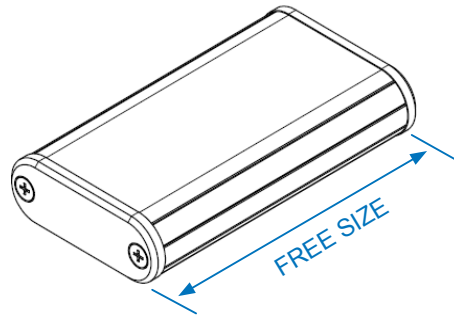
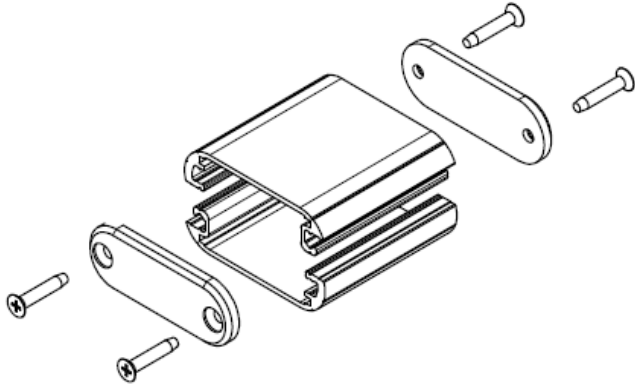


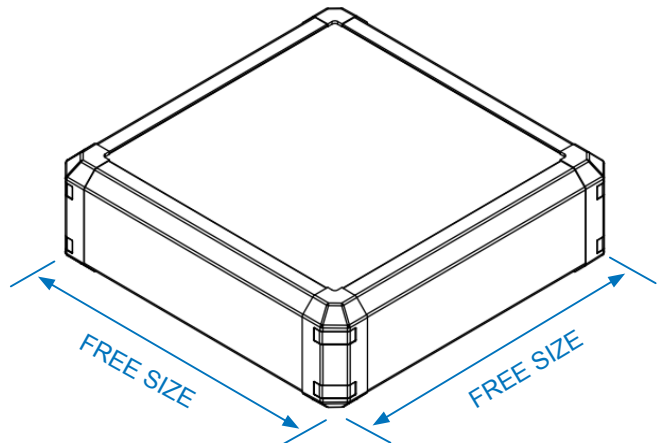
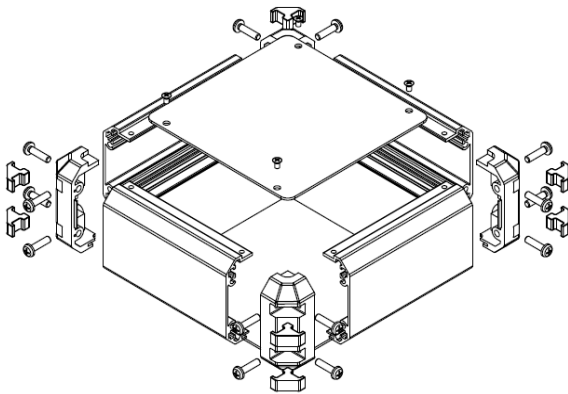
VARIETY OF CUSTOM SIZED ENCLOSURES

Extruded models are adjustable in extrusion length (depth) in 0.1mm or 1.0mm intervals.
Sheet-metal models are adjustable in W/D/H dimensions in 1.0mm intervals.

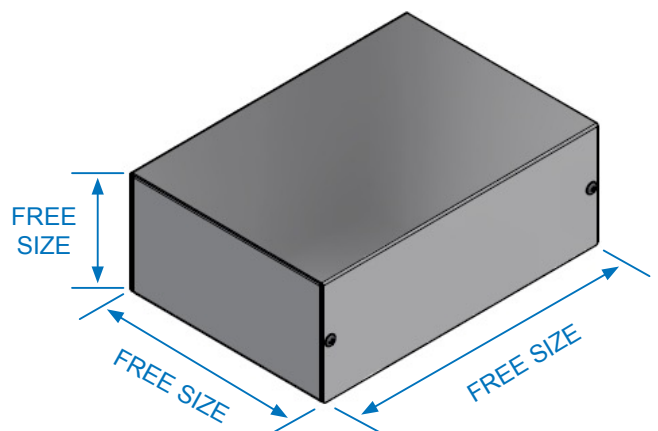
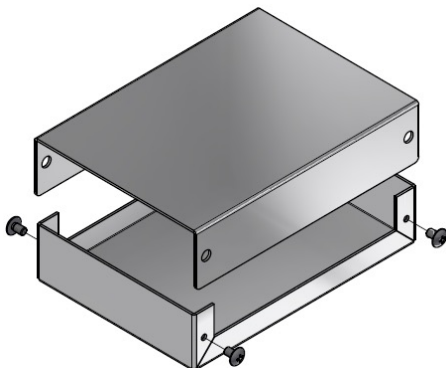
EXTRUDED ALUMINIUM MODEL



4 SIDE-EXTRUDED ALUMINIUM MODEL



SHEET METAL MODEL



More custom sized models are available.

https://www.takachi-enclosure.com/cat/flexible_size

INQUIRING CUSTOM SIZED ENCLOSURES

- 1 Navigate to the free-size product page you wish to inquire on our website and click on the button indicated by the → arrow.



Custom sized shock-proof design instrument enclosure.
Corner guards are designed to be both aesthetically pleasing, and impact resistant.

Selectable 22 different Width/Height profiles and specified length (depth) from 40 to 500mm in 1mm intervals.
16 different color combinations can be specified.

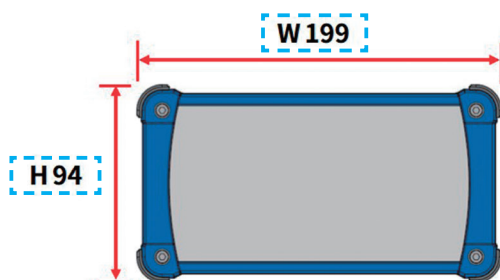


| | | |
|----------------------------------|-----------------------|--------------------------|
| CUSTOM SIZE WEB QUOTATION | 3D View - Silver/Navy | 3D View - 16 color types |
| 3D View - With tilt legs | Exploded view | Color code |

■ If there is no "WEB QUOTATION" click button, please send us your inquiry from the "INQUIRY FORM" on the CONTACT tab on our website.

- 2 Go to the CUSTOM SIZE WEB QUOTATION page and enter your preferred dimensions.

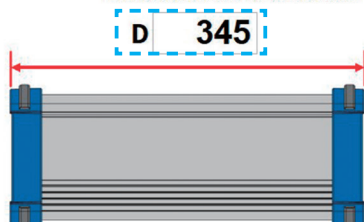
STEP1 Select required width / height.



| Select | W | H | Select | W | H |
|--------------------------|-----|----|-------------------------------------|-----|-----|
| <input type="checkbox"/> | 69 | 34 | <input type="checkbox"/> | 151 | 81 |
| <input type="checkbox"/> | 69 | 44 | <input type="checkbox"/> | 151 | 101 |
| <input type="checkbox"/> | 69 | 59 | <input type="checkbox"/> | 199 | 56 |
| <input type="checkbox"/> | 89 | 39 | <input type="checkbox"/> | 199 | 74 |
| <input type="checkbox"/> | 89 | 49 | <input checked="" type="checkbox"/> | 199 | 94 |
| <input type="checkbox"/> | 89 | 64 | <input type="checkbox"/> | 199 | 119 |
| <input type="checkbox"/> | 116 | 41 | <input type="checkbox"/> | 244 | 64 |
| <input type="checkbox"/> | 116 | 56 | <input type="checkbox"/> | 244 | 89 |
| <input type="checkbox"/> | 116 | 71 | <input type="checkbox"/> | 244 | 114 |
| <input type="checkbox"/> | 151 | 46 | <input type="checkbox"/> | 300 | 90 |
| <input type="checkbox"/> | 151 | 61 | <input type="checkbox"/> | 300 | 140 |

STEP2 Specify size D(depth) ... Enter dimensions in 1mm intervals.

Available from 40 to 500mm



*NOTE: Specified size D(depth) ≠ available internal dimension

Available internal dimension = **D dimension - 20mm**

Please take caution when calculating required D dimension.

- 3 After entering the quantity, click on the button indicated by the → arrow to generate a Product No.

STEP4 Quantity ※Quantity can be specified up to 5 slots.

10 pcs

▶Add quantity



▶ GENERATE PRODUCT NO.

Product No. **EXPS199 – 94 – 345SN** ※Please use this model number when ordering.

- 4 After entering your details and the message in our INQUIRY FORM, click on the CONFIRM button.

STEP5 INQUIRY FORM

Fill out the inquiry form and send it. We will give you quotation by Email.
Inquiry from the country where the distributor is located will be answered by the distributor.

Fields marked with ★ are required

| | | | |
|-------------|--|------------|--------------------------------------|
| Product No. | EXPS199-94-345SN | Quantity ★ | <input type="text" value="10"/> |
| E-mail ★ | <input type="text" value="jiro@takachi-el.co.jp"/> | | |
| Company ★ | <input type="text" value="TAKACHI ELECTRONICS ENCLOSURE CO., LTD."/> | | |
| Your name ★ | <input type="radio"/> Mr. <input checked="" type="radio"/> Ms. | First name | <input type="text" value="Jiro"/> |
| | | Last name | <input type="text" value="Takachi"/> |
| Country ★ | <input type="text"/> | | |
| Message | <input type="text" value="I would like a quote for 10 pieces of EXPS199-94-345SN."/> | | |



▶ CONFIRM

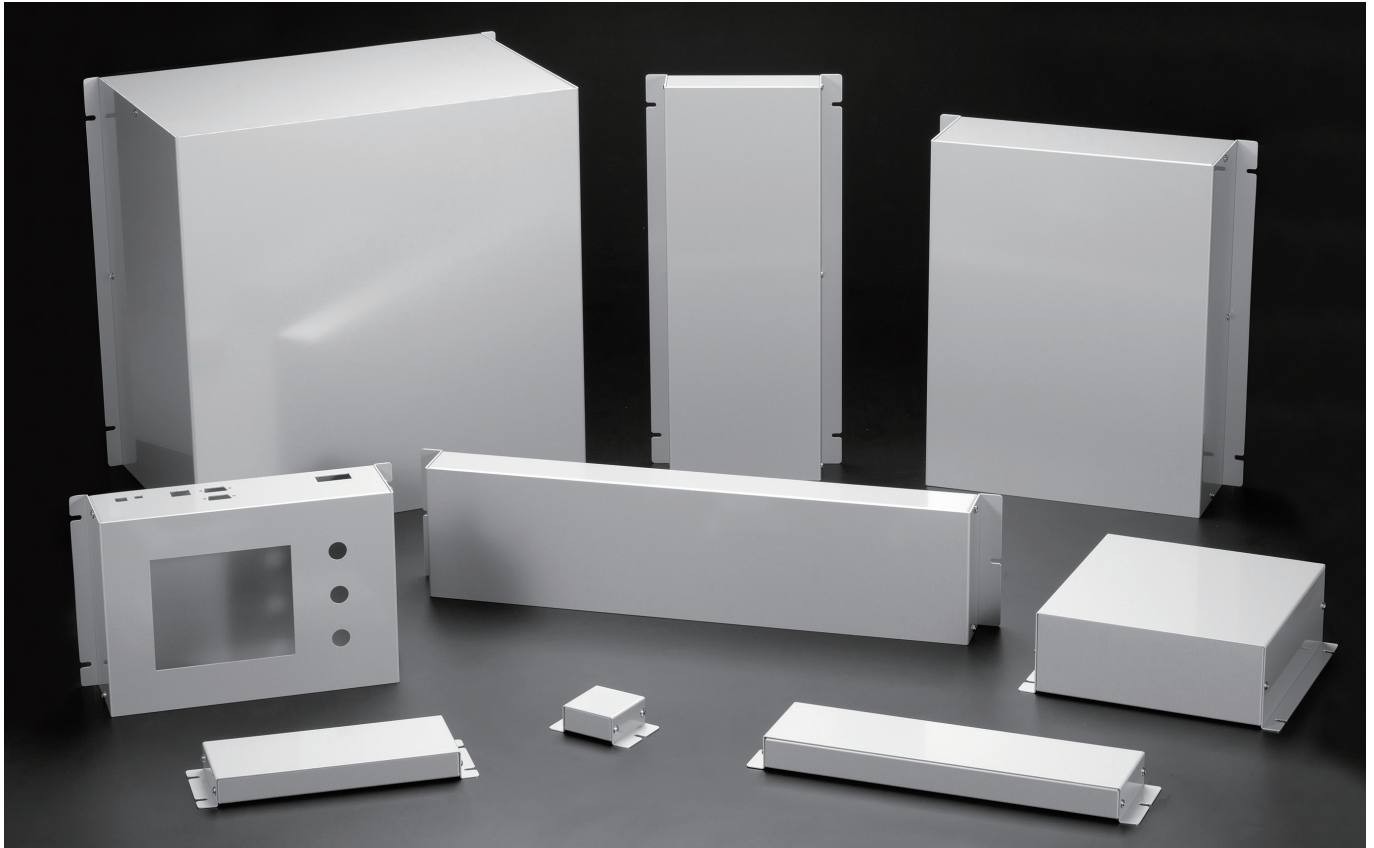
Our privacy policy have been designed to ensure that personal information is not misused or used for purposes other than it is intended for.
[PRIVACY POLICY](#)

- 5 A TAKACHI sales representative will get in touch with you with a quote via e-mail.

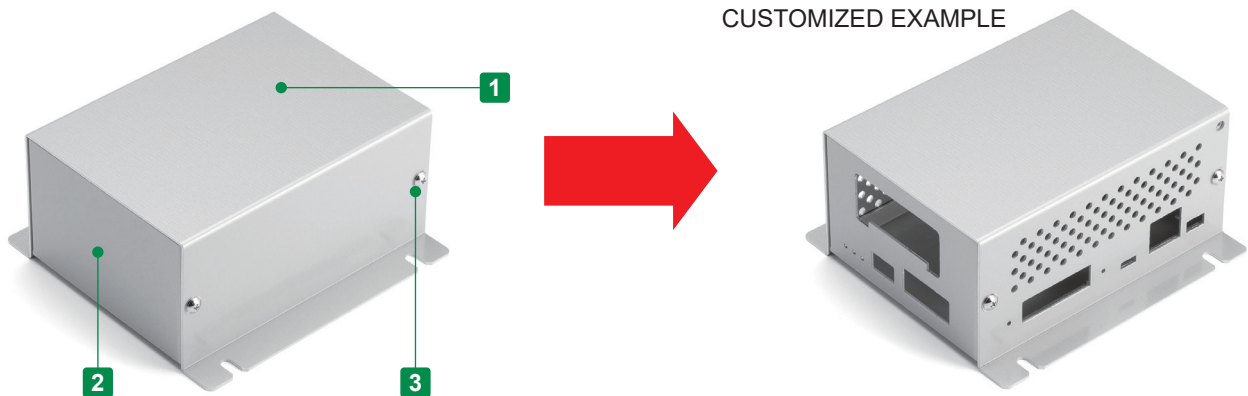


MBCF SERIES

CUSTOM SIZED EXTRUDED ALUMINIUM ENCLOSURE



- Adjustable sizes available in 1mm intervals, with W dimensions from 50 ~ 500mm, D dimensions from 50 ~ 400mm, and H dimensions from 25 ~ 200mm.
- Wall mount flange holes available in 2 models: 2-hole, and 4-hole types.
- A conductive coating is applied onto the internal surface, making earthing possible.

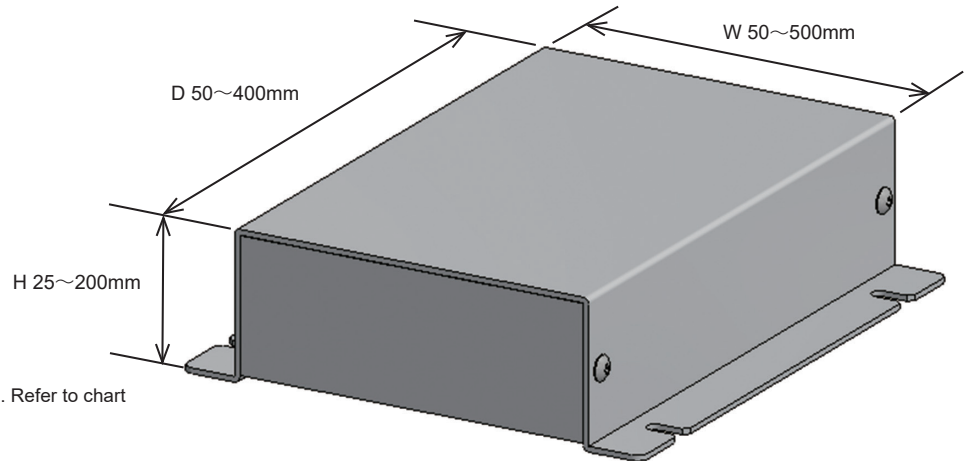


Components

| No. | Part name | Pcs | Material | Color / Finish |
|-----|--------------------|--------|------------------|--|
| 1 | Cover | 1 | Aluminium A1100P | Metallic silver / Painted : Conductive coated internal surface |
| 2 | Base | 1 | Aluminium A1100P | Metallic silver / Painted : Conductive coated internal surface |
| 3 | Screw (Truss M3-5) | 4 or 6 | Brass | Nickel plated |

1 Specify Dimensions

Specify dimensions in 1mm intervals.



Caution : Not all size combinations are possible. Refer to chart for more information.

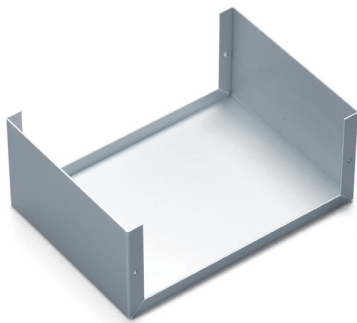
■ Panel thickness and base types vary by W / H / D dimensions.

Refer to the chart on page MBCF-3 for A12, B12 or B15 type selection by W, H & D dimensions.

Base Type A

[A12] Type

W : 200 • H : 100 • D : 400 or smaller
Type A : Standard • Panel thickness : 1.2mm



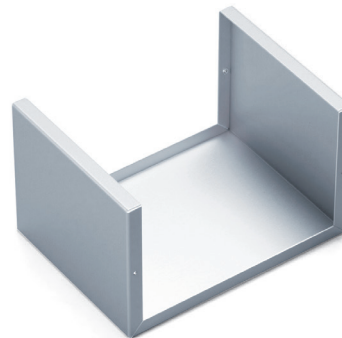
Base Type B

[B12] Type

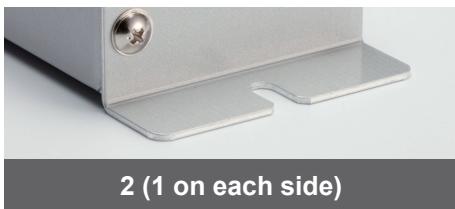
W : 300 • H : 200 • D : 400 or smaller
Type B : Reinforced • Panel thickness : 1.2mm

[B15] Type

W : 500 • H : 200 • D : 400 or smaller
Type B : Reinforced • Panel thickness : 1.5mm



2 Select Flange-hole Type



2 (1 on each side)



4 (2 on each side)

Confirm Product No.

Confirm an assigned product number in the following order format as below.

Product no. MBCF

155

-

80

-

200

Base
type

12

-

4

W

H

D

Base type Panel thickness

Flange hole

Example : W = 155 mm, H = 80 mm, D = 200 mm, B base type in panel thickness of 1.2mm, 4 flange holes

Lead time

Custom Size Only
Custom Size + Hole Milling

5 business days (1 ~ 3 pcs)
8 business days (1 ~ 3 pcs)

Order Inquiry

For more information, contact us here at sales@takachi-el.co.jp

MBCF Type Chart

Refer to the below chart for A12, B12 or B15 type selection by W, H & D dimensions.

[A12] Type

Standard • Panel thickness : 1.2mm

[B12] Type

Reinforced • Panel thickness : 1.2mm

[B15] Type

Reinforced • Panel thickness : 1.5mm

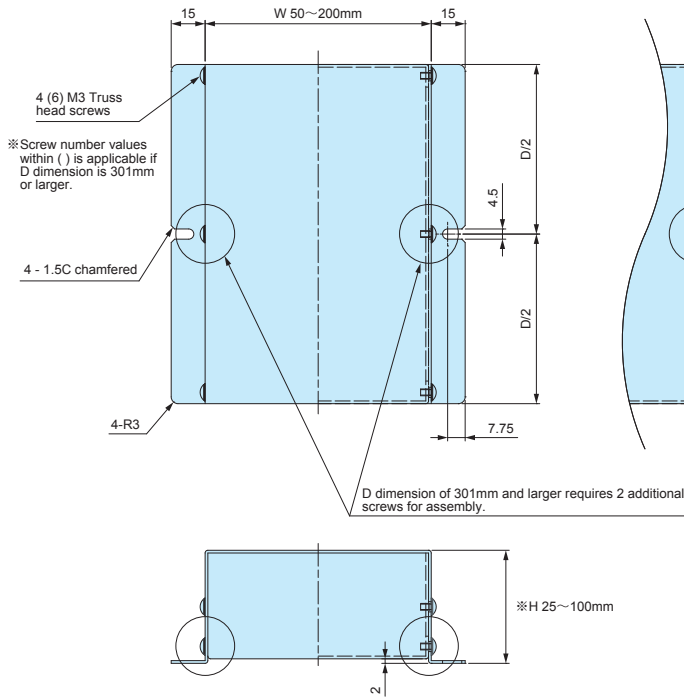
■ [-] sizes are not available.

| W | H | D | 4x fixing screw points | | | | | | | | | | 6x fixing screw points | | | |
|---------|---|---------|------------------------|-------|---------|---------|---------|---------|---------|---------|---------|---------|------------------------|---------|---------|---------|
| | | | 50~74 | 75~99 | 100~125 | 126~150 | 151~175 | 176~200 | 201~225 | 226~250 | 251~275 | 276~300 | 301~325 | 326~350 | 351~375 | 376~400 |
| 50~99 | | 25~35 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 |
| | | 36~50 | — | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | A12 | B12 | B12 | B12 | B12 |
| 100~150 | | 25~29 | — | A12 | A12 | A12 | A12 | A12 | B12 | B12 | B12 | B12 | — | — | — | — |
| | | 30~50 | — | A12 | A12 | A12 | A12 | A12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | A12 | A12 | A12 | A12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | A12 | A12 | A12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| 151~200 | | 25~29 | — | A12 | A12 | A12 | A12 | A12 | B12 | B12 | B12 | B12 | — | — | — | — |
| | | 30~50 | — | A12 | A12 | A12 | A12 | A12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 101~125 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 126~150 | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| 201~250 | | 25~29 | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | — | — | — | — |
| | | 30~50 | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 101~125 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 126~150 | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 151~175 | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| 251~300 | | 25~29 | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | — | — | — | — |
| | | 30~50 | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 101~125 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 126~150 | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 151~175 | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| 301~350 | | 30~50 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 101~125 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 126~150 | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 151~175 | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B12 | B12 | B12 | B15 | B15 | B15 | B15 |
| 351~400 | | 30~50 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 101~125 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 126~150 | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 151~175 | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| 401~450 | | 30~50 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 101~125 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 126~150 | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 151~175 | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| 451~500 | | 30~50 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 51~75 | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 76~100 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 101~125 | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 126~150 | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 151~175 | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 |
| | | 176~200 | — | — | — | — | — | — | — | B15 | B15 | B15 | B15 | B15 | B15 | B15 |

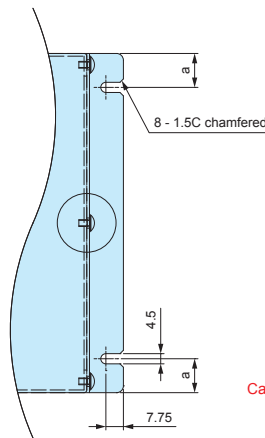
MBCF dimensions

[A12] Type Standard • Panel thickness : 1.2mm

2-hole flange type

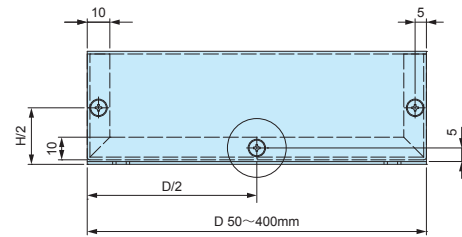


4-hole flange type



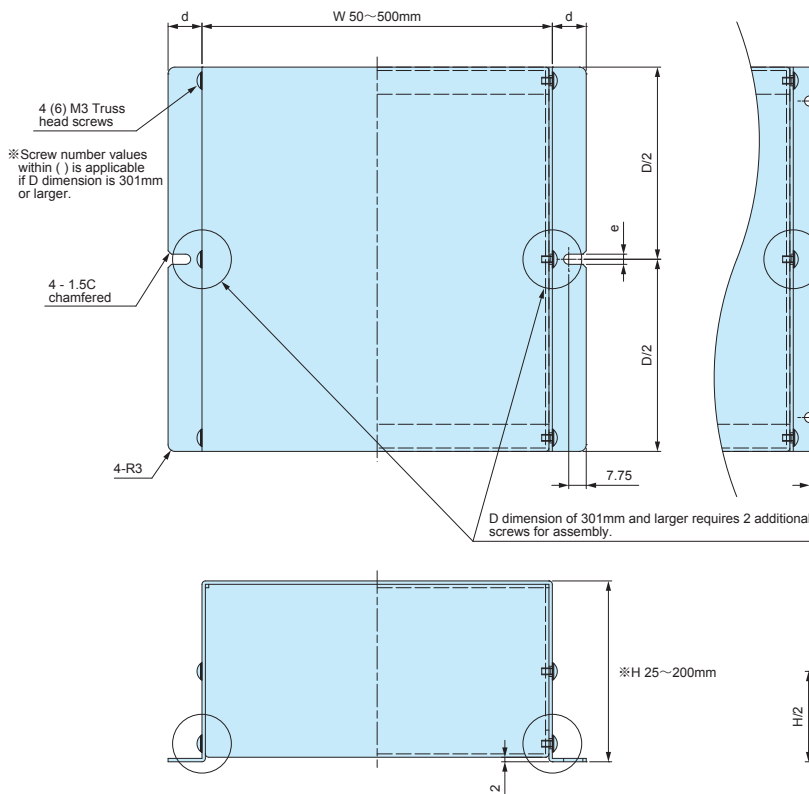
| D dimension | a |
|-------------|----|
| 50 ~ 60 | 10 |
| 61 ~ 140 | 15 |
| 141 ~ 240 | 20 |
| 241 ~ 400 | 30 |

Caution : Refer to the available dimensions on the chart.

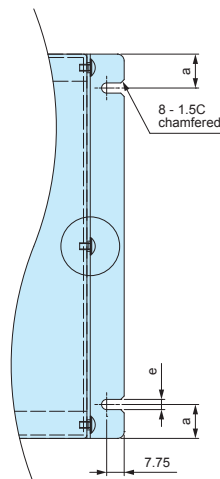


[B12] Type Reinforced • Panel thickness : 1.2mm

2-hole flange type



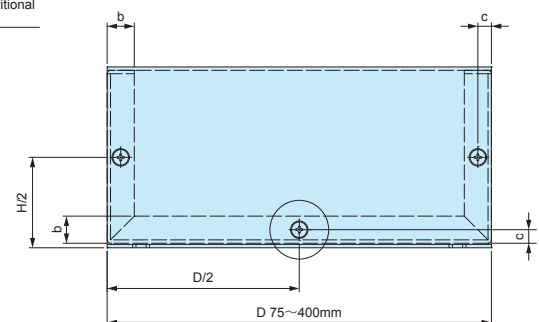
4-hole flange type



| D dimension | a |
|-------------|----|
| 50 ~ 60 | 10 |
| 61 ~ 140 | 15 |
| 141 ~ 240 | 20 |
| 241 ~ 400 | 30 |

| Base Type | b | c | d | e |
|-----------|----|---|----|-----|
| [B12] | 10 | 5 | 15 | 4.5 |
| [B15] | 12 | 6 | 20 | 5.5 |

Caution : Refer to the available dimensions on the chart.



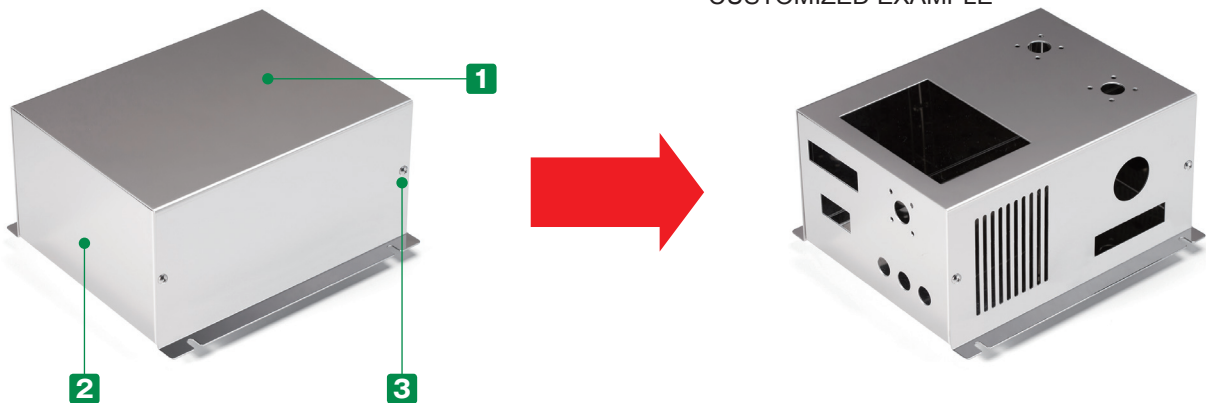
MBSF SERIES

CUSTOM SIZED FLANGED STAINLESS STEEL ENCLOSURE



- Adjustable sizes available in 1mm intervals, with W dimensions from 50 ~ 500mm, D dimensions from 50 ~ 400mm, and H dimensions from 20 ~ 250mm.
- Wall mount flange holes available in 2 models: 2-hole, and 4-hole types.
- SUS304 stainless steel allows the enclosure to be conductive.

CUSTOMIZED EXAMPLE

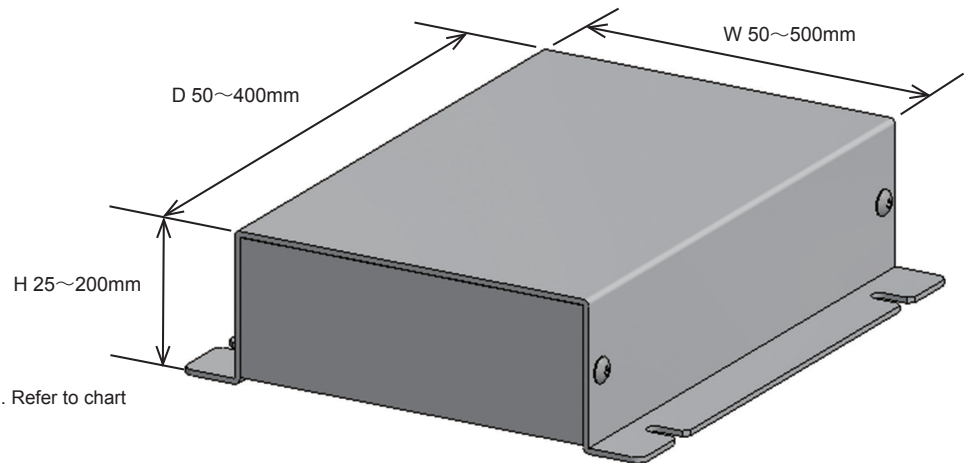


Components

| No. | Part name | Pcs | Material | Color / Finish |
|-----|--------------------|--------|------------------------|----------------------|
| 1 | Cover | 1 | Stainless steel SUS304 | Bright annealed (BA) |
| 2 | Base | 1 | Stainless steel SUS304 | Bright annealed (BA) |
| 3 | Screw (Truss M3-5) | 4 or 6 | Stainless steel | Unfinished |

1 Specify Dimensions

Specify dimensions in 1mm intervals.



Caution : Not all size combinations are possible. Refer to chart for more information.

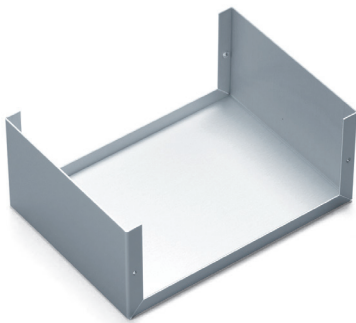
■ Panel thickness and base types vary by W / H / D dimensions.

Refer to the chart on page MBS-3 for A08, B10 or B12 type selection by W, H & D dimensions.

Base Type A

[A10] Type

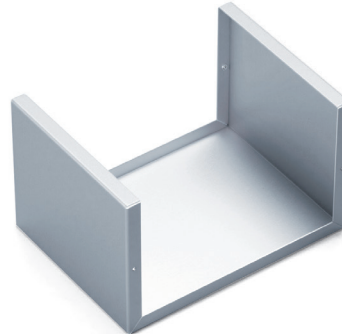
W : 200 • H : 100 • D : 400 or smaller
Type A : Standard • Panel thickness : 1.0mm



Base Type B

[B10] Type

W : 300 • H : 200 • D : 400 or smaller
Type B : Reinforced • Panel thickness : 1.0mm



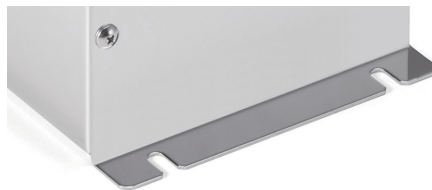
[B12] Type

W : 500 • H : 200 • D : 400 or smaller
Type B : Reinforced • Panel thickness : 1.2mm

2 Select Flange-hole Type



2 (1 on each side)



4 (2 on each side)

Confirm Product No.

Confirm an assigned product number in the following order format as below.

Product no. MBSF

155

W

80

H

200

D

A

Base type

10

Panel thickness

4

Flange hole

Example : W = 155 mm, H = 80 mm, D = 200 mm, A base type in panel thickness of 1.0mm, 4 flange holes

Lead time

Custom Size Only

9 business days (1 ~ 3 pcs)

Custom Size + Hole Milling

10 business days (1 ~ 3 pcs)

Order Inquiry

For more information, contact us here at sales@takachi-el.co.jp

MBSF Type Chart

Refer to the below chart for A10, B10 or B12 type selection by W, H & D dimensions.

[A10]Type

Standard • Panel thickness : 1.0mm

[B10]Type

Reinforced • Panel thickness : 1.0mm

[B12]Type

Reinforced • Panel thickness : 1.2mm

■ [—] sizes are not available.

| W | H | D | 4x fixing screw points | | | | | | | | | | 6x fixing screw points | | | |
|---------|-------|---------|------------------------|-------|---------|---------|---------|---------|---------|---------|---------|---------|------------------------|---------|---------|---------|
| | | | 50~74 | 75~99 | 100~125 | 126~150 | 151~175 | 176~200 | 201~225 | 226~250 | 251~275 | 276~300 | 301~325 | 326~350 | 351~375 | 376~400 |
| 50~99 | 25~35 | 25~35 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 |
| | | 36~50 | — | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | A10 | B10 | B10 | B10 | B10 |
| 100~150 | 25~29 | 25~29 | — | A10 | A10 | A10 | A10 | A10 | B10 | B10 | B10 | B10 | — | — | — | — |
| | | 30~50 | — | A10 | A10 | A10 | A10 | A10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | A10 | A10 | A10 | A10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | A10 | A10 | A10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| 151~200 | 25~29 | 25~29 | — | A10 | A10 | A10 | A10 | A10 | B10 | B10 | B10 | B10 | — | — | — | — |
| | | 30~50 | — | A10 | A10 | A10 | A10 | A10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 101~125 | — | — | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 126~150 | — | — | — | — | — | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| 201~250 | 25~29 | 25~29 | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | — | — | — | — |
| | | 30~50 | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 101~125 | — | — | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 126~150 | — | — | — | — | — | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 151~175 | — | — | — | — | — | — | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 176~200 | — | — | — | — | — | — | — | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| 251~300 | 25~29 | 25~29 | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | — | — | — | — |
| | | 30~50 | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 101~125 | — | — | — | — | B10 | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 126~150 | — | — | — | — | — | B10 | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 151~175 | — | — | — | — | — | — | B10 | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| | | 176~200 | — | — | — | — | — | — | — | B10 | B10 | B10 | B12 | B12 | B12 | B12 |
| 301~350 | 30~50 | 30~50 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 101~125 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 126~150 | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 151~175 | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 176~200 | — | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| 351~400 | 30~50 | 30~50 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 101~125 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 126~150 | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 151~175 | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 176~200 | — | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| 401~450 | 30~50 | 30~50 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 101~125 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 126~150 | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 151~175 | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| 451~500 | 30~50 | 30~50 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 51~75 | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 76~100 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 101~125 | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 126~150 | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 151~175 | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 | B12 |
| | | 176~200 | — | — | — | — | — | — | — | B12 | B12 | B12 | B12 | B12 | B12 | B12 |

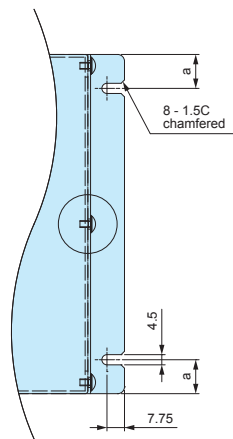
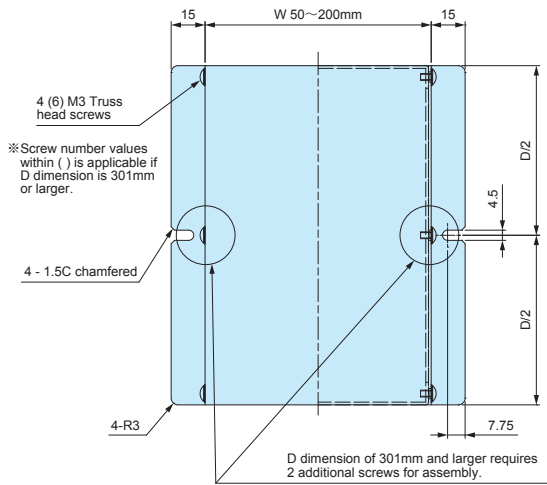
MBSF dimensions

[A10] Type

Standard • Panel thickness : 1.0mm

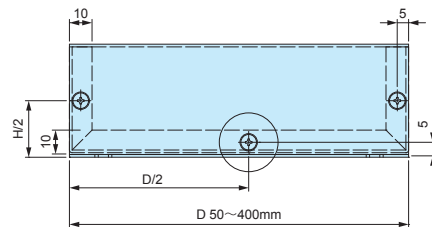
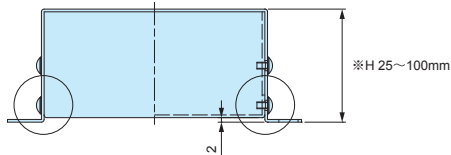
2-hole flange type

4-hole flange type



| D dimension | a |
|-------------|----|
| 50 ~ 60 | 10 |
| 61 ~ 140 | 15 |
| 141 ~ 240 | 20 |
| 241 ~ 400 | 30 |

Caution : Refer to the available dimensions on the chart.



[B10] Type

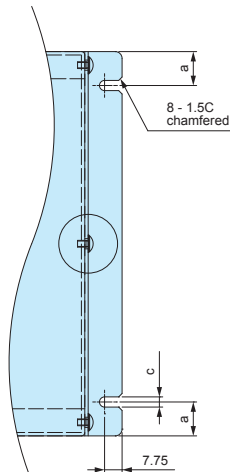
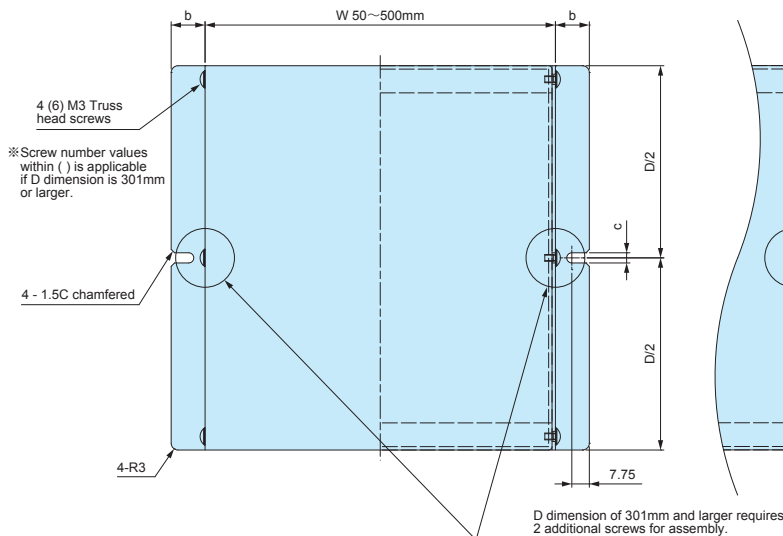
Reinforced • Panel thickness : 1.0mm

[B12] Type

Reinforced • Panel thickness : 1.2mm

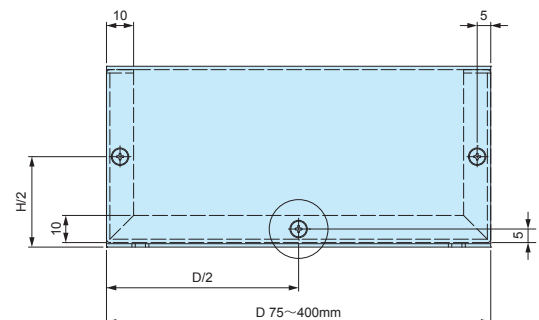
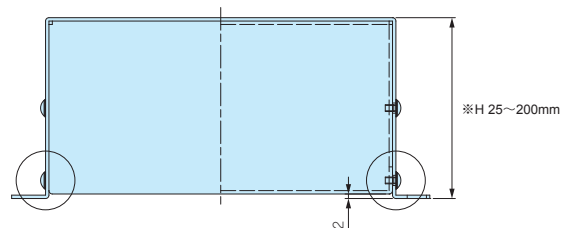
2-hole flange type

4-hole flange type



| D dimension | a | b | c |
|-------------|----|----|-----|
| 50 ~ 60 | 10 | 15 | 4.5 |
| 61 ~ 140 | 15 | 15 | 4.5 |
| 141 ~ 240 | 20 | 15 | 4.5 |
| 241 ~ 400 | 30 | 20 | 5.5 |

Caution : Refer to the available dimensions on the chart.



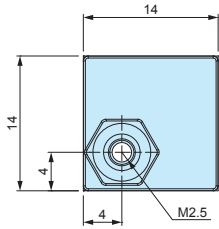
AST series**INSERT NUT ADHESIVE STANDOFF**

- Double-sided adhesive tape allows the standoff to be mounted quickly and easily; allows PCB mounting in non-boss enclosures.
- Convenient for installing PCBs into enclosures without the need for customization.
- Please ensure that surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.

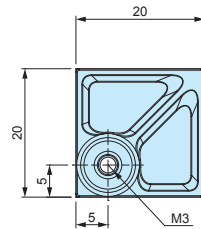
AST dimensions

- DXF/DWG/PDF/STP drawings available on our website.

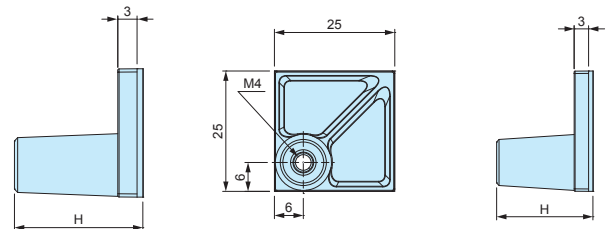
AST2.5-□



AST3-□



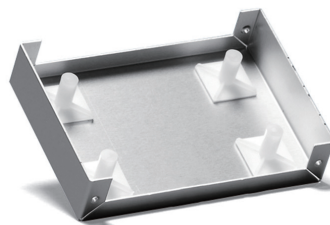
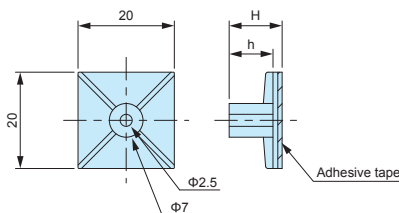
AST4-□

**Product no. / Details****Bulk package**

| Product no | H dimension | Included screw | Recommended PCB thickness (mm) | Recommended torque (N · m) | Weight (g) | Pack of | Product no | Pack of |
|------------|-------------|-----------------|--------------------------------|----------------------------|---------------|---------|--------------|---------|
| AST2.5-5B | 5 | M2.5-5 pan head | 1.0 ~ 2.0 | 0.3 | 0.6 (1 piece) | 4 | AST2.5-5B-P | 100 |
| AST2.5-10B | 10 | M2.5-5 pan head | 1.0 ~ 2.0 | 0.3 | 0.8 (1 piece) | 4 | AST2.5-10B-P | 100 |
| AST3-6B | 6 | M3-6 pan head | 1.0 ~ 3.0 | 0.4 | 1.5 (1 piece) | 4 | AST3-6B-P | 100 |
| AST3-10B | 10 | M3-6 pan head | 1.0 ~ 3.0 | 0.4 | 1.6 (1 piece) | 4 | AST3-10B-P | 100 |
| AST3-15B | 15 | M3-6 pan head | 1.0 ~ 3.0 | 0.4 | 1.8 (1 piece) | 4 | AST3-15B-P | 100 |
| AST3-20B | 20 | M3-6 pan head | 1.0 ~ 3.0 | 0.4 | 2.1 (1 piece) | 4 | AST3-20B-P | 100 |
| AST4-10.5B | 10.5 | M4-8 pan head | 1.0 ~ 3.5 | 0.8 | 2.6 (1 piece) | 4 | AST4-10.5B-P | 50 |
| AST4-20B | 20 | M4-8 pan head | 1.0 ~ 3.5 | 0.8 | 3.2 (1 piece) | 4 | AST4-20B-P | 50 |

- Base material / color : Nylon 66 (UL94V-2) / Black
- Nut • screw material / finish : Steel / Trivalent chromate

- Bulk packaging is available. See "Bulk package" column above.
- Screws are not included for bulk packages.

ASR series**ADHESIVE PCB STANDOFF****ASR dimensions**

- DXF/DWG/PDF drawings available on our website.

Technical Data

Recommended torque : 0.4N · m

- M3 tapping screw use adhesive standoff.
Recommended to be used with EM-3 or EM-3-6 self-tapping screws (See page 398).
- Please ensure that surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.

Product no. / Details

- Material / Color: Nylon 66 (UL94V-2) / Natural

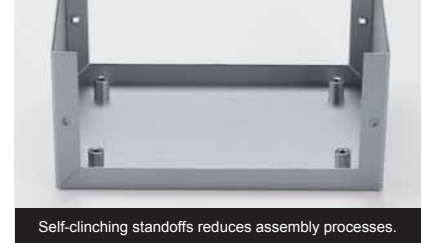
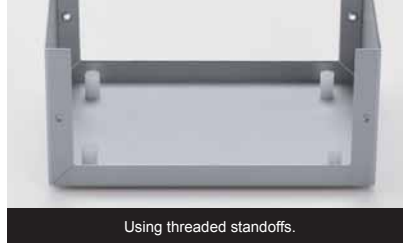
| Product no | H | h | Weight (g) | Pack of |
|------------|------|------|---------------|---------|
| ASR- 5 | 5.1 | 3.1 | 0.9 (1 piece) | 10 |
| ASR- 6 | 6.4 | 4.4 | 1.0 (1 piece) | 10 |
| ASR- 7 | 7.2 | 5.1 | 0.9 (1 piece) | 10 |
| ASR- 8 | 8.1 | 6.3 | 0.9 (1 piece) | 10 |
| ASR- 9 | 9 | 7 | 1.0 (1 piece) | 10 |
| ASR-11 | 11 | 9 | 1.0 (1 piece) | 10 |
| ASR-13 | 12.7 | 10.7 | 1.2 (1 piece) | 10 |
| ASR-14.5 | 14.7 | 12.8 | 1.1 (1 piece) | 10 |
| ASR-16 | 15.9 | 13.9 | 1.3 (1 piece) | 10 |
| ASR-19 | 19.1 | 17.1 | 1.4 (1 piece) | 10 |

Clinching Fastener

Self-clinching Standoff / Stud / Nut

Easy attaching of self-clinching fasteners into simple through-holes.

Need standoffs for mounting PCB/ Components in metallic enclosures.



Need studs in/on aluminium enclosures.



Need tough thread hole(s) on 1.0mm thick aluminium.



● A wide variety of self-clinching fasteners are available for selection.

**ST · STS series**

Self-clinching Standoffs
(Through-hole type)

**SB · SBS series**

Self-clinching Standoffs
(Blind type)

**NM · NS series**

Self-clinching nuts
(Round type)

**NR series**

Self-clinching nuts
(Hex type)

**CS series**

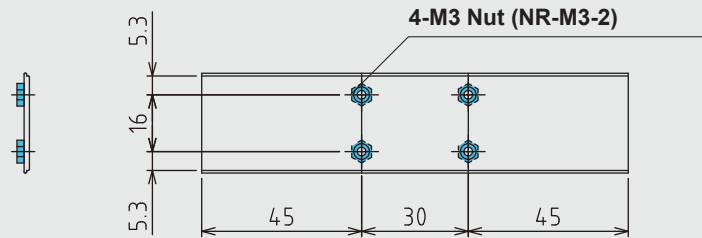
Self-clinching studs

**BN series**

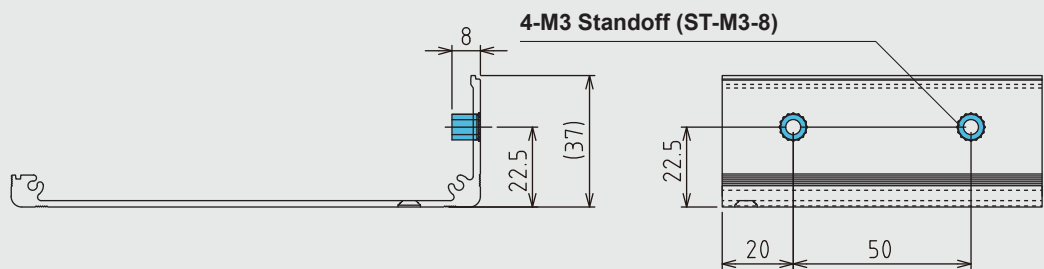
Self-clinching nuts
(Blind type)

- See "Thread and length size chart" on page clinching-3 to clinching-6. Kindly specify and put the relevant "Part #" in your drawings.

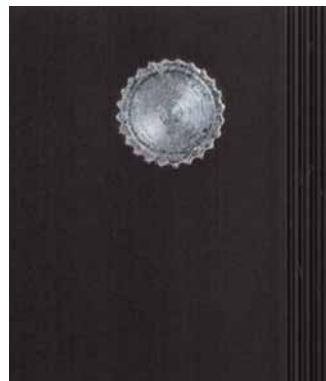
Example



Example



EXAMPLE



ST • STS Through-hole type

SB • SBS Blind type



Thread and length size chart

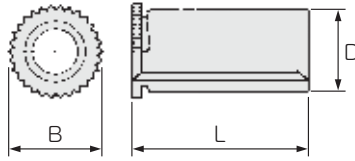


ST·STS series

Standoffs (Through-hole type)



Drawing



Material : Steel / Trivalent zinc plated
Stainless steel / Passivated

For length (L) up to 12mm, it will be fully threaded.
For length (L) 13mm or longer, threading is only up to 10mm.

Stainless steel models are BTO (built-to-order) . New sizes.

All dimensions are in mm

| Part # (Steel) | Part # (Stainless steel) for use with panel thickness t=1.0mm+ | Part # (Stainless steel) for use with panel thickness t=0.8mm | Thread code | Thread pitch | D -0.08 | B +/-0.2 | L +/-0.1 | Minimum sheet thickness | Hole size +0.08 / -0 | *Minimum distance |
|-------------------|---|--|----------------|-----------------|------------|-------------|-------------|-------------------------------|-------------------------|----------------------|
| ST-M2-6 | | | M2 | 0.4 | 4.18 | 5.2 | 6 | 1.0 | 4.2 | 6.0 |
| ST-M2-8 | | | | | | | 8 | | | |
| ST-M2-10 | | | | | | | 10 | | | |
| ST-M2-12 | | | | | | | 12 | | | |
| ST-M2.5-6 | | | M2.5 | 0.45 | 4.18 | 5.2 | 6 | 1.0 | 4.2 | 6.0 |
| ST-M2.5-8 | | | | | | | 8 | | | |
| ST-M2.5-10 | | | | | | | 10 | | | |
| ST-M2.5-12 | | | | | | | 12 | | | |
| ST-M3-3 | STS-M3-3 | | M3 | 0.5 | 6.18 | 7.2 | 3 | 0.8-1.0 | 6.2 | 7.0 |
| ST-M3-4 | STS-M3-4 | | | | | | 4 | | | |
| ST-M3-5 | STS-M3-5 | | | | | | 5 | | | |
| ST-M3-6 | STS-M3-6 | STS-M3-6-0.8 | | | | | 6 | | | |
| ST-M3-7 | STS-M3-7 | | | | | | 7 | | | |
| ST-M3-8 | STS-M3-8 | STS-M3-8-0.8 | | | | | 8 | | | |
| ST-M3-9 | STS-M3-9 | | | | | | 9 | | | |
| ST-M3-10 | STS-M3-10 | STS-M3-10-0.8 | | | | | 10 | | | |
| ST-M3-11 | STS-M3-11 | | | | | | 11 | | | |
| ST-M3-12 | STS-M3-12 | STS-M3-12-0.8 | | | | | 12 | | | |
| ST-M3-13 | | | | | | | 13 | | | |
| ST-M3-14 | | | | | | | 14 | | | |
| ST-M3-15 | | | | | | | 15 | | | |
| ST-M3-16 | | | | | | | 16 | | | |
| ST-M3-17 | | | | | | | 17 | | | |
| ST-M3-18 | | | | | | | 18 | | | |
| ST-M3-20 | | | | | | | 20 | | | |
| ST-M4-6 | STS-M4-6 | | M4 | 0.7 | 7.18 | 8.2 | 6 | 1.0 | 7.2 | 8.0 |
| ST-M4-7 | | | | | | | 7 | | | |
| ST-M4-8 | STS-M4-8 | | | | | | 8 | | | |
| ST-M4-9 | STS-M4-9 | | | | | | 9 | | | |
| ST-M4-10 | STS-M4-10 | | | | | | 10 | | | |
| ST-M4-12 | | | | | | | 12 | | | |
| ST-M4-14 | | | | | | | 14 | | | |
| ST-M4-16 | | | | | | | 16 | | | |
| ST-M5-6 | | | M5 | 0.8 | 7.18 | 8.2 | 6 | 1.0 | 7.2 | 8.0 |
| ST-M5-8 | | | | | | | 8 | | | |
| ST-M5-10 | | | | | | | 10 | | | |
| ST-M5-12 | | | | | | | 12 | | | |

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

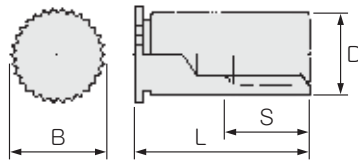
Thread and length size chart

SB·SBS series

Standoffs (Blind type)



Drawing



Material : Steel / Trivalent zinc plated
Stainless steel / Passivated

All dimensions are in mm

| Part # (Steel) | Part # (Stainless steel) | Thread code | Thread pitch | D -0.08 | B +/-0.2 | L +/-0.1 | Minimum S | Min. sheet thickness | Hole size +0.08 / -0 | *Minimum distance |
|-------------------|-----------------------------|----------------|-----------------|------------|-------------|-------------|--------------|----------------------------|-------------------------|----------------------|
| SB-M2-6 | | M2 | 0.4 | 4.18 | 5.2 | 6 | 3 | 1.0 | 4.2 | 6.0 |
| SB-M2-8 | | | | | | 8 | 4 | | | |
| SB-M2-10 | | | | | | 10 | 4 | | | |
| SB-M2-12 | | | | | | 12 | 5 | | | |
| SB-M2.5-6 | | M2.5 | 0.45 | 4.18 | 5.2 | 6 | 3 | 1.0 | 4.2 | 6.0 |
| SB-M2.5-8 | | | | | | 8 | 4 | | | |
| SB-M2.5-10 | | | | | | 10 | 4 | | | |
| SB-M2.5-12 | | | | | | 12 | 5 | | | |
| SB-M3-6 | SBS-M3-6 | M3 | 0.5 | 6.18 | 7.2 | 6 | 3 | 1.0 | 6.2 | 7.0 |
| SB-M3-7 | SBS-M3-7 | | | | | 7 | 3 | | | |
| SB-M3-8 | SBS-M3-8 | | | | | 8 | 4 | | | |
| SB-M3-9 | SBS-M3-9 | | | | | 9 | 4 | | | |
| SB-M3-10 | SBS-M3-10 | | | | | 10 | 4 | | | |
| SB-M3-11 | | | | | | 11 | 4 | | | |
| SB-M3-12 | SBS-M3-12 | | | | | 12 | 5 | | | |
| SB-M3-13 | | | | | | 13 | 5 | | | |
| SB-M3-14 | SBS-M3-14 | | | | | 14 | 6.5 | | | |
| SB-M3-15 | | | | | | 15 | 6.5 | | | |
| SB-M3-16 | SBS-M3-16 | | | | | 16 | 6.5 | | | |
| SB-M3-17 | | | | | | 17 | 6.5 | | | |
| SB-M3-18 | | | | | | 18 | 9.5 | | | |
| SB-M3-20 | | | | | | 20 | 9.5 | | | |
| SB-M4-6 | SBS-M4-6 | M4 | 0.7 | 7.18 | 8.2 | 6 | 3 | 1.0 | 7.2 | 8.0 |
| SB-M4-7 | | | | | | 7 | 3 | | | |
| SB-M4-8 | SBS-M4-8 | | | | | 8 | 4 | | | |
| SB-M4-9 | | | | | | 9 | 4 | | | |
| SB-M4-10 | SBS-M4-10 | | | | | 10 | 4 | | | |
| SB-M4-12 | | | | | | 12 | 5 | | | |
| SB-M4-14 | | | | | | 14 | 6.5 | | | |
| SB-M4-16 | | | | | | 16 | 6.5 | | | |
| SB-M5-8 | | M5 | 0.8 | 7.18 | 8.2 | 8 | 4 | 1.0 | 7.2 | 8.0 |
| SB-M5-10 | | | | | | 10 | 4 | | | |
| SB-M5-12 | | | | | | 12 | 5 | | | |

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

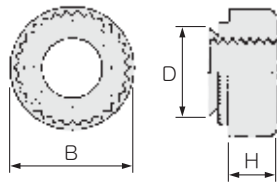
Thread and length size chart

NM·NS series

Nuts (Round through-hole type)



Drawing



Material : Steel / Trivalent zinc plated
Stainless steel / Passivated

All dimensions are in mm

| Part # (Steel) | Part # (Stainless steel) | Thread code | Thread pitch | Maximum D | B +/-0.2 | H +/-0.1 | Min. sheet thickness | Hole size +0.08 / -0 | *Minimum distance |
|-------------------|-----------------------------|----------------|-----------------|--------------|-------------|-------------|----------------------------|-------------------------|----------------------|
| NM-M2-1 | | M2 | 0.4 | 4.22 | 6.3 | 1.5 | 1.0 | 4.25 | 4.8 |
| NM-M2.5-1 | | M 2.5 | 0.45 | 4.22 | 6.3 | 1.5 | 1.0 | 4.25 | 4.8 |
| NM-M2.5-2 | | | | | | | 1.4 | | |
| NM-M3-1 | NS-M3-1 | M3 | 0.5 | 4.22 | 6.3 | 1.5 | 1.0 | 4.25 | 4.8 |
| NM-M3-2 | | | | | | | 1.4 | | |
| NM-M4-1 | NS-M4-1 | M4 | 0.7 | 5.38 | 7.9 | 2.0 | 1.0 | 5.4 | 6.9 |
| NM-M4-2 | | | | | | | 1.4 | | |
| NM-M5-1 | NS-M5-1 | M5 | 0.8 | 6.38 | 8.7 | 2.0 | 1.0 | 6.4 | 7.1 |
| NM-M5-2 | | | | | | | 1.4 | | |

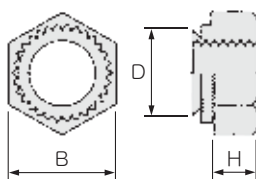
*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

NR series

Nuts (Hex through-hole type)



Drawing



Material : Steel / Trivalent zinc plated

All dimensions are in mm

| Part # | Thread code | Thread pitch | Maximum D | B -0.2 | H +/-0.1 | Min. sheet thickness | Hole size +0.08 / -0 | *Minimum distance |
|-----------|----------------|-----------------|--------------|-----------|-------------|----------------------------|-------------------------|----------------------|
| NR-M2-1 | M2 | 0.4 | 4.45 | 5.5 | 2.0 | 1.0 | 4.5 | 4.5 |
| NR-M2.5-1 | M 2.5 | 0.45 | 4.45 | 5.5 | 2.0 | 1.0 | 4.5 | 4.5 |
| NR-M3-1 | M3 | 0.5 | 4.45 | 5.5 | 2.0 | 1.0 | 4.5 | 4.5 |
| NR-M3-2 | | | | | | 1.4 | | |
| NR-M4-1 | M4 | 0.7 | 5.45 | 7.0 | 2.2 | 1.0 | 5.5 | 5.5 |
| NR-M4-2 | | | | | | 1.4 | | |
| NR-M5-1 | M5 | 0.8 | 6.45 | 8.0 | 3.0 | 1.0 | 6.5 | 6.5 |
| NR-M5-2 | | | | | | 1.4 | | |

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

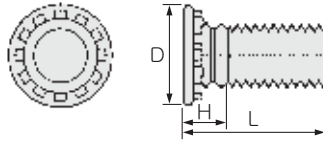
Thread and length size chart

CS series

Studs (Flush-head type)



Drawing



Material : Steel / Trivalent zinc plated

All dimensions are in mm

| Part # | Thread code | Thread pitch | D +/-0.4 | Maximum H | L +/-0.4 | Min. sheet thickness | Hole size +0.08 / -0 | *Minimum distance |
|----------|-------------|--------------|-------------|--------------|-------------|----------------------------|-------------------------|----------------------|
| CS-M3-8 | M3 | 0.5 | 4.6 | 2.1 | 8 | t1.0 | 3.0 | 5.6 |
| CS-M3-10 | | | | | 10 | | | |
| CS-M3-12 | | | | | 12 | | | |
| CS-M3-15 | | | | | 15 | | | |
| CS-M4-8 | M4 | 0.7 | 5.9 | 2.4 | 8 | t1.0 | 4.0 | 7.2 |
| CS-M4-10 | | | | | 10 | | | |
| CS-M4-12 | | | | | 12 | | | |
| CS-M4-15 | | | | | 15 | | | |

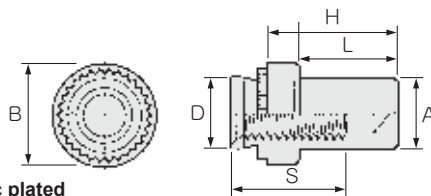
*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

BN series

Nuts (Blind type)



Drawing



Material : Steel / Trivalent zinc plated



A specialized press machine for clinching is utilized to ensure that the standoffs / studs / nuts are securely attached.

All dimensions are in mm

| Part # | Thread code | Thread pitch | Maximum D | Maximum A | B +/-0.25 | Minimum S | H +/-0.25 | Min. sheet thickness | Hole size +0.08 / -0 | *Minimum distance |
|---------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------------------|-------------------------|----------------------|
| BN-M3-1 | M3 | 0.5 | 4.22 | 3.8 | 6.35 | 5.3 | 9.6 | 1.0 | 4.25 | 4.8 |
| BN-M3-2 | | | | | | | | 1.4 | | |
| BN-M4-1 | M4 | 0.7 | 5.38 | 5.2 | 7.95 | 6.8 | 11.2 | 1.0 | 5.4 | 6.9 |
| BN-M4-2 | | | | | | | | 1.4 | | |

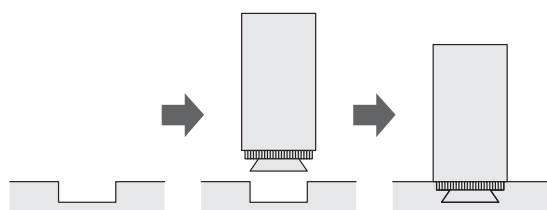
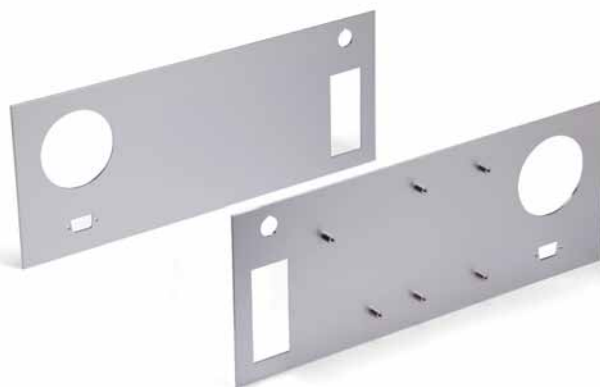
*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

Clinching fastener

Concealed-head Self-clinching Standoffs (Non-through-hole type)

Installed into recessed pockets so that one side of the panel remains unmarred. Standoffs can be mounted onto 1.5mm or thicker material without requiring a through-hole to be milled.

Concealed-head standoffs/studs ensure that the IP rating (if the enclosure is a waterproof series) is maintained.



Concealed-head standoffs/studs give an aesthetically better finish on the enclosure. A recess cut is made on the internal side, and the standoffs are press-inserted in.

Mounting Mark Visibility

| 板厚 | 取付跡 | |
|--------|-----|----|
| | M3 | M4 |
| 1.5mm | △ | × |
| 2.0mm | ○ | ○ |
| 2.5mm | ○ | ○ |
| 3.0mm~ | ○ | ○ |



Example : Clinching M4 standoff on 1.5mm thick material.
Mounting is possible on 1.5mm thick material. Mounting mark would be almost invisible on 2.5mm or thicker material.

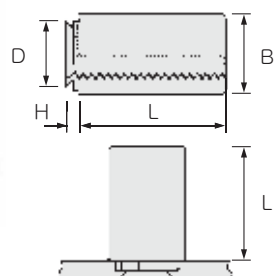
○ Almost invisible
○ Barely visible
△ Somewhat visible
× Very visible

All dimensions are in mm

MK series

Concealed-head Clinching Standoffs

Drawing



Material : Steel / Nickel plated

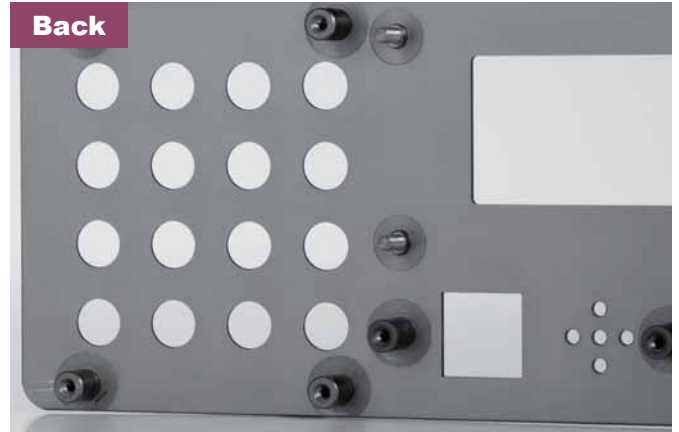
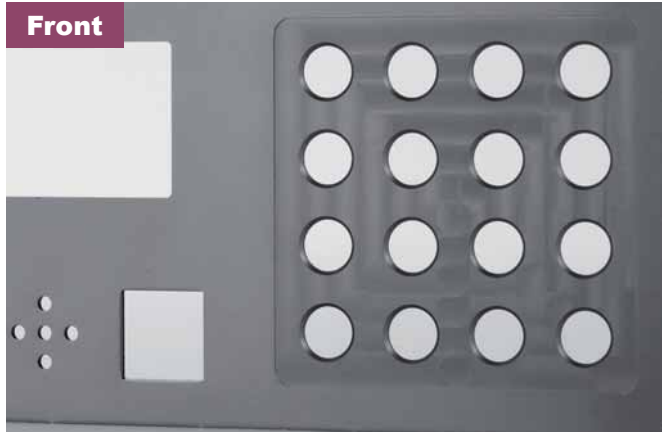
| Part # | Thread code | Thread pitch | Maximum D | B +/-0.1 | H +0 -0.1 | L +/-0.1 | Min. sheet thickness | Hole size +0.08 / -0 | *Minimum distance |
|----------|-------------|--------------|-----------|----------|-----------|----------|----------------------|----------------------|-------------------|
| MK-M3-3 | M 3 | 0.5 | 4.45 | 6.0 | 0.95 | 3 | 1.5 | 4.5 | 4.5 |
| MK-M3-4 | | | | | | 4 | | | |
| MK-M3-5 | | | | | | 5 | | | |
| MK-M3-6 | | | | | | 6 | | | |
| MK-M3-7 | | | | | | 7 | | | |
| MK-M3-8 | | | | | | 8 | | | |
| MK-M3-9 | | | | | | 9 | | | |
| MK-M3-10 | | | | | | 10 | | | |
| MK-M3-11 | | | | | | 11 | | | |
| MK-M3-12 | | | | | | 12 | | | |
| MK-M4-3 | M 4 | 0.7 | 5.45 | 8.0 | 0.95 | 3 | 1.5 | 5.5 | 5.5 |
| MK-M4-4 | | | | | | 4 | | | |
| MK-M4-5 | | | | | | 5 | | | |
| MK-M4-6 | | | | | | 6 | | | |
| MK-M4-7 | | | | | | 7 | | | |
| MK-M4-8 | | | | | | 8 | | | |
| MK-M4-10 | | | | | | 10 | | | |
| MK-M4-12 | | | | | | 12 | | | |
| MK-M4-14 | | | | | | 14 | | | |

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.
Only available together with installation services. Not available separately.

Aluminium stud welding

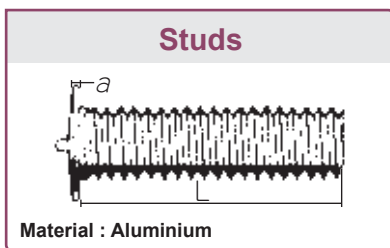
Welded Fasteners

Welded fasteners on aluminium objects.
Standoffs and studs with little surface weld marks can be achieved.



Weld marks may be more visible on plates thinner than 2.0mm.

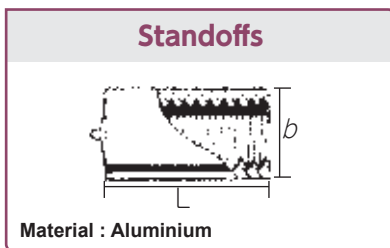
All dimensions are in mm



| Part # | Thread code | Thread pitch | a | L +/-0.2 | *Minimum distance |
|-----------|-------------|--------------|---------------|-------------|-------------------|
| AMS-M3-8 | M3 | 0.5 | 0.8 ± 0.1 | 8 | 7.0 |
| AMS-M3-10 | | | | 10 | |
| AMS-M3-12 | | | | 12 | |
| AMS-M3-15 | | | | 15 | |
| AMS-M4-8 | M4 | 0.7 | 0.8 ± 0.1 | 8 | 7.0 |
| AMS-M4-10 | | | | 10 | |
| AMS-M4-12 | | | | 12 | |
| AMS-M4-15 | | | | 15 | |

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.

All dimensions are in mm



| Part # | Thread code | Thread pitch | b | L +/-0.2 | Available screw length | *Minimum distance |
|-----------|-------------|--------------|---|-------------|------------------------|-------------------|
| AFS-M3-5 | M3 | 0.5 | 6 | 5 | 2.0 | 7.0 |
| AFS-M3-6 | | | | 6 | 2.5 | |
| AFS-M3-7 | | | | 7 | 3.5 | |
| AFS-M3-8 | | | | 8 | 4.5 | |
| AFS-M3-9 | | | | 9 | 5.5 | |
| AFS-M4-8 | M4 | 0.7 | 8 | 8 | 3.5 | 7.0 |
| AFS-M4-10 | | | | 10 | 5.5 | |
| AFS-M4-12 | | | | 12 | 7.5 | |

*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.

Welding



Example



Stainless steel and steel weld fasteners are also available. Please inquire for more details.

Only available together with installation services. Not available separately.

Insert Nuts and Heliserts (for plastic)

Inserts for plastic

Simple and easy way for stable fastening.
Simply insert the nuts into the bosses, and it will be refastenable.

LINE-UP

Press-in inserts



Material : Brass / Unfinished

| Part # | Size | Hole size in bosses | Length (mm) |
|--------|---------|---------------------|-------------|
| SP-M3 | M3×0.5P | 8 ~ 10 | 5.3 |
| SP-M4 | M4×0.7P | 9.5 ~ 12 | 7.4 |
| SP-M5 | M5×0.8P | 12 ~ 14 | 8.3 |

Threaded inserts



Material : Brass / Nickel plated

| Part # | Size | Hole size in bosses | Length (mm) |
|-----------|------------|---------------------|-------------|
| IRB-2603S | M2.6×0.45P | 5.5 ~ 6 | 3.0 |
| IRB-304S | M3×0.5P | 5.5 ~ 6 | 4.0 |
| IRB-404S | M4×0.7P | 6 ~ 10 | 4.0 |

Heliserts



Material : Stainless steel / Unfinished

| Part # | Size | Hole size in bosses | Length (mm) |
|-----------|------------|---------------------|-------------|
| 2TNM-M2 | M2×0.4P | 4 ~ 5 | 2.0 |
| 2TMN-M2.6 | M2.6×0.45P | 4.8 ~ 6 | 2.6 |
| 2TMN-M3 | M3×0.5P | 4.8 ~ 6 | 3.0 |

Comparison chart

| Point \ Method | Press-in inserts | Threaded inserts | Heliserts |
|----------------|------------------|------------------|-----------|
| Strength | ○ | ◎ | ◎ |
| Cost | ◎ | ▲ | ▲ |
| Boss size | ▲ | ○ | ◎ |

◎ : Excellent ○ : Good ▲ : Average

EXAMPLE

Press-in inserts



Threaded inserts



Heliserts

