

# Reference Gages

Length Standards Brought to You by Mitutoyo

## Black Granite Surface Plates SERIES 517

- Natural granite is free from deterioration or dimensional change over time.
- Black Granite Plate's most distinctive feature is its hardness, twice that of cast iron.
- Free from wringing effects, so there is no interruption of work.
- Since granite is harder, finer grained, and more brittle than cast iron it does not throw up burrs or protrusions if scratched. (See Figure 1.) This ensures a high degree of flatness with no risk of damaging instruments or workpieces.
- Use these plates in a stable temperature environment. Since flatness error occurs when there is a temperature difference between the working surface and the underside, avoid working in direct sunlight. Also, do not place a plate in the vicinity of an air conditioner or heater. (Recommended environment: Temperature  $20\pm 1$  °C, Humidity  $58\pm 2$  %)



An inspection certificate is supplied as standard. Refer to page U-11 for details.

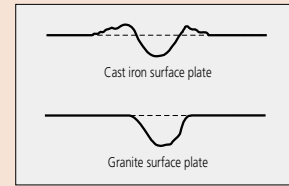


Figure 1



## Custom-made Granite Products

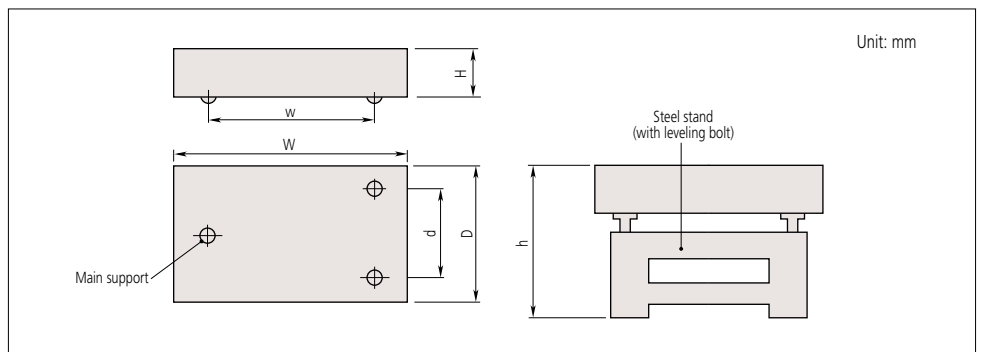
Mitutoyo can manufacture granite products to your design (such as main structural components of semiconductor instruments and process machinery). For detailed information, contact the nearest Mitutoyo sales office.

## SPECIFICATIONS

Order No.	Size (mm)			Flatness (μm)	Mass (kg)	Optional stands for black granite surface plates			h (mm)
	WxDxH	d	w			Standard type	with safety frame	with casters (with safety frame)	
517-401-4	300x300x100	240	240	2	27	—	—	—	—
517-301				3					
517-101				5					
517-411-4	450x300x100	240	390	2	40	—	—	—	—
517-311				3					
517-111				6					
517-414-4	600x450x100	370	500	2.5	80	517-203-2	517-203R	517-203CR	755 to 775
517-314				4					
517-114				8					
517-403-4	600x600x130	500	500	2.5	140	517-204-2	517-204R	517-204CR	755 to 775
517-303				5					
517-103				8					
517-405-4	750x500x130	420	630	3	146	517-205-2	517-205R	517-205CR	755 to 775
517-305				5					
517-105				9					
517-407-4	1000x750x150	630	700	3	337	517-206-2	517-206R	517-206CR	755 to 775
517-307				6					
517-107				12					
517-409-4	1000x1000x150	700	700	3.5	450	517-207-2	517-207R	517-207CR	735 to 775
517-309				7					
517-109				13					
517-413-4	1500x1000x200	700	1100	4	900	517-208-4	517-208R	517-208CR	735 to 775
517-313-4				8					
517-113-4				16					
517-410-4	2000x1000x250	700	1500	4.5	1500	517-209-4	517-209R	517-209CR	735 to 775
517-310-4				9.5					
517-110-4				19					
517-416-4	2000x1500x300	1100	1500	5	2700	517-210-4	517-210R	517-210CR	735 to 775
517-316-4				10					
517-116-4				20					
517-317-4	2000x2000x350	1500	1500	11	4200	—	—	—	700 to 706*
517-117-4				22					
517-318-4	3000x1500x400	1100	2000	12.5	5400	—	—	—	700 to 706*
517-118-4				25					
517-319-4	3000x2000x500	1500	2000	13.5	9000	—	—	—	700 to 706*
517-119-4				27					

\* Distance from the bottom of the large granite plate block mount to the granite plate top surface.

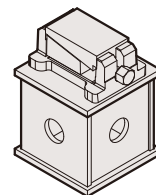
## DIMENSIONS



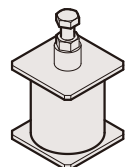
## SPECIFICATIONS: Main and auxiliary supports for large surface plates

Order No.	Support sets		Applicable surface plates	
	Main support	Auxiliary support	Order No.	Size (WxDxH) (mm)
06AAY174	3 pcs.	2 pcs.	517-317	2000x2000x350
			517-117	
06AAY175	3 pcs.	3 pcs.	517-318	3000x1500x400
			517-118	
06AAY176	3 pcs.	3 pcs.	517-319	3000x2000x500
			517-119	

Main support  
(3 required)



Auxiliary support  
(2 or 3 required)

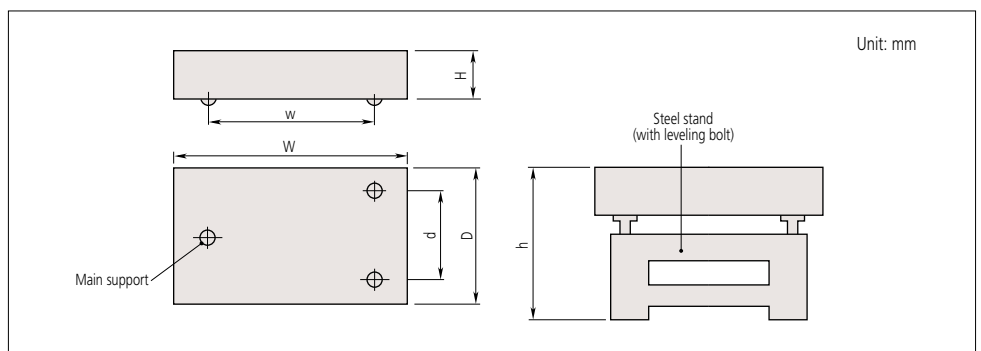


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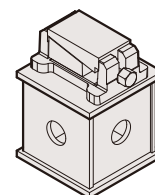
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Auxiliary support  
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