

Gauge Blocks

Length Standards Brought to You by Mitutoyo

Rectangular Gauge Block Accessories SERIES 516

- To expand the range of rectangular gauge block (steel and CERA) applications, Mitutoyo offers the gauge block accessories set. By assembling the items in the set, together with a stack of gauge blocks, you can easily and quickly build up a precision gage.



516-601
(22 pcs)



516-602
(14 pcs)

SPECIFICATIONS

Item Description	Item Order No.	Nominal capacity/ dimension (mm)	Set		Qty
			22 pcs 516-601	14 pcs 516-602	
Holder	619002	15 to 60	—	✓	1 pc.
	619003	5 to 100	✓	✓	
	619004	15 to 160	✓	✓	
	619005	20 to 250	✓	✓	
Base	619009	35	✓	✓	
Half-round jaw	619010	2	✓	✓	One pair (2 pcs)
	619011	5	✓	✓	
	619012	8	✓	✓	
	619013	12	✓	—	
	619014	20	✓	—	
Plain jaw	619018	160	✓	—	
Scriber point	619019	—	✓	✓	1 pc.
Center point	619020	—	✓	✓	
Tram point	619021	—	✓	—	One pair (2 pcs)
Triangular straightedge	619022	100	✓	✓	1 pc.
	619023	160	✓	—	

Application Examples



Gaging a bore using a pair of half-round jaws and a holder



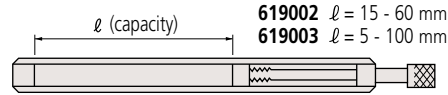
Marking a workpiece using the base, a holder and the scriber point



Setting a bore gage using a holder with a pair of Type I half-round jaws arranged as flat contact surfaces

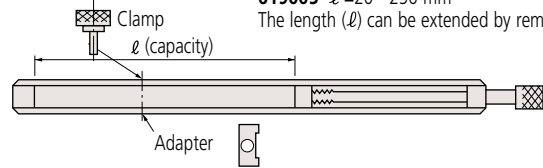
Holder

Thickness = 15 mm
Width = 29.5 mm

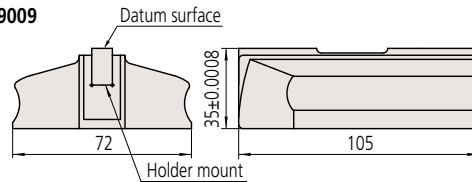


619004 $l = 15 - 160$ mm
619005 $l = 20 - 250$ mm

The length (l) can be extended by removing the adapter.



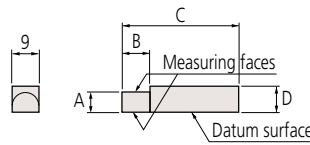
Base 619009



Flatness of the datum surface $0.5 \mu\text{m}$
Parallelism $0.8 \mu\text{m}$
Flatness of the bottom surface $1 \mu\text{m}$

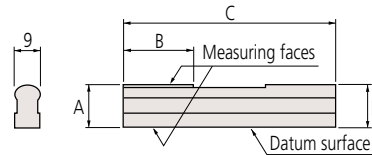
Half-round jaws*

Type I



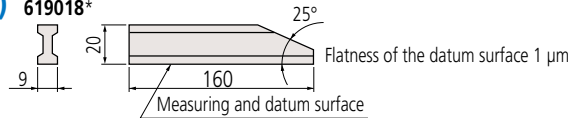
Flatness of the datum surface $0.5 \mu\text{m}$
Parallelism of A $0.5 \mu\text{m}$

Type II



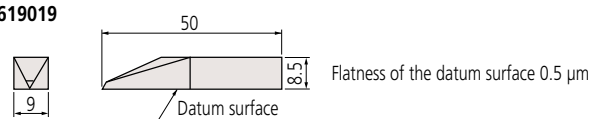
Order No.	Type	Size (mm)	A (mm)	B (mm)	C (mm)	D (mm)
619010*	I	2	2 ± 0.0005	5.5	40	7.5
619011*		5	5 ± 0.0005	15.5	45	7.5
619012*		8	8 ± 0.0005	20	50	8.5
619013*	II	12	12 ± 0.0005	25	75	13
619014*		20	20 ± 0.0005	25	125	20.5

Plain jaw (B type) 619018*



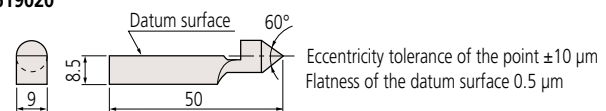
Flatness of the datum surface $1 \mu\text{m}$

Scriber point 619019



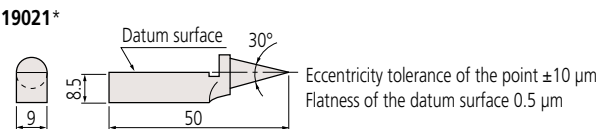
Flatness of the datum surface $0.5 \mu\text{m}$

Center point 619020



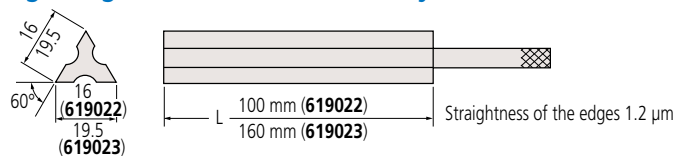
Eccentricity tolerance of the point $\pm 10 \mu\text{m}$
Flatness of the datum surface $0.5 \mu\text{m}$

Tram point 619021*



Eccentricity tolerance of the point $\pm 10 \mu\text{m}$
Flatness of the datum surface $0.5 \mu\text{m}$

Triangular straightedge (for handheld use only)



* Supplied as a pair (2 pcs.).

Gauge Blocks

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Accessories for Rectangular Gauge Blocks over 100 mm SERIES 516

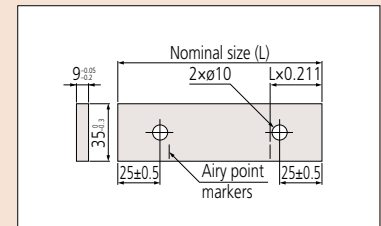
- Specially designed for long rectangular gauge blocks of 100 mm and over which have two coupling holes in the body: coupling of two long gauge blocks, a stack of regular gauge blocks and attachment of jaws is possible.
- These accessories can be used for long steel or CERA blocks.



516-605
(14 pcs)

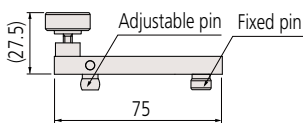
SPECIFICATIONS

Set Order No.	Individual Item Order No.	Item Description	Quantity Supplied
516-605	619031	Connector A	1 pc.
	619032	Connector B	
	619033	Connector C	
	619034	Connector D	
	619035	Connector E	
	619036	Adapter	3 pcs.
	619009	Base	1 pc.
	619018	Plain jaw (B-type)	2 pcs.
	619013	Half-round jaw	
	619019	Scriber point	1 pc.



Coupling holes in long gauge blocks

Connector A 619031

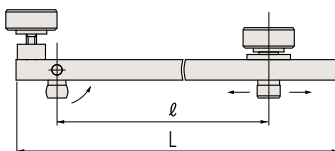


Used for directly coupling two long gauge blocks.



Using an A-type connector

Connectors B and C



Adapter (2 pcs.) 619036

Used for clamping jaws to the ends of one or more long gauge blocks in conjunction with adapters (619036). The length l is highly adjustable to accommodate the variable length of a stack of regular gauge blocks that would be wrung to one of the long gauge blocks to achieve the required gaging size.

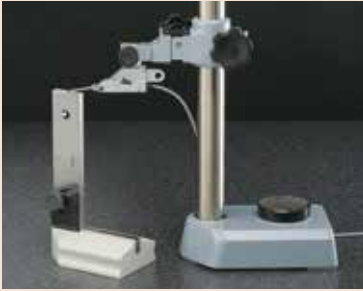
Unit: mm

	Order No.	l (max.)	L	Adapter Qty
Connector B	619032	90	126	2
Connector C	619033	200	236	



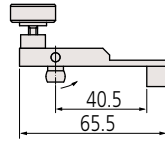
Use of B-type connectors in gage construction

Application Example



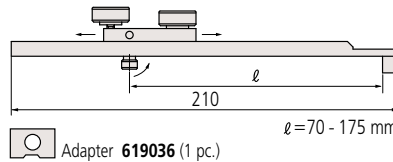
Setting a dial test indicator to a long-gauge-block stack attached to the base with a D-type connector

Connector D 619034



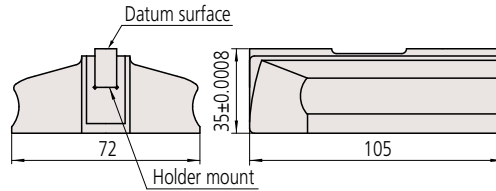
Used for attaching a long gauge block directly to the base.

Connector E 619035



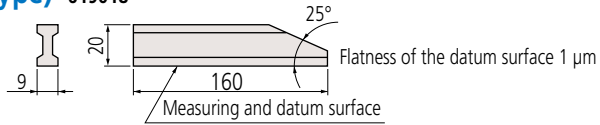
Used for attaching a long gauge block to the base over a stack of regular gauge blocks wrung between the base and long gauge block. The length l is highly adjustable to accommodate the variable length of the stack.

Base 619009

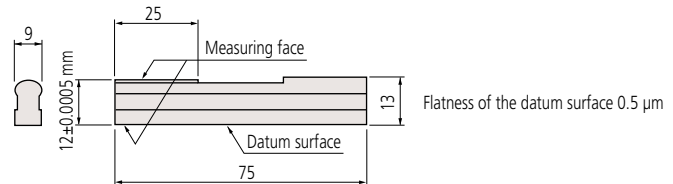


Flatness of the datum surface 0.5 μm
Flatness of the bottom surface 1 μm

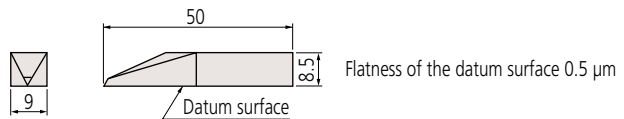
Plain jaw (B-type) 619018*1



Half-round jaw 619013*1



Scriber point 619019



*1 Supplied as a pair (2 pcs.).

Example of use of accessories with long gauge blocks

The table below shows the appropriate combination of long rectangular gauge blocks and accessories for making inside and outside measurements in the approximate range 300 mm to 1000 mm in 100 mm steps. The numbers in the table represent the number of gauge blocks or accessories in use. Note that the ranges shown do not take into account the combined thickness of the half-round jaws for inside measurement (24 mm) and the length of any regular gauge block stack used.

Items	Order No.	300 mm		400 mm		500 mm		600 mm		700 mm		800 mm		900 mm		1000 mm	
		Inner	Outer	Inner	Outer	Inner	Outer	Inner	Outer	Inner	Outer	Inner	Outer	Inner	Outer	Inner	Outer
Rectangular gauge block (nominal dimension)	200 mm	611682						1	1								
	300 mm	611683	1	1						1	1	1	1				
	400 mm	611684			1	1			1	1	1	1		1	1		
	500 mm	611685				1	1					1	1	1	1	2	2
Connector A	619031							1	1	1	1	1	1	1	1	1	1
Connector B*2	619032	2		2		2		2		2		2		2		2	
Half-round jaws 2 pcs/set	619013	2		2		2		2		2		2		2		2	
Adapter	619036	(2)		(2)		(2)		(2)		(2)		(2)		(2)		(2)	

*2 Provided with adapters (2 pcs.).