

# Z Angle Brackets | ZBR



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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 top side.

**Attention**

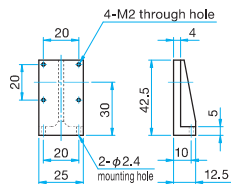
► The finish will be coarse since it is casting, but poses no technical problems.



**Outline Drawing**

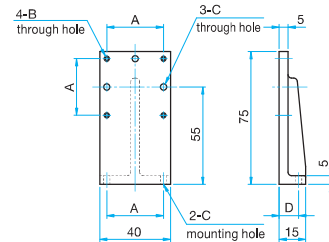
**ZBR-2530**

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



**ZBR-4055/4055UU**

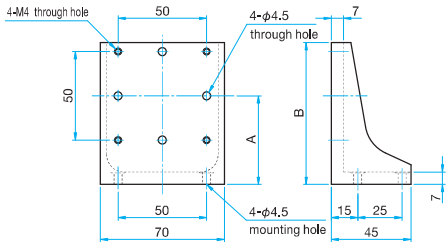
■ Pan head screw M3x10...2 screws, Flat washer (4055) Hexagonal socket head cap screw 6-32UNCx3/8...2 screws (4055UU)



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**

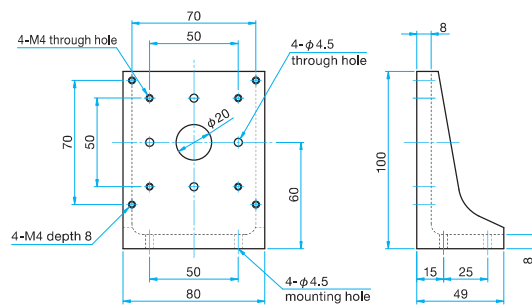
■ Hexagonal socket head cap screw M4x12...4 screws (common to 2 types)



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

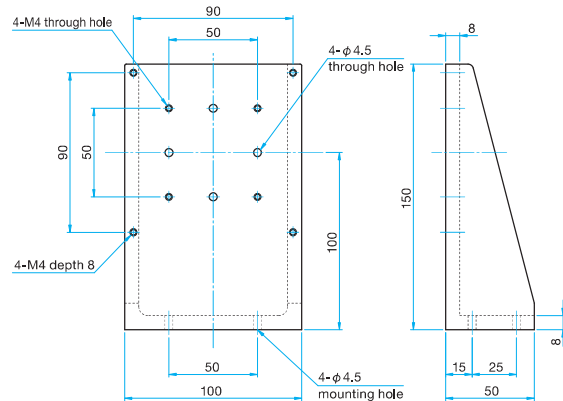
**ZBR-8060**

■ 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

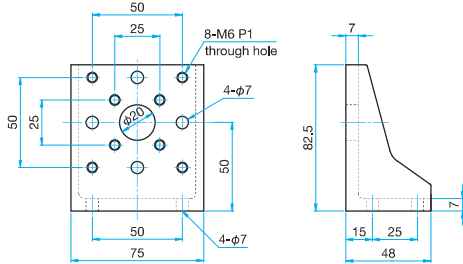
\* For ZBR-2530, primary material is brass, and finish is black coating.



**Outline Drawing**

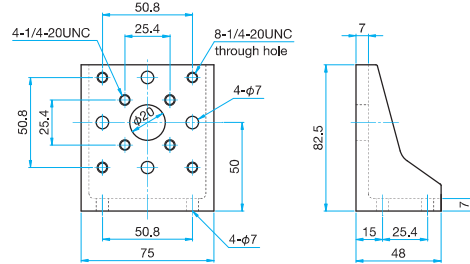
**ZBR-7550EE**

Hexagonal socket head cap screw M6x12...4 screws



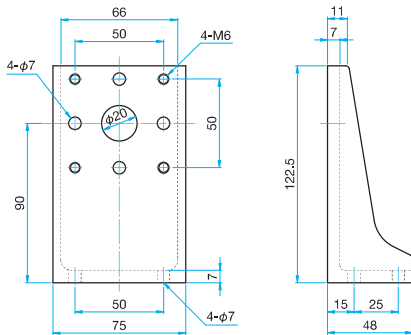
**ZBR-7550UU**

Hexagonal socket head cap screw 1/4-20UNCx1/2...4 screws



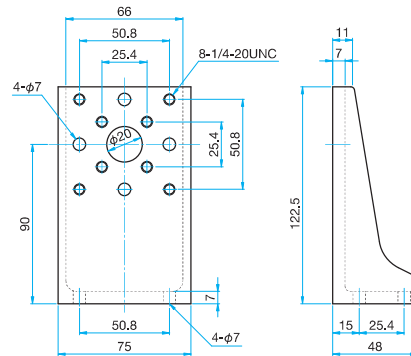
**ZBR-7590EE**

Hexagonal socket head cap screw M6x12...4 screws



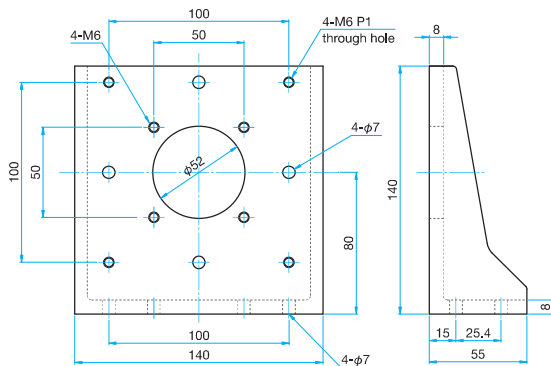
**ZBR-7590UU**

Hexagonal socket head cap screw 1/4-20UNCx1/2...4 screws



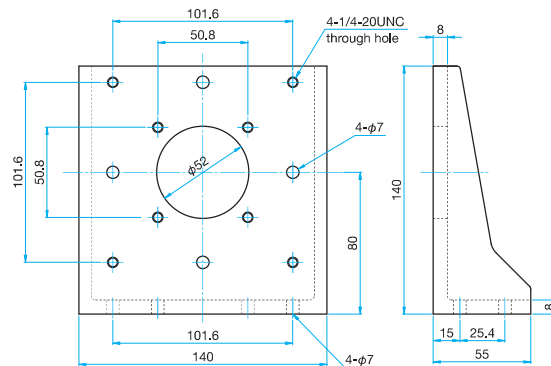
**ZBR-14080EE**

Hexagonal socket head cap screw M6x12...4 screws



**ZBR-14080UU**

Hexagonal socket head cap screw 1/4-20UNCx1/2...4 screws



Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number		Weight [kg]
ZBR-7550EE		0.2
ZBR-7550UU		0.2
ZBR-7590EE		0.6
ZBR-7590UU		0.6
ZBR-14080EE		0.3
ZBR-14080UU		0.3

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# L Angle Brackets | LBR

**RoHS** 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

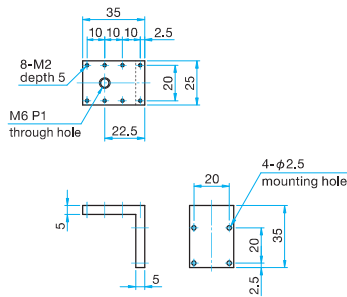
▶ These brackets may cause insufficient travel distance or physical interference of stages, depending on installation conditions. Confirm the dimensions before purchase.



### Outline Drawing

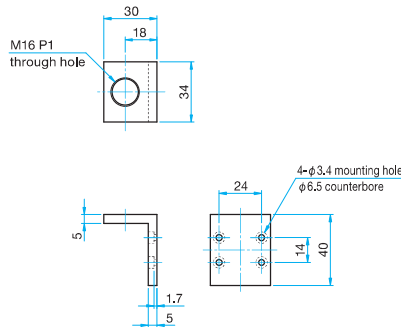
#### LBR-2535

■ Pan head screw M2x8...4 screws



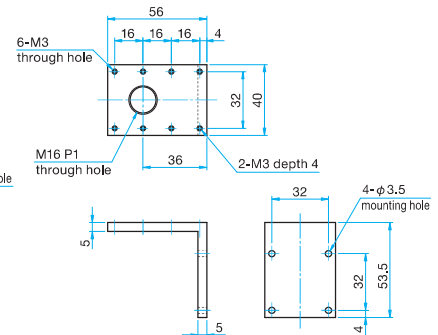
#### LBR-3440

■ Pan head screw M3x6...4 screws



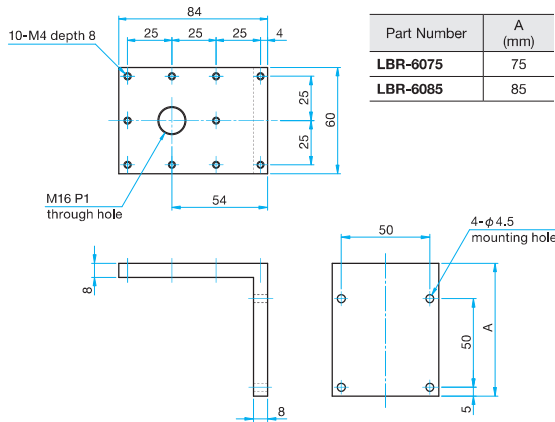
#### LBR-4053

■ Pan head screw M3x8...4 screws



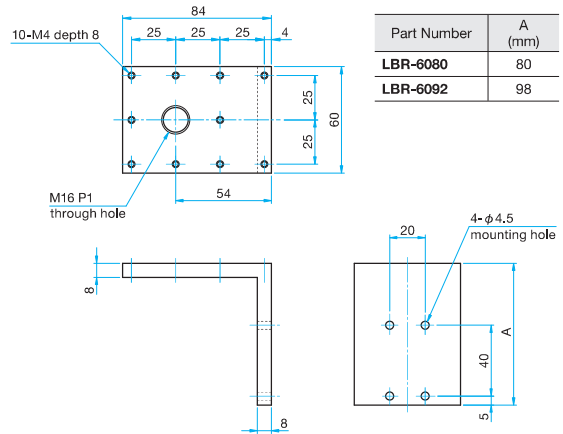
#### LBR-6075/6085

■ Hexagonal socket headcap screw M4x12...4 screws



#### LBR-6080/6092

■ Hexagonal socket headcap screw M4x12...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.



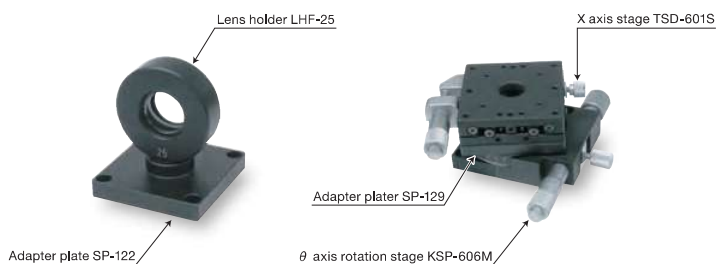
## Guide

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

## Example of Combinations



## Adapters | SP

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## 50x50mm Adapter Plates | SP-102

- Mounting hole converting adapter for stages.

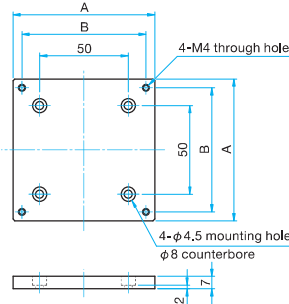


Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number	Weight [kg]	
SP-102-1	0.12	
SP-102-2	0.18	
SP-102-3	0.27	

## 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

RoHS Catalog Code W6058

## 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

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

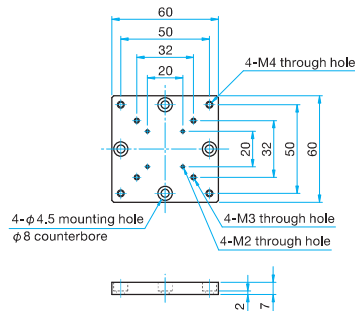


Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number	Weight [kg]	
SP-103	0.06	

## Outline Drawing

## SP-103

- Hexagonal socket head cap screw M4x6...4 screws



RoHS Catalog Code W6059

## 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

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

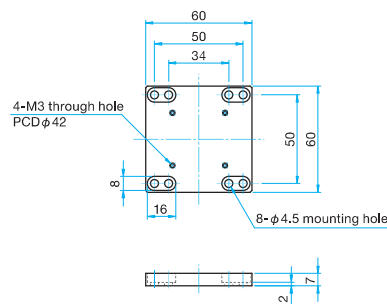


Specifications		Primary material: Aluminum Finish: Black Anodized
Part Number	Weight [kg]	
SP-104	0.06	

## Outline Drawing

## SP-104

- Hexagonal socket head cap screw M4x6...4 screws



RoHS Catalog Code W6060

## Connection Example

KSP-786M

SP-104

MB-CB-PB

60x60 stage (M4 50x50)

## Top Plates for TAR | SP-109

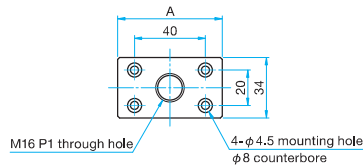
- Mounting hole converting adapter designed specifically for rack and pinion stages.



### Outline Drawing

#### SP-109-1/2

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



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

RoHS Catalog Code W6061

### 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 Finish: Black Anodized
	Weight [kg]
SP-109-1	0.03
SP-109-2	0.04

## Conversion Plate | SP-113N



- 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. (ALS-40B), sample holder (SHA-40), and polarizer holder (MPH-B) to the □40 stage.

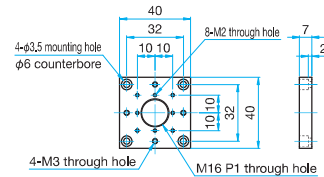
### Specifications

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

### Outline Drawing

#### SP-113N

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



RoHS Catalog Code W6086

## Conversion Plate | SP-114N



- 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).

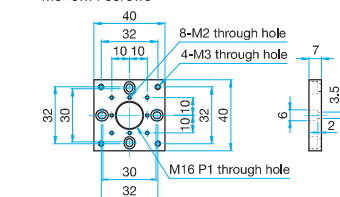
### Specifications

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

### Outline Drawing

#### SP-114N

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



RoHS Catalog Code W6087

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

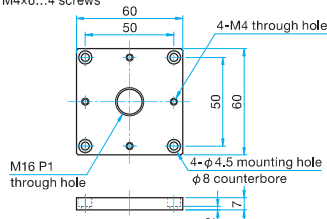
- Mounting hole converting adapter for  $\theta$  axis rotation stages (KSPA-806M and 1006MH).



### Outline Drawing

#### SP-117

- Hexagonal socket head cap screw M4x6...4 screws



### Connection Example

Post holder etc. (M16 P1)
KSPA-806M, 1006MH
SP-117
M4 50x50

### Specifications

Part Number	Primary material: Aluminum Finish: Black Anodized
	Weight [kg]
SP-117	0.06

RoHS Catalog Code W6063

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

RoHS Catalog Code W6065



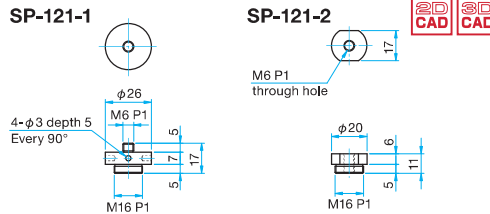
SP-121-1



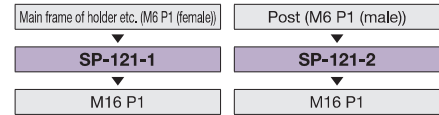
SP-121-2

- Mounting adapter for post systems.

### Outline Drawing



### Connection Example



Specifications	
Part Number	Weight [kg]
SP-121-1	0.04
SP-121-2	0.02

Primary material: Brass  
Finish: Chrome

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

RoHS Catalog Code W6066



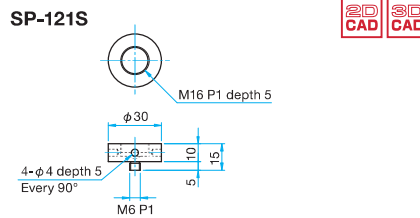
Upper surface



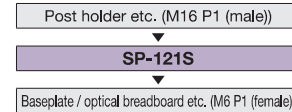
Under surface

- Mounting adapter for post systems.

### Outline Drawing



### Connection Example



Specifications	
Part Number	Weight [kg]
SP-121S	0.01

Primary material: Aluminum  
Finish: Black Anodized

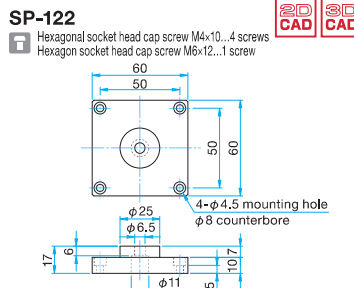
## M6P1 Adapter Plates | SP-122

RoHS Catalog Code W6067

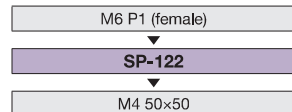
- Mounting adapter for holders.
- Adapter to secure a holder with M6 P1 internal thread from below and install on a stage with M4 50x50mm pitch mounting holes.
- Suitable for setting the optical axis low.



### Outline Drawing



### Connection Example



Specifications	
Part Number	Weight [kg]
SP-122	0.1

Primary material: Aluminum  
Finish: Black Anodized

### Attention

▶ Note that holders with protrusions within the  $\phi 25$  mounting surface may not be able to be connected.

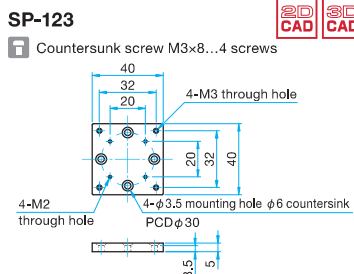
## Top Plates for KSP-406M | SP-123

RoHS Catalog Code W6068

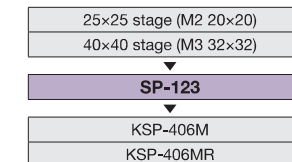
- Mounting hole converting adapter for  $\theta$  axis rotation stages (KSP-406M).



### Outline Drawing



### Connection Example



Specifications	
Part Number	Weight [kg]
SP-123	0.02

Primary material: Aluminum  
Finish: Black Anodized



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

RoHS Catalog Code W6069

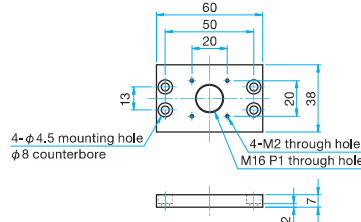
- Mounting hole converting adapter for X- and XY-axis leadscrew stages (TAS-20601 and 20602).



### Outline Drawing

#### SP-127-1

- Hexagonal socket head cap screw M4x6...4 screws



### Connection Example

Post holder etc. (M16 P1)  
25x25 stage (M2 20x20)

#### 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

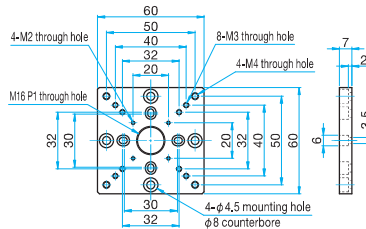
- Mounting hole-converting adapter for  $\theta$  axis rotation stages.



### Outline Drawing

#### SP-129

- Hexagonal socket head cap screw M3x6...4 screws



### Connection Example

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

#### SP-129

KSP-406 (M3 φ30)  
40x40 stage (M3 φ32)  
60x60 stage (M4 φ50)

### Specifications

Primary material: Aluminum  
Finish: Black Anodized

Part Number	Weight [kg]
SP-129	0.06

## Adapter Plates | SP-130

RoHS Catalog Code W6072

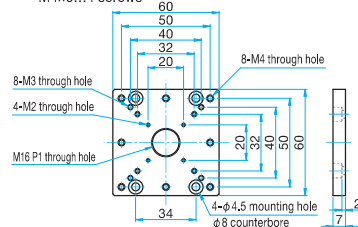
- Mounting hole converting adapter for magnet bases (MB-CB-PB).



### Outline Drawing

#### SP-130

- Hexagonal socket head cap screw M4x6...4 screws



### Connection Example

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

#### 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

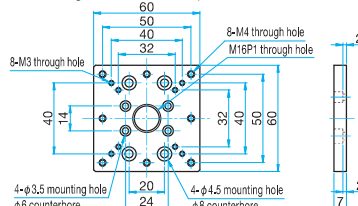
- Mounting hole converting adapter designed specifically for rack and pinion stages.



### Outline Drawing

#### SP-131

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



### Connection Example

Post holder etc. (M16 P1)  
40x40 stage (M3 32x32)  
60x60 stage (M4 50x50)

#### SP-131

TAR-34403L (M3 14x24)  
TAR-34/38 (M4 20x40)

### Specifications

Primary material: Aluminum  
Finish: Black Anodized

Part Number	Weight [kg]
SP-131	0.06

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## Adapter Plates | SP-132

RoHS Catalog Code W6074

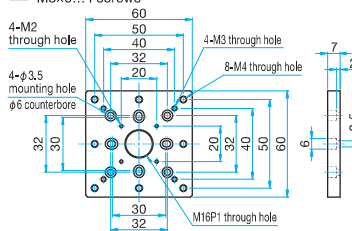
- Mounting hole converting adapter for stages.



### 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

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

Specifications Primary material: Aluminum Finish: Black Anodized

Part Number	Weight [kg]
SP-132	0.06

## Adapter Plates | SP-133

RoHS Catalog Code W6075

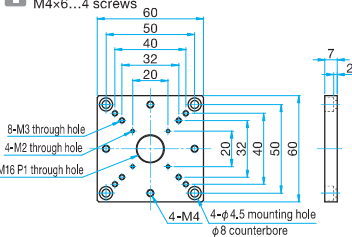
- Mounting hole converting adapter for stages.



### 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 Finish: Black Anodized

Part Number	Weight [kg]
SP-133	0.06

## Adapter Plates | SP-134

RoHS Catalog Code W6076

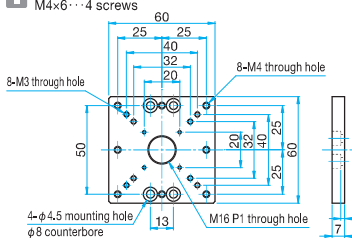
- Mounting hole converting adapter for X- and XY-axis leadscrew stages (TAS-20601 and 20602).



### 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 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

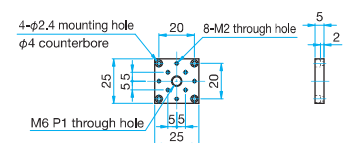
Primary material: Aluminum Finish: Black Anodized

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

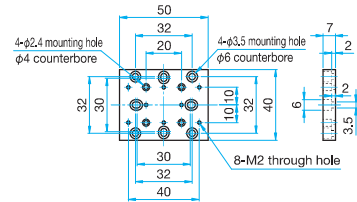


- It is a spacer for mounting the X-axis long steel stage (TSD-25501S) to the □ 40 stage.
- It can also be fixed to  $\phi 40$  rotation stage (KSP-406, KSPT-406) and used for XY assembly of TSD-25501 series.

Specifications		Primary material: Aluminum 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

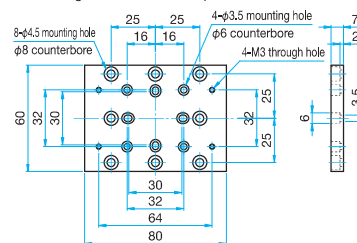


- It is a spacer for mounting the X-axis long steel stage (TSD-40801S) to □ 60 and □ 40 stage.
- It can also be fixed to  $\phi 60$  rotation stage (KSP-606, KSPT-606) and  $\phi 40$  rotation stage (KSP-406, KSPT-406).
- It can also be used for XY assembly of TSD-40801 series

Specifications		Primary material: Aluminum 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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## Baseplate | BSP-1016N

RoHS

Catalog Code

W6091

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- 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]

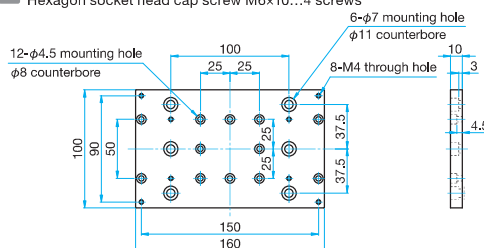
BSP-1016N

0.4

## Outline Drawing

## BSP-1016N

- Hexagon socket head cap screw M4x10...4 screws
- Hexagon socket head cap screw M6x10...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]

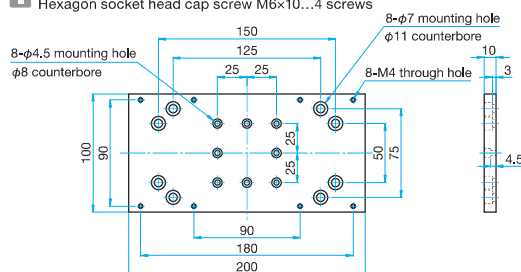
BSP-1020N

0.5

## Outline Drawing

## BSP-1020N

- Hexagon socket head cap screw M4x10...4 screws
- Hexagon socket head cap screw M6x10...4 screws







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