

# Gauge Block Calibration

Length Standards Brought to You by Mitutoyo



An inspection certificate is supplied as standard. Refer to page E-4 for details.

## Gauge Block Comparator GBCD-100A SERIES 565 - Automatic Comparator with Dual Gage Heads



- Measures the length of rectangular gauge blocks in the size range 0.5 mm to 100 mm. It automatically compares a test block with an appropriate reference gauge block.
- The compensation result is not affected by any warping of thinner gauge blocks due to the use of upper and lower gage heads (dual-head system).
- Measurement configuration: 1 cycle of automatic comparison measurement with a standard gauge block.

- Gauge block set for comparator calibration (optional) Standard type **516-145-E2**



**516-145-E2**

### SPECIFICATIONS

Metric

Range	Resolution (μm)	Accuracy in narrow range (20 °C) ±(0.03+0.3L/1000) μm* L = Gauge block length (mm)	Upper gaging head		
			Type	Measuring force	Contact point
0.5 mm - 100 mm	0.01		Mu-Checker	1 N	Carbide contact point of radius 20 mm

Lower gaging head			Operating conditions
Type	Measuring force	Contact point	
Mu-Checker	0.6 N	Carbide contact point of radius 5 mm	Temperature: 20 °C ±1 °C Humidity: 58 %RH ±15 %RH

\* Uncertainty of measurement at the 95 % confidence level (not including the calibration error of the reference gauge block).

## Gauge Block Comparator GBCD-250 SERIES 565 — Manual Comparator with Dual Gage Heads



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- Measures Rectangular Gauge Blocks and Square Gauge Blocks (latter requires dedicated holder - optional accessory) by manual comparison with an appropriate reference gauge block in the size range 0.1 mm to 250 mm
- Measuring method: Differential measurement between upper and lower gage heads (dual head system)

### SPECIFICATIONS

Metric

Range (mm)	Resolution	Accuracy (Confidence level 95 %) Comparison measurement of the same nominal length	Accuracy (Confidence level 95 %) Dimensional deviations between standard gauge block and measurement gauge block: ±3 mm
0.1 - 250	0.001 μm	±(0.03+0.3L/1000) μm* L = Gauge block length (mm)	±(0.06+0.3L/1000) μm* L = Gauge block length (mm)

Upper gaging head			Lower gaging head			Operating conditions
Type	Measuring force	Contact point	Type	Measuring force	Contact point	
Linear Gage	0.4 N	Carbide contact point of radius 20 mm	Linear Gage	0.2 N	Carbide contact point of radius 5 mm	Temperature: 20 °C ±1 °C Humidity: 30 %RH to 60 %RH

\* Uncertainty of measurement at the 95 % confidence level (not including the calibration error of the reference gauge block).