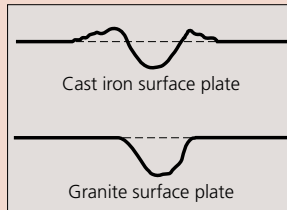


# Black Granite Surface Plate

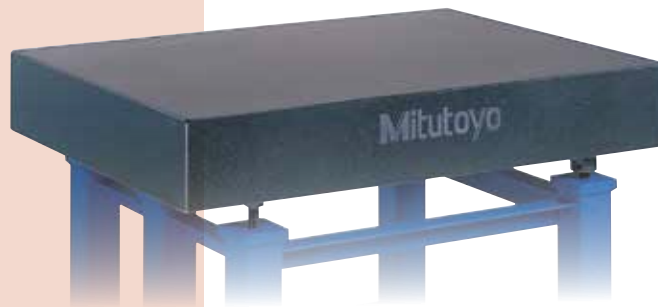
## SERIES 517

### FEATURES

- Natural granite seasoned for thousands of years is free from deterioration or dimensional change over time.
- Granite surface plate has many advantages over cast iron surface plates:
  - Twice as hard as cast iron.
  - Minimal changes in dimension due to temperature changes.
  - Free from wringing, so there is no interruption of work.
  - Free from burrs or protrusions because of the fine grain structure and insignificant



- stickiness; this ensures a high degree of flatness over a long service life and causes no damage to other parts or instruments.
- Trouble-free operation for use with magnetic materials.
- Long life and rust-free, resulting in low maintenance costs.
- MITUTOYO Granite Surface Plates meet or exceed Federal Specification GGG-P-463c. Each Surface Plate is shipped with a Certificate of Accuracy which guarantees its accuracy and verifies its traceability to the National Institute of Standards and Technology.
- All plates from 48" x 108" and larger are Machine Base Gray Granite. Smaller plates are Black Granite.
- Surface Plates, to size of specifications other than standard, available on special order.
- Surface Plates, with the bolt screws, available on special order.
- All MITUTOYO Surface Plates shipped F.O.B. Escondido, California.



### SPECIFICATIONS

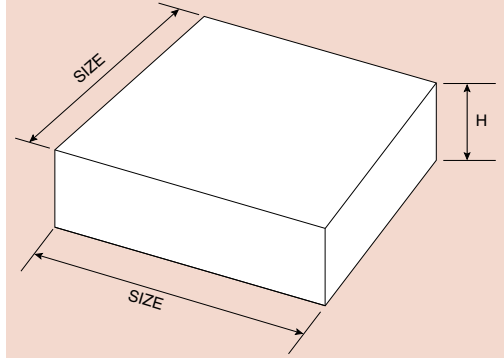
**Inch** 100 lbs.-Load / sq. ft. no ledge

Size	AA Laboratory Grade				A Inspection Grade				B Shop Grade			
	H	Acc.*	Order No.	Wt.	H	Acc.*	Order No.	Wt.	H	Acc.*	Order No.	Wt.
8 x 12"	3"	50	517-700	30	2"	100	517-800	25	2"	200	517-900	25
9 x 12"	3"	50	517-701	40	3"	100	517-801	40	2"	200	517-901	30
12 x 12"	3"	50	517-702	50	3"	100	517-802	50	3"	200	517-902	50
12 x 18"	4"	50	517-703	100	4"	100	517-803	100	4"	200	517-903	100
18 x 18"	4"	50	517-704	150	4"	100	517-804	150	3"	200	517-904	100
18 x 24"	4"	65	517-705	200	4"	130	517-805	200	4"	260	517-905	200
24 x 24"	5"	70	517-706	310	4"	140	517-806	259	3"	280	517-906	200
24 x 30"	5"	75	517-707	400	5"	150	517-807	400	4"	300	517-907	300
24 x 36"	6"	85	517-708	600	5"	170	517-808	500	4"	340	517-908	400
24 x 48"	8"	150	517-709	1000	6"	300	517-809	800	5"	600	517-909	650
30 x 36"	6"	100	517-710	800	5"	200	517-810	600	5"	400	517-910	600
30 x 48"	8"	150	517-711	1300	6"	300	517-811	1000	6"	600	517-911	1000
30 x 60"	12"	200	517-712	1900	10"	500	517-812	1535	8"	1000	517-912	1150
36 x 36"	6"	100	517-713	900	5"	200	517-813	780	5"	400	517-913	700
36 x 48"	8"	150	517-714	1500	6"	300	517-814	1200	6"	600	517-914	1200
36 x 60"	12"	200	517-715	2850	10"	400	517-815	2350	8"	800	517-915	1900
36 x 72"	12"	250	517-716	3400	10"	500	517-816	2850	8"	1000	517-916	2300
48 x 48"	8"	200	517-717	2025	6"	400	517-817	1525	6"	800	517-917	1500
48 x 60"	12"	250	517-718	3800	10"	500	517-818	3150	8"	1000	517-918	2525
48 x 72"	12"	300	517-719	4500	10"	600	517-819	3800	8"	1200	517-919	3050
48 x 84"	14"	350	517-720	6150	12"	700	517-820	5325	10"	1400	517-920	4450
48 x 96"	14"	400	517-721	7000	12"	800	517-821	6050	10"	1600	517-921	5150
48 x 108"	14"	500	517-722	7900	12"	1000	517-822	6830	10"	2000	517-922	5700
48 x 120"	18"	700	517-723	11300	16"	1400	517-823	10160	14"	2800	517-923	8800
48 x 144"	18"	800	517-724	13500	16"	1600	517-824	12200	14"	3200	517-924	10500
60 x 60"	14"	250	517-725	5500	12"	500	517-825	4800	10"	1000	517-925	4000
60 x 72"	14"	350	517-726	6600	12"	700	517-826	5750	10"	1400	517-926	4900
60 x 96"	14"	500	517-727	8800	12"	1000	517-827	7600	10"	2000	517-927	6500
60 x 120"	16"	700	517-728	11050	14"	1400	517-828	11100	12"	2800	517-928	9800
60 x 144"	18"	900	517-729	16950	16"	1800	517-829	15100	14"	3600	517-929	14200
72 x 72"	14"	400	517-730	8000	12"	800	517-830	7000	10"	1600	517-930	5700
72 x 96"	16"	500	517-731	12025	14"	1000	517-831	10800	12"	2000	517-931	9200
72 x 120"	16"	700	517-732	15070	14"	1400	517-832	13400	12"	2800	517-932	11400
72 x 144"	18"	1000	517-733	20300	16"	2000	517-833	18100	14"	4000	517-933	15900

\* Accuracies shown in microinches (µin)

**Inch** 50 lbs.-Load / sq. ft. no ledge

Size	AA Laboratory Grade				A Inspection Grade				B Shop Grade			
	H	Acc.	Order No.	Wt.	H	Acc.	Order No.	Wt.	H	Acc.	Order No.	Wt.
8 x 12"	2"	50	<b>517-740</b>	25	2"	100	<b>517-840</b>	25	2"	200	<b>517-940</b>	25
12 x 18"	3"	50	<b>517-741</b>	80	3"	100	<b>517-841</b>	80	2"	200	<b>517-941</b>	60
18 x 24"	4"	65	<b>517-742</b>	200	3"	130	<b>517-842</b>	165	2"	260	<b>517-942</b>	100
24 x 36"	5"	85	<b>517-743</b>	500	4"	170	<b>517-843</b>	400	3"	340	<b>517-943</b>	300
36 x 48"	6"	150	<b>517-746</b>	1200	5"	300	<b>517-846</b>	1000	4"	600	<b>517-946</b>	800



## Steel Stands

Steel Stands for supporting Black Granite Surface Plates, at working levels, are available either stationary or with casters. Sizes and weights are given below.



### SPECIFICATIONS

Size	Stationary		With Casters	
	Order No.	Wt.	Order No.	Wt.
12 x 18"	<b>517-950</b>	42lbs	<b>517-950-1</b>	46lbs
18 x 18"	<b>517-951</b>	46lbs	<b>517-951-1</b>	50lbs
18 x 24"	<b>517-952</b>	50lbs	<b>517-952-1</b>	56lbs
24 x 24"	<b>517-954</b>	65lbs	<b>517-954-1</b>	69lbs
24 x 30"	<b>517-955</b>	70lbs	<b>517-955-1</b>	74lbs
24 x 36"	<b>517-956</b>	73lbs	<b>517-956-1</b>	77lbs
24 x 48"	<b>517-957</b>	90lbs	<b>517-957-1</b>	94lbs
30 x 36"	<b>517-960</b>	85lbs	<b>517-960-1</b>	89lbs
30 x 48"	<b>517-961</b>	95lbs	<b>517-961-1</b>	99lbs
30 x 60"	<b>517-962</b>	105lbs	<b>517-962-1</b>	109lbs
36 x 36"	<b>517-963</b>	95lbs	<b>517-963-1</b>	99lbs
36 x 48"	<b>517-964</b>	105lbs	<b>517-964-1</b>	109lbs
36 x 60"	<b>517-965</b>	160lbs	<b>517-965-1</b>	164lbs
36 x 72"	<b>517-966</b>	180lbs	<b>517-966-1</b>	184lbs
48 x 48"	<b>517-967</b>	190lbs	<b>517-967-1</b>	194lbs
48 x 60"	<b>517-968</b>	200lbs	<b>517-968-1</b>	204lbs
48 x 72"	<b>517-969</b>	205lbs	<b>517-969-1</b>	209lbs
48 x 84"	<b>517-970</b>	320lbs	<b>517-970-1</b>	324lbs
48 x 96"	<b>517-971</b>	335lbs	<b>517-971-1</b>	339lbs
48 x 108"	<b>517-972</b>	350lbs	<b>517-972-1</b>	354lbs
48 x 120"	<b>517-973</b>	365lbs	<b>517-973-1</b>	369lbs
48 x 144"	<b>517-974</b>	430lbs	<b>517-974-1</b>	434lbs
60 x 60"	<b>517-975</b>	245lbs		
60 x 72"	<b>517-976</b>	340lbs		
60 x 96"	<b>517-977</b>	375lbs		
60 x 120"	<b>517-978</b>	455lbs		
60 x 144"	<b>517-979</b>	480lbs		
72 x 72"	<b>517-980</b>	380lbs		
72 x 96"	<b>517-981</b>	465lbs		
72 x 120"	<b>517-982</b>	510lbs		
72 x 144"	<b>517-983</b>	530lbs		

Note: The total height of stand and granite plate is 36". If ordering only stand, stand height will be made according to a Grade A granite plate thickness.

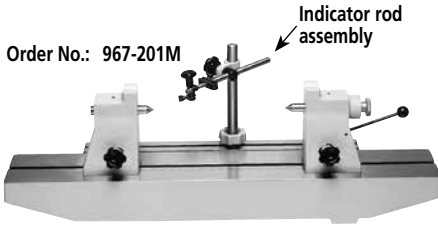
# Bench Center

## SERIES 967

### FEATURES

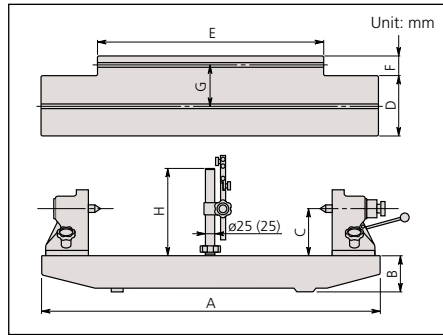
- Used with a dial test indicator (optional), the Bench Center provides precision measurement of concentricity verification on cylindrical workpieces.
- With an indicator clamp. (Holding stem diameter: 9.53mm / .375")

Order No.: 967-201M



Indicator rod assembly

### DIMENSIONS



Order No.	A	B	C	D	E	F	G	H
967-203-10	310	40	50	70	178	41	60	134.5
967-201-10	500	45	75	80	370	36	60	194.5
967-204-10	700	80	100	140	500	65	110	194.5
967-202-10	900	100	125	160	600	50	104	230

### SPECIFICATIONS

Order No.	Center-to-Center	Workpiece Capacity Diameter	Max. Weight Hold	Parallelism of Centers	Flatness of Surface	Attachment Diameter	Mass (kg)
967-203-10	5.9" / 150mm	3.8"	17.5 lbs. (8kg)	.0002"	.0004"	Ø3/8"	7
967-201-10	11.8" / 300mm	5.8"	35 lbs. (16kg)	.0002"	.0006"	Ø3/8"	13
967-204-10	17.7" / 450mm	7.8"	44 lbs. (20kg)	.0002"	.0007"	Ø3/8"	60
967-202-10	23.6" / 600mm	9.8"	66 lbs. (30kg)	.00024"	.0008"	Ø3/8"	70

### Technical Data

Maximum workpiece dia.: 300mm  
 Maximum workpiece height: 150mm  
 Mass: 13kg  
 Spindle Tip Material: Hardened Steel

### Optional Accessories:

**56AAJ988** Special attachment for mounting **967-201-10** in vertical position.

**56AAJ987** Special attachment for mounting **967-203-10** in vertical position.

**56AAK066** Indicator rod assembly  
**967-201-10**  
**967-203-10**

**56AAK426** Indicator rod assembly  
**967-202-10**  
**967-204-10**

# Granite Surface Plate Accessories

## SERIES 517

These accessories made from the same high quality black granite as Mitutoyo surface plates, allow extra flexibility in work holding and positioning.

### SPECIFICATIONS

**Angle Blocks** with or without inserts

Grade	Laboratory*			Master**		
	Size	4 Face		2 Face	4 Face	
2 Face		no inserts	w/ inserts		no inserts	w/ inserts
4 x 4 x 4"	<b>517-767</b>	<b>517-761</b>	<b>517-773</b>	<b>517-867</b>	<b>517-861</b>	<b>517-873</b>
6 x 6 x 6"	<b>517-768</b>	<b>517-762</b>	<b>517-774</b>	<b>517-868</b>	<b>517862</b>	<b>517-874</b>

\*Laboratory overall accuracy: .000025" per 6".

\*\*Master overall accuracy: .000050" per 6".

### Parallels

Grade	Pair Accuracy	Laboratory		Master		
		2 Face	4 Face	Accuracy	2 Face	4 Face
.75 x 1 x 6"	.00003"	<b>517-755</b>	<b>517-750</b>	.00006"	<b>517-855</b>	<b>517-850</b>
.75 x 1.5 x 9"	.00004"	<b>517-756</b>	<b>517-751</b>	.00008"	<b>517-856</b>	<b>517-851</b>
1 x 2 x 12"	.00006"	<b>517-757</b>	<b>517-752</b>	.0001"	<b>517-857</b>	<b>517-852</b>

### V-Blocks

Matching Pair

V-1 type have matching accuracy on "V" from the bottom face only.  
 V-5 type have four face matching accuracy plus "V".

Grade	Laboratory*		Master**	
	V-1	V-5	V-1	V-5
2 x 2 x 2.5"	<b>517-787</b>	<b>517-783</b>	<b>517-887</b>	<b>517-883</b>
3 x 3 x 3"	<b>517-788</b>	<b>517-784</b>	<b>517-888</b>	<b>517-884</b>
6 x 6 x 6"	<b>517-789</b>	<b>517-785</b>	<b>517-889</b>	<b>517-885</b>

\*Laboratory overall accuracy: .00005" per 6".

\*\*Master overall accuracy: .0001" per 6"

Angle Blocks



**517-862**  
(without inserts)

**517-884 V-Blocks (matching pair)**



**517-852**  
Parallels  
(in pairs)