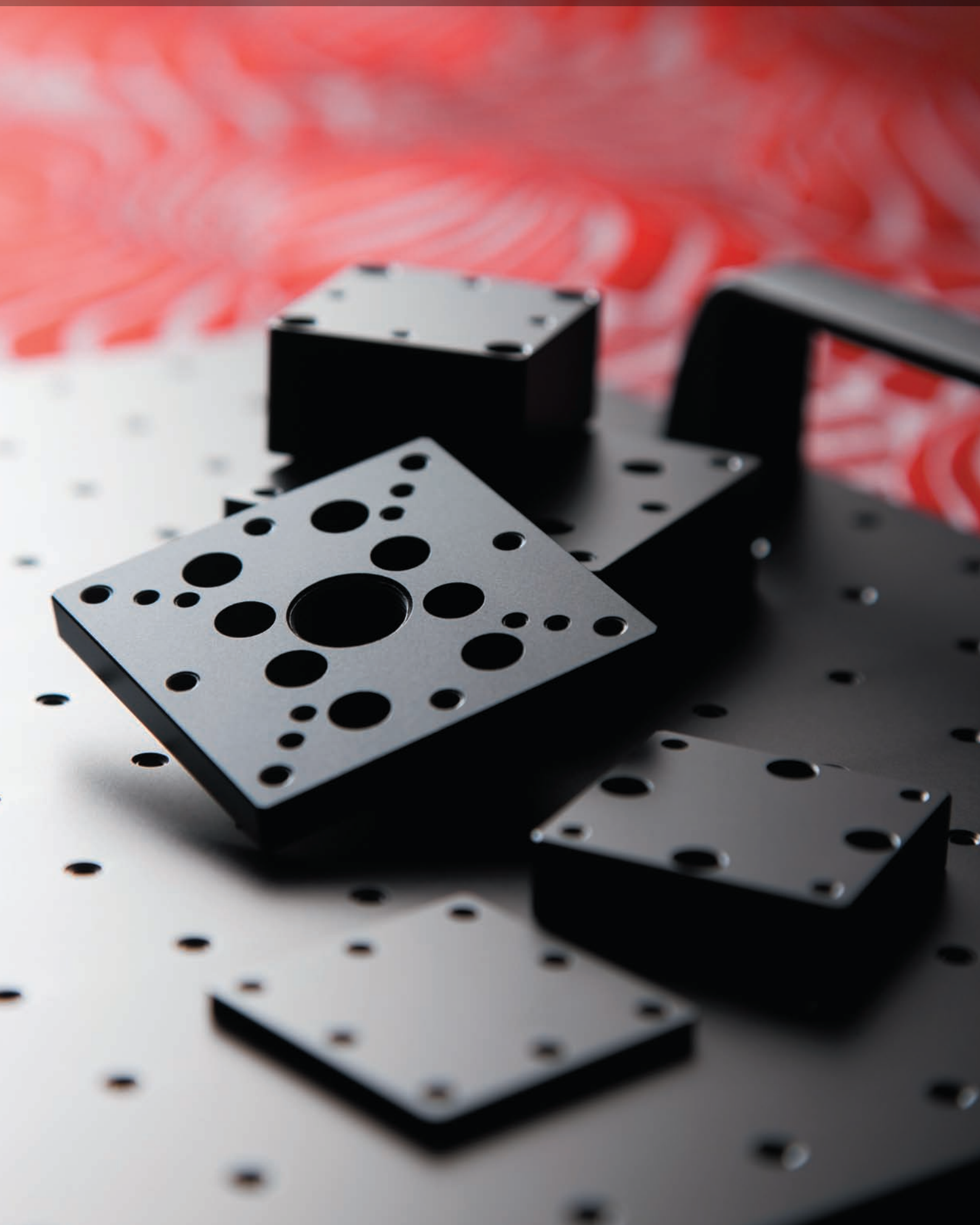




Vibration Isolation Concepts

D004

Vibration Isolation Systems

	Active Vibration Isolation Systems OSDVIA	D006
	High-performance Vibration Isolation Systems with Steel Honeycomb Top OSDVIO	D007
	Steel Honeycomb Optical Tables OSDVIO-R	D009
	Desk Style Vibration Isolation Systems OSDVID	D010
	Desktop Vibration Isolation Systems OSDVIT	D011

Optical Tables

	Tabletop Optical Breadboard OSDVIO-B	D012
	Overhead Table Shelf System OSDOTS	D013
	Accessories	D014
	Air Compressor OSDAC-30	D014

Carry-In Route and Installation Environment Question Sheet — **D016**

	Rubber Isolators PR	D017
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Darkrooms/Dark Boxes

	Darkroom Kits Clean Darkroom Kits DRU/DRUC	D018
	Fluorescent Light (White) DRU	D019
	Ventilation Fans DRU	D019
	White LED Light LU-101	D019
	Spirit Levels LMC/LMT	D019

Optical Bases

	Dark Boxes DB	D020
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	Guidance of Vacuum Products	D021
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	Large Optical Rails / Large Low-Profile Optical Rails Medium Optical Rails / Medium Low-Profile Optical Rails OBA-LH/OBT-LH/LUU/OBA-SH/OBT-SH/SUU	D024 D026
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	Carriers for Large Optical Rails Carriers for Medium Optical Rails CAA-L/CAA-LS/MB	D025 D027
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	Feet for Large Optical Rails OBT-LS/LW/WL	D027
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	Magnet Base MB	D028
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	Flexible Post Holder MB-MX/MX-AM	D029
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	Base Plate BSP/FBP	D030
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	Base Clamps BSC	D032
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	M6 Conversion Adapters AD-M6	D032
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	Kinematic Bases / Kinematic Base Plate REP	D033
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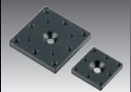
	Optical Baseplates OBC/OBB	D034
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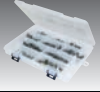
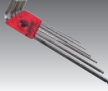
	Aluminum Spacers 25 × 25 mm MSP-25	D037
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	Aluminum Spacers 40 × 40 mm MSP-40	D038
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	Aluminum Spacers 60 × 60 mm MSP-60	D039
--	---------------------------------------	-------------

	Adjustable Adapter Kits SP/UP	D040
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Adapters	Adapter Plate Selection Guide		D041
		Adapters SP/BSP	D042
Brackets		L Angle Brackets LBR	D049
		Z Angle Brackets ZBR	D051
Posts		Post Stand Guide	D053
		Pedestal Bases PST	D054
		Pedestal Clamps PSC/PSCA/PSCS/PSTM	D054
		Adapter Plates for Pedestal SP-T	D055
		Pedestal Spacers PS-SP	D055
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		Rotary Cross Clamps CRHN	D064
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		Rod Mount Module POSB	D065
		Z Angle Brackets BLZ	D065
Tools		Screw Set SCR	D067
		Ball Wrench Set SKB-JBX6	D067
		Phillip's Screw Driver with Grip SKD	D067
		Chronometer Driver Set DK-20	D067
		Adapter Nuts AND	D067

Vibration Isolation Concepts

Source of Vibration

There are three primary sources of vibration which can disturb a payload, such as ground vibrations, acoustic noises, and direct force disturbances.

At one extreme, the ground vibration environment may consist of low level seismic disturbances present everywhere on earth and the disturbances, imperceptible under ordinary circumstances, present operating problems for highly sensitive equipment. When cultural vibration effects are added, even wider range of sensitive equipment is affected.

For example, even low-amplitude vibration can affect the performance and yield of lithography equipment such as stepper, the resolution of electron microscopes, the accuracy of measuring machines, and the performance of many types of precision equipments and instruments for electro-optical research. The cultural disturbances affecting the sensitive equipments are man-made and caused by phenomena such as vehicle and foot traffic, human activity, air handling systems, elevators, machinery and numerous other sources.

3 Factors In Dynamic System

In discussing vibration isolation, it is useful to identify three elements of a dynamic system.

1. The equipment need to be isolated.
2. The support structure (floor).
3. The isolation system between the equipment and the support structure.

Vibration Isolation

In a passive isolation system, two factors affecting isolation efficiency are the natural frequency and damping of the isolator. The natural frequency is the rate of free oscillation per unit time and damping is the characteristic which dissipates energy in a dynamic system.

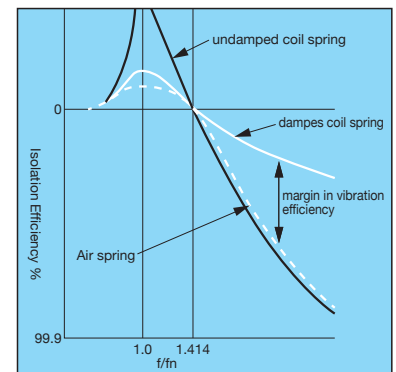
The ratio of forcing frequency (the disturbing frequency) to natural frequency (f/f_n) is used to determine the isolation efficiency of any isolation systems.

$$\text{Transmissibility } Tr = |1 - (f/f_n)^2| \times 100\%$$

where

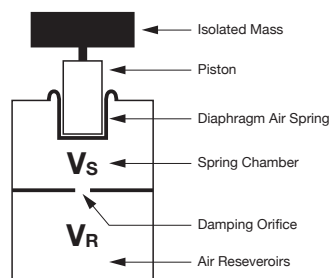
f/f_n = the ratio of forcing frequency to natural frequency

Graph shows typical plots of isolation efficiency. Notice that when f/f_n is less than $f_2=1.414$, the curves show that the vibration is magnified, when the forcing frequency is equal to the natural frequency ($f/f_n=1$), maximum magnification occurs. At ratios above 1.414, the curves are in the isolation range. Typically isolators which exhibit the greatest magnification at resonance have the best isolation efficiency (undamped coil spring).



Generally speaking, low amplification at resonance as shown for the plot of a damped coil spring is desirable; however, notice that this is accomplished at the expense of isolation efficiency. Pneumatic isolators with an air spring and damping chamber on the other hand, combines the desirable characteristics of low magnification at resonance and high isolation efficiency as shown the graph.

The equation for determining the natural frequency of a pneumatic isolators is



$$f_n = \frac{1}{2\pi} \sqrt{\frac{YAG}{V}}$$

Where

Y = Ratio of specific heat, 1/4 for air

A = Effective area of air piston, cm^2

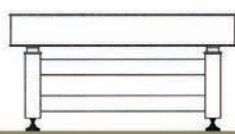
G = Gravity acceleration

V = Volume of air chamber, cm^3

As seen from equation, the natural frequency of the pneumatic isolator depends on the ratio of the piston area to the volume of the air isolator

Types of Vibration Isolation Systems

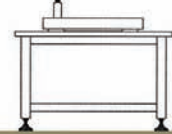
Optical Tables
OSDVID Series



Lab Desk Isolators
OSDVID Series



Desk Top Isolators
OSDVID Series



Structure of Flat Benches

- Optical Tops consist of ferro-magnetic stainless steel (SUS430) top skin plates, carbon steel bottom skin plates (SPHC), plated steel honeycomb (0.25mm foil, 3.2cm² cell size) sandwiched between two plates and side steel panels, all bonded with high strength adhesive.
- High-damping optical tops apply Broadband Damping technologies and have excellent dynamic stiffness.
- Honeycomb cores (cell size 3.2cm²) made of 0.25mm thick plated steels give maximized stiffness, extensive contact surface with two plates for high rigidity.
- Top skins are precisely grinded to minimize surface curves, pressure bonded to achieve excellent top flatness, lightly sanded with a circular pattern to remove burrs and non-reflecting & non-glare finished.
- Since all mounting holes on top plates are lead-screw tapped instead of using inserts, deformation or looseness of holes does not occur. The M6(1/4-20) tapped holes are for mounting optical components, arranged in a regular interval 25mm (1").
- Honeycomb cores, top/bottom plates and side walls are rigidly bonded with specially formulated high strength adhesive which allows no elastic bending and hysteresis. Since all parts are made of structural steels having the same coefficient of expansion, deformation such as overall distortion does not occur even in the repeatable temperature changes.
- Cylindrical cups are attached on the bottom of top skins for sealing tapped holes to prevent the inflow of any chemical substances into inside honeycomb cores.
- Upon customers' requests, special mounting holes and various configurations of optical tops are available.

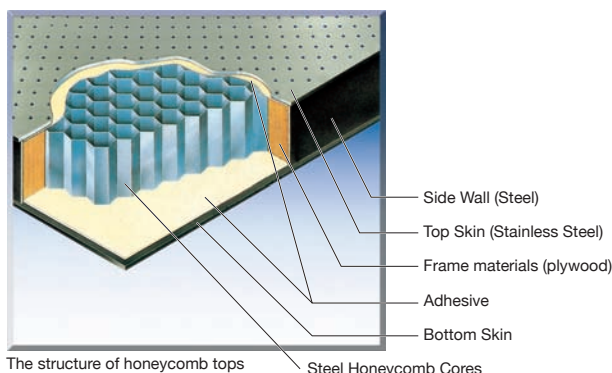
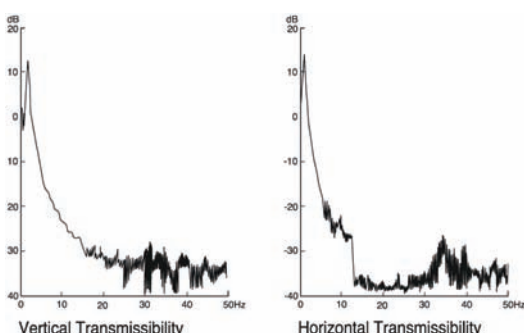
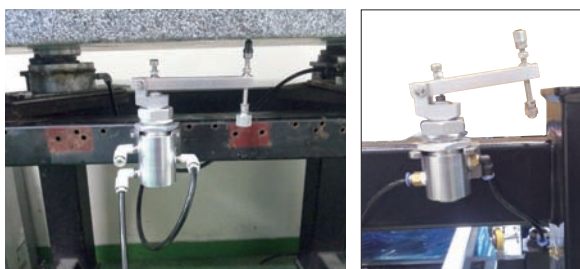


Table Frame



- **Pneumatic Vibration Isolator**
Pneumatic vibration isolation supports provide an effective vibration isolation performance both in vertical and horizontal direction in regular laboratories of 10Hz – 60Hz. Compressed air supply systems are required.
- **Damping**
Pneumatic vibration isolation supports have damping orifices quickly decreasing and settling the movement of optical tops affected by external force or weight transfer.
- **Auto Leveling System**
Pneumatic vibration isolation supports are equipped with three auto leveling valves adjusting the inside pressure of the air spring chambers automatically. This is to maintain the height and level of table tops even under eccentric load.
- Pneumatic vibration isolation supports come with casters and levelers for easy movement and installation.
- Pneumatic vibration isolation supports consisting of 4 isolators can support from 500kg to 2,000kg load. For higher load, long optical tops or joined tables, quantity of isolators can be increased.



Delivery Cost

Because the vibration isolator and laboratory bench are heavy, extra shipping costs are required in addition to the price of those products. Also, to carry in those products, transport, personnel and equipment appropriate to the delivery site are required. At the time of a quotation, please provide our International Sales Division with the Carry-In Route and Installation Environment Question Sheet on [Reference](#) D016.

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The OSDVIA-T series is a high-performance active vibration isolation system. Its auto leveling/locking systems and LCD display make it very user friendly.

When used in conjunction with the Acoustic Enclosure, the OSDVIA-T series reduces environmental noise and vibration for highly sensitive experiments.



OSDVIA-T45



OSDVIA-T56

■Features

- Easy to Installation & Operation :
 - ▷ Auto Locking & Leveling Systems
 - ▷ LCD Display
- Robust Control by High-Performance Digital Controller
- Excellent Isolation Performance for the Micro-Vibration in the range of low-frequency
- No compressed air supply required
- Option : Acoustic Enclosures

■Applications

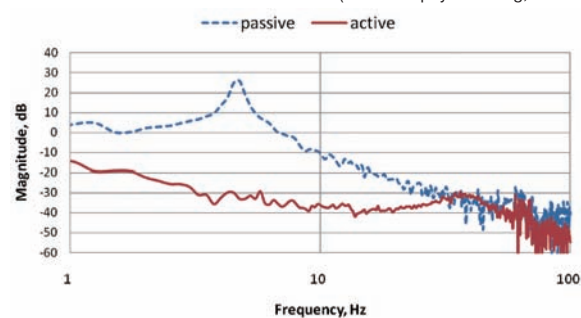
- Atomic Force Microscopes
- Scanning Probe Microscopes
- Interferometers
- Other Ultra-Precision Measurement Systems

Specifications

Part Number	OSDVIA-T45	OSDVIA-T56	OSDVIA-T67
Dimensions [mm]	(W)420 × (D)500 × (H)93	(W)500 × (D)600 × (H)93	(W)600 × (D)700 × (H)93
Max. Load Capacity [kg]	10 – 100	10 – 100	10 – 100
Weight [kg]	25	32	40
Actuator	Using Electro-Magnetic Force		
Controlled degrees of Freedom	6		
Isolation Performance	-35dB – -40dB/10Hz		
Settling Time	<0.5sec		
Control Force	Vertical >7N, Horizontal >3N		
Input Voltage [V]	AC85 – 264 / 50 – 60Hz		
Power Consumption [W]	< 36		
Temperature [°C]	5 – 50		
Humidity [%]	20 – 90		
Top plate	Solid Aluminum / M6 mounting holes		
System Configuration	Controller and vibration isolator unit integrated type		
Active Control Range	about 0.5Hz – 100Hz		
Initial Horizontal Adjustment	Automatic adjustment		
Lock when moving	Automatic locking mechanism		
Confirmation of Vibration Isolation Status	Displayed on the front monitor		

Transmissibility Curves

(under the payload 50kg, vertical)



Our highest performance vibration isolation system utilizes independent isolation mechanisms for the horizontal and vertical axes.

This system achieves the highest performance and efficiency for the most demanding applications.

- This vibration isolator rapidly attenuates vibrations transmitted to mounted equipment and instruments, and is essential for equipment and instruments that are affected by vibration.
- The bench is lightweight and has excellent stiffness due to the steel honeycomb core.
- The top surface of the bench is made from a magnetic stainless steel with tapped holes (M6 25×25mm matrix).
- The manual leveling system does not require a continuous air supply. The isolators can be pressurized with just a hand air pump.

Exterior		
		OSDVIO
Natural Frequency	Vertical Direction	about 1.2 – 1.5Hz
	Horizontal Direction	about 1.5 – 1.7Hz
Vibration Isolation		Air Spring Isolations
Damping		Air Damping by Orifice
Honeycomb Material inside Bench		Plated steel honeycomb (0.25m foil, 3.2cm2 cell size)
Bench Material	Upper Plate	4.0mm thickness 430 series ferro magnetic stainless steel plate, smooth sanded finish
	Lateral Side	2.0mm thickness carbon steel plate with damped wood composite, vinyl convert finish
	Lower Plate	4.0mm thickness carbon steel plate epoxy painted finish
Bench Top Surface		M6 tapped holes on 25×25mm matrix over the entire surface (leaving 37.5mm around the edges)
Bench Top Surface Finish		Unpainted (smooth sanded finish)
Surface Flatness		±0.1mm over 600mm square
Hole/Core Sealing		Easy clean cylindrical cup (25mm deep)

Guide

- ▶ We can produce sizes not listed in the catalog. Contact our Sales Division for more information.
- ▶ When installed in locations with no air source, use the silent air compressor (OSDAC-30) which can be used indoors.

Reference ▶ D014

Attention

- ▶ The vibration isolator will perform the best when the load on the table is evenly distributed.
- ▶ Freight is calculated separately. Use the carry-in route and installation environment question sheet.

Reference ▶ D016 Catalog Code W6001

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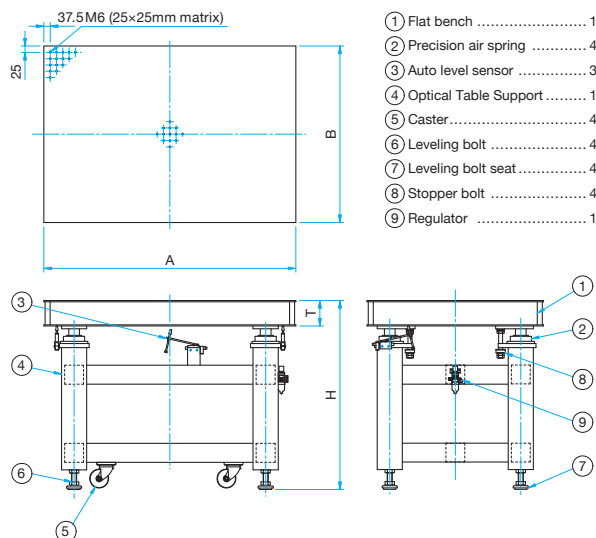
Brackets

Adapters

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Outline Drawing

OSDVIO series



Specifications

Part Number	A × B [mm]	H [mm]	T [mm]	Load capacity [kg]	Weight [kg]
OSDVIO-I-0909M-100t(800H)	900× 900	800	100	300	154
OSDVIO-I-1007M-100t(800H)	1,000× 700	800	100	310	140
OSDVIO-I-1206M-100t(800H)	1,200× 600	800	100	310	141
OSDVIO-I-1207M-100t(800H)	1,200× 700	800	100	290	159
OSDVIO-I-1209M-100t(800H)	1,200× 900	800	100	260	190
OSDVIO-I-1506M-100t(800H)	1,500× 600	800	100	390	187
OSDVIO-I-1507M-100t(800H)	1,500× 700	800	100	370	207
OSDVIO-I-1509M-200t(800H)	1,500× 900	800	200	310	269
OSDVIO-I-1510M-200t(800H)	1,500×1,000	800	200	290	284
OSDVIO-I-1512M-200t(800H)	1,500×1,200	800	200	240	329
OSDVIO-I-1515M-200t(800H)	1,500×1,500	800	200	180	396
OSDVIO-I-1806M-200t(800H)	1,800× 600	800	200	340	234
OSDVIO-I-1807M-200t(800H)	1,800× 700	800	200	320	254
OSDVIO-I-1809M-200t(800H)	1,800× 900	800	200	270	306
OSDVIO-I-1812M-200t(800H)	1,800×1,200	800	200	190	387
OSDVIO-I-1815M-200t(800H)	1,800×1,500	800	200	420	468
OSDVIO-I-2010M-200t(800H)	2,000×1,000	800	200	520	362
OSDVIO-I-2012M-200t(800H)	2,000×1,200	800	200	460	421
OSDVIO-I-2015M-200t(800H)	2,000×1,500	800	200	380	510
OSDVIO-I-2409M-300t(800H)	2,400× 900	800	300	440	453
OSDVIO-I-2412M-300t(800H)	2,400×1,200	800	300	320	578
OSDVIO-I-2415M-300t(800H)	2,400×1,500	800	300	200	701
OSDVIO-I-3009M-300t(800H)	3,000× 900	800	300	350	585
OSDVIO-I-3010M-300t(800H)	3,000×1,000	800	300	300	634
OSDVIO-I-3012M-300t(800H)	3,000×1,200	800	300	200	739
OSDVIO-I-3015M-300t(800H)	3,000×1,500	800	300	450	896
OSDVIO-I-3612M-300t(800H)	3,600×1,200	800	300	480	864
OSDVIO-I-3615M-300t(800H)	3,600×1,500	800	300	309	1051

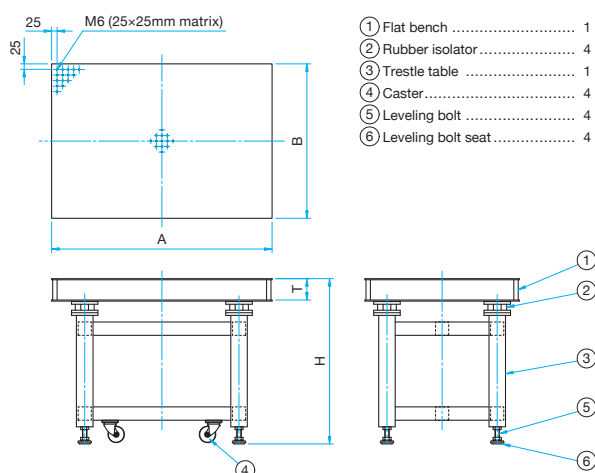
Entry level optical bench provides a basic level of vibration isolation for non critical experiments.



- The internal aluminum honeycomb structure provides a lightweight and stiff structure.
- The vibration isolating legs have high stiffness and stability.
- The top surface of the bench is magnetic stainless steel plate, with tapped holes (M6 25×25mm matrix) over the entire surface.

Outline Drawing

OSDVIO-R series



* For products with bench thickness (T) 150mm or less, placement of the pipes connecting the table legs is different.

Attention

- Freight is calculated separately.
Use the carry-in route and installation environment question sheet.
Reference ► D016 Catalog Code W6001

Common Specifications

Vibration Isolation Method	Rigid supports with elastomer mounts
Honeycomb Material inside Bench	Steel
Bench Material	Upper plate: 4.0mm thickness 430 series ferro magnetic stainless steel plate, smooth sanded finish Lateral surface: 2.0mm thickness carbon steel plate with damped wood composite, vinyl convert finish Lower plate: 4.0mm thickness carbon steel plate epoxy painted finish
Bench Top Surface	M6 tapped holes on 25×25mm matrix over the entire surface (Leaving 37.5mm around the edges)
Bench Top Surface Finish	Unpainted (smooth sanded finish)
Surface Flatness	±0.1mm over 600mm square
Hole/Core Sealing	Easy clean cylindrical cup (25mm deep)

Specifications

Part Number	A × B [mm]	H [mm]	T [mm]	Load capacity [kg]	Weight [kg]
OSDVIO-R-0909M-100t(800H)	900× 900	800	100	300	149
OSDVIO-R-1007M-100t(800H)	1,000× 700	800	100	310	135
OSDVIO-R-1206M-100t(800H)	1,200× 600	800	100	310	136
OSDVIO-R-1207M-100t(800H)	1,200× 700	800	100	290	154
OSDVIO-R-1209M-100t(800H)	1,200× 900	800	100	260	185
OSDVIO-R-1506M-100t(800H)	1,500× 600	800	100	390	182
OSDVIO-R-1507M-100t(800H)	1,500× 700	800	100	370	202
OSDVIO-R-1509M-200t(800H)	1,500× 900	800	200	310	264
OSDVIO-R-1510M-200t(800H)	1,500×1,000	800	200	290	279
OSDVIO-R-1512M-200t(800H)	1,500×1,200	800	200	240	324
OSDVIO-R-1515M-200t(800H)	1,500×1,500	800	200	180	391
OSDVIO-R-1806M-200t(800H)	1,800× 600	800	200	340	229
OSDVIO-R-1807M-200t(800H)	1,800× 700	800	200	320	249
OSDVIO-R-1809M-200t(800H)	1,800× 900	800	200	270	301
OSDVIO-R-1812M-200t(800H)	1,800×1,200	800	200	190	382
OSDVIO-R-1815M-200t(800H)	1,800×1,500	800	200	420	463
OSDVIO-R-2010M-200t(800H)	2,000×1,000	800	200	520	357
OSDVIO-R-2012M-200t(800H)	2,000×1,200	800	200	460	416
OSDVIO-R-2015M-200t(800H)	2,000×1,500	800	200	380	505
OSDVIO-R-2409M-300t(800H)	2,400× 900	800	300	440	448
OSDVIO-R-2412M-300t(800H)	2,400×1,200	800	300	320	573
OSDVIO-R-2415M-300t(800H)	2,400×1,500	800	300	200	696
OSDVIO-R-3009M-300t(800H)	3,000× 900	800	300	350	580
OSDVIO-R-3010M-300t(800H)	3,000×1,000	800	300	300	629
OSDVIO-R-3012M-300t(800H)	3,000×1,200	800	300	200	734
OSDVIO-R-3015M-300t(800H)	3,000×1,500	800	300	450	891
OSDVIO-R-3612M-300t(800H)	3,600×1,200	800	300	480	859
OSDVIO-R-3615M-300t(800H)	3,600×1,500	800	300	309	1046

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Desk Style Vibration Isolation Systems

OSDVID

RoHS

Catalog
Code

W6503

OSDVID series are available in two versions: C type for cleans rooms and L type for laboratory settings.

OSDVID-C series



- Highly damped stainless steel laminate top.
- Suitable for a class one cleanrooms cleanroom.
- Designed to be easily cleaned with no dust collecting grooves or ledges.
- No outgassing components. All air to support the table is properly vented.
- Perforated top cover to reduce air turbulence in clean rooms.

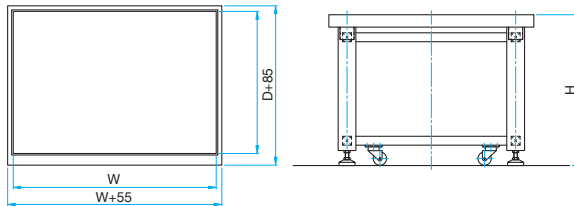
OSDVID-L series



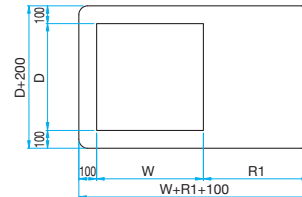
- The top cover is made of a melamine resin.
- The swivel casters allow for easy movement. Optional drawers, and monitor stands are available.

Outline Drawing

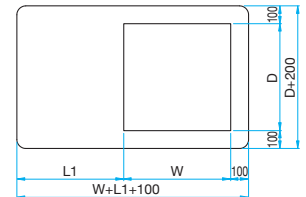
OSDVID



C series



L series



General Specifacaton

Natural Frequency	1.2Hz – 2.0Hz
Isolation Efficiency	at 10Hz: 75% – 95% at 20Hz: 85% – 98%
Levelling Repeatability	±1.0mm / ±0.05mm
Net Load Capacity	500kg
Shipping Weight	150 – 250kg
Material	Frame & Top: All Stainless Steel ("C" Type) Steel tube, Powder Painted ("L" Type) Top Cover: Stainless Steel ("C" Type) Melamine H.P.Boards ("L" Type)
Operation	3 – 5kg/cm ² Compressed Air or Bottled Nitrogen

Specifications

Part Number	W × D [mm]	H [mm]	Load capacity [kg]	Weight [kg]
OSDVID-C-45-L-600	400×500	800	500	103
OSDVID-C-56-L-600	500×600	800	500	126
OSDVID-C-77-L-600	700×700	800	500	183
OSDVID-C-86-L-600	800×600	800	500	178
OSDVID-C-88-L-600	800×800	800	500	203
OSDVID-C-96-L-600	900×600	800	500	192
OSDVID-C-97-L-600	900×700	800	500	207
OSDVID-C-99-L-600	900×900	800	500	235
OSDVID-C-107-L-600	1,000×700	800	500	219
OSDVID-C-127-L-600	1,200×700	800	500	245
OSDVID-C-128-L-600	1,200×800	800	500	266
OSDVID-C-158-L-600	1,500×800	800	500	313
OSDVID-L-45-L-600	400×500	800	500	103
OSDVID-L-56-L-600	500×600	800	500	126
OSDVID-L-77-L-600	700×700	800	500	183
OSDVID-L-86-L-600	800×600	800	500	178
OSDVID-L-88-L-600	800×800	800	500	203
OSDVID-L-96-L-600	900×600	800	500	192
OSDVID-L-97-L-600	900×700	800	500	207
OSDVID-L-99-L-600	900×900	800	500	235
OSDVID-L-107-L-600	1,000×700	800	500	219
OSDVID-L-127-L-600	1,200×700	800	500	245
OSDVID-L-128-L-600	1,200×800	800	500	266
OSDVID-L-158-L-600	1,500×800	800	500	313

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These desktop vibration isolation units are ideal for small optical systems and microscopes



Applications

- Optical Microscopy
- Surface Profilometry
- Hardness and roundness Tester
- Hardness and roundness testing

● Compact Design(portable)

Affordable and practical model, light weight structure and enhanced convenience in use and installation.

● Special material(high-damping top)

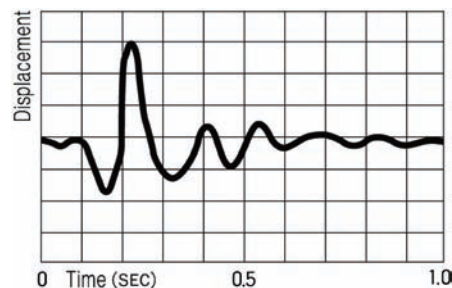
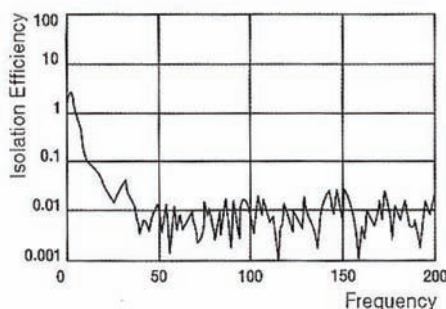
Laminated with a special material to ensure an excellent damping performance. [optional] Honeycomb top plate-increasing height, but any customized mounting holes available.

● Auto leveling system(Tri-pole leveling)

Ensuring to help pinpoint experiments used of three polar leveling valves.

Attention

- ▶ To achieve ideal vibration isolation performance, always use a strong table frame to mount the table top type vibration isolator system.
- ▶ The vibration isolator may not perform normally if used under an extremely offset load or with instruments or equipment with a high center of gravity.



Common Specifications

Part Number		OSDVIT-45A(25H)	OSDVIT-56A(25H)	OSDVIT-86A(25H)
Natural Frequency		2.5Hz ~ 0.3Hz		
Vibration Isolation		Special diaphragm air springs		
Damping		Air damping by orifices		
Leveling		Auto leveling by 3 height control valves		
Material of Top Plate		Stainless steel laminated top / Honeycomb 25t		
Load Capacity		150 kg	150 kg	150 kg
Weight		50 kg	65 kg	80 kg
Overall Dimension [mm]	Steel top	(W)432 × (D)532 × (H)84	(W)532 × (D)632 × (H)84	(W)832 × (D)632 × (H)84
	Honeycomb 25t	(W)430 × (D)530 × (H)110	(W)530 × (D)630 × (H)110	(W)830 × (D)630 × (H)110
Required air supply		4kg/cm ²		
Standard Accessories		Air regulator & Filter 4φ Nylon tube 6mm, Tube coupling (R 1/4" 4φ)		
Option		Exclusive air compressor		

* Besides the above standard sizes, custom dimensions are available upon requests.

Part Number	W × D [mm]	H [mm]	Load capacity [kg]	Weight [kg]
OSDVIT-45A(25H)	432×532	86	150	50
OSDVIT-56A(25H)	532×632	86	150	65
OSDVIT-86A(25H)	832×632	86	150	80

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Tabletop Optical Breadbord

OSDVIO-B

RoHS

Catalog Code

W6505

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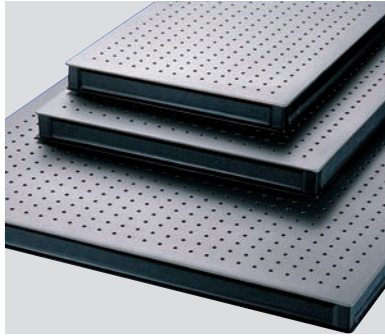
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- Top plates are made of stainless steel (SUS430), bottom plates are made of hot rolled steel (SPHC). The core of the boards is comprised of plated steel honeycomb cores bonded with high strength adhesive.
- Honeycomb cores (size 3.2cm²) are made of 0.25mm thick plated steels giving maximized stiffness and extensive contact surface with two plates for high rigidity.
- Top plates are precisely grinded to minimize surface curves and pressure bonded to achieve excellent flatness.
- The M6 (1/4"-20) tapped holes are on a 25 mm matrix.
- Cylindrical cups are attached to the bottom of top skins for sealing tapped holes. This prevents the flow of any chemical substances into the honeycomb cores.

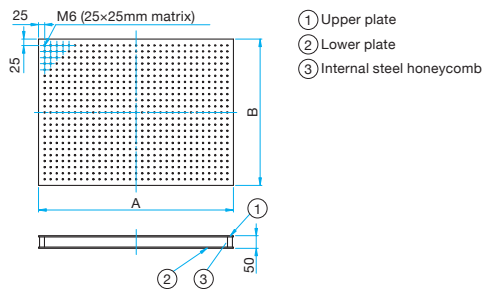


Attention

- ▶ To ensure optimal performance, rubber feet isolators should be used on the four corners, and used on a strong table frame to mount breadboard.
- ▶ Freight cost will be quoted separately. Use the carry-in route and installation environment question sheet.

Reference D016 Catalog Code W6001

Outline Drawing



Common Specifications

Honeycomb Material inside Bench	Plated steel honeycomb (0.25m foil, 3.2cm ² cell size)
Bench Material	Upper plate: 4.0mm thickness 430 series ferro magnetic stainless steel plate, smooth sanded finish Lateral surface: 2.0mm thickness carbon steel plate with damped wood composite, vinyl convert finish Lower plate: 4.0mm thickness carbon steel plate epoxy painted finish
Bench Top Surface	M6 tapped holes on 25x25mm matrix over the entire surface (Leaving 37.5mm around the edges)
Bench Top Surface Finish	Unpainted (smooth sanded finish)
Surface Flatness	±0.1mm over 600mm square
Hole/Core Sealing	Easy clean cylindrical cup (25mm deep)

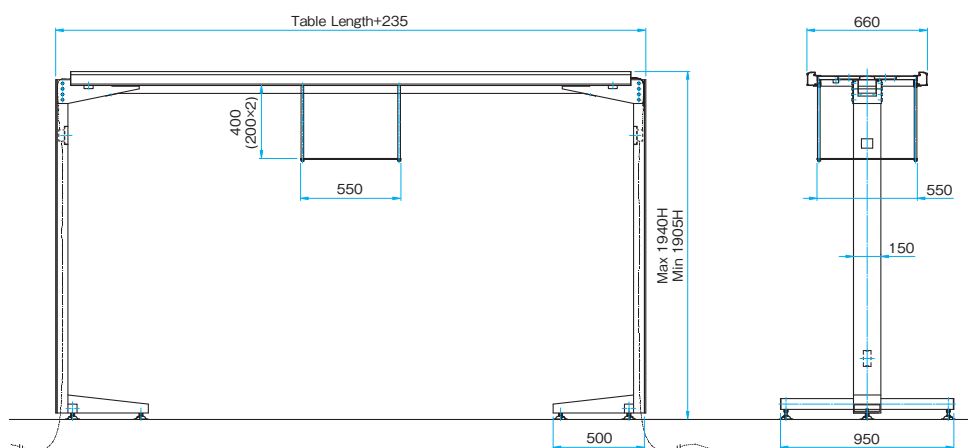
Part Number	A × B [mm]	T [mm]	Weight [kg]
OSDVIO-B-0504M-50t	500× 400	50	17
OSDVIO-B-0605M-50t	600× 500	50	26
OSDVIO-B-0606M-50t	600× 600	50	31
OSDVIO-B-0707M-50t	750× 750	50	49
OSDVIO-B-0806M-50t	800× 600	50	42
OSDVIO-B-0906M-50t	900× 600	50	47
OSDVIO-B-0907M-50t	900× 750	50	59
OSDVIO-B-0909M-50t	900× 900	50	70
OSDVIO-B-1006M-50t	1,000× 600	50	52
OSDVIO-B-1007M-50t	1,000× 750	50	65
OSDVIO-B-1009M-50t	1,000× 900	50	78
OSDVIO-B-1010M-50t	1,000×1,000	50	87
OSDVIO-B-1206M-50t	1,200× 600	50	63
OSDVIO-B-1207M-50t	1,200× 750	50	78
OSDVIO-B-1209M-50t	1,200× 900	50	94
OSDVIO-B-1210M-50t	1,200×1,000	50	104
OSDVIO-B-1212M-50t	1,200×1,200	50	125
OSDVIO-B-1506M-50t	1,500× 600	50	78
OSDVIO-B-1507M-50t	1,500× 750	50	98
OSDVIO-B-1509M-50t	1,500× 900	50	117
OSDVIO-B-1510M-50t	1,500×1,000	50	131
OSDVIO-B-1512M-50t	1,500×1,200	50	157
OSDVIO-B-1806M-50t	1,800× 600	50	94
OSDVIO-B-1807M-50t	1,800× 750	50	117
OSDVIO-B-1809M-50t	1,800× 900	50	141
OSDVIO-B-1812M-50t	1,800×1,200	50	188
OSDVIO-B-2010M-50t	2,000×1,000	50	174
OSDVIO-B-2012M-50t	2,000×1,200	50	209

The OSDOTS series (Overhead Table Systems) is used for mounting vibration producing equipment above the laboratory bench. The height of shelf can be easily adjusted. Shelves can be positioned at any position along the rail.



- Convenient location of instruments.
- Increased table space.
- Mechanical isolation of equipments with fans.
- Overhead shelf adjusted in height, free standing.
- Leveling feet for uneven floors.
- Formed steel welded design, black power coat finished.
- Additional shelving units are available.(Optional).
- Grounded-electrical outlets (110V / 220V / 60Hz) on each side of the shelf.
- N.F.B (30A) for preventing instruments from overload currency.

Outline Drawing



Specifications

Part Number	Weight [kg]
OSDOTS-4	106
OSDOTS-5	128
OSDOTS-6	135
OSDOTS-7	157
OSDOTS-8	164
OSDOTS-10	193
OSDOTS-12	249

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Air Compressor | OSDAC-30



W6507

Portable air compressors designed to be compact and quiet.



Specifications

Part Number	OSDAC-30
Operating Pressure	40-80psi
Pressure Control	Preset Minimum Pressure by Automatic Switch
Air Delivery	30ℓ/min. @80psi
Tank Capacity	20 liters
	Electrical Power: 220VAC 200W
Size (WxDxH)	510 × 290 × 500mm
	Net Weight: 23kg
Noise Level	40dB
Air Discharge outlet diameter	φ6 with one-touch fitting
Body color	Light Gray
Pressure Indicator	1 ea
Drain Valve	1 ea
Pressure Valve	1

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Faraday Cages



Clear Acrylic Enclosures



Shield Box



Dark Box

Guide on Special Orders for Vibration Isolators

Catalog Code **W6004**

We can provide a wide variety of sizes, shapes or precision not listed in the catalog or for additional processing of products listed in the catalog.

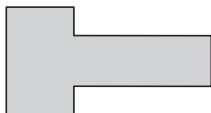
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► Use the Question Sheet for Special Orders, and contact our Sales Division for more information.

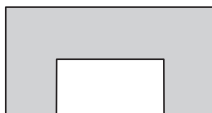
► [WEB Reference](#) [Catalog Code](#) W6004

Examples of custom benches

● T-shaped flat bench



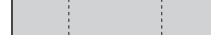
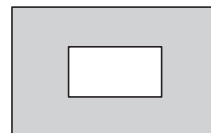
● Notch shape Flat bench



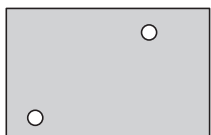
● L-shaped flat bench



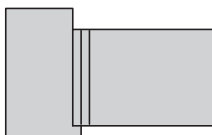
● Outline shaped flat bench



● Flat bench with through holes



● T-joint type flat bench



● Slot-joint type flat bench



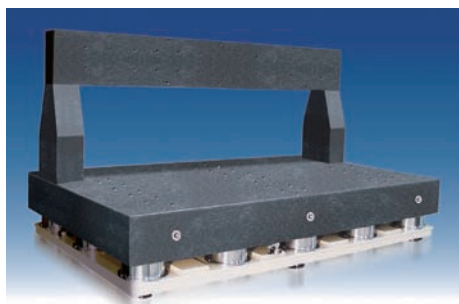
Custom products



A.F.M



LCD Inspection Equipment



PDP Equipment



Laser
Welding Workstations



S.T.M



Optics



Microscope In Semi, Fab



Thin film
Measurement System

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Question Sheet

Catalog Code W6001

Carry-In Route and Installation Environment Question Sheet ☐ Quotation ☐ Order

Date

☐ To: SIGMAKOKI Co., Ltd. **FAX +81-3-5638-6550**

Customer Information	Affiliation (Organization Name)			
	Department		Name	Mr(s)
	Address * Fill in Bldg, Subdivision, Room.	Zip Code	Prefecture	City/Ward/District
				Town Village
	TEL		FAX	E-mail
If the installation site is different from the above, fill it in below.				
Installation Site	Address * Fill in Bldg, Subdivision, Room.	Prefecture	City/Ward/District	Town Village
			Service Counter	Mr(s)
	TEL		FAX	

Model Number Examined		Desired Delivery Date	
-----------------------	--	-----------------------	--

Check Column	Items included in Estimate
	(1) Reinforced cardboard packaging, consolidated shipment, handover on the track (does not include carry-in)
	(2) Simple packaging, zone charter flight, handover after unloading (not including carry-in work)
	(3) Simple packaging, zone charter flight, handover after unloading and carry-in (not including installation and adjustments)
	(4) Simple packaging, zone charter flights, and handover after unloading, carry-in, installation and adjustment (some personal assistance is possible)
	(5) Simple packaging, zone charter flights, and handover after unloading, carry-in, installation and adjustment (without personal assistance)

* Place checks in the column on the left considering specifications of the model you examined, and difficulty of the carry-in route, because costs will vary according to the carry-in conditions and the specified estimate range.

* Depending on the size, your machine cannot be delivered on the carry-in route in one piece, and sometimes disassembly/assembly are required.

* Sometimes adjustments are required depending on the model.

* The rates of shipping/carry-in fees will vary according to the details specified on the day of delivery.

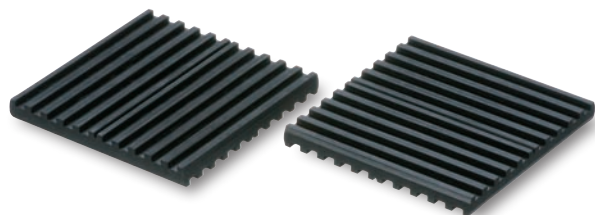
Check Column	Specific Instructions on Carry-in Date (Note 1): Important
	(a) Consolidated shipment, without carry-in since it falls in (Items Included in Estimate... (1))
	(b) If a weekday nothing special to specify
	(c) Specify carry-in date and time on weekdays
	(d) Specify Sat., Sun., Holidays

Carry-in Environment (Customers specifying (3), (4) or (5) in Items included in Estimate, please fill in.)			
Installation Floor	Floor number of the installation site?	Above ground	basement
	How wide is the service entrance?	Width	mm×Height
Above Ground Service Entrance	Sometimes there are differences in grade to the service entrance, how great is the difference in grade?	Width	mm
	How big is the parking space at the service entrance?	Width	mm×Width
Carry-in Route	What are the minimum width and height of the carry-in passage?	Width	mm×Minimum height
	Sometimes there are differences in grade of the carry-in passage, how great is the difference in grade?	Width	mm
Entrance to Installation Room	How big is the entrance of the installation room?	Width	mm×Height
	Sometimes there are differences in grade to the entrance, how great is the difference in grade?	Width	mm
	How wide is the passage in front of the installation room?	Width	mm
Other	What is the type of installation room?	Normal	/ Clean room
	In case of a clean room, is special curing required?	Required	/ Not required
Carry in to Basement or Above 2nd Floor			
Has Elevator	How big is the elevator door?	Width	mm×Height
	How much space inside the elevator?	Width	mm×Depth
	What is max payload of the elevator?	Width	mm×Height
No Elevator	Dedicated Service Entrance Exists	How big is the special service entrance?	Width
		Sometimes there are differences in grade to the entrance, how great is the difference in grade?	mm×Depth
		Is there a hoist?	mm×Height
Regardless of measures, will not go on the elevator	Dedicated Service Entrance Does Not Exist	Difference in grade	mm
	(Stairs, window in installation room, window on passage)	Please draw a simple sketch of the carry-in route and attach on a separate sheet of paper. We will contact you separately.	

(Note 1) After the delivery date is decided based on the designated day, we will contact you separately. When the designated delivery date is changed after contacting you, we may charge a cancellation fee. Please contact our Sales Division at least 1 week in advance to change the designated day.

(Note 2) When you have chosen an air spring vibration isolator, fill in the Air Spring Vibration Isolator Model Selection Check Sheet [Web Return](#) Catalog Code W6002.

Rubber tile vibration isolators are designed to be placed at the four corners of an optical laboratory bench or other equipment to reduce vibrations.



Attention

► Recommended maximum load is 4.9N/cm² (about 5kgf/cm²)

Specifications				
Part Number	External Dimensions [mm]	Thickness [mm]	Weight per Sheet [kg]	Quantity [Pieces]
PR-1010	100×100	10	0.12	4
PR-1515	150×150	10	0.27	4
PR-3030	300×300	10	1.1	1

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Darkroom Kits

Clean Darkroom Kits

DRU
DRUC

Catalog Code W6016

Theres darkrooms are composed of a steel fram and block out curtains.

- All five sides of the room are covered with a black-out curtain.
- White LED penlights are available form OptoSigma to check work while in the darkroom.
- Please consider size of your equipment/table when selecting a darkroom size.

Type	Darkroom Kits DRU	Clean Darkroom Kits DRUC
Exterior		
Features	● Allows easy installation of a darkroom space indispensable for image measurements, exposure testing, and optical measurements. ● Easy to dismantle, making it convenient for transportation and storage.	● Allows easy installation of a clean darkroom space indispensable for highly accurate and reliable optical measurements, testing, and other tasks. ● HEPA filters provide Class 100 dust collection efficiency in terms of cleanliness at the air outlet, with wind speed of approximately 0.5m/s. Although it varies according to the darkroom size, the cleanliness inside the darkroom is roughly Class 7 (Class 10,000) within 5 minutes after power-up. ● Fitted with an exhaust type compact ventilation fan.
Black-out Curtain	Material	Obverse side: Polyester, Reverse side: Neoprene rubber
	Light Blocking Effect	Class 1 shading ability (99.99~100%)
	Fire Retardancy	Fire retardant

Guide

- ▶ This product comes as a kit including a black-out curtain, pipes and a plastic hammer.
- ▶ Estimated time required for assembly: (e.g.) DRU-1816 will take about 30 minutes (with two people).
- ▶ To ensure optimal cleanliness, wear clean room garments while working in a darkroom. Clean room garments are available for purchase.

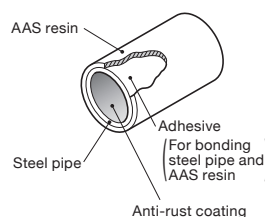
Attention

- ▶ The blackout curtains have a flap-type entrance where the blackout curtain overlaps in the center entrance way. Curtain-rail-type blackout curtains are also available, but reduce the light blocking. Contact our Sales Division for more information.
- ▶ Darkroom kits include curtain tie clips.
- ▶ Custom sizes or shapes not listed in the catalog are available. Contact our Sales Division for more information.

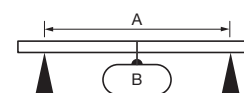
Frame Pipes

The pipes used for the skeleton framework of the darkroom kits and clean darkroom kits are $\phi 28\text{mm}$ steel frames. The structure and strength are as shown in the following figure. These pipes can be readily connected and assembled with T- and L-shaped joint pipes using a plastic hammer.

Structure



Strength



A [Dimensions]	B [Max. Strength]
450mm	about 1,666N (170kgf)
900mm	about 784N (80kgf)
1,800mm	about 392N (40kgf)

Specifications

Darkroom Kits Part Number	Clean Darkroom Kits Part Number	Frontage [mm]	Depth [mm]	Height [mm]
DRU-1212	DRUC-1212	1,200	1,200	2,000
DRU-1515	DRUC-1515	1,500	1,500	2,000
DRU-1816	DRUC-1816	1,800	1,600	2,000
DRU-2017	DRUC-2017	2,000	1,700	2,000
DRU-2219	DRUC-2219	2,200	1,900	2,000
DRU-2819	DRUC-2819	2,800	1,900	2,000
DRU-3020	DRUC-3020	3,000	2,000	2,000

N-5820P/DRU/LU-101

Catalog Code **W6017**

White LED illumination



This is a LED illumination kit for a simple darkroom unit. It can be attached with a frame (ϕ 28mm pipe) of the unit. Brightness is equivalent to fluorescent lamp 20W.

- LED Color: Main light : daylight color, Auxiliary light: bulb color
- AC Power: 100V/50Hz, 60Hz
- Power consumption: 9W
- Illuminance: 217lx (At the point of 1m from the illumination in a darkroom)
- Total luminous flux: 420lm
- Size: 582×70×44(H)mm
- Weight: 0.96kg
- Power ON/OFF: by a pull code
- Accessories: (1) 5m Extension cord (2) Cable clip x5pcs

Guide

- ▶ Purchase commercial fluorescent lights for replacement.

Specifications

Part Number	N-5820P-D28
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White LED Light



Specifications

Part Number	LU-101
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Ventilation Fans



Ventilation fans designed to keep out external light. They are two types: an exhaust version (DRU-VF) and a suction version (DRU-IF).

- Size: (W)160×(D)160×(L)193mm (excluding protrusions)
- Weight: 2.2kg
- Power cord: 3m (with switch)
- Power source: AC100V±10% 50/60Hz
- Power consumption: 14W
- Fan suction/exhaust capability: 2.7m³/min. for the motor main unit.

Guide

- ▶ Additional processing of black-out curtain is required to install this product in a darkroom. Pipes required for installation come with this product.
- ▶ Suction/exhaust capability of 6.2m³/min. type is also available. Contact our Sales Division for more information.

Part Number	Type
DRU-IF	Suction type
DRU-VF	Exhaust type

Head Twist Switch Dust Proof & Water Proof (IP54)

- Pen Clip Included
- Brightness: 18lm
- battery: AAA alkaline batteries × 2 this
- battery Life: About 12 hours
- Accessories: Pen clip, test for battery

LMC/LMT

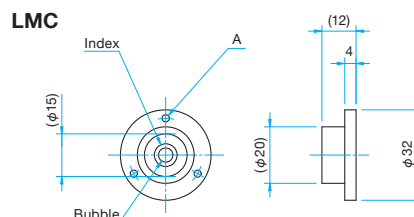
Catalog Code **W6018**

Levels convenient for installing a vibration isolator, optical laboratory bench, or various other instruments.



- The LMC type is round, and the LMT type is T-shaped.
- The LMC type provides horizontal leveling using the bubble and target. They can be secured on equipment or optical system using their mounting holes.
- The LMT type allows simultaneous leveling in two directions, vertical and horizontal.

Outline Drawing



Specifications

Part Number	External Size [mm]	A [mm]	Sensitivity [°]	Material	Finish	Weight [kg]
LMC-2	ϕ 32	3- ϕ 2.5, PCD ϕ 27	1	Aluminum	Black coating	0.022
LMC-3	ϕ 32	3- ϕ 2.5, PCD ϕ 26	1	Brass	Chrome plated	0.028
LMT-1	45×35	—	1	Aluminum	Black coating	0.027

Dark Boxes | DB

Catalog Code **W6098**

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Creates a dark work area for optical experiments in a regular lab setting.

- The dark box has doors on the sides and the top which allows for easy adjustment of the experiment.
- Dark boxes are to be used on optical tables. The bottom of the box is light-shielded with a urethane seal.
- Custom sizes can be made to order.



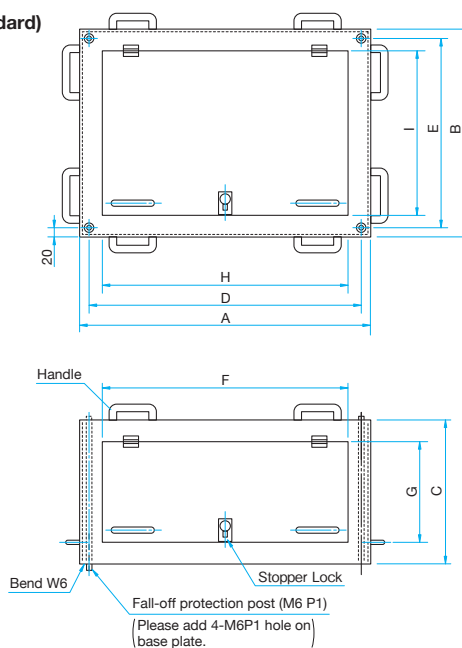
Attention

► Shipping charges are calculated at the time of shipment.



Outline Drawing

DB (Standard)



Specifications

Primary material: Steel
Finish: Paint color (Cream)

Part Number	A×B×C [mm]	D×E [mm]	F×G [mm]	H×I [mm]	Weight [kg]
DB-1	200×200×200	160×160	140×140 (One side)	140×140 (Top)	5
DB-2	300×300×300	260×260	240×240 (One side)	240×240 (Top)	8
DB-3	500×500×300	460×460	400×240 (One side)	400×400 (Top)	13
DB-4	800×600×350	760×560	500×250 (One side)	500×500 (Top)	19

In laboratory equipment and production facilities, which vacuum chamber is used, there is a case of installing the laser optical system and the detecting optical element in a chamber. There are many optics that can be used in a vacuum. But for the holders and the bases, the use of the generic product may not reach the degree of vacuum required, or there is a risk that cleaning of the chamber becomes necessary by the chamber contamination. Previously, the vacuum bases and holders have been fabricated as custom-made products according to customer's request. However, by the degree of vacuum and the intended use, specifications and production process of each product was different. For this reason, it could not be a standard product. Our vacuum bases and holders has examined various conditions of use in the design stage. It is a product that can exert its performance in any vacuum conditions. We greatly expanded the selection of standard products, and has enabled responses to customer requests for short delivery time.

Features of vacuum products

Availability of vacuum products have been sorted by the degree of vacuum. Our vacuum products, with considering every single factor such as the material, design, cleaning, packing and evaluation, it has been completed as a product that can reach ultra-high vacuum.

Factor and product comparison by the degree of vacuum

Environment	Clean room	Low-medium vacuum	High vacuum	Ultra-high vacuum
Degree of vacuum	10^5 Pa	10^{-1} Pa	10^{-6} Pa	10^{-9} Pa
Exhaust system	Fan	Mechanical pump	Diffusion pump	Turbo-molecular pump Ionization pump, etc.
Major factor	Cleanliness	Residual gas	Volatile substance	Surface adsorption
General aluminum parts	○ Need Cleaning	△ Need vent holes	× Outgas from anodizing	× Baking generate contamination
Stainless steel parts	○ Need Cleaning	△ Need vent holes	△ Need vacuum grease	× Baking generate contamination
Vacuum compatible products	◎ Already cleaned	◎ Vent holes pre-designed	◎ Vacuum grease pre-applied	◎ Baking applicable

Materials

Outgas from the material itself can be a problem in the ultra-high vacuum. Our products have selected the best material by examining the amount and type of outgas.

- Stainless steel (SUS316L) ··· Strong corrosion resistance when exposed to high temperature baking, and less outgassing.
- Aluminum (A6061) ··· Special surface treatment is used to reduce the degradation of the surface and outgassing.

The other parts also use the material that is suitable in the ultra-high vacuum.

Mounting vacuum chamber



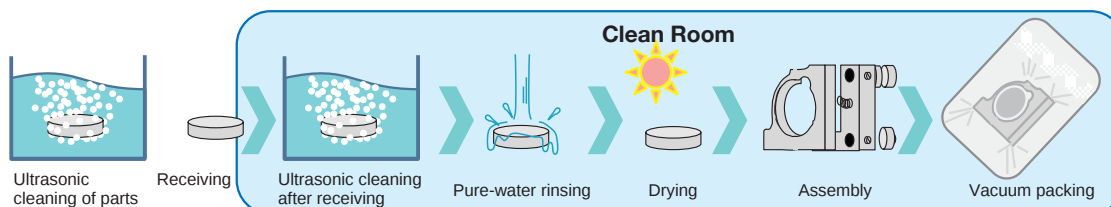
Design

Screw holes and insert parts create enclosed space, and there is a possibility that air is trapped in this space. This creates outgas when pumping down the vacuum and causing instability of the vacuum. In our design, holes or grooves for degassing is being processed on all of the screw holes and insert parts that could create an enclosed space. This allows for stabilization of the vacuum in a short period of time even at high vacuum environment.



Cleaning

In the ultra-high vacuum, gas adsorbed on the metal surface can be a problem. Stainless steel and aluminum are protected from corrosion by creating an oxide film immediately after processing. However, when oil and water is present on the surface after processing, oxide film can not be generated properly and it may cause outgassing. For this reason, proper cleaning is first carried out for the parts and later for the finished product also.



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Guidance of Vacuum Products | Vacuum Base·Holder

Packing

Products are assembled in a clean booth and packed in a clean room. Packaging is also different from the normal packaging. It is delivered in a special packing method, and a deterioration of quality which become problematic in a high vacuum environment does not occur.

- Wrap the product with aluminum foil
- Vacuum packing using special bags

It is recommended to unpack the vacuum products inside the clean room or vicinity of the vacuum chamber. If the vacuum product has been left for a long time after unpacking, there is a possibility that quality with respect to the vacuum is degraded.



Evaluation

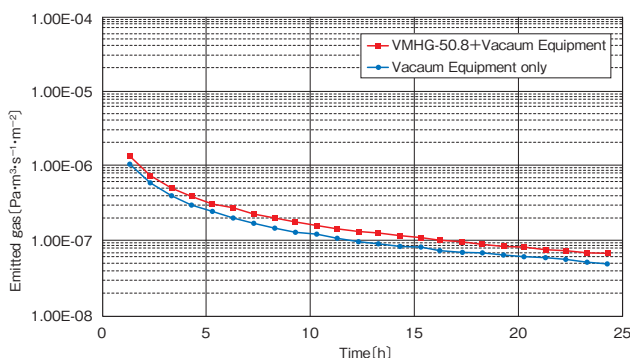
Evaluation of the outgassing of the finished product to be conducted using the actual vacuum chamber. The following data is an example of the outgas measurement of the vacuum mirror mount (VMHG-50.8) using the conductance modulation method. It also shows the mass ratio analysis of the outgas. Through such evaluation, we have confirmed that the design and production process of vacuum products are appropriate.

These data will not be attached to the product. If the data is necessary please request us in advance. Data attachments are available at an additional fee.

■ Outgassing

Pump down time h	Outgas [Pa·m ³ ·s ⁻¹ /unit]
1	2.6E-07
2	1.8E-07
3	7.6E-08
4	3.9E-08
5	2.0E-08

The value measured with the conductance modulation method will be different depending on the conductance (ex. exhaust speed and the degree of vacuum) of the vacuum system. Please use the data for the confirmation of outgassing decay or the relative comparison of the products. Please contact us if the comparison is necessary with other evaluation methods.



■ System specifications

- Vacuum pump
Type: Turbo-molecular pump
Model: STP-301
Manufacturer: Seiko Seiki (now Edwards)
Exhaust speed: 300 l/s
- Mass spectrometer
Type: Quadrupole mass spectrometer
Model: M-201QA-TDM
Atomic mass number range: 1 – 200
Manufacturer: Canon Anelva

■ Mass ratio

	10 hours	24 hours	
Vacuum pressure (Pa)	3.06×10 ⁻⁶	1.42×10 ⁻⁶	
Outgas speed (Pa·m ³ ·s ⁻¹ ·m ⁻²)	2.15×10 ⁻⁶	1.08×10 ⁻⁶	
Total ion current value (A)	1.68×10 ⁻¹⁰	1.40×10 ⁻¹⁰	
Atomic mass number	Mass ratio (10 hours)	Mass ratio (24 hours)	Gas molecules
1	2.11	1.94	H ₂
2	0.51	0.47	H ₂
12	0.27	0.28	CO, CO ₂
14	0.19	0.50	N ₂
18	4.74	4.86	H ₂ O
22	0.22	0.20	CO ₂
28	1.52	0.36	CO, CO ₂ , N ₂
32	0.46	0.26	O ₂
40	0.21	0.24	Ar
44	0.31	0.32	CO ₂

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Vacuum products that could not be published in the catalog are introduced in more detail in the WEB.

Vacuum Pedestal Base VPST/VPSM

RoHS **Catalog Code** W6108



Vacuum Pedestal Clamps VPSCS

RoHS **Catalog Code** W6104



Vacuum Posts VRO

RoHS **Catalog Code** W6107



Vacuum Pedestal Spacer VPS-SP

RoHS **Catalog Code** W6109



Vacuum Post Holders VRS

RoHS **Catalog Code** W6100



Vacuum Stand Base VRCA

RoHS **Catalog Code** W6106



Vacuum Stand Clamps VRC

RoHS **Catalog Code** W6105



Vacuum Base Plate VBS

RoHS **Catalog Code** W6101



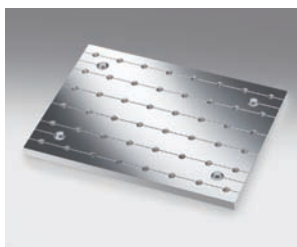
Vacuum Base Clamps VBSC

RoHS **Catalog Code** W6103



Vacuum Optical Baseplates VOBC

RoHS **Catalog Code** W6102



Vacuum Dog Point Set Screws / Vacuum Thread Adapters VSC/VCHS

RoHS **Catalog Code** W6110



SDC® Clean bolt (Gas vent hole drilling) Hexagon socket head cap screw (Silver plating treatment) VPCB/VAGB

RoHS **Catalog Code** W6111



Vacuum mounts are also introduced in more detail in the WEB.

Nut Drivers VNS

RoHS **Catalog Code** W6112



Vacuum Mirror Holder VMHG

RoHS **Catalog Code** W4150



Vacuum Lens Holder VLHG

RoHS **Catalog Code** W4151



Vacuum Iris Diaphragm Holder VIH

RoHS **Catalog Code** W4152



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OBA-LH

Catalog
Code

g W6019

Large Optical Rails have a tube-shaped cross section with fins extending radially in four directions.

- Carriers for large optical rails can be mounted on all four surfaces, top, lateral sides (two faces) and bottom, using these fins.

Guide

- Contact our Division for information on ruler scale installation and custom lengths.

Specifications

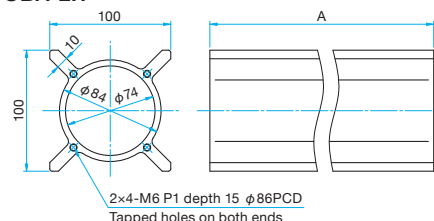
Primary material: Aluminum

Finish: Black Anodized

Part Number	A [mm]	B [mm]	Weight [kg]
OBA-500LH	500	—	3.3
OBA-1000LH	1,000	—	6.6
OBA-1500LH	1,500	—	9.9
OBA-2000LH	2,000	—	13.2

Outline Drawing

OBA-LH



OBT-LH/LUU

Catalog
Code:

g W6020

Designed to be directly mounted on top of a vibration isolator or optical laboratory bench using M6 or 1/40 – 20 bolts.

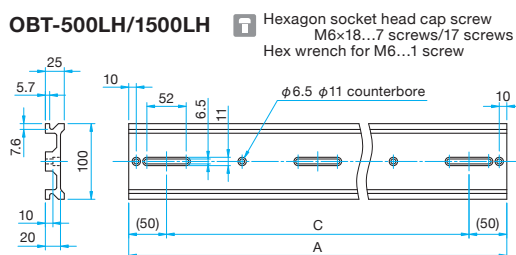
- 100mm-wide, 25mm-high optical rails have a low optical axis and light weight.

Guide

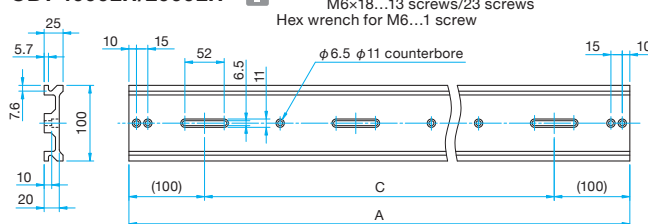
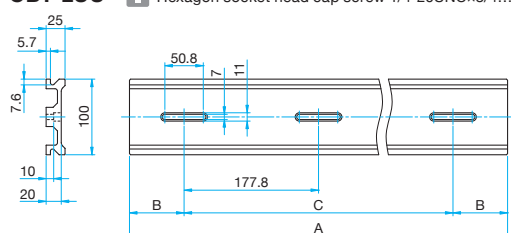
- Contact our Division for information on ruler scale installation and custom lengths.



Outline Drawing



C: 100mm pitch between the centers of slotted hole and counterbore

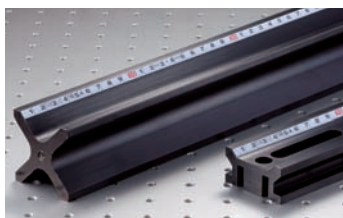
OBT-1000LH/2000LH**OBT-LUU**

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number		A [mm]	B [mm]	C [mm]		Weight [kg]
METRIC	INCH			METRIC	INCH	
OBT-500LH	OBT-500LUU	500	72.2	100× 4	177.8× 2	1.7
OBT-1000LH	OBT-1000LUU	1,000	55.5	100× 8	177.8× 5	3.5
OBT-1500LH	OBT-1500LUU	1,500	38.8	100×14	177.8× 8	5.2
OBT-2000LH	OBT-2000LUU	2,000	111	100×18	177.8×10	7.0

Option Scale Installation and Custom Lengths



- Custom lengths not listed in the catalog are available.
- To order surface finishing of the cut surfaces, specify “with reprocessing”.
- For the OBA-L and OBA-SH series, to use tapped holes on the lateral side after cutting, specify “with tapped holes”.
- Since the price varies depending on the specifications such as one-side cut, both-sides cut, with tapped holes etc., contact our Sales Division for more information.

Carriers are designed to mount on large optical rails (OBA-L/LH) or large low-profile optical rails (OBT-LH). They freely slide on the rails and can be locked in place.

- The CAA-80LF is designed to be attached to the bottom of a large optical rail for direct clamping to an optical vibration isolator or laboratory bench.
- The CAA-100LC is designed to assemble large optical rails at right angles to each other.

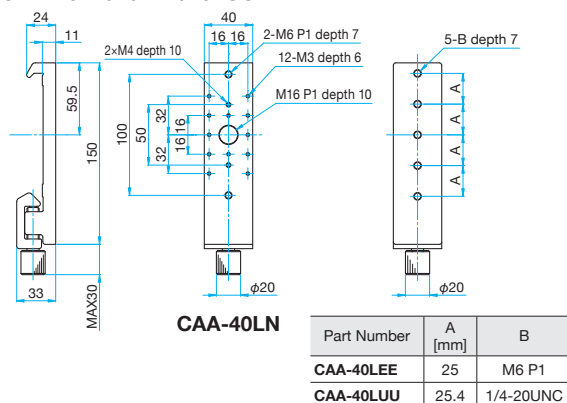
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- Friction-reducing tape is applied to the carrier surfaces that will be in contact with optical rails. Use as-is without removing the tape.

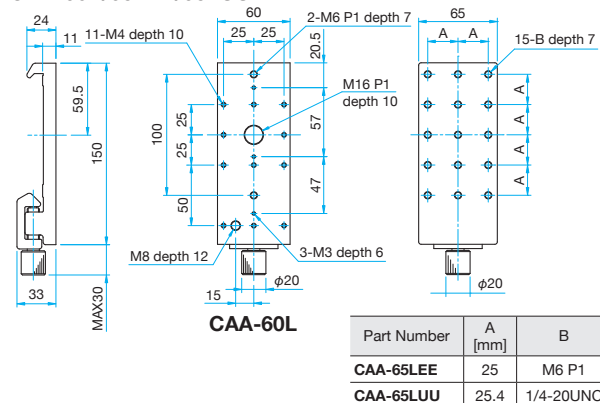


Outline Drawing

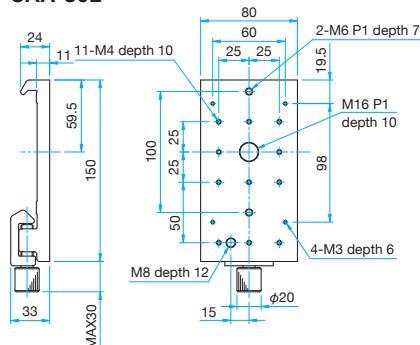
CAA-40LN/40LEE/40LUU



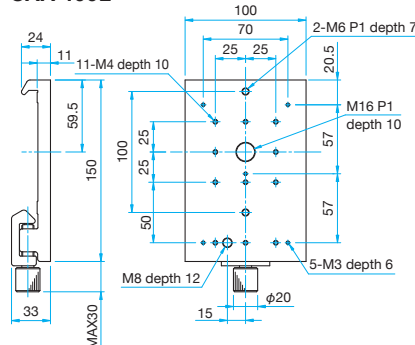
CAA-60L/65LEE/65LUU



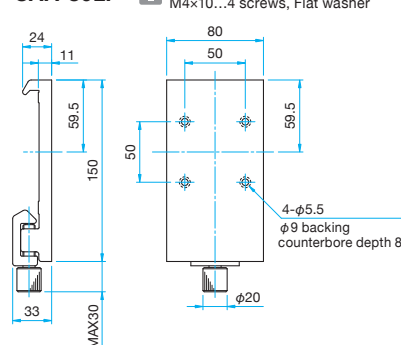
CAA-80L



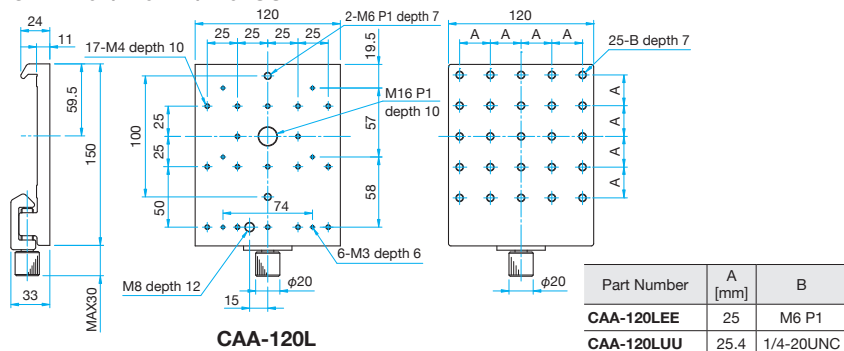
CAA-100L



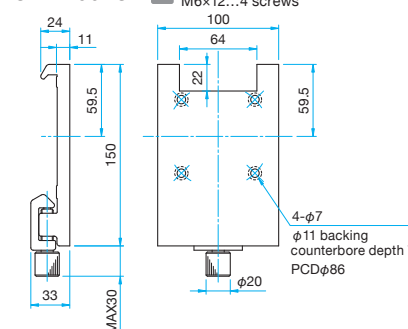
CAA-80LF



CAA-120L/120LEE/120LUU



CAA-100LC



Specifications

Part Number			Primary material: Aluminum Finish: Black Anodized	
M4	M6	INCH	Compatible Optical Rails	Weight [kg]
CAA-40LN	CAA-40LEE	CAA-40LUU	Large optical rails (OBA-L*/LH) Large low-profile optical rails (OBT-LH/LUU) Reference ► D024	0.29
CAA-60L	—	—		0.39
—	CAA-65LEE	CAA-65LUU		0.42
CAA-80L	—	—		0.5
CAA-100L	—	—		0.61
CAA-120L	CAA-120LEE	CAA-120LUU		0.72
CAA-80LF	—	—		0.51
CAA-100LC	—	—		0.57

Medium Optical Rails

Medium Low-Profile Optical Rails

OBA-SH
OPT-SH/SUU

OBA-SH

RoHS

Catalog Code

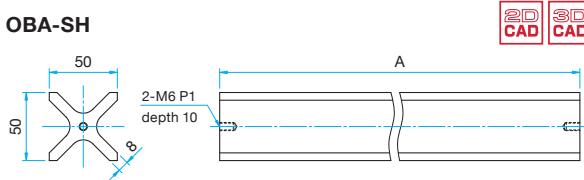
W6022

Medium Optical Rails have an X-shaped cross section with fins extending radially in four directions.

- Carriers for medium optical rails can be secured to any of the four surfaces of the rail.

Outline Drawing

OBA-SH



2D CAD 3D CAD

Guide

- Contact our Sales Division for information on ruler scale installation and custom lengths.

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	A [mm]	Weight [kg]
OBA-300SH	300	0.9
OBA-500SH	500	1.5
OBA-800SH	800	2.3
OBA-1000SH	1,000	2.9
OBA-1500SH	1,500	4.4
OBA-2000SH	2,000	5.8

OBT-SH/SUU

RoHS

Catalog Code

W6023

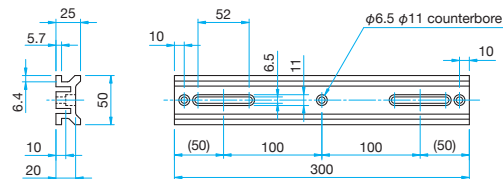
These 50mm-wide 25mm-high rails are designed to be directly secured on top of a laboratory bench while keeping a low optical axis.

2D CAD 3D CAD

Outline Drawing

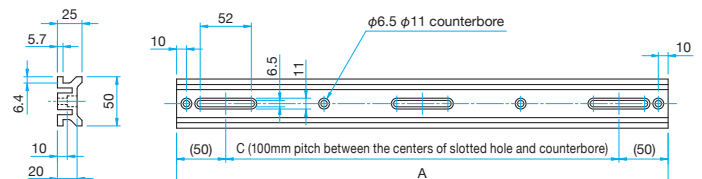
OBT-300SH

Hexagon socket head cap screw M6×18...5 screws
Hex wrench for M6...1 screw



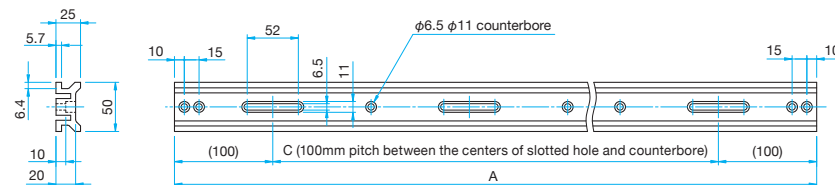
OBT-500SH/1500SH

Hexagon socket head cap screw M6×18...7 screws/17 screws
Hex wrench for M6...1 screw



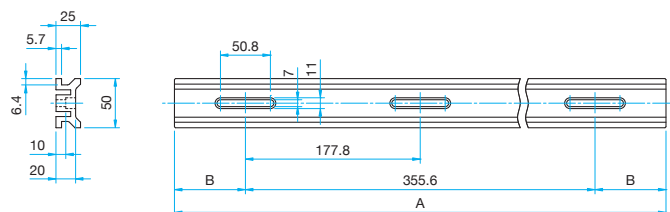
OBT-800SH/1000SH/2000SH

Hexagon socket head cap screw M6×18...11 screws/13 screws/23 screws
Hex wrench for M6...1 screw



OBT-300SUU/500SUU/1000SUU

Hexagon socket head cap screw 1/4-20UNC×3/4...2 screws/3 screws/6 screws



Guide

- Contact our Sales Division for information on ruler scale installation and custom lengths.

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number		A [mm]	B [mm]	C [mm]		Weight [kg]
METRIC	INCH			METRIC	INCH	
OBT-300SH	OBT-300SUU	300	61.1	100× 2	177.8×1	0.6
OBT-500SH	OBT-500SUU	500	72.2	100× 4	177.8×2	1.1
OBT-800SH	—	800	—	100× 6	—	1.7
OBT-1000SH	OBT-1000SUU	1,000	55.5	100× 8	177.8×5	2.2
OBT-1500SH	—	1,500	—	100×14	—	3.3
OBT-2000SH	—	2,000	—	100×18	—	4.4

Carriers for Medium Optical Rails Feet for Large Optical Rails

CAA-LS/MB
OBT-LS/LW/WL

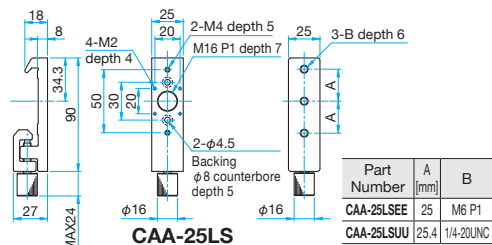
CAA-LS/MB

RoHS Catalog Code W6024

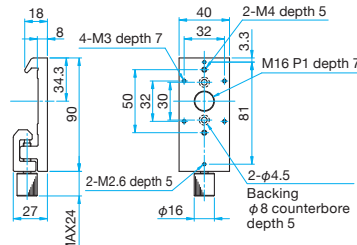
Carriers mount on a medium optical rail, slide freely and can be locked in place at any location.

Outline Drawing

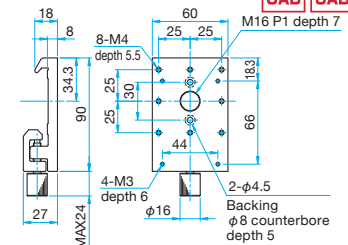
CAA-25LS/25LSEE/25LSUU



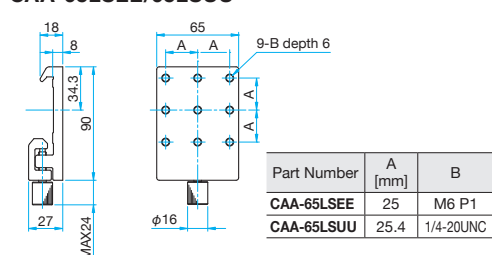
CAA-40LS



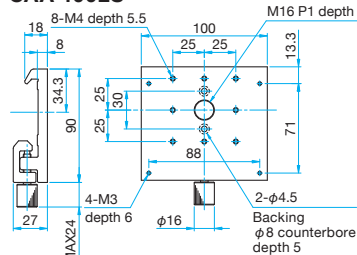
CAA-60LS



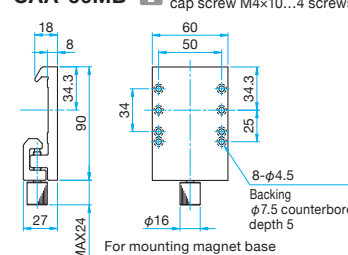
CAA-65LSEE/65LSUU



CAA-100LS



CAA-60MB



Specifications

Part Number			Primary material: Aluminum Finish: Black Anodized	
M4	M6	INCH	Compatible Optical Rails	Weight [kg]
CAA-25LS	CAA-25LSEE	CAA-25LSUU	Medium optical rails (OBA-SH) Medium low-profile optical rails (OBT-SH/SUU) Reference D026	0.1
CAA-40LS	-	-		0.13
CAA-60LS	-	-		0.17
CAA-100LS	CAA-65LSEE	CAA-65LSUU		0.19
CAA-60MB	-	-		0.28
				0.18

OBT

RoHS Catalog Code W6026



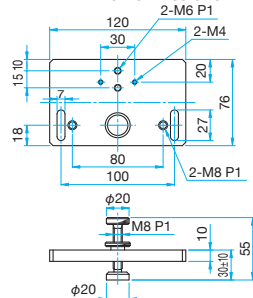
- OBT is composed of a thin aluminum plate and adjustable feet. Attaches to OBT-LH/SH optical rails. It allows ± 10 mm of height adjustment.

Guide

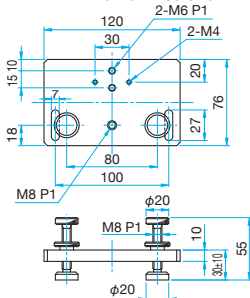
- Two M4x6 mm socket head screws are needed when used with CAA-25LS.

Outline Drawing

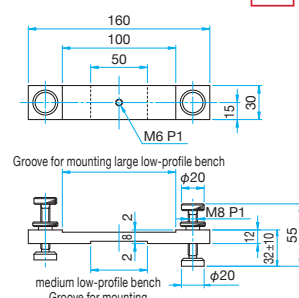
OBT-LS



OBT-LW



OBT-WL



Specifications

Part Number			Primary material: Aluminum Finish: Black Anodized	
			Compatible Optical Rails	Weight [kg]
OBT-LS			Large low-profile optical rails (OBT-LH) Reference D024	0.28
OBT-LW			Medium low-profile optical rails (OBT-SH) Reference D026	0.33
OBT-WL			Large low-profile optical rails (OBT-LH) Reference D024	0.24
			Medium low-profile optical rails (OBT-SH) Reference D026	

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Magnet Base Flexible Post Holder

MB
MB-MX/MX-AM

MB

RoHS

Catalog
Code

W6027

These bases can secure optical components to any flat magnetic bench.



- The magnet is activated by switching the lever ON/OFF.
- Does not require tapped holes for attachment.
- The tapped holes on the top surface can be metric or inch depending on the model.

Guide

► A SP-130 adapter can be used to attach stages to the surface of the MB-CB-PB bases. ► [WEB Reference](#) [Catalog Code](#) W6072

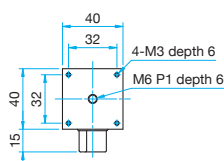
[Reference](#) D045

► The opposite surface of the ON/OFF switching lever of MB-PG is also magnetized.

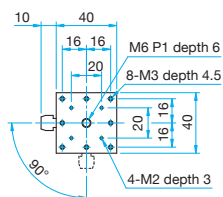


Outline Drawing

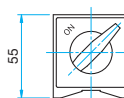
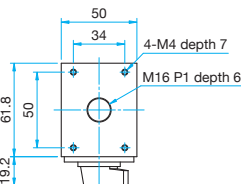
MB-S40



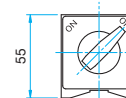
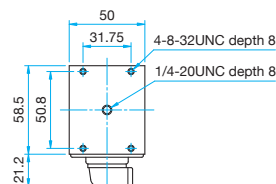
MB-L40



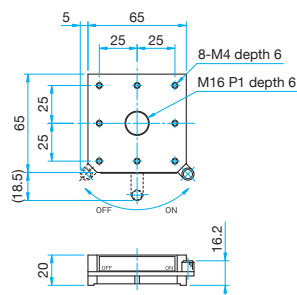
MB-CB-PB



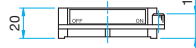
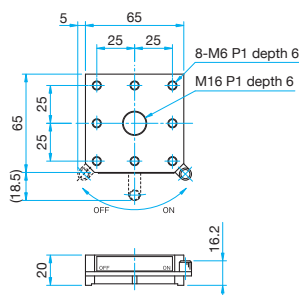
MB-BUU



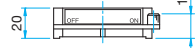
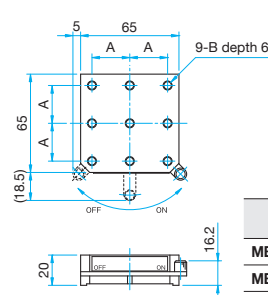
MB-L65C-M4



MB-L65A-M6

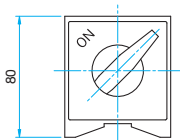
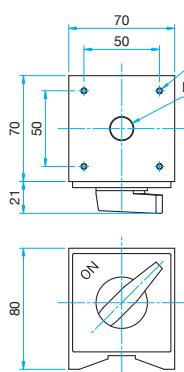


MB-L65C-M6EE / MB-L65C-1/4UU

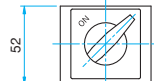
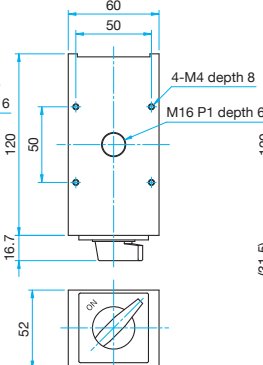


Part Number	A (mm)	B
MB-L65C-M6EE	25	M6 P1
MB-L65C-1/4UU	25.4	1/4-20UNC

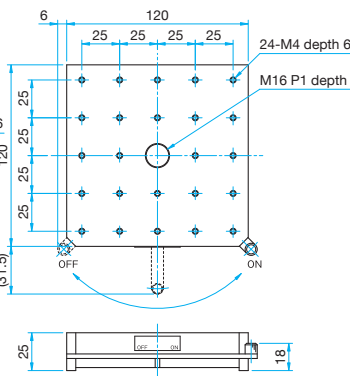
MB-PH



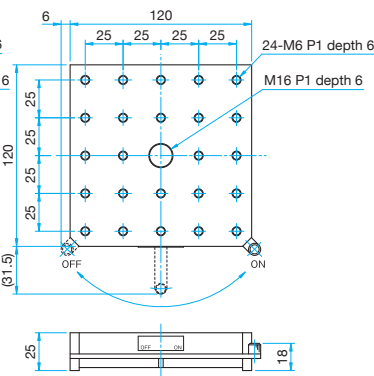
MB-PG



MB-L120-M4



MB-L120-M6





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Specifications

Part Number		Holding Force [N]	Weight [kg]
MB-S40	—	198 (about 20kgf)	0.4
MB-L40	—	49 (about 5kgf)	0.2
MB-CB-PB	MB-BUU	294 (about 30kgf)	1
MB-L65C-M4	—	198 (about 20kgf)	0.5
MB-L65C-M6EE	MB-L65C-1/4UU	198 (about 20kgf)	0.6
MB-L65A-M6	—	198 (about 20kgf)	0.6
MB-PH	—	490 (about 50kgf)	2.5
MB-PG	—	490 (about 50kgf)	2.4
MB-L120-M4	MB-L120-M6	294 (about 30kgf)	2.4

MB-MX/MX-AM



Catalog Code W6038



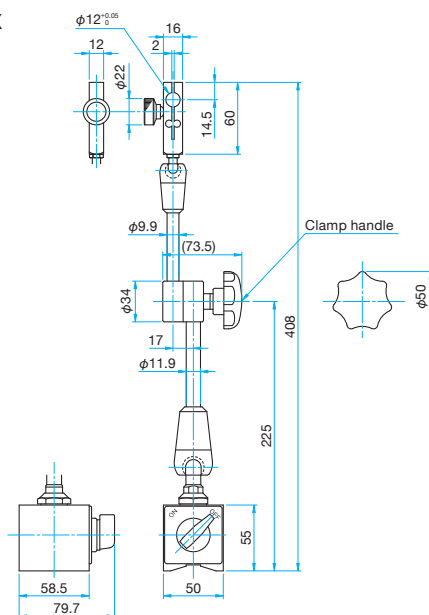
The Post Clamp can be pivot freely loosening the clamp handle to reposition post mounted holders quickly and easily.

- The cam style clamping mechanism can easily be locked and unlocked with the turn of the knob.
- The post clamp is designed to securely hold $\phi 12$ posts.
- The MB-MX has a magnetic base and can be freely secured on flat magnetic surfaces.
- The MX-AM has an external thread M16P1 on the bottom. It can be directly secured to base plates.

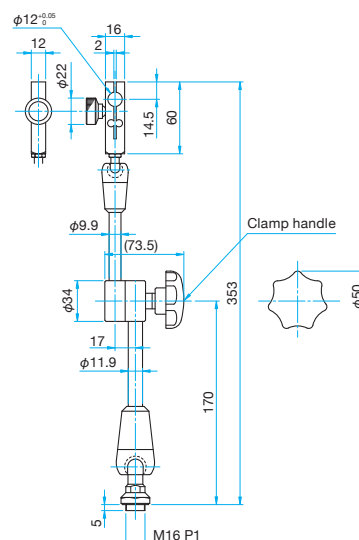


Outline Drawing

MB-MX



MX-AM



Specifications

Part Number	Holding Force*	Weight [kg]
MB-MX	1.96N (about 0.2kgf)	1.9
MX-AM	1.96N (about 0.2kgf)	0.9

* Holding force is a reference value.

M6/INCH

M6/INCH type parts can mount to M6 or 1/4-20 holes on standard hole spacing.



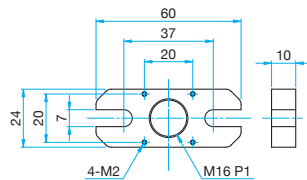
- M16P1 tapped holes fit a post holder or post. Other tapped holes on the top surface allow for different sized stages to be secured.
- 7 mm slotted bases can be use on both metric and inch hole patterns.
- The base clamp (BSC-60) allows a base plate to be secured at an arbitrary position where there is no tapped hole. [Reference](#) D032



Outline Drawing

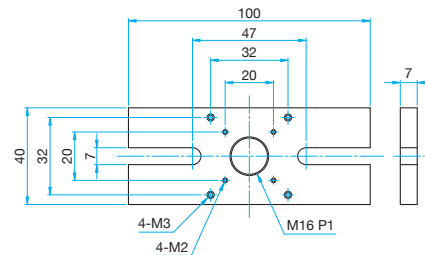
BSP-2460

Hexagonal socket headcap screw M6×18...2 screws
Flat washer



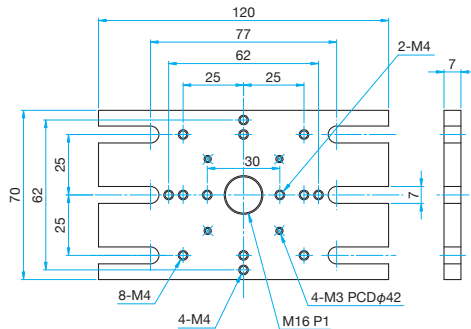
BSP-40100

Hexagonal socket headcap screw M6×14...2 screws
Flat washer



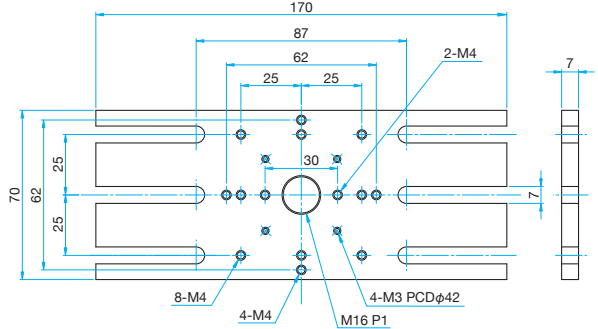
BSP-70120

Hexagonal socket headcap screw M6×14...6 screws
Flat washer



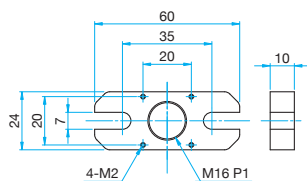
BSP-70170

Hexagonal socket headcap screw M6×14...6 screws
Flat washer



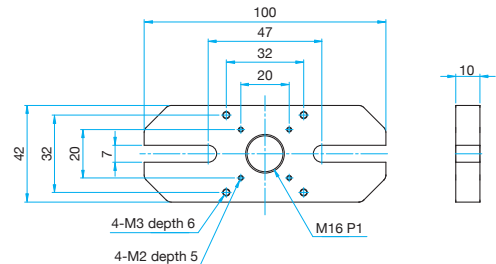
BSPS-246010

Hexagon socket head cap screw (stainless steel construction) M6×18...2 screws, Flat washer



BSPS-4010010

Hexagon socket head cap screw (stainless steel construction) M6×18...2 screws, Flat washer



M6

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
BSP-2460	0.027
BSP-40100	0.06
BSP-70120	0.13
BSP-70170	0.18

M6

Primary material: Stainless Steel
Finish: None

Part Number	Weight [kg]
BSPS-246010	0.078
BSPS-4010010	0.26



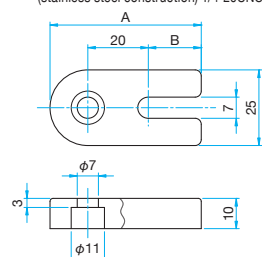
M6/INCH		Primary material: Aluminum Finish: Black Anodized
Part Number	Weight [kg]	
FBP-50UU	0.03	
FBP-65UU	0.03	
BSP-65EE	0.03	
FBP-75WUU	0.05	
BSP-85EE	0.06	
BSP-85UU	0.06	
BSP-120EE	0.13	
BSP-120UU	0.13	



Outline Drawing

FBP-50UU/65UU

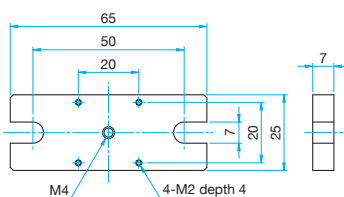
- Hexagonal socket headcap screw M6x8, M6x18...1 pieces each (EC)
- Hexagonal socket headcap screw 1/4-20UNCx5/16, 1/4-20UNCx3/4...1 pieces each (US)
- Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...1 pieces each (US)



Part Number	A (mm)	B (mm)
FBP-50UU	50	17.5
FBP-65UU	65	32.5

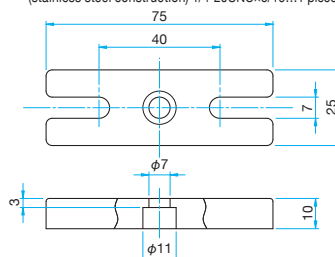
BSP-65EE

- Hexagonal socket headcap screw M6x15...2 screws (EC)
- Hexagonal socket headcap screw 1/4-20UNCx5/8...2 screws (US)



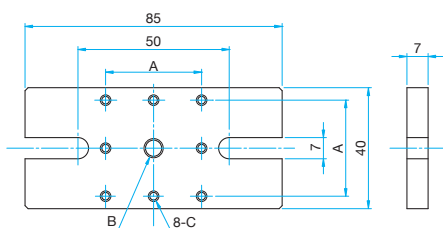
FBP-75WUU

- Hexagonal socket headcap screw M6x8, M6x18...1 pieces each (EC)
- Hexagonal socket headcap screw 1/4-20UNCx5/16, 1/4-20UNCx3/4...1 pieces each (US)
- Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...1 pieces each (US)



BSP-85EE/85UU

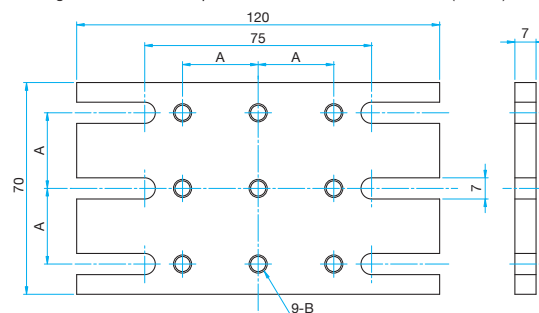
- Hexagonal socket headcap screw M6x15...2 screws (85EE)
- Hexagonal socket headcap screw 1/4-20UNCx5/8...2 screws (85UU)



Part Number	A (mm)	B	C
BSP-85EE	32	M6 P1	M3
BSP-85UU	31.75	1/4-20UNC	6-32UNC

BSP-120EE/120UU

- Hexagonal socket headcap screw M6x15...2 screws (120EE)
- Hexagonal socket headcap screw 1/4-20UNCx5/8...2 screws (120UU)



Part Number	A (mm)	B
BSP-120EE	25	M6 P1
BSP-120UU	25.4	1/4-20UNC

M2

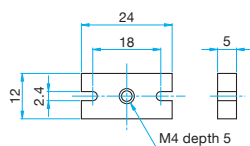
Designed to mount optical units on optical baseplates (OBB) with M2 tapped holes.

Guide

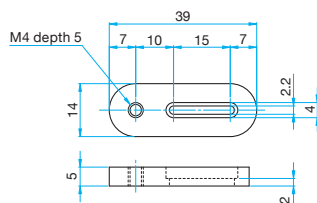
- Optical baseplates (OBB) with M2 tapped holes are also available.
- Reference D035

Outline Drawing

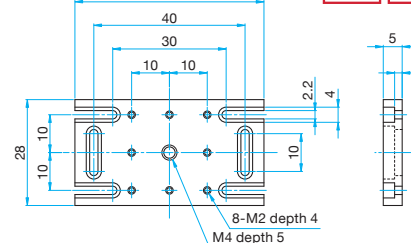
- BSP-24 Pan head screw M2x8...2 screws
- Flat washer



- BSP-39 Pan head screw M2x6...1 screw



- BSP-50 Pan head screw M2x6...6 screws



Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number	Weight [kg]	
BSP-24	0.004	
BSP-39	0.006	
BSP-50	0.016	

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Base Clamps M6 Conversion Adapters

BSC
AD-M6

BSC

RoHS

Catalog
Code

W6029

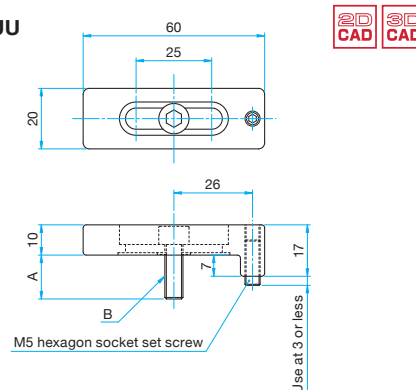
Clamp for use with BSP series M6 base plates.



- Can be used to secure base plates or other flat plates.
- Clamps plate thicknesses of 7 – 10mm.

Outline Drawing

BSC-60/60UU



Guide

- This base clamp allows the user to secure base plates at an arbitrary position about a single tapped hole.

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	A [mm]	B	Weight [kg]
BSC-60	14.5	M6 P1	0.04
BSC-60UU	15.5	1/4-20UNC	0.04

AD-M6

RoHS

Catalog
Code

W6030

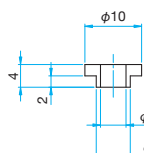
M6-M4 Conversion Adapters

- Adapter for converting a mounting hole from M6 to M4.

Outline Drawing



AD-M6-M4



Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]	Quantity [Pieces]
AD-M6-M4	0.004	10

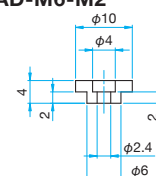
M6-M2 Conversion Adapters

- Adapter for converting a mounting hole from M6 to M2.

Outline Drawing



AD-M6-M2

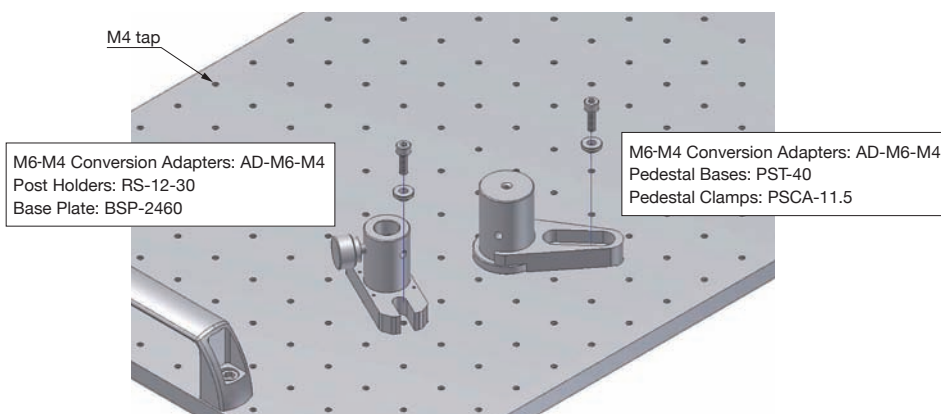


Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]	Quantity [Pieces]
AD-M6-M2	0.005	10

Example of Use of Conversion Adapters



M6-M4 Conversion Adapters: AD-M6-M4
Post Holders: RS-12-30
Base Plate: BSP-2460

M6-M4 Conversion Adapters: AD-M6-M4
Pedestal Bases: PST-40
Pedestal Clamps: PSCA-11.5

Using adapter AD-M6-M4, (example: OBC-3045) breadboard fasten to.

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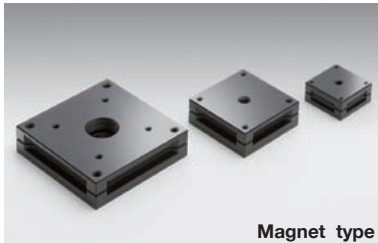
Brackets

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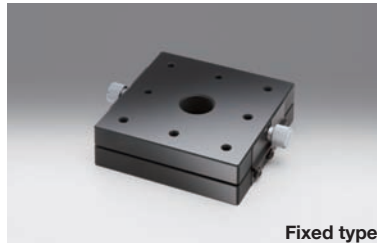
Tools

Kinematic base composed of a top and bottom plate. The top plate secures holders or other equipment while the bottom plate is fixed to an optical breadboard.

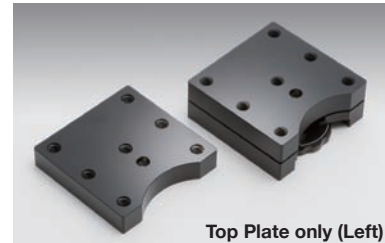
- Accurate positional repeatability is achieved by matching the holes on the upper plate to the three steel balls embedded in the bottom plate.
- The top plate can be secured with a strong magnet or a knurled set screw depending on the version.
- The top plate of the REP magnetic type series (25×25 mm, 40×40 mm, 60×60 mm) can be quickly removed or swapped out. It has a repeatability value of less than 100μrad.
- Always secure the bottom plate with screws.



Magnet type



Fixed type

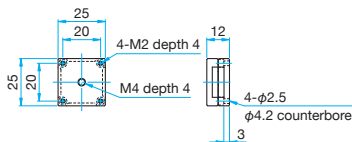


Top Plate only (Left)

Outline Drawing

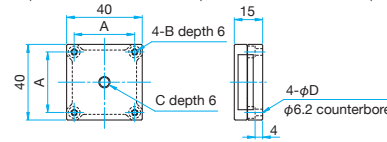
REP-25

Hexagonal socket head cap screw M2×6...4 screws



REP-40/40UU

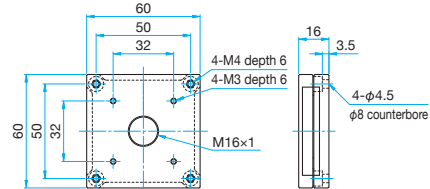
Hexagonal socket head cap screw M3×8...4 screws (40)
Hexagonal socket head cap screw (stainless steel construction) 6-20UNC×5/16...4 screws (40UU)



Part Number	A (mm)	B	C	φD (mm)
REP-40	32	M3	M6 P1	3.5
REP-40UU	31.75	6-32UNC	1/4-20UNC	4

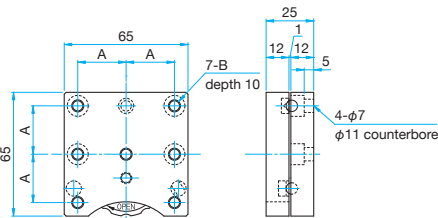
REP-60

Hexagonal socket head cap screw M4×8...4 screws



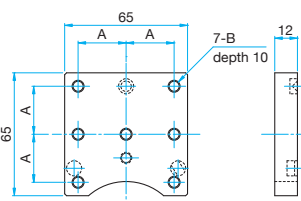
REP-65EE/65UU

Hexagonal socket head cap screw M6×12...4 screws (65EE)
Hexagonal socket head cap screw 6-20UNC×5/16...4 screws (65UU)



Part Number	A (mm)	B
REP-65EE	25	M6 P1
REP-65UU	25.4	1/4-20UNC

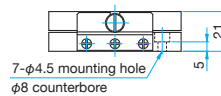
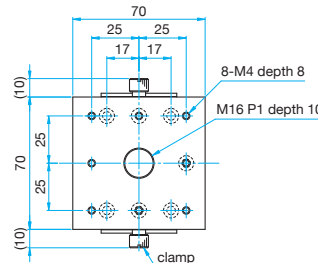
REP-65PEE/65PUU



Part Number	A (mm)	B
REP-65PEE	25	M6 P1
REP-65PUU	25.4	1/4-20UNC

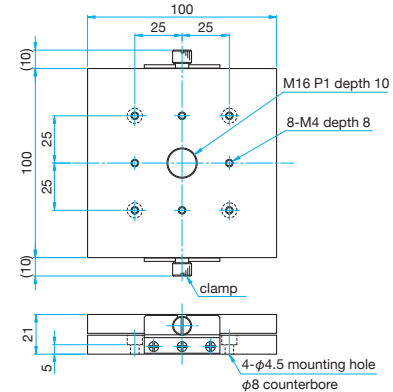
REP-70

Hexagonal socket head cap screw M4×10...4 screws



REP-100

Hexagonal socket head cap screw M4×10...4 screws



Fixed type

Primary material: Iron
Finish: Black matte

Part Number	Weight [kg]
REP-65EE	0.29
REP-65UU	0.29
REP-70	0.77
REP-100	1.5

Top Plate only

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
REP-65PEE	0.12
REP-65PUU	0.12

Guide

- ▶ Mirror holders can be directly mounted to flip mounts, FMB-40. These flip mounts move the mirror outside of the optical path.
Reference C018 **Catalog Code** W4006
- ▶ We offer top plates for replacement other than catalog products. **WEB Reference** **Catalog Code** W6031

Attention

- ▶ The magnet type of REP series (25×25 mm, 40×40 mm, 60×60mm) should be loaded on its center axis. Off-axis loads may cause the magnetic to detach.

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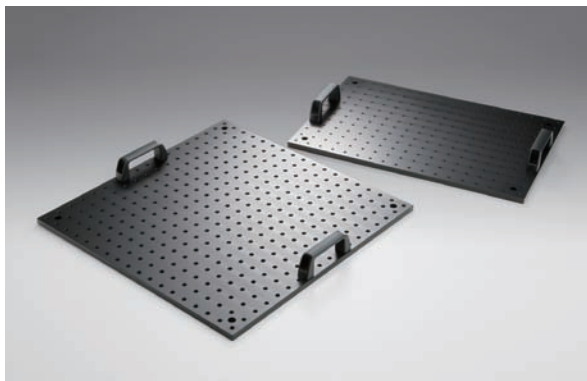
Brackets

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Black Anodized Aluminum Base Plates.

Can be used on small vibration isolators or laboratory benches for optical systems.



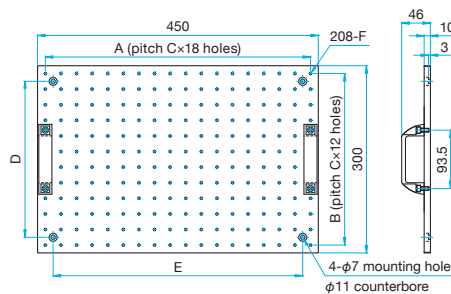
- Attached grips allow easy moving and storage.
- M4 or M6 tapped through holes are arranged on 25mm×25mm spacing. 1/4-20UNC tapped through holes are on 25.4 mm x 25.4 mm spacing
- Flatness is 0.2mm.

Guide

- Each baseplate comes with two aluminum handles.
- Custom sizes are available contact our Sales Division for more information.

**Outline Drawing****OBC-3045 Series**

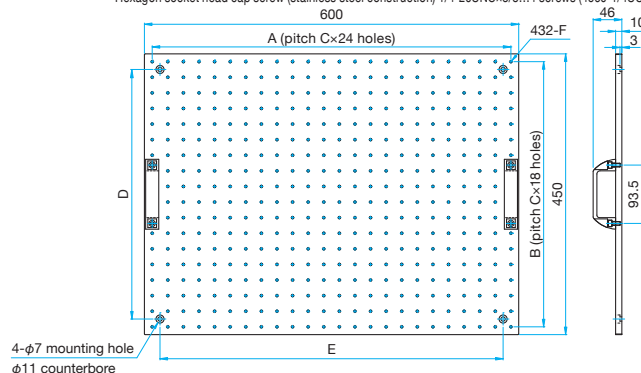
- Hexagon socket head cap screw (stainless steel construction) M6×10...4 screws (3045, 3045-M6)
Hexagon socket head cap screw (stainless steel construction) 1/4-20UNC×3/8...4 screws (3045-1/4UU)



Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F
OBC-3045	425	275	25	250	400	M4
OBC-3045-M6	425	275	25	250	400	M6
OBC-3045-1/4UU	431.8	279.4	25.4	254	406.4	1/4-20UNC

OBC-4560 Series

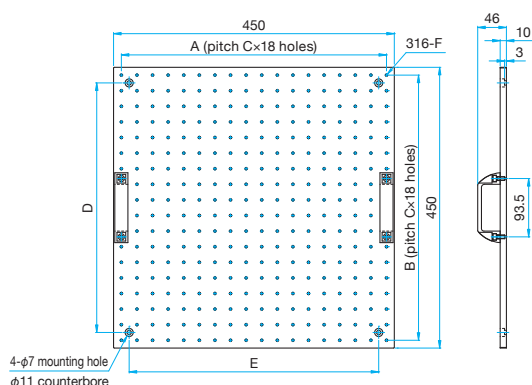
- Hexagon socket head cap screw (stainless steel construction) M6×10...4 screws (4560-M6)
Hexagon socket head cap screw (stainless steel construction) 1/4-20UNC×3/8...4 screws (4560-1/4UU)



Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F
OBC-4560	575	425	25	400	550	M4
OBC-4560-M6	575	425	25	400	550	M6
OBC-4560-1/4UU	584.2	431.8	25.4	406.4	558.8	1/4-20UNC

OBC-4545 Series

- Hexagon socket head cap screw (stainless steel construction) M6×10...4 screws (4545, 4545-M6)
Hexagon socket head cap screw (stainless steel construction) 1/4-20UNC×3/8...4 screws (4545-1/4UU)



Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F
OBC-4545	425	425	25	400	400	M4
OBC-4545-M6	425	425	25	400	400	M6
OBC-4545-1/4UU	431.8	431.8	25.4	406.4	406.4	1/4-20UNC

SpecificationsPrimary material: Aluminum
Finish: Black Anodized

Part Number			Size [mm]	Weight [kg]
Tapped Holes on Top Surface				
M4	M6	1/4-20UNC		
OBC-3045	OBC-3045-M6	OBC-3045-1/4UU	300×450	3.6
OBC-4545	OBC-4545-M6	OBC-4545-1/4UU	450×450	5.4
OBC-4560	OBC-4560-M6	OBC-4560-1/4UU	450×600	7.3

The OBC base plate has M4 tapped holes on a 25×2 5mm matrix, and the OBB base plate has M2 tapped holes on a 10×10mm matrix.



Guide

► Medium low-profile optical rails or compact aluminum rails can be secured on the top surface. In that case, adapters for converting M6 to M4 (AD-M6-M4) and M6 to M2 (AD-M6-M2) are available.

Reference D032

► We will accept production of sizes not listed in the catalog. Contact our Sales Division for more information.

Attention

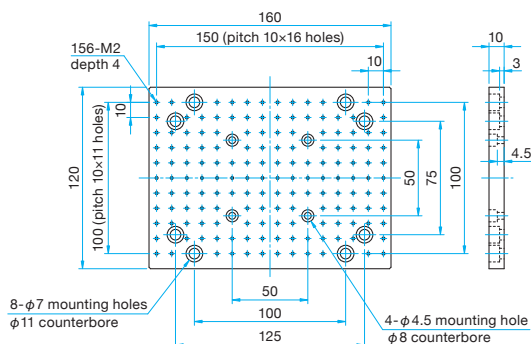
► Note that this product does not come with grips.



Outline Drawing

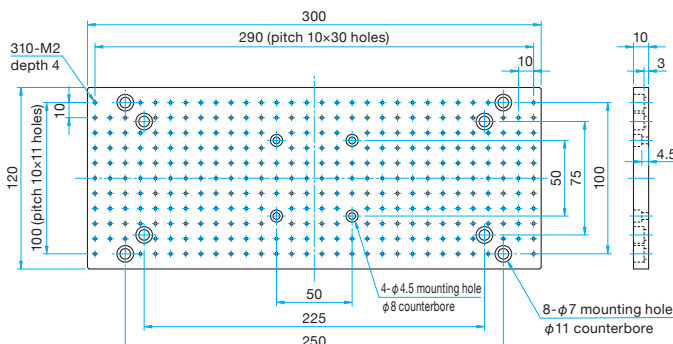
OBB-1216

Hexagonal socket headcap screw M6×10...8 screws, M4×12...4 screws



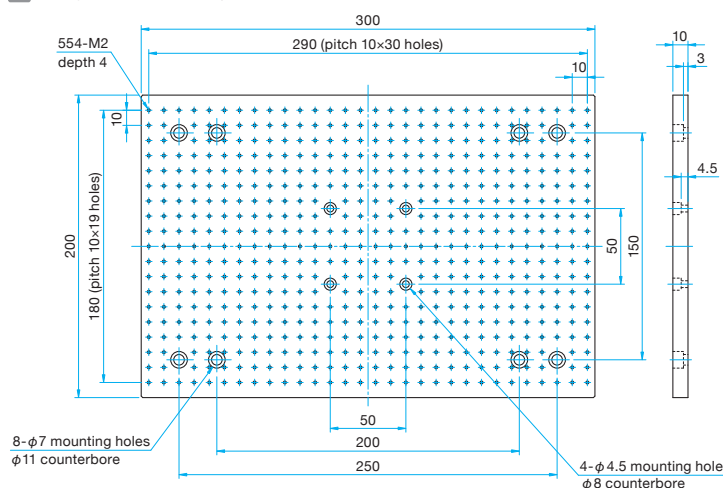
OBB-1230

Hexagonal socket headcap screw M6×10...8 Screws, M4×12...4 screws



OBB-2030

Hexagonal socket headcap screw M6×10...8 screws, M4×12...4 screws



Specifications

Part Number	Size [mm]	Tapped Holes on Top Surface	Primary material: Aluminum Finish: Black Anodized	
			Weight [kg]	
OBB-1216	120×160	M2	0.48	
OBB-1230	120×300	M2	0.93	
OBB-2030	200×300	M2	1.58	

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Optical Baseplates Aluminum Spacers (25 × 25 mm)

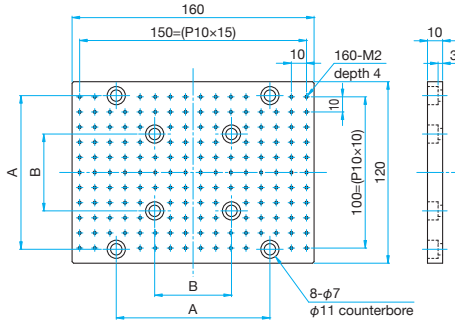
OBB/OBC
MSP-25



Outline Drawing

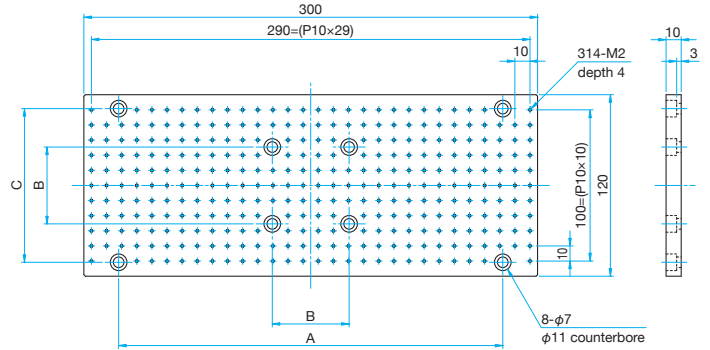
OBB-121EE/121UU

- Hexagonal socket headcap screw M6×10...4 screws (121EE)
- Hexagonal socket headcap screw 1/4-20UNC×3/8...4 screws (121UU)



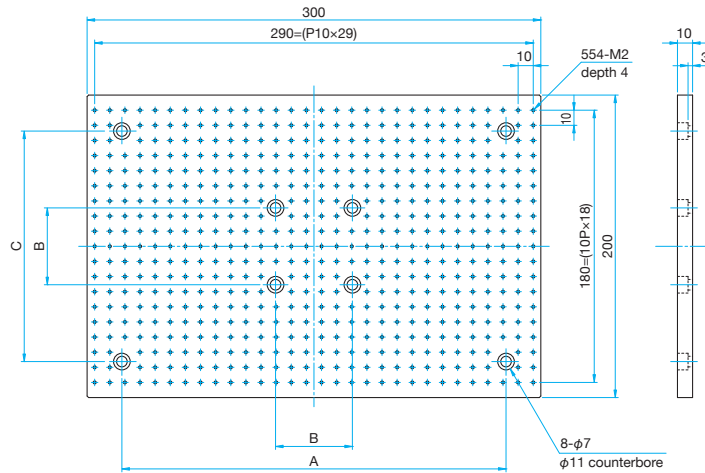
OBB-123EE/123UU

- Hexagonal socket headcap screw M6×10...4 screws (123EE)
- Hexagonal socket headcap screw 1/4-20UNC×3/8...4 screws (123UU)



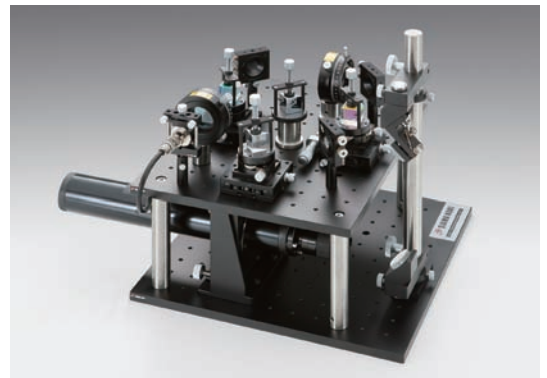
OBB-203EE/203UU

- Hexagonal socket headcap screw M6×10...4 screws (203EE)
- Hexagonal socket headcap screw 1/4-20UNC×3/8...4 screws (203UU)



Specifications

Specifications						Primary material: Aluminum Finish: Black Anodized
Part Number	Size [mm]	Tapped Holes on Top Surface	A [mm]	B [mm]	C [mm]	Weight [kg]
OBB-121EE	120×160	M2	100	50	—	0.48
OBB-121UU	120×160	M2	101.6	50.8	—	0.48
OBB-123EE	120×300	M2	250	50	100	0.93
OBB-123UU	120×300	M2	254	50.8	101.6	0.93
OBB-203EE	200×300	M2	250	50	150	1.58
OBB-203UU	200×300	M2	254	50.8	152.4	1.58



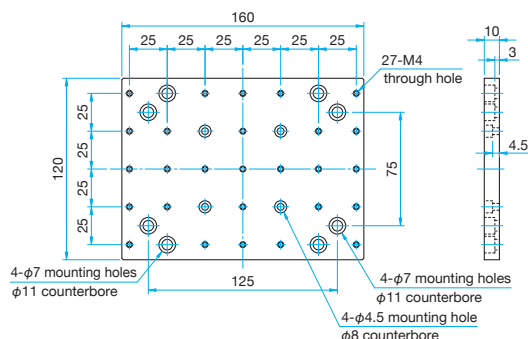
Example of baseplate usage



Outline Drawing

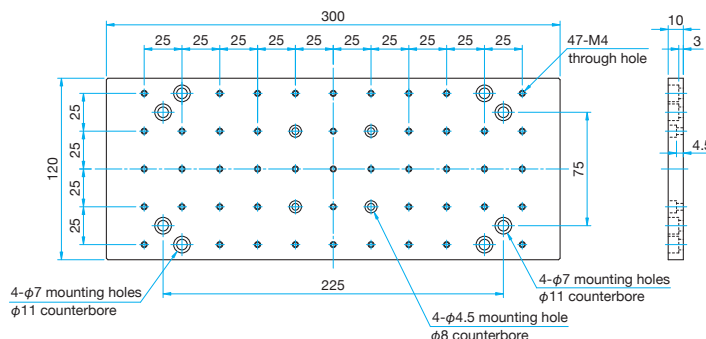
OBC-1216

Hexagonal socket headcap screw M6×10...8 screws, M4×12...4 screws



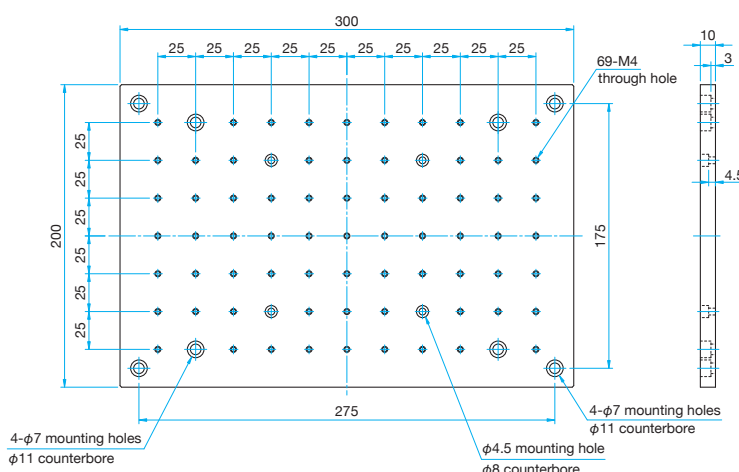
OBC-1230

Hexagonal socket headcap screw M6×10...8 screws, M4×12...4 screws



OBC-2030

Hexagonal socket headcap screw M6×10...8 screws, M4×12...4 screws



Specifications

Specifications			Primary material: Aluminum Finish: Black Anodized
Part Number	Size [mm]	Tapped Holes on Top Surface	Weight [kg]
OBC-1216	120×160	M4	0.48
OBC-1230	120×300	M4	0.93
OBC-2030	200×300	M4	1.58

MSP-25

RoHS Catalog Code **W6034**

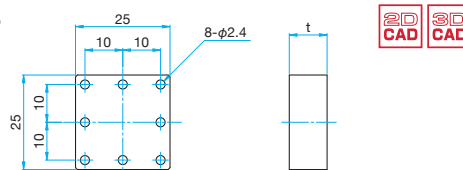
Spacers for 25mm positioning stages.



- These spacers allow users to increase the height (thickness) of stages.
- Various thicknesses are available in 5mm increments.

Outline Drawing

MSP-25



Specifications

Specifications			Primary material: Aluminum Finish: Black Anodized
Part Number	Thickness t [mm]	Weight [kg]	
MSP-2505	5	0.008	
MSP-2510	10	0.016	
MSP-2515	15	0.024	

Guide

- Custom sizes not listed in the catalog can be purchased. Contact our Sales Division for more information.

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Aluminum Spacers (40 × 40 mm)

MSP-40

RoHS

Catalog Code W6035

Spacers for 40 × 40 mm positioning stages.



- These spacers allow users to increase the height (thickness) of stages.
- Various thicknesses are available in 1mm increments.

Guide

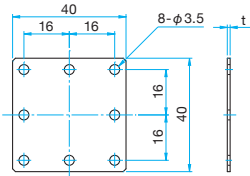
- Custom sizes not listed in the catalog can be purchased. Contact our Sales Division for more information.



Outline Drawing

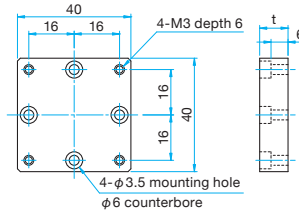
MSP-40* *

- Hexagon socket head cap screw M3×12...4 screws (4002)
Hexagon socket head cap screw M3×14...4 screws (4003)
Hexagon socket head cap screw M3×16...4 screws (4005)



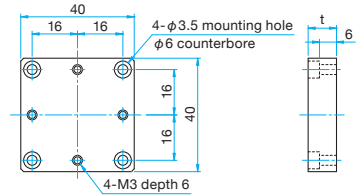
MSP-40* *A

- Hexagon socket head cap screw M3×10...4 screws

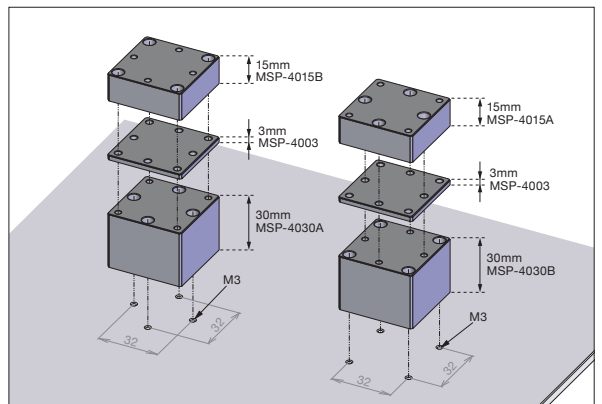


MSP-40* *B

- Hexagon socket head cap screw M3×10...4 screws



Combination Example (Height: 48mm)



		Mounting Surface Pattern	
		P.C.D.32M3	□32M3
Height (mm)	5	MSP-4005	MSP-4005
	10	MSP-4010A	MSP-4010B
	15	Upper MSP-4005 Lower MSP-4010A	Upper MSP-4005 Lower MSP-4010B
	20	Upper MSP-4010 Lower MSP-4010A	Upper MSP-4010A Lower MSP-4010B
	25	Upper MSP-4010 Lower MSP-4015A	Upper MSP-4010A Lower MSP-4015B
	30	Upper MSP-4010 Lower MSP-4020A	Upper MSP-4010A Lower MSP-4020B
	35	Upper MSP-4010 Lower MSP-4025A	Upper MSP-4010A Lower MSP-4025B
	40	Upper MSP-4010 Lower MSP-4030A	Upper MSP-4010A Lower MSP-4030B
	45	Upper MSP-4015 Lower MSP-4030A	Upper MSP-4015A Lower MSP-4030B
	50	Upper MSP-4020 Lower MSP-4030A	Upper MSP-4020A Lower MSP-4030B
	55	Upper MSP-4025 Lower MSP-4030A	Upper MSP-4025A Lower MSP-4030B
	60	Upper MSP-4030 Lower MSP-4030A	Upper MSP-4030A Lower MSP-4030B
	65	Upper MSP-4030 Middle MSP-4005 Lower MSP-4030A	Upper MSP-4030A Middle MSP-4005 Lower MSP-4030B

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Thickness t [mm]	Weight [kg]
MSP-4001	1	0.004
MSP-4002	2	0.009
MSP-4003	3	0.01
MSP-4005	5	0.02
MSP-4010A	10	0.04
MSP-4010B	10	0.04
MSP-4015A	15	0.06
MSP-4015B	15	0.06
MSP-4020A	20	0.09
MSP-4020B	20	0.09
MSP-4025A	25	0.11
MSP-4025B	25	0.11
MSP-4030A	30	0.13
MSP-4030B	30	0.13

Spacers for 60 × 60 mm positioning stages.



- These spacers allow users to increase the height (thickness) of stages.
- Various thicknesses are available in 1mm increments.

Guide

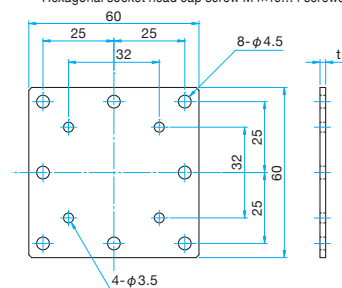
- ▶ Custom sizes not listed in the catalog can be purchased. Contact our Sales Division for more information.



Outline Drawing

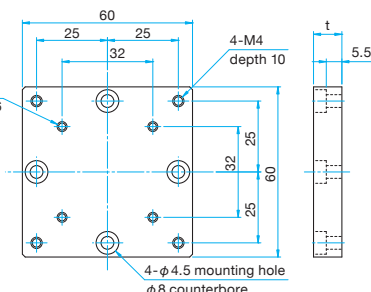
MSP-60* *

- Hexagonal socket head cap screw M4×12...4 screws (6002)
- Hexagonal socket head cap screw M4×14...4 screws (6003)
- Hexagonal socket head cap screw M4×16...4 screws (6005)



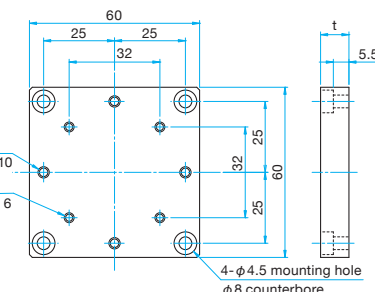
MSP-60* *A

- Hexagonal socket head cap screw M4×10...4 screws



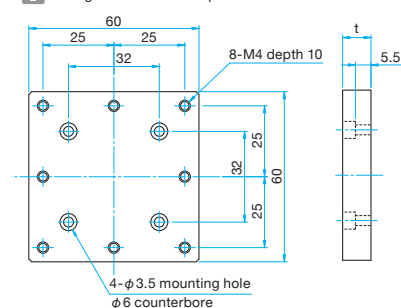
MSP-60* *B

- Hexagonal socket head cap screw M4×10...4 screws

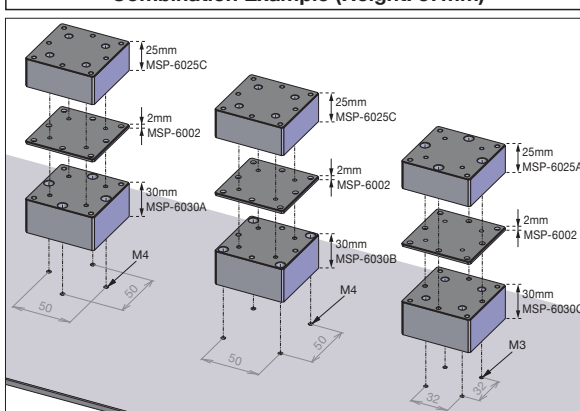


MSP-60* *C

- Hexagon socket head cap screw M3×10...4 screws



Combination Example (Height: 57mm)



		Mounting Surface Pattern		
		P.C.D.50M4	50M4	32M3
Height (mm)	5	MSP-6005	MSP-6005	MSP-6005
	10	MSP-6010A	MSP-6010B	MSP-6010C
	15	Upper: MSP-6005 Lower: MSP-6010A	Upper: MSP-6005 Lower: MSP-6010B	Upper: MSP-6005 Lower: MSP-6010C
	20	Upper: MSP-6010C Lower: MSP-6010A	Upper: MSP-6010C Lower: MSP-6010B	Upper: MSP-6010A Lower: MSP-6010C
	25	Upper: MSP-6010C Lower: MSP-6015A	Upper: MSP-6010C Lower: MSP-6015B	Upper: MSP-6010A Lower: MSP-6015C
	30	Upper: MSP-6010C Lower: MSP-6020A	Upper: MSP-6010C Lower: MSP-6020B	Upper: MSP-6010A Lower: MSP-6020C
	35	Upper: MSP-6010C Lower: MSP-6025A	Upper: MSP-6010C Lower: MSP-6025B	Upper: MSP-6010A Lower: MSP-6025C
	40	Upper: MSP-6010C Lower: MSP-6030A	Upper: MSP-6010C Lower: MSP-6030B	Upper: MSP-6010A Lower: MSP-6030C
	45	Upper: MSP-6015C Lower: MSP-6030A	Upper: MSP-6015C Lower: MSP-6030B	Upper: MSP-6015A Lower: MSP-6030C
	50	Upper: MSP-6020C Lower: MSP-6030A	Upper: MSP-6020C Lower: MSP-6030B	Upper: MSP-6020A Lower: MSP-6030C
	55	Upper: MSP-6025C Lower: MSP-6030A	Upper: MSP-6025C Lower: MSP-6030B	Upper: MSP-6025A Lower: MSP-6030C
	60	Upper: MSP-6030C Lower: MSP-6030A	Upper: MSP-6030C Lower: MSP-6030B	Upper: MSP-6030A Lower: MSP-6030C
	65	Upper: MSP-6030C Middle: MSP-6005 Lower: MSP-6030A	Upper: MSP-6030C Middle: MSP-6005 Lower: MSP-6030B	Upper: MSP-6030A Middle: MSP-6005 Lower: MSP-6030C

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Thickness t [mm]	Weight [kg]
MSP-6001	1	0.01
MSP-6002	2	0.02
MSP-6003	3	0.03
MSP-6005	5	0.05
MSP-6010A	10	0.10
MSP-6010B	10	0.10
MSP-6010C	10	0.10
MSP-6015A	15	0.15
MSP-6015B	15	0.15
MSP-6015C	15	0.15
MSP-6020A	20	0.19
MSP-6020B	20	0.19
MSP-6020C	20	0.19
MSP-6025A	25	0.24
MSP-6025B	25	0.24
MSP-6025C	25	0.24
MSP-6030A	30	0.29
MSP-6030B	30	0.29
MSP-6030C	30	0.29

Adapter Plate Selection Guide

A variety of adapter plates are available to make it easier to combine stages that do not have matching mounting holes.

- The following table can be used to determine the appropriate adapter for combining stages with hole patterns selected from the left column and the top row.



Guide

- Custom shapes or sizes not listed in the catalog can be purchased.
- Send us rough illustration by FAX or mail, or contact our Sales Division.

Example of Combinations



Selection List

		Mounting hole pattern and screw shape of products to be mounted on upper surface												
		 M16 Screw for fastening posts, post holders, etc.	 20M2 Fasten 25×25 stages, etc.	 31.75 6-32UNC Fasten 40×40 (For INCH) stages, etc.	 32M3 Fasten 40×40 stages, etc.	 40M3 Fasten 50×50 stages, etc.	 50M4 Fasten 60×60 stages, etc.	 P.C.D.50M4 Fasten φ60 rotary stages, etc. (KSP-786 etc.)	 50M6 Fasten 65×65 stages, etc.	 50.8 1/4-20UNC 6Fasten 65×65 (For INCH) stages, etc.	 70M4 Fasten 80×80 stages, etc.	 90M4 Fasten 100×100 stages, etc.	 100M4 Fasten 120×120 stages, etc.	 M6 internal thread Fasten mirror holder etc. in place of post
Tapped hole pattern of products to be mounted on under surface	General Adapters	 32M3 40×40 stage, etc. upper surface screw pattern	SP-132	SP-132		SP-132	SP-132	SP-132						
		P.C.D.32M3 φ40 rotary stage, etc. upper surface screw pattern	SP-129 SP-132	SP-129 SP-132		SP-129	SP-129 SP-132	SP-129 SP-132	SP-132					
		 50M4 60×60 stage, etc. upper surface screw pattern	SP-117 SP-133	SP-133		SP-133	SP-133		SP-117 SP-133		SP-102-1	SP-102-2	SP-102-3	SP-122
		P.C.D.50M4 φ60 rotary stage, etc. upper surface screw pattern	SP-129	SP-103 SP-129		SP-103 SP-129	SP-129	SP-103 SP-129						
		 31.75 6-32UNC 40×40 (For INCH) stage, etc. upper surface screw pattern		SP-401EE SP-401UU										
		P.D.C.31.75 6-32UNC φ40 (INCH) rotary stage, etc. upper surface screw pattern		SP-401EE SP-401UU	SP-401UU	SP-401EE								
		 50M6 65×65 stage, etc. upper surface screw pattern		SP-402EE	SP-402UU	SP-402EE			SP-402EE	SP-402UU				
		P.C.D.50M6 φ65/φ90 rotary stage, etc. upper surface screw pattern		SP-402EE	SP-402UU	SP-402EE			SP-402EE	SP-402UU				
		 50.8 1/4-20UNC 65×65 (For INCH) stage, etc. upper surface screw pattern		SP-402EE	SP-402UU	SP-402EE			SP-402EE	SP-402UU				
	P.D.C.50.8 1/4-20UNC φ65/φ90 rotary stage (For INCH), etc. upper surface screw pattern		SP-402EE	SP-402UU	SP-402EE			SP-402EE	SP-402UU					
	Special Adapters	MB-CB-CB	SP-130	SP-130		SP-130	SP-130	SP-130	SP-130					
		P.C.D.30M3	SP-129 SP-132	SP-123 SP-129 SP-132		SP-123 SP-129	SP-123 SP-129	SP-123 SP-129	SP-132					
		TAR-34*** TAR-38***D	SP-109-1 SP-109-2 SP-131			SP-131	SP-131	SP-131	SP-131					
		TAR-34403L TAR-34805L	SP-131			SP-131	SP-131	SP-131	SP-131					
		TAS-2060*	SP-127-1 SP-134	SP-127-1 SP-134		SP-134	SP-134	SP-134	SP-134					

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50×50mm Adapter Plates | SP-102

RoHS Catalog Code W6058

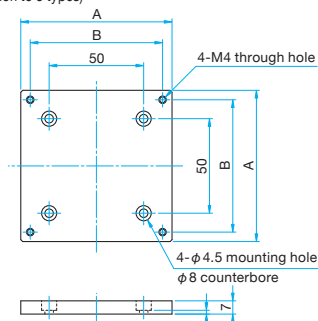
- Mounting hole converting adapter for stages.



Outline Drawing

SP-102

Hexagonal socket head screw M4×6...4 screws (common to 3 types)



Part Number	A (mm)	B (mm)
SP-102-1	80	70
SP-102-2	100	90
SP-102-3	120	100

Connection Example

80×80 stage (M4 70×70)

SP-102-1

M4 50×50

100×100 stage (M4 90×90)

SP-102-2

M4 50×50

120×120 stage (M4 100×100)

SP-102-3

M4 50×50

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-102-1	0.12
SP-102-2	0.18
SP-102-3	0.27

Top Plates for KSP/KSPA | SP-103

RoHS Catalog Code W6059

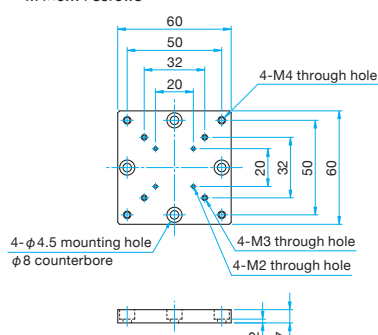
- Mounting hole-converting adapter for θ axis rotation stages.



Outline Drawing

SP-103

Hexagonal socket head cap screw M4×6...4 screws



Connection Example

25×25 stage (M2 20×20)

40×40 stage (M3 32×32)

60×60 stage (M4 50×50)

SP-103

KSP/KSPA (M4 ϕ 50)

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-103	0.06

Bottom Plates for KSP-786M | SP-104

RoHS Catalog Code W6060

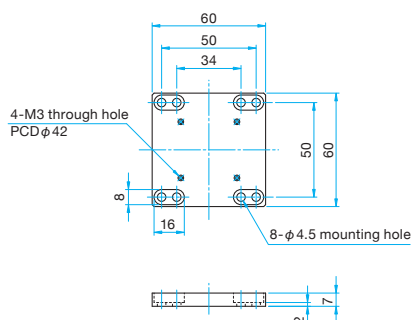
- Allows the KSP-786M to connect to a M4 breadboard.



Outline Drawing

SP-104

Hexagonal socket head cap screw M4×6...4 screws



Connection Example

KSP-786M

SP-104

MB-CB-PB

60×60 stage (M4 50×50)

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-104	0.06

Top Plates for TAR | SP-109

RoHS Catalog Code W6061

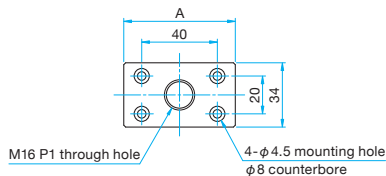
- Allows for Post Holders with M16P1 threads to be used on top of rack and pinion stages.



Outline Drawing

SP-109-1/2

Hexagon socket head cap screw
M4×6...4 screws



Part Number	A (mm)
SP-109-1	60
SP-109-2	80

Connection Example

Post holder etc. (M16 P1)	Post holder etc. (M16 P1)
SP-109-1	SP-109-2
TAR-34601	TAR-34801
TAR-38601D	TAR-34141
TAR-34602	TAR-38801D
	TAR-38141D
	TAR-34802

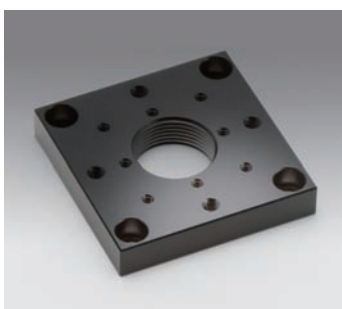
Specifications

Part Number	Weight [kg]
SP-109-1	0.03
SP-109-2	0.04

Primary material: Aluminum
Finish: Black Anodized

Conversion Plate | SP-113N

RoHS Catalog Code W6086



Allows attachment of a M16 female pole (PO) to □40 × 40 mm stages.

- Can attach a AIS-40B tilt stage, SHA-40 sample holder, or a MPH-B polarizer holder to the □40×40 mm stage.

Specifications

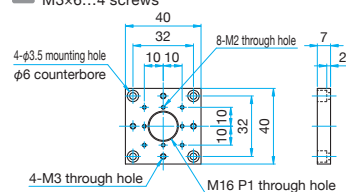
Part Number	Weight [kg]
SP-113N	0.02

Primary material: Aluminum
Finish: Black Anodized

Outline Drawing

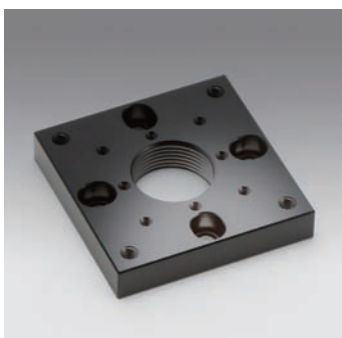
SP-113N

Hexagon socket head cap screw
M3×6...4 screws



Conversion Plate | SP-114N

RoHS Catalog Code W6087



- Allows attachment of a M16 female pole (PO) to □40×40 mm stages and rotation stages.
- Can attach the □40×40 mm metric stages, SHA-25 sample holders or MPH-B polarizer holders to the rotation stages (KSP-406, KSW-406).

Specifications

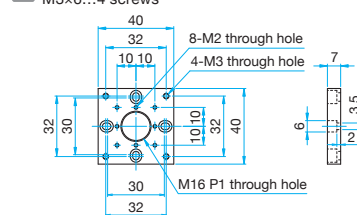
Part Number	Weight [kg]
SP-114N	0.02

Primary material: Aluminum
Finish: Black Anodized

Outline Drawing

SP-114N

Hexagon socket head cap screw
M3×6...4 screws



Bottom Plates for KSPA 806M, 1006M | SP-117

RoHS Catalog Code W6063

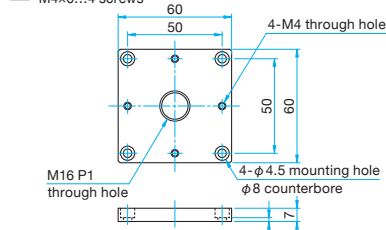
- Mounting hole converting adapter for rotation stages (KSPA-806M and 1006MH).



Outline Drawing

SP-117

Hexagon socket head cap screw
M4×6...4 screws



Connection Example

Post holder etc. (M16 P1)
KSPA-806M, 1006MH
SP-117
M4 50×50

Specifications

Part Number	Weight [kg]
SP-117	0.06

Primary material: Aluminum
Finish: Black Anodized

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M16 P1/M6 P1 Adapter Nuts | SP-121

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Catalog Code

W6065

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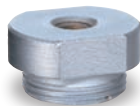
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SP-121-1

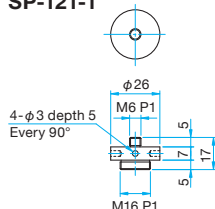


SP-121-2

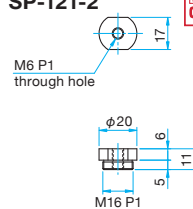
- Converts Female M16P1 threads to male or female M6P1 threads on post holders.

Outline Drawing

SP-121-1



SP-121-2



2D CAD 3D CAD

Connection Example	
Main frame of holder etc. (M6 P1 (female))	Post (M6 P1 (male))
▼	▼
SP-121-1	SP-121-2
▼	▼
M16 P1	M16 P1
Specifications	
Primary material: Brass Finish: Chrome	
Part Number	Weight [kg]
SP-121-1	0.04
SP-121-2	0.02

M16 P1/M6 P1 Adapter Nuts | SP-121S

RoHS

Catalog Code

W6066



Upper surface

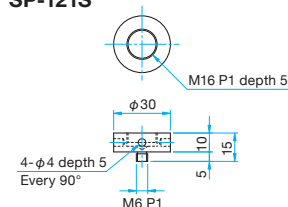


Under surface

- Converts a male M16P1 thread to a male M6P1 thread.

Outline Drawing

SP-121S



2D CAD 3D CAD

Connection Example	
Post holder etc. (M16 P1 (male))	
▼	
SP-121S	
▼	
Baseplate / optical breadboard etc. (M6 P1 (female))	
Specifications	
Primary material: Aluminum Finish: Black Anodized	
Part Number	Weight [kg]
SP-121S	0.01

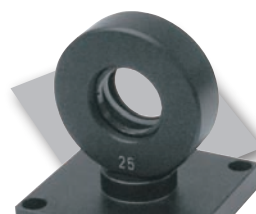
M6P1 Adapter Plates | SP-122

RoHS

Catalog Code

W6067

- Mounting adapter allows for parts with a M6P1 female thread to be used onto a M4 50 x50 mm mounting surface.
- Good for setting a low optical axis.



Attention

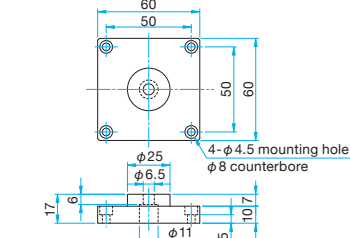
- ▶ Note that holders with protrusions within the φ25 mounting surface may not be able to be connected.

Outline Drawing

SP-122

Hexagonal socket head cap screw M4x10...4 screws

Hexagonal socket head cap screw M6x12...1 screw



2D CAD 3D CAD

Connection Example	
M6 P1 (female)	
▼	
SP-122	
▼	
M4 50x50	
Specifications	
Primary material: Aluminum Finish: Black Anodized	
Part Number	Weight [kg]
SP-122	0.1

Top Plates for KSP-406M | SP-123

RoHS

Catalog Code

W6068

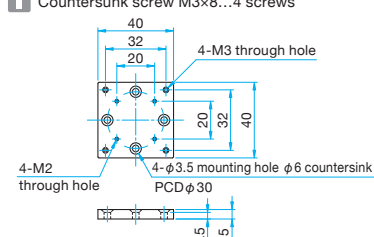
- Allows for 40 mm stages to be mount on top of rotaion stages KSP-406M.



Outline Drawing

SP-123

Countersunk screw M3x8...4 screws



2D CAD 3D CAD

Connection Example	
25x25 stage (M2 20x20)	
40x40 stage (M3 32x32)	
▼	
SP-123	
▼	
KSP-406M	
KSP-406MR	
Specifications	
Primary material: Aluminum Finish: Black Anodized	
Part Number	Weight [kg]
SP-123	0.02

Top Plate Adapters for TAS-2060 | SP-127-1

RoHS Catalog Code W6069

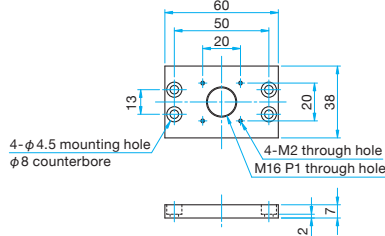
- Allows for 25 mm stages and M16P1 post holders to be mounted on top of TAS-20601 and 20602.



Outline Drawing

SP-127-1

- Hexagonal socket head cap screw M4×6...4 screws



Connection Example

Post holder etc. (M16 P1)
25×25 stage (M2 20×20)

SP-127-1

TAS-20601
TAS-20602

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-127-1	0.04

Adapter Plates | SP-129

RoHS Catalog Code W6071

- Allows stages and post holders to be mounted onto KSP-406 and other stages (see chart).

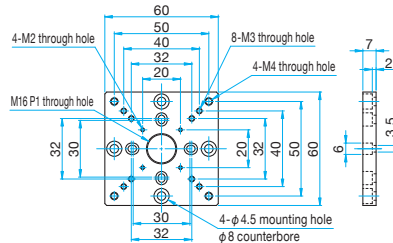
Reference D041



Outline Drawing

SP-129

- Hexagonal socket head cap screw M3×6...4 screws



Connection Example

Post holder etc. (M16 P1)
25×25 stage (M2 20×20)
40×40 stage (M3 32×32)
60×60 stage (M4 50×50)

SP-129

KSP-406 (M3 ϕ 30)
40×40 stage (M3 ϕ 32)
60×60 stage (M4 ϕ 50)

Specifications

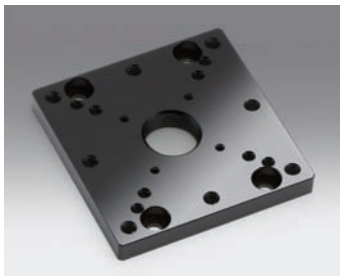
Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-129	0.06

Adapter Plates | SP-130

RoHS Catalog Code W6072

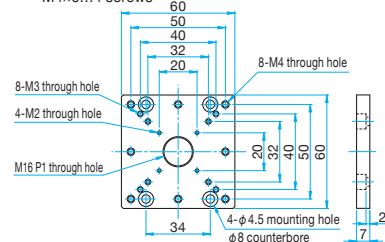
- Allows stages and post holders to be mounted onto MB-PB-CB magnet base family parts.



Outline Drawing

SP-130

- Hexagonal socket head cap screw M4×6...4 screws



Connection Example

Post holder etc. (M16 P1)
25×25 stage (M2 20×20)
40×40 stage (M3 32×32)
60×60 stage (M4 50×50)

SP-130

MB-PB-CB

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-130	0.06

Adapter Plates | SP-131

RoHS Catalog Code W6073

- Allows stages and post holders to be mounted on top of rack and pinion stages (see chart).

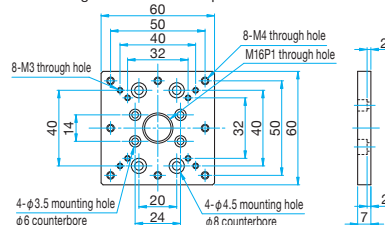
Reference D041



Outline Drawing

SP-131

- Hexagonal socket head cap screw M4×6...4 screws
- Hexagonal socket head cap screw M3×6...4 screws



Connection Example

Post holder etc. (M16 P1)
40×40 stage (M3 32×32)
60×60 stage (M4 50×50)

SP-131

TAR-34403L (M3 14×24)
TAR-34/38 (M4 20×40)

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-131	0.06

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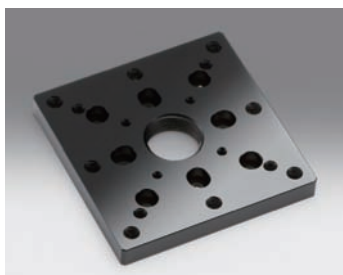
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- Allows stages and post holders to be mounted on top of KSP-406 and 40 mm stages (see chart).

Reference D041



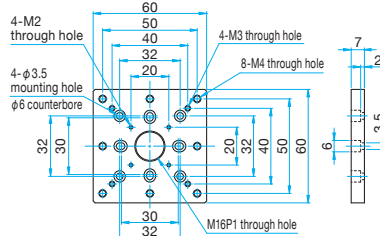
Outline Drawing

SP-132

Hexagonal socket head cap screw
M3x6...4 screws

2D CAD

3D CAD



Connection Example

Post holder etc. (M16 P1)
25x25 stage (M2 20x20)
50x50 stage (M3 40x40)
60x60 stage (M4 50x50)

SP-132

KSP-406 (M3 φ30)
40x40 stage (M3 32x32)

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-132	0.06

Adapter Plates | SP-133

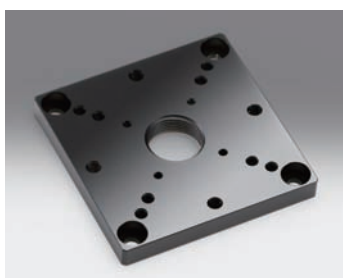
RoHS

Catalog Code

W6075

- Allows stages and post holders to be mounted on top of 60 mm stages (see chart).

Reference D041



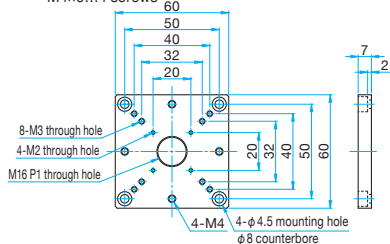
Outline Drawing

SP-133

Hexagonal socket head cap screw
M4x6...4 screws

2D CAD

3D CAD



Connection Example

Post holder etc. (M16 P1)
25x25 stage (M2 20x20)
40x40 stage (M3 32x32)
KSPA-806M/1006MH (M4 φ50)

SP-133

60x60 stage (M4 50x50)

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-133	0.06

Adapter Plates | SP-134

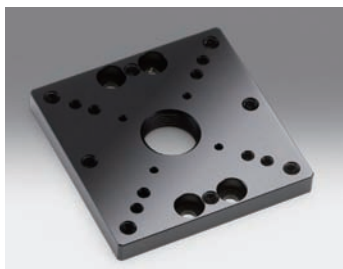
RoHS

Catalog Code

W6076

- Allows stages and post holders to be mounted on top of TAS-20601 and 20602 (see chart).

Reference D041



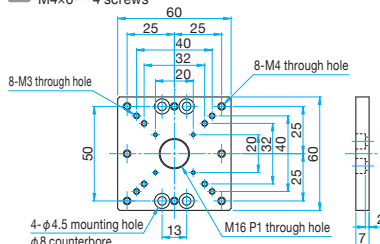
Outline Drawing

SP-134

Hexagonal socket head cap screw
M4x6...4 screws

2D CAD

3D CAD



Connection Example

Post holder etc. (M16 P1)
25x25 stage (M2 20x20)
40x40 stage (M3 32x32)
60x60 stage (M4 50x50)

SP-134

TAS-20601
TAS-20602

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-134	0.06

Conversion Plate | SP-135

RoHS

Catalog Code

W6088



Allows attachment of a 15x15 mm stages to 25x25 mm stages.

- Can attach GOH-15 goniometers, and TASB-15 preset dovetail translation stages to AIS-25B tilt stages, SHA-25 sample holders and MPH-B polarizer holders.

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-135	0.01

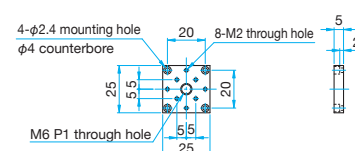
Outline Drawing

SP-135

Pan head screw M2x4...4 screws

2D CAD

3D CAD



Conversion Plate | SP-201

RoHS

Catalog Code

W6089



Allows attachment of a TSD-25501S to 40×40 mm stages.

- Can attach to $\phi 60$ mm rotation stages (KSP-606, KSPT-606) and $\phi 40$ mm rotation stages (KSP-406, KSPT-406).

Specifications

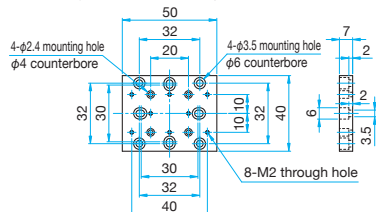
Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-201	0.03

Outline Drawing

SP-201

- Hexagon socket head cap screw M2×4...4 screws
- Hexagon socket head cap screw M3×6...4 screws



Conversion Plate | SP-301

RoHS

Catalog Code

W6090



Allows attachment of a TSD-40801 to 60×60 mm and 40×40 mm stages.

- Can attach GOH-15 goniometers, and TASB-15 preset dovetail translation stages to AIS-25B two axis tilt stages, SHA-25 sample holders and MPH-B polarizer holders.

Specifications

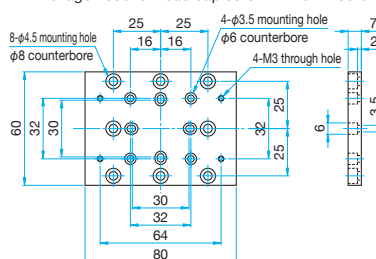
Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-301	0.08

Outline Drawing

SP-301

- Hexagon socket head cap screw M3×6...4 screws
- Hexagon socket head cap screw M4×6...4 screws



Conversion Plate | SP-401

RoHS

Catalog Code

W6096

Adapter Plates are useful for bolting two different size stages together. Black anodize aluminum.

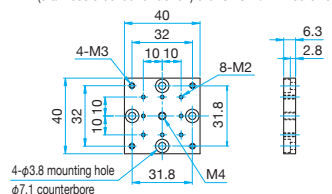
- Nested hole patterns for mounting small stages on top of larger stages.
- Can also be used to mount metric stages on inch stages or inch stages on metric stages.



Outline Drawing

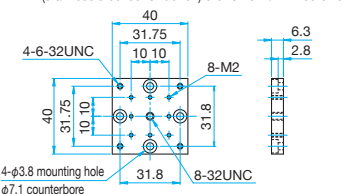
SP-401EE

- Hexagon socket head cap screw (stainless steel construction) 6-32UNC×4/4...4 screws



SP-401UU

- Hexagon socket head cap screw (stainless steel construction) 6-32UNC×4/4...4 screws

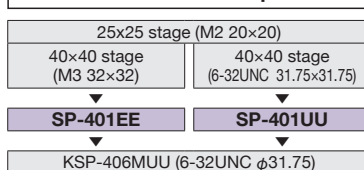


Specifications

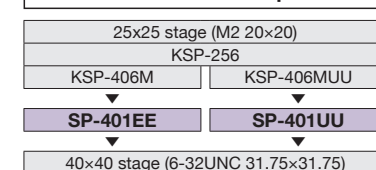
Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
SP-401EE	0.025
SP-401UU	0.025

Connection Example



Connection Example



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Adapter Plates are useful for bolting two different size stages together. Black anodize aluminum.

- Nested hole patterns for mounting small stages on top of larger stages.
- Can also be used to mount metric stages on inch stages or inch stages on metric stages.

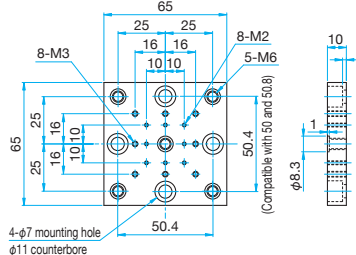


Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number	Weight [kg]	
SP-402EE	0.1	
SP-402UU	0.1	

Outline Drawing

SP-402EE

Hexagon socket head cap screw (stainless steel construction) M6×6...4 screws

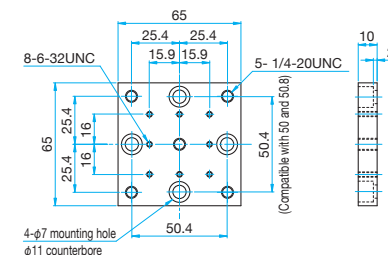


Connection Example

25x25 stage (M2 20x20)	
40x40 stage (M3 32x32)	40x40 stage (6-32UNC 31.75x31.75)
65x65 stage (M6 50x50)	65x65 stage (1/4-20UNC 50.8x50.8)
SP-402EE	SP-402UU
KSP-656M-M6/KSPB-906M-M6 (M6 φ50)	KSP-656MUU/KSPB-906MUU (1/4-20UNC φ50.8)

SP-402UU

Hexagon socket head cap screw (stainless steel construction) 1/4-20UNC×1/4...4 screws



Connection Example

40x40 stage (M3 32x32)	
40x40 stage (6-32UNC 31.75x31.75)	40x40 stage (6-32UNC 31.75x31.75)
KSP-256	KSP-406MUU
KSP-406M	KSP-406MUU
KSP-656M-M6/KSPB-906M-M6	KSP-656MUU/KSPB-906MUU
SP-402EE	SP-402UU
65x65 stage (M6 50x50)	65x65 stage (1/4-20UNC 50.8x50.8)

Baseplate | BSP-1016N

RoHS

Catalog Code

W6091

Base plate allows long travel X-axis stages (TSD-10161, TSD-60121, TSD-60161SDM, TAM-10161, TAM-60161SDM, etc.) to be attached to the OBC-M6 breadboards or M6 laboratory benches. It can also be used for a XY assembly.

- Can attach the 100×100mm stages (TSD-100, TAM-100, etc.) to the OBC-M4 base plates.



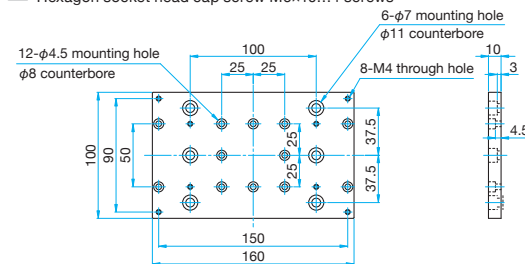
Specifications

Part Number	Weight [kg]	Primary material: Aluminum Finish: Black Anodized
BSP-1016N	0.4	

Outline Drawing

BSP-1016N

Hexagon socket head cap screw M4×10...4 screws
Hexagon socket head cap screw M6×10...4 screws



Baseplate | BSP-1020N

RoHS

Catalog Code

W6092

Base plate allow the X-axis long travel aluminum cross roller stage (TAM-10201SDM, TAMC-10201) to be attached to the OBC-M6 breadboards (OBC-M6) and M6 laboratory benches. . It can also be used for XY assembly

- Can attach 100 ×100mm stages (TSD-100, TAM-100, etc. to OBC-M4 base plates (OBC-M4).



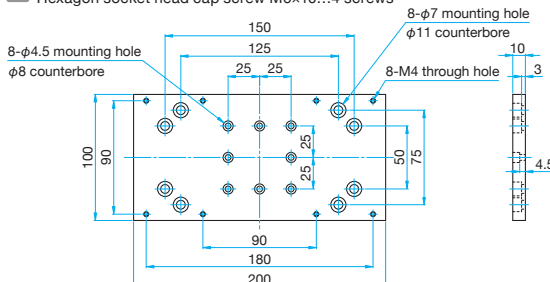
Specifications

Part Number	Weight [kg]	Primary material: Aluminum Finish: Black Anodized
BSP-1020N	0.5	

Outline Drawing

BSP-1020N

Hexagon socket head cap screw M4×10...4 screws
Hexagon socket head cap screw M6×10...4 screws



Attach a L bracket to the vertical face of the Z-axis, XZ-axis, or XYZ-axis stage to provide a horizontal mounting surface.



Attention

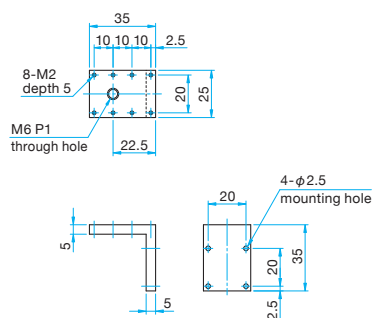
► These brackets may reduce travel distance or interfere with other stages. Confirm the dimensions before purchasing.



Outline Drawing

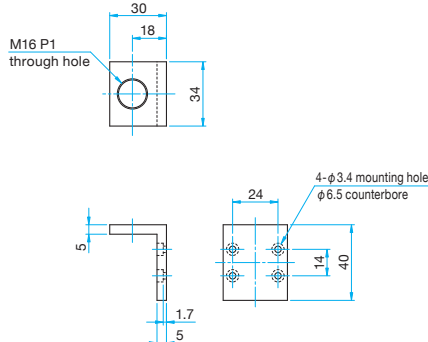
LBR-2535

■ Pan head screw M2×8...4 screws



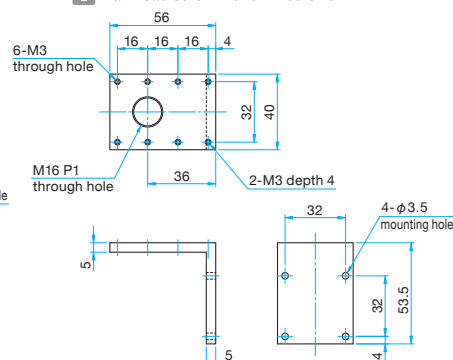
LBR-3440

■ Pan head screw M3×6...4 screws



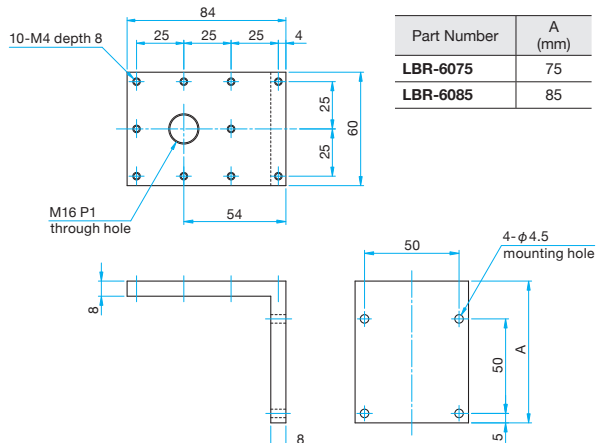
LBR-4053

■ Pan head screw M3×8...4 screws



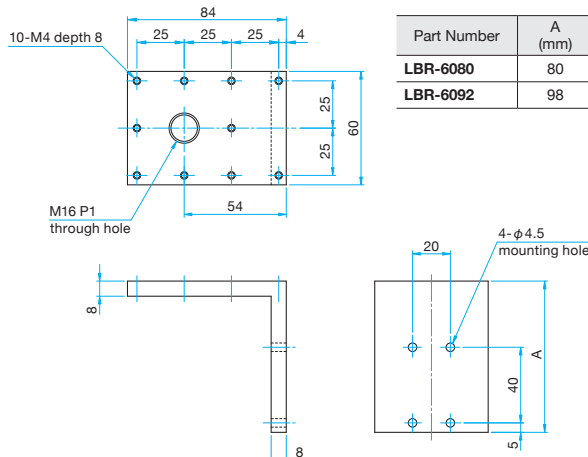
LBR-6075/6085

■ Hexagonal socket headcap screw M4×12...4 screws



LBR-6080/6092

■ Hexagonal socket headcap screw M4×12...4 screws



Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
LBR-2535	0.02
LBR-3440	0.03
LBR-4053	0.05
LBR-6075	0.18
LBR-6080	0.19
LBR-6085	0.19
LBR-6092	0.21

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L Angle Brackets | TSD-LB

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Catalog
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W7133

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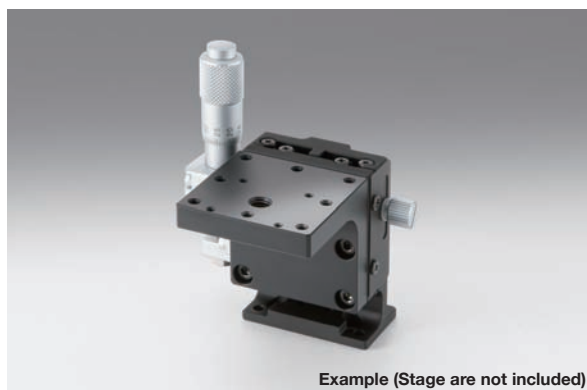
Optical Bases

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Example (Stage are not included)

L angle brackets for the TSD-L series.

Attention

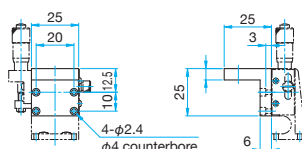
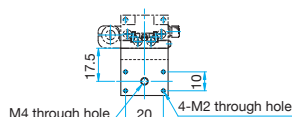
► There are load capacity limits. Please contact Sales Division for more information.



Outline Drawing

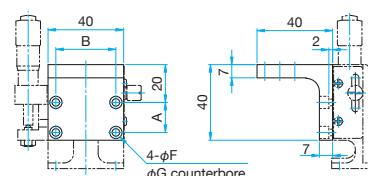
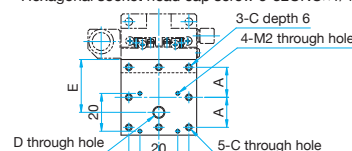
TSD-253LB

Hexagon socket head cap screw (stainless steel construction) M2×6...4 screws



TSD-403LB-M6/403LBUU

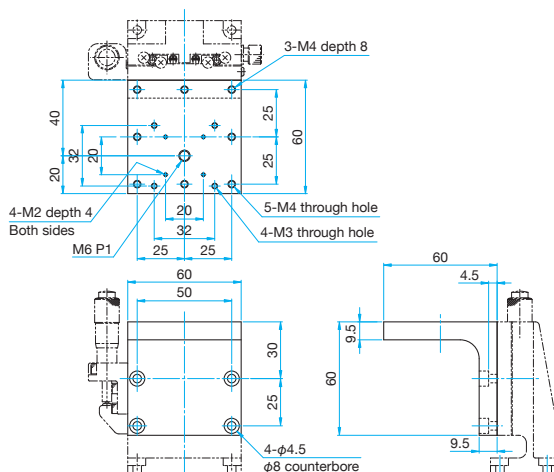
Hexagonal socket head cap screw M3×6...4 screws (M6)
Hexagonal socket head cap screw 6-32UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)	G (mm)
TSD-403LB-M6	16	32	M3	M6 P1	28	3.5	6
TSD-403LBUU	15.88	31.75	6-32UNC	1/4-20UNC	27.98	4	6.5

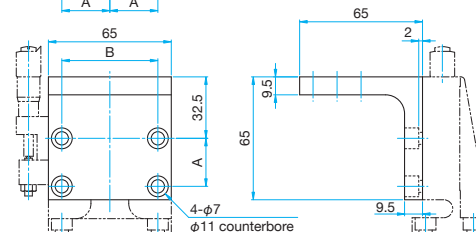
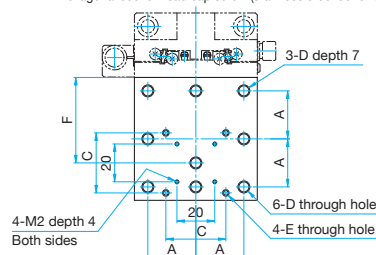
TSD-603LB

Hexagonal socket head cap screw M4×10...4 screws



TSD-653LB-M6/653LBUU

Hexagonal socket head cap screw M6×8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNC×5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C (mm)	D	E	F (mm)
TSD-653LB-M6	25	50	32	M6 P1	M3	45
TSD-653LBUU	25.4	50.8	31.75	1/4-20UNC	6-32UNC	45.2

Specifications

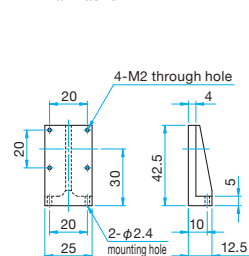
Part Number	METRIC	TSD-253LB	TSD-403LB-M6	TSD-603LB	TSD-653LB-M6
	INCH	—	TSD-403LBUU	—	TSD-653LBUU
Primary Material		Aluminum			
Finish		Black anodized			
Weight [kg]		0.03	0.05	0.07	0.08

- X-axis stages can be mounted vertically and used as a Z-axis stage.
- If the X-axis stage is mounted vertically, attach the stage such that the micrometer head is on the underside.
- The TSD-SZ series Z-axis stages can be mounted so that the micrometer head is on the topside.

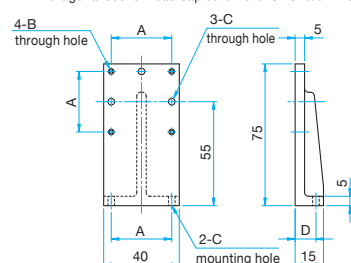
► The finish on the back of the bracket will be rough due to casting, but does not impede on the performance.



 Pan head screw M2x8...2 screws,
Flat washer

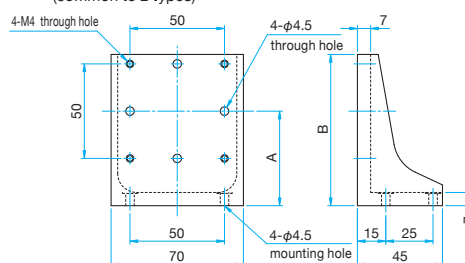


 Pan head screw M3x10...2 screws, Flat washer (4055)
Hexagonal socket head cap screw 6-32UNCx3/8...2 screws (4055UU)



Part Number	A (mm)	B	C (mm)	D (mm)
ZBR-4055	32	M3	φ3.5	11
ZBR-4055UU	31.75	6-32UNC	φ4	10.875

 Hexagonal socket head cap screw M4x12...4 screws
(common to 2 types)



Part Number	A (mm)	B (mm)
ZBR-7050	50	80
ZBR-7090	90	120

Technical drawing of a mounting plate showing top and side views with dimensions and labels.

Top View Dimensions:

- Overall width: 80
- Overall height: 70
- Inner width: 50
- Inner height: 50
- Mounting hole diameter: $\phi 20$
- 4-M4 through hole (top left)
- 4-M4 depth 8 (bottom left)
- 4- $\phi 4.5$ through hole (top right)
- 4- $\phi 4.5$ mounting hole (bottom right)

Side View Dimensions:

- Overall height: 100
- Top thickness: 8
- Bottom thickness: 15
- Inner width: 25
- Outer width: 49

Technical drawing of a rectangular plate with dimensions and hole specifications:

- Overall dimensions: 100 (width) x 100 (height).
- Top edge: 4-M4 through hole, 4-M4 depth 8.
- Bottom edge: 4-M4 through hole, 4-M4 depth 8.
- Left edge: 4-M4 through hole, 4-M4 depth 8.
- Right edge: 4-M4 through hole, 4-M4 depth 8.
- Internal dimensions: 90 (width) x 90 (height).
- Internal hole pattern: 4- $\phi 4.5$ through hole, 4- $\phi 4.5$ mounting hole.
- Internal hole spacing: 50 (width) x 50 (height).
- Internal hole diameter: $\phi 4.5$.
- Internal hole depth: 8.
- Internal hole type: 4- $\phi 4.5$ through hole, 4- $\phi 4.5$ mounting hole.
- Internal hole location: 15 (width) x 25 (height).
- Internal hole offset: 8 (width) x 150 (height).
- Internal hole offset: 15 (width) x 25 (height).
- Internal hole offset: 50 (width) x 50 (height).

Primary material: Aluminum (except ZBR-2530)
Finish: Black Anodized

Part Number	Weight [kg]
ZBR-2530	0.62
ZBR-4055	0.05
ZBR-4055UU	0.05
ZBR-7050	0.18
ZBR-7090	0.24
ZBR-8060	0.28
ZBR-100100	0.58

* For ZBR-2530, primary material is brass, and finish is black coating.

Z Angle Brackets | ZBR

RoHS

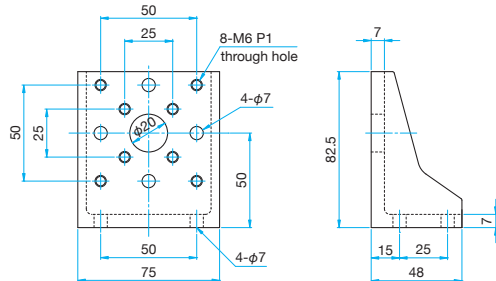
Catalog Code W6056



Outline Drawing

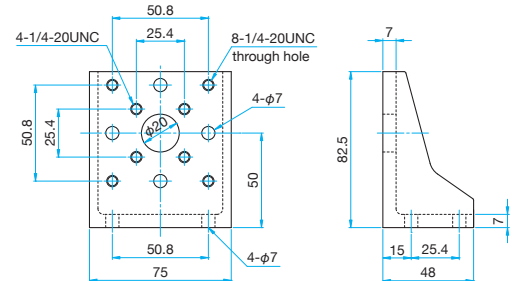
ZBR-7550EE

Hexagonal socket head cap screw M6×12...4 screws



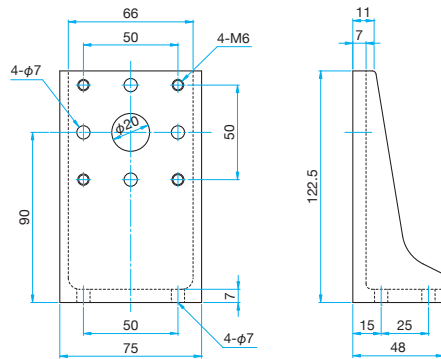
ZBR-7550UU

Hexagonal socket head cap screw 1/4-20UNC×1/2...4 screws



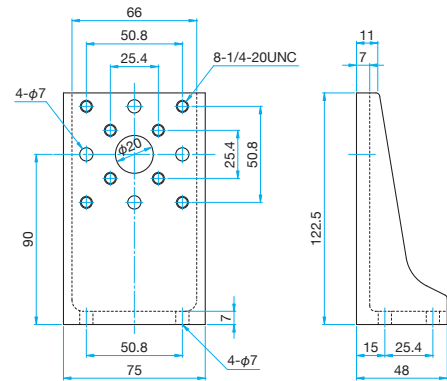
ZBR-7590EE

Hexagonal socket head cap screw M6×12...4 screws



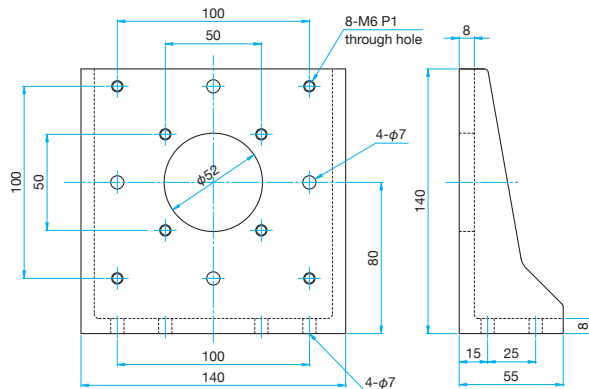
ZBR-7590UU

Hexagonal socket head cap screw 1/4-20UNC×1/2...4 screws



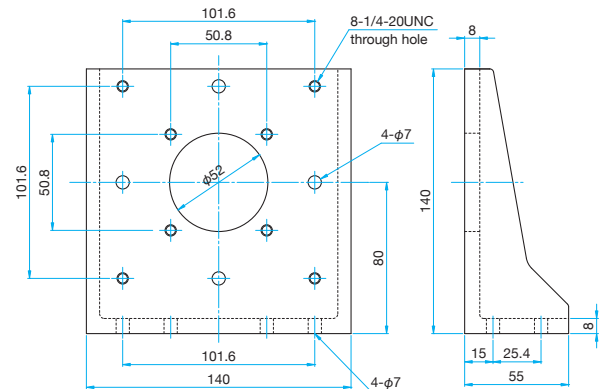
ZBR-14080EE

Hexagonal socket head cap screw M6×12...4 screws



ZBR-14080UU

Hexagonal socket head cap screw 1/4-20UNC×1/2...4 screws



Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Weight [kg]
ZBR-7550EE	0.2
ZBR-7550UU	0.2
ZBR-7590EE	0.6
ZBR-7590UU	0.6
ZBR-14080EE	0.3
ZBR-14080UU	0.3

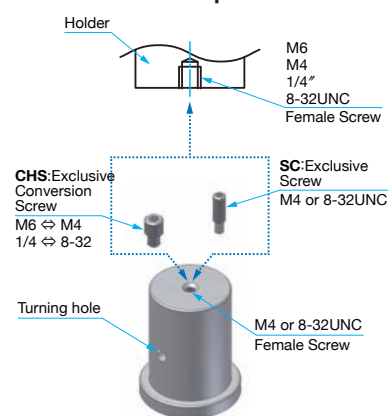
Post Stand Guide

It is available for a fine-turn to any height, by using a post stand with the lineup of 12.5 – 76.2mm height and a dedicated spacer.



Pedestal Bases | PST

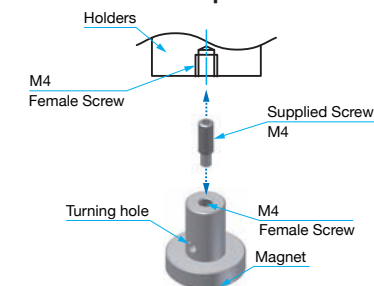
<Connection Example>



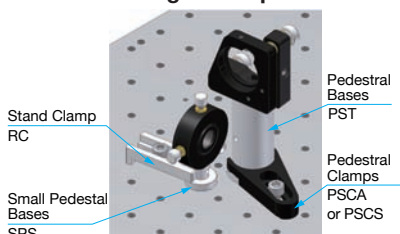
Holder Side	Supplied Screw	Post Stand Side
M6	CHS-M4-M6-9	M4
M4	SC-M4-18EE	M4
1/4"	CHS-1/4-8U-9	8-32UNC
8-32	SC-8U-18UU	8-32UNC

Small Pedestal Bases | SPS

<Connection Example>



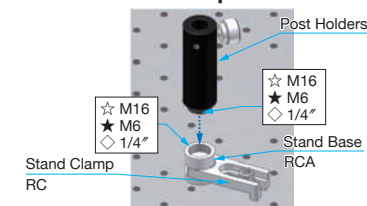
<SPT/SPS Usage Example>



Stand Bases | RCA

It is the stand base suitable to the rod stand (RS, BRS). It can be freely placed in a limited space.

<Connection Example>



<Usage Example>



Small Pedestal Adapters | PS-SP

The spacer for a post stand is used as a height adjustment spacer placed on the post stand.

- Our post stand (PS series) has a lineup at 5 mm intervals. The PS-SP series can be used to adjust the fine height of 0.5-4.5 mm.

Example of spacer for Pedestal spacers (PS-SP series)

Height of optical axis (Length)		Height of conforming product [mm]			Part Number
[INCH]	[mm]	Pedestal Bases	Optical axis of the Holder	Spacer for pedestal bases	
-	30	15	12.7(0.5inch)	2.3	PS-2.3SP
1.5	38.1	20	15	3.1	PS-3.1SPUU
2	50.8	25	25	0.8	PS-0.8SPUU
2.5	63.5	35	25	3.5	PS-3.5SPUU
3	76.2	35	35	1.2	PS-1.2SPUU
3.5	88.9	45	35	3.9	PS-3.9SPUU
4	101.6	50	50	1.6	PS-1.6SPUU
4.5	114.3	45	65	4.3	PS-4.3SPUU

Spacer for Pedestal spacers (PS-SP series) Combined use example and Dog Point Set Screws (SC series)

Reference D055, D056

PS-SP Height [mm]	Combination example [Product Number]	Applicable screw length (SC) [mm]	To height screw portion cueing [mm]
0.5	PS-0.5SP	17.5	4
1	PS-1SP	17.5	3.5
1.5	PS-0.5SP+PS-1SP	17.5	3
2	PS-2SP	19.5	4.5
2.5	PS-0.5SP+PS-2SP	19.5	4
3	PS-1SP+PS-2SP	19.5	3.5
3.5	PS-0.5SP+PS-1SP+PS-2SP	21	4.5
4	PS-2SPx2	21	4
4.5	PS-0.5SP+PS-2SPx2	21	3.5

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Pedestal Bases Pedestal Clamps

PST
PSC/PSCA/PSCS/PSTM

PST

RoHS

Catalog
Code

W6039

Pedestal Bases can be mounted directly on a vibration isolator or laboratory bench using clamps. They are ideal for flexible positioning of optical units with low optical axis.



Specifications

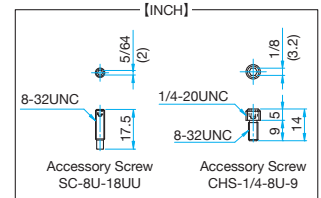
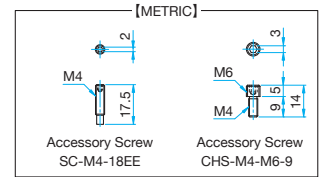
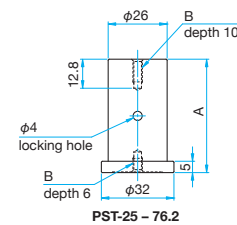
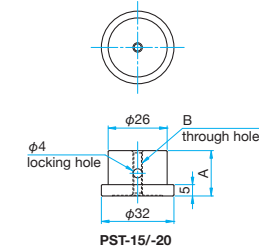
Primary material: Stainless Steel
Finish: None

Part Number		A [mm]	Weight [kg]
METRIC B=M4	INCH B=8-32UNC		
PST-12.5	PST-12.5UU	12.5	0.065
PST-15	PST-15UU	15	0.07
PST-20	PST-20UU	20	0.08
PST-25	PST-25UU	25	0.1
PST-25.4	PST-25.4UU	25.4	0.1
PST-30	PST-30UU	30	0.12
PST-35	PST-35UU	35	0.15
PST-38.1	PST-38.1UU	38.1	0.16
PST-40	PST-40UU	40	0.17
PST-45	PST-45UU	45	0.19
PST-50	PST-50UU	50	0.21
PST-50.8	PST-50.8UU	50.8	0.21
PST-55	PST-55UU	55	0.23
PST-60	PST-60UU	60	0.25
PST-63.5	PST-63.5UU	63.5	0.26
PST-76.2	PST-76.2UU	76.2	0.31

Outline Drawing

PST

Dog Point Set Screws SC-M4-18EE...1 screws,
M4-M6 Conversion screw CHS-M4-M6-9...1 screws (METRIC)
Dog Point Set Screws SC-8U-18UU...1 screws,
8-32-1/4 Conversion screw CHS-1/4-8U-9...1 screws (INCH)



PSC/PSCA/PSCS/PSTM

RoHS

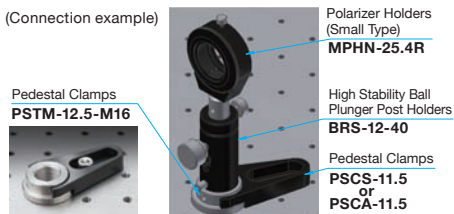
Catalog
Code

W6040

Clamps for Pedestal Bases (PST) can secure Pedestals freely about a tapped hole on a vibration isolator or laboratory bench. The PSTM is used to add a pedestal base to standard Post Holders with M16 Threads. This allows the Post Holders to be freely positioned like a Pedestal.



(Connection example)



Specifications

Primary material: Stainless Steel
Finish: None

Part Number	A	Weight [kg]
PSC-10	M6 P1	0.065
PSC-10UU	1/4-20UNC	0.065

Specifications

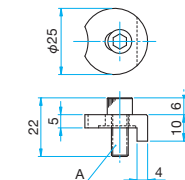
Primary material: Stainless Steel
Finish: None

Part Number	Height [mm]	Weight [kg]
PSTM-12.5-M16	12.5	0.045

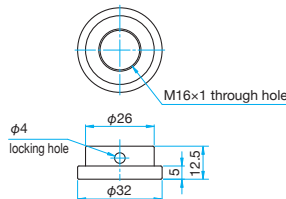
- The PSC-10 product line must be used in pairs, for clamping a Pedestal at two positions. The PSCA/PSCS is used to clamp a pedestal at a single position.
- The long slot on the PSCA/PSCS clamps allows for coarse adjustment in the horizontal direction.
- The clamp is secured with a M6 or 1/4-20UNC screw.

Outline Drawing

PSC-10/10UU

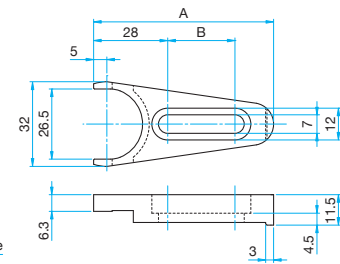


PSTM-12.5-M16



PSCA/PSCS

Hexagon socket head cap screw
(stainless steel construction) M6x12...1 screws (METRIC)
Hexagon socket head cap screw
(stainless steel construction) 1/4-20UNCx1/2...1 screws (INCH)



Part Number	A (mm)	B (mm)
PSCA-11.5/11.5UU	60	22
PSCS-11.5/11.5UU	68	25.4

Specifications

Part Number		Primary material	Finish	Weight [kg]
METRIC	INCH			
PSCA-11.5	PSCA-11.5UU	Aluminum	Black Anodized	0.02
PSCS-11.5	PSCS-11.5UU	Stainless Steel	None	0.06

Adapter Plates for Pedestal / Pedestal Spacers Small Pedestal Bases

SP-T / PS-SP
SPS

SP-T

RoHS Catalog Code W6041



Adapter plates attach to the top of Pedestal Bases to adjust the height of an optical system or unit.

- Used in combination with a Pedestal and Pedestal clamp.
- The SP-25T is designed primarily for 25×25mm stages with M2 mounting holes, and the SP-40T is designed primarily for 25×25mm and 40×40mm stages with M2 and M3 mounting holes.

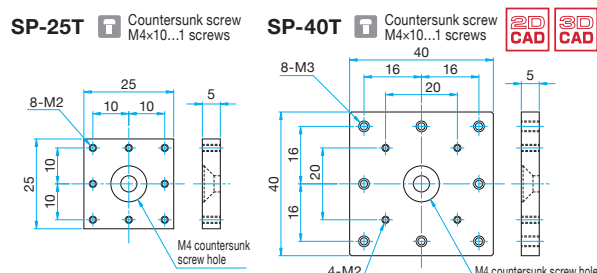
Guide

- Use pedestal adapters (PS-SP) to increase the thickness of the pedestal and adapter plate assembly.
Reference D055 WEB Reference Catalog Code W6042
- Custom sizes or shapes not listed in the catalog are available. Contact our Sales Division for more information.

Specifications

Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number	Weight [kg]	
SP-25T	0.009	
SP-40T	0.02	

Outline Drawing



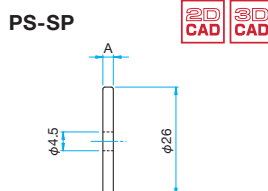
PS-SP

RoHS Catalog Code W6042

Auxiliary spacer plates for pedestal (SP-T). This product enables users to change fine adjustment that cannot be managed with adapter plates for pedestal.



Outline Drawing



Specifications

Specifications		Primary material: Stainless Steel Finish: None
Part Number	A [mm]	Weight [kg]
PS-0.5SP	0.5	0.002
PS-0.8SPUU	0.8	0.003
PS-1SP	1	0.004
PS-1.2SPUU	1.2	0.005
PS-1.6SPUU	1.6	0.006
PS-2SP	2	0.008
PS-2.3SP	2.3	0.01
PS-2.5SPUU	2.5	0.01
PS-3.1SPUU	3.1	0.012
PS-3.5SPUU	3.5	0.014
PS-3.9SPUU	3.9	0.016
PS-4.3SPUU	4.3	0.017

Guide

- Custom sizes or shapes not listed in the catalog. Contact our Sales Division for more information.

SPS

RoHS Catalog Code W6079

The small post stand is used for optic mount holders of $\phi 15$ mm or less.

- These posts can be positioned anywhere on a table with the clamp (RC series).
- Posts can be placed directly on the vibration isolator and optical bench.

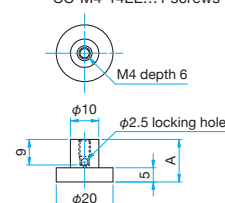


Specifications

Specifications		Primary material: Stainless Steel Finish: None
Part Number	A [mm]	Weight [kg]
SPS-12.5	12.5	0.01
SPS-15	15	0.013
SPS-20	20	0.017
SPS-25	25	0.023
SPS-30	30	0.027
SPS-35	35	0.03

Outline Drawing

SPS Dog Point Set Screws SC-M4-14EE...1 screws



Guide

- Stand Base/Stand Clamp
Reference D062 WEB Reference Catalog Code W6081

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Small Pedestal Adapters Dog Point Set Screws / Thread Adapters

SPS-SP
SC/CHS

SPS-SP

RoHS

Catalog Code

W6080

Adapter plates attach to the top of Pedestal Bases to adjust the height of an optical system or unit.

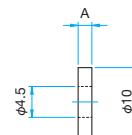


Specifications			Primary material: Stainless Steel Finish: None	
Part Number	A [mm]	Weight [kg]		
SPS-0.5SP	0.5	0.00025		
SPS-1SP	1	0.005		
SPS-2SP	2	0.001		
SPS-2.3SP	2.3	0.0012		
SPS-3SP	3	0.0015		
SPS-4SP	4	0.002		

Outline Drawing

SPS-SP

Dog Point Set Screws
SC-M4-16EE...1 screw (2SP, 2.3SP only)



SC

Catalog Code

W6085

Dog Point Set Screws are available in M4 or 8-32UNC thread sizes. They are sold in packs of 10.

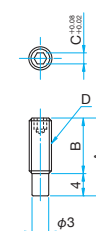


Guide

- These can be used with the Post (R0-EE/ UU) and the Post Sfaud (PST) family.

Outline Drawing

SC



Specifications

Primary material: Steel
Finish: Chrome plating

Part Number	A [mm]	B [mm]	C	D	Quantity [Pieces]
SC-8U-14UU	14	10	5/64 (2)	8-32UNC	10
SC-8U-16UU	15.6	11.6	5/64 (2)	8-32UNC	10
SC-8U-18UU	17.5	13.5	5/64 (2)	8-32UNC	10
SC-8U-20UU	19.5	15.5	5/64 (2)	8-32UNC	10
SC-8U-21UU	21	17	5/64 (2)	8-32UNC	10
SC-M4-14EE	14	10	2	M4	10
SC-M4-16EE	15.6	11.6	2	M4	10
SC-M4-18EE	17.5	13.5	2	M4	10
SC-M4-20EE	19.5	15.5	2	M4	10
SC-M4-21EE	21	17	2	M4	10

CHS

Catalog Code

W6084

CHS is a thread adapter with two male sides. The first type has M6P1 on one side and M4 on the other. The imperial version has 1-4/20UNC on one side and 8-32UNC on the other side.



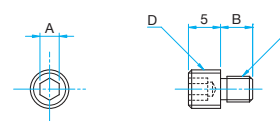
- These adapters come in packs of 10.

Guide

- These can be used with the Post (R0-EE/ UU) and the Post Sfaud (PST) family.

Outline Drawing

CHS



Specifications

Primary material: Stainless Steel
Finish: None

Part Number	A [mm]	B [mm]	C	D	Quantity [Pieces]
CHS-M4-M6-5	3	5	M4	M6 P1	10
CHS-M4-M6-9	3	9	M4	M6 P1	10
CHS-1/4-8U-5	1/8 (3.2)	5	8-32UNC	1/4-20UNC	10
CHS-1/4-8U-9	1/8 (3.2)	9	8-32UNC	1/4-20UNC	10

Stainless steel posts. The RO model is fitted with an M6 external thread at one end, the ROU model is fitted with 1/4-20UNC inch external thread, and the ROC model is fitted with an M4 external thread.



- The through hole the side allows for easy tightening and loosening with a wrench.

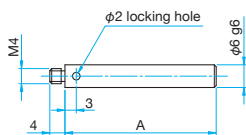
Guide

- Custom sizes not listed in the catalog can be made to print. Contact our Sales Division for more information. Use the Question Sheet for Special Order Posts. [WEB Reference](#) [Catalog Code](#) W6053
- High stability ball plunger post holders (BRS), post holders (RS) [Reference](#) D060, D061

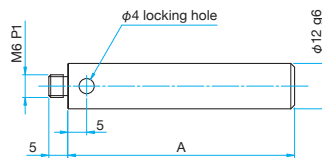


Outline Drawing

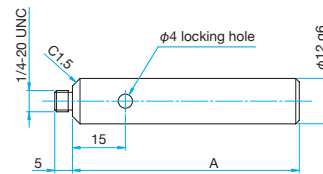
RO-6



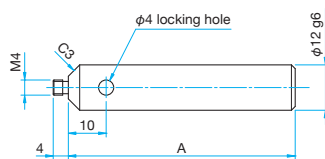
RO-12



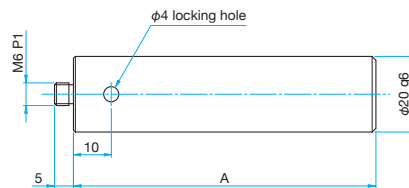
ROU-12



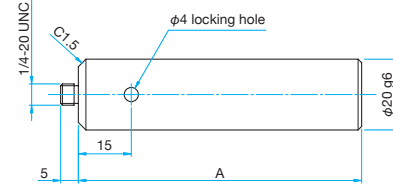
ROC-12



RO-20



ROU-20



φ6 / φ12		Primary material: Stainless Steel Finish: None	
Part Number	Diameter [mm]	A [mm]	Weight [kg]
RO-6-15	φ6	15	0.004
RO-6-20		20	0.005
RO-6-25		25	0.006
RO-6-30		30	0.007
RO-6-40		40	0.008
RO-6-50		50	0.009
RO-12-20	φ12	20	0.02
RO-12-30		30	0.03
RO-12-40		40	0.04
RO-12-60		60	0.05
RO-12-80		80	0.07
RO-12-100		100	0.09
RO-12-120		120	0.11
RO-12-130		130	0.12
RO-12-150		150	0.13
RO-12-200		200	0.18
RO-12-250		250	0.22
RO-12-300		300	0.27
RO-12-400		400	0.36
RO-12-500		500	0.44
ROU-12-30	φ12 (C1.5)	30	0.03
ROU-12-60		60	0.05
ROU-12-80		80	0.07
ROU-12-100		100	0.09
ROC-12-30	φ12 (C3)	30	0.03
ROC-12-60		60	0.05
ROC-12-80		80	0.07
ROC-12-100		100	0.09

φ20		Primary material: Stainless Steel Finish: None	
Part Number	Diameter [mm]	A [mm]	Weight [kg]
RO-20-20	φ20	20	0.05
RO-20-30		30	0.07
RO-20-40		40	0.1
RO-20-60		60	0.15
RO-20-80		80	0.2
RO-20-100		100	0.25
RO-20-110		110	0.27
RO-20-120		120	0.3
RO-20-130		130	0.32
RO-20-150		150	0.37
RO-20-200		200	0.5
RO-20-250		250	0.62
RO-20-300		300	0.74
RO-20-400		400	0.98
RO-20-500		500	1.23
ROU-20-30	φ20 (C1.5)	30	0.07
ROU-20-60		60	0.15
ROU-20-80		80	0.20
ROU-20-100		100	0.25



Posts | RO-EE/UU

RO-EE/UU

Catalog Code **W6083**

1/2" Stainless Steel Posts

- The through-hole on the side of the post allows for tightening and loosening of the post with a hex wrench.
- Accessories can be selected from the type of M4 and M6 or inch type.



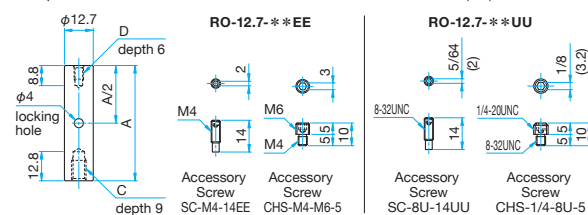
Guide

- Custom sizes can be made to order. Use the QuestionSheet for Special Order Posts. [WEB Reference](#) **Catalog Code** W6053

Outline Drawing

RO-EE/UU

- special screw SC-M4-14EE...1 screws, CHS-M4-M6-5...1 screws (EE)
special screw SC-8U-14UU...1 screws, CHS-1/4-8U-5...1 screws (UU)



C: EE type M6P1, UU type 1/4-20UNC
D: EE type M4, UU type 8-32UNC

Specifications

Primary material: Stainless Steel
Finish: None

Part Number		A [mm]	Weight [kg]
METRIC	INCH		
RO-12.7-25.4EE	RO-12.7-25.4UU	25.4	0.026
RO-12.7-38.1EE	RO-12.7-38.1UU	38.1	0.038
RO-12.7-50.8EE	RO-12.7-50.8UU	50.8	0.051
RO-12.7-76.2EE	RO-12.7-76.2UU	76.2	0.077
RO-12.7-101.6EE	RO-12.7-101.6UU	101.6	0.102
RO-12.7-152.4EE	RO-12.7-152.4UU	152.4	0.153
RO-12.7-203.2EE	RO-12.7-203.2UU	203.2	0.204
RO-12.7-304.8EE	RO-12.7-304.8UU	304.8	0.306

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Used for rotary and regular cross clamps.

- Can be combined with other posts via a cross clamp or rotary cross clamp.
- The PO-12 model is secured with a 17 mm wrench on the flats of the external thread.
- The PO-20 model is secured using a wrench inserted into the through hole.



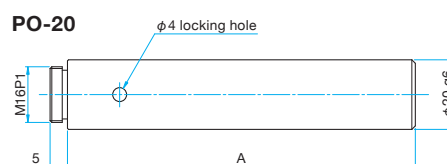
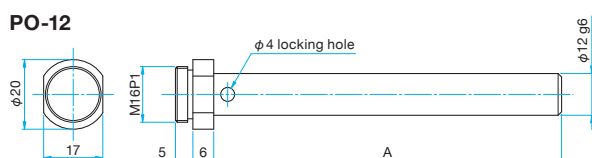
Guide

- Custom sizes not listed in the catalog can be made to print. Contact our Sales Division for more information. Use the Question Sheet for Special Order Posts.

► WEB Reference Catalog Code W6053



Outline Drawing



Specifications

			Primary material: Stainless Steel Finish: None
Part Number	Diameter [mm]	A [mm]	Weight [kg]
PO-12-100	φ12	100	0.11
PO-12-120		120	0.13
PO-12-150		150	0.15
PO-12-200		200	0.2
PO-12-250		250	0.24
PO-12-300		300	0.29
PO-12-400		400	0.38
PO-12-500		500	0.46
PO-20-100	φ20	100	0.25
PO-20-120		120	0.3
PO-20-150		150	0.37
PO-20-200		200	0.5
PO-20-250		250	0.62
PO-20-300		300	0.74
PO-20-400		400	0.99
PO-20-500		500	1.24


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High Stability Ball Plunger Post Holders

BRS

RoHS

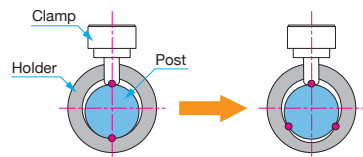
Catalog Code W6043

Used for coarse/fine rotation and height adjustments of posts.

The posts has three poits of contact with the post holder as opposed to the conventional two contact points.



- The plunger prevents posts from slipping as well ad smooth adjustment with one hand when the clamp is loosened.
- The adjustment screw on the bottom of the post holder can be rotated in 90 degree increments.
- Can be mounted with different adapters.



1 line and 1 point 2 lines and 1 point



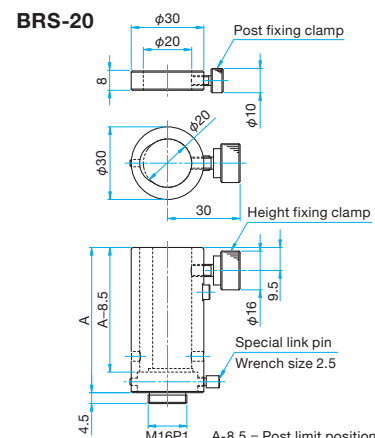
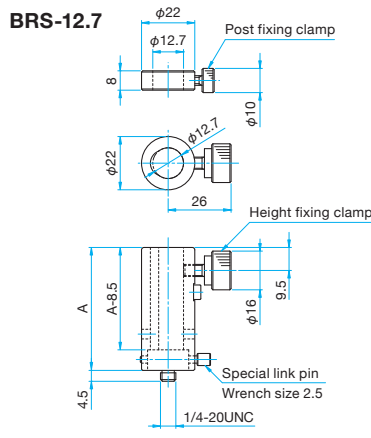
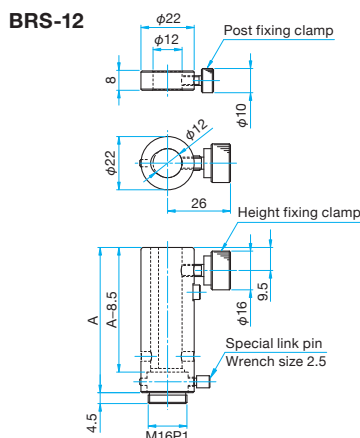
Guide

► Extra clamp screws (RS-CB) can be purchased separately.

Reference D063 Catalog Code W6046



Outline Drawing

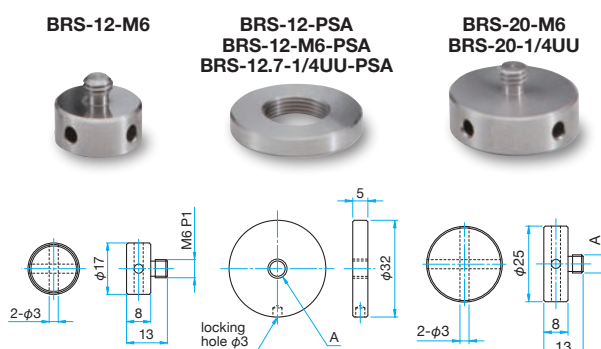


Inner Diameter: 12 Primary material: Aluminum Finish: Black Anodized		
Part Number	A [mm]	Weight [kg]
BRS-12-30	30	0.05
BRS-12-40	40	0.06
BRS-12-50	50	0.07
BRS-12-60	60	0.08
BRS-12-80	80	0.1
BRS-12-100	100	0.12
BRS-12-120	120	0.14
BRS-12-130	130	0.15

Inner Diameter: 12.7 Primary material: Aluminum Finish: Black Anodized		
Part Number	A [mm]	Weight [kg]
BRS-12.7-25.4UU	25.4	0.04
BRS-12.7-38.1UU	38.1	0.06
BRS-12.7-50.8UU	50.8	0.07
BRS-12.7-63.5UU	63.5	0.08
BRS-12.7-76.2UU	76.2	0.1
BRS-12.7-101.6UU	101.6	0.12
BRS-12.7-127UU	127	0.15
BRS-12.7-152.4UU	152.4	0.18

Inner Diameter: 20 Primary material: Aluminum Finish: Black Anodized		
Part Number	A [mm]	Weight [kg]
BRS-20-30	30	0.07
BRS-20-40	40	0.09
BRS-20-50	50	0.1
BRS-20-60	60	0.12
BRS-20-80	80	0.16
BRS-20-100	100	0.19
BRS-20-120	120	0.22
BRS-20-130	130	0.24

Option Thread Adapters for High Stability Ball Plunger Post Holders | BRS



Thread adapters for high stability ball plunger post holders (BRS).

Specifications Primary material: Stainless Steel Finish: None			
Part Number	Compatible Post Holders	A	Weight [kg]
BRS-12-M6	BRS-12	-	0.013
BRS-12-PSA	BRS-12	M16 P1	0.023
BRS-12-M6-PSA	BRS-12	M6 P1	0.03
BRS-12.7-1/4UU-PSA	BRS-12.7	1/4-20UNC	0.03
BRS-20-M6	BRS-20	M6 P1	0.03
BRS-20-1/4UU	BRS-20	1/4-20UNC	0.03

Post Holders C Shape Post Collars

RS
TRC

RS

RoHS

Catalog
Code

W6044



Used for height and rotational coarse adjustment of a post.

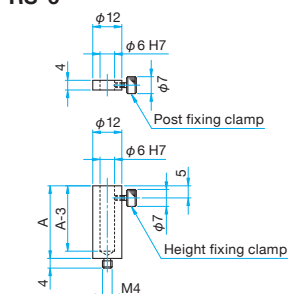
- To secure a holder, insert the post into the post holder. Clamp the post with the clamp screw on the main body and the clamp on the post fixing clamp.
- The post can be be coarsely rotated by loosening the clamp on the main body and keeping the post fixing clamp tightened.
- There are three tapped holes for the clamp screw on the main body. This allows the user to move the clamp if it is interfering with other objects. (Note that the RS-30 model comes with three clamp screws as standard.)
- The air-vent hole enables easy one handed loading/unloading of a post.

Guide

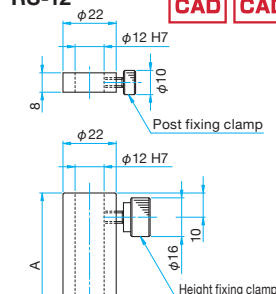
► Extra clamp screws (RS-CB) can be purchased separately. [Reference](#) D063

Outline Drawing

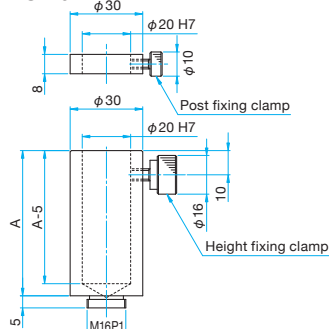
RS-6



RS-12



RS-20



Inner Diameter: 6		
Primary material: Aluminum Finish: Black Anodized		
Part Number	A [mm]	Weight [kg]
RS-6-15	15	0.008
RS-6-20	20	0.009
RS-6-25	25	0.01
RS-6-30	30	0.011
RS-6-35	35	0.012
RS-6-40	40	0.013

Inner Diameter: 12		
Primary material: Brass Finish: Black matte		
Part Number	A [mm]	Weight [kg]
RS-12-30	30	0.1
RS-12-35	35	0.12
RS-12-40	40	0.13
RS-12-45	45	0.14
RS-12-50	50	0.15
RS-12-55	55	0.16
RS-12-60	60	0.17
RS-12-80	80	0.22
RS-12-100	100	0.26
RS-12-120	120	0.3
RS-12-130	130	0.32

Inner Diameter: 20		
Primary material: Brass Finish: Black matte		
Part Number	A [mm]	Weight [kg]
RS-20-30	30	0.16
RS-20-35	35	0.17
RS-20-40	40	0.19
RS-20-45	45	0.21
RS-20-50	50	0.22
RS-20-55	55	0.24
RS-20-60	60	0.26
RS-20-80	80	0.32
RS-20-100	100	0.38
RS-20-120	120	0.45
RS-20-130	130	0.48

TRC

RoHS

Catalog
Code

W6082



Optional parts for posts (RO)

- These post collars prevent posts from sliding into the post holders and act as a physical stop.
- C shape post collars can be installed without removing the posts from existing systems.

Guide

► Contact our Sales Division if the standard intermediate ring equipped with the post is needed to be replaced with the C shape intermediate ring.

Attention

► This product is delivered only by mail.



Specifications

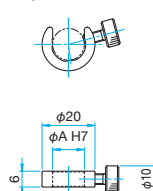
Primary material: Aluminum
Finish: Black Anodized

Part Number	Inner Diameter [mm]	Quantity [Pieces]
TRC-12	12	5
TRC-12.7	12.7	5
TRC-20	20	5

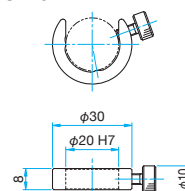
Part Number	A (mm)
TRC-12	12
TRC-12.7	12.7

Outline Drawing

TRC-12/12.7



TRC-20



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RCA/RC
HCS-H

RCA/RC

RoHS

Catalog
Code

W6081

The base allows for posts to be positioned close together with the magnet of the clamps.

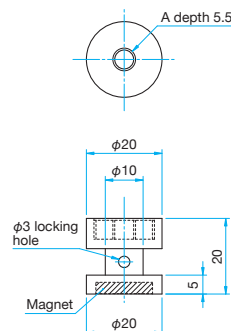


- Rod stand base can be secured onto a steel lab bench with the magnet, or with the clamp.
- The clamps lock down the rod stand at any angle about a tapped hole.



Outline Drawing

RCA



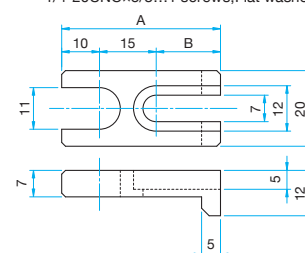
Part Number	A (mm)
RCA-M16	M16 P1
RCA-M6	M6
RCA-1/4UU	1/4-20UNC

RC-10*-17/25

Hexagon socket head cap screw (stainless steel construction)
M6×15...1 screws, Flat washer

RC-10*-17UU/25UU

Hexagon socket head cap screw (stainless steel construction)
1/4-20UNC×5/8...1 screws, Flat washer



Part Number	A (mm)	B (mm)
RC-10-17/RC-10A-17	42	17
RC-10-25/RC-10A-25	50	25

Specifications

Primary material: Stainless Steel (RC-10A-**: Aluminium)
Finish: None (RC-10A-**: Black Anodized)

Part Number	Product Name	To hold	Mounting	Weight [kg]
RCA-M16	Stand Base	M16 Rod Stand	Magnet, Stand Clamp (RC-10)	0.023
RCA-M6	Stand Base	M6 Rod Stand	Magnet, Stand Clamp (RC-10)	0.035
RCA-1/4UU	Stand Base	1/4 INCH Rod Stand	Magnet, Stand Clamp (RC-10)	0.035
RC-10-17	Stand Base	Stand Base (RCA-M16)	Hexagon socket head bolt M6×15	0.027
RC-10A-17	Stand Base	Stand Base (RCA-M16)	Hexagon socket head bolt M6×15	0.009
RC-10-25	Stand Base	Stand Base (RCA-M16)	Hexagon socket head bolt M6×15	0.031
RC-10A-25	Stand Base	Stand Base (RCA-M16)	Hexagon socket head bolt M6×15	0.011
RC-10-17UU	Stand Base	Stand Base (RCA-1/4UU)	Hexagon socket head bolt 1/4-20UNC×5/8	0.027
RC-10-25UU	Stand Base	Stand Base (RCA-1/4UU)	Hexagon socket head bolt 1/4-20UNC×5/8	0.031
RC-10A-17UU	Stand Base	Stand Base (RCA-1/4UU)	Hexagon socket head bolt 1/4-20UNC×5/8	0.009
RC-10A-25UU	Stand Base	Stand Base (RCA-1/4UU)	Hexagon socket head bolt 1/4-20UNC×5/8	0.011

HCS-H

RoHS

Catalog
Code

W6047

Coarse adjustment Helicoidal Jack with 15 mm of Travel

- The upper plate moves upward without rotating.
- The helicoid screw system, provides 15mm/rotation of smooth movement.



Example of Combinations



Helicoidal jack connected to a post holder.

Specifications

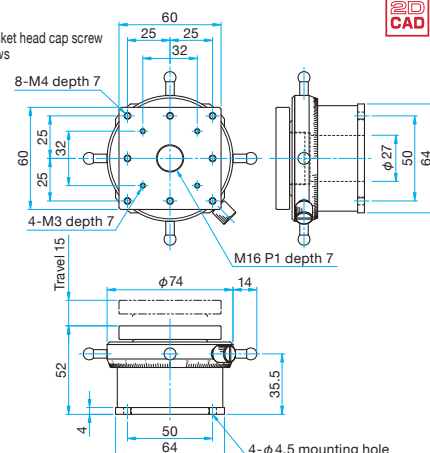
Primary material: Aluminum
Finish: Black Anodized

Part Number	Load Capacity [N]	Weight [kg]
HCS-H	19.6 (about 2.0kgf)	0.45

Outline Drawing

HCS-H

Hexagonal socket head cap screw
M4×8...4 screws



Helicoidal Post Holders Clamp Screws (For post holders)

RSN
RS-CB

RSN

RoHS Catalog Code W6048



Helicoidal Post Holder.

- Turning the height-adjustment rotary section allows movement of 10mm (about 5mm/ rotation) in the Z direction.
- To secure a post, insert the post into the post holder, and clamp it down using the two clamp screws on the side of the main body. The upper clamp screw on the side of the main body is designed to secure a post, and the lower clamp screw is designed to secure a helicoid ring.
- The helicoid screw allows for Z travel of a post without rotating the post.



Attention

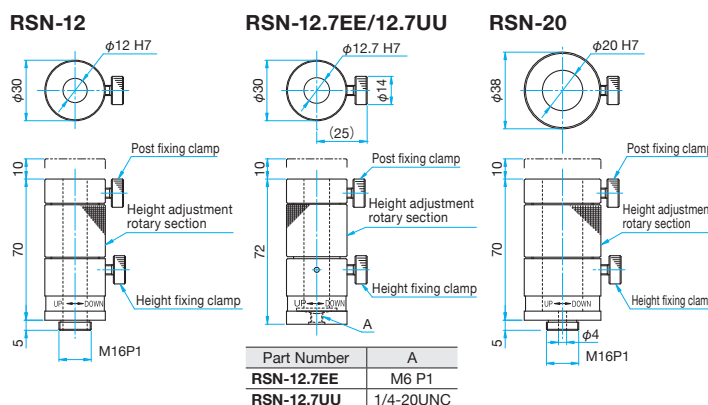
- ▶ Turning the height adjustment rotary section excessively may cause locking.

Specifications

Primary material: Aluminum
Finish: Black Anodized

Part Number	Inner Diameter [mm]	Diameter [mm]	Weight [kg]
RSN-12	φ12	φ30	0.16
RSN-12.7EE	φ12.7	φ30	0.16
RSN-12.7UU	φ12.7	φ30	0.16
RSN-20	φ20	φ38	0.21

Outline Drawing



RS-CB

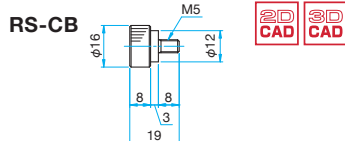
RoHS Catalog Code W6046

Clamps for high stability ball plunger post holders (BRS-12, BRS-20) and post holders (RS-12, RS-20, RS-30).

- Used to secure posts inserted in post holders.
- Three of these clamp screws can be used on the RS model post holders for maximum holding strength.



Outline Drawing



Guide

- ▶ High Stability Plunger Post Holders (BRS)
Reference D060 > WEB Reference Catalog Code W6043
- ▶ Post Holders (RS)
Reference D061 > WEB Reference Catalog Code W6044

Attention

- ▶ This product is delivered only by mail.

Specifications

Primary material: Brass
Finish: Chrome Plated

Part Number	Quantity [Pieces]
RS-CB	5

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Rod Mount Modules attach directly to vibration isolator or laboratory bench tables. Attaching a Z bracket at a right angle to the rod allows for horizontal adjustment.

- The rod is composed of stainless steel and a vibration damping material.
Compatible for 50mm and 50.8mm matrix mounting hole



POSB-177UN



BLZ



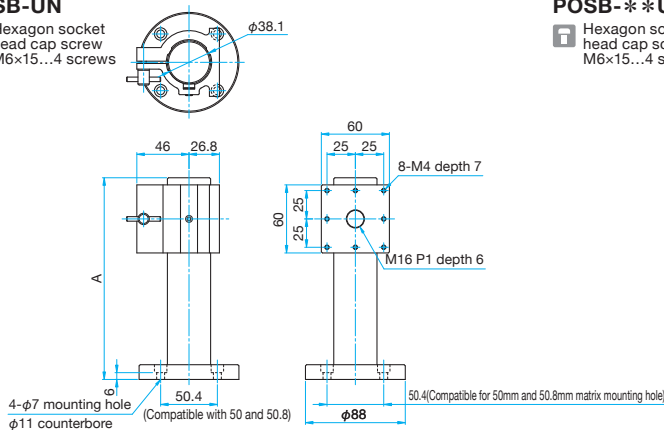
POSB-177UN + BLZ-60

Example

Outline Drawing

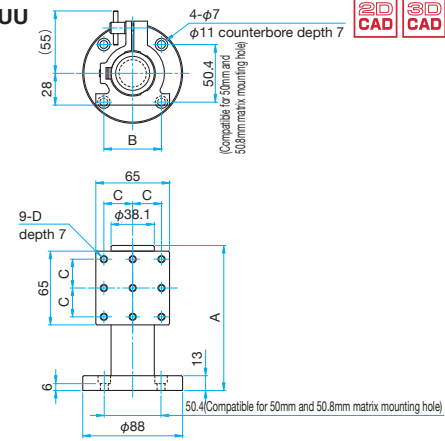
POSB-UN

- Hexagon socket head cap screw M6×15...4 screws



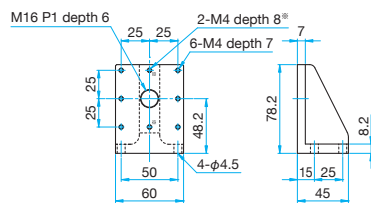
POSB-**UN**EE/UU

- Hexagon socket head cap screw M6×15...4 screws



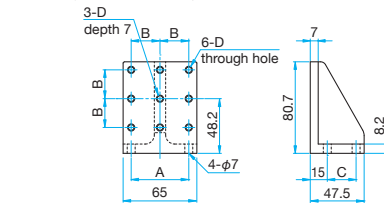
BLZ-60

- Hexagon socket head cap screw M4×12...4 screws



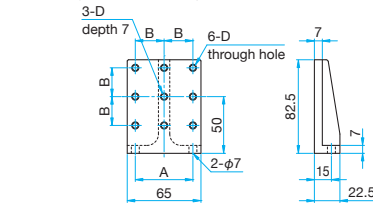
BLZ-65EE/65UU

- Hexagon socket head cap screw M6×15...4 screws(EE)
- Hexagon socket head cap screw 1/4-20UNC×5/8...4 screws(UU)



BLZ-6550EE/6550UU

- Hexagon socket head cap screw M6×12...2 screws(EE)
- Hexagon socket head cap screw 1/4-20UNC×1/2...2 screws(UU)



Specifications

Primary material: Stainless Steel (No finish)
Coarse adjustment section material: Aluminum Finish: Black Anodized

Part Number	A [mm]	C	D	Weight [kg]
POSB-177UN	177.8	—	—	2.1
POSB-355UN	355.6	—	—	3.7
POSB-177UN65EE	177.8	25	M6 P1	2.2
POSB-355UN65EE	355.6	25	M6 P1	3.8
POSB-177UN65UU	177.8	25.4	1/4-20UNC	2.2
POSB-355UN65UU	355.6	25.4	1/4-20UNC	3.8

Z Angle Brackets only

Primary material: Aluminum
Finish: Black Anodized

Part Number	A [mm]	B [mm]	C	D	Weight [kg]
BLZ-60	—	—	—	—	0.18
BLZ-65EE	50	25	25	M6 P1	0.2
BLZ-65UU	50.8	25.4	25.4	1/4-20UNC	0.2
BLZ-6550EE	50	25	—	M6 P1	0.14
BLZ-6550UU	50.8	25.4	—	1/4-20UNC	0.14

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- The POS is the damped rod.
- The BLZ model is the Z Angle Bracket.



Outline Drawing

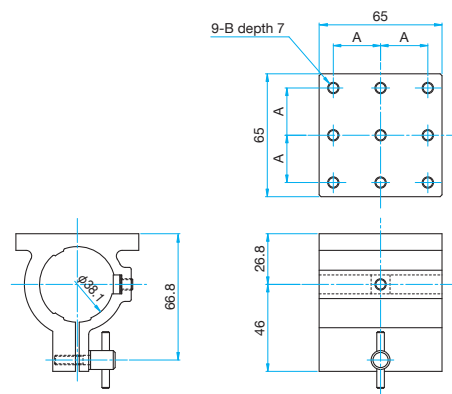
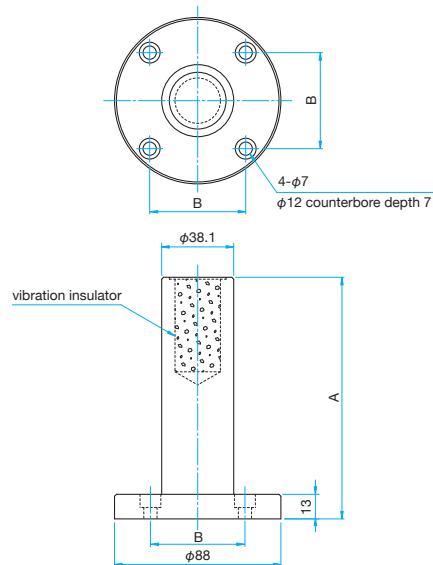
POS-177EE/UU

Hexagon socket head cap screw M6×15...4 screws(EE)

POS-355EE/UU

Hexagon socket head cap screw 1/4-20UNC×1/2...4 screws(UU)

POSB-65EE/UU



Part Number	A (mm)	B
POSB-65EE	25	M6 P1
POSB-65UU	25.4	1/4-20UNC

Part Number	A (mm)	B (mm)
POS-177EE	177.8	50.4(Compatible for 50mm and 50.8mm matrix mounting hole)
POS-355EE	355.6	50.4(Compatible for 50mm and 50.8mm matrix mounting hole)
POS-177UU	177.8	50.4(Compatible for 50mm and 50.8mm matrix mounting hole)
POS-355UU	355.6	50.4(Compatible for 50mm and 50.8mm matrix mounting hole)

Specifications

Part Number	A [mm]	B [mm]	Weight [kg]
POS-177EE	177.8	50	1.9
POS-355EE	355.6	50	3.4
POS-177UU	177.8	50.8	1.9
POS-355UU	355.6	50.8	3.4
POSB-65EE	25	M6 P1	0.3
POSB-65UU	25.4	1/4-20UNC	0.3

Screw Set Adapter Nuts

SCR/SKB/SKD/DK
AND

SCR / SKB / SKD / DK

Catalog Code W6077

Screw sets frequently used to install OptoSigma products.



SCR-MEC

RoHS



SKB-JBX6



SKD-190



DK-20

Black Pan-head Screw Sets / Stainless Steel Cap Screw Sets

Part Number	Type	Screw Size	4	6	8	10	12	15	18	20	25	30	Quantity	Spring Washer	Flat Washer Large
SCR-MEN2	Black panhead screw	M2	○	○	○	○	○	○	○	○	—	—	30 pieces each	240 pieces	240 pieces
SCR-MEN3		M3	○	○	○	○	○	○	○	○	—	—	30 pieces each	240 pieces	240 pieces
SCR-MEN4		M4	—	○	○	○	○	○	○	○	○	—	30 pieces each	240 pieces	240 pieces
SCR-MEN6		M6	—	—	○	○	○	○	○	○	○	○	20 pieces each	160 pieces	160 pieces
SCR-MEC3	SUS cap screw	M3	○	○	○	○	○	○	○	○	—	—	30 pieces each	240 pieces	240 pieces
SCR-MEC4		M4	—	○	○	○	○	○	○	○	○	—	30 pieces each	240 pieces	240 pieces
SCR-MEC6		M6	—	—	○	○	○	○	○	○	○	○	20 pieces each	160 pieces	160 pieces

Ball Wrench Set

Part Number	Wrench Size
SKB-JBX6	1.5, 2, 2.5, 3, 4, 5

Chronometer Driver Set

Part Number	Size
DK-20	#0000, #000, #00, #0, #1 (two drivers)

Phillip's Screw Driver with Grip

Part Number	Size
SKD-190-0-60	#0
SKD-190-1-80	#1
SKD-190-2-75	#2

AND

RoHS

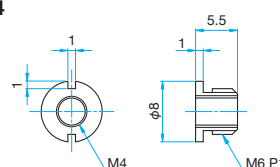
Catalog Code W6078

Adapter nuts for changing M6 tapped holes to M4 or 8-32 UNC tapped holes.



Outline Drawing

AND-M6-M4



Guide

- ▶ It is attached to the simple nut driver.

Attention

- ▶ The 8mm-diameter area protrudes for 1mm when mounted on a flat surface.
- ▶ This product is delivered only by mail.

Specifications

Primary material: Stainless Steel
Finish: None

Part Number	Quantity [Pieces]	Weight [kg]
AND-M6-M4	10	0.011
AND-M6-8U	10	0.011

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