

Gauge Blocks

Length Standards Brought to You by Mitutoyo



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

Step Master SERIES 516

- The Step Master is a gage providing 4 small increments in height (steps) constructed from an assembly of 5 highly accurate steel or ceramic blocks.
- Each step is defined as the difference in height between the center of adjacent blocks, measured to a resolution of 0.01 μm by using an interferometer with an accuracy tolerance of $\pm 0.20 \mu\text{m}$.
- Steel and ceramic types are available to suit the application.
- Height differences are measured between the centers of adjacent steps.



Steel type
516-199



Ceramic type
516-499

SPECIFICATIONS

Steel type

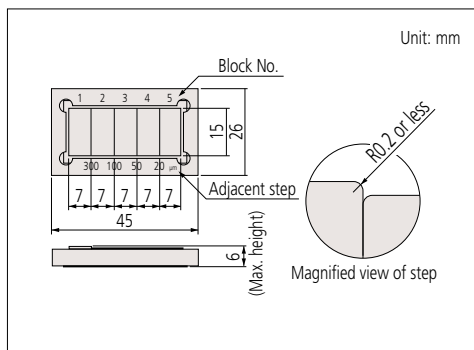
Order No.	516-198					516-199				
Block No.	1	2	3	4	5	1	2	3	4	5
Cumulative step (μm)	0	10	15	17	18	0	300	400	450	470
Step value between adjacent blocks (μm)		10	5	2	1		300	100	50	20

Ceramic type

Order No.	516-498					516-499				
Block No.	1	2	3	4	5	1	2	3	4	5
Cumulative step (μm)	0	10	15	17	18	0	300	400	450	470
Step value between adjacent blocks (μm)		10	5	2	1		300	100	50	20

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DIMENSIONS



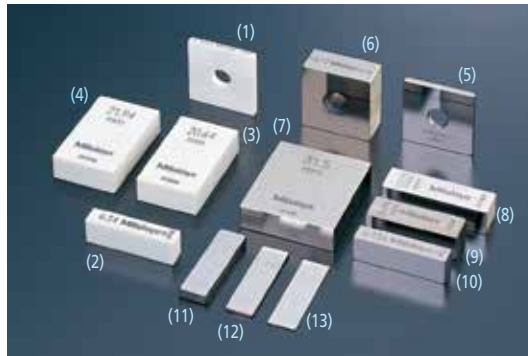
Custom-made Blocks & Gages

- Mitutoyo can manufacture Gauge Blocks and reference gages to your size and design, including precision spacers and stepped masters, which normally absorb much time and effort to manufacture in-house. Special processing including boring, step gaging and special marking is available. Consult us for details.
- Nominal size range
 - 0.1 mm to 1000 mm (steel)
 - 0.5 mm to 500 mm (ceramic)
 - 5 mm to 1000 mm (low expansion ceramic)
- Nominal size increment
 - 0.0005 mm (up to 100 mm)
 - 0.001 mm (over 100 mm)
- Cross section (same as the standard product)
 - Nominal length of 10 mm or less: 30×9 mm
 - Nominal length of more than 10 mm: 35×9 mm
 - Square types are also available.

Notes on "coupling holes" on custom gauge blocks:

- Steel, from 100 mm to less than 500 mm
Without coupling holes
(If needed, please notify.)
- Steel, from 500 mm to less than 1000 mm
With coupling holes
(If not needed, please notify.)
- Ceramic, from 100 mm to less than 500 mm
With coupling holes
(If not needed, please notify.)

Typical examples of custom-made gauge blocks and reference gages.
Please enquire for price and delivery times for your particular requirements.



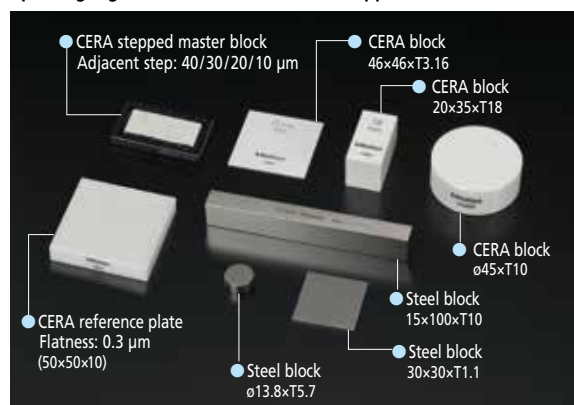
Ceramic

- (1) Square gauge block (2.1005 mm)
- (2) Rectangular gauge block (6.34 mm)
- (3) Rectangular gauge block (20.64 mm)
- (4) Rectangular gauge block (21.94 mm)

Steel

- (5) Square gauge block (2.2065 mm)
- (6) Square gauge block (10.72 mm)
- (7) Rectangular gauge block (31.5 mm)
- (8) Rectangular gauge block (10.02 mm)
- (9) Rectangular gauge block (9.694 mm)
- (10) Rectangular gauge block (6.156 mm)
- (11) Rectangular gauge block (3.603 mm)
- (12) Rectangular gauge block (1.1505 mm)
- (13) Rectangular gauge block (0.555 mm)

Special gauge blocks (T: nominal), CERA stepped master block



Unit: mm