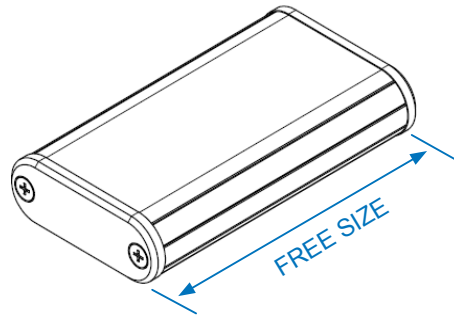
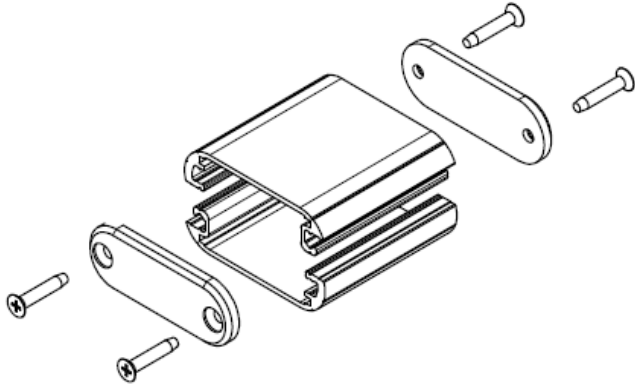


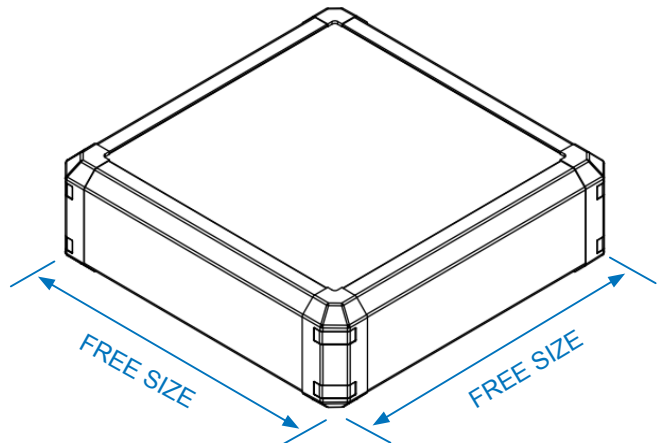
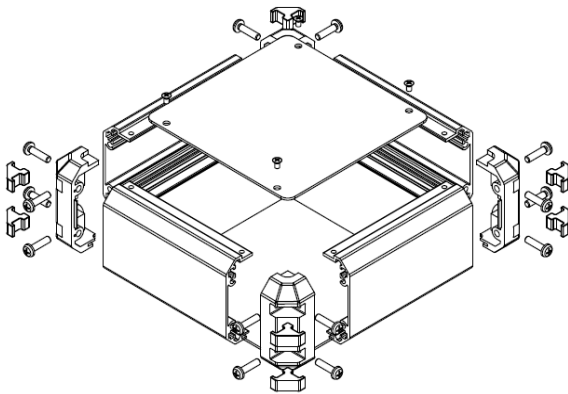
## VARIETY OF CUSTOM SIZED ENCLOSURES

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.

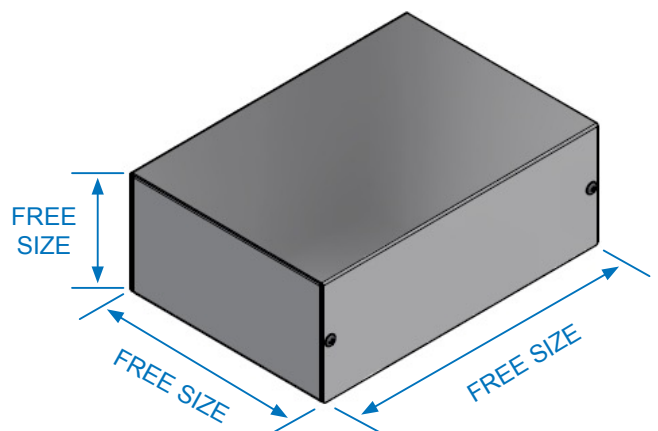
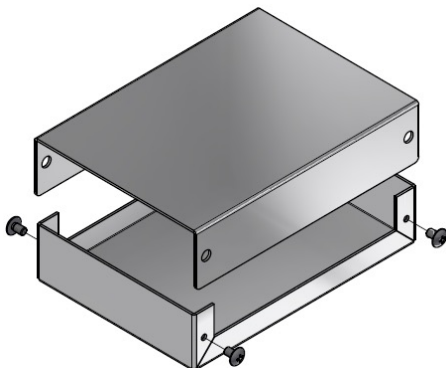
### EXTRUDED ALUMINIUM MODEL



### 4 SIDE-EXTRUDED ALUMINIUM MODEL




### SHEET METAL MODEL



**More custom sized models are available.**

[https://www.takachi-enclosure.com/cat/flexible\\_size](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.

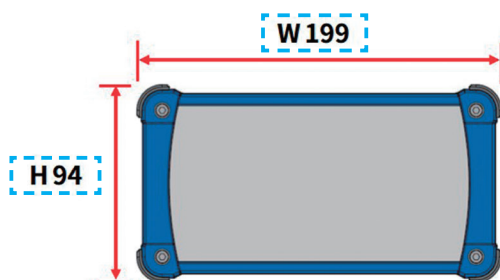


<b>CUSTOM SIZE WEB QUOTATION</b>	3D View - Silver/Navy	3D View - 16 color types
3D View - With tilt legs	Exploded view	Color code

■ 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.

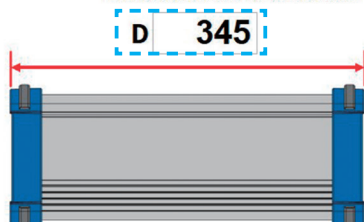
## STEP1 Select required width / height.



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)  $\neq$  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.

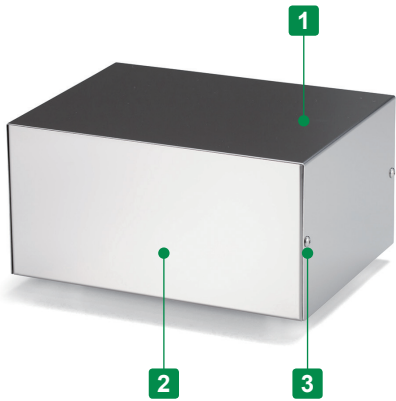


MBS SERIES

CUSTOM SIZED STAINLESS STEEL ENCLOSURE



- Adjustable sizes available in 1mm intervals, with W dimensions from 50 ~ 500mm, D dimensions from 50 ~ 500mm, and H dimensions from 20 ~ 250mm.
- SUS304 stainless steel allows the enclosure to be conductive.



CUSTOMIZED EXAMPLE



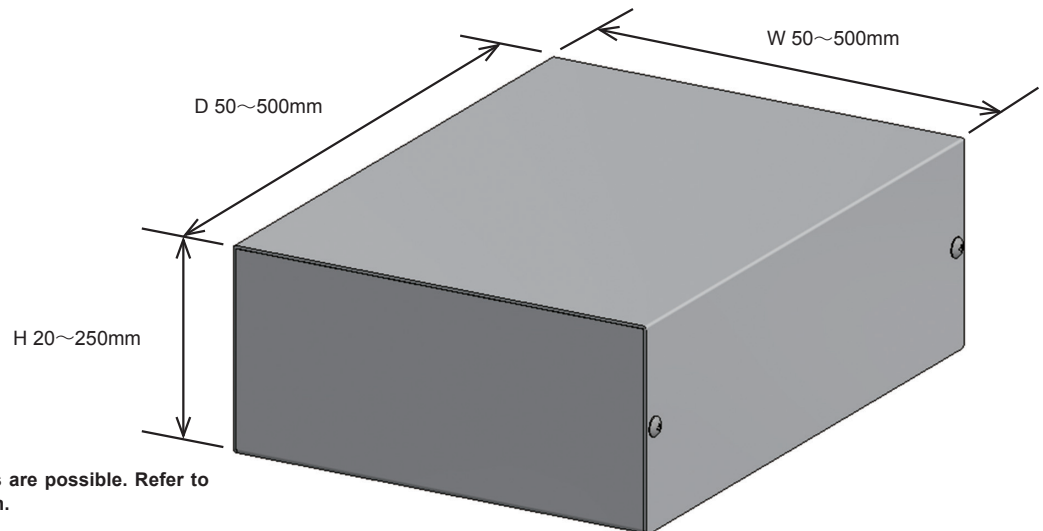
Components

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.

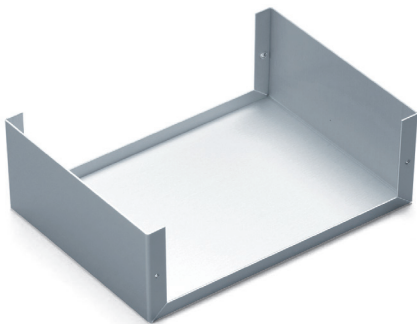
■ Panel thickness and base types vary by W / H / D dimensions.

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

## Base Type A

### [A08] Type

W : 200 • H : 100 • D : 500 or smaller  
Type A : Standard • Panel thickness : 0.8mm



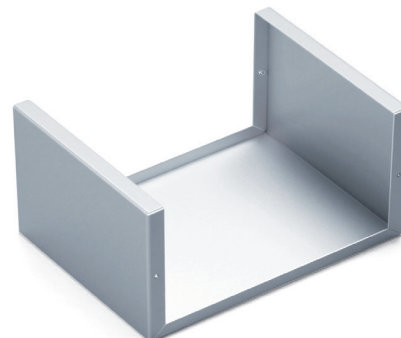
## Base Type B

### [B10] Type

W : 300 • H : 225 • D : 400 or smaller  
Type B : Reinforced • Panel thickness : 1.0mm

### [B12] Type

W : 500 • H : 250 • D : 500 or smaller  
Type B : Reinforced • Panel thickness : 1.2mm



## Confirm Product No.

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

Product no. MBS

122	-	70	-	130		A		08
W		H		D		Base type		Panel thickness

Example : W = 122 mm, H = 70 mm, D = 130 mm, A base type in panel thickness of 0.8mm.

## Lead time

Custom Size Only  
Custom Size + Hole Milling

9 business days (1 ~ 3 pcs)  
10 business days (1 ~ 3 pcs)

## Order Inquiry

For more information, contact us here at [sales@takachi-el.co.jp](mailto:sales@takachi-el.co.jp)

# MBS Type Chart

Refer to the below chart for A08, B10 or B12 type selection by W, H & D dimensions.

## [A08] Type

Standard • Panel thickness : 0.8mm

## [B10] Type

Reinforced • Panel thickness : 1.0mm

## [B12] Type

Reinforced • Panel thickness : 1.2mm

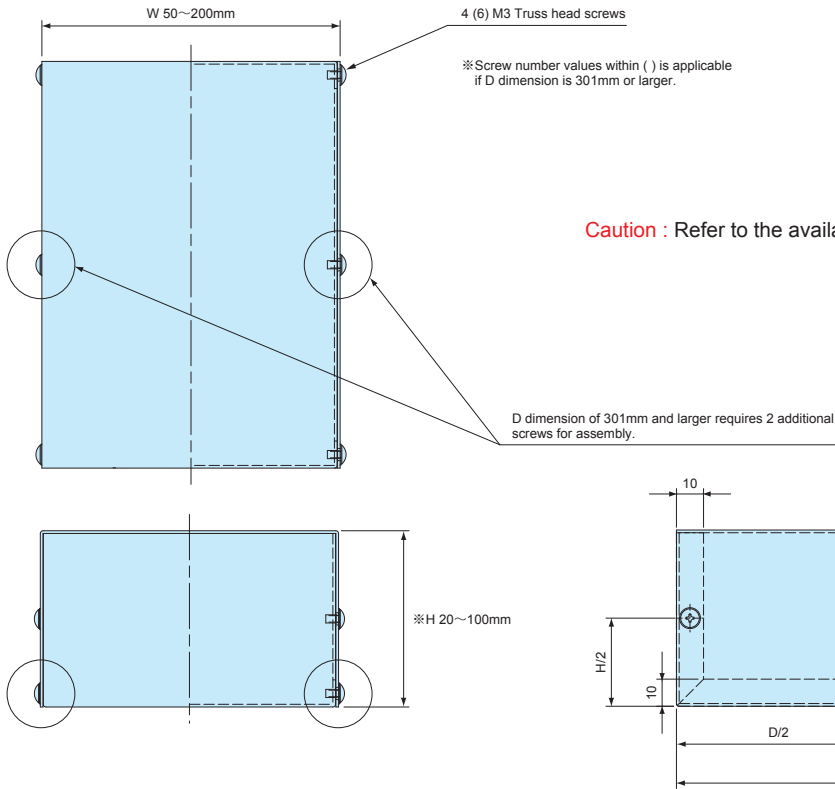
■ [—] sizes are not available.

W	H	D	4 screw fixing points										6 screw fixing points							
			50~79	80~99	100~125	126~150	151~175	176~200	201~225	226~250	251~275	276~300	301~325	326~350	351~375	376~400	401~425	426~450	451~475	476~500
50~99	20~35	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08
	36~50	—	A08	A08	A08	A08	A08	A08	A08	A08	A08	A08	B10	B10	B10	B10	B12	B12	B12	B12
100~150	20~50	A08	A08	A08	A08	A08	A08	A08	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	A08	A08	A08	A08	A08	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	76~100	—	—	—	A08	A08	A08	A08	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
151~200	20~50	—	A08	A08	A08	A08	A08	A08	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	A08	A08	A08	A08	A08	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	76~100	—	—	—	B10	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	101~125	—	—	—	—	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	126~150	—	—	—	—	—	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
201~250	20~50	—	B10	B10	B10	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	B10	B10	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	76~100	—	—	—	B10	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	101~125	—	—	—	—	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	126~150	—	—	—	—	—	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	151~175	—	—	—	—	—	—	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
251~300	176~200	—	—	—	—	—	—	—	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	20~50	—	B10	B10	B10	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	B10	B10	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	76~100	—	—	—	B10	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	101~125	—	—	—	—	B10	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	126~150	—	—	—	—	—	B10	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	151~175	—	—	—	—	—	—	B10	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
301~350	176~200	—	—	—	—	—	—	—	B10	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	201~225	—	—	—	—	—	—	—	—	B10	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	226~250	—	—	—	—	—	—	—	—	—	B10	B10	B12	B12	B12	B12	B12	B12	B12	B12
	20~50	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	76~100	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	101~125	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	126~150	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
351~400	151~175	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	176~200	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	201~225	—	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	226~250	—	—	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	20~50	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	76~100	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	101~125	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
401~450	126~150	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	151~175	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	176~200	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	201~225	—	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	226~250	—	—	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	20~50	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	76~100	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
451~500	101~125	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	126~150	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	151~175	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	176~200	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	201~225	—	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	226~250	—	—	—	—	—	—	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	20~50	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12
	51~75	—	—	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12	B12

## MBS dimensions

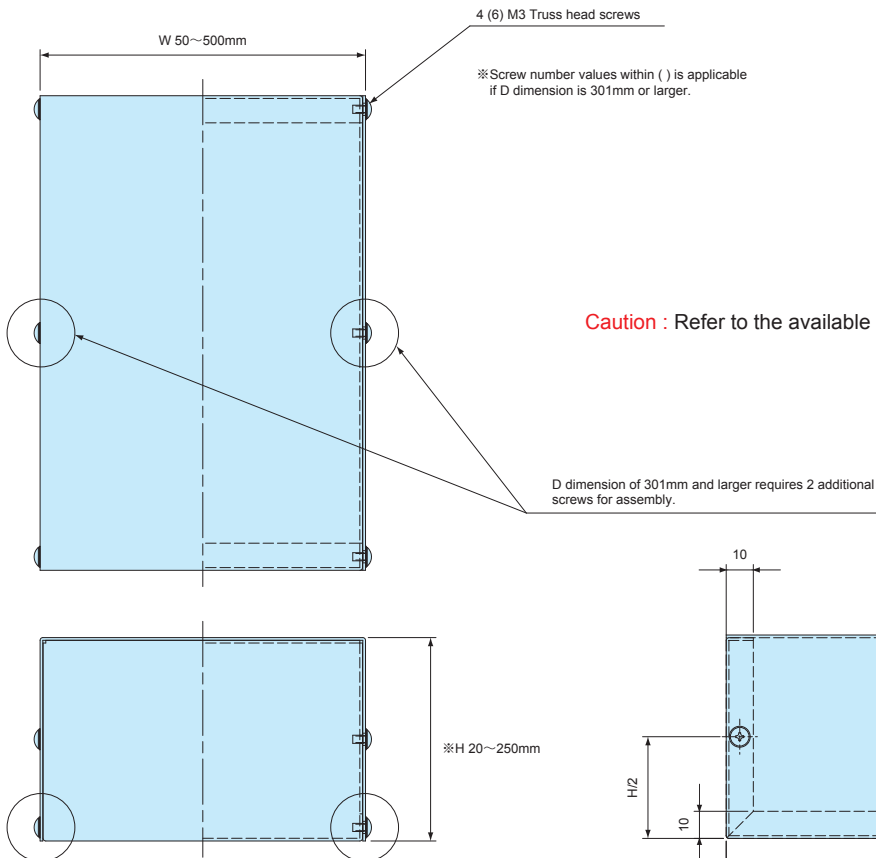
### [A08] Type

Standard • Panel thickness : 0.8mm



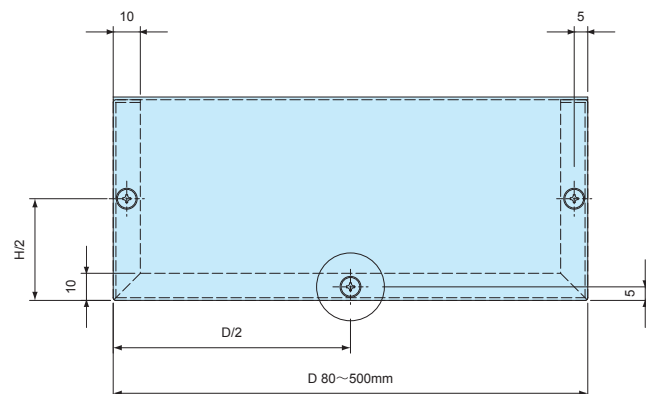
### [B10] Type

Reinforced • Panel thickness : 1.0mm



### [B12] Type

Reinforced • Panel thickness : 1.2mm



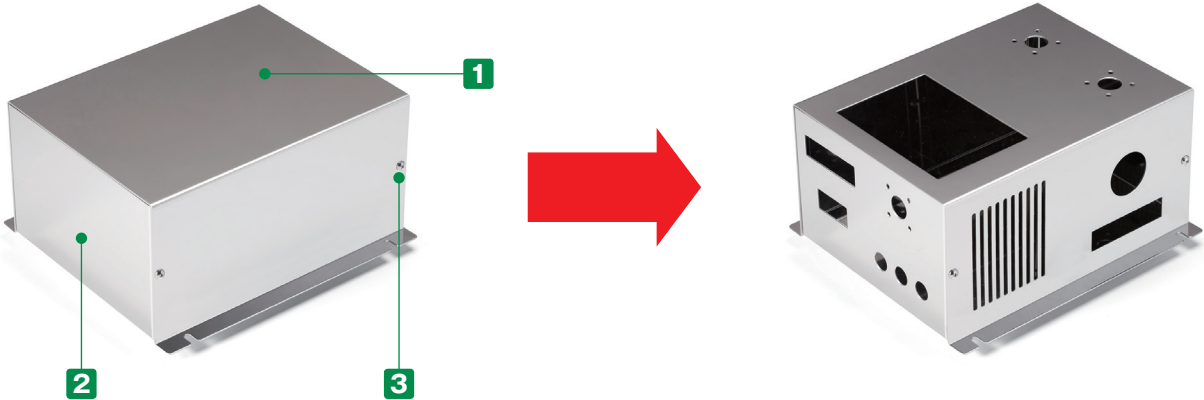
# MBSF SERIES

# 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



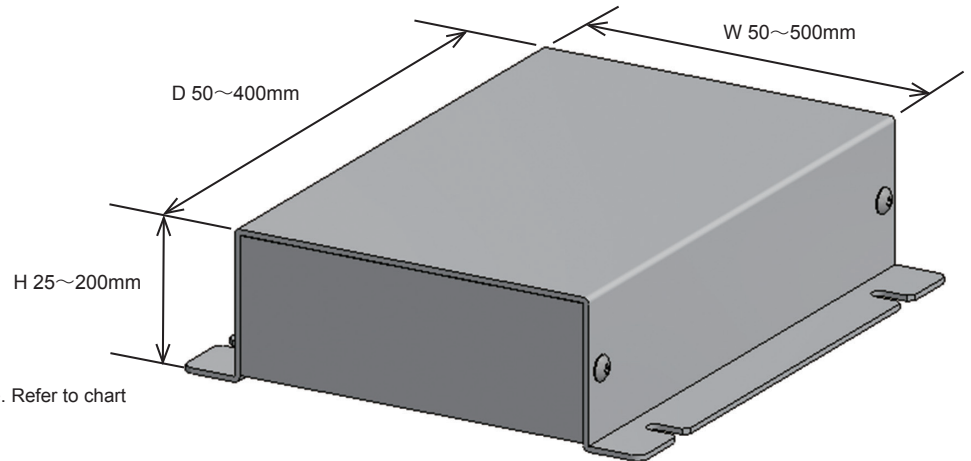
### Components

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.

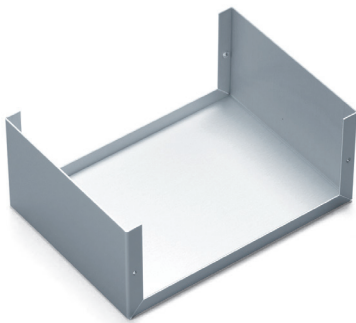
■ Panel thickness and base types vary by W / H / D dimensions.

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

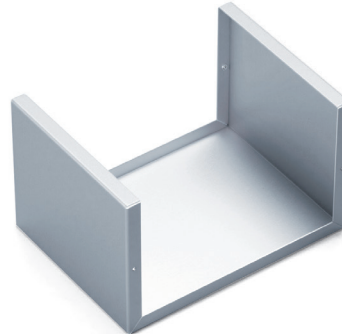
W : 200 • H : 100 • D : 400 or smaller  
Type A : Standard • Panel thickness : 1.0mm



### Base Type B

#### [B10] Type

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



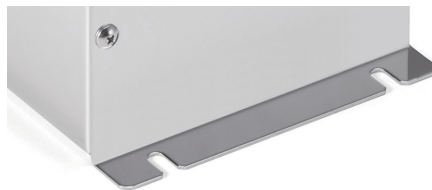
#### [B12] Type

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](mailto: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	30~50	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	30~50	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
		176~200	—	—	—	—	—	—	—	B10	B10	B10	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
		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

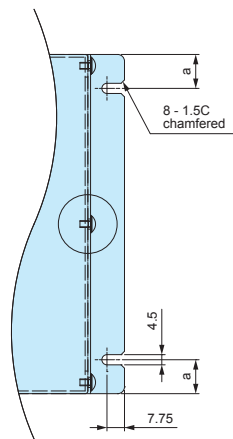
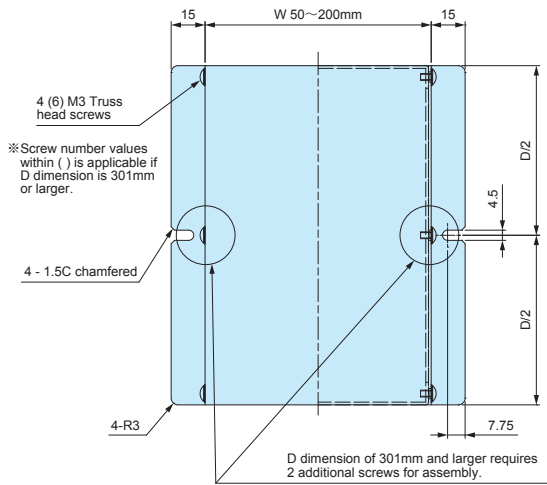
## MBSF dimensions

### [A10] Type

Standard • Panel thickness : 1.0mm

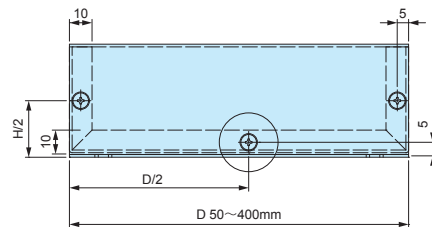
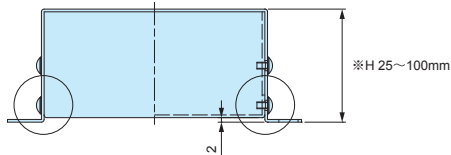
#### 2-hole flange type

#### 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

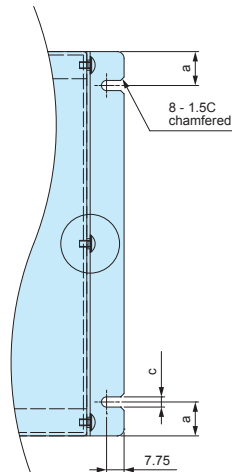
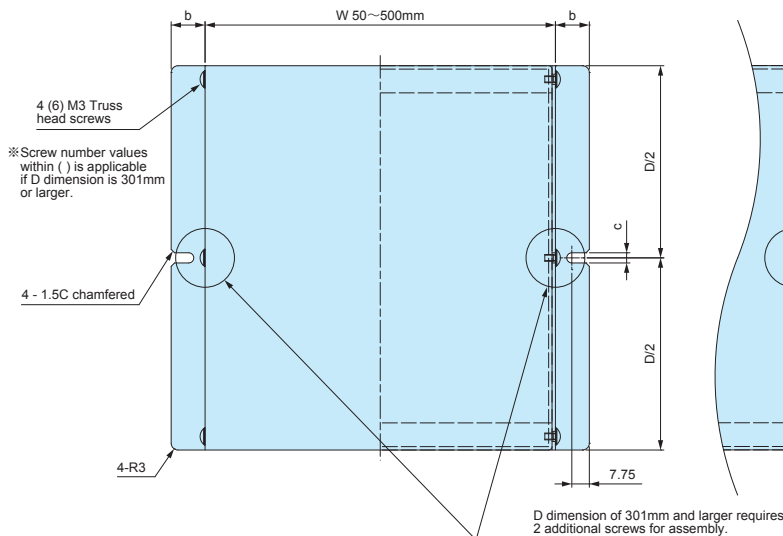
Reinforced • Panel thickness : 1.0mm

### [B12] Type

Reinforced • Panel thickness : 1.2mm

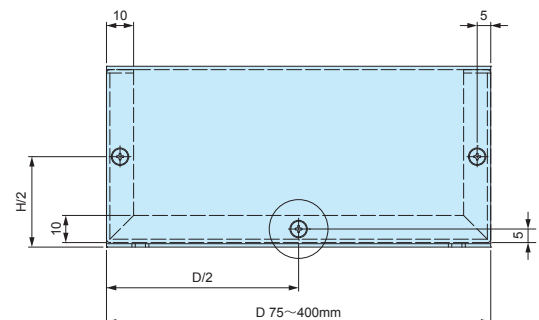
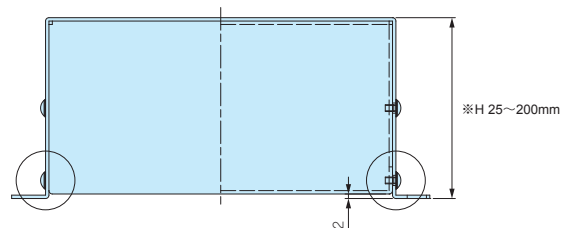
#### 2-hole flange type

#### 4-hole flange type



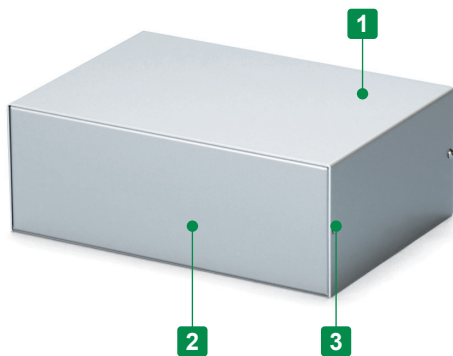
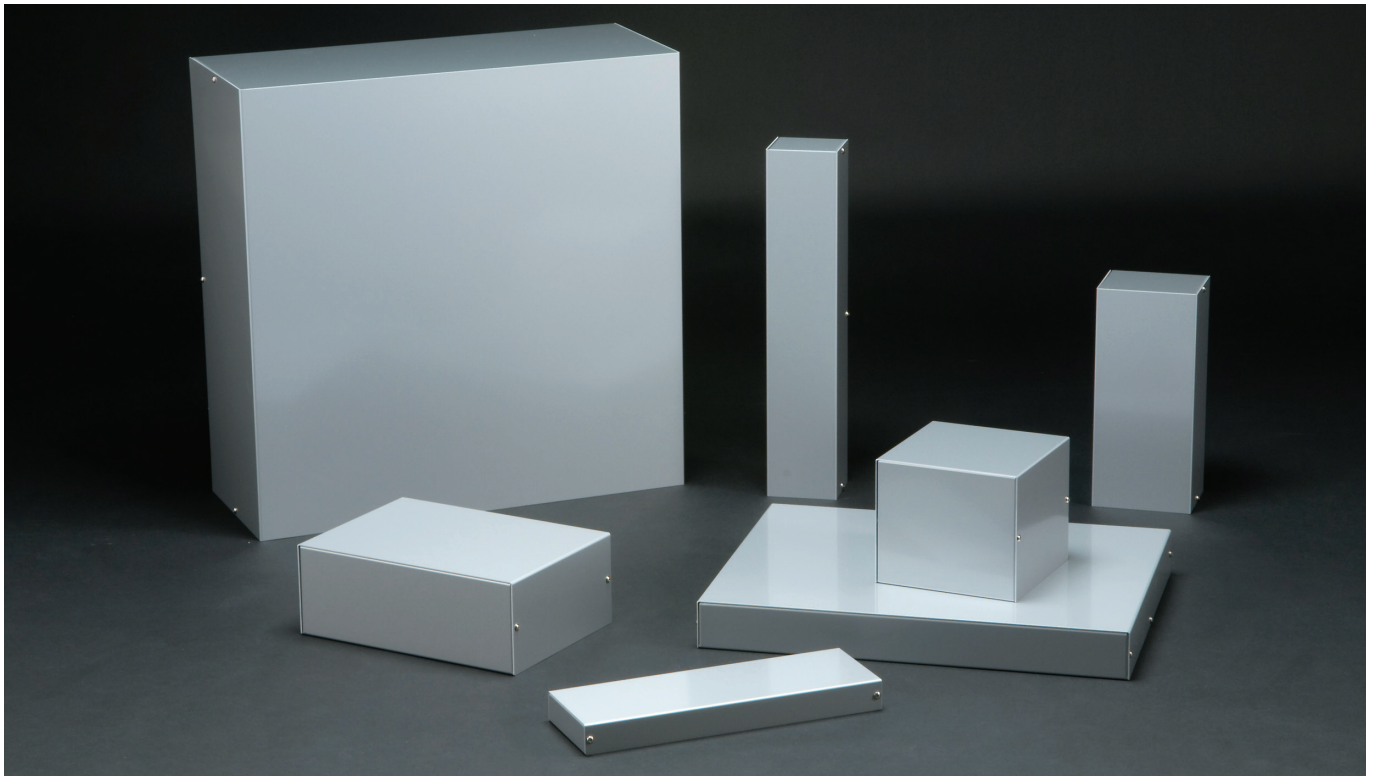
D dimension	a	b	c
50 ~ 60	10	15	4.5
61 ~ 140	15	15	4.5
141 ~ 240	20	15	4.5
241 ~ 400	30	20	5.5

Caution : Refer to the available dimensions on the chart.

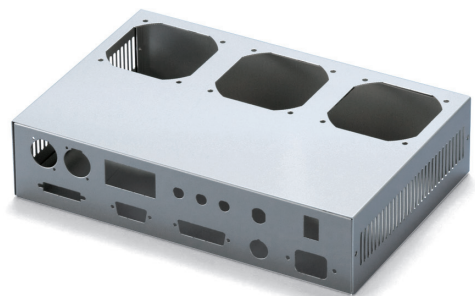


# MBF series

# CUSTOM SIZED ALUMINIUM CASE



CUSTOMIZED EXAMPLE



- Adjustable sizes available in 1mm intervals, with W and D dimensions from 50 ~ 500mm, and H dimension from 20 ~ 250mm.
- A conductive coating is applied onto the internal surface, allowing for easy earthing.
- Customization services are available (relevant drawings and data will be required).
- Standard size MB series is also available. See MB series product pages for more information.

## Components

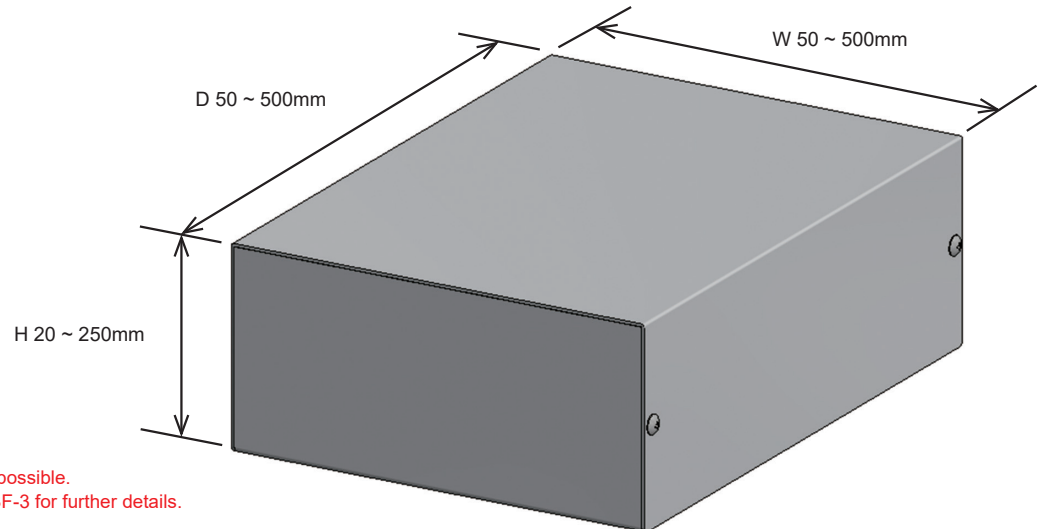
No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Aluminium A1100P	Metallic silver / Painted : Conductive coated internal surface
2	Base	1	Aluminium A1100P	Metallic silver / Painted : Conductive coated internal surface
3	Screw (Truss head M3-5)	4 or 6	Steel	Nickel plated

- Cover • Base are covered with a protective film on one side.



# 1 Dimensions

To select D, W and H dimensions in 1mm intervals.



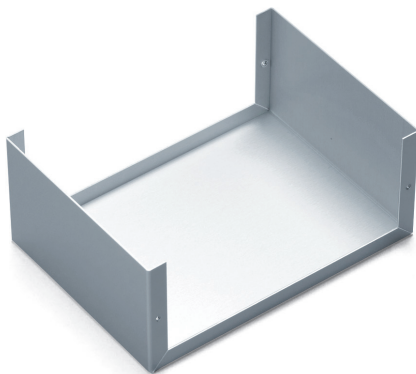
Caution : Not all size combinations are possible.  
Refer to the table on page MBF-3 for further details.

- To select base type (thickness and structure) from the table below based on W / H / D dimensions specified.  
Refer to the table on page MBF-3 for A10, B12 or B15 type selection based on W, H & D dimensions.

## Base Type A (Standard)

### [A10] Type

W : 200 • H : 100 • D : 500 or smaller  
Type A : Standard • Panel thickness : 1.0mm



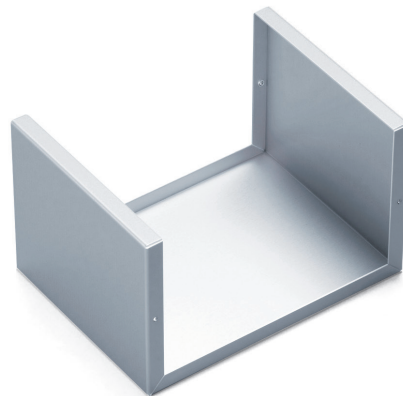
## Base Type B (Reinforced)

### [B12] Type

W : 400 • H : 225 • D : 400 or smaller  
Type B : Reinforced • Panel thickness : 1.2mm

### [B15] Type

W : 500 • H : 250 • D : 500 or smaller  
Type B : Reinforced • Panel thickness : 1.5mm



## Product No.

To determine a product number, fill W, H, D and select Base type in the following blank boxes.

Product no.

MBF

-

-




W

H

D

Base type

Panel thickness

Numbering example: W:122 x H:70 x D:130 and A base type in panel thickness of 1.0mm

➔ **MBF122-70-130A10**

## Lead Time

Custom Size Only  
Custom Size + Hole Milling

5 business days (1 ~ 10 pcs)  
8 business days (1 ~ 10 pcs)

## Order Inquiry

For more information, contact us here at [sales@takachi-el.co.jp](mailto:sales@takachi-el.co.jp)

## CUSTOM SIZE WEB QUOTATION

Send your inquiry via our online form now!

Visit the MBF product page on our website, click on the "CUSTOM SIZE WEB QUOTATION" button, and fill in the required details. The product number will be generated, and once your information have been filled in, simply click on SUBMIT and await for our sales team's contact!

### MBF Type Chart

Refer to the below chart for A10, B12 or B15 type selection by W, H & D dimensions.

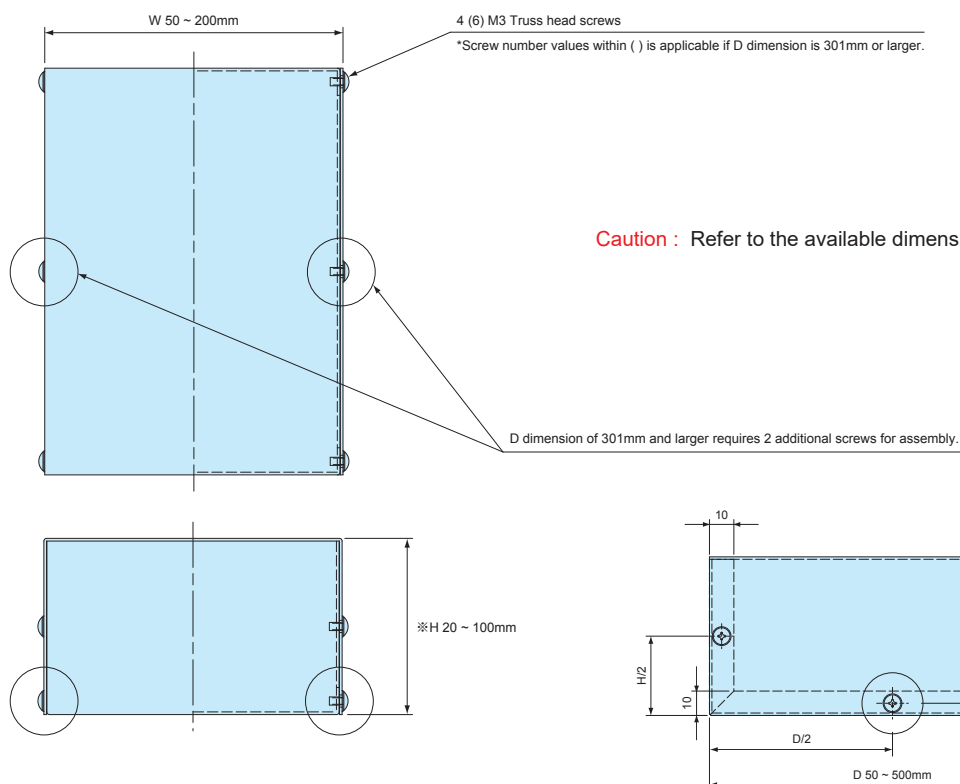
<b>[A10] Type</b>	Standard • Panel thickness : 1.0mm
<b>[B12] Type</b>	Reinforced • Panel thickness : 1.2mm
<b>[B15] Type</b>	Reinforced • Panel thickness : 1.5mm

■ [—] sizes are not available.

		4x fixing screw points										6x fixing screw points							
W	D	50 ~ 79	80 ~ 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	401 ~ 425	426 ~ 450	451 ~ 475	476 ~ 500
50 ~ 99	20 ~ 35	A10	A10	A10	A10	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	A10	A10	A10	A10	A10	A10	A10	A10	A10
	51 ~ 75	—	A10	A10	A10	A10	A10	B12	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15
100 ~ 150	20 ~ 50	A10	A10	A10	A10	A10	A10	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	51 ~ 75	—	A10	A10	A10	A10	A10	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	76 ~ 100	—	A10	A10	A10	A10	A10	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
151 ~ 200	20 ~ 50	A10	A10	A10	A10	A10	A10	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	51 ~ 75	—	—	A10	A10	A10	A10	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	76 ~ 100	—	—	—	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	101 ~ 125	—	—	—	—	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
201 ~ 250	126 ~ 150	—	—	—	—	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	20 ~ 50	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	51 ~ 75	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	76 ~ 100	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	101 ~ 125	—	—	—	—	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	126 ~ 150	—	—	—	—	—	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
251 ~ 300	151 ~ 175	—	—	—	—	—	—	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	176 ~ 200	—	—	—	—	—	—	—	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	20 ~ 50	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	51 ~ 75	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	76 ~ 100	—	B12	B12	B12	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	101 ~ 125	—	—	—	—	B12	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	126 ~ 150	—	—	—	—	—	B12	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
301 ~ 350	151 ~ 175	—	—	—	—	—	—	B12	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	176 ~ 200	—	—	—	—	—	—	—	B12	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	201 ~ 225	—	—	—	—	—	—	—	—	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15
	226 ~ 250	—	—	—	—	—	—	—	—	—	B12	B15	B15	B15	B15	B15	B15	B15	B15
	20 ~ 50	—	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	51 ~ 75	—	B12	B12	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	76 ~ 100	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
351 ~ 400	101 ~ 125	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	126 ~ 150	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	151 ~ 175	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	176 ~ 200	—	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	201 ~ 225	—	—	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	226 ~ 250	—	—	—	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15
	20 ~ 50	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
401 ~ 450	51 ~ 75	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	76 ~ 100	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	101 ~ 125	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	126 ~ 150	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	151 ~ 175	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	176 ~ 200	—	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	201 ~ 225	—	—	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
451 ~ 500	226 ~ 250	—	—	—	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15
	20 ~ 50	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	51 ~ 75	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	76 ~ 100	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	101 ~ 125	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	126 ~ 150	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15
	151 ~ 175	—	—	—	—	—	—	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15	B15

**[A10] Type**

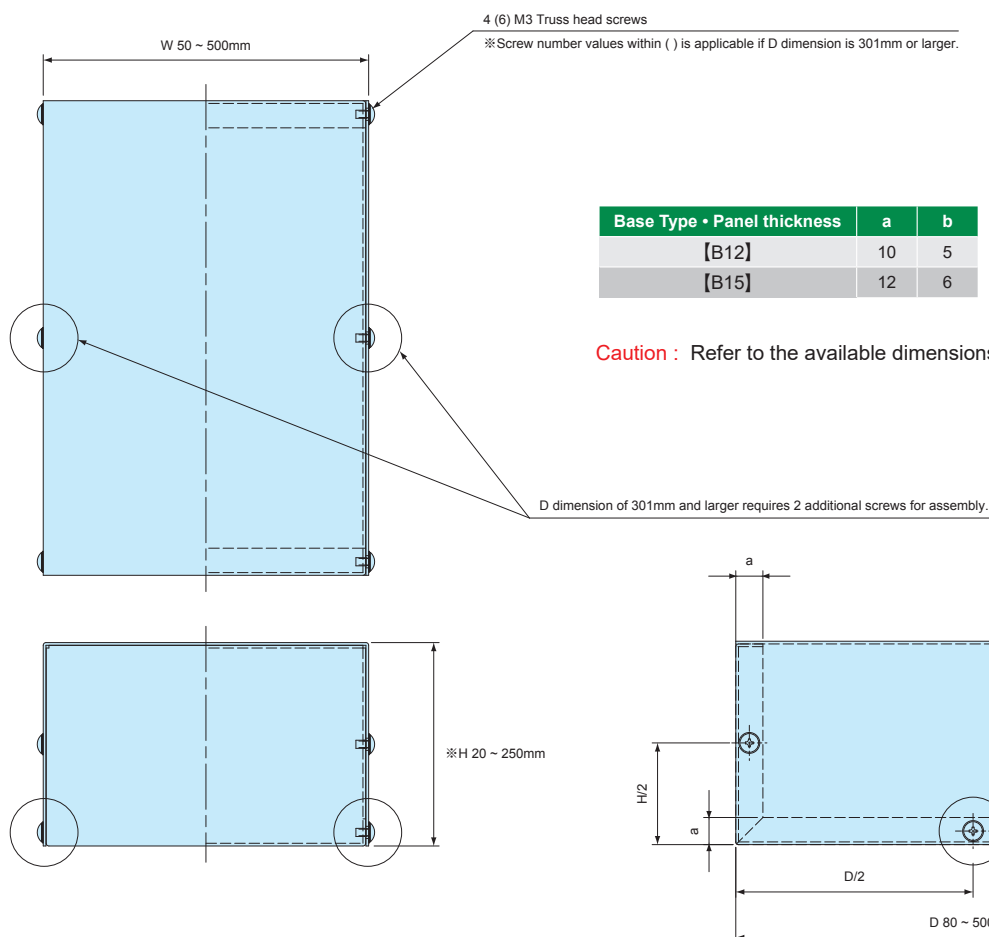
Standard • Panel thickness : 1.0mm

**Caution :** Refer to the available dimensions on the table.**[B12] Type**

Reinforced • Panel thickness : 1.2mm

**[B15] Type**

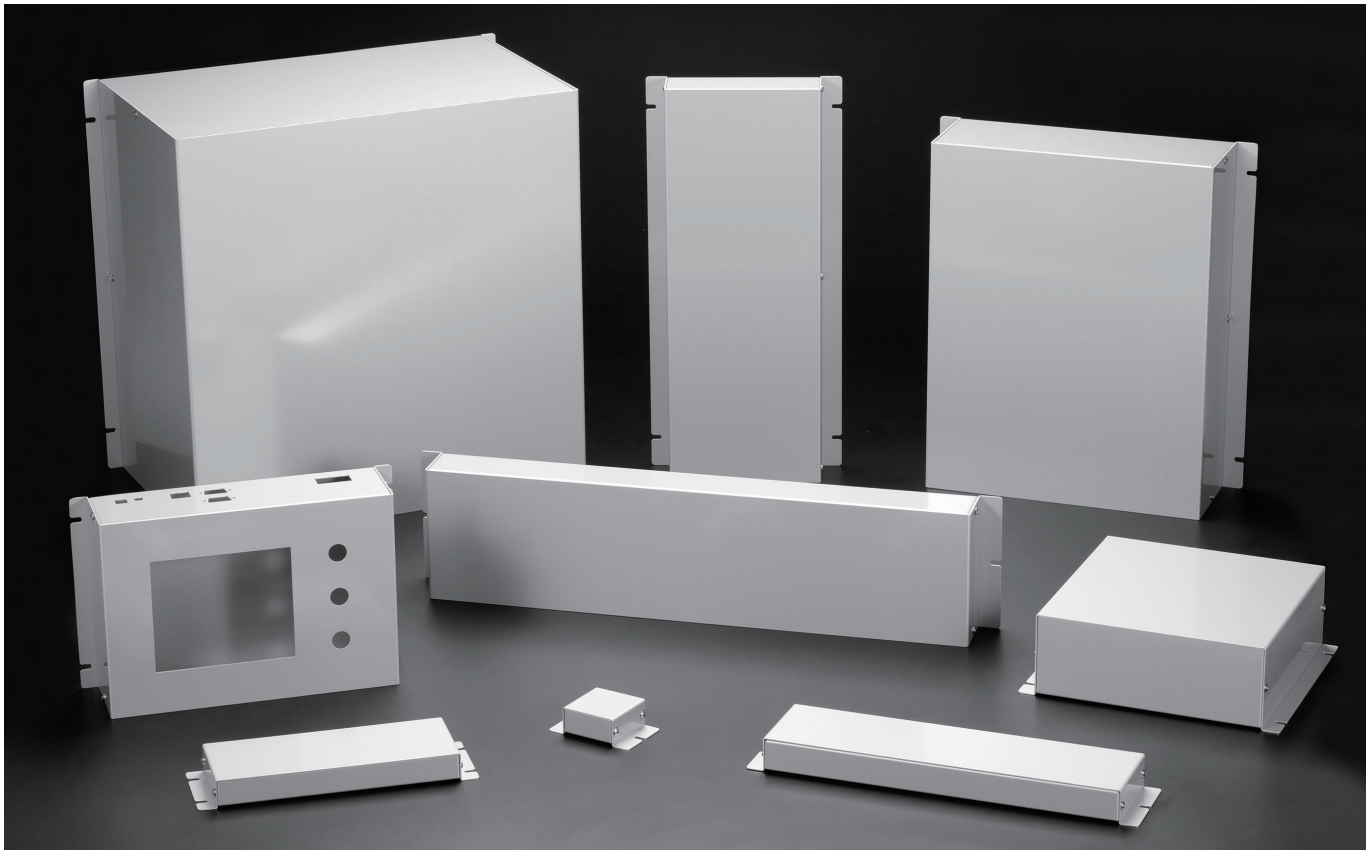
Reinforced • Panel thickness : 1.5mm

**Caution :** Refer to the available dimensions on the table.

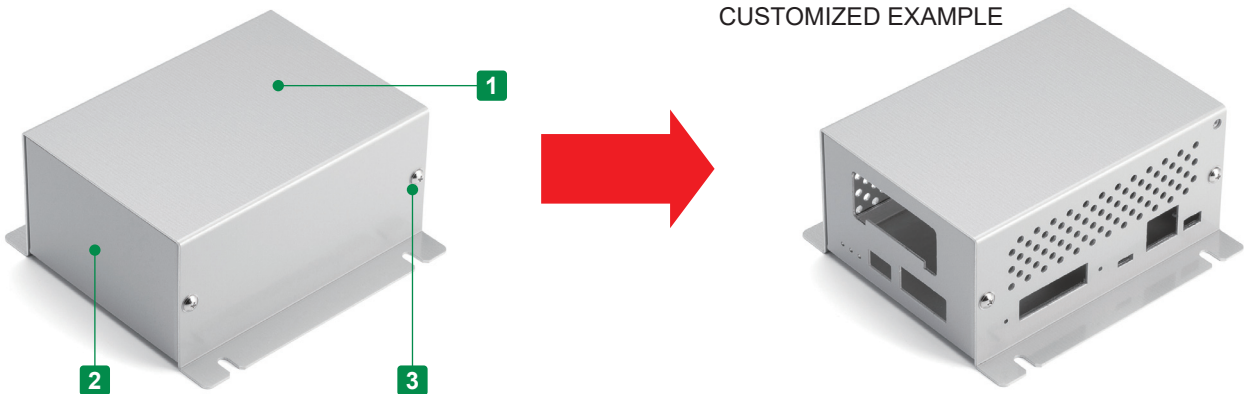
Base Type • Panel thickness	a	b
[B12]	10	5
[B15]	12	6

**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.



CUSTOMIZED EXAMPLE

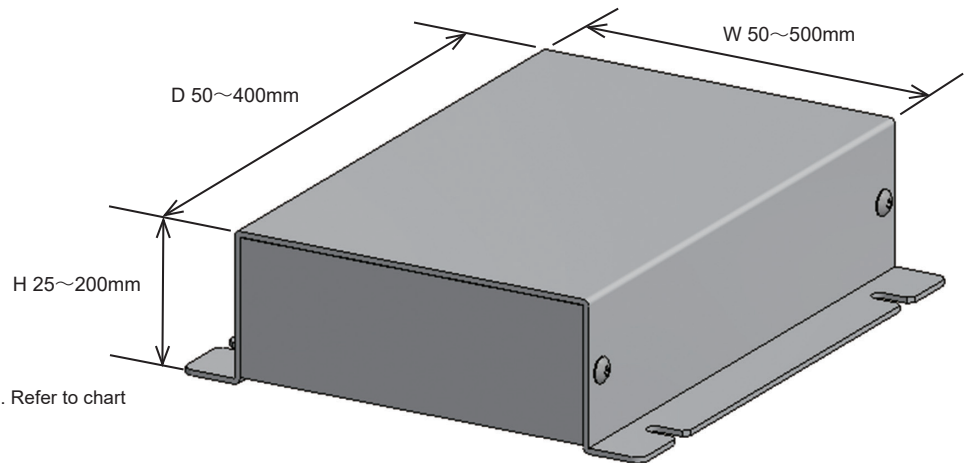
**Components**

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.

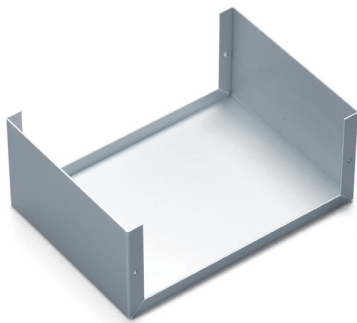
■ Panel thickness and base types vary by W / H / D dimensions.

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



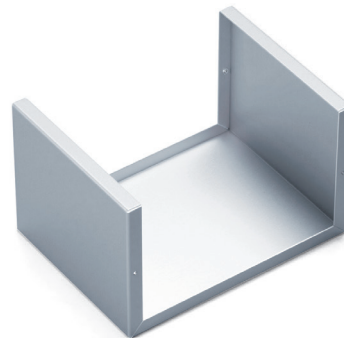
### Base Type B

#### [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](mailto: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

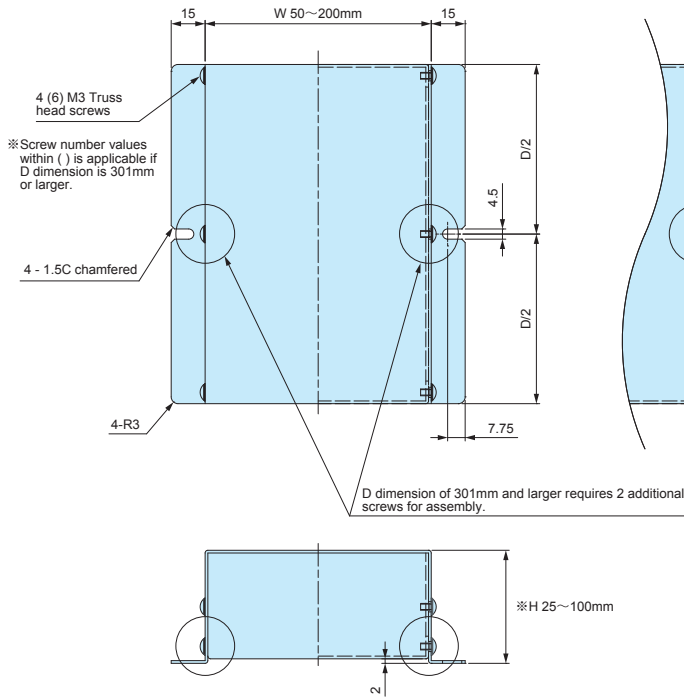
■ [ - ] sizes are not available.

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	—	—	—	—	—	—	—	B15	B15	B15	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

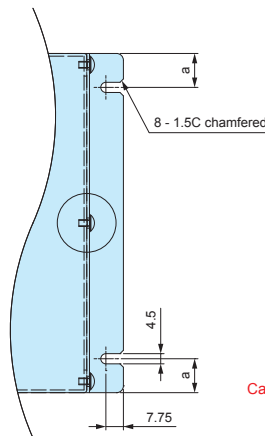
## MBCF dimensions

### [A12] Type Standard • Panel thickness : 1.2mm

2-hole flange type

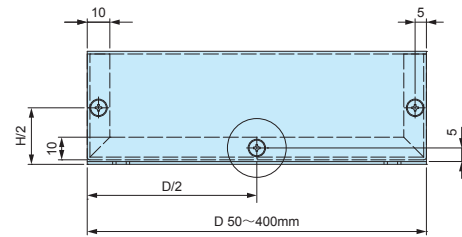


4-hole flange type



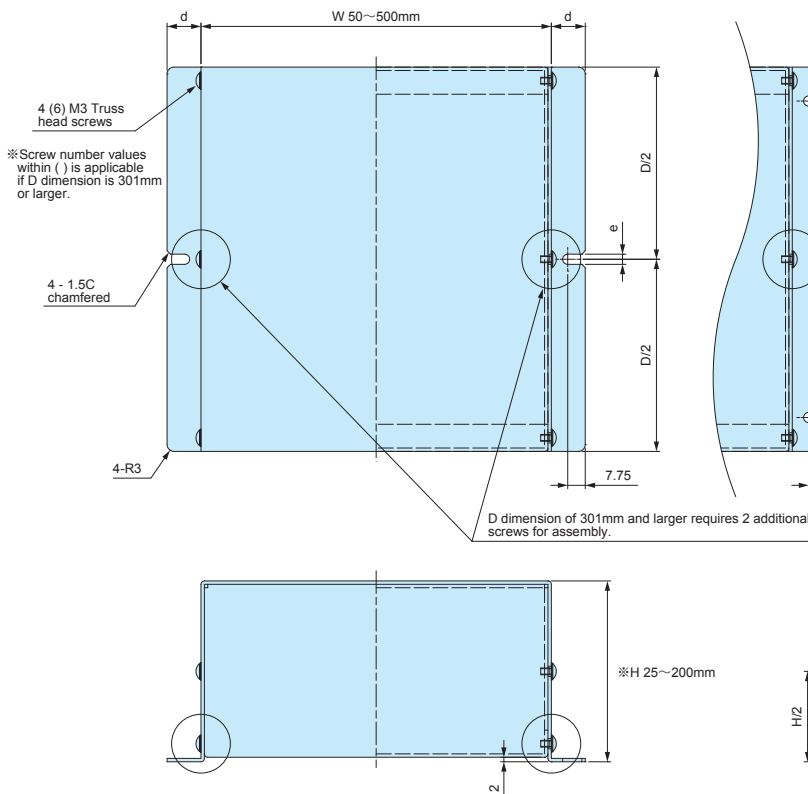
D dimension	a
50 ~ 60	10
61 ~ 140	15
141 ~ 240	20
241 ~ 400	30

Caution : Refer to the available dimensions on the chart.

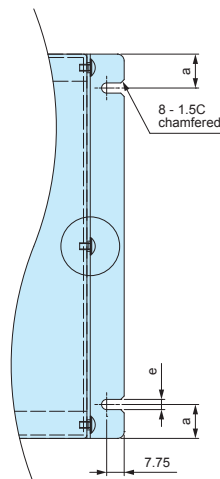


### [B12] Type Reinforced • Panel thickness : 1.2mm

2-hole flange type



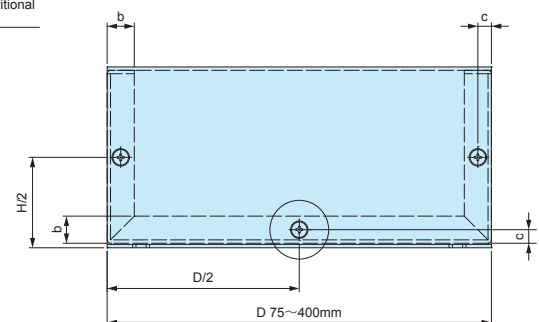
4-hole flange type



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.





# SIMPLE ALUMINIUM SHEET METAL BOX with COVER



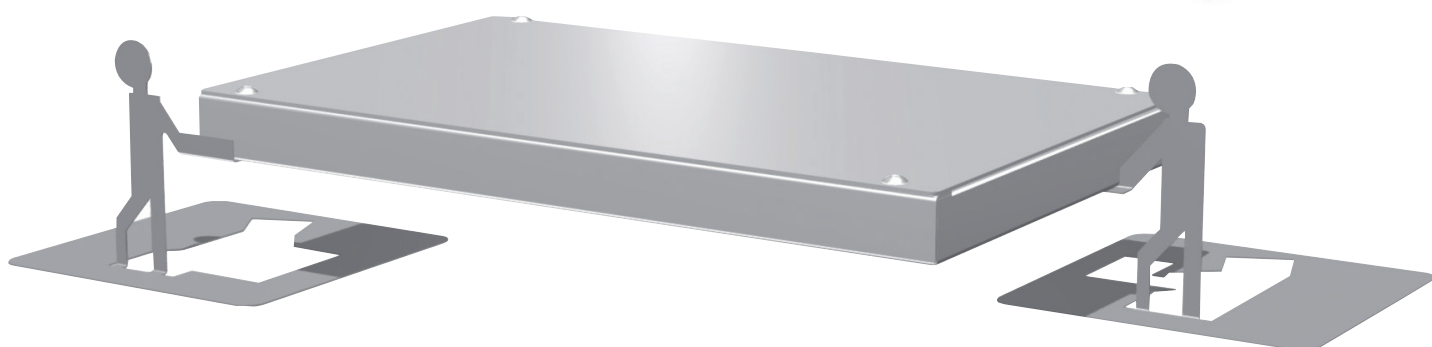
**6 Additional Sizes**

**Low-cost lineup of chassis cases released!**



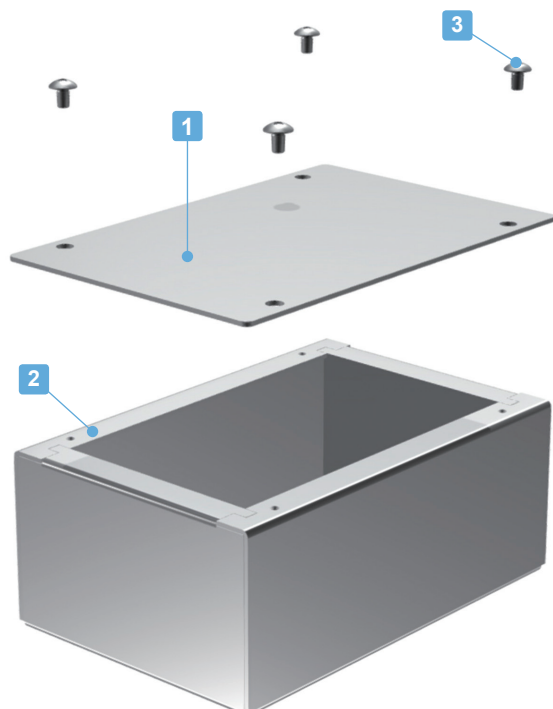
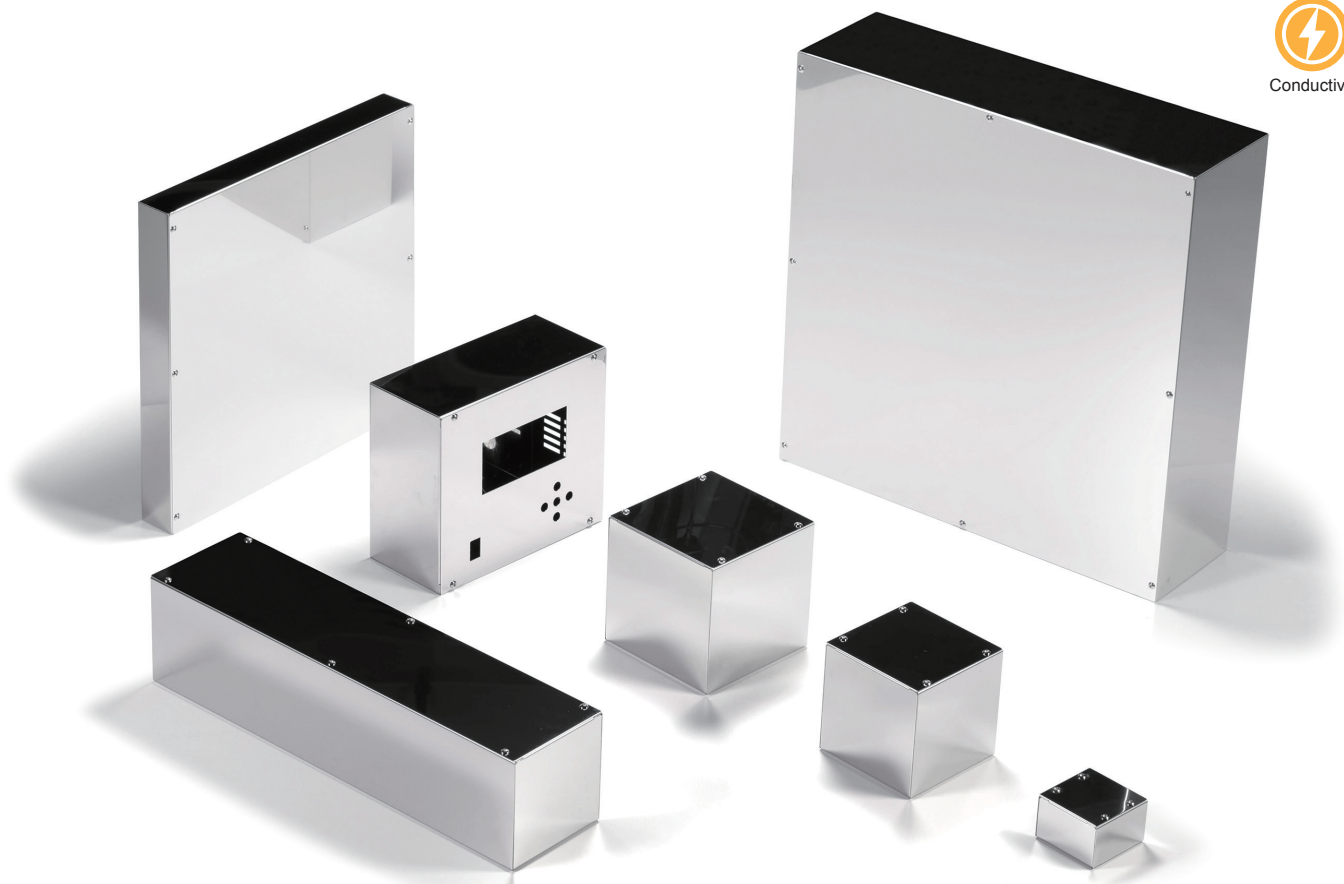
**← Customizable Sizes Expanded →**

**CUSTOM SIZED ALUMINIUM BOX**  
**CUSTOM SIZED STAINLESS STEEL BOX**



**CASE BOX RACK & CUSTOM  
TAKACHI ELECTRONICS ENCLOSURE CO., LTD.**





- Adjustable sizes available in 1mm intervals, with W and D dimensions from 60 ~ 400mm, and H dimension from 20 ~ 120mm.
- Detachable top cover allows easy assembly and maintenance access.
- Made of stainless steel (SUS304) for superior weather and corrosion resistance.
- Stainless steel (SUS304) allows the enclosure to be conductive.
- Best suited for the instruments located in medical facilities, food plant, or clean room.

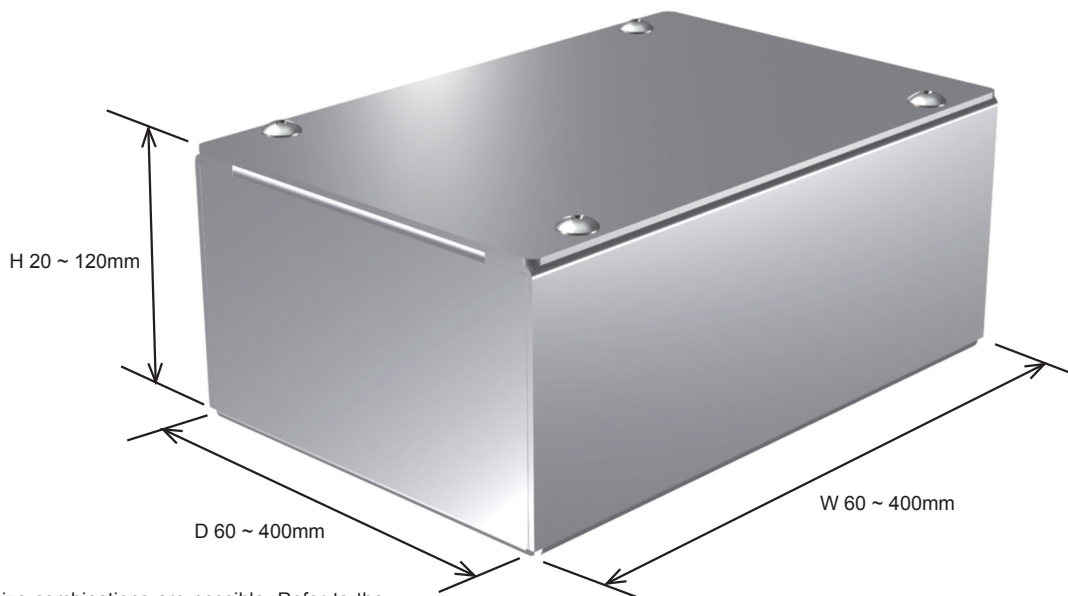
#### Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Stainless steel SUS304 t = 0.8	Bright annealed
2	Base	1	Stainless steel SUS304 t = 0.8	Bright annealed
3	Screw (M3-5 truss head)	4 / 6 / 8	Stainless steel	Unfinished

■ Cover and Base are covered with a protection film on one side.

## Dimensions

To select W, H and D dimensions in 1mm intervals.



**Caution :** Not all size combinations are possible. Refer to the chart on page TCS-3 for further details.  
The width of the folded base part will differ depending on W and D dimensions.  
See page TCS-3 ~ 4 for further details.

## Product No.

To determine a product number, fill W, H and D in the following blank boxes.

[illegible]

Numbering example: W:250 x H:100 x D:300 ➡ **TCS250-100-300**

### Lead Time

Custom Size Only  
Custom Size + Hole Milling

7 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](mailto:sales@takachi-el.co.jp)

### Accessories (Optional parts)



Rubber feet B series  
See page Feet-1



Insert nut adhesive standoff AST series  
See page 121

## TCS Size Table

Refer to the table below for available dimensions.

**W and D = 200mm or smaller : Folded area width = W8.5mm, D5.5mm**

**W or D = 201mm or larger : Folded area width = W10.0mm, D10.0mm**

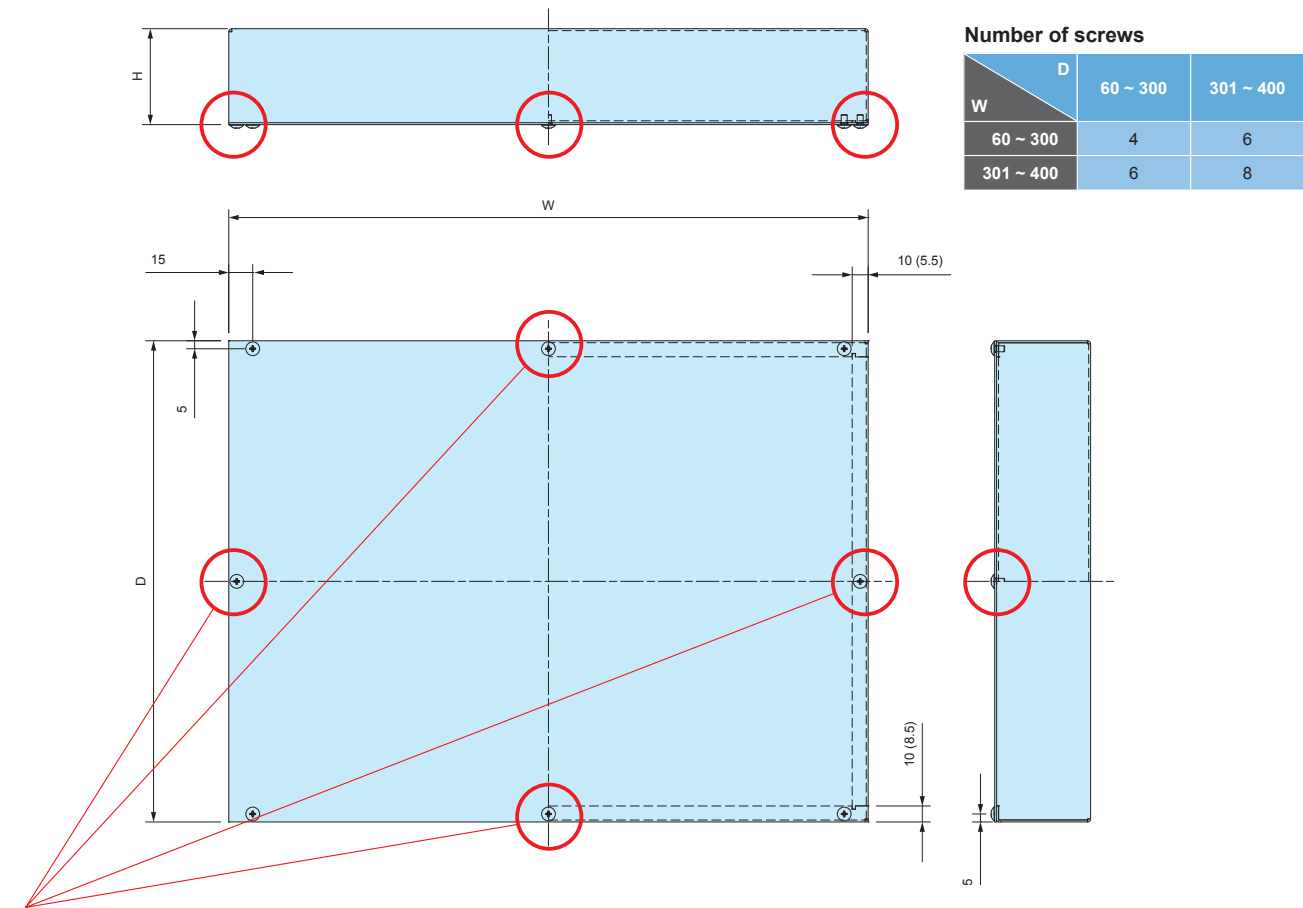
See TCS dimensions on page TCS-4 for further details.

■ 「—」 sizes are not available.

W	H \ D	60 ~ 99	100 ~ 125	126 ~ 150	151 ~ 175	176 ~ 200	201 ~ 225	226 ~ 250	251 ~ 300	301 ~ 325	326 ~ 350	351 ~ 375	376 ~ 400
60 ~ 99	20 ~ 39	○	○	○	○	○	—	—	—	—	—	—	—
	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
100 ~ 125	20 ~ 39	○	○	○	○	○	—	—	—	—	—	—	—
	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
126 ~ 150	20 ~ 39	○	○	○	○	○	—	—	—	—	—	—	—
	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
151 ~ 175	20 ~ 39	○	○	○	○	○	—	—	—	—	—	—	—
	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
176 ~ 200	20 ~ 39	○	○	○	○	○	—	—	—	—	—	—	—
	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
201 ~ 225	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
226 ~ 250	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
251 ~ 300	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
301 ~ 325	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
326 ~ 350	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
351 ~ 375	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○
376 ~ 400	40 ~ 50	○	○	○	○	○	○	○	○	○	○	○	○
	51 ~ 70	○	○	○	○	○	○	○	○	○	○	○	○
	71 ~ 100	—	○	○	○	○	○	○	○	○	○	○	○
	101 ~ 120	—	○	○	○	○	○	○	○	○	○	○	○

TCS dimensions

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



\*Note:  
An additional set of screw holes (on each corresponding side) will be required for assembly if W or D dimension is 301mm or larger.  
Values within ( ) are for W / D dimensions of 200 mm or smaller.

CUSTOMIZED EXAMPLE

LASER CUTTING  
Lead Time : 8 business days



LASER CUTTING + INKJET PRINTING  
Lead Time : 11 business days



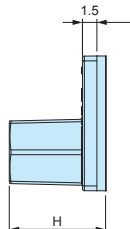
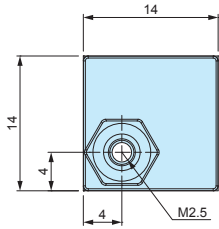
**AST** series**INSERT NUT ADHESIVE STANDOFF**

- 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.

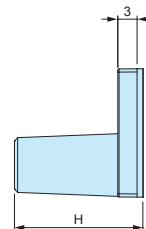
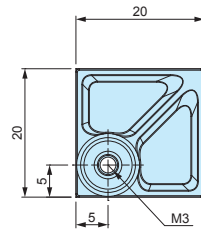
**AST dimensions**

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

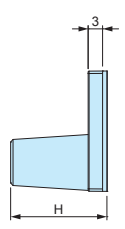
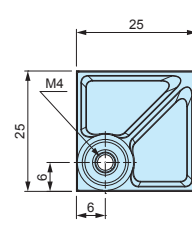
AST2.5-□



AST3-□



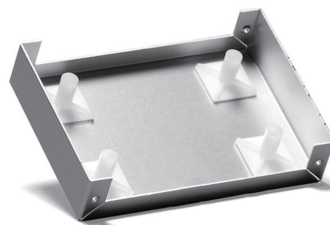
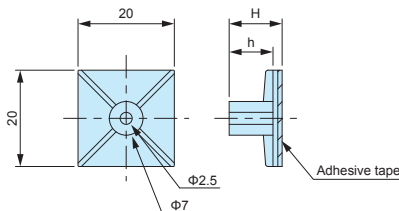
AST4-□

**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

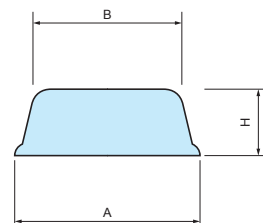
**B** series**ADHESIVE RUBBER FEET**

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



■ Injection molded type.

■ Please note color may be transferred from the synthetic rubber material after an extended period of time.

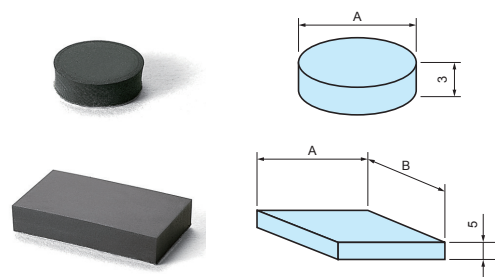
**Product no. / Details**

■ Material / Color : Synthetic rubber / Black

Product no.	A	B	H	Weight(g)	Pack of
B 6-2	6	5	1.8	0.1 (1pc)	10
B 8-4	8	7.7	3.5	0.2 (1pc)	10
B10-4	10	9.2	4.2	0.3 (1pc)	10
B11-3	10.8	10.2	3	0.4 (1pc)	10
B11-5	11	9.6	5	0.6 (1pc)	10
B12-4	12.7	10	3.8	0.6 (1pc)	10
B15-5	15.4	14.8	5.1	1.3 (1pc)	10
B16-7	16	13	7	1.5 (1pc)	10
B19-4	19	15.8	4.2	1.5 (1pc)	10
B21-7	21	17	7	2.6 (1pc)	10
B23-5	22.8	22.4	5	2.5 (1pc)	10
B26-11	26	20	11	5.9 (1pc)	10

**B-P** series**ADHESIVE RUBBER FEET**

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



■ Press-punched type.

■ Please note color may be transferred from the synthetic rubber material after an extended period of time.

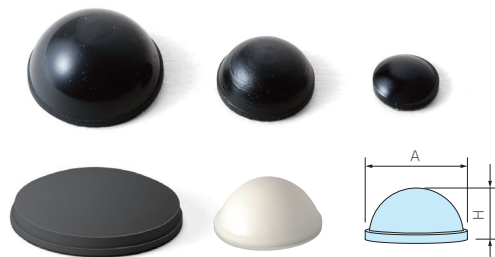
**Product no. / Details**

■ Material / Color : Synthetic rubber / Black

Product no.	A	B	Weight(g)	Pack of
B-P21	10	—	0.4 (1pc)	10
B-P22	20	—	1.6 (1pc)	10
B-P23	15	—	0.9 (1pc)	10
B-P31	28	16	3.4 (1pc)	10
B-P32	46	26	9.4 (1pc)	10

**TB** series**ROUNDED ADHESIVE RUBBER FEET**

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



■ Hemispherical rubber feet with adhesive tape.

■ Please note color may be transferred from the synthetic rubber material after an extended period of time.

**Product no. / Details**

■ Material : Synthetic rubber

Product no.		A	H	Weight(g)	Pack of
● Black	● White (W)				
TB- 7	—	6.7	4.2	0.2 (1pc)	10
TB- 8	TB- 8W	8	2.6	0.3 (1pc)	10
TB-10	—	10	2.8	0.3 (1pc)	10
TB-12	TB-12W	11.3	5.6	1 (1pc)	10
TB-14	—	14	8	1.2 (1pc)	10
TB-16	TB-16W	15.9	8	1.9 (1pc)	10
TB-21	—	21.6	8.5	2.6 (1pc)	10
TB-27	—	27.8	7.4	4.9 (1pc)	10

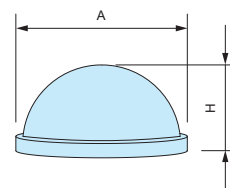


## SCR series

## SELF-ADHESIVE CLEAR RUBBER FEET



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



- Hemispherical semi-transparent type rubber feet with adhesive tape.
- Please note synthetic rubber may leave stains on the touching surface after an extended period of time.

## Product No. / Details

■ Material / Color: Synthetic rubber / Semi-clear

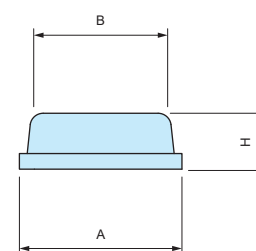
Product No.	A	H	Weight (g)	Pack of
SCR 8- 3	8	3	0.1 (1 pc)	10 pcs
SCR11- 5	11	5	0.4 (1 pc)	10 pcs
SCR12- 8	12	8	0.8 (1 pc)	10 pcs
SCR16- 8	16	8	1.2 (1 pc)	10 pcs
SRC19-10	19	10	2.3 (1 pc)	10 pcs

## SCRC series

## SELF-ADHESIVE CLEAR RUBBER FEET, CYLINDRICAL SHAPE



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



- Cylindrical semi-transparent type rubber feet with adhesive tape.
- Please note synthetic rubber may leave stains on the touching surface after an extended period of time.

## Product No. / Details

■ Material / Color: Synthetic rubber / Semi-clear

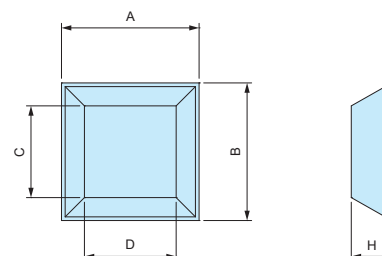
Product No.	A	B	H	Weight (g)	Pack of
SCRC 8-2	8.2	7.9	2.2	0.1 (1 pc)	10 pcs
SCRC10-4	10.3	8	4	0.3 (1 pc)	10 pcs
SCRC11-3	11.1	10.3	3.4	0.3 (1 pc)	10 pcs
SCRC13-4	12.5	10.3	4.4	0.4 (1 pc)	10 pcs
SCRC15-4	15	14	4.2	0.7 (1 pc)	10 pcs
SCRC18-6	17.6	16.6	5.6	1.3 (1 pc)	10 pcs

## SCRS series

## SELF-ADHESIVE CLEAR RUBBER FEET, SQUARE SHAPE



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

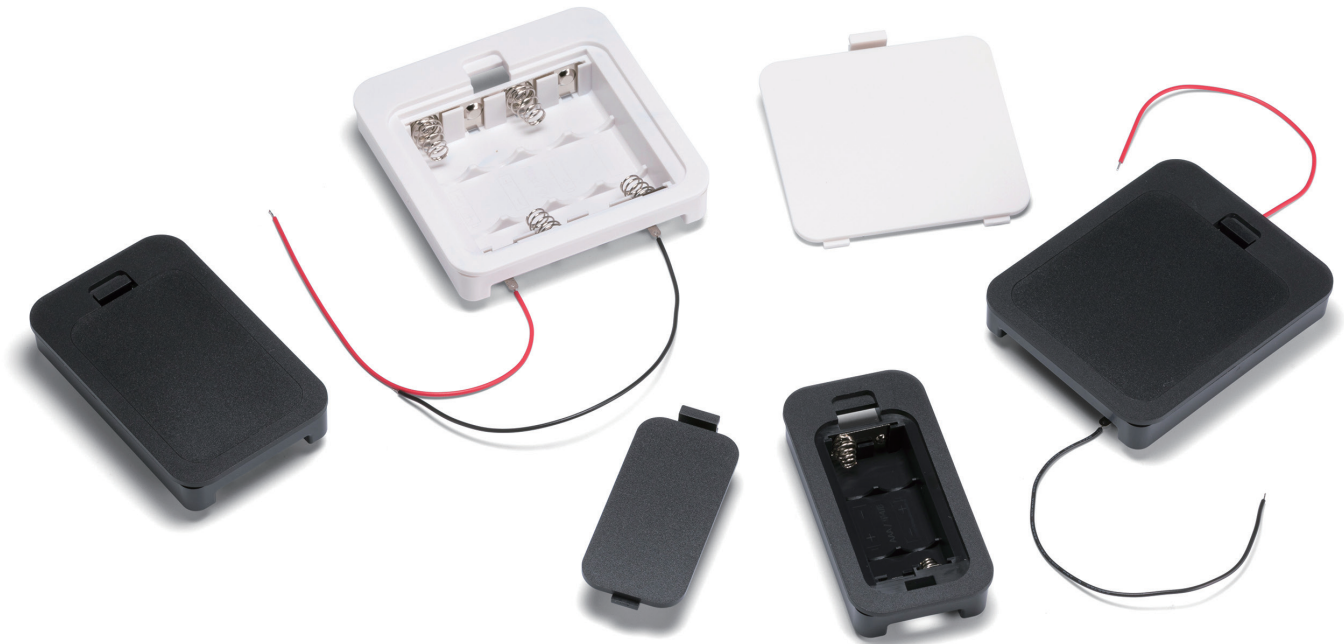


- Square shape semi-transparent type rubber feet with adhesive tape.
- Please note synthetic rubber may leave stains on the touching surface after an extended period of time.

## Product No. / Details

■ Material / Color: Synthetic rubber / Semi-clear

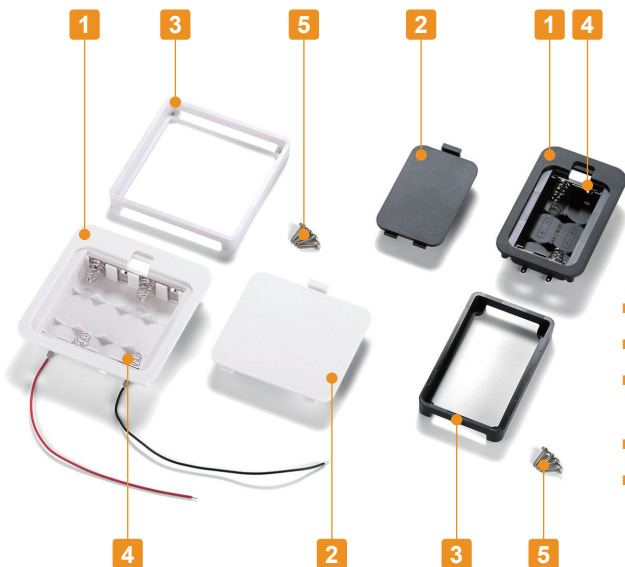
Product No.	A	B	H	C	D	Weight (g)	Pack of
SCRS11-3	10.5	10.5	2.7	8	8	0.2 (1 pc)	10 pcs
SCRS11-4	10.5	10.5	4.2	8	8	0.4 (1 pc)	10 pcs
SCRS13-3	12.7	12.7	3.4	9	9	0.4 (1 pc)	10 pcs
SCRS13-6	12.7	12.7	6.3	7	7	0.7 (1 pc)	10 pcs



#### Technical Data

Operating temperature: -10°C ~ +60°C

#### Mount Example



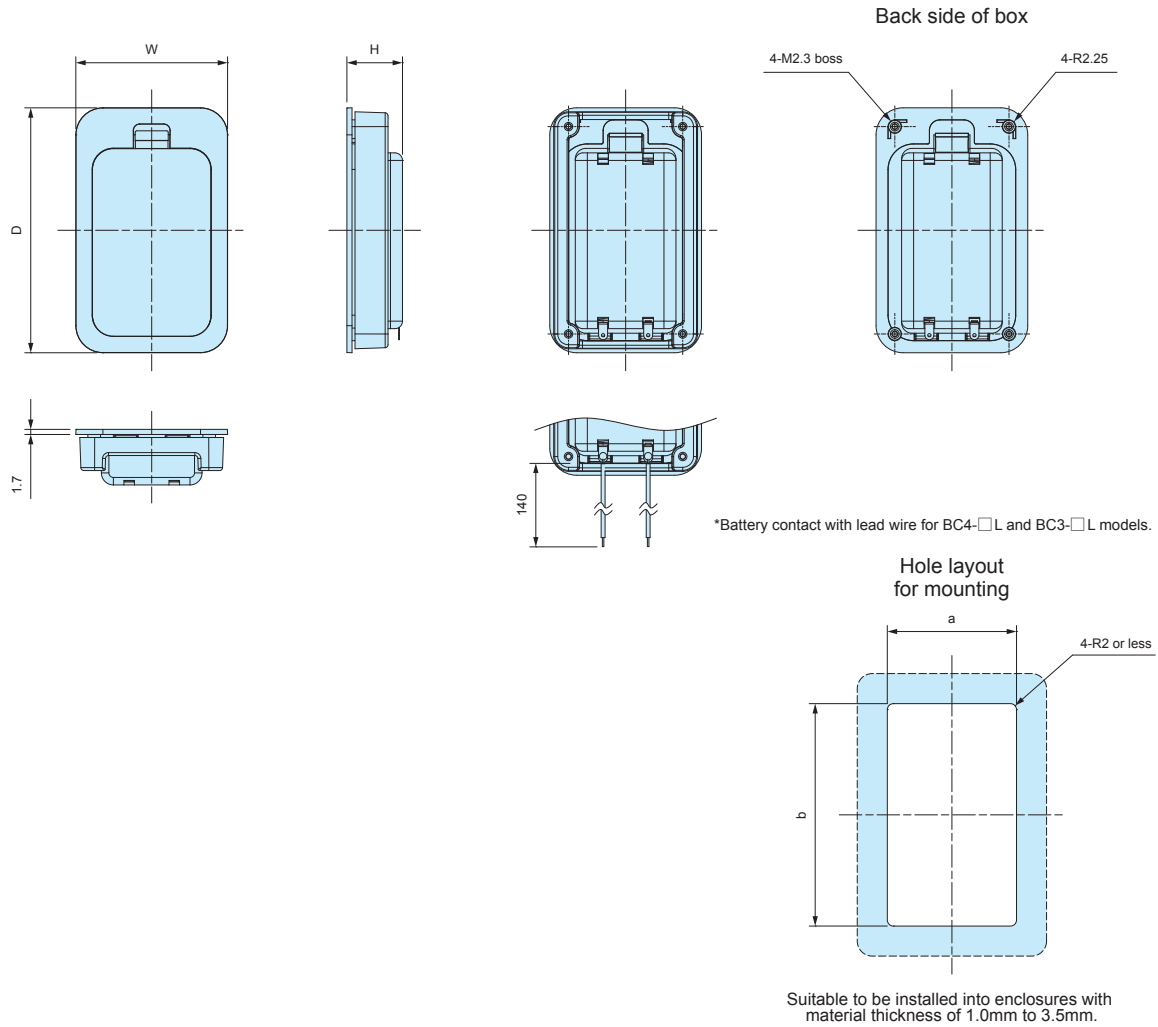
- Suitable to be installed into enclosures with material thickness of 1.0mm to 3.5mm.
- Cover can be opened/closed without any tool for easy battery replacement.
- 5 different battery layouts are available as AA x 2, AA x 3, AA x 4, AAA x 2 and AAA x4. Each layout comes in 2 models: with lead-wire, and without lead-wire.
- ⊕ ⊖ markings prevents incorrect placement of battery.
- The dimensions of alkaline or manganese batteries may vary depending on country and brand. Use optional battery cushion sponge to preventing rattling.

#### Components

No.	Part name	Pcs	Material	Color / Finish
1	Box	1	ABS UL94V-0	Black • Off-white
2	Cover	1	ABS UL94V-0	Black • Off-white
3	Frame	1	ABS UL94V-0	Black • Off-white
4	Battery contact Lead wire (BC-L models)	1 set	Battery contact : Brass & steel wire Lead wire : PVC + Copper wire (UL1007 AWG26)	Nickel plated Black • Red
5	Self-tapping screw	4	Steel	Nickel plated

## BC dimensions

- DXF/DWG/PDF/STP drawings available on our website.
- The shape and position of battery contacts vary by models.



## Type: Without Lead Wire

### Product no. / Dimensions

Product no.		Dimensions					Battery layout	Weight (g)
● Black	● Off-white	W	H	D	a	b		
BC4-2-B	BC4-2-W	40	14.8	78.5	32.5	71	*AAA x 2	24.5
BC4-4-B	BC4-4-W	62	14.8	78.5	54.5	71	*AAA x 4	34.5
BC3-2-B	BC3-2-W	50.5	18.5	81.5	43	74	*AA x 2	31.5
BC3-3-B	BC3-3-W	65.5	18.5	81.5	58	74	*AA x 3	39
BC3-4-B	BC3-4-W	80.5	18.5	81.5	73	74	*AA x 4	46

\*Alkaline or manganese batteries

## Type: With Lead Wire

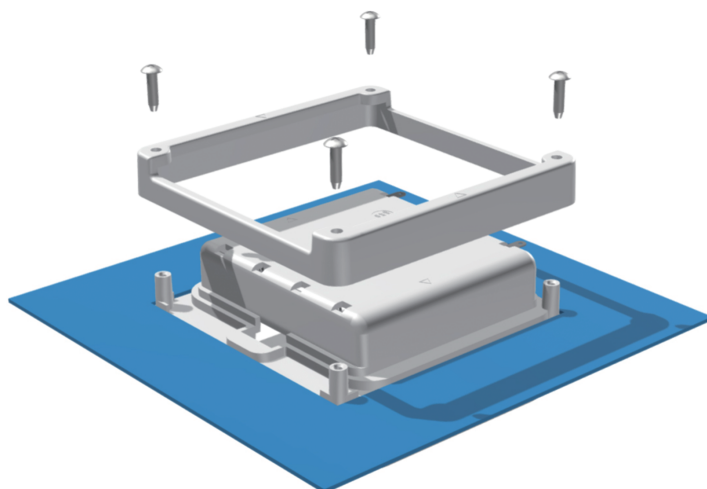
### Product no. / Dimensions

Product no.		Dimensions					Battery layout	Weight (g)
● Black	● Off-white	W	H	D	a	b		
BC4-2L-B	BC4-2L-W	40	14.8	78.5	32.5	71	*AAA x 2	25.5
BC4-4L-B	BC4-4L-W	62	14.8	78.5	54.5	71	*AAA x 4	35.5
BC3-2L-B	BC3-2L-W	50.5	18.5	81.5	43	74	*AA x 2	32.5
BC3-3L-B	BC3-3L-W	65.5	18.5	81.5	58	74	*AA x 3	40
BC3-4L-B	BC3-4L-W	80.5	18.5	81.5	73	74	*AA x 4	47

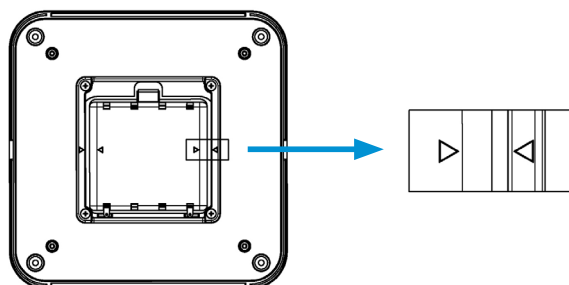
\*Alkaline or manganese batteries

# How to mount on the enclosures

- Insert battery box into the milled hole first, and fit the frame on the back side. Once mounted, secure the frame with screws.



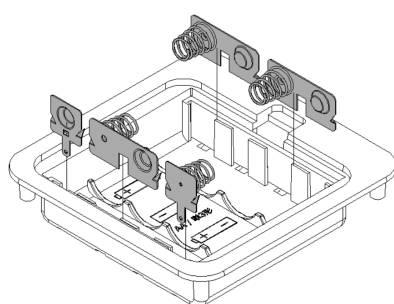
- For BC3-4□ models, ▷ markings are shown on the frame. Install by matching the markings.



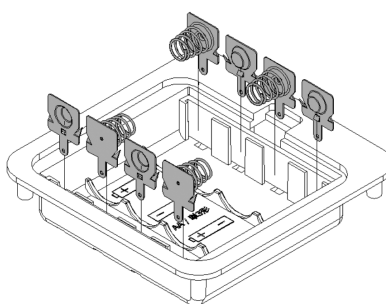
## Parallel circuit conversion on BC series battery box

- BC-3□ models can be converted from a series to a parallel circuit. See below illustration for further details.
- IT series (IT-3 models) optional battery contacts can be used for parallel circuit conversion. (See website for more information)
- Use caution when installing or replacing the terminals to avoid the damage to the material.
- Parallel series conversion is available via our customization services.

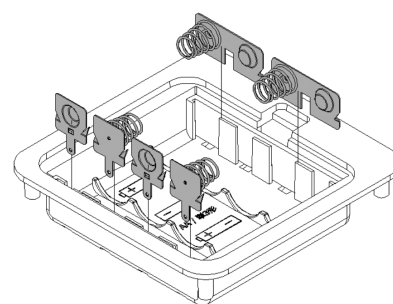
## Conversion Example



Series Circuit (Standard)

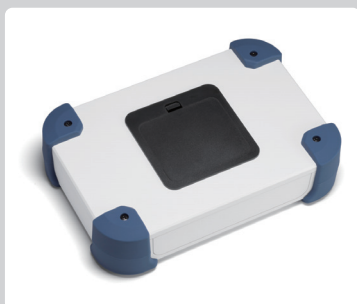


Parallel Circuit (4 batteries)



Parallel Circuit (2 batteries x 2)

## Customization Available



For more information, contact us here:

Online form: [https://www.takachi-enclosure.com/custom/form\\_custom](https://www.takachi-enclosure.com/custom/form_custom)  
E-mail : [sales@takachi-el.co.jp](mailto:sales@takachi-el.co.jp)



# Mount Example



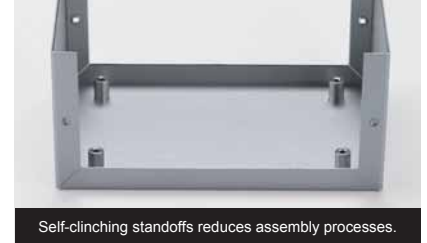
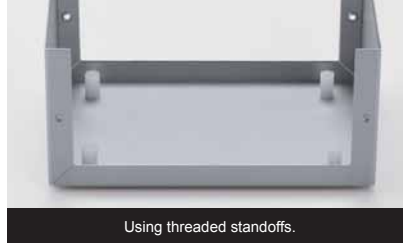
■ BC series battery boxes can also be mounted on aluminium enclosures.

## 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

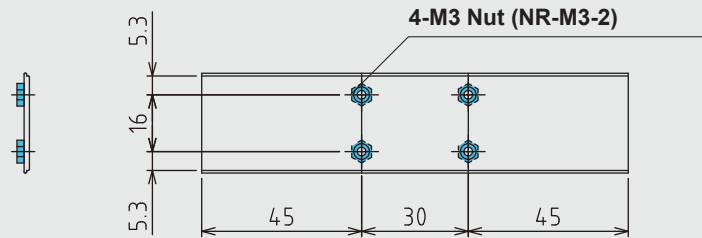
**BN series**

Self-clinching nuts  
(Blind type)

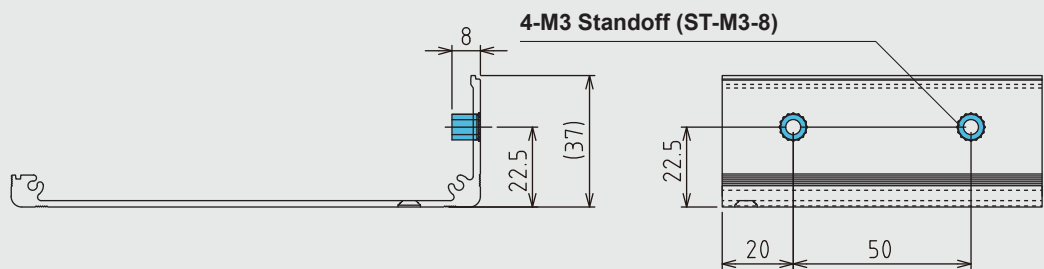


- See "Thread and length size chart" on page clinching-3 to clinching-6. Kindly specify and put the relevant "Part #" in your drawings.

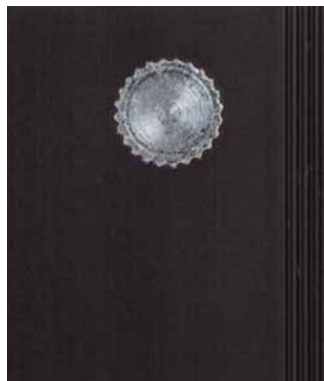
Example



Example



## EXAMPLE



ST • STS Through-hole type

SB • SBS Blind type



## Thread and length size chart

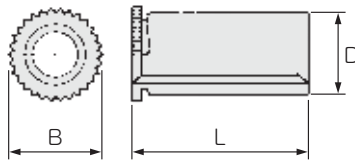


## ST·STS series

## 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.

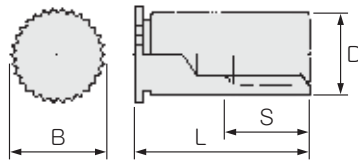
## Thread and length size chart

### 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.

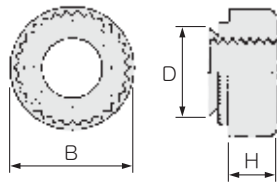
## Thread and length size chart

### 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		

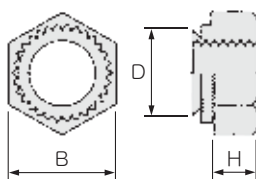
\*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.  
Only available together with installation services. Not available separately.

### 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.

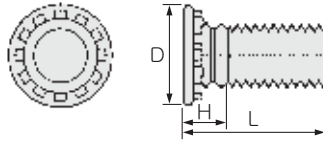
## Thread and length size chart

### 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			

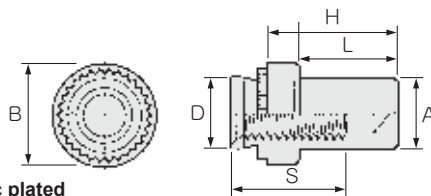
\*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.  
Only available together with installation services. Not available separately.

### 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		

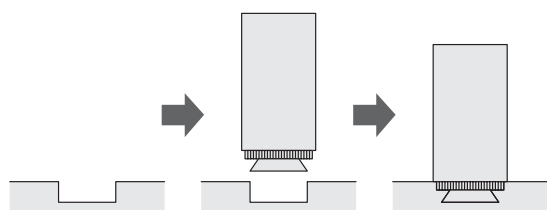
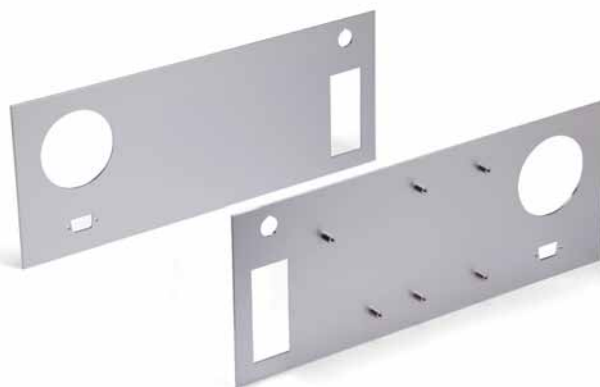
\*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary.  
Only available together with installation services. Not available separately.

## 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.

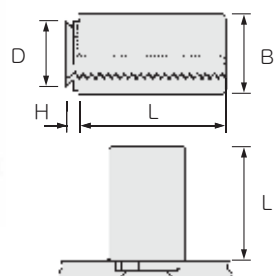
○ Almost invisible  
○ Barely visible  
△ Somewhat visible  
× Very visible

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			

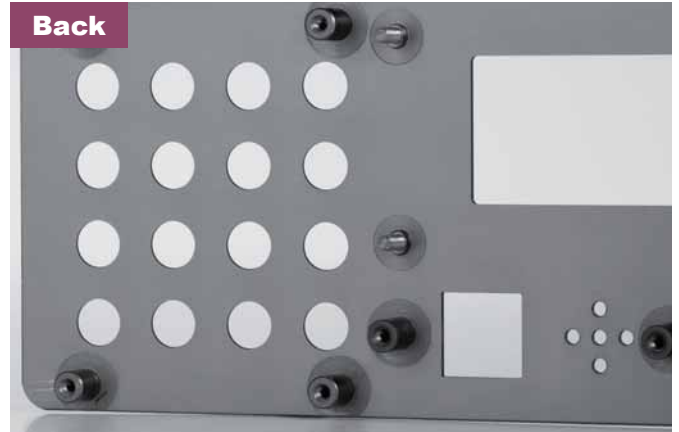
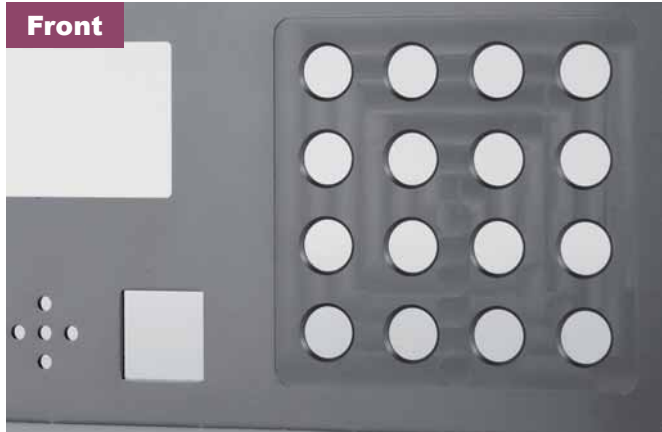
\*Minimum distance = Minimum distance from hole center to edge. Installation requirements vary. Only available together with installation services. Not available separately.



## Aluminium stud welding

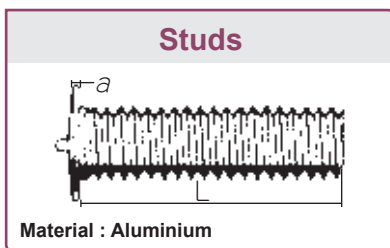
# Welded Fasteners

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.

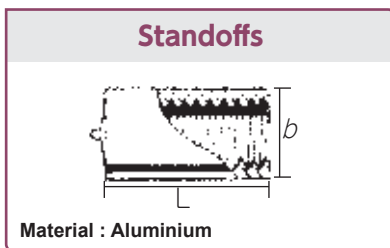
All dimensions are in mm



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

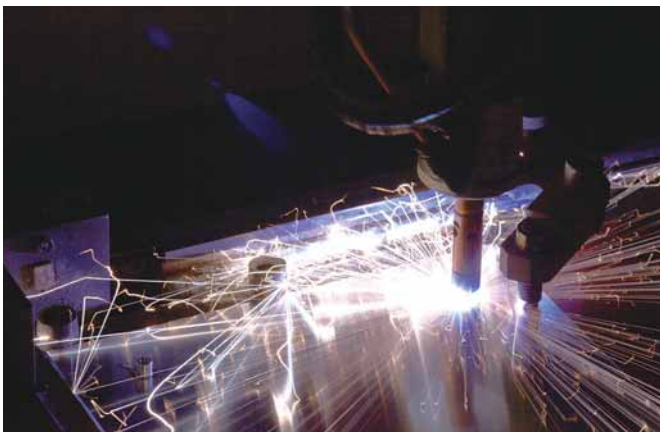
All dimensions are in mm



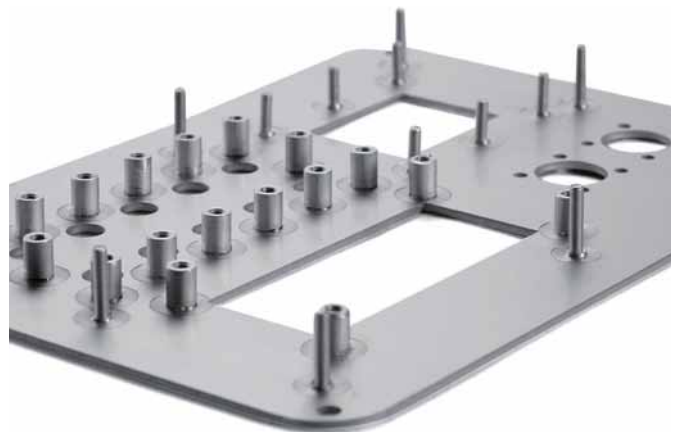
Part #	Thread code	Thread pitch	b	L +/-0.2	Available screw length	*Minimum distance
AFS-M3-5	M3	0.5	6	5	2.0	7.0
AFS-M3-6				6	2.5	
AFS-M3-7				7	3.5	
AFS-M3-8				8	4.5	
AFS-M3-9				9	5.5	
AFS-M4-8	M4	0.7	8	8	3.5	7.0
AFS-M4-10				10	5.5	
AFS-M4-12				12	7.5	

\*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

