

# Gauge Blocks

## Square Gauge Block Accessories Set SERIES 516

- Mitutoyo offers the gauge block accessories set to expand the variety of square gauge block applications. Square gauge blocks with a hole at their centre are much more widely used than rectangular gauge blocks. We also sell the accessories loose to meet your needs.
- Always use genuine gauge block accessories.



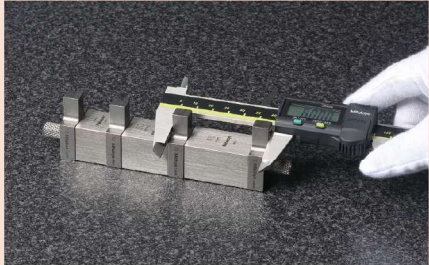
516-611

### SPECIFICATIONS

Metric			Inch		
Code No. 516-611	Included in set	Quantity Supplied	Code No. 516-612	Included in set	Quantity Supplied
619070	Half-round jaw 2 mm	2 pcs.	619050	Half-round jaw 0.125 in	2 pcs.
619071	Half-round jaw 5 mm		619051	Half-round jaw 0.25 in	
619072	Plain jaw 10 mm		619052	Plain jaw 0.5 in	
619073	Center point 2 mm	1 pc.	619053	Center point 0.1 in	1 pc.
619054	Scriber point		619054	Scriber point	
619074	Base 10 mm		619055	Base 0.5 in	
619056	Stud	2 pcs.	619056	Stud	2 pcs.
619057	Flat head screw 1 1/4 in		619057	Flat head screw 1 1/4 in	
619058	Flat head screw 5/8 in		619058	Flat head screw 5/8 in	
619059	Slotted head nut		619059	Slotted head nut	
619060	Adjustable tie rod 6 in		619060	Adjustable tie rod 6 in	
619061	Adjustable tie rod 4 1/2 in	1 pc.	619061	Adjustable tie rod 4 1/2 in	1 pc.
619062	Tie rod 3 in		619062	Tie rod 3 in	
619063	Tie rod 2 1/4 in		619063	Tie rod 2 1/4 in	
619064	Tie rod 1 1/2 in		619064	Tie rod 1 1/2 in	
619065	Tie rod 3/4 in	2 pcs.	619065	Tie rod 3/4 in	2 pcs.
619066	Knurled head screw		619066	Knurled head screw	

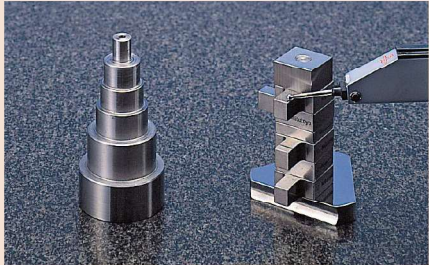
Note: 2 pcs. of half-round jaw, plain jaw, stud, flat head screw, slotted head nut, adjustable tie rod, and knurled head screw are included in each set. Please note that the abovementioned code number indicates only 1 set.

### Typical application



Using plain jaws, tie rods, knurled head screws and gauge blocks, a gage was constructed to enable rapid comparison measurement of a stepped workpiece. (Sample workpiece)

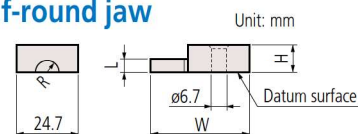
### Measurement example



Using a base, plain jaws, tie rods, flat head screws and gauge blocks, a gage was constructed to enable rapid comparison measurement of a stepped workpiece. (Sample workpiece)

Note: Accuracy when using third-party accessories is not guaranteed.

## Half-round jaw

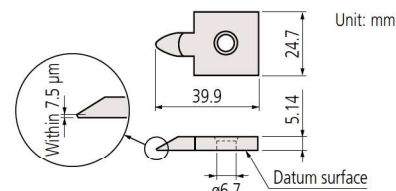


Code No.	R (mm)	L (mm)	W (mm)	H (mm)
619070	1.95	2	33.6	5.3
619071	4.95	5	39.9	10.3

- Flatness 0.5  $\mu\text{m}$
- Parallelism of L 0.5  $\mu\text{m}$
- Tolerance of L  $\pm 0.5 \mu\text{m}$

## Scriber point

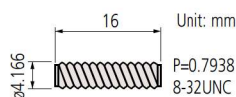
619054



- Flatness of datum surface 0.5  $\mu\text{m}$

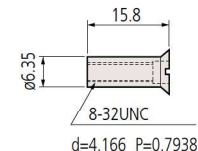
## Stud

619056



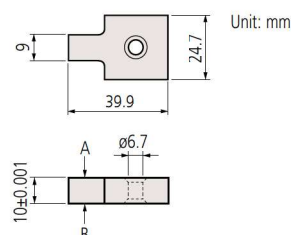
## Slotted head nut

619059



## Plain jaw

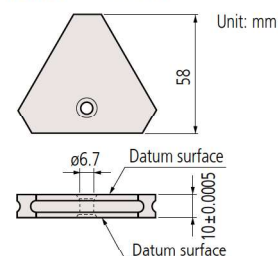
619072



- Flatness 0.12  $\mu\text{m}$
- Parallelism 0.12  $\mu\text{m}$
- A and B are datum surfaces

## Base

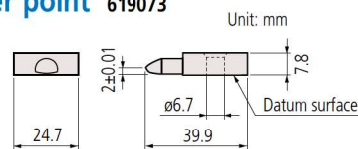
619074



- Flatness 1.5  $\mu\text{m}$
- Parallelism 1.5  $\mu\text{m}$   
(The surface within 1.5 mm of edge is excluded)

## Center point

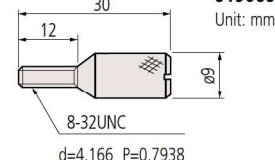
619073



- Flatness 0.5  $\mu\text{m}$

## Knurled head screw

619066

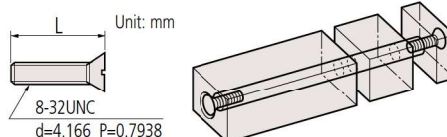


### Contraction caused by the clamping force

The minimum recommended torque to be applied to the clamping screws is approximately 600 mN·m. The chart below shows the approximate length contraction of a 100 mm gage stack using typical torque values.

Driver	Contraction
Torque Driver 600 mN·m	0.2 $\mu\text{m}/100 \text{ mm}$
Ordinary Driver 700 to 800 mN·m	0.3 $\mu\text{m}/100 \text{ mm}$

## Flat head screw



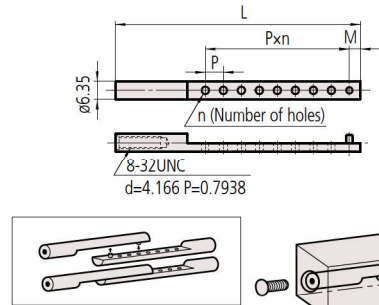
Code No.	L (mm)
619057	31.6
619058	15.8

Gauge Blocks

Square Gauge Block Accessories Set  
SERIES 516

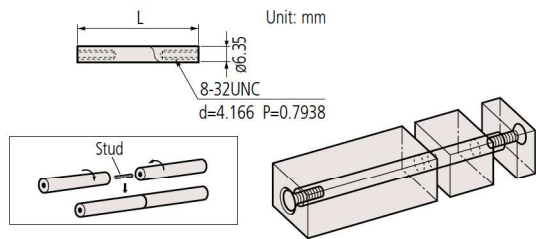
Adjustable tie rod

Unit: mm



Code No.	L (mm)	M (mm)	P (mm)	n (Number of holes)
619060	124.5	3.85	6.35	14
619061	86.5	3.95	6.35	8

Tie rod



Code No.	L (mm)
619065	19
619064	38
619063	57
619062	76

Accessories used for combining square gauge blocks

Overall length (mm)		Min.	21	36	34	41	45	58	64	72	77	82	91	95	109	117
Code No.	Included in set	Max.	30	43	43	50	60	72	79	88	91	97	107	109	125	135
619059	Slotted head nut		1	1		1										
619058	Flat head screw		1		2	1	2	1	2		1	2		1		1
619057				1				1		2	1		2	1	2	1
619056	Stud					1										1
619065	Tie rod				1	1										1
619064							1	1		1						
619063									1		1		1			
619062												1		1	1	1
619061	Adjustable tie rod															
619060																

Overall length (mm)		Min.	130	148	121	167	143	160	205	180	223	240	258	295	375
Code No.	Included in set	Max.	150	169	180	184	210	255	270	285	288	345	363	445	520
619059	Slotted head nut														
619058	Flat head screw				2			2							
619057			2	2		2	2		2	2	2	2	2	2	2
619056	Stud		1	1		1			1		1	1	1	1	2
619065	Tie rod		1												
619064				1											
619063						1			1			1			
619062			1	1		1					1		1		1
619061	Adjustable tie rod				2		2		2		2			2	2
619060								2		2		2	2	2	2