear displacement accuracy (at 20°C)	±(0.8+0.01L) µm L : Drive length (mm)
Inclining range	±45°
Z1-axis	
Measuring range	5 mm
Resolution	80 nm (5 mm range) 8 nm (0,5 mm range) 0,8 nm (0,05 mm range)
Linear displacement accuracy (at 20°C)	±(1.5+12H/100) µm H : Measurement height from the horizontal position (mm)
Measuring face direction	Downward
Measuring force	0.75 mN
Traceable angle	±65° (using the standard chisel-cut stylus and depending on the surface roughness)
Stylus tip (standard)	Angle : 60°, radius : 2 µm
Stylus tip (cone)	Diamond tip Angle : 30°, radius : 25 µm Sapphire tip
Z2-axis (column)	
Column travel	300 mm
Resolution	1 µm
Drive speed	0 - 20 mm/s and manual



CS3200S4



- 1: Outside diameter
- 2: Outside diameter
- 3: Inside diameter
- 4: Measurement element
- 5: Positioning element

Continuous measurement example

(Outside diameter 1-Outside diameter 2-Inside diameter)

The drive unit (X-axis) and column (Z2-axis) are equipped with high-accuracy linear scales (ABS type) enabling fully automatic measurement combining vertical and horizontal movement. This improves reproducibility of continuous automatic measurement of small holes in the vertical direction and repeated measurements of parts which are difficult to position.



Measuring range in Z1-axis (height) direction is drastically increased from 5 mm to 50 mm when contour detector units 3000*1 or 4000*1 are specified. (Both are factory-fitted options.)

*1 : Styli for CS-3200 cannot be used. Styli for contour measuring instruments CV-3000/4000 CNC series can be used. Supports contour measurement only.