

GAUGE BLOCK COMPARATOR



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Manufacture Assembly Inspection

NANOCAL Series

The best tool for ISO length calibration



Precision manufacture  
Assembly and inspection



Nano Technology Precision  
Length Measuring System



- GBC-NANOCAL Gauge Block Comparator is specially designed for the calibration or dimensional inspection of gauge blocks with nominal lengths ranging from 0.1 to 300mm.
- GBC-NANOCAL The configuration, which consists of two high-precision inductive probes aligned opposite one another with 0.01 μm display. The measuring system provides full guarantee for an extra low uncertainty of measurement.
- Although METROLOGY GBC-NANOCAL Gauge Block Comparator is mainly intended for manufacturers and end-users of gauge blocks, this comparator is also widely used in ISO/IEC 17025 national accredited calibration laboratories all over the world.

Length metrology standard--- The best and only choice for gauge blocks calibration

| Model No. | Measuring Range | Resolution | Repeatability | Uncertainty of Measurement (um)                          |
|-----------|-----------------|------------|---------------|----------------------------------------------------------|
| GBC-P100  | 0.1~100mm       | 0.01um     | ≤0.025um      | U95 ≤ ±(0.05+0.5L/1000) Reference Temperature 20 ± 1°C   |
| GBC-P300  | 0.1~300mm       | 0.000001"  |               | U95 ≤ ±(0.03+0.3L/1000) Reference Temperature 20 ± 0.5°C |

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## GBC-NANOCAL Measuring system combinations

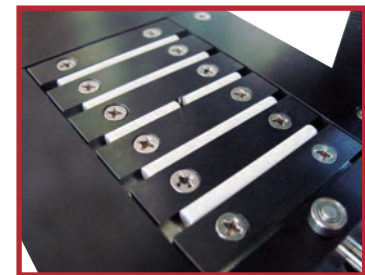
### ■ Measuring stand

DIN 00 grade 300x200x75mm granite base stand, heavy construction with height toothed rack guide column plug two hand wheel for coarse and fine adjustment setting of the measuring arm



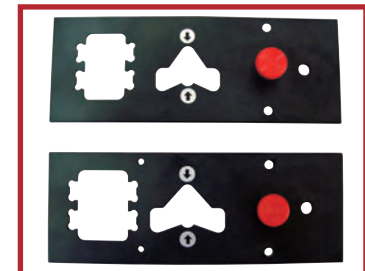
### ■ Measuring table

Made from hardened tool steel and fitted with 6 antimagnetic ceramic cylindrical pins for a safe positioning which provide high protection, and wear resistance to the gauge blocks over years.



### ■ Single template system

Used to shift the gauge blocks from a given point to another. With two interchangeable templates, one is for gauge blocks 9x30mm and another one is for gauge blocks 9x35mm (For GBC-P100 & P300)



### ■ Special template system

For shifting the long gauge blocks from a given point to another. With one template and three support device for length >100mm long gauge blocks 9x35mm.(for GBC-P300)

\*Special template for  $\leq 4"$  imperial square gauge block are available.



### ■ Measuring system

Consisting of: Upper probe A. Measuring force to 1N and lower probe B. Measuring force to 0.63N, fitted with the tungsten carbide measuring insert with spherical measuring face R=20mm.



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## GBC-NANOCAL Measuring system combinations

### ■ Heat protection shield

Dimension: 250x380x6mm Screen  
material: Anti-Shatter fiber glass  
For blocking temperature influence caused from operator.

### ■ Electric vacuum pump with foot switch

For retracting the measuring bolt of each probe.  
Power: 100-240 Vac, 50-60Hz



### ■ Pneumatic suction loader

For safe, easy handling of small gauge blocks  
with nominal lengths up to 5mm. (optional)



### ■ Length measuring system

Instrument TT 80 with RS232 interface and  
analogue output with 0.01μm resolution.  
Power: 100-240 Vac, 50-60Hz

- 2 of probe inputs (Automatic conversion)
- 9 of measuring ranges (Automatic conversion)  
Lowest Value:  $\pm 0.5\mu\text{m}$ , Highest Value:  $\pm 5000\mu\text{m}$
- Digital and analogue display (metric/inch unit system)  
Resolution : 0.01μm

\*Can be choice of swiss or germany precision length measuring system.



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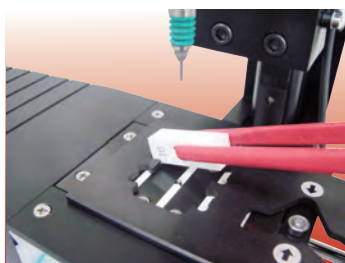
GBC-NANOCAL P300 Standard equipment



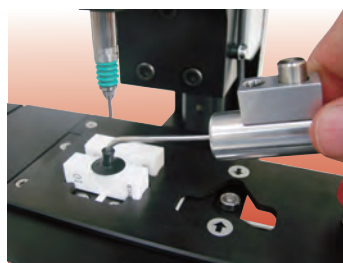
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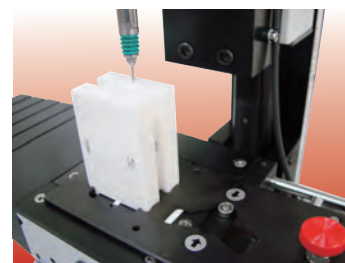
Center setting gauge



Gauge block tweezers sets



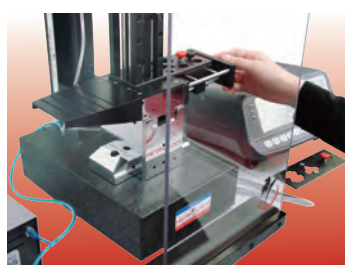
Suction for 30x9mm thin gauge block



35x9mm Gauge block calibration



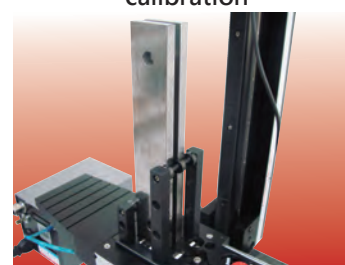
Measuring table and position device



Measuring diagram



Special template and device for long gauge blocks



Comparison calibration for long gauge blocks