

Vibration Isolation Concepts

D004

Vibration Isolators

|  |  |      |
|--|--|------|
|  | Active Vibration Isolation Systems<br>OSDVIA | D006 |
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|--|---|------|
|  | High-performance Vibration Isolation Systems with Steel Honeycomb Top<br>OSDVIO | D007 |
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|--|--|------|
|  | Steel Honeycomb Optical Tables<br>OSDVIO-R | D009 |
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|--|---|------|
|  | Desk type vibration Isolation systems<br>OSDVID | D010 |
|--|---|------|

|  |   |      |
|--|---|------|
|  | Desktop Vibration Isolation Systems<br>OSDVIT | D011 |
|--|---|------|

Laboratory Benches

|  |   |      |
|--|---|------|
|  | Tabletop Optical Breadboard<br>OSDVIO-B | D012 |
|--|---|------|

|  |                                       |      |
|--|---------------------------------------|------|
|  | Overhead Table Shelf System<br>OSDOTS | D013 |
|--|---------------------------------------|------|

|             |  |      |
|-------------|--|------|
| Accessories |  | D014 |
|-------------|--|------|

|  |                            |      |
|--|----------------------------|------|
|  | Air Compressor<br>OSDAC-30 | D014 |
|--|----------------------------|------|

Carry-In Route and Installation Environment Question Sheet — D016

|  |                        |      |
|--|------------------------|------|
|  | Rubber Isolators<br>PR | D017 |
|--|------------------------|------|

Darkrooms/Dark Boxes

|  |  |      |
|--|--|------|
|  | Darkroom Kits<br>Clean Darkroom Kits<br>DRU/DRUC | D018 |
|--|--|------|

|  |                                  |      |
|--|----------------------------------|------|
|  | Fluorescent Light (White)<br>DRU | D019 |
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|  |                         |      |
|--|-------------------------|------|
|  | Ventilation Fans<br>DRU | D019 |
|--|-------------------------|------|

|  |                           |      |
|--|---------------------------|------|
|  | White LED Light<br>GP-6BK | D019 |
|--|---------------------------|------|

|  |                          |      |
|--|--------------------------|------|
|  | Spirit Levels<br>LMC/LMT | D019 |
|--|--------------------------|------|

Optical Bases/ HOLDERS

System Diagram of Base System

D020

|  |   |              |
|--|---|--------------|
|  | Large Optical Rails / Large Low-Profile Optical Rails<br>Medium Optical Rails / Medium Low-Profile Optical Rails<br>OBA-LH/OBT-LH/LUU/OBA-SH/OBT-SH/SUU | D022<br>D024 |
|--|---|--------------|

|  |  |              |
|--|--|--------------|
|  | Carriers for Large Optical Rails<br>Carriers for Medium Optical Rails<br>CAA-L/CAA-LS/MB | D023<br>D025 |
|--|--|--------------|

|  |                                     |      |
|--|-------------------------------------|------|
|  | Feet for Large Optical Rails<br>OBT | D025 |
|--|-------------------------------------|------|

|  |                   |      |
|--|-------------------|------|
|  | Magnet Base<br>MB | D026 |
|--|-------------------|------|

|  |                                     |      |
|--|-------------------------------------|------|
|  | Flexible Post Holder<br>MB-MX/MX-AM | D027 |
|--|-------------------------------------|------|

|  |                       |      |
|--|-----------------------|------|
|  | Base Plate<br>BSP/FPB | D028 |
|--|-----------------------|------|

|  |                    |      |
|--|--------------------|------|
|  | Base Clamps<br>BSC | D030 |
|--|--------------------|------|

|  |                                 |      |
|--|---------------------------------|------|
|  | M6 Conversion Adapters<br>AD-M6 | D030 |
|--|---------------------------------|------|

|  |   |      |
|--|---|------|
|  | Kinematic Bases / Kinematic Base Plate<br>REP | D031 |
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|  |                                   |      |
|--|-----------------------------------|------|
|  | Optical Baseplates<br>OBC/OBC/OBB | D032 |
|--|-----------------------------------|------|




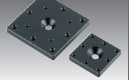













|  |                                 |      |
|--|---------------------------------|------|
|  | Aluminum Spacers 25mm<br>MSP-25 | D035 |
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|  |                                 |      |
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|  | Aluminum Spacers 40mm<br>MSP-40 | D036 |
|--|---------------------------------|------|







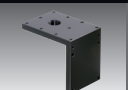


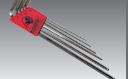



|  |                                 |      |
|--|---------------------------------|------|
|  | Aluminum Spacers 60mm<br>MSP-60 | D037 |
|--|---------------------------------|------|

|  |                                  |      |
|--|----------------------------------|------|
|  | Adjustable Adapter Kits<br>SP/UP | D038 |
|--|----------------------------------|------|

## Holders

|   |   |             |
|---|---|-------------|
|    | Post Stand Guide                                | <b>D039</b> |
|    | Posts holders<br>PST                            | <b>D040</b> |
|    | Pedestal Clamps<br>PSC/PSCA/PSCS                | <b>D040</b> |
|    | Adapter Plates for Pedestal<br>SP-T             | <b>D041</b> |
|    | Pedestal Adapters<br>PS-SP                      | <b>D041</b> |
|    | Small Pedestal Bases<br>SPS                     | <b>D041</b> |
|   | Small Pedestal Adapters<br>SPS-SP               | <b>D041</b> |
|  | High Stability Ball Plunger Post Holders<br>BRS | <b>D042</b> |
|  | Post Holders<br>RS                              | <b>D043</b> |
|  | Stand Base/Stand Clamp<br>RCA/RC                | <b>D044</b> |
|  | C shape intermediate ring<br>TRC                | <b>D044</b> |
|  | Clamp Screws (For post holders)<br>RS-CB        | <b>D045</b> |
|  | Helicoidal 15mm Jacks<br>HCS-H                  | <b>D045</b> |
|  | Helicoidal Post Holders<br>RSN                  | <b>D045</b> |
|  | Rod Mount Module<br>POSB                        | <b>D046</b> |
|  | Z Angle Brackets<br>BLZ                         | <b>D046</b> |
|  | Poles<br>PO                                     | <b>D047</b> |

## Holders

|   |   |             |
|---|---|-------------|
|    | Posts<br>RO/ROC/ROU                     | <b>D048</b> |
|    | Posts<br>RO-EE/UU                       | <b>D049</b> |
|    | Thread Adapters<br>CHS                  | <b>D049</b> |
|    | Dog Point Set Screws<br>SC              | <b>D050</b> |
|    | Cross Clamps<br>CCHN                    | <b>D050</b> |
|    | Rotary Cross Clamps<br>CRHN             | <b>D051</b> |
|   | Z Angle Brackets<br>ZBR                 | <b>D052</b> |
|  | L Angle Brackets<br>LBR                 | <b>D054</b> |
|   | Adapter Plate Selection Guide           | <b>D055</b> |
|  | Adapters<br>SP/BSP                      | <b>D056</b> |
|  | Screw Set<br>SCR                        | <b>D063</b> |
|  | Ball Wrench Set<br>SKB-JBX6             | <b>D063</b> |
|  | Phillip's Screw Driver with Grip<br>SKD | <b>D063</b> |
|  | Chronometer Driver Set<br>DK-20         | <b>D063</b> |
|  | Adapter Nuts<br>AND                     | <b>D063</b> |

## Brackets

## Adapters

## Tools

# 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.

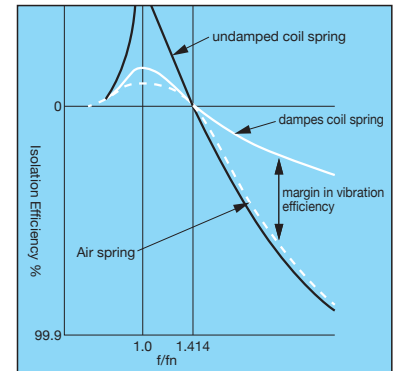
The ratio of forcing frequency (the disturbing frequency) to natural frequency ( $f/f_n$ ) is used to determine the isolation efficiency of any isolation systems.

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

where

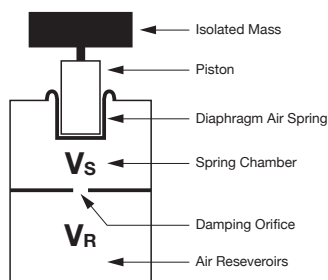
$f/f_n$  = the ratio of forcing frequency to natural frequency

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. Pnumatic 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<sup>2</sup>

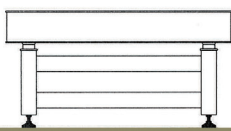
G = Gravity acceleration

V = Volume of air chamber, cm<sup>3</sup>

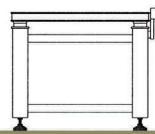
As seen from equation, the natural frequency of the pneumatic isolator depends on the ratio of the piston area to the volume of the air isolator

## Types of Vibration Isolation Systems

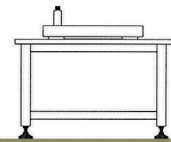
Optical Tables  
OSDVID Series



Lab Desk Isolators  
OSDVID Series



Desk Top Isolators  
OSDVID Series





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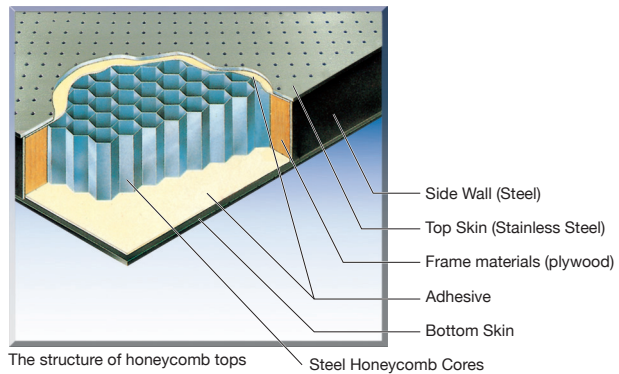
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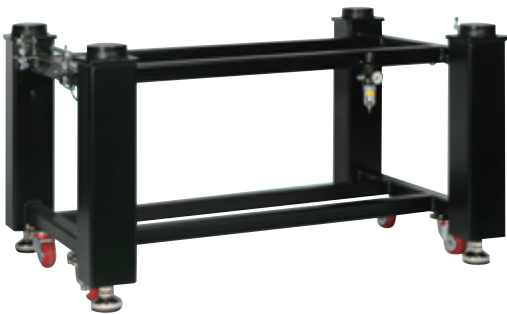
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## Structure of Flat Benches

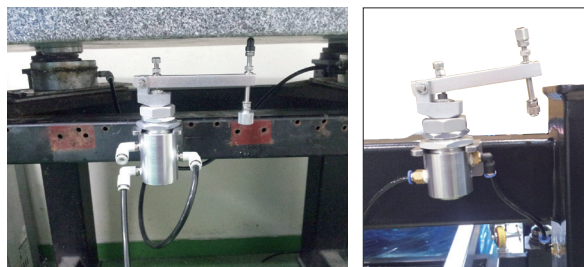
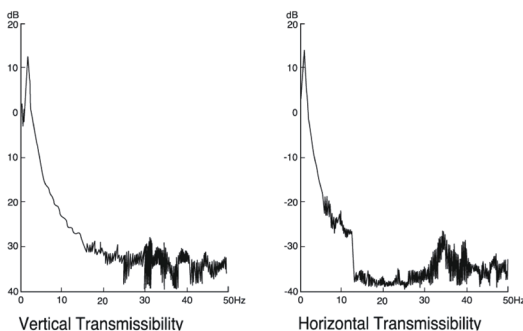
- Optical Tops consist of ferro-magnetic stainless steel (SUS430) top skin plates, carbon steel bottom skin plates (SPHC), plated steel honeycomb (0.25mm foil, 3.2cm<sup>2</sup> cell size) sandwiched between two plates and side steel panels, all bonded with high strength adhesive.
- High-damping optical tops apply Broadband Damping technologies and have excellent dynamic stiffness.
- Honeycomb cores (cell size 3.2cm<sup>2</sup>) 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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OSDVIA-T series is the best active vibration isolation system equipped with the high-performance digital controller that was developed independently for years, it adopts an advanced control scheme which is robust against variations on system parameters. And it maximizes users' convenience by being equipped with the LCD display and auto leveling/locking systems. When using it together with its exclusive Acoustic Enclosure, OSDVIA-T series provides the optimal environment of measurement which can simultaneously resolve problems caused by the environmental noise and vibration.



OSDVIA-T45



OSDVIA-T56

#### Features

- Easy to Installation & Operation :
  - ▷ After Power ON, Only Switch On/Off Action required
  - ▷ Auto Locking & Leveling Systems
  - ▷ LCD Display
- Modest Design
- 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

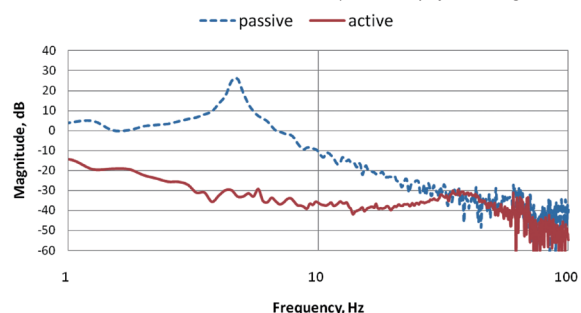
- Atomic Force Microscopes
- Scanning Probe Microscopes
- Interferometers
- Other Ultra-Precision Measurement Systems

#### 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.

Utilizing independent mechanisms for the vertical and horizontal directions, this system achieves the high performance and efficiency required for the most demanding applications.

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

|                                 |   |   |                    |                   |                      |
|---------------------------------|---|---|--------------------|-------------------|----------------------|
| Exterior                        |  <p>OSDVO</p> |   |                    |                   |                      |
|                                 | Natural Frequency   | <table border="1"> <tr> <td>Vertical Direction</td> <td>about 1.2 – 1.5Hz</td> </tr> <tr> <td>Horizontal Direction</td> <td>about 1.5 – 1.7Hz</td> </tr> </table> | Vertical Direction | about 1.2 – 1.5Hz | Horizontal Direction |
| 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 (0.25mm 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 International 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 may not perform normally if used under an extremely offset load or with instruments or equipment having a very high center of gravity.
  - ▶ Because of the weight, delivery cost will be quoted separately. Use the carry-in route and installation environment question sheet.
- Reference** D016 **Catalog Code** W6001
- ▶ Use the Air Spring Vibration Isolator Model Selection Check Sheet to check usage, load capacity, or unclear points.
- WEB Reference** **Catalog Code** W6002

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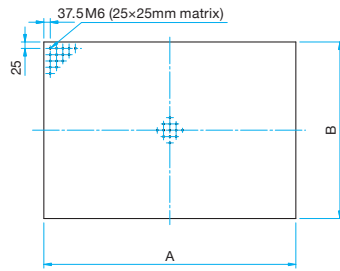
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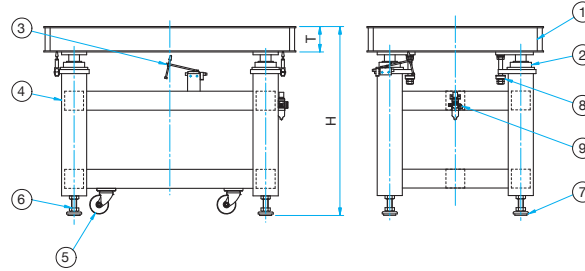
Tools

## Outline Drawing

### OSDVIO series



- ① Flat bench ..... 1
- ② Precision air spring ..... 4
- ③ Auto level sensor ..... 3
- ④ Optical Table Support ..... 1
- ⑤ Caster ..... 4
- ⑥ Leveling bolt ..... 4
- ⑦ Leveling bolt seat ..... 4
- ⑧ Stopper bolt ..... 4
- ⑨ Regulator ..... 1



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### Specifications

| Part Number               | A x B [mm]  | H [mm] | T [mm] | Load capacity [kg] | Weight [kg] |
|---------------------------|-------------|--------|--------|--------------------|-------------|
| OSDVIO-I-0909M-100t(800H) | 900x 900    | 800    | 100    | 300                | 154         |
| OSDVIO-I-1007M-100t(800H) | 1,000x 700  | 800    | 100    | 310                | 140         |
| OSDVIO-I-1206M-100t(800H) | 1,200x 600  | 800    | 100    | 310                | 141         |
| OSDVIO-I-1207M-100t(800H) | 1,200x 700  | 800    | 100    | 290                | 159         |
| OSDVIO-I-1209M-100t(800H) | 1,200x 900  | 800    | 100    | 260                | 190         |
| OSDVIO-I-1506M-100t(800H) | 1,500x 600  | 800    | 100    | 390                | 187         |
| OSDVIO-I-1507M-100t(800H) | 1,500x 700  | 800    | 100    | 370                | 207         |
| OSDVIO-I-1509M-200t(800H) | 1,500x 900  | 800    | 200    | 310                | 269         |
| OSDVIO-I-1510M-200t(800H) | 1,500x1,000 | 800    | 200    | 290                | 284         |
| OSDVIO-I-1512M-200t(800H) | 1,500x1,200 | 800    | 200    | 240                | 329         |
| OSDVIO-I-1515M-200t(800H) | 1,500x1,500 | 800    | 200    | 180                | 396         |
| OSDVIO-I-1806M-200t(800H) | 1,800x 600  | 800    | 200    | 340                | 234         |
| OSDVIO-I-1807M-200t(800H) | 1,800x 700  | 800    | 200    | 320                | 254         |
| OSDVIO-I-1809M-200t(800H) | 1,800x 900  | 800    | 200    | 270                | 306         |
| OSDVIO-I-1812M-200t(800H) | 1,800x1,200 | 800    | 200    | 190                | 387         |
| OSDVIO-I-1815M-200t(800H) | 1,800x1,500 | 800    | 200    | 420                | 468         |
| OSDVIO-I-2010M-200t(800H) | 2,000x1,000 | 800    | 200    | 520                | 362         |
| OSDVIO-I-2012M-200t(800H) | 2,000x1,200 | 800    | 200    | 460                | 421         |
| OSDVIO-I-2015M-200t(800H) | 2,000x1,500 | 800    | 200    | 380                | 510         |
| OSDVIO-I-2409M-300t(800H) | 2,400x 900  | 800    | 300    | 440                | 453         |
| OSDVIO-I-2412M-300t(800H) | 2,400x1,200 | 800    | 300    | 320                | 578         |
| OSDVIO-I-2415M-300t(800H) | 2,400x1,500 | 800    | 300    | 200                | 701         |
| OSDVIO-I-3009M-300t(800H) | 3,000x 900  | 800    | 300    | 350                | 585         |
| OSDVIO-I-3010M-300t(800H) | 3,000x1,000 | 800    | 300    | 300                | 634         |
| OSDVIO-I-3012M-300t(800H) | 3,000x1,200 | 800    | 300    | 200                | 739         |
| OSDVIO-I-3015M-300t(800H) | 3,000x1,500 | 800    | 300    | 450                | 896         |
| OSDVIO-I-3612M-300t(800H) | 3,600x1,200 | 800    | 300    | 480                | 864         |
| OSDVIO-I-3615M-300t(800H) | 3,600x1,500 | 800    | 300    | 309                | 1051        |



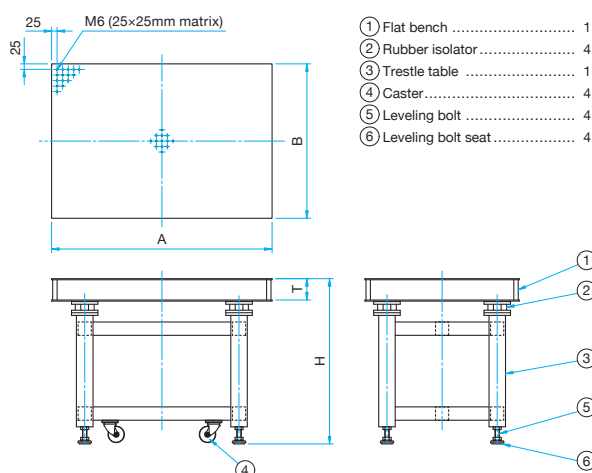
Simple optical lab bench fitted with a table frame and rubber isolators placed between the bench and the table frame provides a basic level of vibration isolation.



- The inside of the bench is aluminum honeycomb, which is lightweight with excellent stiffness.
- The vibration isolating legs have high stiffness and stability.
- The top surface of the bench is magnetic stainless steel plate, with tapped holes (M6 25x25mm matrix) over the entire surface allowing both magnetic type and screw fixing type systems or equipment to be mounted.

## Outline Drawing

### OSDVI0-R series



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

## Attention

- Because of the weight, delivery cost will be quoted 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:<br>4.0mm thickness 430 series ferro magnetic stainless steel plate, smooth sanded finish<br>Lateral surface:<br>2.0mm thickness carbon steel plate with damped wood composite, vinyl convert finish<br>Lower plate:<br>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)  |

## Specifications

| Part Number               | A × B [mm]  | H [mm] | T [mm] | Load capacity [kg] | Weight [kg] |
|---------------------------|-------------|--------|--------|--------------------|-------------|
| OSDVI0-R-0909M-100t(800H) | 900× 900    | 800    | 100    | 300                | 149         |
| OSDVI0-R-1007M-100t(800H) | 1,000× 700  | 800    | 100    | 310                | 135         |
| OSDVI0-R-1206M-100t(800H) | 1,200× 600  | 800    | 100    | 310                | 136         |
| OSDVI0-R-1207M-100t(800H) | 1,200× 700  | 800    | 100    | 290                | 154         |
| OSDVI0-R-1209M-100t(800H) | 1,200× 900  | 800    | 100    | 260                | 185         |
| OSDVI0-R-1506M-100t(800H) | 1,500× 600  | 800    | 100    | 390                | 182         |
| OSDVI0-R-1507M-100t(800H) | 1,500× 700  | 800    | 100    | 370                | 202         |
| OSDVI0-R-1509M-200t(800H) | 1,500× 900  | 800    | 200    | 310                | 264         |
| OSDVI0-R-1510M-200t(800H) | 1,500×1,000 | 800    | 200    | 290                | 279         |
| OSDVI0-R-1512M-200t(800H) | 1,500×1,200 | 800    | 200    | 240                | 324         |
| OSDVI0-R-1515M-200t(800H) | 1,500×1,500 | 800    | 200    | 180                | 391         |
| OSDVI0-R-1806M-200t(800H) | 1,800× 600  | 800    | 200    | 340                | 229         |
| OSDVI0-R-1807M-200t(800H) | 1,800× 700  | 800    | 200    | 320                | 249         |
| OSDVI0-R-1809M-200t(800H) | 1,800× 900  | 800    | 200    | 270                | 301         |
| OSDVI0-R-1812M-200t(800H) | 1,800×1,200 | 800    | 200    | 190                | 382         |
| OSDVI0-R-1815M-200t(800H) | 1,800×1,500 | 800    | 200    | 420                | 463         |
| OSDVI0-R-2010M-200t(800H) | 2,000×1,000 | 800    | 200    | 520                | 357         |
| OSDVI0-R-2012M-200t(800H) | 2,000×1,200 | 800    | 200    | 460                | 416         |
| OSDVI0-R-2015M-200t(800H) | 2,000×1,500 | 800    | 200    | 380                | 505         |
| OSDVI0-R-2409M-300t(800H) | 2,400× 900  | 800    | 300    | 440                | 448         |
| OSDVI0-R-2412M-300t(800H) | 2,400×1,200 | 800    | 300    | 320                | 573         |
| OSDVI0-R-2415M-300t(800H) | 2,400×1,500 | 800    | 300    | 200                | 696         |
| OSDVI0-R-3009M-300t(800H) | 3,000× 900  | 800    | 300    | 350                | 580         |
| OSDVI0-R-3010M-300t(800H) | 3,000×1,000 | 800    | 300    | 300                | 629         |
| OSDVI0-R-3012M-300t(800H) | 3,000×1,200 | 800    | 300    | 200                | 734         |
| OSDVI0-R-3015M-300t(800H) | 3,000×1,500 | 800    | 300    | 450                | 891         |
| OSDVI0-R-3612M-300t(800H) | 3,600×1,200 | 800    | 300    | 480                | 859         |
| OSDVI0-R-3615M-300t(800H) | 3,600×1,500 | 800    | 300    | 309                | 1046        |

OSDVID series are available in a choice of two types of desk isolators;  
C type for clean room, L type for laboratory

### OSDVID-C series



- Highly damped stainless steel laminate top.
- For class one cleanroom compatibility, all polished stainless steel finish free from particles or contaminants.
- Designed to be easily cleaned, no dust collecting grooves or ledges.
- No outgassing components, all air to support the table is appropriately vented.
- Perforated top cover to reduce air turbulence in clean rooms.

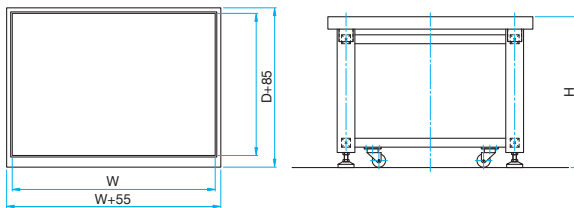
### OSDVID-L series



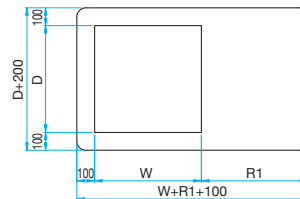
- The thin wall rolling diaphragms with horizontal vibration removal
- The new round edge top cover of melamine resin. Isolated top completely separated from top cover for working space
- The swivel casters for easy layout change. Such as drawer unit, monitor stand, under shelf increase the functionality of the isolator (optional).

### Outline Drawing

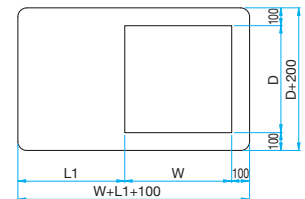
#### OSDVID



#### C series



#### L series



### General Specification

|                         |  |
|-------------------------|--|
| Natural Frequency       | 1.2Hz – 2.0Hz  |
| Isolation Efficiency    | at 10Hz: 75% – 95%<br>at 20Hz: 85% – 98%   |
| Levelling Repeatability | ±1.0mm / ±0.05mm   |
| Net Load Capacity       | 500kg  |
| Shipping Weight         | 150 – 250kg  |
| Material                | Frame & Top:<br>All Stainless Steel ("C" Type)<br>Steel tube, Powder Painted ("L" Type)<br>Top Cover:<br>Stainless Steel ("C" Type)<br>Melamine H.P. Boards ("L" Type) |
| Operation               | 3 – 5kg/cm <sup>2</sup> 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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Installation on top of a table or test bench makes these isolators ready for immediate use. These tabletop vibration isolators are space-saving and effective for use with small optical systems and microscopes.



### Applications

- Optical Microscopy
- Surface Profilometry
- Hardness and roundness Tester
- Velocimetry
- Analytical Balance

### ● 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.

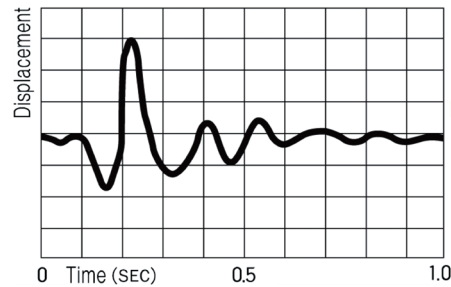
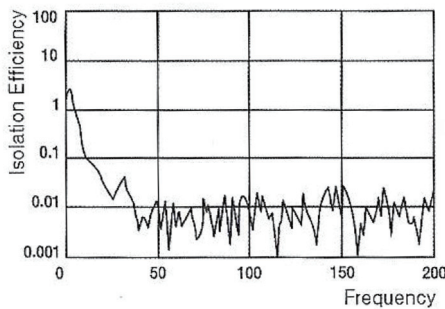
### ● Auto leveling system(Tri-pole leveling)

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

### Attention

- ▶ To achieve adequate vibration isolation performance, always use a strong table frame to mount the table top type vibration isolator system on.
- ▶ The vibration isolator may not perform normally if used under an extremely offset load or with instruments or equipment having a very high center of gravity.
- ▶ Use the Air Spring Vibration Isolator Model Selection Check Sheet to check usage, load capacity, or unclear points.

▶ [WEB Reference](#) [Catalog Code](#) W6002



### 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 <sup>2</sup>   |                          |                          |
| 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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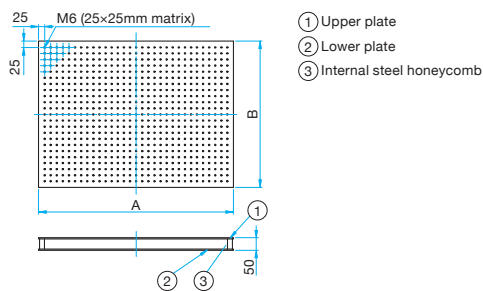
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- Top skins are made of stainless steel (SUS430), bottom skins are made of steel (SPHC). Plated steel honeycomb cores are sandwiched between top & bottom skins, all bonded with high strength adhesive.
- Honeycomb cores (size 3.2cm<sup>2</sup>) are made of 0.25mm thick plated steels giving maximized stiffness and 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.
- The M6 (1/4"-20) tapped holes are for mounting optical equipment or components, arranged in a regular interval 25mm (1").
- 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.



## Outline Drawing



## Attention

- ▶ To ensure optimal performance, always prepare rubber isolators to attach on the four corners, and use a strong table frame to mount the flat board.
- ▶ Unlike in the case of conventional optical laboratory benches, the flat boards are not sufficiently thick for their area. Select in accordance with the purpose and conditions of use.
- ▶ Because of the weight, delivery cost will be quoted separately. Use the carry-in route and installation environment question sheet.

Reference D016 Catalog Code W6001

## Common Specifications

|                                 |   |
|---------------------------------|---|
| Honeycomb Material inside Bench | Plated steel honeycomb (0.25m foil, 3.2cm <sup>2</sup> cell size)   |
| Bench Material                  | Upper plate:<br>4.0mm thickness 430 series ferro magnetic stainless steel plate, smooth sanded finish<br>Lateral surface:<br>2.0mm thickness carbon steel plate with damped wood composite, vinyl convert finish<br>Lower plate:<br>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)  |

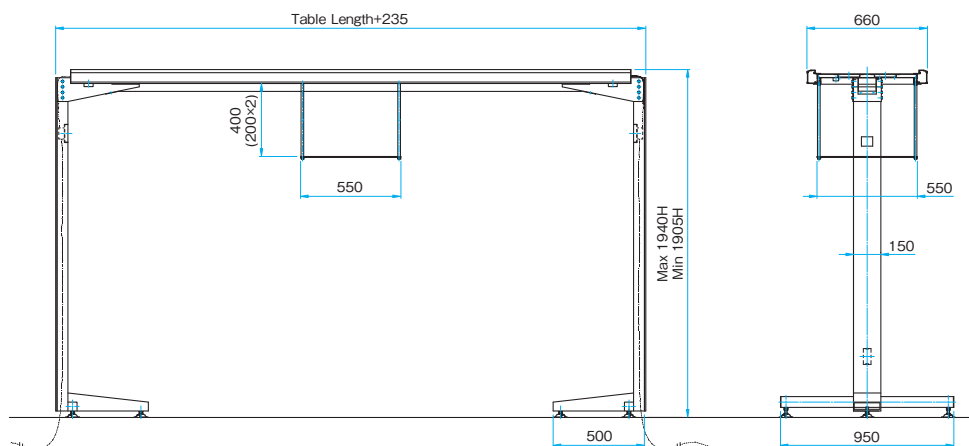
| Part Number        | A × B [mm]  | T [mm] | Weight [kg] |
|--------------------|-------------|--------|-------------|
| OSDVIO-B-0504M-50t | 500× 400    | 50     | 17          |
| OSDVIO-B-0605M-50t | 600× 500    | 50     | 26          |
| OSDVIO-B-0606M-50t | 600× 600    | 50     | 31          |
| 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         |

OSDOTS series (Overhead Table Systems) are good for off-the-isolated table mounting or storage, such as power supplies, controllers, oscilloscopes, and other instruments, so vibration isolation will not be affected. The height of shelf can be easily adjusted and optional hanging under-shelf additionally installed at the desired position under main shelf for more storage or mounting.



- Convenient location of instruments.
- Increased table space.
- mechanical isolation of equipments with fans.
- Overhead shelf adjusted in height, free standing.
- Levelling feet for uneven floors.
- Formed steel welded design, black power coat finished.
- Hanging under-shelf for more instruments (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         |

# Accessories

## Air Compressor | OSDAC-30

RoHS Catalog Code W6507

We provide exclusive air compressors at very competitive price for customers who have no air supply systems. Our exclusive air compressors have compact design and less noise, can be installed and operated easily.



| Specifications                |   |
|-------------------------------|---|
| Part Number                   | <b>OSDAC-30</b>                             |
| 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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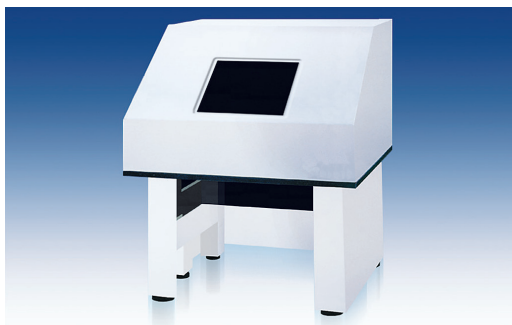
Tools



Faraday Cages



Clear Acrylic Enclosures



Shield Box



Dark Box

## Guide on Special Orders for Vibration Isolator

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.

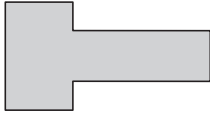
### Guide

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

► WEB Reference Catalog Code W6004

### Examples of custom benches

● T-shaped flat bench



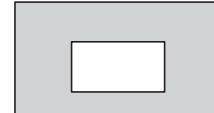
● Notch shape Flat bench



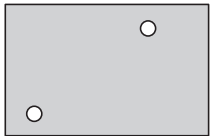
● L-shaped flat bench



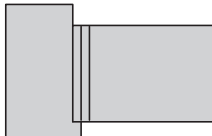
● Outline shaped flat bench



● Flat bench with through holes



● T-joint type flat bench



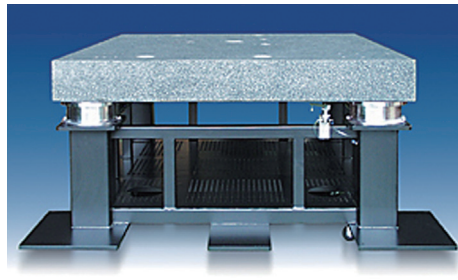
● Slot-joint type flat bench



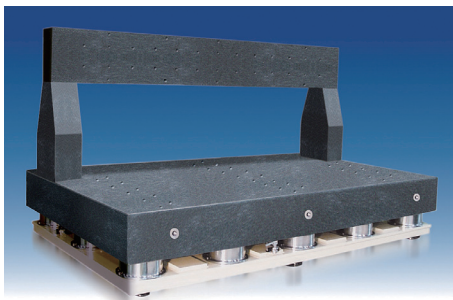
## Custom products



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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Carry-In Route and Installation Environment Question Sheet  Quotation  Order

Date

 To: Sigma Koki Co., Ltd. **FAX +81-3-5638-6550**

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

|                              |                              |
|------------------------------|------------------------------|
| <b>Model Number Examined</b> | <b>Desired Delivery Date</b> |
|------------------------------|------------------------------|

| 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.) |   |  |                     |           |
|--|---|--|---------------------|-----------|
| <b>Installation Floor</b>  | Floor number of the installation site?  | Above ground   | basement            | Floor     |
|  | How wide is the service entrance?   | Width  | mm×Height           | mm        |
| <b>Above Ground Service Entrance</b>   | 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            | mm        |
| <b>Carry-in Route</b>  | What are the minimum width and height of the carry-in passage?  | Width  | mm×Minimum height   | mm        |
|  | Sometimes there are differences in grade of the carry-in passage, how great is the difference in grade?                       | Width  |                     | mm        |
| <b>Entrance to Installation Room</b>   | How big is the entrance of the installation room?   | Width  | mm×Height           | mm        |
|  | 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        |
| <b>Other</b>   | 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  |   |  |                     |           |
| <b>Has Elevator</b>  | How big is the elevator door?   | Width  | mm×Height           | mm        |
|  | How much space inside the elevator?   | Width  | mm×Depth            | mm×Height |
|  | What is max payload of the elevator?  | Width  |                     | kg        |
| <b>No Elevator</b>   | <b>Dedicated Service Entrance Exists</b>  | How big is the special service entrance?   | Width               | mm×Depth  |
|  |   | Sometimes there are differences in grade to the entrance, how great is the difference in grade?                            | Difference in grade | mm        |
|  | Is there a hoist?   | Yes / No   |                     |           |
| <b>Regardless of measures, will not go on the elevator</b>   | <b>Dedicated Service Entrance Does Not Exist</b><br><small>( Stairs, window in installation room, window on passage )</small> | 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 International 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 [▶▶▶ Return to Catalog Code W6002](#).

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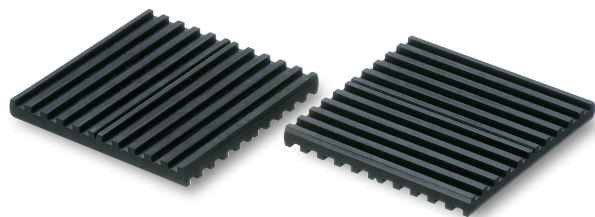
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Rubber tile vibration isolators designed to be placed at the four corners of an optical laboratory bench or other equipment vulnerable to vibrations.



**Attention**

► Recommended maximum load is 4.9N/cm<sup>2</sup> (about 5kgf/cm<sup>2</sup>)

| 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

Allow easy installation of a darkroom by assembling the steel framework and covering with black-out curtains.

- Covered with a five-side (including the ceiling) integral type black-out curtain to ensure very high light blocking effect.
- A white LED penlight, which is very effective for checking work in a darkroom, is available as an accessory.
- Size must be selected considering the vibration isolator size and work space.

| Type              | Darkroom Kits DRU   | Clean Darkroom Kits DRUC   |
|-------------------|---|--|
| Exterior          |    |   |
| Features          | <ul style="list-style-type: none"> <li>● Allows easy installation of a darkroom space indispensable for image measurements, exposure testing, and optical measurements.</li> <li>● Easy to dismantle, making it convenient for transportation and storage.</li> </ul> | <ul style="list-style-type: none"> <li>● Allows easy installation of a clean darkroom space indispensable for highly accurate and reliable optical measurements, testing, and other tasks.</li> <li>● 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.</li> <li>● Fitted with an exhaust type compact ventilation fan.</li> </ul> |
| Black-out Curtain | Material  | Obverse side: Polyester, Reverse side: Neoprene rubber   |
|                   | Light Blocking Effect   | Class 1 shading ability (99.99~100%)   |
|                   | Fire Retardancy   | Class 1 fire retardant (JIS A 1322)  |

### 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.
- ▶ Replacement HEPA filters (CD3052535) for darkroom kits (DRUC) are also available. Contact our International Sales Division for more information.

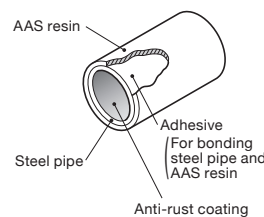
### Attention

- ▶ The blackout curtains have a flap-type entrance that has flaps overlapping in the middle. Curtain-rail-type blackout curtains are also available. (Easy for getting in and out, but a gap between the main curtain and the entrance curtain will reduce the light blocking effect compared to the flap type. Contact our International Sales Division for more information.)
- ▶ Darkroom kits include curtain tie clips.
- ▶ Custom sizes or shapes not listed in the catalog are available. In such cases, purchase white LED light separately. Contact our International Sales Division for more information.

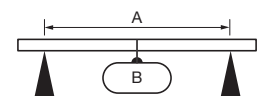
### Frame Pipes

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       |

### DRU/GP-6BK

Catalog Code **W6017**

#### Fluorescent Light (White)



Designed to be hung from the steel frame of the darkroom ceiling for use.

- Fluorescent light using one lamp.
- Size: (W)613×(D)136×(H)80mm (excluding protrusions)
- Weight: 1.2kg
- Chain length of hook: 360mm (adjustable)
- Power cord: 0.3m + extension cord 5m
- Power source: AC100V 50/60Hz
- Power consumption: 20W
- Light and glow starter used  
Light: FL20SS/Glow starter: FG-IE

#### Guide

- ▶ Purchase commercial fluorescent lights for replacement.

#### Specifications

|             |                 |
|-------------|-----------------|
| Part Number | <b>DRU-RL-2</b> |
|-------------|-----------------|

#### White LED Light



#### Specifications

|             |               |
|-------------|---------------|
| Part Number | <b>GP-6BK</b> |
|-------------|---------------|

With super luminosity chip white LED, this product is convenient for adjusting or checking equipment in a darkroom.

- Actual lighting hours: about 10 hours continuous operation (rough guide for battery replacement)
- Main body size:  $\phi 22 \times 92$ mm
- Weight: 0.061kg (including the battery)
- Number of batteries: AA battery×1
- The battery that comes with this product is for testing, and may run out before the service life expected for new batteries.

#### Ventilation Fans



Ventilation fans specially engineered to keep out external light; available in two types: an exhaust type (DRU-VF) and a suction type (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
- Rough guide of small ventilation fan suction/exhaust capability: 2.7m<sup>3</sup>/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 6.2m<sup>3</sup>/min. type is also available. Contact our International Sales Division for more information.

| Part Number   | Type         |
|---------------|--------------|
| <b>DRU-IF</b> | Suction type |
| <b>DRU-VF</b> | Exhaust type |

### LMC/LMT

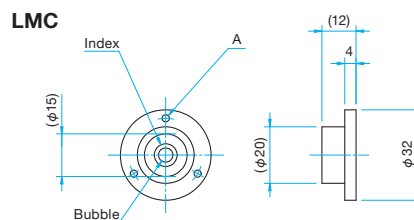
Catalog Code **W6018**

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 the horizontal level of the measured target when the bubble is centered within the center ring. 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] |
|--------------|--------------------|-------------------------------|-----------------|----------|---------------|-------------|
| <b>LMC-2</b> | $\phi 32$          | 3- $\phi 2.5$ , PCD $\phi 27$ | 1               | Aluminum | Black coating | 0.022       |
| <b>LMC-3</b> | $\phi 32$          | 3- $\phi 2.5$ , PCD $\phi 26$ | 1               | Brass    | Chrome plated | 0.028       |
| <b>LMT-1</b> | 45×35              | —                             | 1               | Aluminum | Black coating | 0.027       |

# System Diagram of Base System

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## How to View the Chart

- The connection is checked in order starting from the standard rod or other attachable rod of our holders, to rod stands.
- The color codes represent 15 patterns of connection from the rod to board and lab bench, if a color is the same in each number of the above, the connection will be possible.

**(Example) for color code (3)** color (red) ■


|  |   |  |  |
|--|---|--|--|
| Posts <span style="color:red">■</span> → | Post Holders <span style="color:red">■</span> → | Base plates <span style="color:red">■</span> → | Board&Lab bench <span style="color:red">■</span> |
| φ12.7 8-32UNC                            | φ12.7 1/40-20UNC                                | 1/40-20UNC                                     | 1/40-20UNC                                       |

## Posts




|              |             | Posts                |        |       |      |       |        |      |        |      |       |      |      |    |        |    |
|--------------|-------------|----------------------|--------|-------|------|-------|--------|------|--------|------|-------|------|------|----|--------|----|
|              |             | RO                   |        |       |      |       |        |      |        |      |       |      |      |    |        |    |
|              |             | Reference D048, D049 |        |       |      |       |        |      |        |      |       |      |      |    |        |    |
|              |             | Color Code           |        |       |      |       |        |      |        |      |       |      |      |    |        |    |
| Rod diameter | Part number | 1                    | 2      | 3     | 4    | 5     | 6      | 7    | 8      | 9    | 10    | 11   | 12   | 13 | 14     | 15 |
| φ12          | -           | Yellow               | Yellow | Green | Blue | Blue  | Orange | Grey | Green  | Pink | Cyan  |      |      |    |        |    |
| φ20          | -           | Yellow               | Yellow |       |      |       |        | Blue | Orange | Grey | Green | Pink | Cyan |    |        |    |
| φ12.7        | UU          |                      |        | Red   |      | Green |        |      | Orange |      |       | Pink |      |    | Orange |    |

## Post Holders




|              |                        | High Stability Ball Plunger Post Holders |        |        |       |   |       |        |        |        |      |    |       |       |      |        |    |
|--------------|------------------------|--|--------|--------|-------|---|-------|--------|--------|--------|------|----|-------|-------|------|--------|----|
|              |                        | BRS                                      |        |        |       |   |       |        |        |        |      |    |       |       |      |        |    |
|              |                        | Reference D042                           |        |        |       |   |       |        |        |        |      |    |       |       |      |        |    |
|              |                        | Color Code                               |        |        |       |   |       |        |        |        |      |    |       |       |      |        |    |
| Rod diameter | Mounting screws (male) | Part number                              | 1      | 2      | 3     | 4 | 5     | 6      | 7      | 8      | 9    | 10 | 11    | 12    | 13   | 14     | 15 |
| φ12          | M16                    | -  | Yellow | Yellow | Green |   |       | Blue   | Orange | Grey   |      |    |       | Green | Pink | Cyan   |    |
|              | M6                     | -  | Yellow | Yellow |       |   | Blue  | Orange | Grey   |        |      |    | Green | Pink  | Cyan |        |    |
| φ20          | M16                    | -  | Yellow | Yellow |       |   |       | Blue   | Orange | Grey   |      |    |       | Green | Pink | Cyan   |    |
|              | M6                     | -  | Yellow | Yellow |       |   |       |        | Blue   | Orange | Grey |    |       | Green | Pink | Cyan   |    |
| φ12.7        | 1/4-20UNC              | UU                                       |        |        | Red   |   | Green |        |        | Orange |      |    | Pink  |       |      | Orange |    |




|              |                        | Rod stand      |        |        |       |   |   |   |      |        |      |    |    |    |      |    |    |  |
|--------------|------------------------|----------------|--------|--------|-------|---|---|---|------|--------|------|----|----|----|------|----|----|--|
|              |                        | RS             |        |        |       |   |   |   |      |        |      |    |    |    |      |    |    |  |
|              |                        | Reference D043 |        |        |       |   |   |   |      |        |      |    |    |    |      |    |    |  |
|              |                        | Color Code     |        |        |       |   |   |   |      |        |      |    |    |    |      |    |    |  |
| Rod diameter | Mounting screws (male) | Part number    | 1      | 2      | 3     | 4 | 5 | 6 | 7    | 8      | 9    | 10 | 11 | 12 | 13   | 14 | 15 |  |
| φ12          | -                      | -              | Yellow | Yellow | Green |   |   |   | Blue | Orange | Grey |    |    |    | Pink |    |    |  |
| φ20          | M16                    | -              | Yellow | Yellow |       |   |   |   | Blue | Orange | Grey |    |    |    | Pink |    |    |  |

## Carriers




|                          |             | Carriers for Large Optical Rails |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
|--------------------------|-------------|----------------------------------|---|---|---|---|---|------|--------|--------|----|----|----|----|----|----|--|
|                          |             | CAA-L                            |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
|                          |             | Reference D023                   |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
|                          |             | Color Code                       |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
| Mounting screws (female) | Part number | 1                                | 2 | 3 | 4 | 5 | 6 | 7    | 8      | 9      | 10 | 11 | 12 | 13 | 14 | 15 |  |
| M16                      | -           |                                  |   |   |   |   |   | Blue |        |        |    |    |    |    |    |    |  |
| M6                       | EE          |                                  |   |   |   |   |   |      | Orange |        |    |    |    |    |    |    |  |
| 1/4-20UNC                | UU          |                                  |   |   |   |   |   |      |        | Orange |    |    |    |    |    |    |  |

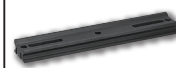


|                          |             | Carriers for Small Optical Rails |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
|--------------------------|-------------|----------------------------------|---|---|---|---|---|---|---|---|------|-------|------|----|----|----|--|
|                          |             | CAA-LS                           |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
|                          |             | Reference D025                   |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
|                          |             | Color Code                       |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
| Mounting screws (female) | Part number | 1                                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10   | 11    | 12   | 13 | 14 | 15 |  |
| M16                      | -           |                                  |   |   |   |   |   |   |   |   | Grey |       |      |    |    |    |  |
| M6                       | EE          |                                  |   |   |   |   |   |   |   |   |      | Green |      |    |    |    |  |
| 1/4-20UNC                | UU          |                                  |   |   |   |   |   |   |   |   |      |       | Pink |    |    |    |  |

## Optical Rails




|                    |             | Large Low-Profile Optical Rails |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
|--------------------|-------------|---------------------------------|---|---|---|---|---|------|--------|--------|----|----|----|----|----|----|--|
|                    |             | OBT-LH/LUU                      |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
|                    |             | Reference D022                  |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
|                    |             | Color Code                      |   |   |   |   |   |      |        |        |    |    |    |    |    |    |  |
| Fixing counterbore | Part number | 1                               | 2 | 3 | 4 | 5 | 6 | 7    | 8      | 9      | 10 | 11 | 12 | 13 | 14 | 15 |  |
| M6                 | EE          |                                 |   |   |   |   |   | Blue | Orange |        |    |    |    |    |    |    |  |
| 1/4-20UNC          | UU          |                                 |   |   |   |   |   |      |        | Orange |    |    |    |    |    |    |  |





|                    |             | Medium Low-Profile Optical Rails |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
|--------------------|-------------|----------------------------------|---|---|---|---|---|---|---|---|------|-------|------|----|----|----|--|
|                    |             | OBT-SH-SUU                       |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
|                    |             | Reference D024                   |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
|                    |             | Color Code                       |   |   |   |   |   |   |   |   |      |       |      |    |    |    |  |
| Fixing counterbore | Part number | 1                                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10   | 11    | 12   | 13 | 14 | 15 |  |
| M6                 | EE          |                                  |   |   |   |   |   |   |   |   | Grey | Green |      |    |    |    |  |
| 1/4-20UNC          | UU          |                                  |   |   |   |   |   |   |   |   |      |       | Pink |    |    |    |  |


## Conversion Adapters

|  | M6 Conversion Adapters |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|---|------------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|   | AD-M6-M4               |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|   | Reference > D030       |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|   | Color Code             |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Conversion Size   | 1                      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| M6 → M4   |                        |   |   |   |   |   |   |   |   |    |    |    |    |    |    |

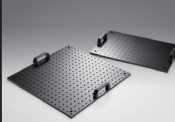
## Baseplates


|  | Base plates            |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|--|------------------------|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|  | BSP                    |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|  | Reference > D028, D029 |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|  | Color Code             |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Mounting screws (female)   | Mounting long hole     | Part number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| M16  | M6                     | -           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| M6   | M6                     | EE          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| 1/4-20UNC  | 1/4-20UNC              | UU          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |


|  | Stand Base/Stand Clamp |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|---|------------------------|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|   | RCA / RC               |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|   | Reference > D044       |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|   | Color Code             |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Mounting screws (female)  | Mounting long hole     | Part number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| M16   | M6                     | -           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| M6  | M6                     | EE          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| 1/4-20UNC   | 1/4-20UNC              | UU          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |


|  | Magnet Base      |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|--|------------------|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|  | MB               |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|  | Reference > D026 |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|  | Color Code       |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Mounting screws (female)   | Mounting         | Part number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| M16  |                  | -           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| M6   | Magnetized       | M6/EE       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| 1/4-20UNC  |                  | UU          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |

## Boards & Lab Bench

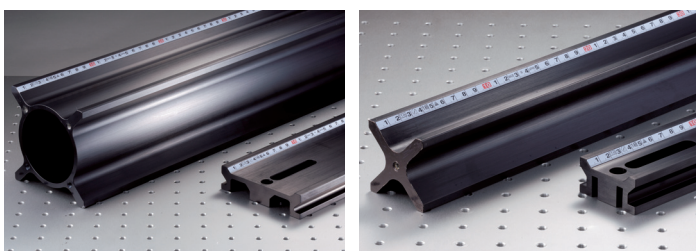
|  | Optical Base plates |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|---|---------------------|-------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|   | OBC                 |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|   | Reference > D032    |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|   | Color Code          |             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Fixing screw (female)   | Pitch               | Part number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| M4  | 25P                 | -           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| M6  | 25P                 | EE          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| 1/4-20UNC   | 25.4P               | UU          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |

|  | Aluminum Honeycomb Breadboards |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|--|--------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--|
|  | HA                             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|  | Reference > D016               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|  | Color Code                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| Fixing screw (female)  | Pitch                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |  |
| M6   | 25P                            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| 1/4-20UNC  | 25.4P                          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |

|  | Aluminum Honeycomb Optical Tables |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|---|-----------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--|
|   | HA-L                              |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|   | Reference > D014                  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|   | Color Code                        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| Fixing screw (female)   | Pitch                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |  |
| M6  | 25P                               |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| 1/4-20UNC   | 25.4P                             |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |

|  | High-performance Vibration Isolation Systems with Aluminum Honeycomb Top |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|---|--|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--|
|   | TDI-LA   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|   | Reference > D008   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
|   | Color Code   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| Fixing screw (female)   | Pitch  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |  |
| M6  | 25P  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |
| 1/4-20UNC   | 25.4P  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |  |

## 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 International Sales Division for more information.

# Large Optical Rails Large Low-Profile Optical Rails

OBA-LH  
OBT-LH/LUU

## OBA-LH

RoHS Catalog Code 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.

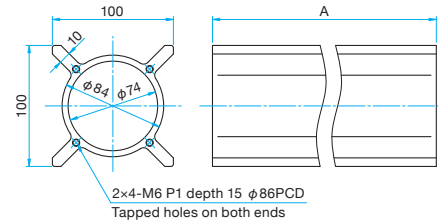
### Guide

- ▶ Contact our International Sales Division for information on scale installation and length change.



### Outline Drawing

#### OBA-LH



| Specifications |        | Primary material: Aluminum<br>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        |

## OBT-LH/LUU

RoHS Catalog Code W6020

Designed to be directly mounted on top of a vibration isolator or optical laboratory bench using M6 bolts.

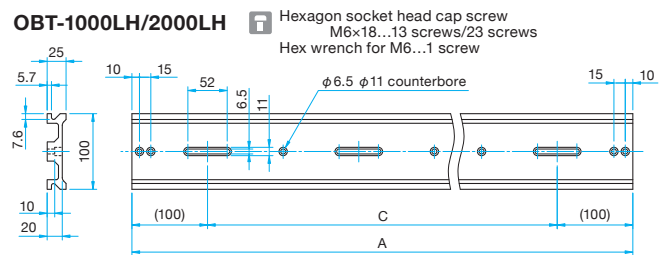
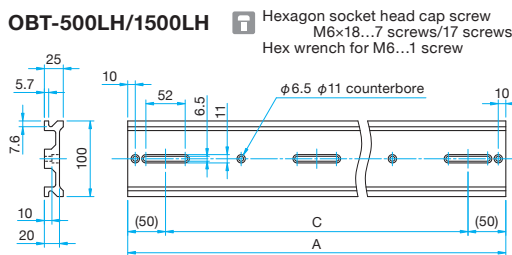
- 100mm-wide, 25mm-high optical rails offer low optical axis and light weight.

### Guide

- ▶ Contact our International Sales Division for information on scale installation and length change.

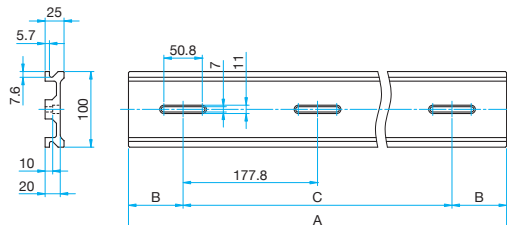


### Outline Drawing



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

**OBT-LUU** Hexagon socket head cap screw M6x18...3 screws/6 screws/9 screws/11 screws (EC)  
Hexagon socket head cap screw 1/4-20UNCx3/4...3 screws/6 screws/9 screws/11 screws (US)



| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |        |        |          |             |
|----------------|-------------|--|--------|--------|----------|-------------|
| Part Number    |             | A [mm]   | B [mm] | C [mm] |          | Weight [kg] |
| METRIC         | INCH        |  |        | METRIC | INCH     |             |
| OBT-500LH      | OBT-500LUU  | 500  | 72.2   | 100x 4 | 177.8x 2 | 1.7         |
| OBT-1000LH     | OBT-1000LUU | 1,000  | 55.5   | 100x 8 | 177.8x 5 | 3.5         |
| OBT-1500LH     | OBT-1500LUU | 1,500  | 38.8   | 100x14 | 177.8x 8 | 5.2         |
| OBT-2000LH     | OBT-2000LUU | 2,000  | 111    | 100x18 | 177.8x10 | 7.0         |

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Mounted on a large optical rail (OBA-L/LH) or large low-profile optical rails (OBT-LH) freely slide along the rail 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.

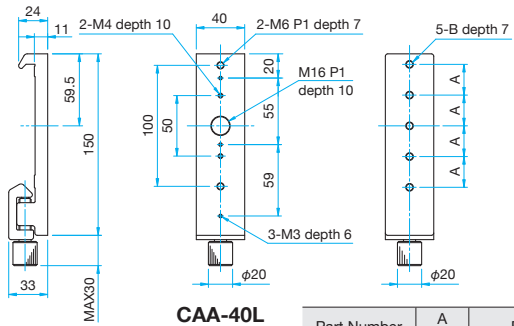
### Guide

▶ 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

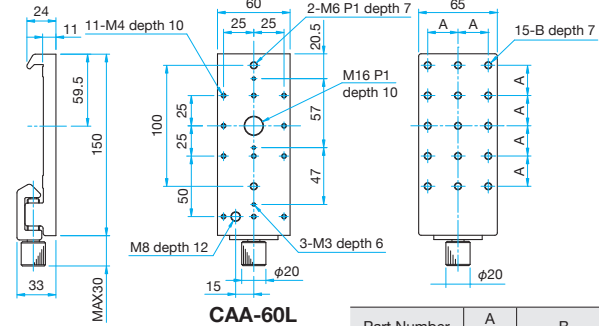
#### CAA-40L/40LEE/40LUU



CAA-40L

| Part Number | A [mm] | B         |
|-------------|--------|-----------|
| CAA-40LEE   | 25     | M6 P1     |
| CAA-40LUU   | 25.4   | 1/4-20UNC |

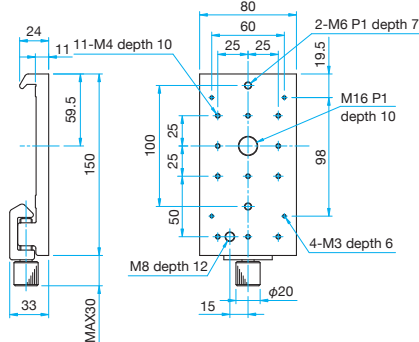
#### CAA-60L/65LEE/65LUU



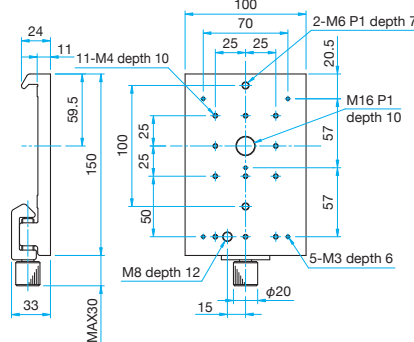
CAA-60L

| Part Number | A [mm] | B         |
|-------------|--------|-----------|
| CAA-65LEE   | 25     | M6 P1     |
| CAA-65LUU   | 25.4   | 1/4-20UNC |

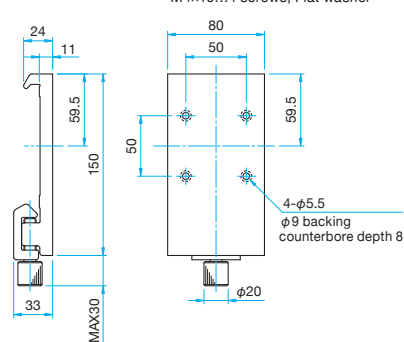
#### CAA-80L



#### CAA-100L

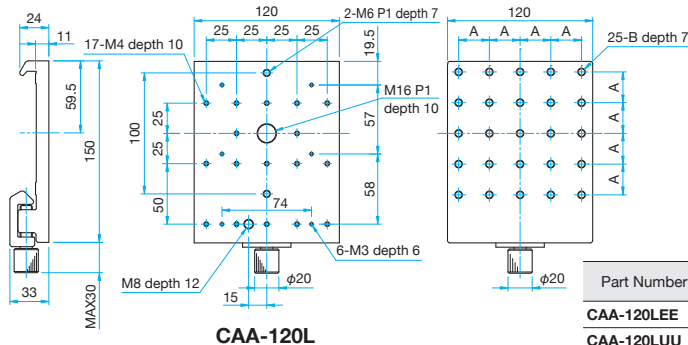


#### CAA-80LF



Hexagonal socket head cap screw M4x10...4 screws, Flat washer

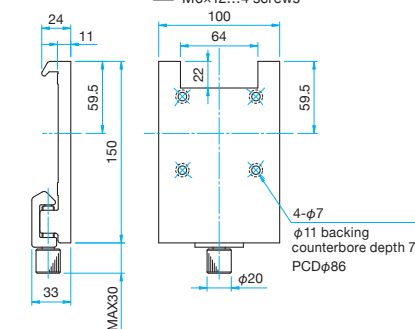
#### CAA-120L/120LEE/120LUU



CAA-120L

| Part Number | A [mm] | B         |
|-------------|--------|-----------|
| CAA-120LEE  | 25     | M6 P1     |
| CAA-120LUU  | 25.4   | 1/4-20UNC |

#### CAA-100LC



Hexagon socket head cap screw M6x12...4 screws

### Specifications

Primary material: Aluminum  
Finish: Black Anodized

| Part Number |            |            | Compatible Optical Rails  | Weight [kg] |
|-------------|------------|------------|---|-------------|
| M4          | M6         | INCH       |   |             |
| CAA-40L     | CAA-40LEE  | CAA-40LUU  | Large optical rails (OBA-L*/LH)<br>Large low-profile optical rails (OBT-LH/LUU)<br>Reference D022 | 0.29        |
| CAA-60L     | CAA-65LEE  | CAA-65LUU  |   | 0.39        |
| CAA-80L     | ---        | ---        |   | 0.42        |
| CAA-100L    | ---        | ---        |   | 0.5         |
| CAA-120L    | CAA-120LEE | CAA-120LUU |   | 0.61        |
| CAA-80LF    | ---        | ---        |   | 0.72        |
| CAA-100LC   | ---        | ---        |   | 0.51        |
| ---         | ---        | ---        |   | 0.57        |

\* WEB Reference Catalog Code W6019

# Medium Optical Rails Medium Low-Profile Optical Rails

OBA-SH  
OBT-SH/SUU

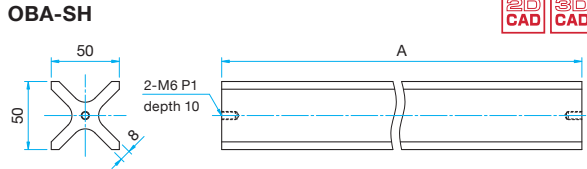
## OBA-SH

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 the four surfaces, top, lateral sides (two faces) and bottom, using these fins.

### Outline Drawing



### Guide

- Contact our International Sales Division for information on scale installation and length change.

### Specifications

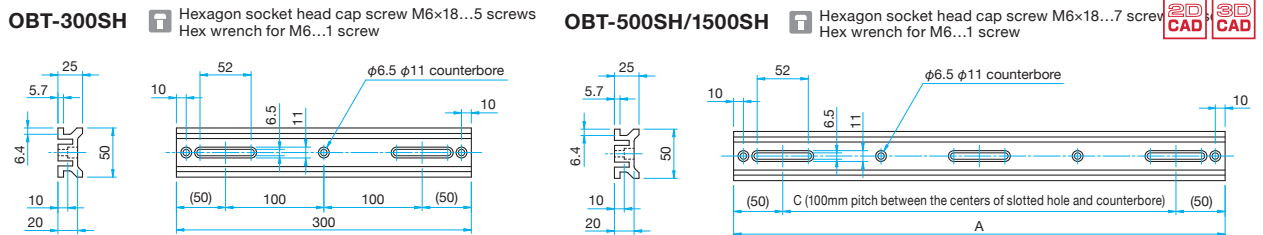
| Part Number | A [mm] | Weight [kg] |      |
|-------------|--------|-------------|------|
|             |        | Metric      | Inch |
| OBA-300SH   | 300    | 0.9         |      |
| OBA-500SH   | 500    | 1.5         |      |
| OBA-800SH   | 800    | 2.3         |      |
| OBA-1000SH  | 1,000  |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

## OBT-SH/SUU

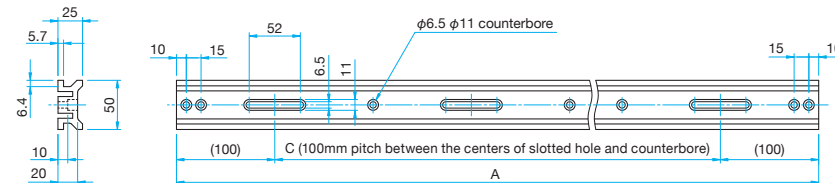
RoHS Catalog Code W6023

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

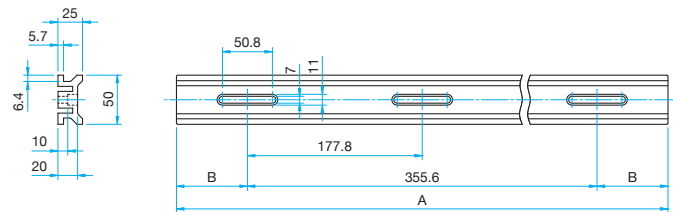
### Outline Drawing



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 M6×18...2 screws/3 screws/6 screws (EC) Hexagon socket head cap screw 1/4-20UNC×3/4...2 screws/3 screws/6 screws (UC)



### Guide

- Contact our International Sales Division for information on scale installation and length change.

### Specifications

| 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         |

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# Carriers for Medium Optical Rails Feet for Large Optical Rails

CAA-LS/MB  
OBT

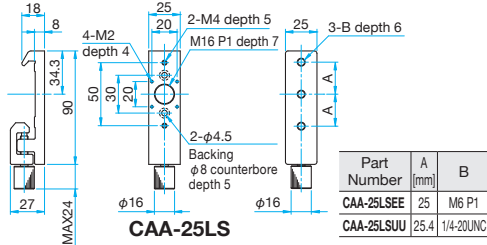
CAA-LS/MB

RoHS Catalog Code W6024

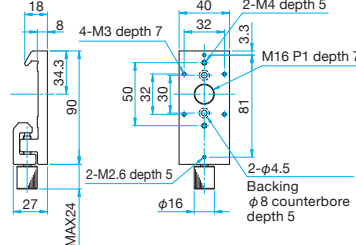
Carriers mount on a medium optical rail, slide freely and can be locked in place at any location.

## Outline Drawing

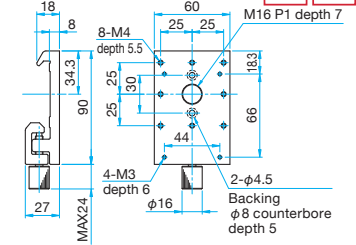
### CAA-25LS/25LSEE/25LSUU



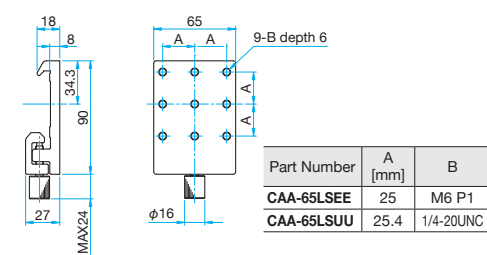
### CAA-40LS



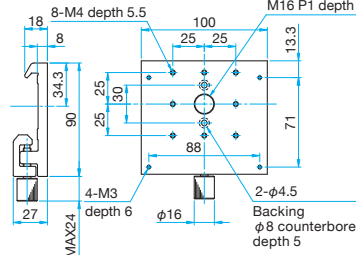
### CAA-60LS



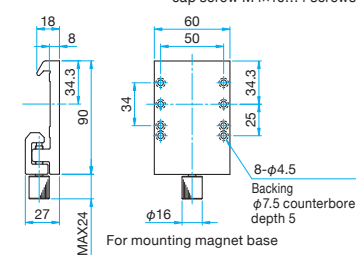
### CAA-65LSEE/65LSUU



### CAA-100LS



### CAA-60MB



## Specifications

Primary material: Aluminum  
Finish: Black Anodized

| Part Number |            |            | Compatible Optical Rails                      | Weight [kg] |
|-------------|------------|------------|---|-------------|
| M4          | M6         | INCH       |   |             |
| CAA-25LS    | CAA-25LSEE | CAA-25LSUU | Medium optical rails (OBA-SH)                 | 0.1         |
| CAA-40LS    | -          | -          |   | 0.13        |
| CAA-60LS    | -          | -          | Medium low-profile optical rails (OBT-SH/SUU) | 0.17        |
| CAA-100LS   | CAA-65LSEE | CAA-65LSUU |   | 0.19        |
| CAA-60MB    | -          | -          | Reference D024                                | 0.28        |
|             |            |            |   | 0.18        |

## OBT

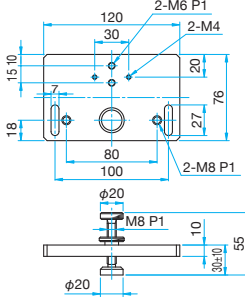
RoHS Catalog Code W6026



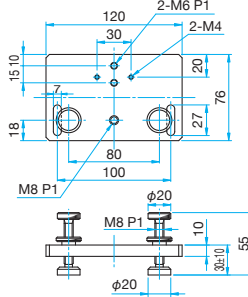
● OBT is a thin plate type of Rail Feet; it is made to be matched with OBT-LH/SH optical rail. It allows +/-10mm height adjustment.

## Outline Drawing

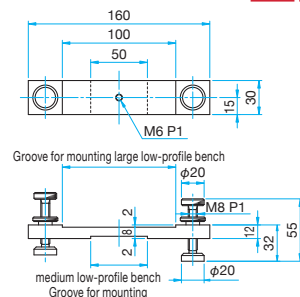
### OBT-LS



### OBT-LW



### OBT-WL



## Specifications

Primary material: Aluminum  
Finish: Black Anodized

| Part Number | Compatible Optical Rails  | Weight [kg] |
|-------------|---|-------------|
| OBT-LS      | Large low-profile optical rails (OBT-LH) Reference D022   | 0.28        |
| OBT-LW      | Medium low-profile optical rails (OBT-SH) Reference D024  | 0.33        |
| OBT-WL      | Large low-profile optical rails (OBT-LH) Reference D022<br>Medium low-profile optical rails (OBT-SH) Reference D024 | 0.24        |

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# Magnet Base Flexible Post Holder

**MB**  
**MB-MX/MX-AM**

**MB**

**RoHS** Catalog Code **W6027**

Designed to arbitrarily lay out and secure optical-system units on top of an optical vibration isolator or laboratory bench (flat surface of magnetic material).



- Easy attachment/detachment by switching the lever ON/OFF.
- Secured on any position regardless of tapped holes.
- Have an M16P1 tapped hole at the center of the top surface to accommodate a post holder, post, or the like. (Note that the MB-S40 and MB-L40 have an M6 tapped hole.)

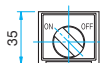
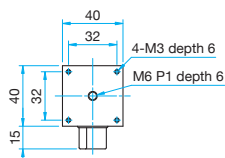
**Guide**

- ▶ A dedicated adapter (SP-130) is available for attaching a stage or the like to the top surface of the MB-CB-PB. [Reference](#) D060
- ▶ The opposite surface of the ON/OFF switching lever of MB-PG can be also magnetically secured.
- ▶ Aluminum crossed roller slide stages with magnet base (TAG-601, TAG-602) that integrate a magnet base with manual stage are also available. [WEB Reference](#) [Catalog Code](#) W7013, W7034

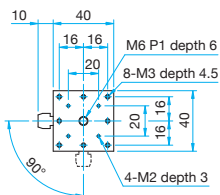


**Outline Drawing**

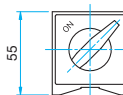
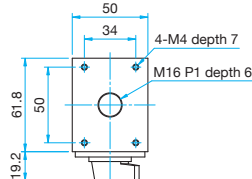
**MB-S40**



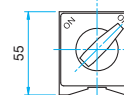
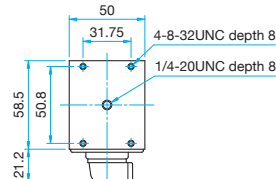
**MB-L40**



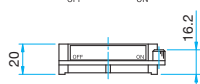
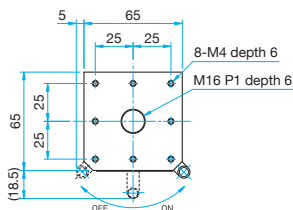
**MB-CB-PB**



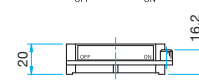
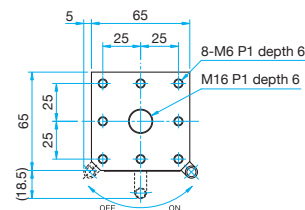
**MB-BUU**



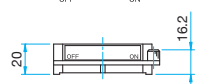
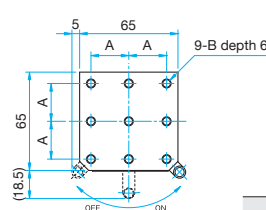
**MB-L65C-M4**



**MB-L65A-M6**

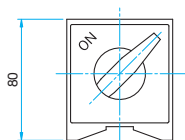
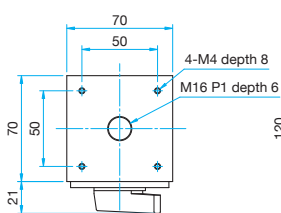


**MB-L65C-M6EE / MB-L65C-1/4UU**

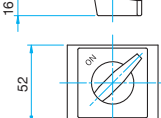
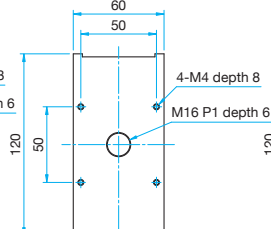


| Part Number   | A (mm) | B         |
|---------------|--------|-----------|
| MB-L65C-M6EE  | 25     | M6 P1     |
| MB-L65C-1/4UU | 25.4   | 1/4-20UNC |

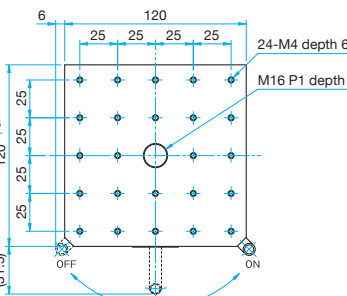
**MB-PH**



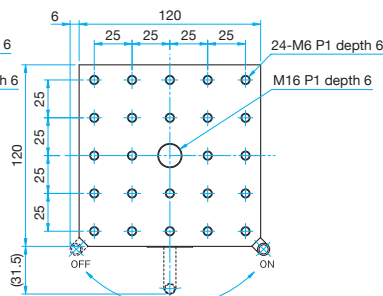
**MB-PG**



**MB-L120-M4**



**MB-L120-M6**



### Specifications

| M4         | Part Number  |               | Holding Force [N] | Weight [kg] |
|------------|--------------|---------------|-------------------|-------------|
|            | M6           | INCH          |                   |             |
| 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 | —            | —             | 147 (about 15kgf) | 0.5         |
| —          | MB-L65C-M6EE | MB-L65C-1/4UU | 147 (about 15kgf) | 0.6         |
| —          | MB-L65A-M6   | —             | 490 (about 50kgf) | 0.6         |
| MB-PH      | —            | —             | 490 (about 50kgf) | 2.5         |
| MB-PG      | —            | —             | 294 (about 30kgf) | 2.4         |
| MB-L120-M4 | MB-L120-M6   | —             | 294 (about 30kgf) | 2.4         |

## MB-MX/MX-AM

RoHS Catalog Code W6038



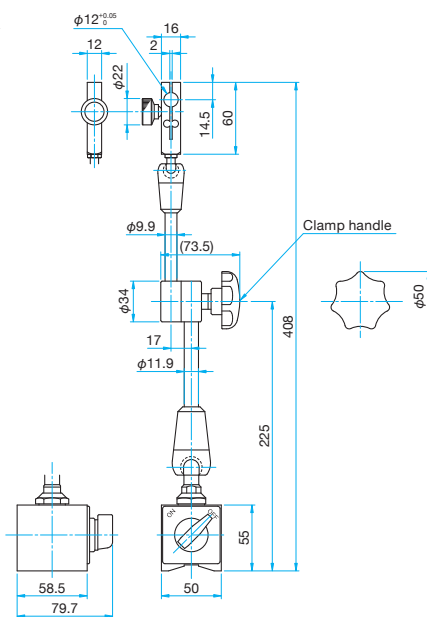
**Post Clamp can be moved freely by loosening the clamp handle to reposition post mounted holders quickly and easily.**

- The cam style clamping mechanism enables easy locking and release of the whole joint with a simple 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 optical vibration isolators or laboratory benches (which are flat and made of magnetic material).
- The MX-AM is an external thread type, which has an M16P1 external thread on its bottom that enables direct installation on base plates.

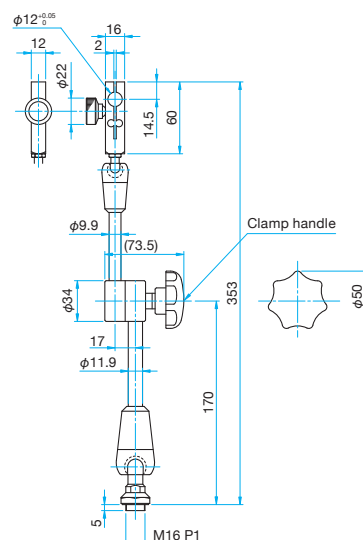


### Outline Drawing

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

Designed to mount optical units on vibration isolators or laboratory benches with M6 tapped holes.



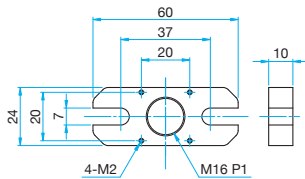
- Have an M16P1 tapped hole at the center of the top surface to accommodate a post or post holder. Other tapped holes on the top surface allow a stage or other equipment to be secured.
- Slots allow position adjustment when mounting to a breadboard. Slots allow use on both metric and inch patterns.
- The base clamp (BSC-60) allows a base plate to be secured at an arbitrary position where there is no tapped hole. [Reference](#) D028



Outline Drawing

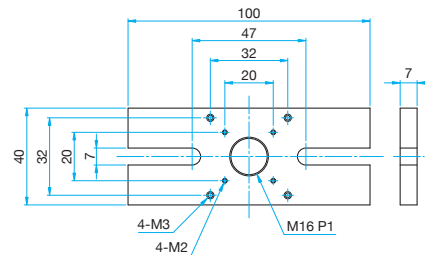
BSP-2460

- Hexagonal socket headcap screw M6x18...2 screws
- Flat washer



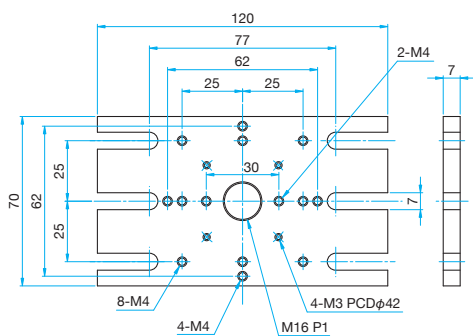
BSP-40100

- Hexagonal socket headcap screw M6x14...2 screws
- Flat washer



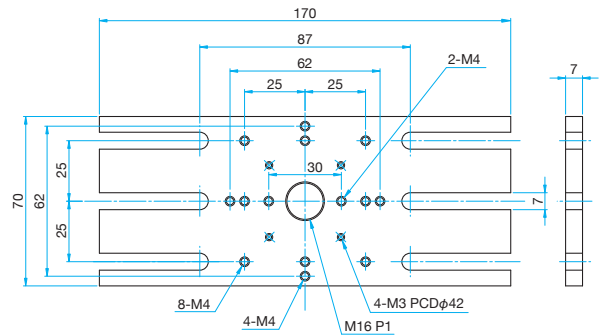
BSP-70120

- Hexagonal socket headcap screw M6x14...6 screws
- Flat washer



BSP-70170

- Hexagonal socket headcap screw M6x14...6 screws
- Flat washer



| M6          | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--|
| Part Number | Weight [kg]  |
| BSP-2460    | 0.027  |
| BSP-40100   | 0.06   |
| BSP-70120   | 0.13   |
| BSP-70170   | 0.18   |

| M6/INCH     | Primary material: Aluminum<br>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   |



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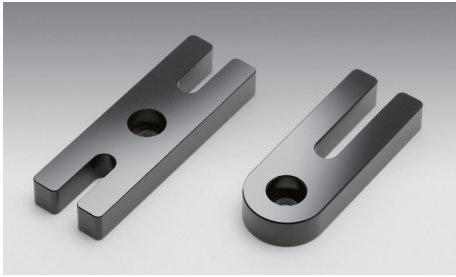
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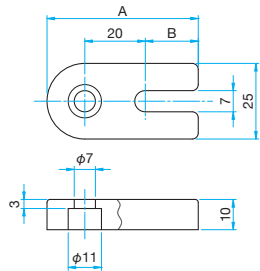
Tools



### Outline Drawing

#### FBP-50UU/65UU

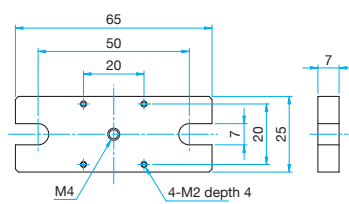
- Hexagonal socket headcap screw M6x8, M6x18...1 pieces each (EC)
- Hexagonal socket headcap screw 1/4-20UNCx5/16, 1/4-20UNCx3/4...1 pieces each (US)



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

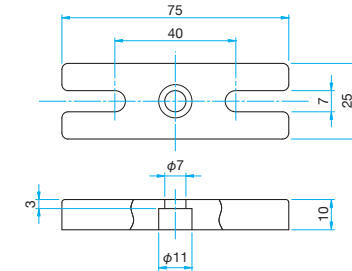
#### BSP-65EE

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



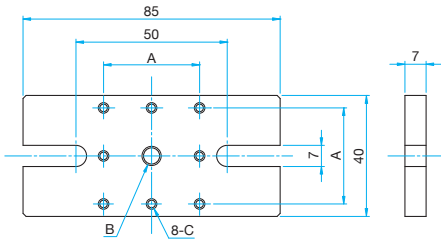
#### FBP-75UU

- 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)



#### BSP-85EE/85UU

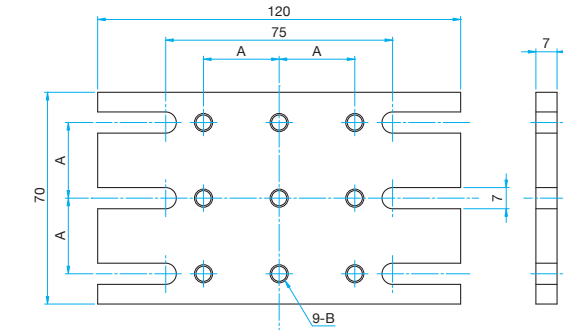
- Hexagonal socket headcap screw M6x15...2 screws (85EE)
- Hexagonal socket headcap screw 1/4-20UNCx5/8...2 screws (85UU)



| 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.

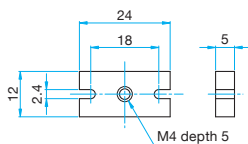
### Guide

- Optical baseplates (OBB) with M2 tapped holes are also available. [Reference](#) D033

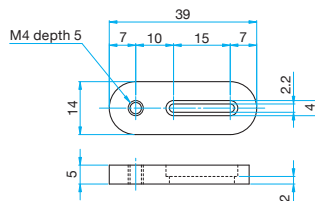
| Specifications | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|--|
|                | Weight [kg]  |
| BSP-24         | 0.004  |
| BSP-39         | 0.006  |
| BSP-50         | 0.016  |

### Outline Drawing

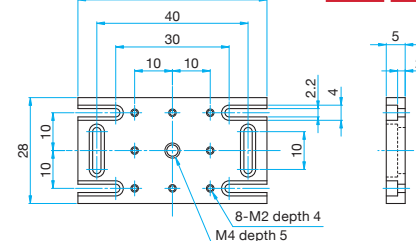
- BSP-24** Pan head screw M2x8...2 screws  
Flat washer



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



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



# Base Clamps M6 Conversion Adapters

BSC  
AD-M6

BSC

RoHS Catalog Code W6029

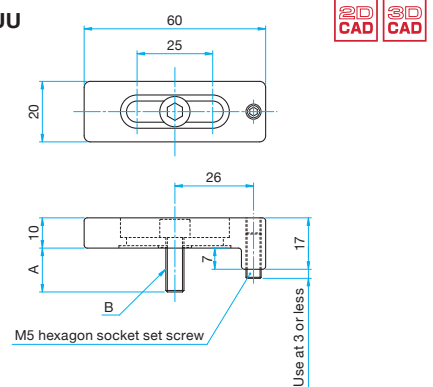
Clamp for use with BSP series M6 base plates.



- Can be used to secure base plates or other equipment with a plate-shaped protrusion on its bottom surface.
- Clamps plate thicknesses of 7 – 10mm.

## Outline Drawing

BSC-60/60UU



## Guide

- An M6 base plate is normally secured on top of a vibration isolator or laboratory bench using an M6 bolt with a long-notched section. This base clamp allows fixing of the base plate at an arbitrary position even when there is no 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

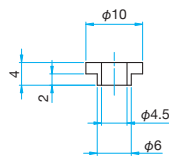
### M6-M4 Conversion Adapters

- 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                |

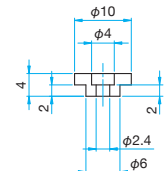
### M6-M2 Conversion Adapters

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

## Outline Drawing



AD-M6-M2

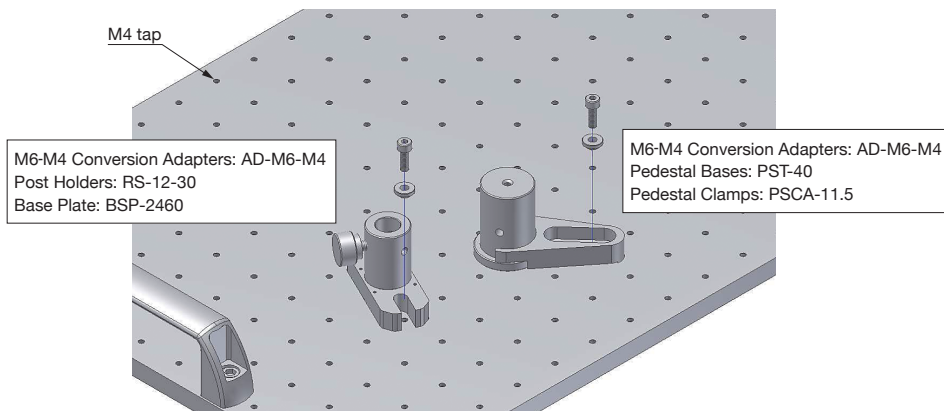


## Specifications

Primary material: Aluminum  
Finish: Black Anodized

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

## Example of Use of Conversion Adapters



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

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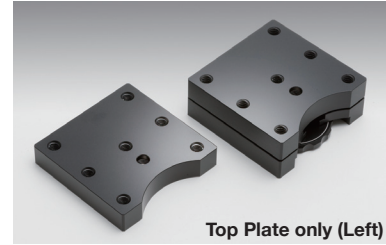
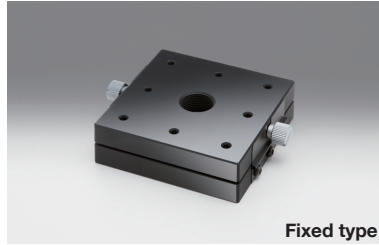
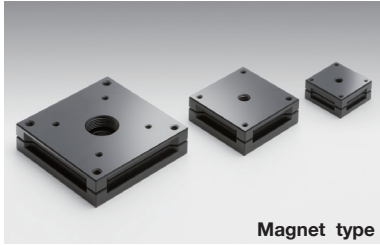
Brackets

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**Kinematic base consisting of upper and lower plates, where the top plate secures a holder or equipment while the bottom plate is fixed on an optical breadboard.**

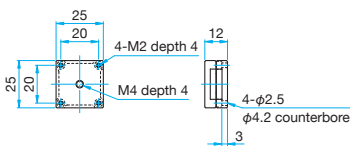
- Accurate positional repeatability is achieved by matching the holes on the upper plate to the three steel balls embedded in the lower plate.
- There is a type to be fixed with a strong magnet, and with fixation clamp screw or knurling.
- The magnet type of REP series (□ 25,40,60 mm) can be quickly exchanged by a powerfully forced connection. It is realized the reproducibility of less than 100µrad.
- Always secure the lower plate with screws.



## Outline Drawing

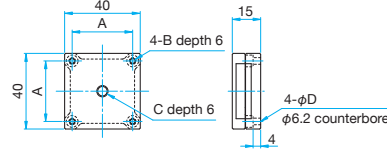
### REP-25

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



### REP-40/40UU

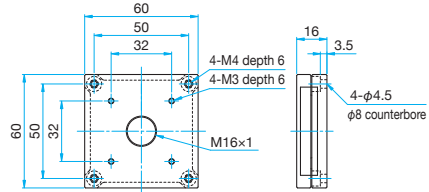
Hexagonal socket head cap screw M3×8...4 screws (40)  
Hexagonal socket head cap screw 6-20UNC×5/16...4 screws (40UU)



| 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       |

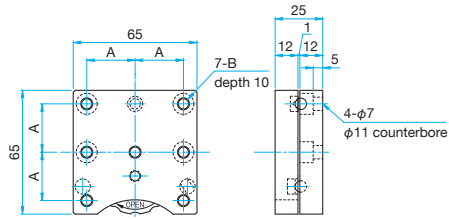
### REP-60

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



### REP-65EE/65UU

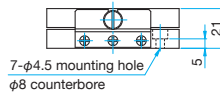
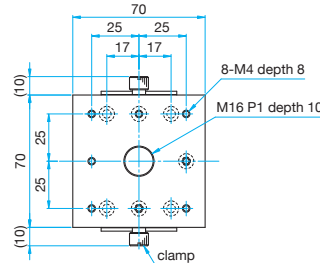
Hexagonal socket head cap screw M6×12...4 screws (65EE)  
Hexagonal socket head cap screw 6-20UNC×5/16...4 screws (65UU)



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

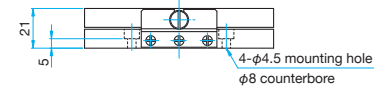
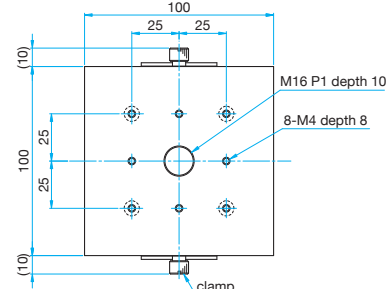
### REP-70

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

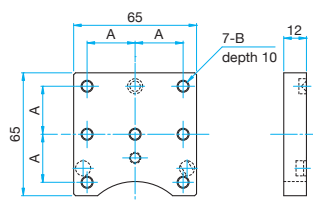


### REP-100

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



### REP-65PEE/65PUU



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

### 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

▶ Mount (FMB-40) for direct installation of mirror holders that enables switching of optical path is also available.

Reference C018

▶ We offer top plates for replacement other than catalog products. WEB reference

▶ WEB Reference Catalog Code W6031

### Attention

▶ The magnet type of REP series (□25, 40, 60 mm) has a weak structure to offset load for magnetic force retention. It is recommended to use that the center of gravity is matched to the center of the top plate.

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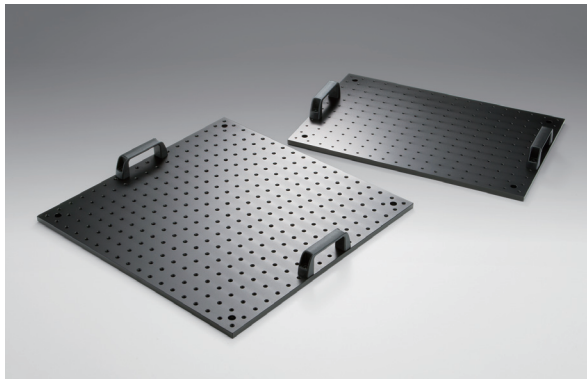
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## Black Anodized Aluminum Base Plates. Space-saver on vibration isolators or laboratory benches when configuring optical units.



- Attached grips allow easy moving and storage.
- M4 or M6 tapped holes (through holes) are arranged in a matrix form spaced 25×25mm.
- Flatness is 0.2mm.

### Guide

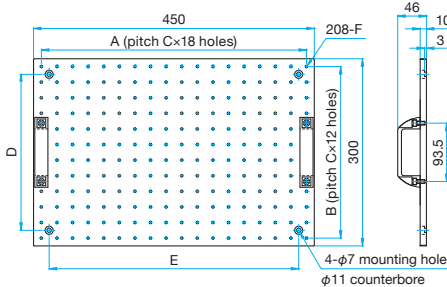
- ▶ One set of the optical baseplate includes two grips and an aluminum plate.
- ▶ Custom sizes not listed in the catalog can be purchased. Contact our International Sales Division for more information.



### Outline Drawing

#### OBC-3045 Series

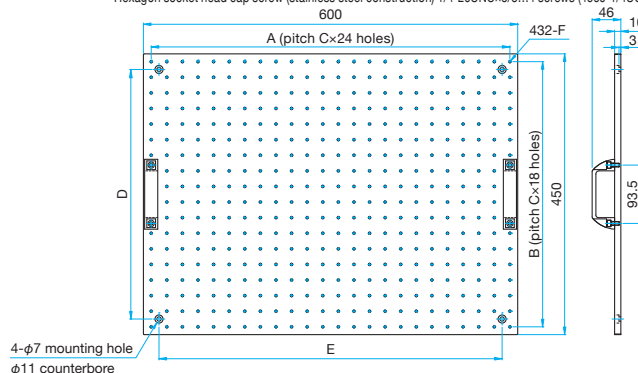
- Hexagon socket head cap screw (stainless steel construction) M6×10...4 screws (3045, 3045-M6)
- Hexagon socket head cap screw (stainless steel construction) 1/4-20UNC×3/8...4 screws (3045-1/4UU)



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

#### OBC-4560 Series

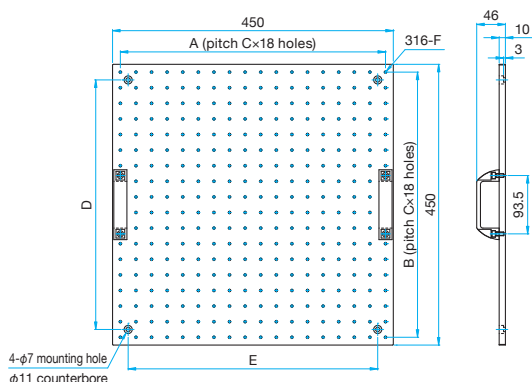
- Hexagon socket head cap screw (stainless steel construction) M6×10...4 screws (4560-M6)
- Hexagon socket head cap screw (stainless steel construction) 1/4-20UNC×3/8...4 screws (4560-1/4UU)



| Part Number           | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F         |
|-----------------------|--------|--------|--------|--------|--------|-----------|
| <b>OBC-4560</b>       | 575    | 425    | 25     | 400    | 550    | M4        |
| <b>OBC-4560-M6</b>    | 575    | 425    | 25     | 400    | 550    | M6        |
| <b>OBC-4560-1/4UU</b> | 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         |
|-----------------------|--------|--------|--------|--------|--------|-----------|
| <b>OBC-4545</b>       | 425    | 425    | 25     | 400    | 400    | M4        |
| <b>OBC-4545-M6</b>    | 425    | 425    | 25     | 400    | 400    | M6        |
| <b>OBC-4545-1/4UU</b> | 431.8  | 431.8  | 25.4   | 406.4  | 406.4  | 1/4-20UNC |

### Specifications

Primary material: Aluminum  
Finish: Black Anodized

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



● The OBC model has M4 tapped holes on 25×25mm matrix, and the OBB model has M2 tapped holes on 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** D030
- ▶ We will accept production of sizes not listed in the catalog. Contact our International Sales Division for more information.

### Attention

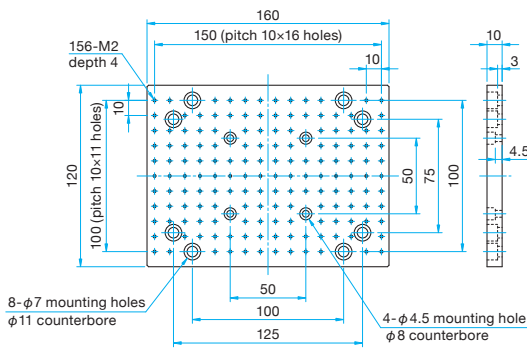
- ▶ Note that this product does not come with grips.



### Outline Drawing

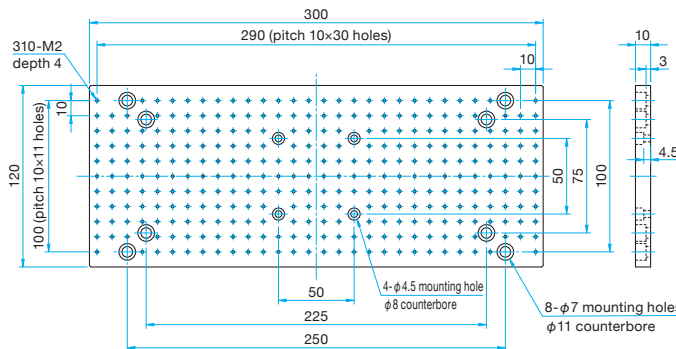
#### OBB-1216

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



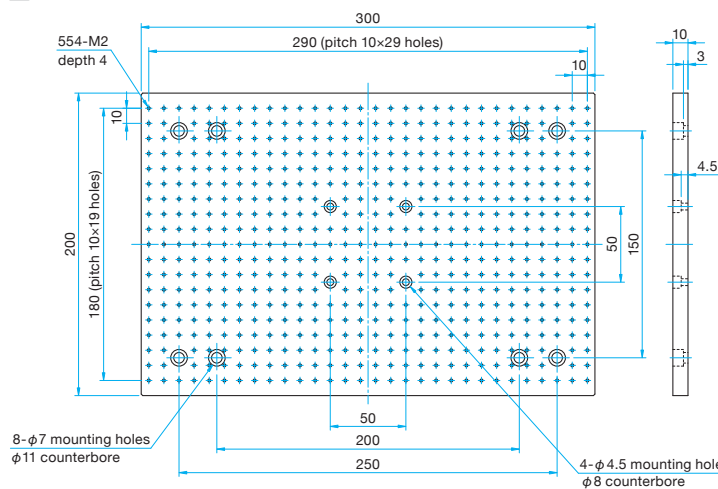
#### OBB-1230

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

Primary material: Aluminum  
Finish: Black Anodized

| Part Number | Size [mm] | Tapped Holes on Top Surface | 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 (□25mm)

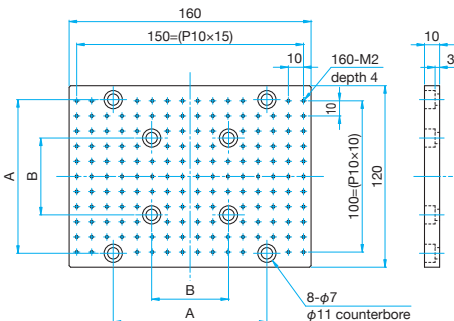
## OBB/OBC MSP-25



### Outline Drawing

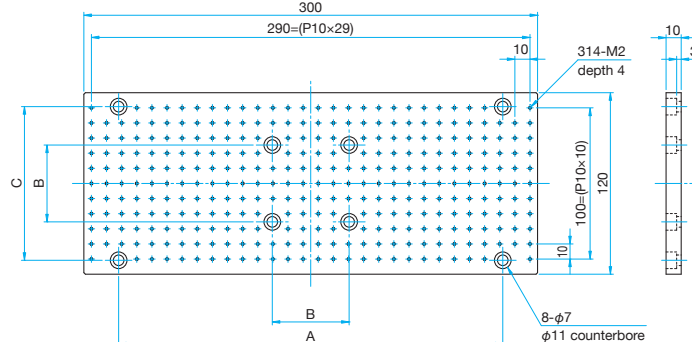
#### OBB-121EE/121UU

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



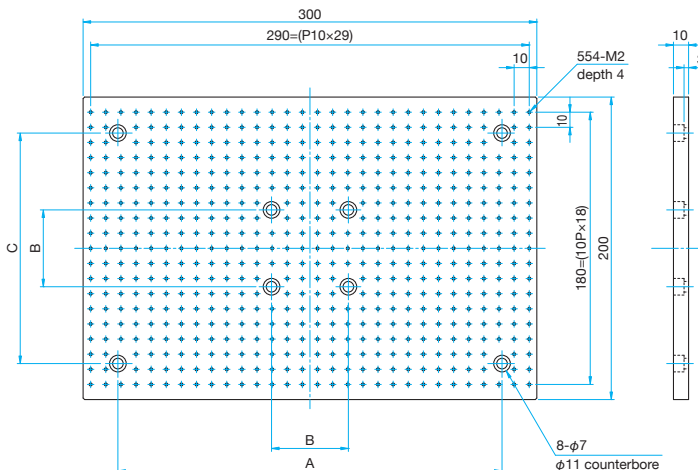
#### OBB-123EE/123UU

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



#### OBB-203EE/203UU

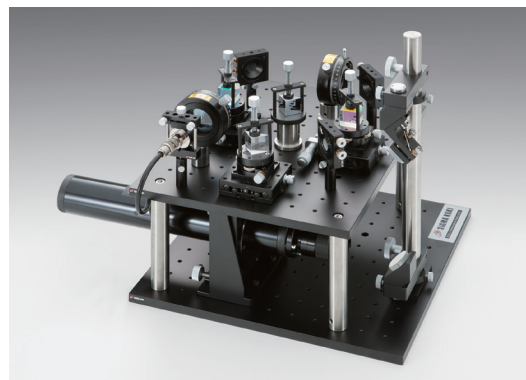
- Hexagonal socket headcap screw M6×10...4 screws (203EE)
- Hexagonal socket headcap screw 1/4-20UNC×3/8...4 screws (203UU)



### Specifications

| 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        |

Primary material: Aluminum  
Finish: Black Anodized



Example of baseplate usage

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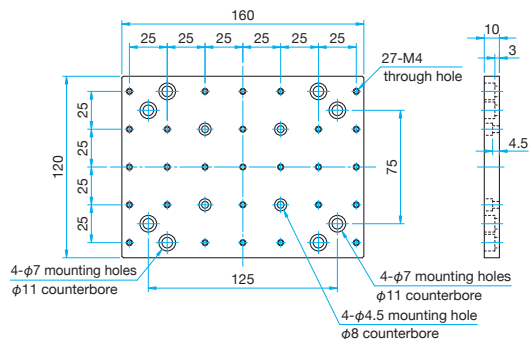
Tools



## Outline Drawing

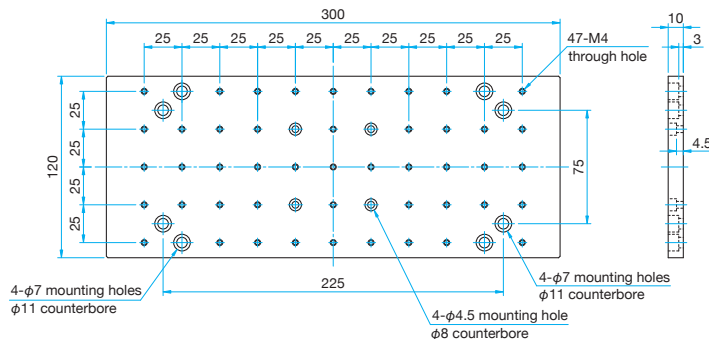
### OBC-1216

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



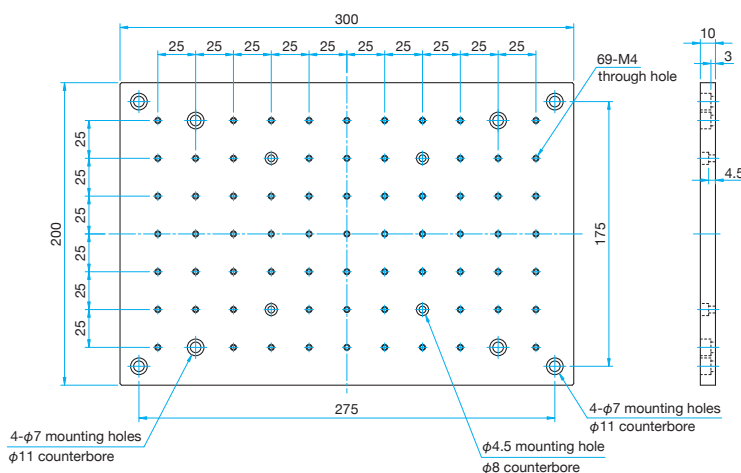
### OBC-1230

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 |           |                             | Primary material: Aluminum<br>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

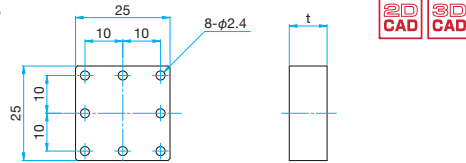
Spacers for □25mm positioning stages.



- Used when the height (thickness) of combined stages is insufficient for the preset optical axis.
- Different thickness is available with 5mm increments.

## Outline Drawing

### MSP-25



## Specifications

| Specifications |                  |             | Primary material: Aluminum<br>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 International Sales Division for more information.

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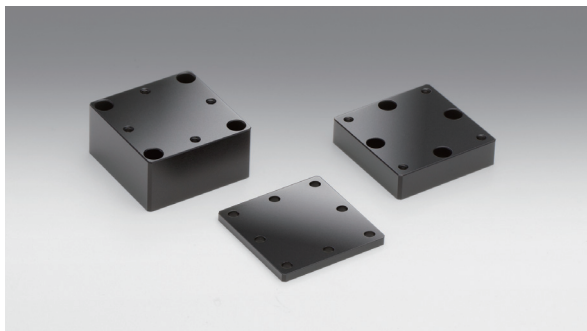
# Aluminum Spacers (□40mm)

MSP-40



Catalog Code W6035

□40mm spacers for adjusting the height of optical axis.



- Used when the stage height (thickness) is lower than the preset optical axis.
- Thickness is available starting with 1mm, enabling adjustment to arbitrary height.

### Guide

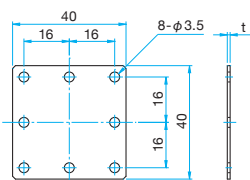
- ▶ Custom sizes not listed in the catalog can be purchased. Contact our International Sales Division for more information.



### Outline Drawing

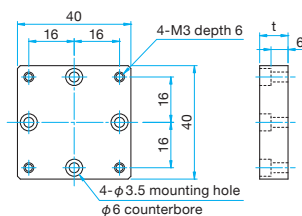
#### MSP-40\*\*

- Hexagon socket head cap screw M3x8...4 screws (4002, 4003)
- Hexagon socket head cap screw M3x10...4 screws (4005)



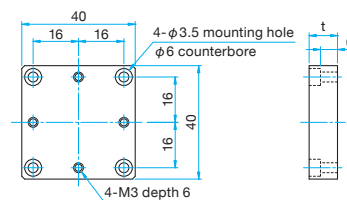
#### MSP-40\*\*A

- Hexagon socket head cap screw M3x10...4 screws

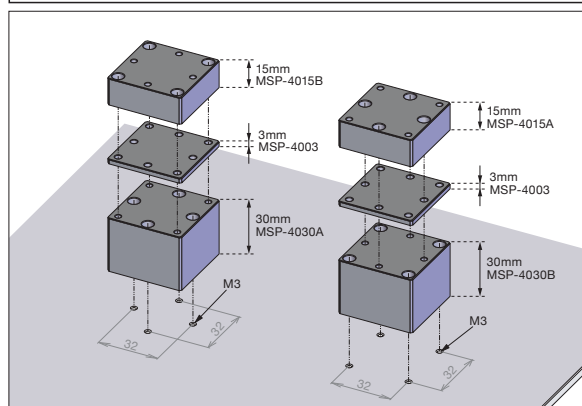


#### MSP-40\*\*B

- Hexagon socket head cap screw M3x10...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              | MSP-4005  |
|             |                 | Lower                    | MSP-4010A             | MSP-4010B |
|             | 20              | Upper                    | MSP-4010              | MSP-4010A |
|             |                 | Lower                    | MSP-4010A             | MSP-4010B |
|             | 25              | Upper                    | MSP-4010              | MSP-4010A |
|             |                 | Lower                    | MSP-4015A             | MSP-4015B |
|             | 30              | Upper                    | MSP-4010              | MSP-4010A |
|             |                 | Lower                    | MSP-4020A             | MSP-4020B |
|             | 35              | Upper                    | MSP-4010              | MSP-4010A |
|             |                 | Lower                    | MSP-4025A             | MSP-4025B |
|             | 40              | Upper                    | MSP-4010              | MSP-4010A |
|             |                 | Lower                    | MSP-4030A             | MSP-4030B |
|             | 45              | Upper                    | MSP-4015              | MSP-4015A |
|             |                 | Lower                    | MSP-4030A             | MSP-4030B |
| 50          | Upper           | MSP-4020                 | MSP-4020A             |           |
|             | Lower           | MSP-4030A                | MSP-4030B             |           |
| 55          | Upper           | MSP-4025                 | MSP-4025A             |           |
|             | Lower           | MSP-4030A                | MSP-4030B             |           |
| 60          | Upper           | MSP-4030                 | MSP-4030A             |           |
|             | Lower           | MSP-4030A                | MSP-4030B             |           |
| 65          | Upper           | MSP-4030                 | MSP-4030A             |           |
|             | Middle<br>Lower | MSP-4005<br>MSP-4030A    | MSP-4005<br>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        |

□60mm spacers for adjusting the height of optical axis.



- Used when the stage height (thickness) is lower than the preset optical axis.
- Thickness is available starting with 1mm, enabling adjustment to arbitrary height.

### Guide

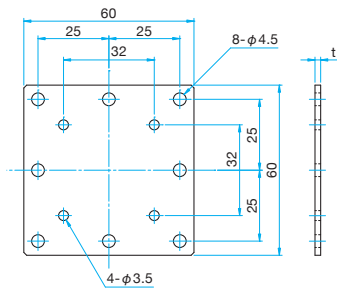
- ▶ Custom sizes not listed in the catalog can be purchased. Contact our International Sales Division for more information.



### Outline Drawing

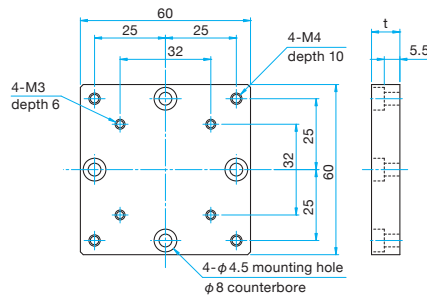
#### MSP-60\*\*

- Hexagonal socket head cap screw M4x8...4 screws (6002, 6003)
- Hexagonal socket head cap screw M4x10...4 screws (6005)



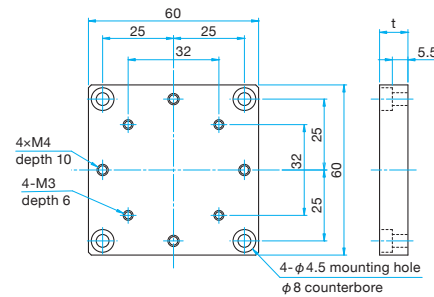
#### MSP-60\*\*A

- Hexagonal socket head cap screw M4x10...4 screws



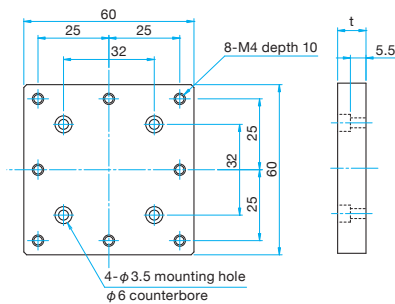
#### MSP-60\*\*B

- Hexagonal socket head cap screw M4x10...4 screws

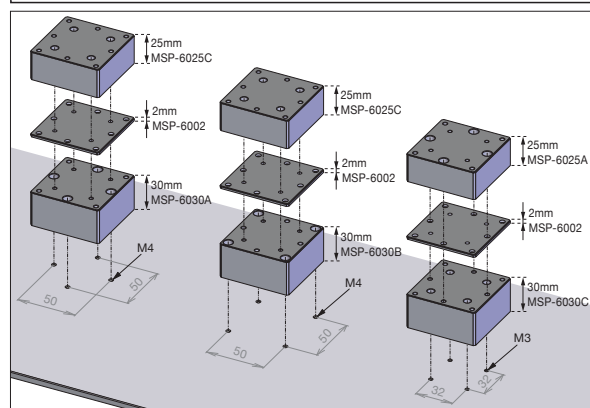


#### MSP-60\*\*C

- Hexagon socket head cap screw M3x10...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  | MSP-6005  | MSP-6005  |
|             |        | Lower                    | MSP-6010A | MSP-6010B | MSP-6010C |
|             | 20     | Upper                    | MSP-6010C | MSP-6010C | MSP-6010A |
|             |        | Lower                    | MSP-6010A | MSP-6010B | MSP-6010C |
|             | 25     | Upper                    | MSP-6010C | MSP-6010C | MSP-6010A |
|             |        | Lower                    | MSP-6015A | MSP-6015B | MSP-6015C |
|             | 30     | Upper                    | MSP-6010C | MSP-6010C | MSP-6010A |
|             |        | Lower                    | MSP-6020A | MSP-6020B | MSP-6020C |
|             | 35     | Upper                    | MSP-6010C | MSP-6010C | MSP-6010A |
|             |        | Lower                    | MSP-6025A | MSP-6025B | MSP-6025C |
|             | 40     | Upper                    | MSP-6010C | MSP-6010C | MSP-6010A |
|             |        | Lower                    | MSP-6030A | MSP-6030B | MSP-6030C |
|             | 45     | Upper                    | MSP-6015C | MSP-6015C | MSP-6015A |
|             |        | Lower                    | MSP-6030A | MSP-6030B | MSP-6030C |
|             | 50     | Upper                    | MSP-6020C | MSP-6020C | MSP-6020A |
|             |        | Lower                    | MSP-6030A | MSP-6030B | MSP-6030C |
|             | 55     | Upper                    | MSP-6025C | MSP-6025C | MSP-6025A |
| Lower       |        | MSP-6030A                | MSP-6030B | MSP-6030C |           |
| 60          | Upper  | MSP-6030C                | MSP-6030C | MSP-6030A |           |
|             | Lower  | MSP-6030A                | MSP-6030B | MSP-6030C |           |
| 65          | Upper  | MSP-6030C                | MSP-6030C | MSP-6030A |           |
|             | Middle | MSP-6005                 | MSP-6005  | MSP-6005  |           |
|             | Lower  | MSP-6030A                | MSP-6030B | 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        |

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## Platform for adjusting the height of optical axis.



- Made up of two aluminum plates and four stainless steel posts (finish: none).
- Posts are made to desired length in 1mm increments between 11mm and 100mm.
- The SP-124 is compatible with post holders and □60mm positioning stages.
- The UP can be directly secured on an optical breadboard.

### Guide

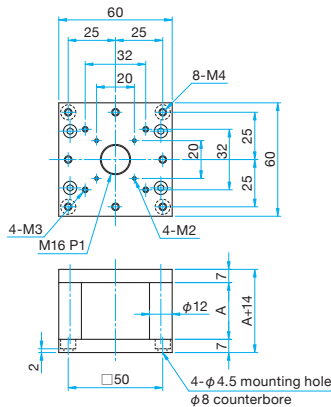
- ▶ Make sure to specify the post length A (A=11mm or longer) at the time of ordering.
- ▶ Custom Posts longer than the lengths listed in the catalog (but within 300mm) as well as additional processing are available. Contact our International Sales Division for more information. Use [WEB Reference](#) [Catalog Code](#) W6037 the Question Sheet for Height Alignment Platform.

### Attention

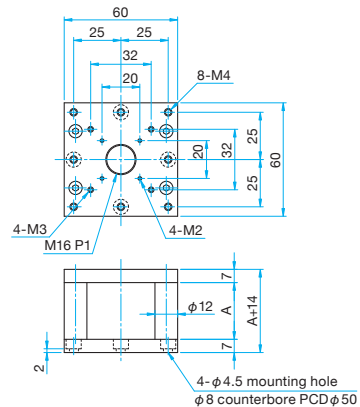
- ▶ Weight does not include the weight of struts.

### Outline Drawing

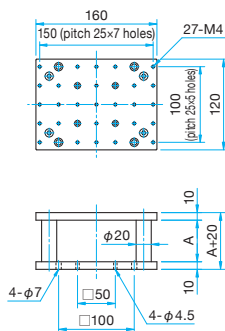
**SP-124-1** Hexagonal socket head cap screw M4x6...4 screws



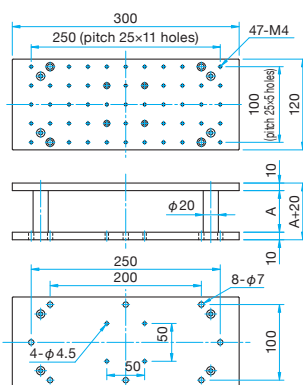
**SP-124-2** Hexagonal socket head cap screw M4x6...4 screws



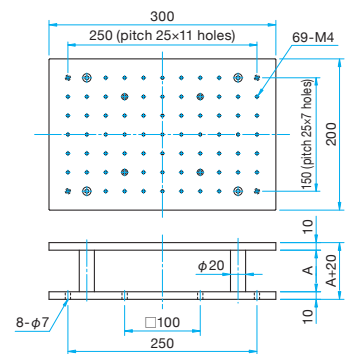
**UP-1216** Hexagon socket head cap screw M6x18...4 screws, M4x16...4 screws



**UP-1230** Hexagon socket head cap screw M6x18...4 screws, M4x16...4 screws



**UP-2030** Hexagon socket head cap screw M6x18...4 screws, M4x16...4 screws



### Specifications

| Part Number | Strut Length [mm]                            | Weight [kg] | Plate material: Aluminum<br>Plate Finish: Black Anodized |
|-------------|--|-------------|--|
| SP-124-1    | 12 ≤ A ≤ 100                                 | 0.12        |  |
| SP-124-2    | * 101mm or longer will be quoted separately. | 0.12        |  |
| UP-1216     |  | 0.99        |  |
| UP-1230     | 11 ≤ A ≤ 100                                 | 1.89        |  |
| UP-2030     | * 101mm or longer will be quoted separately. | 3.18        |  |

# Post Stand Guide

It is available for a fine-turn to any height, by using a post stand with the lineup of 15 – 76.2mm height and a dedicated spacer.



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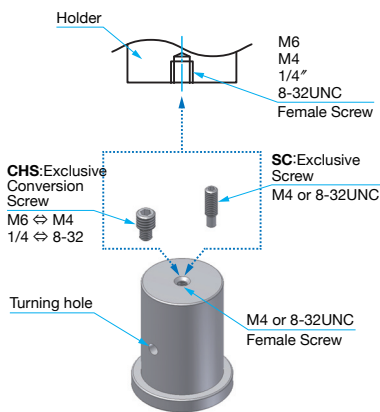
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## Pedestal Bases | PST

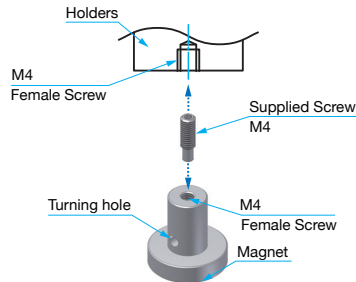
### <Connection Example>



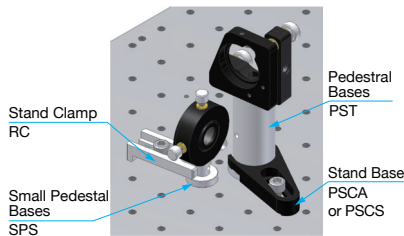
| Holder Side | Supplied Screw | Post Stand Side |
|-------------|----------------|-----------------|
| M6          | CHS-M4-M6-9    | M4              |
| M4          | SC-M4-18EE     | M4              |
| 1/4"        | CHS-1/4-8U-9   | 8-32UNC         |
| 8-32        | SC-8U-18UU     | 8-32UNC     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

## Small Pedestal Bases | SPS

### <Connection Example>



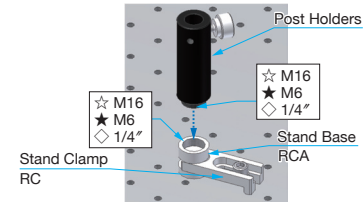
### <SPT/SPS Usage Example>



## 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.

■ **Combination of Small Pedestal Adapters (PS-SP series) and Screw (SC series)** [Reference](#) D041, D050

| PS-SP Height [mm] | Combined Use Case (Part number) | Available SC screw Length [mm] | Protruded Screw Height [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-2SP×2                        | 21                             | 4                           |
| 4.5               | PS-0.5SP+PS-2SP×2               | 21                             | 3.5                         |

● The height of optical axis of our holder has been designed in millimeters (mm). If you want to set inch size, the post stand for spacer (PS-SPUU series) can be used.

(Example) 2 "[50.8 mm] (optical axis height) = 25 mm (holder optical axis height) + 25 mm (post stand height) + 0.8 mm (spacer thickness for post stand thickness)

■ **Using the post stand for spacer (PS-SPUU series)**

| Optical Axis Height |       | Available Spacer (Part number) |
|---------------------|-------|--------------------------------|
| [INCH]              | [mm]  |                                |
| 1.5                 | 38.1  | PS-3.1SPUU                     |
| 2                   | 50.8  | PS-0.8SPUU                     |
| 2.5                 | 63.5  | PS-3.5SPUU                     |
| 3                   | 76.2  | PS-1.2SPUU                     |
| 3.5                 | 88.9  | PS-3.9SPUU                     |
| 4                   | 101.6 | PS-1.6SPUU                     |
| 4.5                 | 114.3 | PS-4.3SPUU                     |

# Posts holders Pedestal Clamps

PST  
PSC/PSCA/PSCS

## PST

RoHS Catalog Code W6039

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

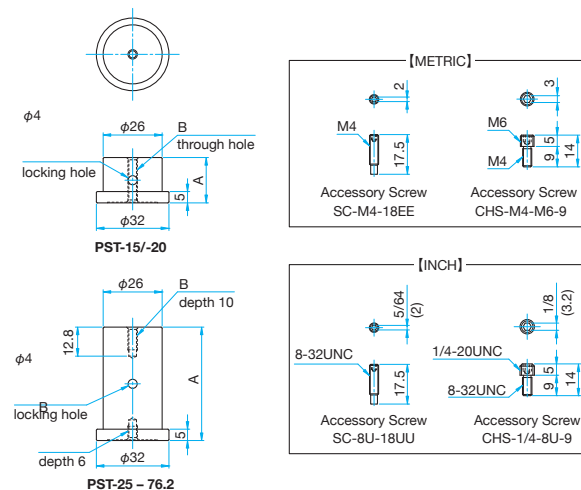


### Outline Drawing



#### 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)



| Specifications |                   | Primary material: Stainless Steel<br>Finish: None |             |
|----------------|-------------------|---|-------------|
| Part Number    |                   | A [mm]  | Weight [kg] |
| METRIC<br>B=M4 | INCH<br>B=8-32UNC |   |             |
| 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        |

## PSC/PSCA/PSCS

RoHS Catalog Code W6040

Clamps for Pedestal Bases (PST). Used in combination with a Pedestal, the Pedestal can be freely positioned and secured on a vibration isolator or laboratory bench.

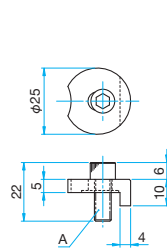
- The PSC-10 is used in pairs, for clamping a Pedestal at two positions, and the PSCA / PSCS is used for clamping at a single position.
- Since there is a long hole in the PSCA / PSCS, it is possible for coarse adjustment of the horizontal direction.
- After alignment, tighten the attached M6 screw to secure the Pedestal.



### Outline Drawing

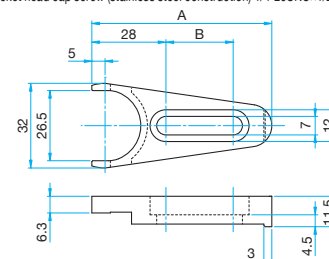


#### PSC-10/10UU



#### 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 |           | Primary material: Stainless Steel<br>Finish: None |  |
|----------------|-----------|---|--|
| Part Number    | A         | Weight [kg]                                       |  |
| PSC-10         | M6 P1     | 0.065   |  |
| PSC-10UU       | 1/4-20UNC | 0.065   |  |

| Specifications |             | Primary material | Finish         | Weight [kg] |
|----------------|-------------|------------------|----------------|-------------|
| Part Number    |             |                  |                |             |
| 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 Adapters Small Pedestal Base / Small Pedestal Adapters

SP-T / PS-SP  
SPS / SPS-SP

## SP-T

RoHS Catalog Code W6041



**Auxiliary parts for Pedestal Bases. Secured on top of a Pedestal for height adjustment of part of a small optical system or an optical unit.**

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

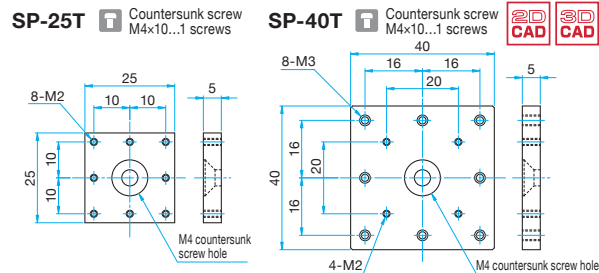
### Guide

- ▶ Use pedestal adapters (PS-SP) for fine height adjustment that cannot be managed with adapter plates for pedestal.
- ▶ Custom sizes or shapes not listed in the catalog. Contact our International Sales Division for more information.

### Specifications

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

### Outline Drawing

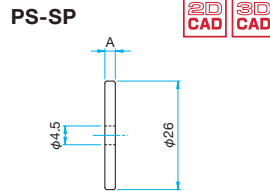
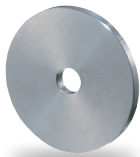


## PS-SP

RoHS Catalog Code W6042

- Auxiliary spacer plates for pedestal (SP-T). This product enables fine adjustment that cannot be managed with adapter plates for pedestal.
- Attached between the Pedestal and adjustable adapter kits, and tightened together.

### Outline Drawing



### Guide

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

### Specifications

| Part Number | A [mm] | Weight [kg] | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--------|-------------|--|
| 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-2.5SPUU  | 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       |  |

## SPS

RoHS Catalog Code W6079

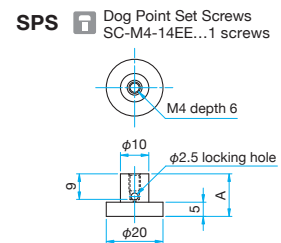
**Small post stand is suitable for connection of an adaptive optics mount holder of  $\phi 15$  mm or less.**

- It is easy to make any positioning and is fixed by post clamp (RC series).
- As an optical unit of low optical axis, it can be placed directly on the vibration isolator and optical bench.



| Part Number | A [mm] | Weight [kg] | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--------|-------------|--|
| SPS-12.5    | 12.5   | 0.01        |  |
| SPS-15      | 15     | 0.013       |  |
| SPS-20      | 20     | 0.017       |  |

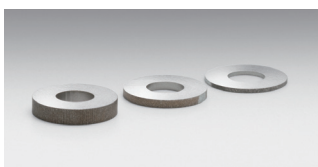
### Outline Drawing



## SPS-SP

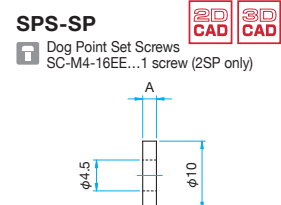
RoHS Catalog Code W6080

**As a spacer for small post stand, it corrects the deviation of the height of the optical axis. Placing between the post stand and optical element mount holder, it is used after fixing with fastened together.**



| Part Number | A [mm] | Weight [kg] | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--------|-------------|--|
| SPS-0.5SP   | 0.5    | 0.0007      |  |
| SPS-1SP     | 1      | 0.0015      |  |
| SPS-2SP     | 2      | 0.003       |  |

### Outline Drawing



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# High Stability Ball Plunger Post Holders

BRS

RoHS

Catalog Code W6043

Used for height and rotational coarse/fine adjustment of a post-equipped holder. The hole shape was modified to hold a post with two lines and one point instead of one line and one point, offering improved holding stability compared to our conventional products.

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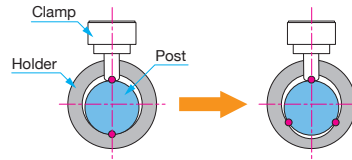
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- Fitted with a plunger to gently hold to post while the clamp is loosened, enabling smooth adjustment with one hand.
- By adjusting the screw pin at the bottom of post holder, the angle can be changed 90 degrees.
- Can be fixed on various places with replacement or addition of optional parts.



1 line and 1 point      2 lines and 1 point

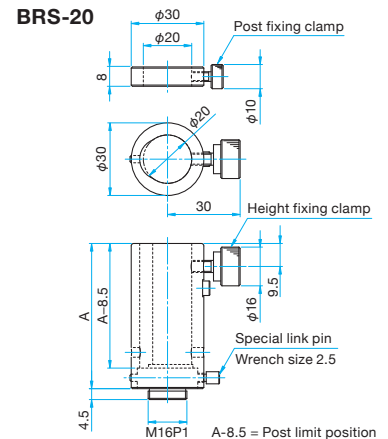
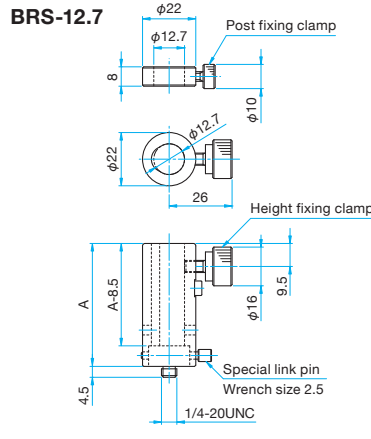
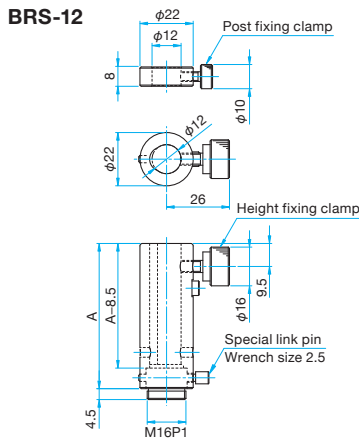


### Guide

▶ Clamp screws (RS-CB) can be purchased separately. [Reference](#) D045



### Outline Drawing

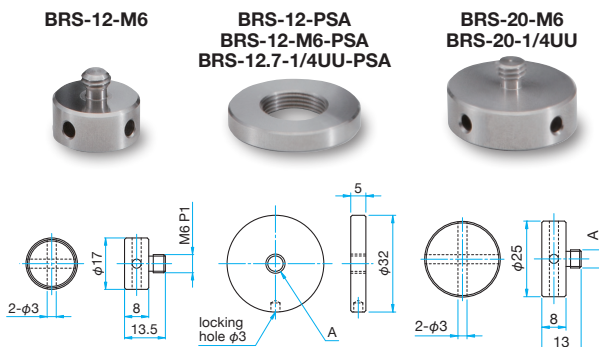


| Inner Diameter: 12                                   |        |             |
|--|--------|-------------|
| Primary material: Aluminum<br>Finish: Black Anodized |        |             |
| Part Number  | A [mm] | Weight [kg] |
| BRS-12-30  | 30     | 0.05        |
| BRS-12-40  | 40     | 0.06        |
| 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<br>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<br>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 Adapters for High Stability Type Post Holders | BRS



- Optional parts for high stability ball plunger post holders (BRS).
- M6xP1 conversion adapter (BRS-\*\*-M6) is required for directly securing on a vibration isolator.

| Specifications     |                         | Primary material: Stainless Steel<br>Finish: None |             |
|--------------------|-------------------------|---|-------------|
| Part Number        | Compatible Post Holders | A   | Weight [kg] |
| BRS-12-M6          | BRS-12                  | -   | 0.013       |
| BRS-12-PSA         | BRS-12                  | M6 P1   | 0.023       |
| BRS-12-M6-PSA      | BRS-12                  | M6 P1   | 0.02        |
| BRS-12.7-1/4UU-PSA | BRS-12.7                | 1/4-20UNC   | 0.02        |
| BRS-20-M6          | BRS-20                  | M6 P1   | 0.03        |
| BRS-20-1/4UU       | BRS-20                  | 1/4-20UNC   | 0.03        |

Used for height and rotational coarse adjustment of a post-equipped holder.



- To secure a holder, insert the post into the post holder, and clamp it using the clamp screw on the side and that of the intermediate ring on top.
- Loosening the clamp screw on the side of the main body while leaving that of the intermediate ring tightened allows coarse rotational adjustment around the vertical axis.
- With three tapped holes provided on the side of the main body for the clamp screw, it is possible to move the clamp screw to where it needs to be after setting up the post holder. (Note that the RS-30 model comes with three clamp screws as standard.)
- Fitted with an air-vent hole, enabling easy loading/unloading of a post.

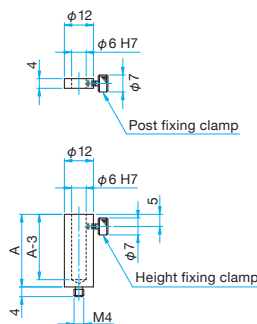
**Guide**

► Intermediate rings (TR) and clamp screws (RS-CB) can be purchased separately. [Reference](#) D044, D045

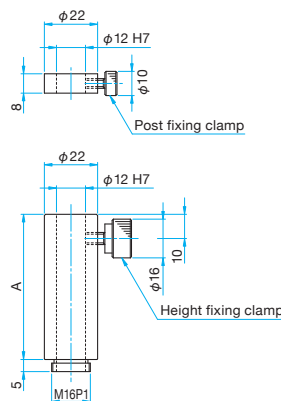


**Outline Drawing**

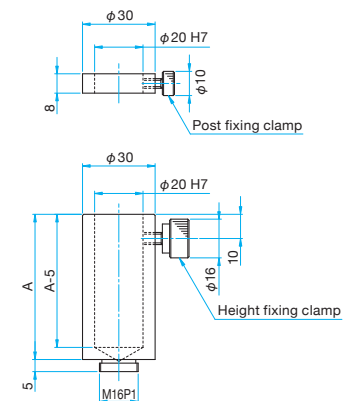
RS-6



RS-12



RS-20



| Inner Diameter: 6 |        | Primary material: Aluminum<br>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<br>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<br>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   |

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# Stand Base/Stand Clamp C shape intermediate ring

RCA/RC  
TRC

RCA/RC

RoHS

Catalog Code

W6081

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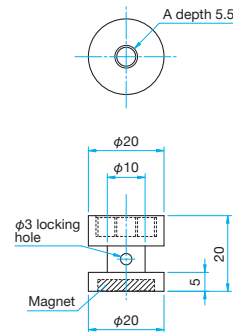
The base can be used to secure the rod stand in a small space.

- Rod stand base with a magnet and space-saving clamp to secure this stand base.
- Clamp for M6 taps with 25mm centers (RC-10-17) and clamp for M6 taps with 50mm centers (RC-10-25) are available.



## Outline Drawing

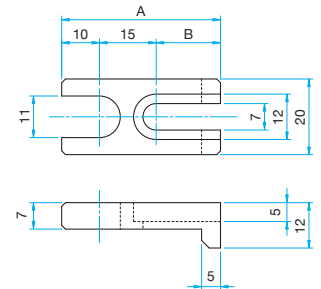
RCA



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

RC-10-17/25

Hexagon socket head cap screw (stainless steel construction) M6x15...1 screws, Flat washer



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

## Specifications

Primary material: Stainless Steel  
Finish: None

| 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 Clamp  | Stand Base (RCA-M16) | Hexagon socket head bolt M6x15 | 0.027       |
| RC-10-25    | Stand Clamp  | Stand Base (RCA-M16) | Hexagon socket head bolt M6x15 | 0.031       |

TRC

RoHS

Catalog Code

W6082

## Accessory parts for posts (RO)

- Prevent falling the post mounted on the post holders.
- C shape intermediate ring can be installed and fix the post after adjusting the height of optical path with holders.



## Specifications

Primary material: Aluminum  
Finish: Black Anodized

| Part Number | Inner Diameter [mm] | Quantity [Pieces] |
|-------------|---------------------|-------------------|
| TRC-12      | φ12                 | 5                 |
| TRC-12.7    | φ12.7               | 5                 |
| TRC-20      | φ20                 | 5                 |

## Guide

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

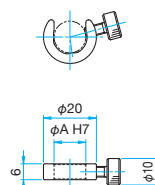
## Attention

- ▶ This product is delivered only by mail.



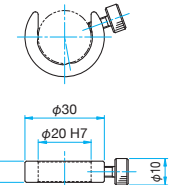
## Outline Drawing

TRC-12/12.7



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

TRC-20



# Clamp Screws (For post holders) Helicoidal 15mm Jacks / Helicoidal Post Holders

RS-CB  
HCS-H / RSN

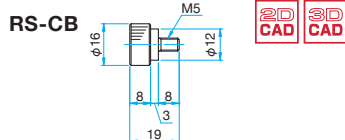
RS-CB

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.
- Use these screws as additions for post holders (RS model) that allow clamping with maximum three clamp screws to maximize holding strength.

### Outline Drawing



### Guide

- ▶ High stability ball plunger post holders (BRS), post holders (RS) [Reference](#) D042, D043

### Attention

- ▶ This product is delivered only by mail.

### Specifications

|  |                   |
|--|-------------------|
| Primary material: Brass<br>Finish: Chrome Plated |                   |
| Part Number                                      | Quantity [Pieces] |
| RS-CB  | 5                 |

HCS-H

RoHS Catalog Code W6047

Coarse adjustment Helicoidal Jack.

- The upper plate moves upward without rotation.
- With a helicoid screw system, smooth movement of about 15mm/rotation is possible.

### Example of Combinations

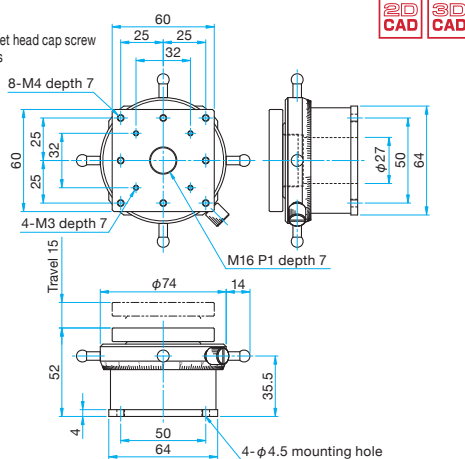


Helicoidal 15mm jack connected to a post holder.

### Outline Drawing

HCS-H

- Hexagonal socket head cap screw M4x8...4 screws



### Specifications

|  |                     |             |
|--|---------------------|-------------|
| Primary material: Aluminum<br>Finish: Black Anodized |                     |             |
| Part Number  | Load Capacity [N]   | Weight [kg] |
| HCS-H  | 19.6 (about 2.0kgf) | 0.45        |

RSN

RoHS Catalog Code W6048

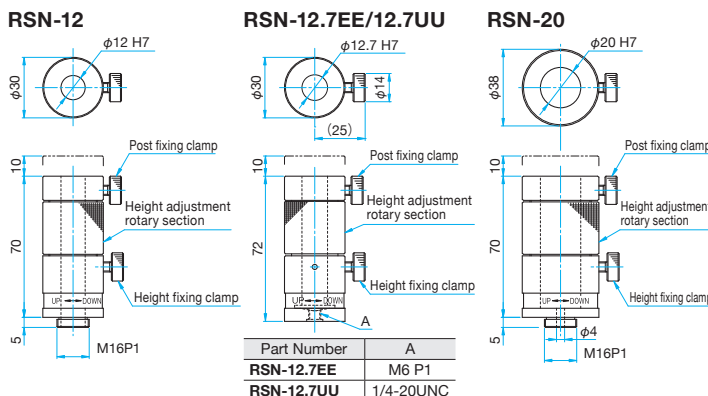
Helicoidal Post Holder.



- Turning the height-adjustment rotary section allows movement of 10mm (about 5mm/rotation) in the height direction.
- To secure a holder, insert its post into the post holder, and clamp it 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.
- Fitted with a helicoid screw, these post holders can move the installed post up and down without turning it.



### Outline Drawing



### Attention

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

### Specifications

|  |                     |               |             |
|--|---------------------|---------------|-------------|
| Primary material: Aluminum<br>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        |

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Rod Mount Modules attach directly to the vibration isolator or laboratory bench. By attaching Z bracket at a right angle to the unit, horizontal adjustment will also be possible.

- The rod (material: stainless steel, finish: none) incorporates a vibration damping material.

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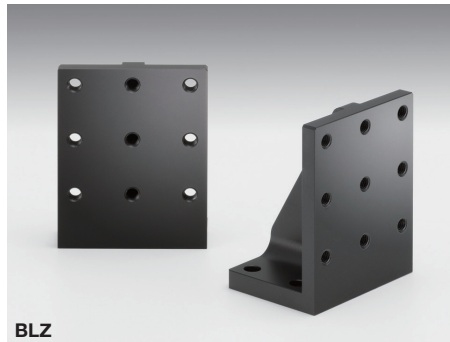
Brackets

Adapters

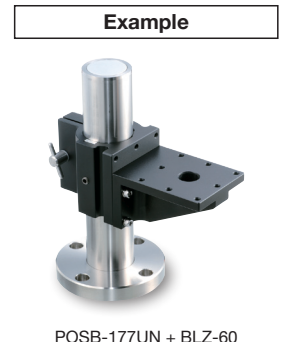
Tools



POSB-177UN



BLZ

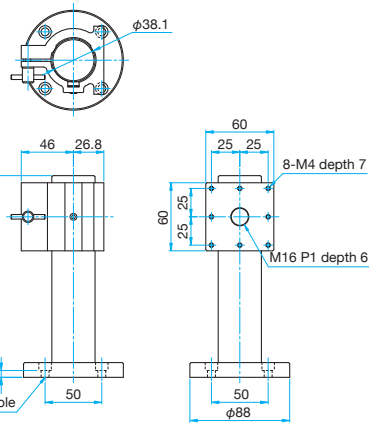


POSB-177UN + BLZ-60

## Outline Drawing

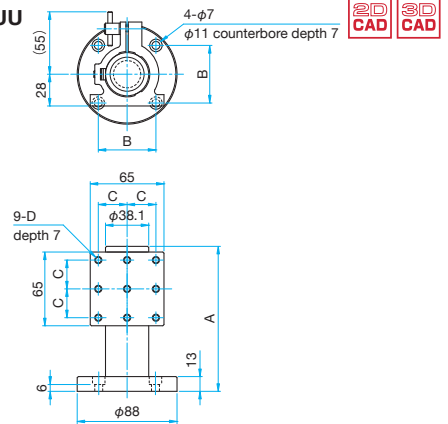
### POSB-UN

- Hexagon socket head cap screw M6x15...4 screws



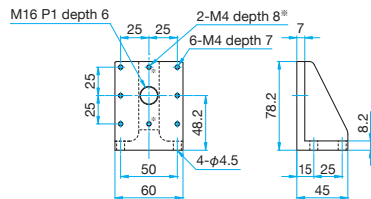
### POSB-\*\*UN\*\*EE/UU

- Hexagon socket head cap screw M6x15...4 screws



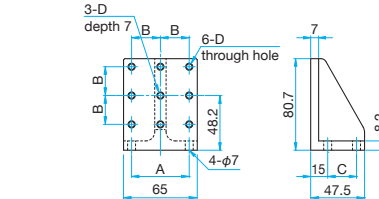
### BLZ-60

- Hexagon socket head cap screw M4x12...4 screws



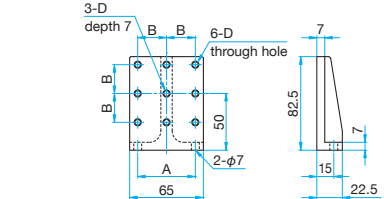
### BLZ-65EE/65UU

- Hexagon socket head cap screw M6x15...4 screws (EE)
- Hexagon socket head cap screw 1/4-20UNCx5/8...4 screws (UU)



### BLZ-6550EE/6550UU

- Hexagon socket head cap screw M6x12...2 screws (EE)
- Hexagon socket head cap screw 1/4-20UNCx1/2...2 screws (UU)



## Specifications

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

| Part Number    | A [mm] | B [mm] | C    | D         | Weight [kg] |
|----------------|--------|--------|------|-----------|-------------|
| POSB-177UN     | 177.8  | —      | —    | —         | 2.1         |
| POSB-355UN     | 355.6  | —      | —    | —         | 3.7         |
| POSB-177UN65EE | 177.8  | 50     | 25   | M6 P1     | 2.2         |
| POSB-355UN65EE | 355.6  | 50     | 25   | M6 P1     | 3.8         |
| POSB-177UN65UU | 177.8  | 50.8   | 25.4 | 1/4-20UNC | 2.2         |
| POSB-355UN65UU | 355.6  | 50.8   | 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        |

**Stainless steel pole with an M16P1 external thread at one end.  
Used in combination with a cross clamp or rotary cross clamp.**

- Can be combined with other posts via a cross clamp or rotary cross clamp.
- The PO-12 model is secured with a wrench using a 17mm flat adjacent to the M16P1 external thread.
- Having a through hole on the side, the PO-20 model is secured using a wrench inserted into the hole.



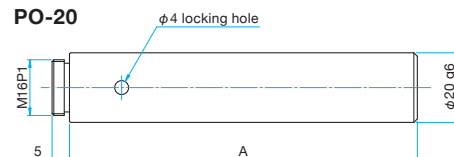
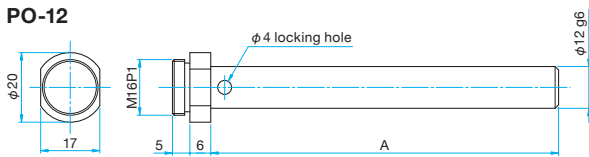
**Guide**

► Custom sizes not listed in the catalog and additional processing. Contact our International 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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**Stainless steel posts.** The RO model is fitted with an M4 or 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 M6P1 external thread.



- A hole through the side makes it easy to tighten using a wrench inserted into the hole.

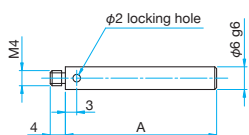
**Guide**

- ▶ Custom sizes not listed in the catalog are available. Use the Question Sheet for Special Order Posts.
- ▶ [WEB Reference](#) [Catalog Code](#) W6053
- ▶ The ROU model can be used to mount cameras with 1/4-20 tapped holes.
- ▶ High stability ball plunger post holders (BRS), post holders (RS) [Reference](#) D042, D043

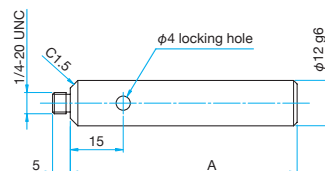


**Outline Drawing**

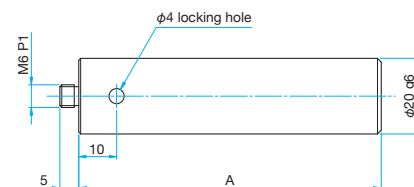
RO-6



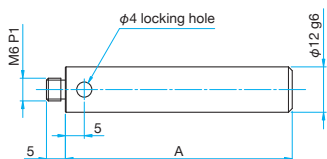
ROU-12



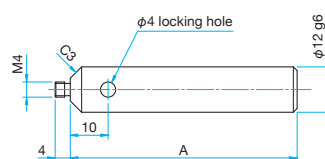
RO-20



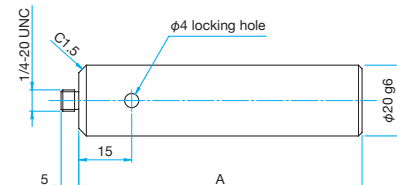
RO-12



ROC-12



ROU-20



| φ6 / φ12    |               | Primary material: Stainless Steel<br>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<br>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        |





### RO-EE/UU

Catalog Code **W6083**

#### Stainless steel posts.

In case of using this rod, without buying a new rod, it is possible to be set the holder or the like to the various optical axis height.

- The through-hole of the side of the rod is used to insert the hex wrench. By using this, it can be easily attached and detached to the holder or the like.
- Accessories can be selected from the type of M4 and M6 or inch type.



Example

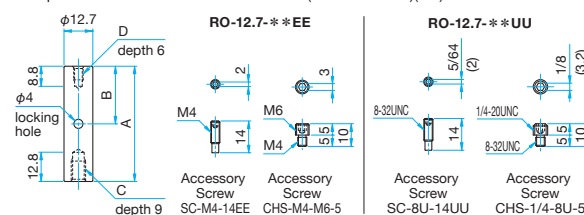
#### Guide

▶ Custom sizes not listed in the catalog are available. 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)(EE)
- special screw SC-8U-14UU...1 screws (CHS-1/4-8U-5)(UU)



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

#### Specifications

| Part Number     |                 | A<br>[mm] | Weight<br>[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          |

Primary material: Stainless Steel  
Finish: None

### CHS

Catalog Code **W6084**

CHS, as a conversion screw, is processed by different thread at both ends, in case of M6 or 1/4 inch for holder side and M4 or 8-32UNC for stand side are different, it can be used as a connecting screws for mounting.



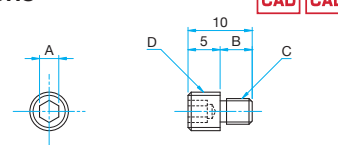
- We will prepare the two types of screws INCH and METRIC.
- If you have misplaced the included screws for extension rod, it can be purchased separately.

#### Guide

▶ It is used for extension rod (RO-12.7-\*\*-\*\*).

#### Outline Drawing

#### CHS



#### Specifications

| Part Number  | A<br>[mm] | B<br>[mm] | C       | D         | Quantity<br>[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                   |

Primary material: Stainless Steel  
Finish: None

# Dog Point Set Screws Cross Clamps

SC  
CCHN

SC

Catalog Code W6085

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We offer two types of M4 and 8-32UNC as a stop screw.

One end of the screw serves as a full dog point, and can be used as a screwing side.

In the case that the holder side and the stand side are same M4 or 8-32UNC, it will be used as the connecting screw. [Reference](#) D041

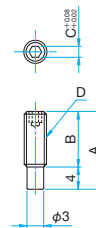


**Guide**

► It can also be used as an accessory of the rod (RO) and the post stand (PST).

**Outline Drawing**

SC



| Specifications |        |        |          |         | Primary material: Steel<br>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  |

CCHN



Catalog Code W6054

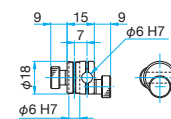
Cross clamps connect two posts at right angles.

- Its split clamp structure allows firm clamping.

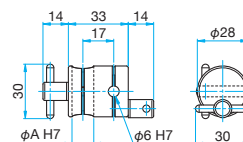


**Outline Drawing**

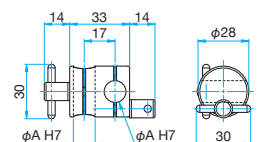
CCHN-6-6



CCHN-12-6/CCHN-12.7-6



CCHN-12-12/CCHN-12.7-12.7

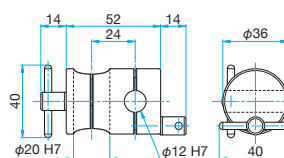


| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| CCHN-6-6       | 0.021       |  |
| CCHN-12-6      | 0.065       |  |
| CCHN-12.7-6    | 0.065       |  |
| CCHN-12-12     | 0.06        |  |
| CCHN-12.7-12.7 | 0.06        |  |
| CCHN-20-12     | 0.128       |  |
| CCHN-20-20     | 0.11        |  |

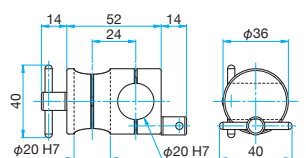
| Part Number | A (mm) |
|-------------|--------|
| CCHN-12-6   | 12     |
| CCHN-12.7-6 | 12.7   |

| Part Number    | A (mm) |
|----------------|--------|
| CCHN-12-12     | 12     |
| CCHN-12.7-12.7 | 12.7   |

CCHN-20-12



CCHN-20-20



Rotary cross clamps connect two posts at an arbitrary angle.

- Its split clamp structure allows firm clamping.

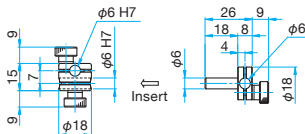


| Specifications |  | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|--|--|
| Part Number    |  | Weight [kg]  |
| CRHN-6-6       |  | 0.032  |
| CRHN-12-6      |  | 0.078  |
| CRHN-12.7-6    |  | 0.078  |
| CRHN-12-12     |  | 0.1  |
| CRHN-12.7-12.7 |  | 0.1  |
| CRHN-20-12     |  | 0.167  |
| CRHN-20-20     |  | 0.196  |

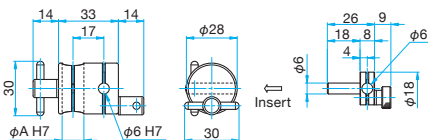


## Outline Drawing

### CRHN-6-6

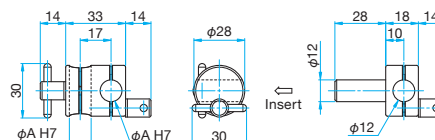


### CRHN-12-6/CRHN-12.7-6



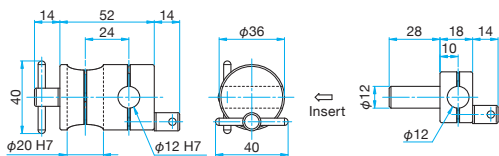
| Part Number | A (mm) |
|-------------|--------|
| CRHN-12-6   | 12     |
| CRHN-12.7-6 | 12.7   |

### CRHN-12-12/CRHN-12.7-12.7

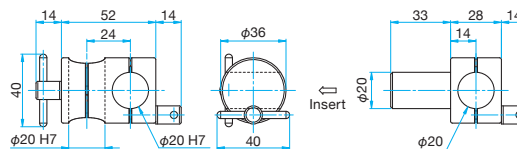


| Part Number    | A (mm) |
|----------------|--------|
| CRHN-12-12     | 12     |
| CRHN-12.7-12.7 | 12.7   |

### CRHN-20-12



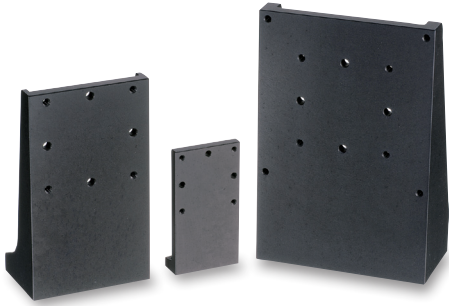
### CRHN-20-20



# Z Angle Brackets | ZBR

Bracket for mounting an X-axis stage at right angles to the mounting surface.

- An X-axis stage can be mounted to a vertical surface or used as a Z-axis stage by mounting the bracket to a horizontal surface.
- 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 for vertical face installation allow installation with the micrometer head on the topside.



**Attention**

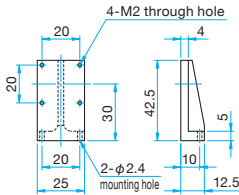
► The finish will be coarse since it is casting, but poses no technical problems.



**Outline Drawing**

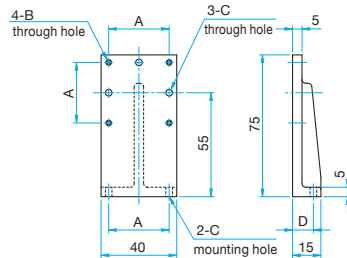
**ZBR-2530**

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



**ZBR-4055/4055UU**

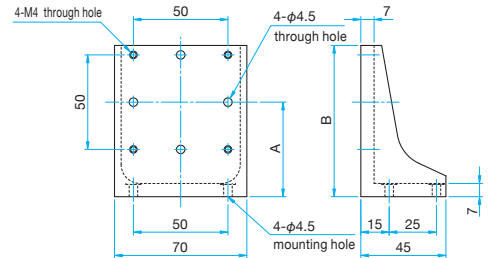
☐ Pan head screw M3x10...2 screws, Flat washer (4055)  
Hexagonal socket head cap screw 6-32UNCx3/8...2 screws (4055UU)



| 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 |

**ZBR-7050/7090**

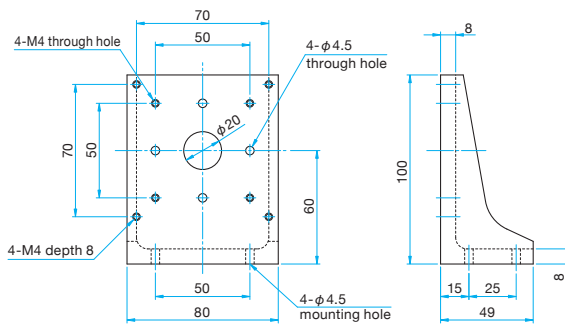
☐ Hexagonal socket head cap screw M4x12...4 screws (common to 2 types)



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

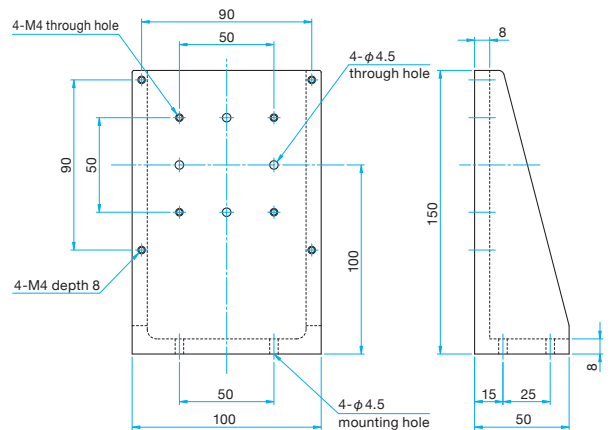
**ZBR-8060**

☐ Hexagonal socket head cap screw M4x12...4 screws



**ZBR-100100**

☐ Hexagonal socket head cap screw M4x12...4 screws



**Example of Combinations**



TSD-601S + ZBR-7050

**Specifications**

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        |

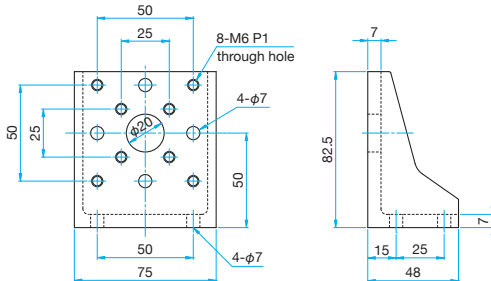
\* For ZBR-2530, primary material is brass, and finish is black coating.



**Outline Drawing**

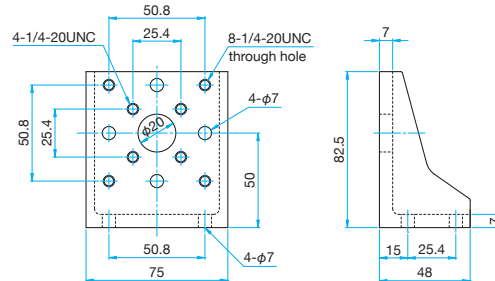
**ZBR-7550EE**

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



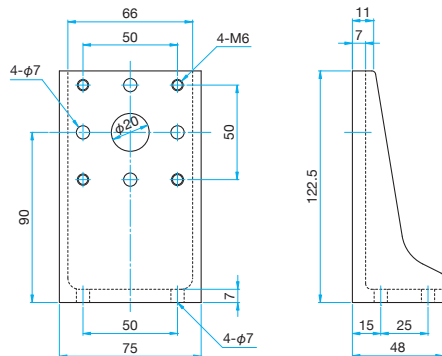
**ZBR-7550UU**

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



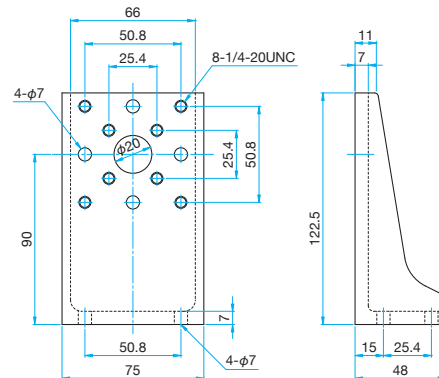
**ZBR-7590EE**

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



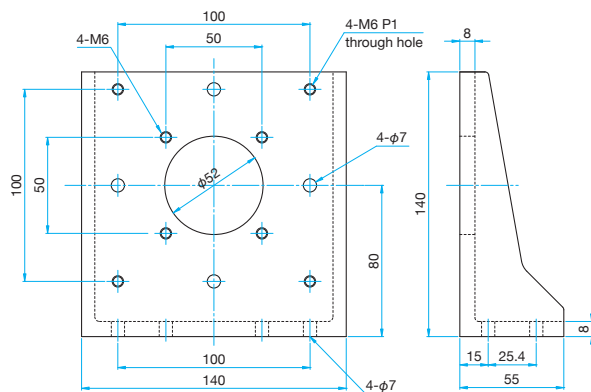
**ZBR-7590UU**

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



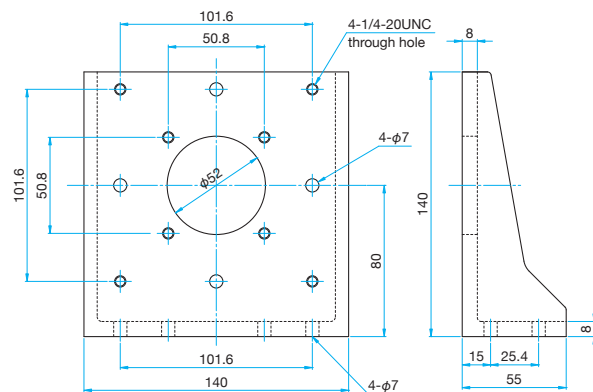
**ZBR-14080EE**

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



**ZBR-14080UU**

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



| Specifications |             |
|----------------|-------------|
| 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         |

Primary material: Aluminum  
Finish: Black Anodized

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# L Angle Brackets | LBR



Catalog Code **W6057**

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

### Attention

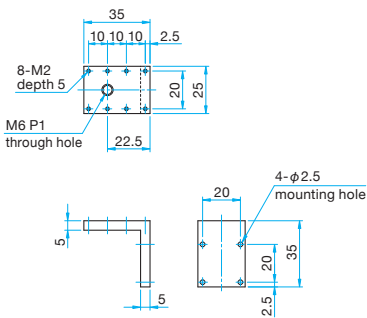
► These brackets may cause insufficient travel distance or physical interference of stages, depending on installation conditions. Confirm the dimensions before purchase.



### Outline Drawing

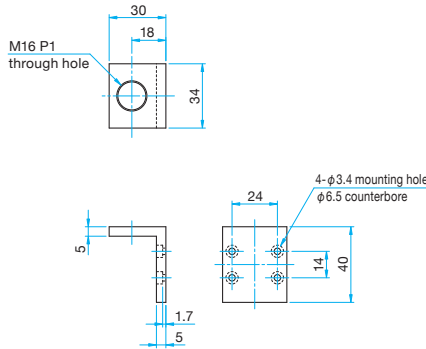
#### LBR-2535

■ Pan head screw M2×8...4 screws



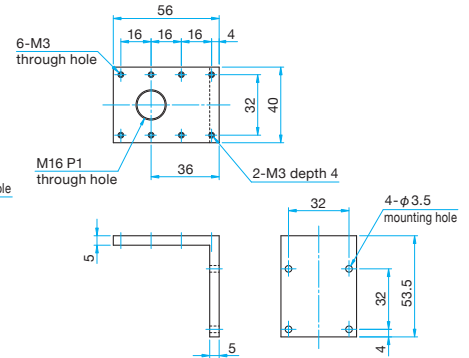
#### LBR-3440

■ Pan head screw M3×6...4 screws



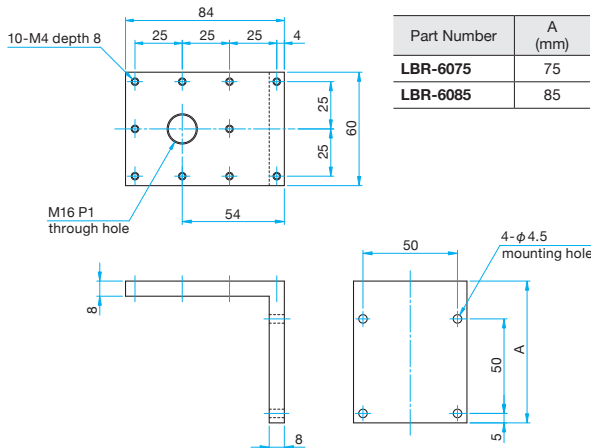
#### LBR-4053

■ Pan head screw M3×8...4 screws



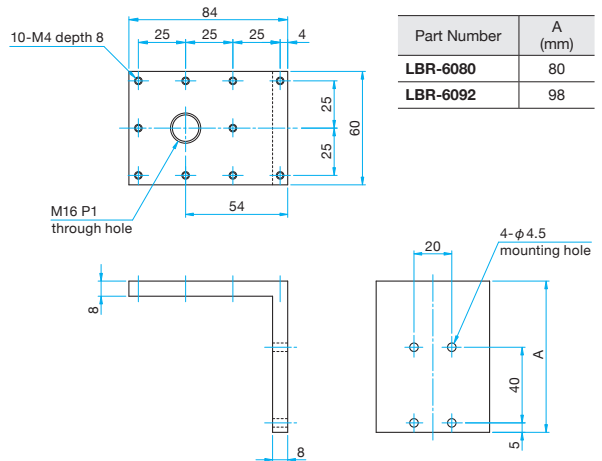
#### LBR-6075/6085

■ 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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# 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.



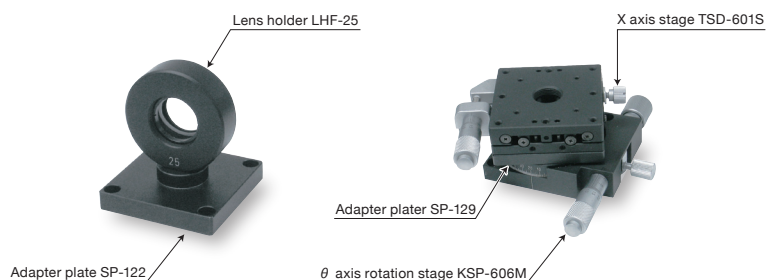
## Guide

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

## Selection List

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

## Example of Combinations



# Adapters | SP

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## 50x50mm Adapter Plates | SP-102

RoHS Catalog Code W6058

- Mounting hole converting adapter for stages.

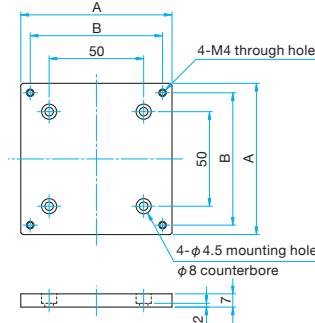


| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| SP-102-1       | 0.12        |  |
| SP-102-2       | 0.18        |  |
| SP-102-3       | 0.27        |  |

### Outline Drawing

#### SP-102

Hexagonal socket head screw M4x6...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

80x80 stage (M4 70x70)

SP-102-1

M4 50x50

100x100 stage (M4 90x90)

SP-102-2

M4 50x50

120x120 stage (M4 100x100)

SP-102-3

M4 50x50

## Top Plates for KSP/KSPA | SP-103

RoHS Catalog Code W6059

- Mounting hole-converting adapter for  $\theta$  axis rotation stages.

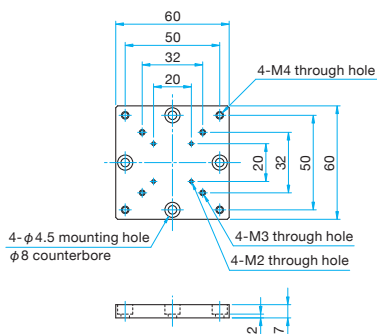


| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| SP-103         | 0.06        |  |

### Outline Drawing

#### SP-103

Hexagonal socket head cap screw M4x6...4 screws



### Connection Example

25x25 stage (M2 20x20)

40x40 stage (M3 32x32)

60x60 stage (M4 50x50)

SP-103

KSP/KSPA (M4 φ50)

## Bottom Plates for KSP-786M | SP-104

RoHS Catalog Code W6060

- Mounting hole converting adapter for  $\theta$  axis rotation stages (KSP-786M).

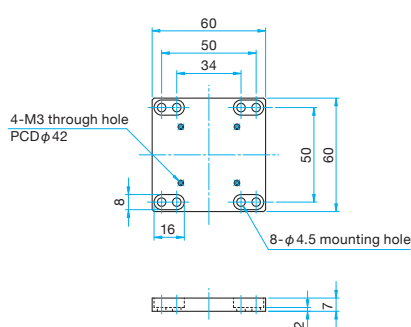


| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| SP-104         | 0.06        |  |

### Outline Drawing

#### SP-104

Hexagonal socket head cap screw M4x6...4 screws



### Connection Example

KSP-786M

SP-104

MB-CB-PB

60x60 stage (M4 50x50)



## Top Plates for TAR | SP-109

RoHS Catalog Code W6061

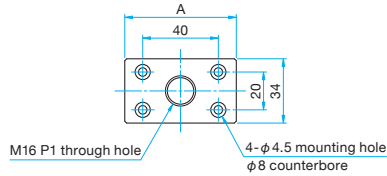
- Mounting hole converting adapter designed specifically for rack and pinion stages.



### Outline Drawing

#### SP-109-1/2

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



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

### Connection Example

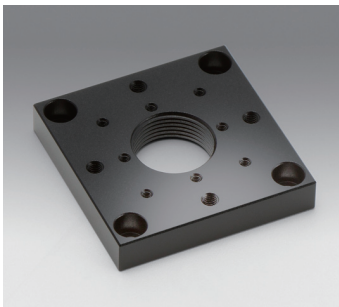
| Post holder etc. (M16 P1) | Post holder etc. (M16 P1) |
|---------------------------|---------------------------|
| SP-109-1                  | SP-109-2                  |
| TAR-34601                 | TAR-34801                 |
| TAR-38601D                | TAR-34141                 |
| TAR-34602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

### Specifications

| Part Number | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--|
|             | Weight [kg]  |
| SP-109-1    | 0.03   |
| SP-109-2    | 0.04   |

## Conversion Plate | SP-113N

RoHS Catalog Code W6086



- It is a spacer that is possible to set up the pole (PO) of M16 screw on □40 stage.
- It can also be used to attach the tilt stage. (AIS-40B), sample holder (SHA-40), and polarizer holder (MPH-B) to the □40 stage.

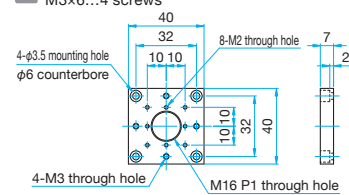
### Specifications

| Part Number | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--|
|             | Weight [kg]  |
| SP-113N     | 0.02   |

### Outline Drawing

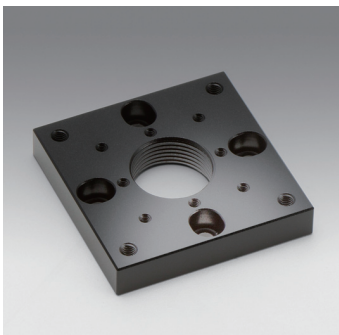
#### SP-113N

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



## Conversion Plate | SP-114N

RoHS Catalog Code W6087



- It is a spacer that is possible to set up the pole (PO) of M16 screw to the □40 stage and □40 rotation stage.
- It can also be used to attach the □40 stage, sample holder (SHA-25) and polarizer holder (MPH-B) to the rotation stage (KSP-406, KSW-406).

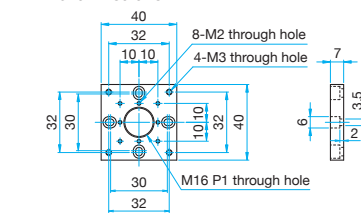
### Specifications

| Part Number | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--|
|             | Weight [kg]  |
| SP-114N     | 0.02   |

### Outline Drawing

#### SP-114N

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



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

RoHS Catalog Code W6063

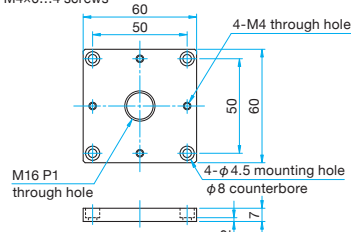
- Mounting hole converting adapter for  $\theta$  axis rotation stages (KSPA-806M and 1006MH).



### Outline Drawing

#### SP-117

Hexagonal 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 | Primary material: Aluminum<br>Finish: Black Anodized |
|-------------|--|
|             | Weight [kg]  |
| SP-117      | 0.06   |

# Adapters | SP

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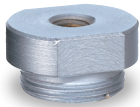
Tools

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

RoHS Catalog Code W6065



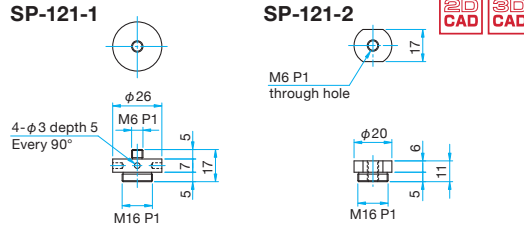
SP-121-1



SP-121-2

- Mounting adapter for post systems.

### Outline Drawing



| Connection Example                         |                     |
|--|---------------------|
| Main frame of holder etc. (M6 P1 (female)) | Post (M6 P1 (male)) |
| <b>SP-121-1</b>                            | <b>SP-121-2</b>     |
| M16 P1                                     | M16 P1              |
| Specifications                             |                     |
| Primary material: Brass<br>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



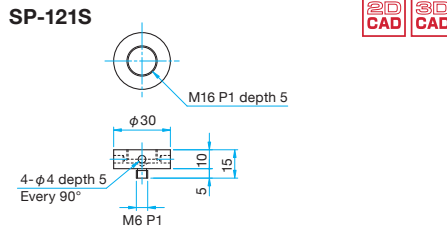
Upper surface



Under surface

- Mounting adapter for post systems.

### Outline Drawing



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

## M6P1 Adapter Plates | SP-122

RoHS Catalog Code W6067

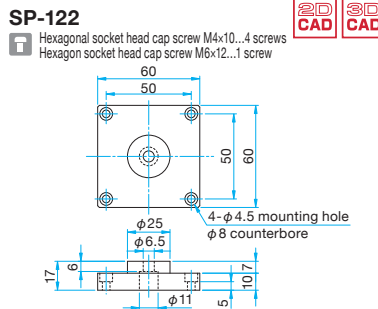
- Mounting adapter for holders.
- Adapter to secure a holder with M6 P1 internal thread from below and install on a stage with M4 50x50mm pitch mounting holes.
- Suitable for setting the optical axis low.



### Attention

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

### Outline Drawing



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

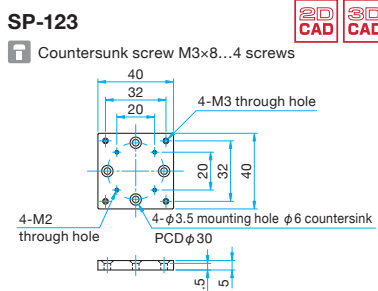
## Top Plates for KSP-406M | SP-123

RoHS Catalog Code W6068

- Mounting hole converting adapter for θ axis rotation stages (KSP-406M).



### Outline Drawing



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

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

RoHS Catalog Code W6069

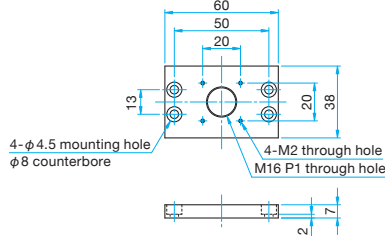
- Mounting hole converting adapter for X- and XY-axis leadscrew stages (TAS-20601 and 20602).



### 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

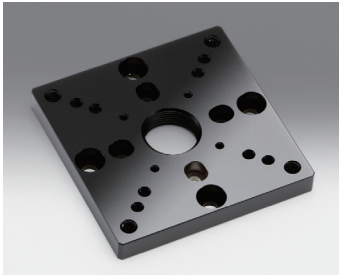
Primary material: Aluminum  
Finish: Black Anodized

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

## Adapter Plates | SP-129

RoHS Catalog Code W6071

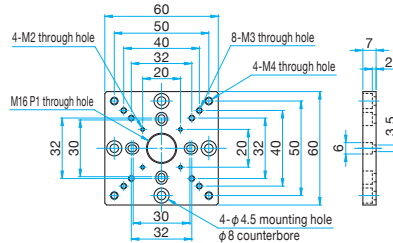
- Mounting hole-converting adapter for  $\theta$  axis rotation stages.



### Outline Drawing

#### SP-129

- Hexagon 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  $\phi$ 30)  
40×40 stage (M3  $\phi$ 32)  
60×60 stage (M4  $\phi$ 50)

### Specifications

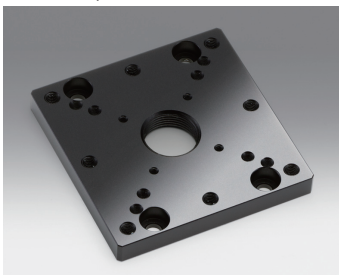
Primary material: Aluminum  
Finish: Black Anodized

| Part Number | Weight [kg] |
|-------------|-------------|
| SP-129      | 0.06        |

## Adapter Plates | SP-130

RoHS Catalog Code W6072

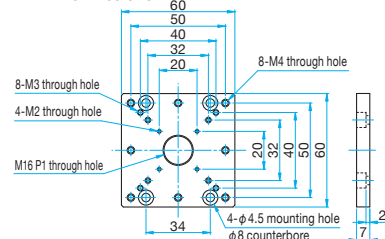
- Mounting hole converting adapter for magnet bases (MB-CB-PB).



### 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

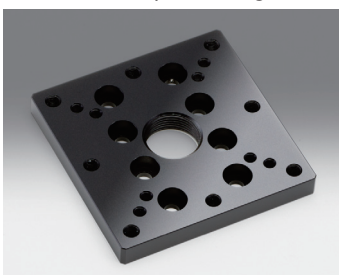
Primary material: Aluminum  
Finish: Black Anodized

| Part Number | Weight [kg] |
|-------------|-------------|
| SP-130      | 0.06        |

## Adapter Plates | SP-131

RoHS Catalog Code W6073

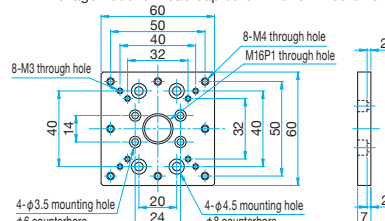
- Mounting hole converting adapter designed specifically for rack and pinion stages.



### 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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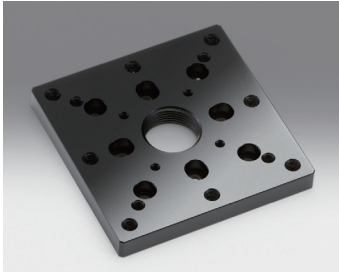
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## Adapter Plates | SP-132

RoHS Catalog Code W6074

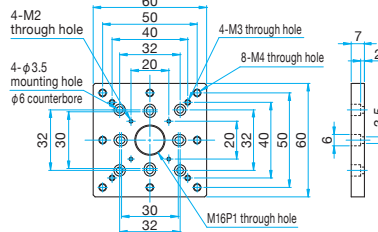
- Mounting hole converting adapter for stages.



### Outline Drawing

#### SP-132

Hexagonal socket head cap screw  
M3x6...4 screws



### Connection Example

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

#### SP-132

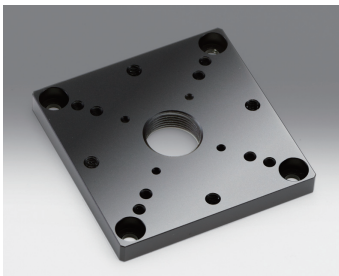
|                        |
|------------------------|
| KSPA-406 (M3 φ30)      |
| 40x40 stage (M3 32x32) |

| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| SP-132         | 0.06        |  |

## Adapter Plates | SP-133

RoHS Catalog Code W6075

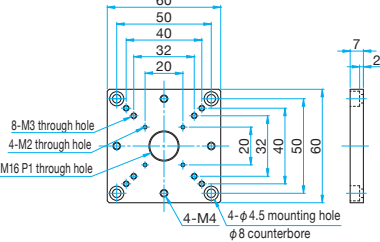
- Mounting hole converting adapter for stages.



### Outline Drawing

#### SP-133

Hexagonal socket head cap screw  
M4x6...4 screws



### Connection Example

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

#### SP-133

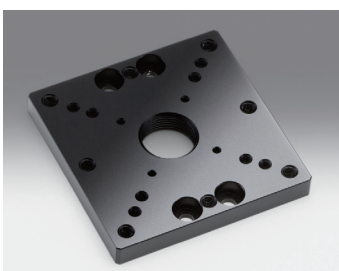
|                        |
|------------------------|
| 60x60 stage (M4 50x50) |
|------------------------|

| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| SP-133         | 0.06        |  |

## Adapter Plates | SP-134

RoHS Catalog Code W6076

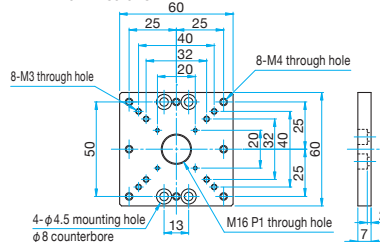
- Mounting hole converting adapter for X- and XY-axis leadscrew stages (TAS-20601 and 20602).



### Outline Drawing

#### SP-134

Hexagonal socket head cap screw  
M4x6...4 screws



### Connection Example

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

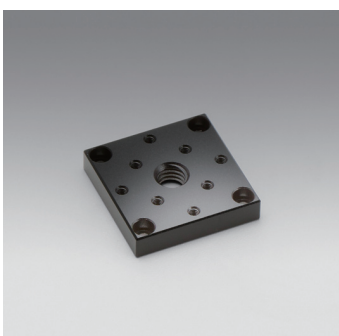
#### SP-134

|           |
|-----------|
| TAS-20601 |
| TAS-20602 |

| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| SP-134         | 0.06        |  |

## Conversion Plate | SP-135

RoHS Catalog Code W6088



- It is a spacer for mounting the very small stage of X-axis block stage (TASB-15 \*) and X-axis leadscrew stage (TAS-15 \*) to 25 stage.
- It can also be attached ultra-compact goniometer stage (GOH-15), tilt stage (AIS-25B), sample holder (SHA-25) and polarizer holder (MPH-B).

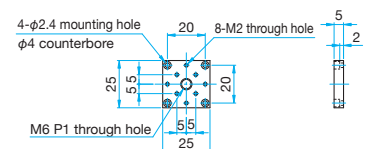
### Specifications

| Specifications |             | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|-------------|--|
| Part Number    | Weight [kg] |  |
| SP-135         | 0.01        |  |

### Outline Drawing

#### SP-135

Pan head screw M2x4...4 screws



## Conversion Plate | SP-201

RoHS

Catalog Code W6089



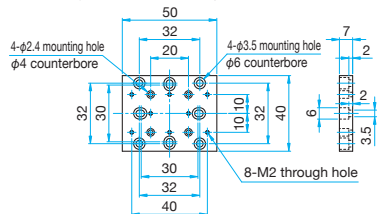
- It is a spacer for mounting the X-axis long steel stage (TSD-25501S) to the □ 40 stage.
- It can also be fixed to  $\phi 40$  rotation stage (KSP-406, KSPT-406) and used for XY assembly of TSD-25501 series.

| Specifications |  | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|--|--|
| Part Number    |  | Weight [kg]  |
| SP-201         |  | 0.03   |

### Outline Drawing

#### SP-201

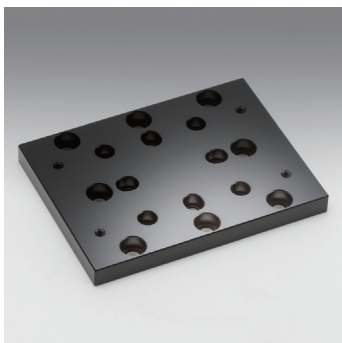
- Hexagon socket head cap screw M2x4...4 screws
- Hexagon socket head cap screw M3x6...4 screws



## Conversion Plate | SP-301

RoHS

Catalog Code W6090



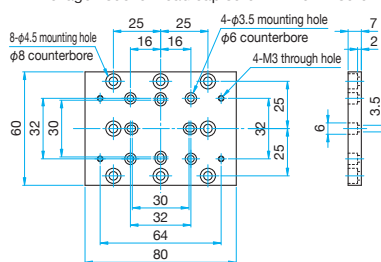
- It is a spacer for mounting the X-axis long steel stage (TSD-40801S) to □ 60 and □ 40 stage.
- It can also be fixed to  $\phi 60$  rotation stage (KSP-606, KSPT-606) and  $\phi 40$  rotation stage (KSP-406, KSPT-406).
- It can also be used for XY assembly of TSD-40801 series

| Specifications |  | Primary material: Aluminum<br>Finish: Black Anodized |
|----------------|--|--|
| Part Number    |  | Weight [kg]  |
| SP-301         |  | 0.08   |

### Outline Drawing

#### SP-301

- Hexagon socket head cap screw M3x6...4 screws
- Hexagon socket head cap screw M4x6...4 screws



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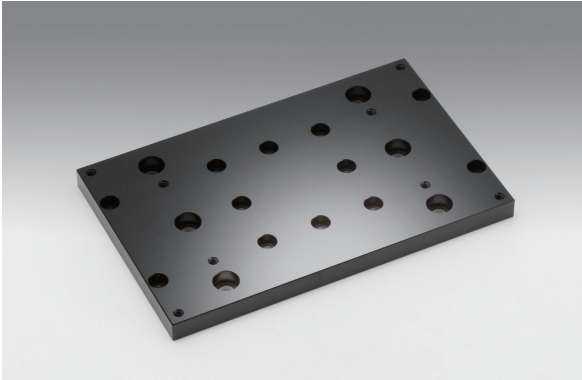
Tools

## Adapters | BSP

## Baseplate | BSP-1016N

RoHS Catalog Code W6091

- It is a base plate for fixing the X-axis long stage (TSD-10161, TSD-60121, TSD-60161SDM, TAM-10161, TAM-60161SDM, etc.) to the breadboard (OBC-M6) and the optical surface plate (HOA, etc.). It can also be used for XY assembling.
- It can also be fixed to the □100 stage (TSD-100, TAM-100, etc.) and the base plate (OBC-M4).



## Specifications

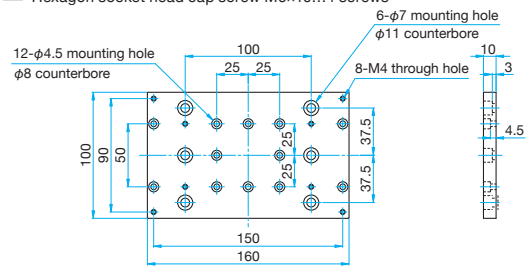
Primary material: Aluminum  
Finish: Black Anodized

| Part Number | Weight [kg] |
|-------------|-------------|
| BSP-1016N   | 0.4         |

## Outline Drawing

## BSP-1016N

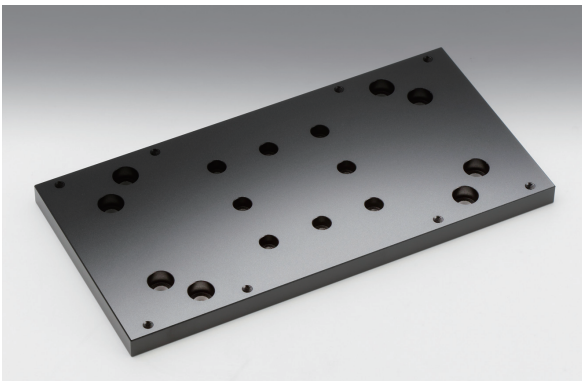
- Hexagon socket head cap screw M4×10...4 screws
- Hexagon socket head cap screw M6×10...4 screws



## Baseplate | BSP-1020N

RoHS Catalog Code W6092

- It is a base plate for fixing the X-axis long aluminum cross roller stage (TAM-10201SDM, TAMC-10201) to the breadboard (OBC-M6) and the optical table (HOA, etc.). It can also be used for XY assembling.
- It can also be used for fixing the □ 100 stage (TSD-100, TAM-100, etc.).
- Also, it can be fixed to the □ 100 stage (TSD-100, TAM-100, etc.) and the base plate (OBC-M4).



## Specifications

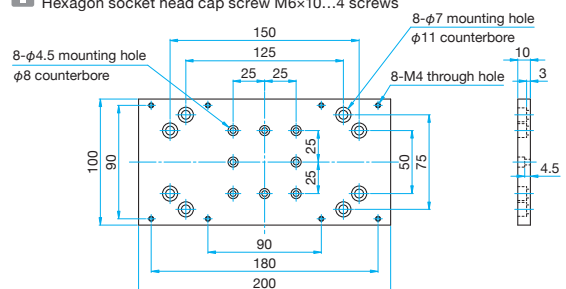
Primary material: Aluminum  
Finish: Black Anodized

| Part Number | Weight [kg] |
|-------------|-------------|
| 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



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# Screw Set Adapter Nuts

SCR / SKB / SKD / DK  
AND

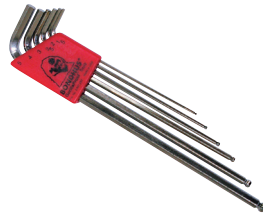
SCR / SKB / SKD / DK

Catalog Code **W6077**

A set of screws frequently used to install SIGMA KOKI products.  
Use for maintenance together with tools.



SCR-MEC



SKB-JBX6



SKD-190



DK-20

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

| Part Number | Type                | Screw Size | Length [mm] |   |   |    |    |    |    |    |    |    | Quantity | Spring Washer  | Flat Washer Large |            |            |
|-------------|---------------------|------------|-------------|---|---|----|----|----|----|----|----|----|----------|----------------|-------------------|------------|------------|
|             |                     |            | 4           | 6 | 8 | 10 | 12 | 15 | 18 | 20 | 25 | 30 |          |                |                   |            |            |
| 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 |

## Chromometer 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

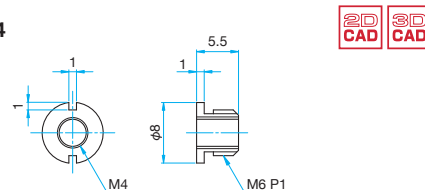
RoHS Catalog Code **W6078**

Adapter nuts for changing M6 tapped holes to M4 holes.



## Outline Drawing

AND-M6-M4



## Attention

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

## Specifications

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

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