

MX•MXA•MXF•MXB SERIES

ALUMINIUM MOBILE ENCLOSURE

MXF•MXB•MXA•MX mobile enclosures are designed with a beautiful and elegant finish in mind. Having a rounded design, it fits comfortably in your hand, while giving off a simple yet sharp look. Suitable for use as small audio devices and as an amplifier unit, among others in a wide variety of industries. Selectable from 4 different types: an affordable plastic end panel type MX series, a luxurious aluminium end panel type MXA series, a flanged end panel MXF series, and the MXB series, which is the MXA series with a protective silicone band.

APPLICATION EXAMPLE

DESKTOP AUDIO PREAMPLIFIER with USB

Product by Conisus lab.inc. (Japan)



DIGITAL HEADPHONE AMPLIFIER

Product by UpTone Audio (USA)

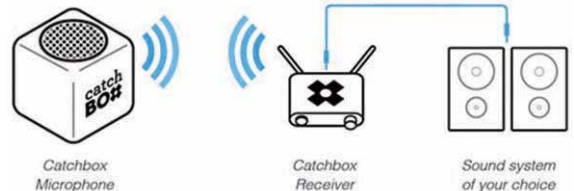


WIRELESS MICROPHONE SYSTEM

Product by Catchbox (Finland)



reddot award
product design



ETHERNET CELLULAR ROUTER

Product by NimbeLink (USA)

**WiFi ACCESS POINT****AIS (AUTOMATIC IDENTIFICATION SYSTEM) SIGNAL RECEIVER**

Product by SRT Marine System Solutions (UK)

**DATA TRANSMITTER for AUTOMATIC NUMBER PLATE RECOGNITION (ANPR) SYSTEM**

Product by Sensor Dynamics (Australia)



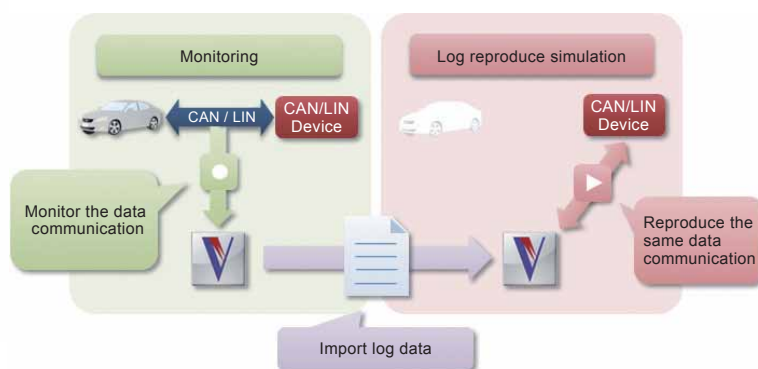
IO-Link DEVICE

Product by Lemonage Software (Germany)



CAN & LIN VEHICLE COMMUNICATION SIMULATOR / MONITOR

Product by P&A Technologies (Japan)



SIGNAL CHECKER / TESTER

Product by KUWATEC (Japan)



MODEL RAILROAD CONTROLLER

Product by Calura Ltd (Japan)



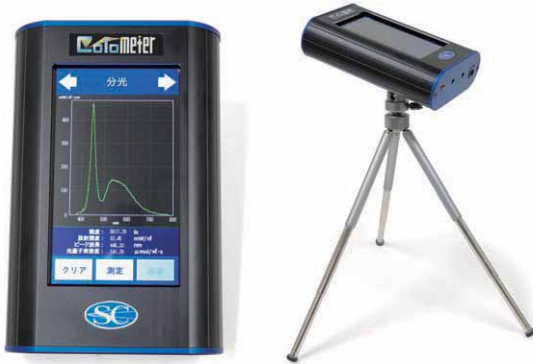
PORTABLE FREQUENCY STANDARD DEVICE

Product by FREQTIME (Japan)



SPECTRAL LUMINOMETER

Product by Spectra Co-op (Japan)



RTD SENSOR TESTER

Product by Turbomation (USA)



MOBILE MOISTURE METER

Product by ARP (Japan)



FULL COLOR LED TABLETOP LIGHTING DIVICE

Product by DAISHO DENKI INC. (Japan)



ACTIVE EMF PROTECTION DEVICE

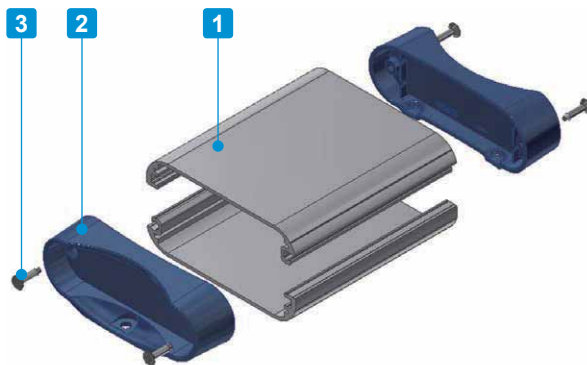
Product by Blueshield Inc (New Zealand)



ILLUMINATION INVERTER

Product by Future Illuminations (USA)



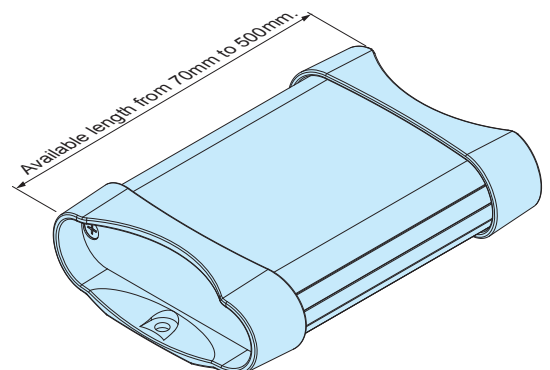


- Flanged network enclosure with easy to hold rounded design.
- 8 different color combinations and 12 different sizes available to choose from.
- Suitable to be used as transmitters, measurement tools, controllers, etc.
- Grooves are built into the internal enclosure, allowing for easy sliding/insertion of pcb boards.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Flanged panel	2	ABS UL94HB	Black • Gray / Unpainted Navy • Lime / Painted
3	Self tapping screw	4	Steel	Nickel plated • Black trivalent chromate

Custom length available in 1mm intervals.



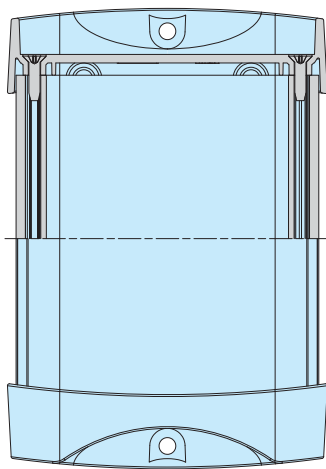
Color Type Please choose from the color combinations listed below

※ Black and Gray panels are ABS color. Navy and Lime panels are Painted.

[B][B] Black / Black	[B][G] Black / Gray	[B][N] Black / Navy	[B][L] Black / Lime
[S][B] Silver / Black	[S][G] Silver / Gray	[S][N] Silver / Navy	[S][L] Silver / Lime

MXF dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws

MXF2-6 models : M2.6-14 x 4 pcs

MXF2-8, 3-11 models : M3-12 x 4 pcs

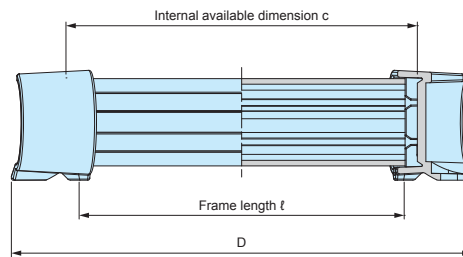
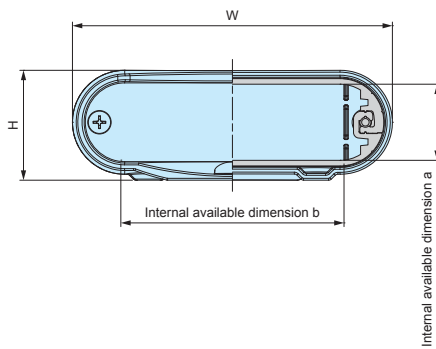
MXF4-13 models : M3-14 x 4 pcs

Screw Type

P	H
Plus head	Hexalobular head

Please request / order by indicating
the combination part number as below.

MXF 2 - 6 - 7 □ □ □
Color code Screw P or H



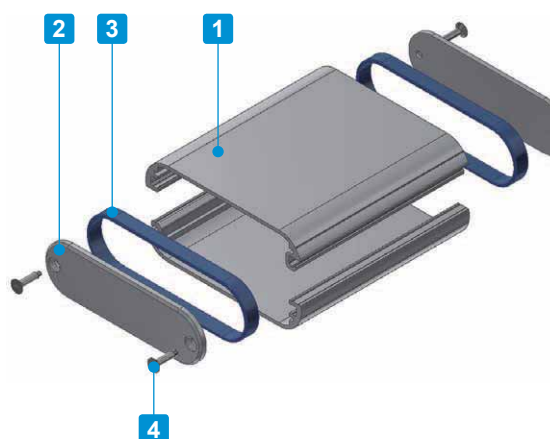
Product no. / Dimensions

■ Please suffix color and screw code at the end of the product number.

Product no.	H	W	D	a	b	c	ℓ	Weight (g)
NEW MXF2- 6- 7 □ □	23.4	60.9	65	15.1	41.1	45	40	44
NEW MXF2- 6- 9 □ □	23.4	60.9	90	15.1	41.1	70	65	59
NEW MXF2- 6-12 □ □	23.4	60.9	115	15.1	41.1	95	90	75
NEW MXF2- 8- 9 □ □	29.6	86.1	94	20.5	60.1	64.6	58	90
NEW MXF2- 8-12 □ □	29.6	86.1	124	20.5	60.1	94.6	88	121
NEW MXF2- 8-15 □ □	29.6	86.1	154	20.5	60.1	124.6	118	153
NEW MXF3-11-10 □ □	35.6	114.2	104	26.5	87.3	74.6	66	130
NEW MXF3-11-14 □ □	35.6	114.2	144	26.5	87.3	114.6	106	184
NEW MXF3-11-19 □ □	35.6	114.2	194	26.5	87.3	164.6	156	251
NEW MXF4-13-12 □ □	40.6	134.2	124	31	104.1	94.4	84	197
NEW MXF4-13-17 □ □	40.6	134.2	174	31	104.1	144.4	134	284
NEW MXF4-13-23 □ □	40.6	134.2	234	31	104.1	204.4	194	388

MXB SERIES

ALUMINIUM MOBILE ENCLOSURE with SILICONE BAND



- All aluminium mobile enclosure with anti-slip, impact resistant silicone band.
- 16 different color combinations and 30 different sizes available to choose from.
- Suitable to be used as digital audio amplifiers, communication devices, measurement tools, etc.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Panel	2	Aluminium A1050P	Silver • Black / Anodized
3	Silicone band	2	Silicone	Black • Light gray • Navy • Cyan • Green • Yellow • Orange • Red
4	Self tapping screw	4	Steel	Nickel plated • Black trivalent chromate

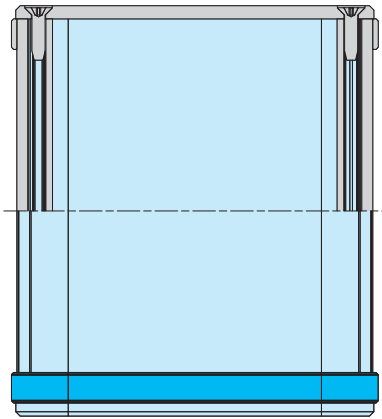
Color Type

[B][B] Black / Black	[B][L] Black / Light gray	[B][N] Black / Navy	[B][C] Black / Cyan	[B][G] Black / Green	[B][Y] Black / Yellow	[B][O] Black / Orange	[B][R] Black / Red
[S][B] Silver / Black	[S][L] Silver / Light gray	[S][N] Silver / Navy	[S][C] Silver / Cyan	[S][G] Silver / Green	[S][Y] Silver / Yellow	[S][O] Silver / Orange	[S][R] Silver / Red

■ Mix and match the MXA series with the SIB series silicone band for a wider variety of color combinations.

MXB dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws

MXB1-5, 2-4, 2-6, 2-10 models : M2.6-14 x 4 pcs

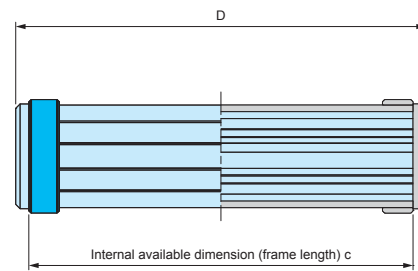
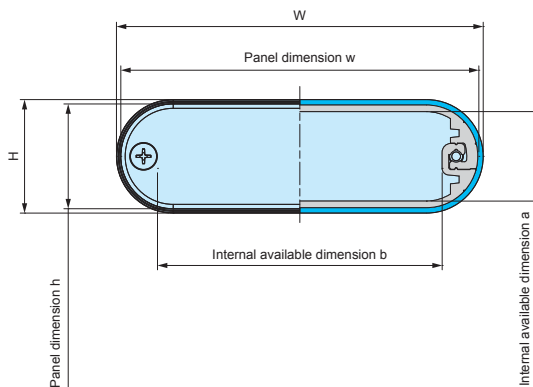
MXB2-7, 2-8, 3-11, 4-7, 4-10, 4-13 models : M3-10 x 4 pcs

Screw Type

P	H
Plus head	Hexalobular head

Please request / order by indicating
the combination part number as below.

MXB 1 – 5 – 5 □ □ □
Color code Screw P or H



Product no. / Dimensions

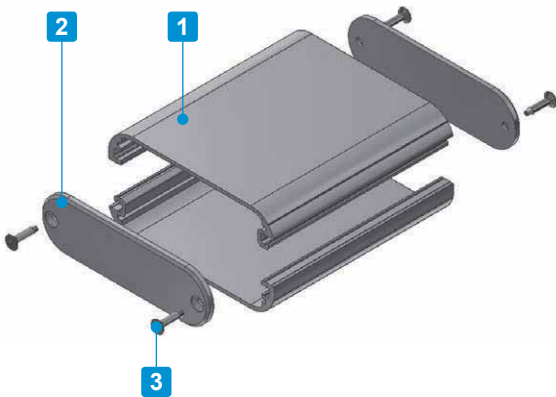
■ Please suffix color and screw code at the end of the product number.

Product no.	H	W	D	h	w	a	b	c	Weight (g)
NEW MXB1- 5- 5 □ □ □	15.8	50.4	49	13	48	10.2	33.6	43	26
NEW MXB1- 5- 8 □ □ □	15.8	50.4	79	13	48	10.2	33.6	73	41
NEW MXB1- 5-11 □ □ □	15.8	50.4	109	13	48	10.2	33.6	103	56
NEW MXB2- 4- 4 □ □ □	18	43.6	44	15	41	12.2	26.6	38	26
NEW MXB2- 4- 7 □ □ □	18	43.6	74	15	41	12.2	26.6	68	41
NEW MXB2- 4-10 □ □ □	18	43.6	104	15	41	12.2	26.6	98	51
NEW MXB2- 6- 5 □ □ □	20.3	59.6	46	18	57	15.1	42.5	40	36
NEW MXB2- 6- 7 □ □ □	20.3	59.6	71	18	57	15.1	42.5	65	51
NEW MXB2- 6-10 □ □ □	20.3	59.6	96	18	57	15.1	42.5	90	66
NEW MXB2- 7- 5 □ □ □	23.5	72.5	54	20	70	16.5	53.2	48	57
NEW MXB2- 7- 8 □ □ □	23.5	72.5	84	20	70	16.5	53.2	78	82
NEW MXB2- 7-11 □ □ □	23.5	72.5	114	20	70	16.5	53.2	108	112
NEW MXB2- 8- 6 □ □ □	26.5	84.8	64	24	82	20.5	65.2	58	77
NEW MXB2- 8- 9 □ □ □	26.5	84.8	94	24	82	20.5	65.2	88	107
NEW MXB2- 8-12 □ □ □	26.5	84.8	124	24	82	20.5	65.2	118	137
NEW MXB2-10- 7 □ □ □	20.3	103.6	74	16	100	13.2	85.6	68	75
NEW MXB2-10-10 □ □ □	20.3	103.6	104	16	100	13.2	85.6	98	105
NEW MXB2-10-14 □ □ □	20.3	103.6	144	16	100	13.2	85.6	138	140
NEW MXB3-11- 7 □ □ □	33.5	113.9	72	30	110	26.5	93.2	66	120
NEW MXB3-11-11 □ □ □	33.5	113.9	112	30	110	26.5	93.2	106	170
NEW MXB3-11-16 □ □ □	33.5	113.9	162	30	110	26.5	93.2	156	240
NEW MXB4- 7- 5 □ □ □	38.2	72	52	35	70	31.4	53.2	46	72
NEW MXB4- 7- 8 □ □ □	38.2	72	82	35	70	31.4	53.2	76	102
NEW MXB4- 7-11 □ □ □	38.2	72	112	35	70	31.4	53.2	106	137
NEW MXB4-10- 7 □ □ □	44.7	97.9	70	40	95	36.4	78.2	64	125
NEW MXB4-10-11 □ □ □	44.7	97.9	110	40	95	36.4	78.2	104	180
NEW MXB4-10-14 □ □ □	44.7	97.9	140	40	95	36.4	78.2	134	225
NEW MXB4-13- 9 □ □ □	38.5	134	90	35	130	31	113.2	84	187
NEW MXB4-13-14 □ □ □	38.5	134	140	35	130	31	113.2	134	272
NEW MXB4-13-20 □ □ □	38.5	134	200	35	130	31	113.2	194	377

■ H and W may experience slight variance from listed dimensions due to silicone band construct.

MXA SERIES

ALUMINIUM MOBILE ENCLOSURE



- All aluminium mobile enclosure with easy to hold rounded design.
- 14 different color combinations and 30 different sizes available to choose from.
- Suitable to be used as digital audio amplifiers, communication devices, measurement tools, etc.
- Grooves are built into the internal enclosure, allowing for easy sliding/insertion of pcb boards.
- MXA1-5 models do not have internal grooves.

Included screws
 MXA1-5, 2-4, 2-6, 2-10 models : M2.6-14 x 4pcs
 MXA2-7, 2-8, 3-11, 4-7, 4-10, 4-13 models : M3-10 x 4 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Panel	2	Aluminium A1050P	Black • Silver • Cobalt • Green • Purple • Orange • Red / Anodized
3	Self tapping screw	4	Steel	Nickel plated • Black trivalent chromate

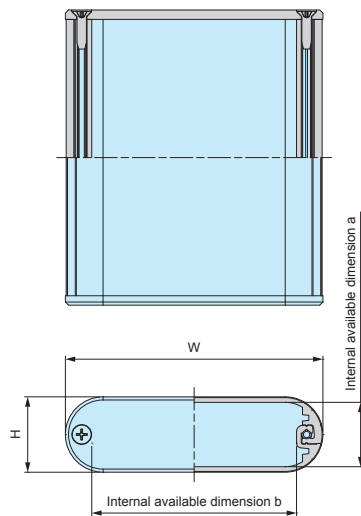
Custom length available in 1mm intervals.



Color Type Please choose from the color combinations listed below



MXA dimensions



■ Drawings below are reference examples only.
Detailed DXF/DWG/PDF drawings available on our website.

Screw Type

P	H
Plus head	Hexalobular head

Please request / order by indicating the combination part number as below.

MXA 1 – 5 – 5 □ □ □

Color code Screw P or H

Accessories (Optional parts)



Silicone band SIB series
See page 130

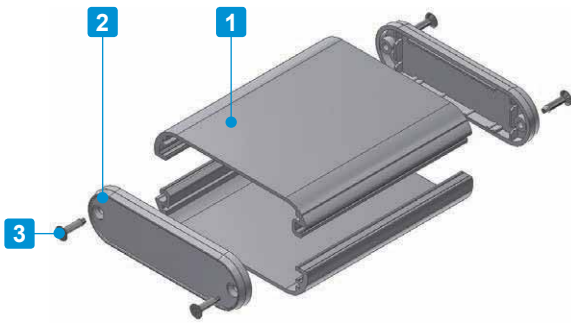
Product no. / Dimensions

■ Please suffix color and screw code at the end of the product number.

Product no.	H	W	D	a	b	c	Weight (g)
MXA1- 5- 5 □ □	13	48	49	10.2	33.6	43	25
MXA1- 5- 8 □ □	13	48	79	10.2	33.6	73	40
MXA1- 5-11 □ □	13	48	109	10.2	33.6	103	55
MXA2- 4- 4 □ □	15	41	44	12.2	26.6	38	25
MXA2- 4- 7 □ □	15	41	74	12.2	26.6	68	40
MXA2- 4-10 □ □	15	41	104	12.2	26.6	98	50
MXA2- 6- 5 □ □	18	57	46	15.1	42.5	40	35
MXA2- 6- 7 □ □	18	57	71	15.1	42.5	65	50
MXA2- 6-10 □ □	18	57	96	15.1	42.5	90	65
MXA2- 7- 5 □ □	20	70	54	16.5	53.2	48	55
MXA2- 7- 8 □ □	20	70	84	16.5	53.2	78	80
MXA2- 7-11 □ □	20	70	114	16.5	53.2	108	110
MXA2- 8- 6 □ □	24	82	64	20.5	65.2	58	75
MXA2- 8- 9 □ □	24	82	94	20.5	65.2	88	105
MXA2- 8-12 □ □	24	82	124	20.5	65.2	118	135
MXA2-10- 7 □ □	16	100	74	13.2	85.6	68	70
MXA2-10-10 □ □	16	100	104	13.2	85.6	98	100
MXA2-10-14 □ □	16	100	144	13.2	85.6	138	135
MXA3-11- 7 □ □	30	110	72	26.5	93.2	66	115
MXA3-11-11 □ □	30	110	112	26.5	93.2	106	165
MXA3-11-16 □ □	30	110	162	26.5	93.2	156	235
MXA4- 7- 5 □ □	35	70	52	31.4	53.2	46	70
MXA4- 7- 8 □ □	35	70	82	31.4	53.2	76	100
MXA4- 7-11 □ □	35	70	112	31.4	53.2	106	135
MXA4-10- 7 □ □	40	95	70	36.4	78.2	64	120
MXA4-10-11 □ □	40	95	110	36.4	78.2	104	175
MXA4-10-14 □ □	40	95	140	36.4	78.2	134	220
MXA4-13- 9 □ □	35	130	90	31	113.2	84	180
MXA4-13-14 □ □	35	130	140	31	113.2	134	265
MXA4-13-20 □ □	35	130	200	31	113.2	194	370

MX SERIES

MOBILE ENCLOSURE



- Mobile enclosure with easy to hold rounded design.
- 12 different color combinations and 30 different sizes available to choose from.
- Frame is made from extruded aluminium material, while the panel is ABS plastic.
- Grooves are built into the internal enclosure, allowing for easy sliding/insertion of pcb boards.
- MX1-5 models do not have internal grooves.

Included screws

MX1-5, 2-4, 2-6, 2-10 models : M2.6-14 x 4 pcs

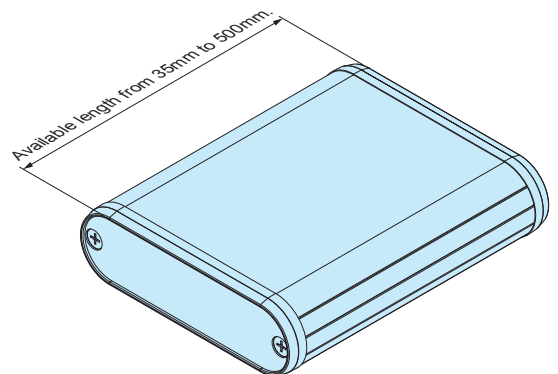
MX2-7, 2-8, 3-11 models : M3-12 x 4 pcs

MX4-7, 4-10, 4-13 models : M3-14 x 4 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Panel	2	ABS UL94HB	Gray • Black / Unpainted Navy • Lime • Orange • Red / Painted
3	Self tapping screw	4	Steel	Nickel plated • Black trivalent chromate

Custom length available in 1mm intervals.



Color Type Please choose from the color combinations listed below

※Black • Gray panels / Unpainted Other panels / Painted



MX dimensions

■ Drawings below are reference examples only.
Detailed DXF/DWG/PDF drawings available on our website.

Accessories (Optional parts)



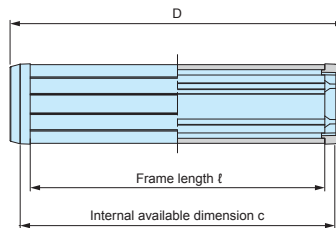
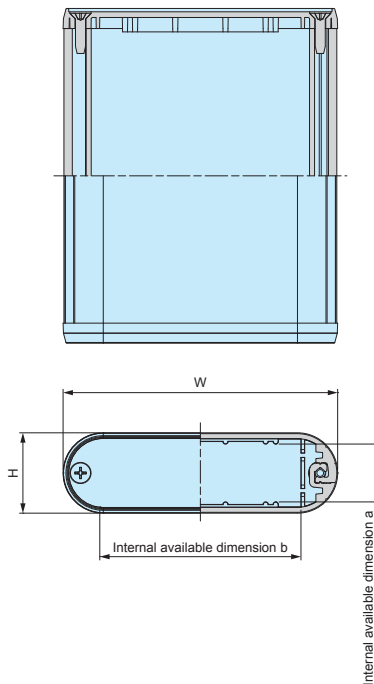
Silicone band SIB series
See page 130

Screw Type

P	H
Plus head	Hexalobular head

Please request / order by indicating
the combination part number as below.

MX 1 – 5 – 6
Color Screw
code P or H



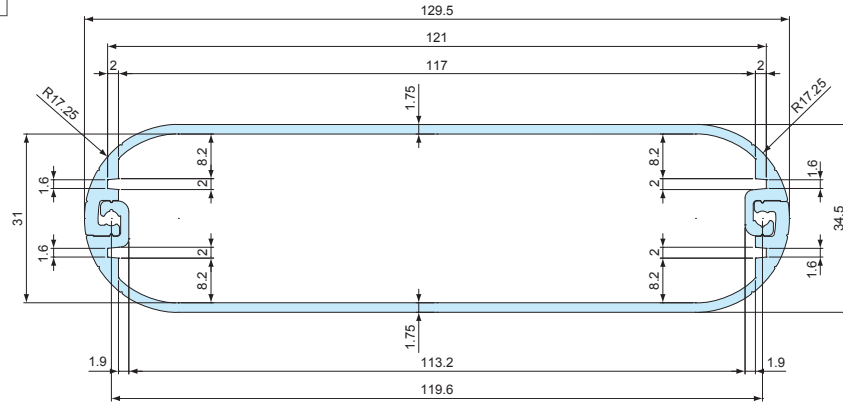
Product no. / Dimensions

■ Please suffix color and screw code at the end of the product number.

Product no.	H	W	D	a	b	c	ℓ	Weight (g)
MX1- 5- 6 	13	48	55	6.9	33.6	49.6	43	25
MX1- 5- 9 	13	48	85	6.9	33.6	79.6	73	40
MX1- 5-12 	13	48	115	6.9	33.6	109.6	103	55
MX2- 4- 5 	15	41	50	8.9	26.6	44.6	38	20
MX2- 4- 8 	15	41	80	8.9	26.6	74.6	68	35
MX2- 4-11 	15	41	110	8.9	26.6	104.6	98	50
MX2- 6- 5 	18	57	50	12.3	42.5	45	40	35
MX2- 6- 8 	18	57	75	12.3	42.5	70	65	50
MX2- 6-10 	18	57	100	12.3	42.5	95	90	70
MX2- 7- 6 	20	70	60	13.2	53.2	54.6	48	50
MX2- 7- 9 	20	70	90	13.2	53.2	84.6	78	80
MX2- 7-12 	20	70	120	13.2	53.2	114.6	108	105
MX2- 8- 7 	24	82	70	17.2	65.2	64.6	58	75
MX2- 8-10 	24	82	100	17.2	65.2	94.6	88	105
MX2- 8-13 	24	82	130	17.2	65.2	124.6	118	140
MX2-10- 8 	16	100	80	9.9	85.6	74.6	68	70
MX2-10-11 	16	100	110	9.9	85.6	104.6	98	95
MX2-10-15 	16	100	150	9.9	85.6	144.6	138	130
MX3-11- 8 	30	110	80	23.3	93.2	74.6	66	110
MX3-11-12 	30	110	120	23.3	93.2	114.6	106	165
MX3-11-17 	30	110	170	23.3	93.2	164.6	156	235
MX4- 7- 6 	35	70	60	28.2	53.2	53	46	65
MX4- 7- 9 	35	70	90	28.2	53.2	83	76	100
MX4- 7-12 	35	70	120	28.2	53.2	113	106	130
MX4-10- 8 	40	95	80	33.1	78.2	73	64	115
MX4-10-12 	40	95	120	33.1	78.2	113	104	175
MX4-10-15 	40	95	150	33.1	78.2	143	134	215
MX4-13-10 	35	130	100	27.7	113.2	94.4	84	175
MX4-13-15 	35	130	150	27.7	113.2	144.4	134	265
MX4-13-21 	35	130	210	27.7	113.2	204.4	194	375



MXF/MXB/MXA/MX4-13-□



Accessories (Optional parts)

SIB SERIES

SILICONE BAND

★★ NEW

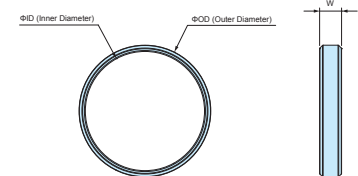


Application example



- Silicone band designed to fit MXA & MX series.
- Silicone band provides both shock resistance and non-slip grips for the MXA & MX enclosure.
- Elastic silicone band may also fit other similarly sized enclosures.

SIB dimensions



Color Type

Code	R Red	O Orange	Y Yellow	G Green	C Cyan	N Navy	L Light gray	B Black
Color								

Components

Part name	Pcs	Material	Color
Silicone band	Pair (2 pcs)	Silicone	Red • Orange • Yellow • Green • Cyan • Navy • Light gray • Black

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	W	ID	OD	Suitable enclosures	Enclosure circumference (mm)	Weight (g)
NEW SIB-21□	6	21	25	MXA/MX1-5-□ • 2-4-□ • 2-6-□	95~135	2
NEW SIB-38□	7	38	42	MXA/MX2-7-□ • 2-8-□ • 4-7-□	160~190	4
NEW SIB-58□	8	58	63	MXA/MX2-10-□ • 3-11-□ • 4-10-□	215~255	10
NEW SIB-72□	10	72	77	MXA/MX4-13-□	280~320	14

MULTI-FUNCTION EXTRUDED ALUMINIUM CASE

EXP·EXPF·EXPE·EXEF·EXW·EXWF series

The following series, by utilizing similar extrusion frames, are available in 6 different types, such as having IP65, or EMC shielded functions, among others.

67 different sizes are available for each version.

CORNER GUARD

EXP series Page 135 ~ 136



FLANGED

EXPF series Page 141 ~ 142



IP65 CORNER GUARD

EXW series Page 139 ~ 140



IP65 FLANGED

EXWF series Page 145 ~ 146



EMC CORNER GUARD

EXPE series Page 137 ~ 138



EMC FLANGED

EXEF series Page 143 ~ 144



Custom length available in 1mm intervals.



16 COLOR COMBINATIONS

EXP series is available in 2 different body frame and 8 different exterior frame colors for a total of 16 different color types.



APPLICATION EXAMPLE

MEASURING INSTRUMENT



Accessories (Optional parts)
Tilt leg TLW series
See page 154

NETWORK / COMMUNICATION BOX



CONTROLLER



FIBER LASER PROJECTOR

Product by NEOARK (Japan)



IMPULSE GENERATOR

Product by Digital Signal Technology (Japan)



PERISTALTIC DC PUMP

Product by Technic (USA)



PHOTO-FLASH SEQUENCER

Product by ScanBox (France)



※Photo is IP65 waterproof EXW mode.
See page 139 ~ 140 for EXW series.

DESKTOP LOAD CELL AMPLIFIER

Product by IMADA (Japan)



WIDE RANGE SPEED MEASUREMENT SYSTEM

Product by ACT Electronics (Japan)

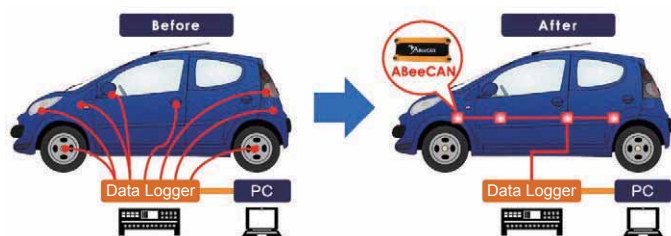


A Bee CAN - ANALOG CAN CONVERTER

Product by PERITEC (Japan)



※Above photo is custom length EXP series.



APPLICATION EXAMPLE Testing system for vehicle air conditioning.

Converter for analog signal data (temperature, voltage and humidity) can be convert to CAN data and transmitted to CAN bus. Wiring quantity and cost can be saved by converting to CAN format for easy data collection through CAN data logger.

EXP SERIES

ALUMINIUM PANEL CASE with CORNER GUARD



- Corner guards are designed to be both aesthetically pleasing, and impact resistant.
- Available in 67 different sizes and 16 different color combinations.
- Custom length is available.

Components

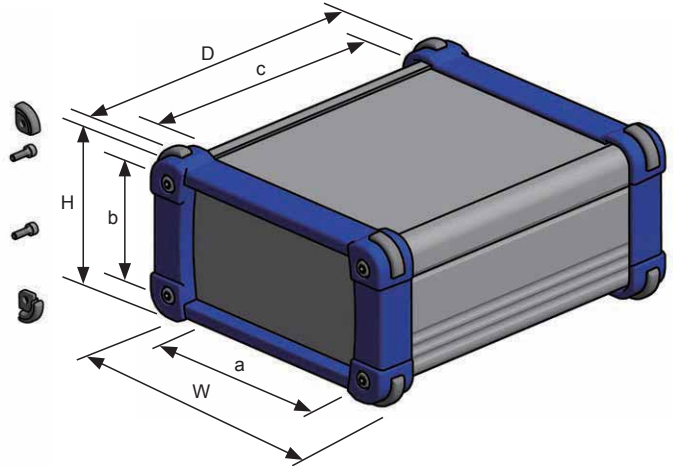
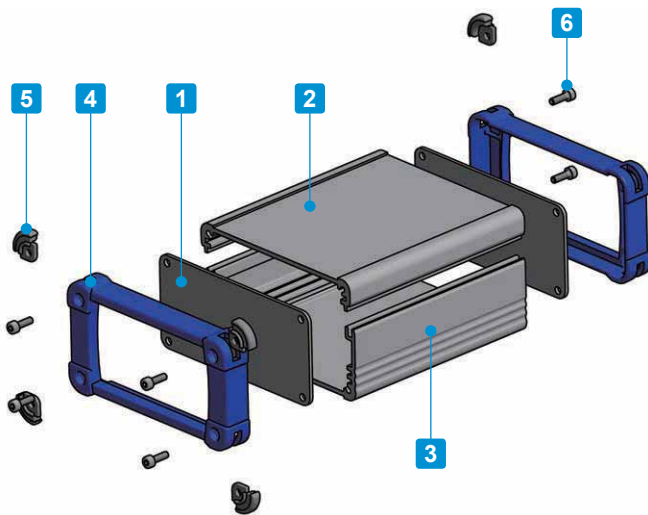
No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1100P	Silver • Black / Anodized
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
4	Exterior frame	2	PC+ABS UL94V-0	Black • Gray / Unpainted Indigo • Navy • Yellow • Orange • Red / Painted
5	Corner guard	8	Silicone	Black • Dark gray
6	Screw	8	Stainless steel	Unfinished

■ See page 149 ~ 152 for Top / Bottom cover dimensions.

Color Type

Code	[S][B] Silver / Black	[S][G] Silver / Gray	[S][I] Silver / Indigo	[S][N] Silver / Navy
Color				
Code	[S][L] Silver / Lime	[S][Y] Silver / Yellow	[S][O] Silver / Orange	[S][R] Silver / Red
Color				
Code	[B][B] Black / Black	[B][G] Black / Gray	[B][I] Black / Indigo	[B][N] Black / Navy
Color				
Code	[B][L] Black / Lime	[B][Y] Black / Yellow	[B][O] Black / Orange	[B][R] Black / Red
Color				

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws
EXP 7-□, 9-□ models : M2.5-8 x 8 pcs
EXP12-□, 15-□ models : M3-10 x 8 pcs
EXP20-□ models : M4-12 x 8 pcs
EXP24-□ models : M5-12 x 8 pcs
※Hexagonal wrench included.

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	Dimensions (External)			Dimensions (Internal)		
	W	H	D	a	b	c
EXP 7- 3- 6□□	69	34	60	47	19.6	46
EXP 7- 3- 9□□	69	34	87	47	19.6	73
EXP 7- 3-11□□	69	34	110	47	19.6	96
EXP 7- 4- 6□□	69	44	60	47	29.6	46
EXP 7- 4- 9□□	69	44	87	47	29.6	73
EXP 7- 4-11□□	69	44	110	47	29.6	96
EXP 7- 6- 6□□	69	59	60	47	44.6	46
EXP 7- 6- 9□□	69	59	87	47	44.6	73
EXP 7- 6-11□□	69	59	110	47	44.6	96
EXP 9- 4- 7□□	89	39	70	67	24.6	56
EXP 9- 4-10□□	89	39	100	67	24.6	86
EXP 9- 4-13□□	89	39	130	67	24.6	116
EXP 9- 5- 7□□	89	49	70	67	34.6	56
EXP 9- 5-10□□	89	49	100	67	34.6	86
EXP 9- 5-13□□	89	49	130	67	34.6	116
EXP 9- 6- 7□□	89	64	70	67	49.6	56
EXP 9- 6-10□□	89	64	100	67	49.6	86
EXP 9- 6-13□□	89	64	130	67	49.6	116
EXP12- 4- 9□□	116	41	90	89	24	74
EXP12- 4-13□□	116	41	130	89	24	114
EXP12- 4-18□□	116	41	176	89	24	160
EXP12- 6- 9□□	116	56	90	89	39	74
EXP12- 6-13□□	116	56	130	89	39	114
EXP12- 6-18□□	116	56	176	89	39	160
EXP12- 7- 9□□	116	71	90	89	54	74
EXP12- 7-13□□	116	71	130	89	54	114
EXP12- 7-18□□	116	71	176	89	54	160
EXP15- 5-11□□	151	46	110	107.4	29	93
EXP15- 5-15□□	151	46	150	107.4	29	133
EXP15- 5-20□□	151	46	200	107.4	29	183
EXP15- 6-11□□	151	61	110	107.4	44	93
EXP15- 6-15□□	151	61	150	107.4	44	133
EXP15- 6-20□□	151	61	200	107.4	44	183
EXP15- 8-11□□	151	81	110	107.4	64	93
EXP15- 8-15□□	151	81	150	107.4	64	133
EXP15- 8-20□□	151	81	200	107.4	64	183
EXP15-10-11□□	151	101	110	107.4	84	93
EXP15-10-15□□	151	101	150	107.4	84	133
EXP15-10-20□□	151	101	200	107.4	84	183

Product no.	Dimensions (External)			Dimensions (Internal)		
	W	H	D	a	b	c
NEW EXP20- 6-14□□	199	56	140	132	35	120
NEW EXP20- 6-19□□	199	56	192	132	35	172
NEW EXP20- 6-25□□	199	56	245	132	35	225
NEW EXP20- 6-30□□	199	56	300	132	35	280
NEW EXP20- 7-14□□	199	74	140	132	53	120
NEW EXP20- 7-19□□	199	74	192	132	53	172
NEW EXP20- 7-25□□	199	74	245	132	53	225
NEW EXP20- 7-30□□	199	74	300	132	53	280
NEW EXP20- 9-14□□	199	94	140	132	73	120
NEW EXP20- 9-19□□	199	94	192	132	73	172
NEW EXP20- 9-25□□	199	94	245	132	73	225
NEW EXP20- 9-30□□	199	94	300	132	73	280
NEW EXP20-12-14□□	199	119	140	132	98	120
NEW EXP20-12-19□□	199	119	192	132	98	172
NEW EXP20-12-25□□	199	119	245	132	98	225
NEW EXP20-12-30□□	199	119	300	132	98	280
NEW EXP24- 6-17□□	244	64	170	177	43	147
NEW EXP24- 6-23□□	244	64	230	177	43	207
NEW EXP24- 6-29□□	244	64	290	177	43	267
NEW EXP24- 6-35□□	244	64	350	177	43	327
NEW EXP24- 9-17□□	244	89	170	177	68	147
NEW EXP24- 9-23□□	244	89	230	177	68	207
NEW EXP24- 9-29□□	244	89	290	177	68	267
NEW EXP24- 9-35□□	244	89	350	177	68	327
NEW EXP24-11-17□□	244	114	170	177	93	147
NEW EXP24-11-23□□	244	114	230	177	93	207
NEW EXP24-11-29□□	244	114	290	177	93	267
NEW EXP24-11-35□□	244	114	350	177	93	327

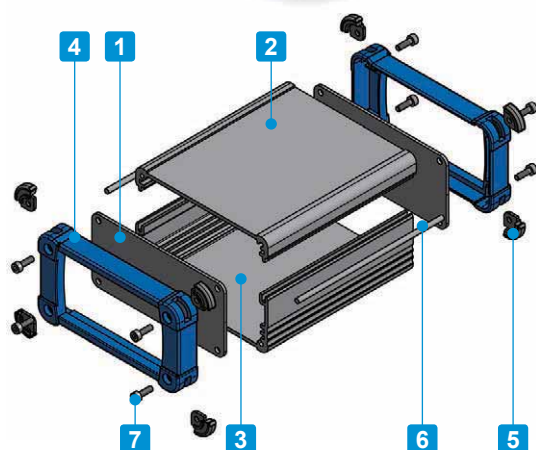
Accessories (Optional parts)



Tilt leg TLW series
See page 154



EMC
Shielding
Effects



- Corner guards are designed to be both aesthetically pleasing, and impact resistant.
- Available in 67 different sizes and 8 different color combinations.
- EMC shielding is achieved by having the unfinished inner sides of the top/bottom covers and panels, as well as the fabric-over-foam gasket in contact with one another.

Included screws

EXPE 7-□, 9-□ models : M2.5-8 x 8 pcs

EXPE12-□, 15-□ models : M3-10 x 8 pcs

EXPE20-□ models : M4-12 x 8 pcs

EXPE24-□ models : M5-12 x 8 pcs

※Hexagonal wrench included.

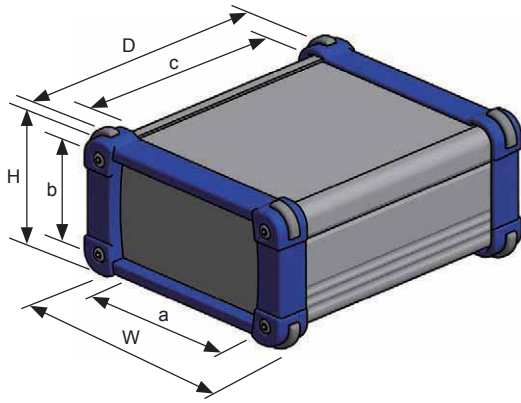
Components

No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1100P	Silver / Painted (outside) • Unfinished (inside)
2	Top cover	1	Extruded aluminium A6063S-T5	Silver / Painted (outside) • Unfinished (inside)
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver / Painted (outside) • Unfinished (inside)
4	Exterior frame	2	PC+ABS UL94V-0	Black • Gray / Unpainted Indigo • Navy • Yellow • Orange • Red / Painted
5	Corner guard	8	Silicone	Black • Dark gray
6	Fabric-over-foam gasket	2	Conductive fabric : TPE	Metallic gray
7	Screw	8	Stainless steel	Unfinished

■ See page 149 ~ 152 for Top / Bottom cover dimensions.

Color Type

Code	S B Silver / Black	S G Silver / Gray	S I Silver / Indigo	S N Silver / Navy
Color				
Code	S L Silver / Lime	S Y Silver / Yellow	S O Silver / Orange	S R Silver / Red
Color				



■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

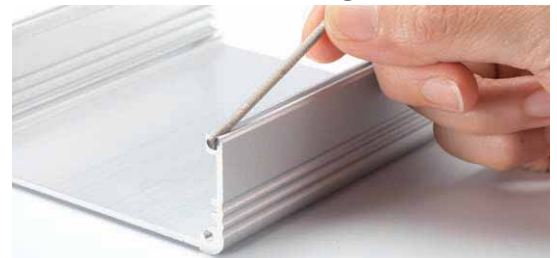
Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	Dimensions (External)			Dimensions (Internal)		
	W	H	D	a	b	c
EXPE 7- 3- 6□□	69	34	60	47	19.6	46
EXPE 7- 3- 9□□	69	34	87	47	19.6	73
EXPE 7- 3-11□□	69	34	110	47	19.6	96
EXPE 7- 4- 6□□	69	44	60	47	29.6	46
EXPE 7- 4- 9□□	69	44	87	47	29.6	73
EXPE 7- 4-11□□	69	44	110	47	29.6	96
EXPE 7- 6- 6□□	69	59	60	47	44.6	46
EXPE 7- 6- 9□□	69	59	87	47	44.6	73
EXPE 7- 6-11□□	69	59	110	47	44.6	96
EXPE 9- 4- 7□□	89	39	70	67	24.6	56
EXPE 9- 4-10□□	89	39	100	67	24.6	86
EXPE 9- 4-13□□	89	39	130	67	24.6	116
EXPE 9- 5- 7□□	89	49	70	67	34.6	56
EXPE 9- 5-10□□	89	49	100	67	34.6	86
EXPE 9- 5-13□□	89	49	130	67	34.6	116
EXPE 9- 6- 7□□	89	64	70	67	49.6	56
EXPE 9- 6-10□□	89	64	100	67	49.6	86
EXPE 9- 6-13□□	89	64	130	67	49.6	116
EXPE12- 4- 9□□	116	41	90	89	24	74
EXPE12- 4-13□□	116	41	130	89	24	114
EXPE12- 4-18□□	116	41	176	89	24	160
EXPE12- 6- 9□□	116	56	90	89	39	74
EXPE12- 6-13□□	116	56	130	89	39	114
EXPE12- 6-18□□	116	56	176	89	39	160
EXPE12- 7- 9□□	116	71	90	89	54	74
EXPE12- 7-13□□	116	71	130	89	54	114
EXPE12- 7-18□□	116	71	176	89	54	160
EXPE15- 5-11□□	151	46	110	107.4	29	93
EXPE15- 5-15□□	151	46	150	107.4	29	133
EXPE15- 5-20□□	151	46	200	107.4	29	183
EXPE15- 6-11□□	151	61	110	107.4	44	93
EXPE15- 6-15□□	151	61	150	107.4	44	133
EXPE15- 6-20□□	151	61	200	107.4	44	183
EXPE15- 8-11□□	151	81	110	107.4	64	93
EXPE15- 8-15□□	151	81	150	107.4	64	133
EXPE15- 8-20□□	151	81	200	107.4	64	183
EXPE15-10-11□□	151	101	110	107.4	84	93
EXPE15-10-15□□	151	101	150	107.4	84	133
EXPE15-10-20□□	151	101	200	107.4	84	183

Product no.	Dimensions (External)			Dimensions (Internal)		
	W	H	D	a	b	c
NEW EXPE20- 6-14□□	199	56	140	132	35	120
NEW EXPE20- 6-19□□	199	56	192	132	35	172
NEW EXPE20- 6-25□□	199	56	245	132	35	225
NEW EXPE20- 6-30□□	199	56	300	132	35	280
NEW EXPE20- 7-14□□	199	74	140	132	53	120
NEW EXPE20- 7-19□□	199	74	192	132	53	172
NEW EXPE20- 7-25□□	199	74	245	132	53	225
NEW EXPE20- 7-30□□	199	74	300	132	53	280
NEW EXPE20- 9-14□□	199	94	140	132	73	120
NEW EXPE20- 9-19□□	199	94	192	132	73	172
NEW EXPE20- 9-25□□	199	94	245	132	73	225
NEW EXPE20- 9-30□□	199	94	300	132	73	280
NEW EXPE20-12-14□□	199	119	140	132	98	120
NEW EXPE20-12-19□□	199	119	192	132	98	172
NEW EXPE20-12-25□□	199	119	245	132	98	225
NEW EXPE20-12-30□□	199	119	300	132	98	280
NEW EXPE24- 6-17□□	244	64	170	177	43	147
NEW EXPE24- 6-23□□	244	64	230	177	43	207
NEW EXPE24- 6-29□□	244	64	290	177	43	267
NEW EXPE24- 6-35□□	244	64	350	177	43	327
NEW EXPE24- 9-17□□	244	89	170	177	68	147
NEW EXPE24- 9-23□□	244	89	230	177	68	207
NEW EXPE24- 9-29□□	244	89	290	177	68	267
NEW EXPE24- 9-35□□	244	89	350	177	68	327
NEW EXPE24-11-17□□	244	114	170	177	93	147
NEW EXPE24-11-23□□	244	114	230	177	93	207
NEW EXPE24-11-29□□	244	114	290	177	93	267
NEW EXPE24-11-35□□	244	114	350	177	93	327

How to install a shield gasket



■ Insert fabric-over-foam gasket into the joint-grooves on the bottom cover.



■ Ensure that a small portion of the fabric-over-foam gasket protrudes out in order to maintain a connection with the end panel.



Following models are suitable for
placement of a Mini-ITX board.

EXPE20-7-19□□
EXPE20-9-19□□
EXPE20-12-19□□

EXW SERIES

IP65 ALUMINIUM CASE with CORNER GUARD

IP65



- IP65 is made possible by the sealing of between top & bottom covers and end panels with gaskets.
- Available in 39 different sizes and 6 different color combinations by 2 body frame and 3 end panel colors.
- Custom length is available.

Technical Data

Protection class : IP65

Components

No.	Part name	Pcs	Material	Color / Finish
1	End panel	2	PC+ABS UL94V-0	Black • Gray / Unpainted Navy / Painted
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
4	Panel gasket	2	Silicone	Black • Dark gray
5	Cover gasket	2	Silicone	White gray
6	Screw	8	Stainless Steel	Unfinished

Included screw

EXW7-□, 9-□ models : M2.5-8 x 8 pcs

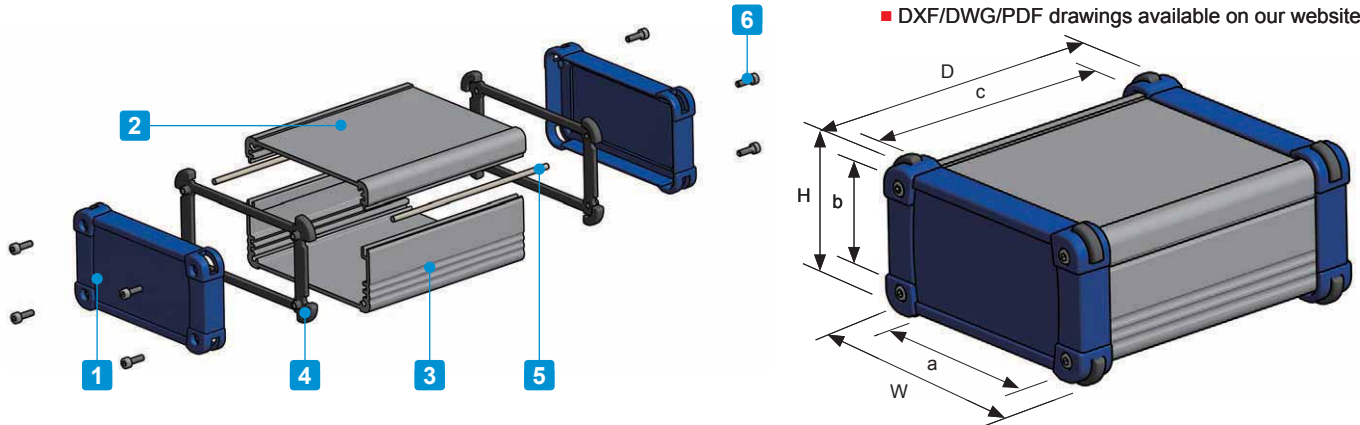
EXW12-□, 15-□ models : M3-10 x 8 pcs

※Hexagonal wrench included.

Color Type

Code	S B Silver / Black	S G Silver / Gray	S N Silver / Navy
Color			
Code	B B Black / Black	B G Black / Gray	B N Black / Navy
Color			

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



Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	External dimensions			Internal dimensions		
	W	H	D	a	b	c
EXW 7- 3- 6□□	69	34	58	47	20	46
EXW 7- 3- 9□□	69	34	85	47	20	73
EXW 7- 3-11□□	69	34	108	47	20	96
EXW 7- 4- 6□□	69	44	58	47	30	46
EXW 7- 4- 9□□	69	44	85	47	30	73
EXW 7- 4-11□□	69	44	108	47	30	96
EXW 7- 6- 6□□	69	59	58	47	45	46
EXW 7- 6- 9□□	69	59	85	47	45	73
EXW 7- 6-11□□	69	59	108	47	45	96
EXW 9- 4- 7□□	89	39	69	67	25	56
EXW 9- 4-10□□	89	39	99	67	25	86
EXW 9- 4-13□□	89	39	129	67	25	116
EXW 9- 5- 7□□	89	49	69	67	35	56
EXW 9- 5-10□□	89	49	99	67	35	86
EXW 9- 5-13□□	89	49	129	67	35	116
EXW 9- 6- 7□□	89	64	69	67	50	56
EXW 9- 6-10□□	89	64	99	67	50	86
EXW 9- 6-13□□	89	64	129	67	50	116
EXW12- 4- 9□□	116	41	88	89	24	74
EXW12- 4-13□□	116	41	128	89	24	114
EXW12- 4-18□□	116	41	174	89	24	160
EXW12- 6- 9□□	116	56	88	89	39	74
EXW12- 6-13□□	116	56	128	89	39	114
EXW12- 6-18□□	116	56	174	89	39	160
EXW12- 7- 9□□	116	71	88	89	54	74
EXW12- 7-13□□	116	71	128	89	54	114
EXW12- 7-18□□	116	71	174	89	54	160
EXW15- 5-11□□	151	46	107	107	29	93
EXW15- 5-15□□	151	46	147	107	29	133
EXW15- 5-20□□	151	46	197	107	29	183
EXW15- 6-11□□	151	61	107	107	44	93
EXW15- 6-15□□	151	61	147	107	44	133
EXW15- 6-20□□	151	61	197	107	44	183
EXW15- 8-11□□	151	81	107	107	64	93
EXW15- 8-15□□	151	81	147	107	64	133
EXW15- 8-20□□	151	81	197	107	64	183
EXW15-10-11□□	151	101	107	107	84	93
EXW15-10-15□□	151	101	147	107	84	133
EXW15-10-20□□	151	101	197	107	84	183

■ Custom length is available.

How to install cover gasket



■ Insert cover gaskets into the joint-grooves on the bottom cover.



■ Ensure that a small portion of the cover gasket protrudes out in order to maintain a seal with the panel gasket.



- Equipped with flanged frame for easy wall mounting.
- Available in 67 different sizes and 6 different color combinations.
- Custom length is available.

Included screws

EXPF 7-□, 9-□ models : M2.5-8 x 8 pcs

EXPF11-□, 15-□ models : M3-10 x 8 pcs

EXPF20-□ models : M4-12 x 8 pcs

EXPF24-□ models : M5-12 x 8 pcs

※Hexagonal wrench included.

Components

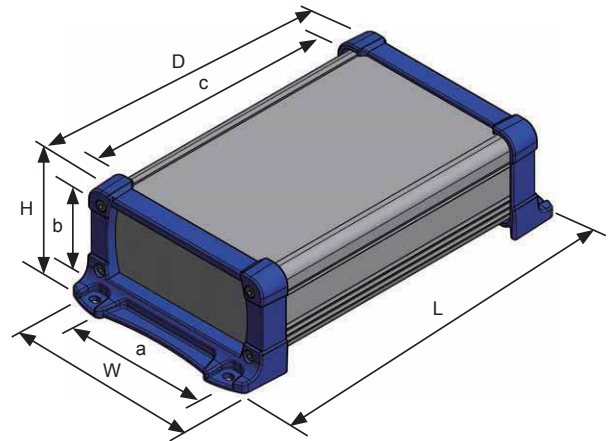
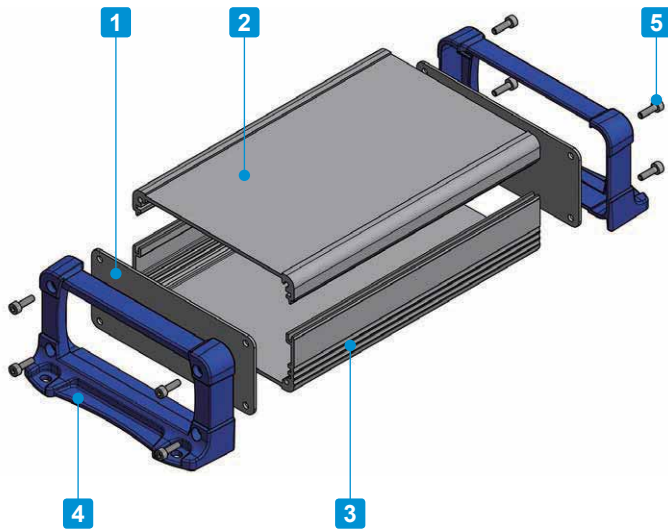
No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1100P	Silver • Black / Anodized
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
4	Flanged frame	2	PC+ABS UL94V-0	Black • Gray / Unpainted Navy / Painted
5	Screw	8	Stainless steel	Unfinished

■ See page 149 ~ 152 for Top / Bottom cover dimensions.

Color Type

Code	S B Silver / Black	S G Silver / Gray	S N Silver / Navy
Color			
Code	B B Black / Black	B G Black / Gray	B N Black / Navy
Color			

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	Dimensions (External)				Dimensions (Internal)		
	W	H	D	L	a	b	c
NEW EXPF 7- 3- 6□□	66	34	60	84	47	19.6	46
NEW EXPF 7- 3- 9□□	66	34	87	111	47	19.6	73
NEW EXPF 7- 3-11□□	66	34	110	134	47	19.6	96
NEW EXPF 7- 4- 6□□	66	44	60	84	47	29.6	46
NEW EXPF 7- 4- 9□□	66	44	87	111	47	29.6	73
NEW EXPF 7- 4-11□□	66	44	110	134	47	29.6	96
NEW EXPF 7- 6- 6□□	66	59	60	84	47	44.6	46
NEW EXPF 7- 6- 9□□	66	59	87	111	47	44.6	73
NEW EXPF 7- 6-11□□	66	59	110	134	47	44.6	96
NEW EXPF 9- 4- 7□□	86	39	70	95.8	67	24.6	56
NEW EXPF 9- 4-10□□	86	39	100	125.8	67	24.6	86
NEW EXPF 9- 4-13□□	86	39	130	155.8	67	24.6	116
NEW EXPF 9- 5- 7□□	86	49	70	95.8	67	34.6	56
NEW EXPF 9- 5-10□□	86	49	100	125.8	67	34.6	86
NEW EXPF 9- 5-13□□	86	49	130	155.8	67	34.6	116
NEW EXPF 9- 6- 7□□	86	64	70	95.8	67	49.6	56
NEW EXPF 9- 6-10□□	86	64	100	125.8	67	49.6	86
NEW EXPF 9- 6-13□□	86	64	130	155.8	67	49.6	116
NEW EXPF11- 4- 9□□	113	41.5	90	121.8	89	24	74
NEW EXPF11- 4-13□□	113	41.5	130	161.8	89	24	114
NEW EXPF11- 4-18□□	113	41.5	176	207.8	89	24	160
NEW EXPF11- 6- 9□□	113	56.5	90	121.8	89	39	74
NEW EXPF11- 6-13□□	113	56.5	130	161.8	89	39	114
NEW EXPF11- 6-18□□	113	56.5	176	207.8	89	39	160
NEW EXPF11- 7- 9□□	113	71.5	90	121.8	89	54	74
NEW EXPF11- 7-13□□	113	71.5	130	161.8	89	54	114
NEW EXPF11- 7-18□□	113	71.5	176	207.8	89	54	160
NEW EXPF15- 5-11□□	148	47	110	149.2	107.4	29	93
NEW EXPF15- 5-15□□	148	47	150	189.2	107.4	29	133
NEW EXPF15- 5-20□□	148	47	200	239.2	107.4	29	183
NEW EXPF15- 6-11□□	148	62	110	149.2	107.4	44	93
NEW EXPF15- 6-15□□	148	62	150	189.2	107.4	44	133
NEW EXPF15- 6-20□□	148	62	200	239.2	107.4	44	183
NEW EXPF15- 8-11□□	148	82	110	149.2	107.4	64	93
NEW EXPF15- 8-15□□	148	82	150	189.2	107.4	64	133
NEW EXPF15- 8-20□□	148	82	200	239.2	107.4	64	183
NEW EXPF15-10-11□□	148	102	110	149.2	107.4	84	93
NEW EXPF15-10-15□□	148	102	150	189.2	107.4	84	133
NEW EXPF15-10-20□□	148	102	200	239.2	107.4	84	183

Product no.	Dimensions (External)				Dimensions (Internal)		
	W	H	D	L	a	b	c
NEW EXPF20- 6-14□□	195	57	140	188.6	132	35	120
NEW EXPF20- 6-19□□	195	57	192	240.6	132	35	172
NEW EXPF20- 6-25□□	195	57	245	293.6	132	35	225
NEW EXPF20- 6-30□□	195	57	300	348.6	132	35	280
NEW EXPF20- 8-14□□	195	75	140	188.6	132	53	120
NEW EXPF20- 8-19□□	195	75	192	240.6	132	53	172
NEW EXPF20- 8-25□□	195	75	245	293.6	132	53	225
NEW EXPF20- 8-30□□	195	75	300	348.6	132	53	280
NEW EXPF20-10-14□□	195	95	140	188.6	132	73	120
NEW EXPF20-10-19□□	195	95	192	240.6	132	73	172
NEW EXPF20-10-25□□	195	95	245	293.6	132	73	225
NEW EXPF20-10-30□□	195	95	300	348.6	132	73	280
NEW EXPF20-12-14□□	195	120	140	188.6	132	98	120
NEW EXPF20-12-19□□	195	120	192	240.6	132	98	172
NEW EXPF20-12-25□□	195	120	245	293.6	132	98	225
NEW EXPF20-12-30□□	195	120	300	348.6	132	98	280
NEW EXPF24- 7-17□□	240	65	170	218.6	177	43	147
NEW EXPF24- 7-23□□	240	65	230	278.6	177	43	207
NEW EXPF24- 7-29□□	240	65	290	338.6	177	43	267
NEW EXPF24- 7-35□□	240	65	350	398.6	177	43	327
NEW EXPF24- 9-17□□	240	90	170	218.6	177	68	147
NEW EXPF24- 9-23□□	240	90	230	278.6	177	68	207
NEW EXPF24- 9-29□□	240	90	290	338.6	177	68	267
NEW EXPF24- 9-35□□	240	90	350	398.6	177	68	327
NEW EXPF24-12-17□□	240	115	170	218.6	177	93	147
NEW EXPF24-12-23□□	240	115	230	278.6	177	93	207
NEW EXPF24-12-29□□	240	115	290	338.6	177	93	267
NEW EXPF24-12-35□□	240	115	350	398.6	177	93	327



Following models are suitable for
placement of a Mini-ITX board.

- EXPF20-8-19□□
- EXPF20-10-19□□
- EXPF20-12-19□□



EMC
Shielding
Effects



- EMC shielding is achieved by having the unfinished inner sides of the top/bottom covers and panels, as well as the fabric-over-foam gasket in contact with one another.
- Equipped with flanged frame for easy wall mounting.
- Available in 67 different sizes and 3 different color combinations.

Included screws

EXEF 7-□, 9-□ models : M2.5-8 x 8 pcs

EXEF11-□, 15-□ models : M3-10 x 8 pcs

EXEF20-□ models : M4-12 x 8 pcs

EXEF24-□ models : M5-12 x 8 pcs

※Hexagonal wrench included.

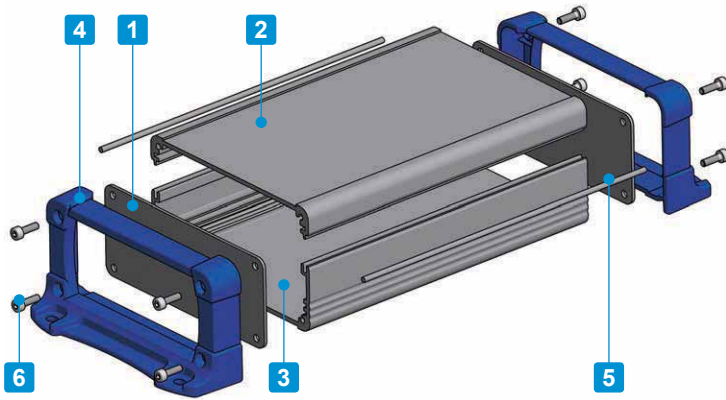
Components

No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1100P	Silver / Painted (outside) • Unfinished (inside)
2	Top cover	1	Extruded aluminium A6063S-T5	Silver / Painted (outside) • Unfinished (inside)
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver / Painted (outside) • Unfinished (inside)
4	Flanged frame	2	PC+ABS UL94V-0	Black • Gray / Unpainted Navy / Painted
5	Fabric-over-foam gasket	2	Conductive fabric : TPE	Metallic gray
6	Screw	8	Stainless steel	Unfinished

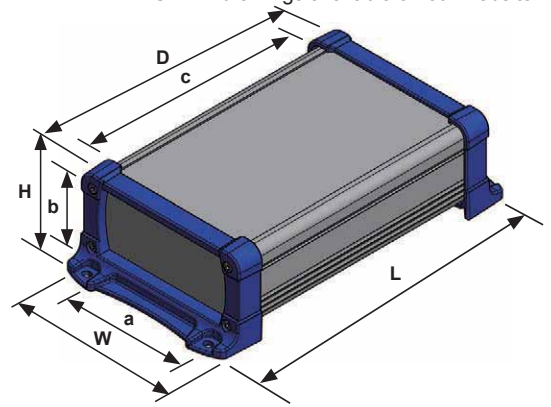
■ See page 149 ~ 152 for Top / Bottom cover dimensions.

Color Type

Code	S B Silver / Black	S G Silver / Gray	S N Silver / Navy
Color			



■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



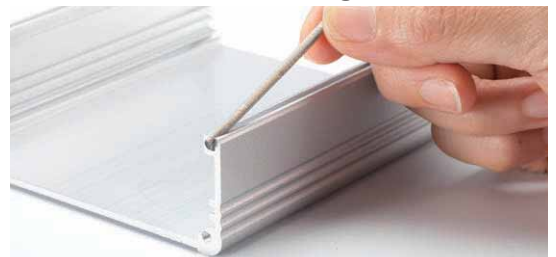
■ Please suffix color code at the end of the product number.

Product no. / Dimensions

Product no.	Dimensions (External)				Dimensions (Internal)		
	W	H	D	L	a	b	c
NEW EXEF 7- 3- 6□□	66	34	60	84	47	19.6	46
NEW EXEF 7- 3- 9□□	66	34	87	111	47	19.6	73
NEW EXEF 7- 3-11□□	66	34	110	134	47	19.6	96
NEW EXEF 7- 4- 6□□	66	44	60	84	47	29.6	46
NEW EXEF 7- 4- 9□□	66	44	87	111	47	29.6	73
NEW EXEF 7- 4-11□□	66	44	110	134	47	29.6	96
NEW EXEF 7- 6- 6□□	66	59	60	84	47	44.6	46
NEW EXEF 7- 6- 9□□	66	59	87	111	47	44.6	73
NEW EXEF 7- 6-11□□	66	59	110	134	47	44.6	96
NEW EXEF 9- 4- 7□□	86	39	70	95.8	67	24.6	56
NEW EXEF 9- 4-10□□	86	39	100	125.8	67	24.6	86
NEW EXEF 9- 4-13□□	86	39	130	155.8	67	24.6	116
NEW EXEF 9- 5- 7□□	86	49	70	95.8	67	34.6	56
NEW EXEF 9- 5-10□□	86	49	100	125.8	67	34.6	86
NEW EXEF 9- 5-13□□	86	49	130	155.8	67	34.6	116
NEW EXEF 9- 6- 7□□	86	64	70	95.8	67	49.6	56
NEW EXEF 9- 6-10□□	86	64	100	125.8	67	49.6	86
NEW EXEF 9- 6-13□□	86	64	130	155.8	67	49.6	116
NEW EXEF11- 4- 9□□	113	41.5	90	121.8	89	24	74
NEW EXEF11- 4-13□□	113	41.5	130	161.8	89	24	114
NEW EXEF11- 4-18□□	113	41.5	176	207.8	89	24	160
NEW EXEF11- 6- 9□□	113	56.5	90	121.8	89	39	74
NEW EXEF11- 6-13□□	113	56.5	130	161.8	89	39	114
NEW EXEF11- 6-18□□	113	56.5	176	207.8	89	39	160
NEW EXEF11- 7- 9□□	113	71.5	90	121.8	89	54	74
NEW EXEF11- 7-13□□	113	71.5	130	161.8	89	54	114
NEW EXEF11- 7-18□□	113	71.5	176	207.8	89	54	160
NEW EXEF15- 5-11□□	148	47	110	149.2	107.4	29	93
NEW EXEF15- 5-15□□	148	47	150	189.2	107.4	29	133
NEW EXEF15- 5-20□□	148	47	200	239.2	107.4	29	183
NEW EXEF15- 6-11□□	148	62	110	149.2	107.4	44	93
NEW EXEF15- 6-15□□	148	62	150	189.2	107.4	44	133
NEW EXEF15- 6-20□□	148	62	200	239.2	107.4	44	183
NEW EXEF15- 8-11□□	148	82	110	149.2	107.4	64	93
NEW EXEF15- 8-15□□	148	82	150	189.2	107.4	64	133
NEW EXEF15- 8-20□□	148	82	200	239.2	107.4	64	183
NEW EXEF15-10-11□□	148	102	110	149.2	107.4	84	93
NEW EXEF15-10-15□□	148	102	150	189.2	107.4	84	133
NEW EXEF15-10-20□□	148	102	200	239.2	107.4	84	183

Product no.	Dimensions (External)				Dimensions (Internal)		
	W	H	D	L	a	b	c
NEW EXEF20- 6-14□□	195	57	140	188.6	132	35	120
NEW EXEF20- 6-19□□	195	57	192	240.6	132	35	172
NEW EXEF20- 6-25□□	195	57	245	293.6	132	35	225
NEW EXEF20- 6-30□□	195	57	300	348.6	132	35	280
NEW EXEF20- 8-14□□	195	75	140	188.6	132	53	120
NEW EXEF20- 8-19□□	195	75	192	240.6	132	53	172
NEW EXEF20- 8-25□□	195	75	245	293.6	132	53	225
NEW EXEF20- 8-30□□	195	75	300	348.6	132	53	280
NEW EXEF20-10-14□□	195	95	140	188.6	132	73	120
NEW EXEF20-10-19□□	195	95	192	240.6	132	73	172
NEW EXEF20-10-25□□	195	95	245	293.6	132	73	225
NEW EXEF20-10-30□□	195	95	300	348.6	132	73	280
NEW EXEF20-12-14□□	195	120	140	188.6	132	98	120
NEW EXEF20-12-19□□	195	120	192	240.6	132	98	172
NEW EXEF20-12-25□□	195	120	245	293.6	132	98	225
NEW EXEF20-12-30□□	195	120	300	348.6	132	98	280
NEW EXEF24- 7-17□□	240	65	170	218.6	177	43	147
NEW EXEF24- 7-23□□	240	65	230	278.6	177	43	207
NEW EXEF24- 7-29□□	240	65	290	338.6	177	43	267
NEW EXEF24- 7-35□□	240	65	350	398.6	177	43	327
NEW EXEF24- 9-17□□	240	90	170	218.6	177	68	147
NEW EXEF24- 9-23□□	240	90	230	278.6	177	68	207
NEW EXEF24- 9-29□□	240	90	290	338.6	177	68	267
NEW EXEF24- 9-35□□	240	90	350	398.6	177	68	327
NEW EXEF24-12-17□□	240	115	170	218.6	177	93	147
NEW EXEF24-12-23□□	240	115	230	278.6	177	93	207
NEW EXEF24-12-29□□	240	115	290	338.6	177	93	267
NEW EXEF24-12-35□□	240	115	350	398.6	177	93	327

How to install a shield gasket



■ Insert fabric-over-foam gasket into the joint-grooves on the bottom cover.



■ Ensure that a small portion of the fabric-over-foam gasket protrudes out in order to maintain a connection with the end panel.



Following models are suitable for
placement of a Mini-ITX board.

EXEF20-8-19□□
EXEF20-10-19□□
EXEF20-12-19□□



- Waterproof case available in 67 different sizes and 6 different color combinations by 2 body frame and 3 end panel colors.
- Flanged end panels make it easy for wall mounting. Suitable to be used as wall mounted controller and transmitter.
- Custom length is available.

Technical Data

Protection class : IP65 • IP54

Protection class varies by size.

■ Not suitable for environments with direct rainfall

Included screw

EXWF7-□, 9-□ models : M2.5-8 x 8 pcs

EXWF12-□, 15-□ models : M3-10 x 8 pcs

EXWF20-□ models : M4-12 x 8 pcs

EXWF24-□ models : M5-12 x 8 pcs

※Hexagonal wrench included.

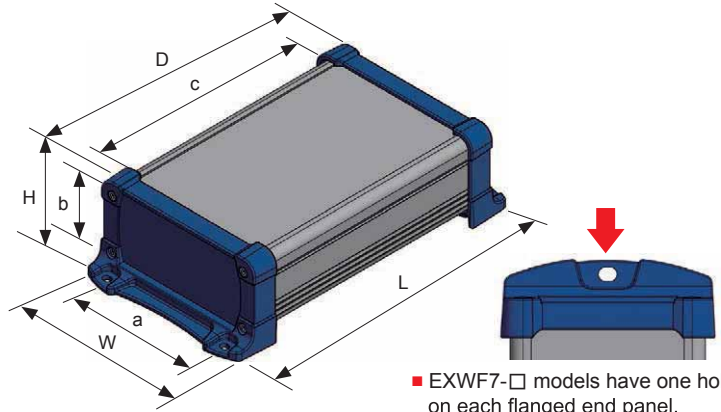
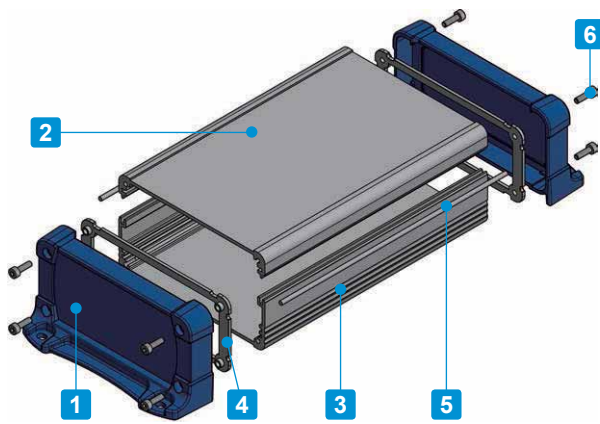
Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged end panel	2	PC+ABS UL94V-0	Black • Gray / Unpainted Navy / Painted
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
4	Panel gasket	2	Silicone	Black
5	Cover gasket	2	Silicone	White gray
6	Screw	8	Stainless Steel	Unfinished

Color Type

Code	S B Silver / Black	S G Silver / Gray	S N Silver / Navy
Color			
Code	B B Black / Black	B G Black / Gray	B N Black / Navy
Color			

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



■ EXWF7-□ models have one hole on each flanged end panel.

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	Protection class	External dimensions				Internal dimensions		
		W	H	D	L	a	b	c
NEW EXWF 7- 3- 6□□	IP65	66	34	58	82	47	20	46
NEW EXWF 7- 3- 9□□	IP65	66	34	85	109	47	20	73
NEW EXWF 7- 3-11□□	IP65	66	34	108	132	47	20	96
NEW EXWF 7- 4- 6□□	IP65	66	44	58	82	47	30	46
NEW EXWF 7- 4- 9□□	IP65	66	44	85	109	47	30	73
NEW EXWF 7- 4-11□□	IP65	66	44	108	132	47	30	96
NEW EXWF 7- 6- 6□□	IP65	66	59	58	82	47	45	46
NEW EXWF 7- 6- 9□□	IP65	66	59	85	109	47	45	73
NEW EXWF 7- 6-11□□	IP65	66	59	108	132	47	45	96
NEW EXWF 9- 4- 7□□	IP65	86	39	69	94.8	67	25	56
NEW EXWF 9- 4-10□□	IP65	86	39	99	124.8	67	25	86
NEW EXWF 9- 4-13□□	IP65	86	39	129	154.8	67	25	116
NEW EXWF 9- 5- 7□□	IP65	86	49	69	94.8	67	35	56
NEW EXWF 9- 5-10□□	IP65	86	49	99	124.8	67	35	86
NEW EXWF 9- 5-13□□	IP65	86	49	129	154.8	67	35	116
NEW EXWF 9- 6- 7□□	IP65	86	64	69	94.8	67	50	56
NEW EXWF 9- 6-10□□	IP65	86	64	99	124.8	67	50	86
NEW EXWF 9- 6-13□□	IP65	86	64	129	154.8	67	50	116
NEW EXWF11- 4- 9□□	IP65	113	41.5	88	119.8	89	24	74
NEW EXWF11- 4-13□□	IP65	113	41.5	128	159.8	89	24	114
NEW EXWF11- 4-17□□	IP65	113	41.5	174	205.8	89	24	160
NEW EXWF11- 6- 9□□	IP65	113	56.5	88	119.8	89	39	74
NEW EXWF11- 6-13□□	IP65	113	56.5	128	159.8	89	39	114
NEW EXWF11- 6-17□□	IP65	113	56.5	174	205.8	89	39	160
NEW EXWF11- 7- 9□□	IP65	113	71.5	88	119.8	89	54	74
NEW EXWF11- 7-13□□	IP65	113	71.5	128	159.8	89	54	114
NEW EXWF11- 7-17□□	IP65	113	71.5	174	205.8	89	54	160
NEW EXWF15- 5-11□□	IP65	148	47	107	146.2	107	29	93
NEW EXWF15- 5-15□□	IP65	148	47	147	186.2	107	29	133
NEW EXWF15- 5-20□□	IP65	148	47	197	236.2	107	29	183
NEW EXWF15- 6-11□□	IP65	148	62	107	146.2	107	44	93
NEW EXWF15- 6-15□□	IP65	148	62	147	186.2	107	44	133
NEW EXWF15- 6-20□□	IP65	148	62	197	236.2	107	44	183
NEW EXWF15- 8-11□□	IP65	148	82	107	146.2	107	64	93
NEW EXWF15- 8-15□□	IP65	148	82	147	186.2	107	64	133
NEW EXWF15- 8-20□□	IP65	148	82	197	236.2	107	64	183
NEW EXWF15-10-11□□	IP65	148	102	107	146.2	107	84	93
NEW EXWF15-10-15□□	IP65	148	102	147	186.2	107	84	133
NEW EXWF15-10-20□□	IP65	148	102	197	236.2	107	84	183

Product no.	Protection class	External dimensions				Internal dimensions		
		W	H	D	L	a	b	c
NEW EXWF20- 6-14□□	IP54	195	57	138	186.6	132	35	120
NEW EXWF20- 6-19□□	IP54	195	57	190	238.6	132	35	172
NEW EXWF20- 6-25□□	IP54	195	57	243	291.6	132	35	225
NEW EXWF20- 6-30□□	IP54	195	57	298	346.6	132	35	280
NEW EXWF20- 8-14□□	IP54	195	75	138	186.6	132	53	120
NEW EXWF20- 8-19□□	IP54	195	75	190	238.6	132	53	172
NEW EXWF20- 8-25□□	IP54	195	75	243	291.6	132	53	225
NEW EXWF20- 8-30□□	IP54	195	75	298	346.6	132	53	280
NEW EXWF20-10-14□□	IP54	195	95	138	186.6	132	73	120
NEW EXWF20-10-19□□	IP54	195	95	190	238.6	132	73	172
NEW EXWF20-10-25□□	IP54	195	95	243	291.6	132	73	225
NEW EXWF20-10-30□□	IP54	195	95	298	346.6	132	73	280
NEW EXWF20-12-14□□	IP54	195	120	138	186.6	132	98	120
NEW EXWF20-12-19□□	IP54	195	120	190	238.6	132	98	172
NEW EXWF20-12-25□□	IP54	195	120	243	291.6	132	98	225
NEW EXWF20-12-30□□	IP54	195	120	298	346.6	132	98	280
NEW EXWF24- 7-17□□	IP54	240	65	165	213.6	177	43	147
NEW EXWF24- 7-23□□	IP54	240	65	225	273.6	177	43	207
NEW EXWF24- 7-29□□	IP54	240	65	285	333.6	177	43	267
NEW EXWF24- 7-35□□	IP54	240	65	345	393.6	177	43	327
NEW EXWF24- 9-17□□	IP54	240	90	165	213.6	177	68	147
NEW EXWF24- 9-23□□	IP54	240	90	225	273.6	177	68	207
NEW EXWF24- 9-29□□	IP54	240	90	285	333.6	177	68	267
NEW EXWF24- 9-35□□	IP54	240	90	345	393.6	177	68	327
NEW EXWF24-12-17□□	IP54	240	115	165	213.6	177	93	147
NEW EXWF24-12-23□□	IP54	240	115	225	273.6	177	93	207
NEW EXWF24-12-29□□	IP54	240	115	285	333.6	177	93	267
NEW EXWF24-12-35□□	IP54	240	115	345	393.6	177	93	327

How to install cover gasket



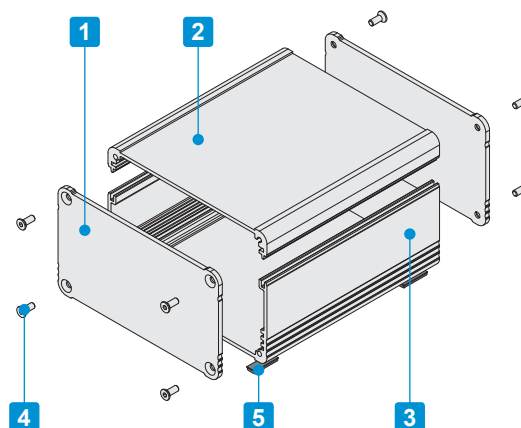
■ Insert cover gaskets into the joint-grooves on the bottom cover.



■ Ensure that a small portion of the cover gasket protrudes out in order to maintain a seal with the panel gasket.



- Simple yet beautifully designed aluminium extrusion enclosure.
- Selectable in 4 different color combinations.
- Beautiful high-end finish is achieved by precision CNC finishing.
- Suitable for industrial and audio interface equipment.
- Custom length is available.



Components

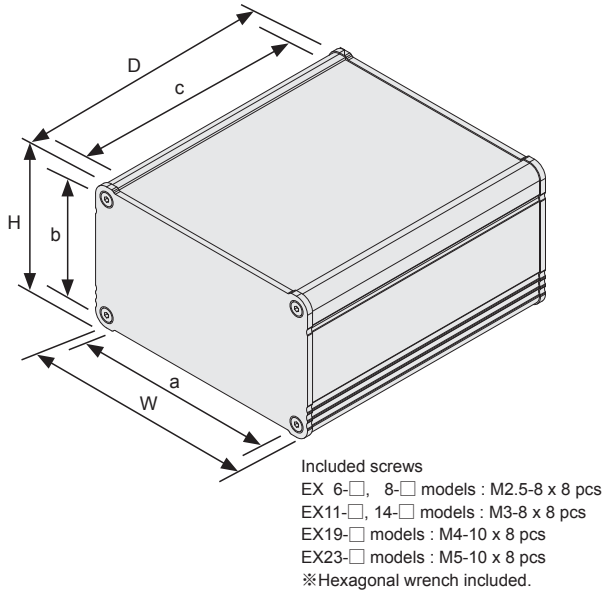
No.	Part name	Pcs	Material	Color / Finish
1	End panel	2	Aluminium A1050P	Silver • Black / Anodized
2	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
4	Screw	8	Stainless steel	Unfinished
5	Rubber feet	4	Polyurethane	Black

■ See page 149 ~ 152 for Top / Bottom cover dimensions.

Color Type

Code	S S Silver / Silver	S B Silver / Black	B S Black / Silver	B B Black / Black
Color				

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Accessories (Optional parts)



Wall mounting bracket EF series
See page 182

Product no. / Dimensions

Product no.	Dimensions (External)			Dimensions (Internal)		
	W	H	D	a	b	c
EX 6- 3- 5□□	60.6	25.6	50	47	19.6	46
EX 6- 3- 8□□	60.6	25.6	77	47	19.6	73
EX 6- 3-10□□	60.6	25.6	100	47	19.6	96
EX 6- 4- 5□□	60.6	35.6	50	47	29.6	46
EX 6- 4- 8□□	60.6	35.6	77	47	29.6	73
EX 6- 4-10□□	60.6	35.6	100	47	29.6	96
EX 6- 5- 5□□	60.6	50.6	50	47	44.6	46
EX 6- 5- 8□□	60.6	50.6	77	47	44.6	73
EX 6- 5-10□□	60.6	50.6	100	47	44.6	96
EX 8- 3- 6□□	80.6	30.6	60	67	24.6	56
EX 8- 3- 9□□	80.6	30.6	90	67	24.6	86
EX 8- 3-12□□	80.6	30.6	120	67	24.6	116
EX 8- 4- 6□□	80.6	40.6	60	67	34.6	56
EX 8- 4- 9□□	80.6	40.6	90	67	34.6	86
EX 8- 4-12□□	80.6	40.6	120	67	34.6	116
EX 8- 6- 6□□	80.6	55.6	60	67	49.6	56
EX 8- 6- 9□□	80.6	55.6	90	67	49.6	86
EX 8- 6-12□□	80.6	55.6	120	67	49.6	116
EX11- 3- 8□□	106	31	79	89	24	74
EX11- 3-12□□	106	31	119	89	24	114
EX11- 3-16□□	106	31	165	89	24	160
EX11- 5- 8□□	106	46	79	89	39	74
EX11- 5-12□□	106	46	119	89	39	114
EX11- 5-16□□	106	46	165	89	39	160
EX11- 6- 8□□	106	61	79	89	54	74
EX11- 6-12□□	106	61	119	89	54	114
EX11- 6-16□□	106	61	165	89	54	160
EX14- 4-10□□	141	36	98	107.4	29	93
EX14- 4-14□□	141	36	138	107.4	29	133
EX14- 4-19□□	141	36	188	107.4	29	183
EX14- 5-10□□	141	51	98	107.4	44	93
EX14- 5-14□□	141	51	138	107.4	44	133
EX14- 5-19□□	141	51	188	107.4	44	183
EX14- 7-10□□	141	71	98	107.4	64	93
EX14- 7-14□□	141	71	138	107.4	64	133
EX14- 7-19□□	141	71	188	107.4	64	183
EX14- 9-10□□	141	91	98	107.4	84	93
EX14- 9-14□□	141	91	138	107.4	84	133
EX14- 9-19□□	141	91	188	107.4	84	183

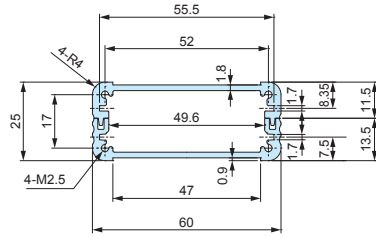
■ Please suffix color code at the end of the product number.

Product no.	Dimensions (External)			Dimensions (Internal)		
	W	H	D	a	b	c
NEW EX19- 4-13□□	186.5	43.5	125	132	35	120
NEW EX19- 4-18□□	186.5	43.5	177	132	35	172
NEW EX19- 4-23□□	186.5	43.5	230	132	35	225
NEW EX19- 4-29□□	186.5	43.5	285	132	35	280
NEW EX19- 6-13□□	186.5	61.5	125	132	53	120
NEW EX19- 6-18□□	186.5	61.5	177	132	53	172
NEW EX19- 6-23□□	186.5	61.5	230	132	53	225
NEW EX19- 6-29□□	186.5	61.5	285	132	53	280
NEW EX19- 8-13□□	186.5	81.5	125	132	73	120
NEW EX19- 8-18□□	186.5	81.5	177	132	73	172
NEW EX19- 8-23□□	186.5	81.5	230	132	73	225
NEW EX19- 8-29□□	186.5	81.5	285	132	73	280
NEW EX19-11-13□□	186.5	106.5	125	132	98	120
NEW EX19-11-18□□	186.5	106.5	177	132	98	172
NEW EX19-11-23□□	186.5	106.5	230	132	98	225
NEW EX19-11-29□□	186.5	106.5	285	132	98	280
NEW EX23- 5-15□□	232	52	153	177	43	147
NEW EX23- 5-21□□	232	52	213	177	43	207
NEW EX23- 5-27□□	232	52	273	177	43	267
NEW EX23- 5-33□□	232	52	333	177	43	327
NEW EX23- 8-15□□	232	77	153	177	68	147
NEW EX23- 8-21□□	232	77	213	177	68	207
NEW EX23- 8-27□□	232	77	273	177	68	267
NEW EX23- 8-33□□	232	77	333	177	68	327
NEW EX23-10-15□□	232	102	153	177	93	147
NEW EX23-10-21□□	232	102	213	177	93	207
NEW EX23-10-27□□	232	102	273	177	93	267
NEW EX23-10-33□□	232	102	333	177	93	327

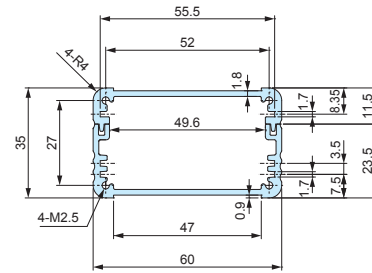
EXP • EXPE • EXW • EXPF • EXEF • EXWF • EX top / bottom covers

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

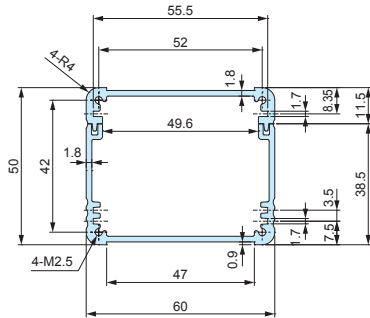
EXP • EXPE • EXW • EXPF • EXEF • EXWF7-4-□
EX6-3-□



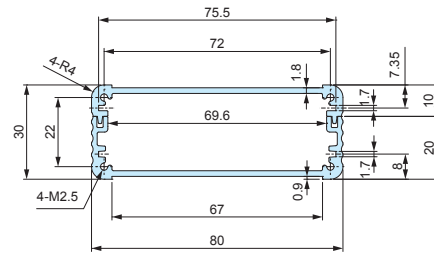
EXP • EXPE • EXW • EXPF • EXEF • EXWF7-4-□
EX6-4-□



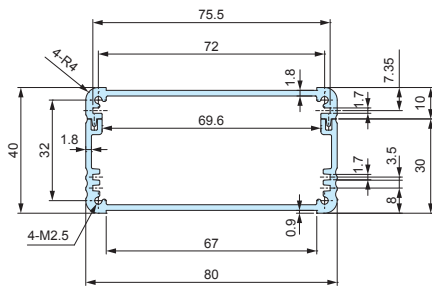
EXP • EXPE • EXW • EXPF • EXEF • EXWF7-6-□
EX6-5-□



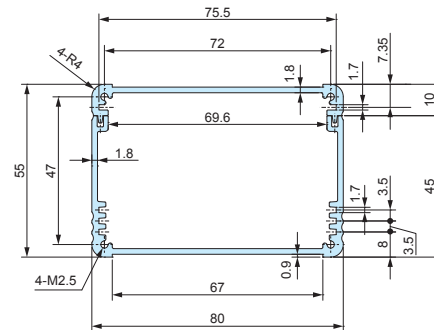
EXP • EXPE • EXW • EXPF • EXEF • EXWF9-4-□
EX8-3-□



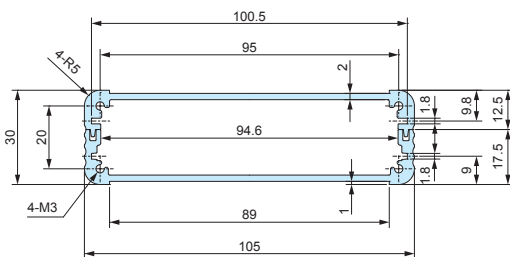
EXP • EXPE • EXW • EXPF • EXEF • EXWF9-5-□
EX8-4-□



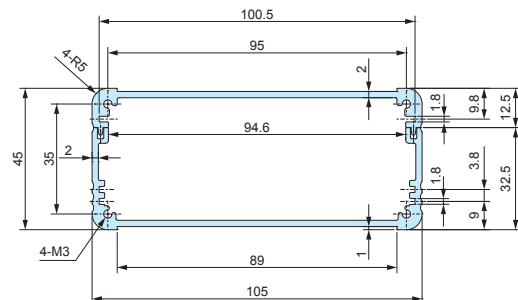
EXP • EXPE • EXW • EXPF • EXEF • EXWF9-6-□
EX8-6-□



EXP • EXPE • EXW12-4-□
EXPF • EXEF • EXWF11-4-□
EX11-3-□



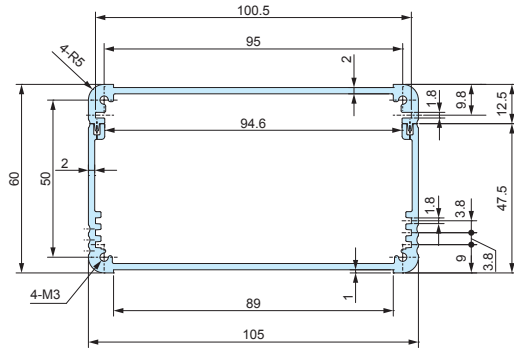
EXP • EXPE • EXW12-6-□
EXPF • EXEF • EXWF11-6-□
EX11-5-□



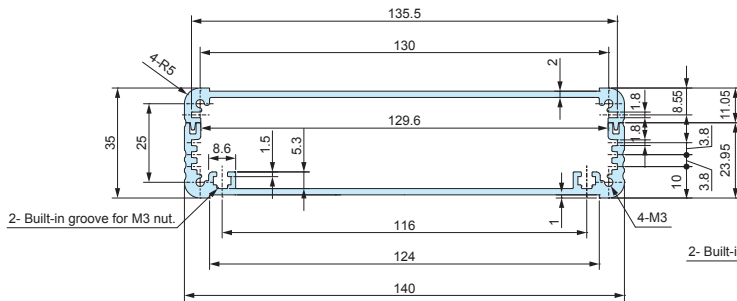
EXP • EXPE • EXW • EXPF • EXEF • EXWF • EX top / bottom covers

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

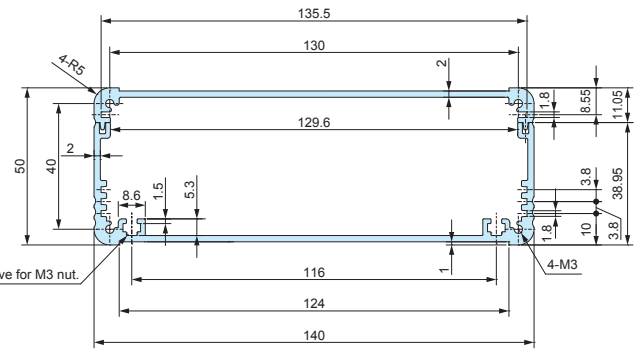
EXP • EXPE • EXW12-7-□
EXPF • EXEF • EXWF11-7-□
EX11-6-□



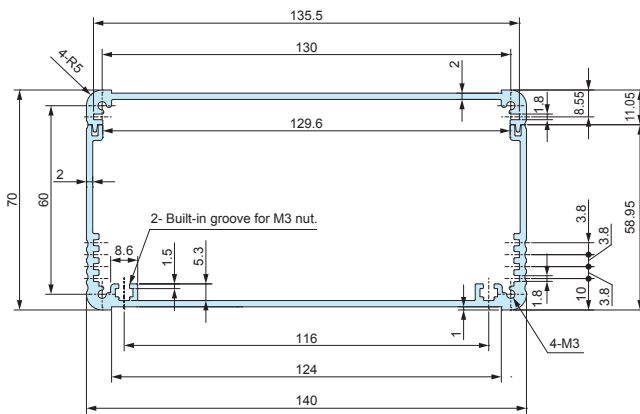
EXP • EXPE • EXW • EXPF • EXEF • EXWF15-5-□
EX14-4-□



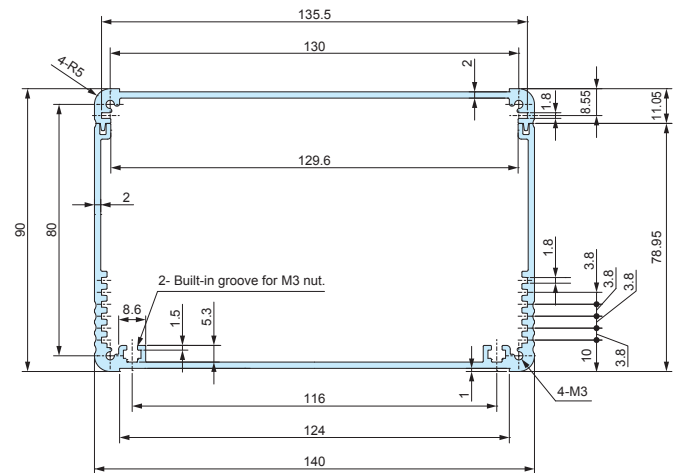
EXP • EXPE • EXW • EXPF • EXEF • EXWF15-6-□
EX14-5-□



EXP • EXPE • EXW • EXPF • EXEF • EXWF15-8-□
EX14-7-□



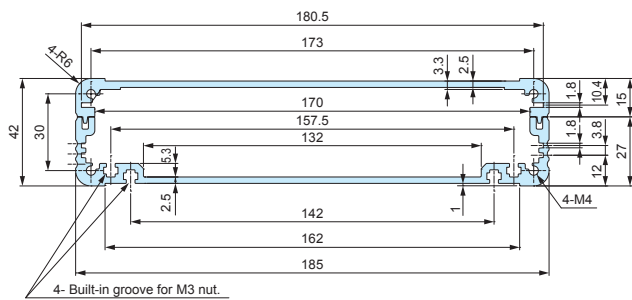
EXP • EXPE • EXW • EXPF • EXEF • EXWF15-10-□
EX14-9-□



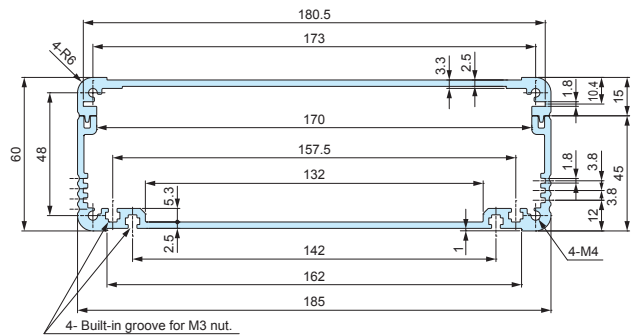
EXP • EXPE • EXPF • EXEF • EXWF • EX top / bottom covers

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

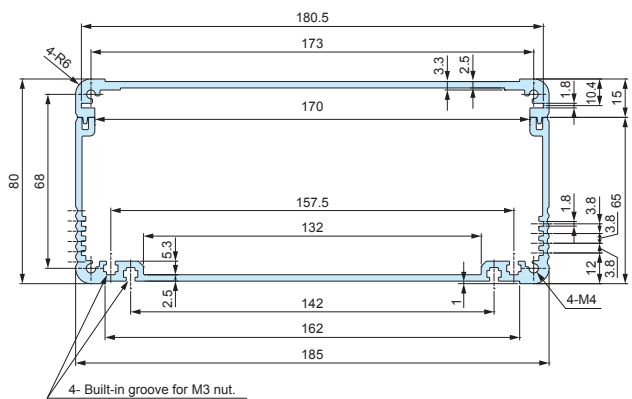
EXP • EXPE • EXPF • EXEF • EXWF20-6-□
EX19-4-□



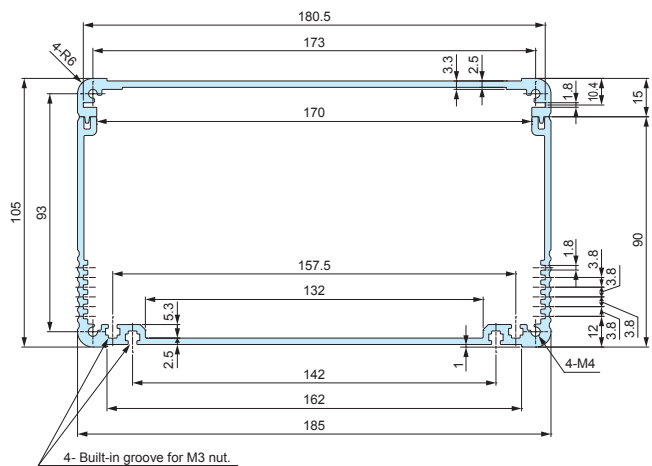
EXP • EXPE20-7-□
EXPF • EXEF • EXWF20-8-□
EX19-6-□



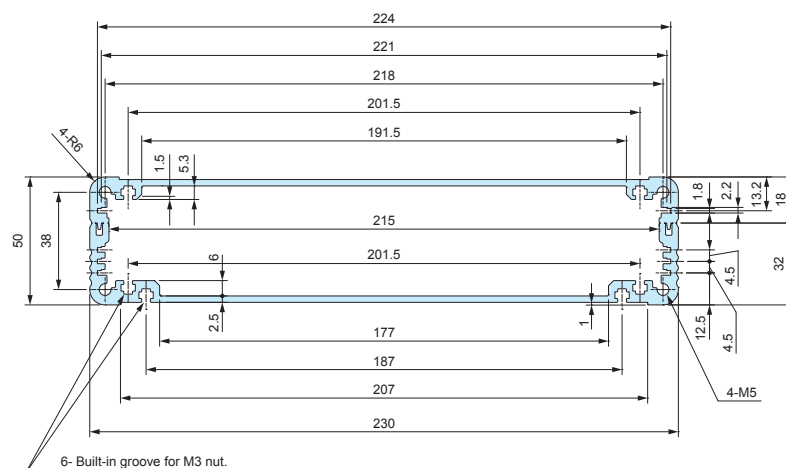
EXP • EXPE20-9-□
EXPF • EXEF • EXWF20-10-□
EX19-8-□



EXP • EXPE • EXPF • EXEF • EXWF20-12-□
EX19-11-□



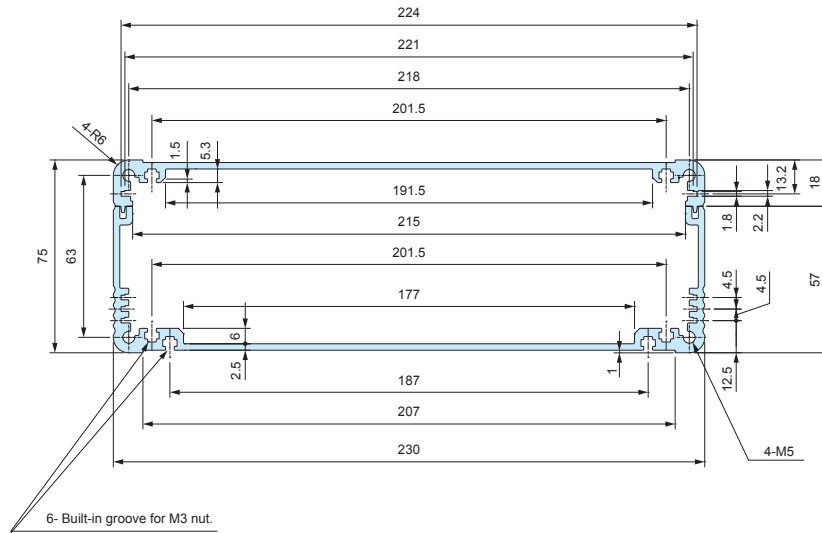
EXP • EXPE24-6-□
EXPF • EXEF • EXWF24-7-□
EX23-5-□



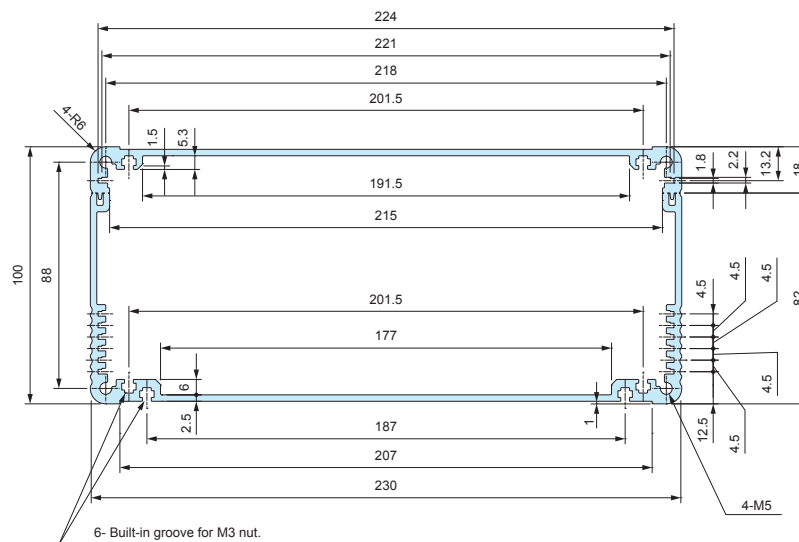
EXP • EXPE • EXPF • EXEF • EXWF • EX top / bottom covers

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

EXP • EXPE • EXPF • EXEF • EXWF24-9-□
EX23-8-□

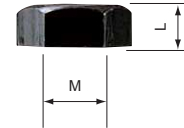
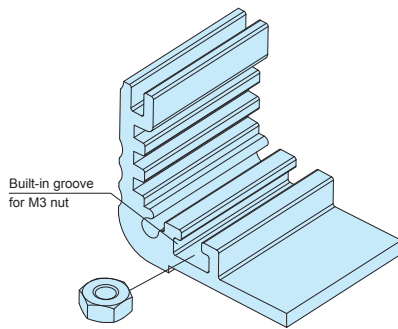


EXP • EXPE24-11-□
EXPF • EXEF • EXWF24-12-□
EX23-10-□



MT-3N

SLIDING NUT for EXP • EXPE • EXW • EXPF • EXEF • EXWF • EX



Product no. / Dimensions

Product no.	M	L	Material	Finish	Pack of
MT-3N	3	2.4	Steel	Black trivalent chromate	50

- Sliding nut can be used on all EXP • EXPE • EXW • EXPF • EXEF • EXWF • EX models with width 140mm or larger bottom covers, as well as with width 230mm top covers.

EXEG SERIES

EMC SHIELDING FABRIC-OVER-FOAM GASKET for EXPE • EXEF



- EMC shielding fabric-over-foam gasket for EXPE • EXEF series.

Suitable Enclosure

Product no.	Suitable enclosure
EXEG-2.5	EXPE7-□ • 9-□ • 12-□ • 15-□ / EXEF7-□ • 9-□ • 11-□ • 15-□
EXEG-3.2	EXPE20-□ • 24-□ / EXEF20-□ • 24-□



Product no. / Dimensions

Product no.	Φ	Material	Color	Sales unit
EXEG-2.5	2.5	Wire mesh gasket • TPE	Metallic gray	500mm x 1 pc
NEW EXEG-3.2	3.2	Wire mesh gasket • TPE	Metallic gray	500mm x 1 pc

Length tolerance = +/- 10%

APPLICATION EXAMPLE EX series

PREMAIN POWER AMPLIFIER

Product by AY-densi (Japan)



USB EDGE NODE

Product by SHINWA (Japan)





Application Example

- Double shot injection molded feet with soft and well-designed rounded shape.
- Non-slip design with Elastomer (TPE) pad.
- Available in 3 different color patterns.

Technical Data

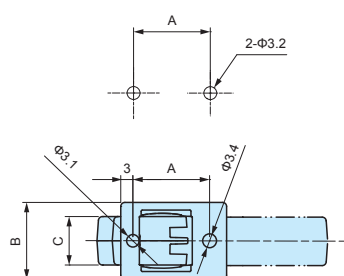
Max load : 7kg

Components

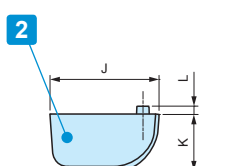
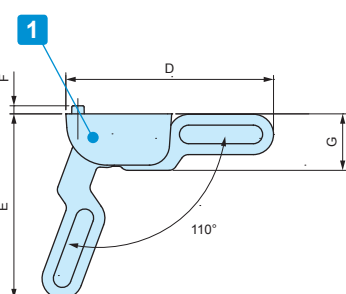
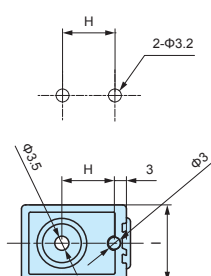
No.	Part name	Pcs	Material	Color / Finish
1	Front feet	2	PC+ABS UL94V-0, TPE	Black & Black • Navy & Gray • Light gray & Gray
2	Rear Feet	2	PC+ABS UL94V-0, TPE	Black & Black • Navy & Gray • Light gray & Gray
-	Washer head screw	4	Steel M3-6	Black Trivalent chromate
-	Nut	4	Steel M3	Black Trivalent chromate

- Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

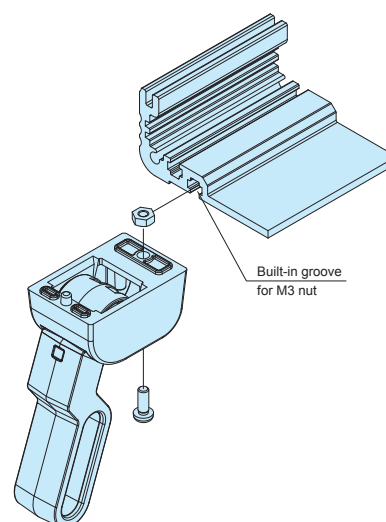
Mounting hole (Front)



Mounting Hole (Rear)



- Possible to install on Built-in groove with M3 nut for all EXP • EXPE • EXW • EX • EXH models with width 185mm or larger bottom covers.
- TLW-70E models are exclusively for width 185mm or larger bottom covers.

**Product no. / Dimensions**

Product no.	A	B	C	D	E	F	G	H	I	J	K	L	Color (plastic)	Color (TPE)	Weight (g)
TLW-46BB	19	19	12	51.2	45.9	2	14	13	19	27	14	2	Black	Black	23
TLW-46NG	19	19	12	51.2	45.9	2	14	13	19	27	14	2	Navy	Gray	23
TLW-46LG	19	19	12	51.2	45.9	2	14	13	19	27	14	2	Light gray	Gray	23
NEW TLW-70EBB	30	25	16	75.4	69	3	21.5	20	25	39	21.5	3	Black	Black	59
NEW TLW-70ENG	30	25	16	75.4	69	3	21.5	20	25	39	21.5	3	Navy	Gray	59
NEW TLW-70ELG	30	25	16	75.4	69	3	21.5	20	25	39	21.5	3	Light gray	Gray	59

AW·AWN·AWP IP67 ALUMINIUM ENCLOSURE

AW·AWN·AWP series are highly functional aluminium enclosures which are IP67 rated with heat dissipating heat-sink fins.

34 sizes available. Standard, Flanged, Shielding, and Silicone protector types are available.

Suitable for LED power supply, industrial camera, controller or measuring instrument where waterproof and cooling performance are crucial.

APPLICATION EXAMPLE

LIQUID LEVEL SENSOR

Product by Watty Corporation (Japan)



HEAVY DUTY PORTABLE HARDNESS TESTER

Product by DEMEQ (Argentina)



RADIO-CONTROLLED ELECTRONIC EXPLODER

Product by CODETEL (France)



OUTDOOR LED POWER SUPPLY



OPTICAL PHASE INTERROGATOR (OPI) DEVELOPMENT KIT

Product by Broadcom Limited (USA)



FBG DATA LOGGER

Product by NAGANO KEIKI (Japan)



DATA LOGGER with 3G MODEM REPORT FUNCTION

Product by mSolution (Hong Kong)



PIN HOLE DETECTOR

Product by SANKO ELECTRONIC LABORATORY (Japan)



PD ANNUNCIATOR

Product by ndb Technologies (Canada)



DC CONVERTER



CUSTOM LENGTH AVAILABLE

Flexible frame length from 50mm to 700mm in 1mm intervals.

No minimum order quantity and short lead time for small quantity order.



AW SERIES

IP67 FLANGED ALUMINIUM ENCLOSURE



- IP67 and heat dissipation enclosure. Designed with flanged end panels.
- PCB or chassis is mounted by sliding it horizontally into an inner-grooved body frame.
- Designed for a tough environment where waterproof and heat countermeasures are required.
- Suitable for outdoor use such as LED power supply and junction boxes.

Technical Data

Protection class: IP67
Operating temperature: -40°C ~ +105°C
Recommended torque:
1.0N • m (10kgf • cm)

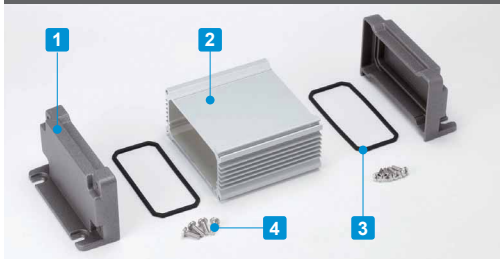
Normal N type Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged end panel	2	Diecast aluminium ADC12	Metallic gray • Black / Powder coated
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Gasket	2	Silicone	Black
4	Screw	8	Stainless steel	Unfinished

EMC Shielded E type Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged end panel	2	Diecast aluminium ADC12	Silver • Black / Painted (unfinished inside)
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Gasket	2	Silicone	Black
4	Screw	8	Stainless steel	Unfinished

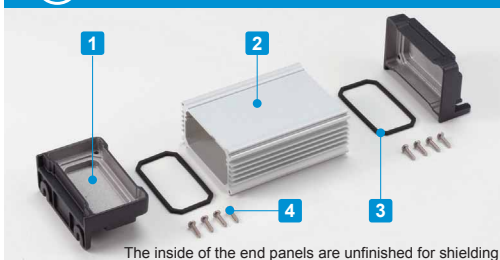
Normal - N type



Color type



EMC Shielded - E type

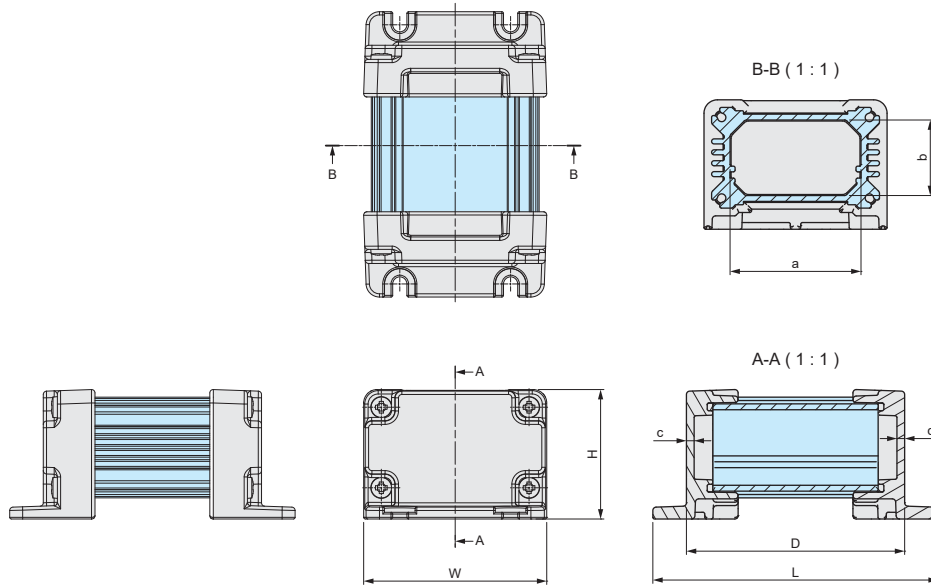


Color type



AW dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	W	H	D	L	a	b	c	Weight (g)
AW 5-4- 7□□□	54.6	38.6	65	85	39	22.5	2.3	128.5
AW 5-4- 9□□□	54.6	38.6	85	105	39	22.5	2.3	149
AW 5-4-11□□□	54.6	38.6	110	130	39	22.5	2.3	175
AW 5-4-14□□□	54.6	38.6	135	155	39	22.5	2.3	201.5
AW 7-7- 8□□□	65.8	70.8	80	106	47	51	2.5	294.5
AW 7-7-11□□□	65.8	70.8	110	136	47	51	2.5	350
AW 7-7-15□□□	65.8	70.8	150	176	47	51	2.5	424.5
AW 7-7-20□□□	65.8	70.8	200	226	47	51	2.5	517
AW 7-7-25□□□	65.8	70.8	250	276	47	51	2.5	610
AW 8-5- 9□□□	80.8	50.8	90	116	62	31	2.5	289.5
AW 8-5-12□□□	80.8	50.8	115	141	62	31	2.5	330.5
AW 8-5-14□□□	80.8	50.8	140	166	62	31	2.5	372
AW 8-5-18□□□	80.8	50.8	175	201	62	31	2.5	429.5
AW 9-9-10□□□	86.3	92	100	129	66.5	66.5	3	560.5
AW 9-9-13□□□	86.3	92	125	154	66.5	66.5	3	633.5
AW 9-9-17□□□	86.3	92	170	199	66.5	66.5	3	764.5
AW 9-9-22□□□	86.3	92	220	249	66.5	66.5	3	910.5
AW 9-9-28□□□	86.3	92	275	304	66.5	66.5	3	1,071
AW11-6-11□□□	106.3	62	110	139	86.5	36.5	3	526.5
AW11-6-15□□□	106.3	62	150	179	86.5	36.5	3	625
AW11-6-19□□□	106.3	62	190	219	86.5	36.5	3	723.5
AW11-6-24□□□	106.3	62	240	269	86.5	36.5	3	847
AW12-8-11□□□	120	77	105	134	100.2	51.5	3	614.5
AW12-8-14□□□	120	77	140	169	100.2	51.5	3	720.5
AW12-8-17□□□	120	77	179.5	208.5	100.2	51.5	3	840
AW12-8-22□□□	120	77	215	244	100.2	51.5	3	947.5
AW16-9-14□□□	156.3	87	135	164	136.5	61.5	3	945.5
AW16-9-18□□□	156.3	87	175	204	136.5	61.5	3	1,092.5
AW16-9-23□□□	156.3	87	225	254	136.5	61.5	3	1,275.5
AW16-9-28□□□	156.3	87	275	304	136.5	61.5	3	1,459
AW21-9-17□□□	206.3	87	170	199	186.5	61.5	3	1,303
AW21-9-21□□□	206.3	87	210	239	186.5	61.5	3	1,473.5
AW21-9-26□□□	206.3	87	260	289	186.5	61.5	3	1,686.5
AW21-9-31□□□	206.3	87	310	339	186.5	61.5	3	1,899.5

Accessories (Optional parts)



Mounting plate AWC series
See page 170



Hexagon socket head screw HCS series
See page 170



Cable gland
See cable gland pages



Pole mounting bracket SSK series
See page SSK-M-1 ~ SSK-M-3



Protective vent PMF series
See page PMF-1 ~ PMF-3

AWN SERIES

IP67 HEAT-SINK ALUMINIUM ENCLOSURE

EMC
Shielding
Effects

IP67



- IP67 and heat dissipation enclosure design. Selectable in both Normal or EMC Shielded type.
- The extruded aluminium frame and diecast aluminium panels makes it extremely suitable to be used in harsh environments where waterproofing and heat dissipation is essential.
- PCB or chassis can be mounted by sliding it horizontally into inner-grooved body frame.
- Suitable for measuring instruments, industrial control box, and industrial camera housing, among others.

Technical Data

Protection class: IP67
 Operating temperature: -40°C ~ +105°C
 Recommended torque:
 1.0N • m (10kgf • cm)

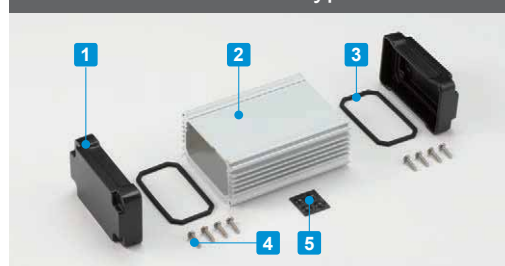
Normal N type Components

No.	Part name	Pcs	Material	Color / Finish
1	End Panel	2	Diecast aluminium ADC12	Metallic gray • Black / Powder coated
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Gasket	2	Silicone	Black
4	Screw	8	Stainless steel	Unfinished
5	Rubber feet	4	Polyurethane	Black

EMC Shielded E type Components

No.	Part name	Pcs	Material	Color / Finish
1	End Panel	2	Diecast aluminium ADC12	Silver • Black / Painted (unfinished inside)
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Gasket	2	Silicone	Black
4	Screw	8	Stainless steel	Unfinished
5	Rubber feet	4	Polyurethane	Black

Normal - N type



Color type



Metallic gray / Silver

N G S



Black / Silver

N B S

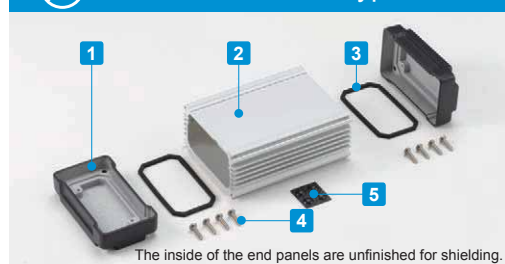


Black / Black

N B B



EMC Shielded - E type



Color type



Silver / Silver

E S S



Black / Silver

E B S

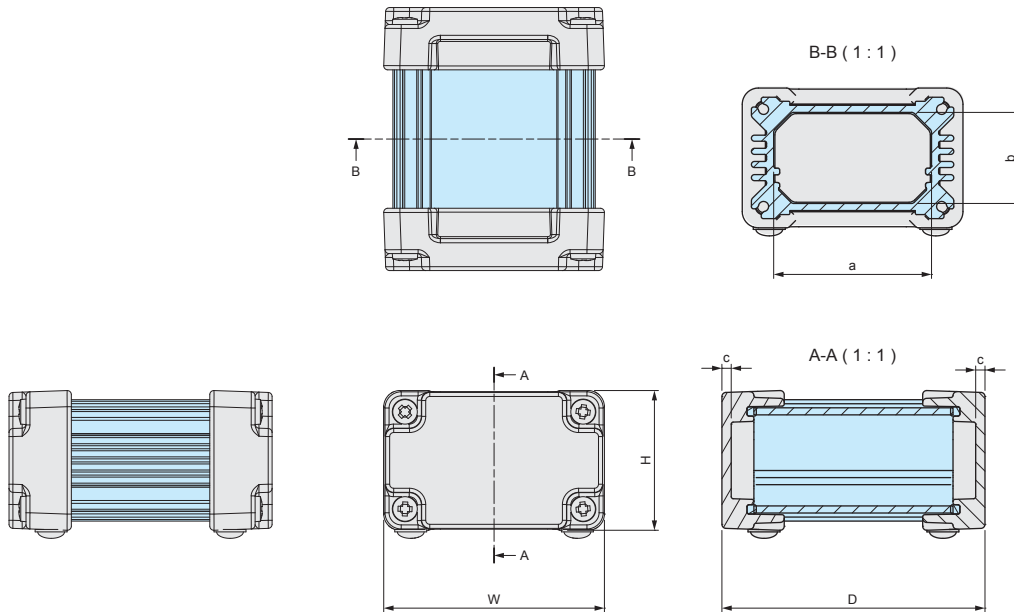


Black / Black

E B B

AWN dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	c	Weight (g)
AWN 5-4- 7□□□	54.6	34.6	65	39	22.5	2.3	118.5
AWN 5-4- 9□□□	54.6	34.6	85	39	22.5	2.3	139
AWN 5-4-11□□□	54.6	34.6	110	39	22.5	2.3	165
AWN 5-4-14□□□	54.6	34.6	135	39	22.5	2.3	191.5
AWN 7-7- 8□□□	65.8	65.8	80	47	51	2.5	272.5
AWN 7-7-11□□□	65.8	65.8	110	47	51	2.5	328
AWN 7-7-15□□□	65.8	65.8	150	47	51	2.5	402.5
AWN 7-7-20□□□	65.8	65.8	200	47	51	2.5	495
AWN 7-7-25□□□	65.8	65.8	250	47	51	2.5	588
AWN 8-5- 9□□□	80.8	45.8	90	62	31	2.5	259.5
AWN 8-5-12□□□	80.8	45.8	115	62	31	2.5	300.5
AWN 8-5-14□□□	80.8	45.8	140	62	31	2.5	342
AWN 8-5-18□□□	80.8	45.8	175	62	31	2.5	399.5
AWN 9-9-10□□□	86.3	86.3	100	66.5	66.5	3	521.5
AWN 9-9-13□□□	86.3	86.3	125	66.5	66.5	3	594.5
AWN 9-9-17□□□	86.3	86.3	170	66.5	66.5	3	725.5
AWN 9-9-22□□□	86.3	86.3	220	66.5	66.5	3	871.5
AWN 9-9-28□□□	86.3	86.3	275	66.5	66.5	3	1,032
AWN11-6-11□□□	106.3	56.3	110	86.5	36.5	3	479.5
AWN11-6-15□□□	106.3	56.3	150	86.5	36.5	3	578
AWN11-6-19□□□	106.3	56.3	190	86.5	36.5	3	676.5
AWN11-6-24□□□	106.3	56.3	240	86.5	36.5	3	800
AWN12-8-11□□□	120	71.3	105	100.2	51.5	3	590.5
AWN12-8-14□□□	120	71.3	140	100.2	51.5	3	696.5
AWN12-8-17□□□	120	71.3	179.5	100.2	51.5	3	816
AWN12-8-22□□□	120	71.3	215	100.2	51.5	3	923.5
AWN16-9-14□□□	156.3	81.3	135	136.5	61.5	3	871.5
AWN16-9-18□□□	156.3	81.3	175	136.5	61.5	3	1,018.5
AWN16-9-23□□□	156.3	81.3	225	136.5	61.5	3	1,201.5
AWN16-9-28□□□	156.3	81.3	275	136.5	61.5	3	1,385
AWN21-9-17□□□	206.3	81.3	170	186.5	61.5	3	1,261
AWN21-9-21□□□	206.3	81.3	210	186.5	61.5	3	1,431.5
AWN21-9-26□□□	206.3	81.3	260	186.5	61.5	3	1,644.5
AWN21-9-31□□□	206.3	81.3	310	186.5	61.5	3	1,857.5

Accessories (Optional parts)



Mounting plate AWC series
See page 170



Hexagon socket head screw HCS series
See page 170



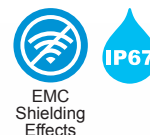
Cable gland
See cable gland pages



Silicone protector AWSP series
See page 169

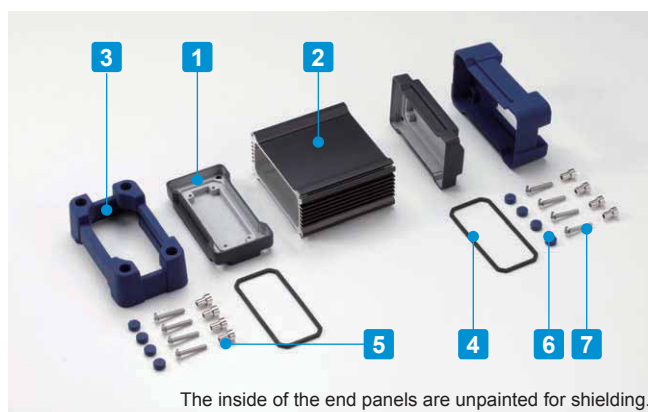
AWP SERIES

IP67 ALUMINIUM ENCLOSURE with SILICONE PROTECTOR



Technical Data

Protection class: IP67
Operating temperature: -40°C ~ +105°C
Recommended torque: 1.0N • m (10kgf • cm)



- Strong impact resistant enclosure with tough silicone boot protectors.
- Specifically designed with heat dissipation effect, EMC shielding and IP67 rating.
- PCB or chassis can be horizontally mounted by sliding into an inner-grooved body frame.
- Available in 30 sizes and 8 different color combinations. Selectable from a total of 240 different combinations.
- Suitable for measuring instruments, industrial control box, industrial camera housing, etc.

Components

No.	Part name	Pcs	Material	Color / Finish
1	End panel	2	Diecast aluminium ADC12	Silver • Black / Painted (unfinished inside)
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
3	Protector	2	Silicone	Black • Gray • Navy • Yellow
4	Conductive gasket	2	Conductive silicone	Black
5	Spacer	8	Brass	Nickel plated
6	Blind cap	8	Silicone	Black • Gray • Navy • Yellow
7	Screw	8	Stainless steel	Unfinished

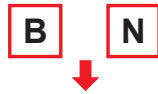
Color Type

Code	S B Silver / Black	S G Silver / Gray	S N Silver / Navy	S Y Silver / Yellow
Color				
Code	B B Black / Black	B G Black / Gray	B N Black / Navy	B Y Black / Yellow
Color				

Ordering Number

For example, in case of ordering AWP7-7-8 size, Black enclosure and Navy silicone protector.

Product no. : AWP7-7-8



Put a color code SB, SG, SN, SY, BB, BG, BN or BY.

- ※ Thermal resistance test condition
- Ambient air cooling
 - Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
 - Anodized aluminium extrusion
 - Heat source is applied on the opposite side (inner side) of the fins.

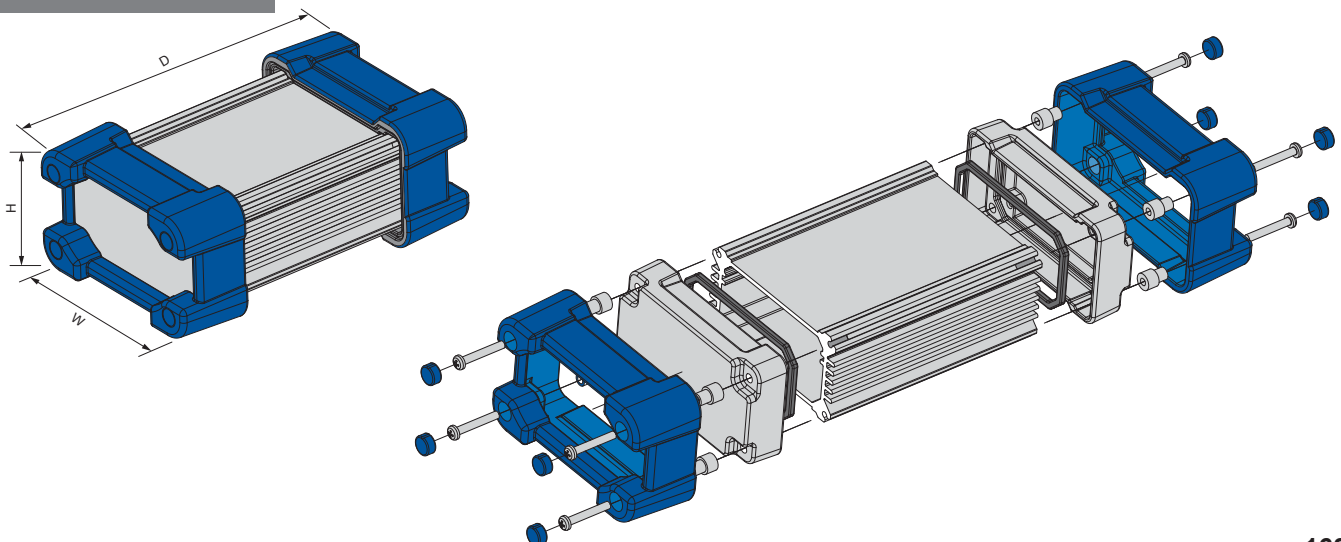
Product no. / Dimensions

Product no.	W	H	D	※ Thermal resistance rate (°C/W)	Weight (g)
AWP 7-7- 8 □□	72.4(65.8)	73.6(65.8)	104 (80)	4.41	363.5
AWP 7-7-11 □□	72.4(65.8)	73.6(65.8)	134(110)	3.5	419
AWP 7-7-15 □□	72.4(65.8)	73.6(65.8)	174(150)	2.83	493.5
AWP 7-7-20 □□	72.4(65.8)	73.6(65.8)	224(200)	2.33	586
AWP 7-7-25 □□	72.4(65.8)	73.6(65.8)	274(250)	2.02	679
AWP 8-5- 9 □□	87.4(80.8)	53.6(45.8)	114 (90)	5.97	353.5
AWP 8-5-12 □□	87.4(80.8)	53.6(45.8)	139(115)	5.01	394.5
AWP 8-5-14 □□	87.4(80.8)	53.6(45.8)	164(140)	4.37	436
AWP 8-5-18 □□	87.4(80.8)	53.6(45.8)	199(175)	3.76	493.5
AWP 9-9-10 □□	93.9(86.3)	95.1(86.3)	130(100)	3.1	693
AWP 9-9-13 □□	93.9(86.3)	95.1(86.3)	155(125)	2.63	766
AWP 9-9-17 □□	93.9(86.3)	95.1(86.3)	200(170)	2.12	897
AWP 9-9-22 □□	93.9(86.3)	95.1(86.3)	250(220)	1.79	1,043
AWP 9-9-28 □□	93.9(86.3)	95.1(86.3)	305(275)	1.54	1,203.5
AWP11-6-11 □□	113.9(106.3)	65.1(56.3)	140(110)	4.52	652.5
AWP11-6-15 □□	113.9(106.3)	65.1(56.3)	180(150)	3.62	751.5
AWP11-6-19 □□	113.9(106.3)	65.1(56.3)	220(190)	3.08	850
AWP11-6-24 □□	113.9(106.3)	65.1(56.3)	270(240)	2.64	973
AWP12-8-11 □□	127.6(120)	80.1(71.3)	135(105)	3.6	778.5
AWP12-8-14 □□	127.6(120)	80.1(71.3)	170(140)	2.93	885
AWP12-8-17 □□	127.6(120)	80.1(71.3)	209.5(179.5)	2.47	1,004.5
AWP12-8-22 □□	127.6(120)	80.1(71.3)	245(215)	2.18	1,112
AWP16-9-14 □□	163.9(156.3)	90.1(81.3)	165(135)	2.64	1,094
AWP16-9-18 □□	163.9(156.3)	90.1(81.3)	205(175)	2.2	1,240.5
AWP16-9-23 □□	163.9(156.3)	90.1(81.3)	255(225)	1.86	1,424
AWP16-9-28 □□	163.9(156.3)	90.1(81.3)	305(275)	1.63	1,607.5
AWP21-9-17 □□	213.9(206.3)	90.1(81.3)	202(170)	2.3	1,571.5
AWP21-9-21 □□	213.9(206.3)	90.1(81.3)	242(210)	1.99	1,742
AWP21-9-26 □□	213.9(206.3)	90.1(81.3)	292(260)	1.72	1,955.5
AWP21-9-31 □□	213.9(206.3)	90.1(81.3)	342(310)	1.54	2,168.5

■ () value = enclosure dimension.

AWP dimensions

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



AWA SERIES HEAT-SINK ALUMINIUM ENCLOSURE

AWA series is an aluminium enclosure that has a frame with heat-sink fins on both sides.

Furthermore, the enclosure is also conductive, which provides a shielding effect.

By machining the panels, the unit becomes extremely suitable to be used as high-end audio, or as an industrial equipment.

APPLICATION EXAMPLE

INDUSTRIAL IoT INTERFACE DEVICE

Product by SEE Système Radio (France)



INDUSTRIAL FANLESS PC



AUDIO AMPLIFIER



WIDE-BAND SOLID STATE OPTICAL AMPLIFIER

Product by Spectra Quest Lab. (Japan)



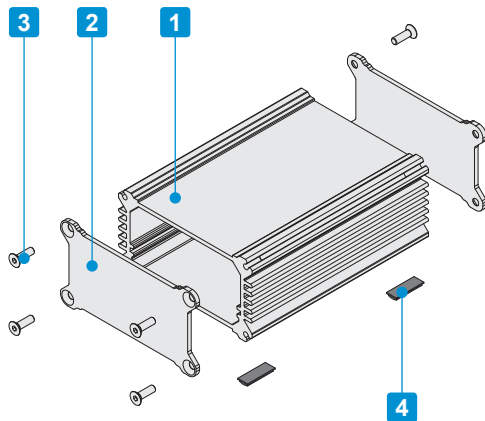
CUSTOMIZATION

CNC milling available for customization on AWA series.
See website for more details.



AWA SERIES

HEAT-SINK ALUMINIUM ENCLOSURE



- Extruded aluminium frame manufactured with heat-sink sides.
- Silver anodized end panels makes for a luxurious finish.
- Conductivity is achieved by utilizing the contact between the unfinished end panels side, and the unfinished ends of the frame.
- PCB or chassis can be horizontally mounted by sliding into an inner-grooved body frame.
- Suitable for industrial fanless PC, measuring instrument, digital audio amplifier and so on.

Included screws :

AWA5-3, 6-6, 8-4 models : Hex countersunk M3-10 x 8 pcs

AWA8-8, 10-5, 12-7, 15-8 models : Hex countersunk M4-10 x 8 pcs

AWA20-8 models : Hex countersunk M5-10 x 8 pcs

※Hexagonal wrench included.

Component

No.	Part name	Pcs	Material	Color / Finish
1	Body frame	1	Extruded aluminium A6063S-T5	Silver / Anodized
2	End panel	2	Aluminium A1050P	Silver / Anodized (outside) : Unfinished (inside)
3	Hex socket screw	8	Stainless steel	Unfinished
4	Rubber feet	4	Polyurethane	Black

Accessories (Optional parts)

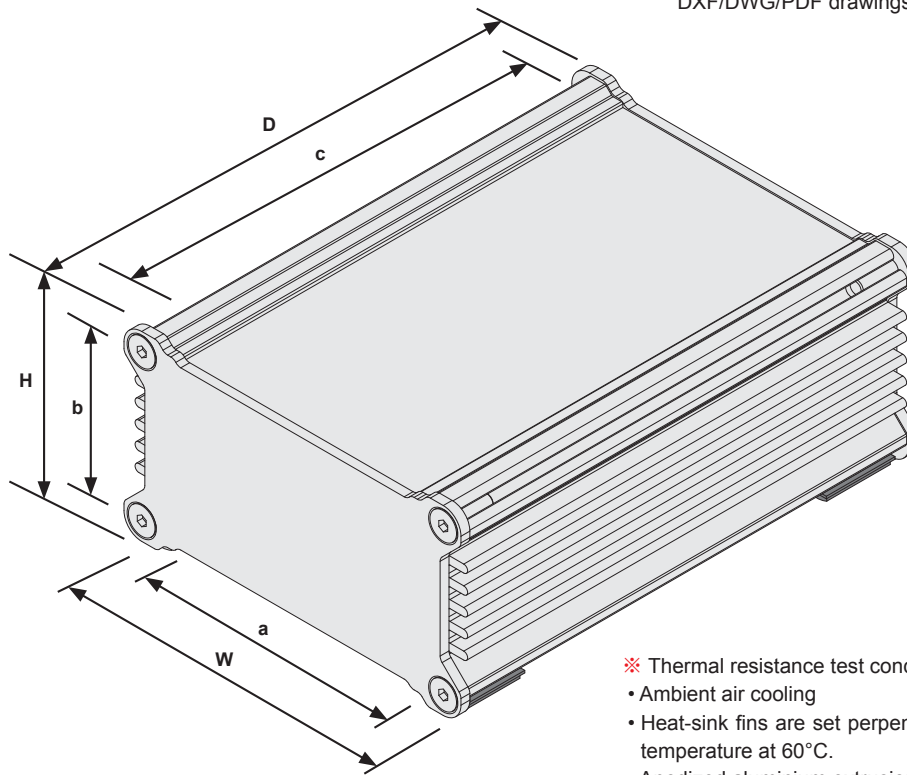


Mounting plate AWC series
See page 170



Aluminium isolation feet AFS • AFM series
See page AFS • AFM-1 ~ AFS • AFM-2

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



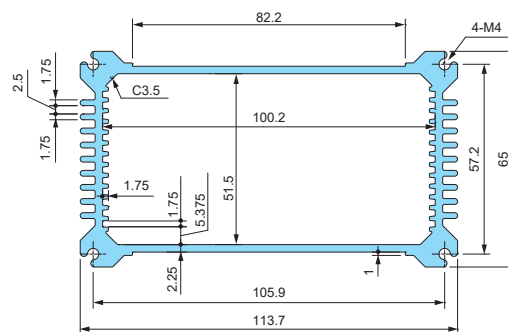
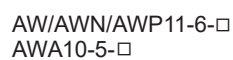
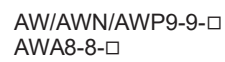
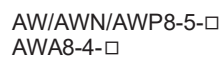
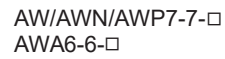
※ Thermal resistance test condition

- Ambient air cooling
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Anodized aluminium extrusion
- Heat source is applied on the opposite side (inner side) of the fins.

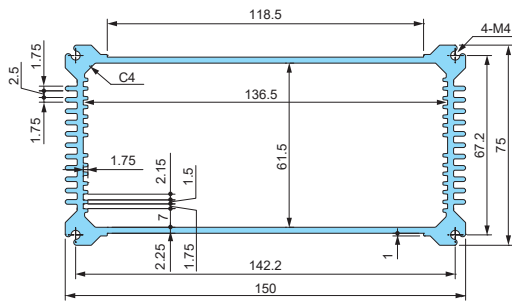
Product no. / Dimensions

Product no.	Dimensions (External)			Dimensions (Internal)			※ Thermal resistance rate (°C/W)	Weight (g)
	W	H	D	a	b	c		
AWA 5-3- 5SS	52	32	53.2	39	22.5	49.2	11.2	69.5
AWA 5-3- 7SS	52	32	73.2	39	22.5	69.2	9.18	90.5
AWA 5-3-10SS	52	32	98.2	39	22.5	94.2	7.64	116.5
AWA 5-3-12SS	52	32	123.2	39	22.5	119.2	6.63	142.5
AWA 6-6- 7SS	61	61	68	47	51	64	4.41	156
AWA 6-6-10SS	61	61	98	47	51	94	3.5	212
AWA 6-6-14SS	61	61	138	47	51	134	2.83	286
AWA 6-6-19SS	61	61	188	47	51	184	2.33	379
AWA 6-6-24SS	61	61	238	47	51	234	2.02	471.5
AWA 8-4- 8SS	76	41	78	62	31	74	5.97	154
AWA 8-4-10SS	76	41	103	62	31	99	5.01	195
AWA 8-4-13SS	76	41	128	62	31	124	4.37	236.5
AWA 8-4-16SS	76	41	163	62	31	159	3.76	294
AWA 8-8- 9SS	82	82	86	66.5	66.5	81	3.1	319.5
AWA 8-8-11SS	82	82	111	66.5	66.5	106	2.63	392.5
AWA 8-8-16SS	82	82	156	66.5	66.5	151	2.12	523.5
AWA 8-8-21SS	82	82	206	66.5	66.5	201	1.79	669.5
AWA 8-8-26SS	82	82	261	66.5	66.5	256	1.54	829.5
AWA10-5-10SS	102	52	95.6	86.5	36.5	90.6	4.52	288.5
AWA10-5-14SS	102	52	135.6	86.5	36.5	130.6	3.62	387.5
AWA10-5-18SS	102	52	175.6	86.5	36.5	170.6	3.08	486
AWA10-5-23SS	102	52	225.6	86.5	36.5	220.6	2.64	609
AWA12-7- 9SS	115.7	67	90.6	100.2	51.5	85.6	3.6	354
AWA12-7-12SS	115.7	67	125.6	100.2	51.5	120.6	2.93	460
AWA12-7-17SS	115.7	67	165.1	100.2	51.5	160.1	2.47	579.5
AWA12-7-20SS	115.7	67	200.6	100.2	51.5	195.6	2.18	687
AWA15-8-12SS	152	77	120.6	136.5	61.5	115.6	2.64	565.5
AWA15-8-16SS	152	77	160.6	136.5	61.5	155.6	2.2	712
AWA15-8-21SS	152	77	210.6	136.5	61.5	205.6	1.86	895.5
AWA15-8-26SS	152	77	260.6	136.5	61.5	255.6	1.63	1,079
AWA20-8-15SS	202.4	77.4	153.8	186.5	61.5	147.8	2.3	854.5
AWA20-8-19SS	202.4	77.4	193.8	186.5	61.5	187.8	1.99	1,025
AWA20-8-24SS	202.4	77.4	243.8	186.5	61.5	237.8	1.72	1,238
AWA20-8-29SS	202.4	77.4	293.8	186.5	61.5	287.8	1.54	1,451.5

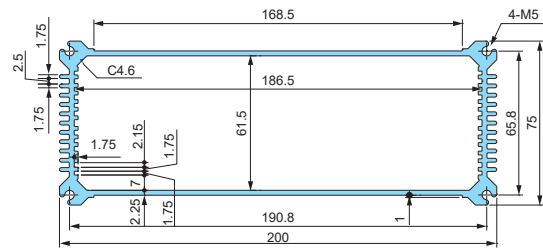
AW/AWN5-4-□
AWA5-3-□



AW/AWN/AWP16-9-□
AWA15-8-□



AW/AWN/AWP21-9-□
AWA20-8-□



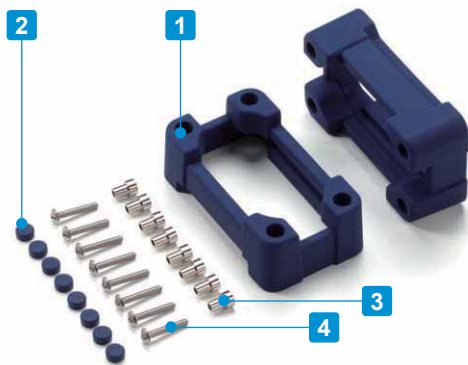
※ Thermal resistance test condition

- Ambient air cooling
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Anodized aluminium extrusion
- Heat source is applied on the opposite side (inner side) of the fins.

Product no.				Frame	※Thermal resistance rate (°C/W)
AW 5-4- 7	AWN 5-4- 7	—	AWA 5-3- 5	49.2	11.2
AW 5-4- 9	AWN 5-4- 9	—	AWA 5-3- 7	69.2	9.18
AW 5-4-11	AWN 5-4-11	—	AWA 5-3-10	94.2	7.64
AW 5-4-14	AWN 5-4-14	—	AWA 5-3-12	119.2	6.63
AW 7-7- 8	AWN 7-7- 8	AWP 7-7- 8	AWA 6-6- 7	64	4.41
AW 7-7-11	AWN 7-7-11	AWP 7-7-11	AWA 6-6-10	94	3.5
AW 7-7-15	AWN 7-7-15	AWP 7-7-15	AWA 6-6-14	134	2.83
AW 7-7-20	AWN 7-7-20	AWP 7-7-20	AWA 6-6-19	184	2.33
AW 7-7-25	AWN 7-7-25	AWP 7-7-25	AWA 6-6-24	234	2.02
AW 8-5- 9	AWN 8-5- 9	AWP 8-5- 9	AWA 8-4- 8	74	5.97
AW 8-5-12	AWN 8-5-12	AWP 8-5-12	AWA 8-4-10	99	5.01
AW 8-5-14	AWN 8-5-14	AWP 8-5-14	AWA 8-4-13	124	4.37
AW 8-5-18	AWN 8-5-18	AWP 8-5-18	AWA 8-4-16	159	3.76
AW 9-9-10	AWN 9-9-10	AWP 9-9-10	AWA 8-8- 9	81	3.1
AW 9-9-13	AWN 9-9-13	AWP 9-9-13	AWA 8-8-11	106	2.63
AW 9-9-17	AWN 9-9-17	AWP 9-9-17	AWA 8-8-16	151	2.12
AW 9-9-22	AWN 9-9-22	AWP 9-9-22	AWA 8-8-21	201	1.79
AW 9-9-28	AWN 9-9-28	AWP 9-9-28	AWA 8-8-26	256	1.54
AW11-6-11	AWN11-6-11	AWP11-6-11	AWA10-5-10	90.6	4.52
AW11-6-15	AWN11-6-15	AWP11-6-15	AWA10-5-14	130.6	3.62
AW11-6-19	AWN11-6-19	AWP11-6-19	AWA10-5-18	170.6	3.08
AW11-6-24	AWN11-6-24	AWP11-6-24	AWA10-5-23	220.6	2.64
AW12-8-11	AWN12-8-11	AWP12-8-11	AWA12-7- 9	85.6	3.6
AW12-8-14	AWN12-8-14	AWP12-8-14	AWA12-7-12	120.6	2.93
AW12-8-17	AWN12-8-17	AWP12-8-17	AWA12-7-17	160.1	2.47
AW12-8-22	AWN12-8-22	AWP12-8-22	AWA12-7-20	195.6	2.18
AW16-9-14	AWN16-9-14	AWP16-9-14	AWA15-5-12	115.6	2.64
AW16-9-18	AWN16-9-18	AWP16-9-18	AWA15-8-16	155.6	2.2
AW16-9-23	AWN16-9-23	AWP16-9-23	AWA15-8-21	205.6	1.86
AW16-9-28	AWN16-9-28	AWP16-9-28	AWA15-8-26	255.6	1.63
AW21-9-17	AWN21-9-17	AWP21-9-17	AWA20-8-15	147.8	2.3
AW21-9-21	AWN21-9-21	AWP21-9-21	AWA20-8-19	187.8	1.99
AW21-9-26	AWN21-9-26	AWP21-9-26	AWA20-8-24	237.8	1.72
AW21-9-31	AWN21-9-31	AWP21-9-31	AWA20-8-29	287.8	1.54

AWSP SERIES

SILICONE PROTECTOR

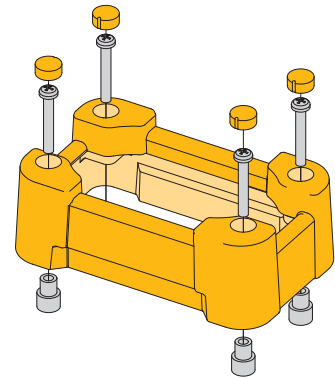
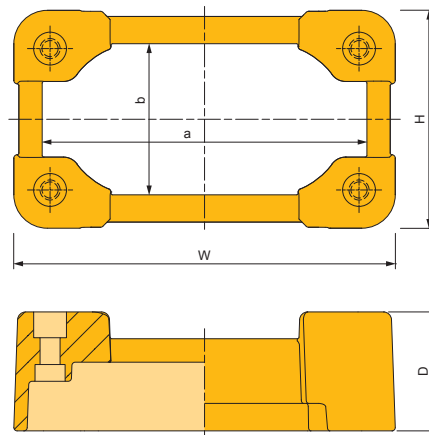
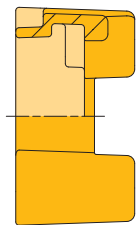


Color Type

Code	[B] Black	[G] Gray	[N] Navy	[Y] Yellow
Color				

- Silicone protector for AWN series.
- Protect switches and/or connectors on end panels from impact when dropped, etc.

AWSP dimensions



Components

No.	Part name	Pcs	Material	Color / Finish
1	Protector	2	Silicone	Black • Gray • Navy • Yellow
2	Blind cap	8	Silicone	Black • Gray • Navy • Yellow
3	Spacer	8	Brass	Nickel plated
4	Screw	8	Stainless steel	Unfinished

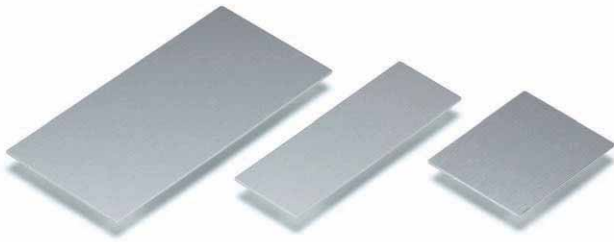
Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	W	H	D	a	b	Screw size	Suitable enclosure	Weight (g)
AWSP 7-7□	72.4	73.6	31	58.4	56.6	M3	AWN 7-7-□	99
AWSP 8-5□	87.4	53.6	31	73.4	36.6	M3	AWN 8-5-□	100.5
AWSP 9-9□	93.9	95.1	35.5	76.9	75.1	M4	AWN 9-9-□	184.5
AWSP11-6□	113.9	65.1	35.5	96.9	45.1	M4	AWN11-6-□	186
AWSP12-8□	127.6	80.1	35.5	110.6	60.1	M4	AWN12-8-□	201
AWSP16-9□	163.9	90.1	35.5	145.9	69.1	M4	AWN16-9-□	235
AWSP21-9□	213.9	90.1	39.5	192.9	66.1	M5	AWN21-9-□	333

AWC SERIES

ALUMINIUM MOUNTING PLATE



APPLICATION EXAMPLE

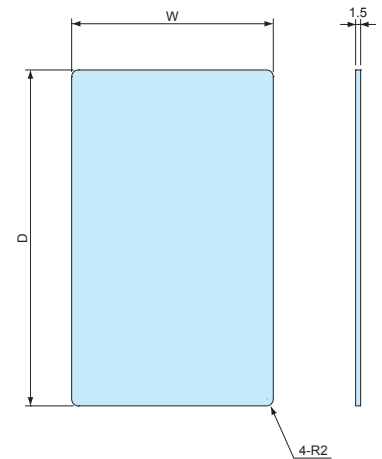


- Material: Aluminium A1050P t=1.5 / Silver anodized
- Mounting plate for AW, AWN, AWP, and AWA series enclosures.
- Utilize for mounting PCB, power supply, terminal blocks, etc.

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

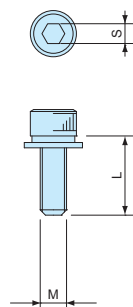
Product no. / Dimensions

Product no.	W	D	Suitable enclosure
AWC 5- 7	38.9	49.2	AW • AWN 5-4-7 • AWA 5-3-5
AWC 5- 9	38.9	69.2	AW • AWN 5-4-9 • AWA 5-3-7
AWC 5-11	38.9	94.2	AW • AWN 5-4-11 • AWA 5-3-10
AWC 5-14	38.9	119.2	AW • AWN 5-4-14 • AWA 5-3-12
AWC 7- 8	47	64	AW • AWN • AWP 7-7-8 • AWA 6-6- 7
AWC 7-11	47	94	AW • AWN • AWP 7-7-11 • AWA 6-6-10
AWC 7-15	47	134	AW • AWN • AWP 7-7-15 • AWA 6-6-14
AWC 7-20	47	184	AW • AWN • AWP 7-7-20 • AWA 6-6-19
AWC 7-25	47	234	AW • AWN • AWP 7-7-25 • AWA 6-6-24
AWC 8- 9	61.8	74	AW • AWN • AWP 8-5-9 • AWA 8-4-8
AWC 8-12	61.8	99	AW • AWN • AWP 8-5-12 • AWA 8-4-10
AWC 8-14	61.8	124	AW • AWN • AWP 8-5-14 • AWA 8-4-13
AWC 8-18	61.8	159	AW • AWN • AWP 8-5-18 • AWA 8-4-16
AWC 9-10	66.5	81	AW • AWN • AWP 9-9-10 • AWA 8-8-9
AWC 9-13	66.5	106	AW • AWN • AWP 9-9-13 • AWA 8-8-11
AWC 9-17	66.5	151	AW • AWN • AWP 9-9-17 • AWA 8-8-16
AWC 9-22	66.5	201	AW • AWN • AWP 9-9-22 • AWA 8-8-21
AWC 9-28	66.5	256	AW • AWN • AWP 9-9-28 • AWA 8-8-26
AWC11-11	86.5	90.6	AW • AWN • AWP11-6-11 • AWA10-5-10
AWC11-15	86.5	130.6	AW • AWN • AWP11-6-15 • AWA10-5-14
AWC11-19	86.5	170.6	AW • AWN • AWP11-6-19 • AWA10-5-18
AWC11-24	86.5	220.6	AW • AWN • AWP11-6-24 • AWA10-5-23
AWC12-11	100.2	85.6	AW • AWN • AWP12-8-11 • AWA12-7-9
AWC12-14	100.2	120.6	AW • AWN • AWP12-8-14 • AWA12-7-12
AWC12-17	100.2	160.1	AW • AWN • AWP12-8-17 • AWA12-7-17
AWC12-22	100.2	195.6	AW • AWN • AWP12-8-22 • AWA12-7-20
AWC16-14	136.3	115.6	AW • AWN • AWP16-9-14 • AWA15-8-12
AWC16-18	136.3	155.6	AW • AWN • AWP16-9-18 • AWA15-8-16
AWC16-23	136.3	205.6	AW • AWN • AWP16-9-23 • AWA15-8-21
AWC16-28	136.3	255.6	AW • AWN • AWP16-9-28 • AWA15-8-26
AWC21-17	186.1	147.8	AW • AWN • AWP21-9-17 • AWA20-8-15
AWC21-21	186.1	187.8	AW • AWN • AWP21-9-21 • AWA20-8-19
AWC21-26	186.1	237.8	AW • AWN • AWP21-9-26 • AWA20-8-24
AWC21-31	186.1	287.8	AW • AWN • AWP21-9-31 • AWA20-8-29



HCS SERIES

HEXAGON SOCKET HEAD SCREW



- Hexagon socket head screws for fastening the end panels of AW and AWN enclosures.
- Utilize for tamper-resistance functionality or for an elegant sleek look.

Product no. / Dimensions

Product no.	M	L	S	Material	Pack of
HCS3-12S	3	12	2.5	Stainless steel	8
HCS4-12S	4	12	3	Stainless steel	8
HCS5-12S	5	12	4	Stainless steel	8

NOTICE

EXH, EXHF and EXHS Series Discontinuation of Color Types

- Affected series / models : EXH, EXHF, EXHS series ("BS" and "SB" color types).

BS Color Type (Discontinued)



SB Color Type (Discontinued)



NOTICE

EXH, EXHF, EXHS, EF and EF-36 Series Changes to Surface Finish

- Affected series/models : EXH, EXHF, and EXHS series ("SS" color type)
EF, and EF-36 series ("S" color type)
- Changes : Surface Finish

Current (Old) Design



New Design



Current (Old) Surface Finish

- Silver Anodized

New Surface Finish

- Silver Metallic Painted (Unfinished Inside)

- Purpose: To ensure consistent quality throughout via streamlined supply chain and materials.
- Effective date : From December 9, 2021.
- Alternatives : "SS" or "BB" color types.

Thank you for your understanding.

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

EXH HEAT-SINK ALUMINIUM ENCLOSURE

EXH series is an aluminium enclosure with a highly efficient heat-sink top cover.

Suitable to be used as fanless PC, power amplifier, and power supply box where heat dissipation is required.

Wide range, 30 different sizes available.



Waved surface heat-sink fins for maximum cooling performance!

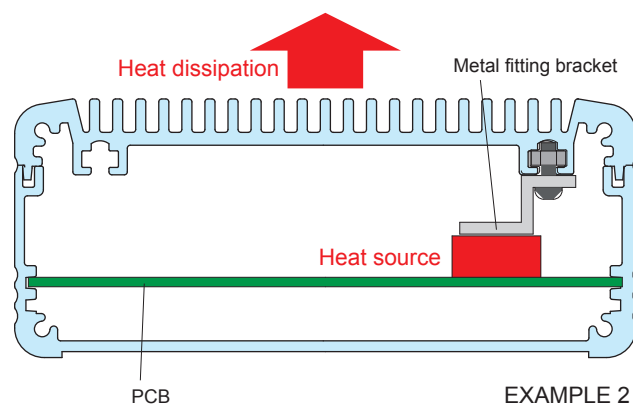
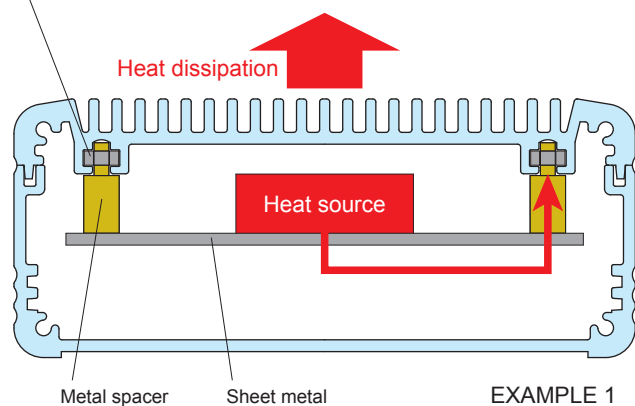
- Each heat-sink fin has a waved surface construction for maximum cooling performance.

Waved Surface



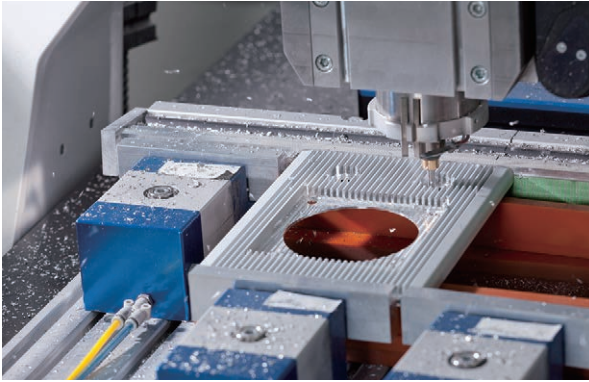
HEAT DISSIPATION EXAMPLE

- EXH series has grooves to put M3 nuts inside its heat-sink cover. It is possible to construct a heat conduction route from your heat source to heat-sink cover easily for better heat dissipation performance.



CUSTOMIZATION EXAMPLE

CNC MACHINING on HEAT-SINK COVER



Heat-sink plates can be customized with our high speed CNC machines.



PIN SHAPED FIN CUSTOMIZATION



Pin shaped heat-sink fin can be customized for better cooling performance.

COLOR ANODIZING

Various colors, such as blue, red, orange, green or purple can be anodized as per your requirements.



■ Not all colors and shades of colors are possible.

CUSTOM LENGTH AVAILABLE



APPLICATION EXAMPLE

STABILIZED DIODE LASER

Product by Spectra Quest Lab. (Japan)

Controller



Laser Head



IOT GATEWAY

Product by VNPT Technology (Vietnam)



ULTRASONIC NOZZLE CLEANER

Product by ESER Corporation (Japan)



TAKACHI PF plastic enclosure is also adopted.

ALL-IN-ONE EDGE NODE

Product by SHINWA (Japan)



4 CHANNEL POWER SWITCHING EDGE NODE

Product by SHINWA (Japan)



AUDIO AMPLIFIER

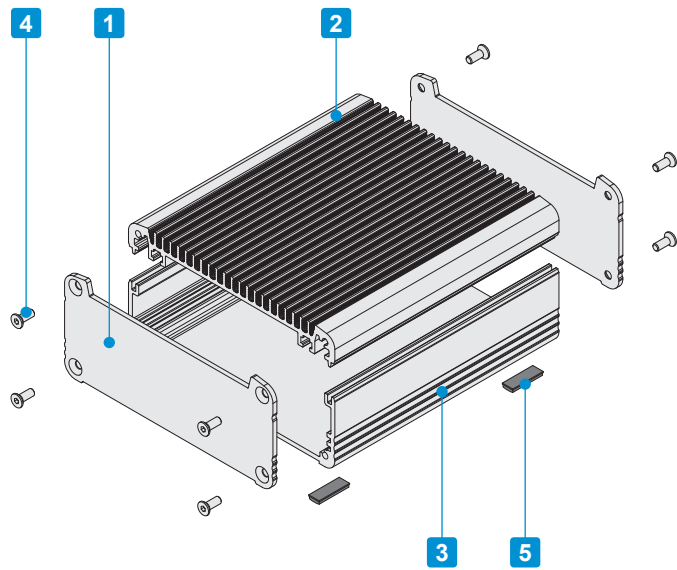


EXH SERIES

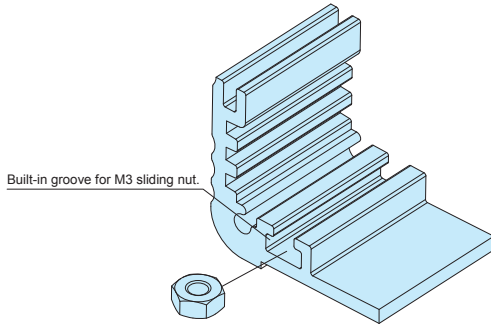
HEAT-SINK ALUMINIUM ENCLOSURE



Heat
Resistant



- Aluminum enclosure equipped with a highly efficient heat-sink top cover.
- Suitable to be used as a fanless PC, power amplifier, power supply etc. where heat dissipation is required.
- Selectable in 58 different sizes and 2 different color combinations.
- Grooves for M3 sliding nut are built into the heat-sink top cover and bottom frame (140mm or wider).

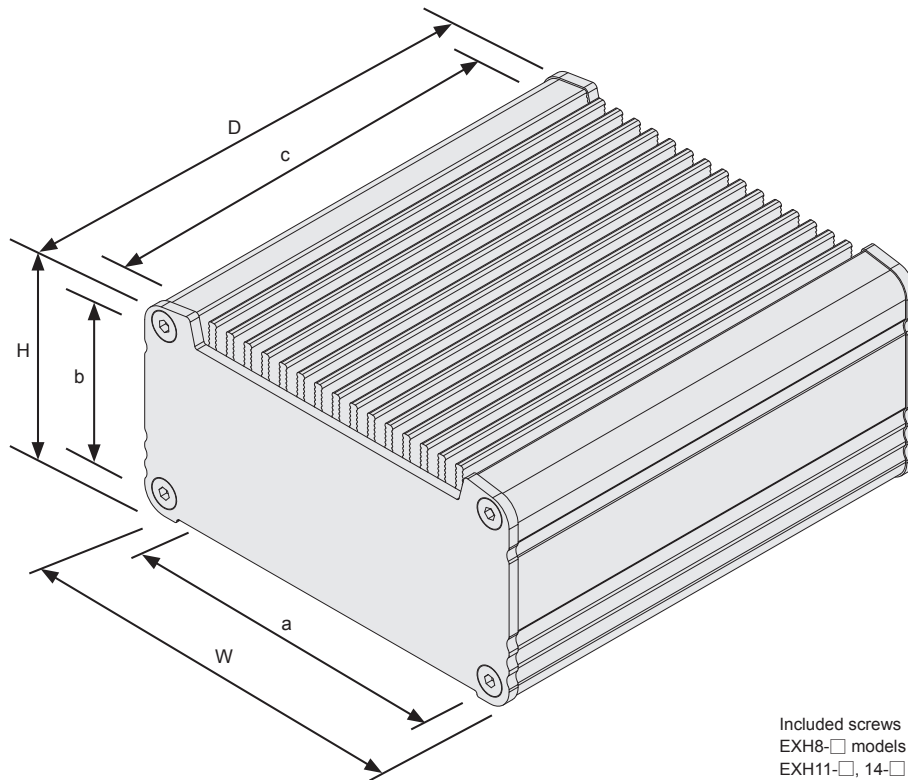


Components

No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1050P	Metallic silver / Painted • Black / Anodized
2	Heat-sink top cover	1	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
3	Bottom frame	1	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
4	Screw (Hexagonal)	8	Stainless steel	Unfinished
5	Rubber feet	4	Polyurethane	Black

Color Type

Code	SS Silver / Silver	BB Black / Black
Color		



Included screws
 EXH8-□ models : M2.5-8 x 8 pcs
 EXH11-□, 14-□ models : M3-8 x 8 pcs
 EXH19-□ models : M4-10 x 8 pcs
 EXH23-□ models : M5-10 x 8 pcs
 ※Hexagonal wrench included.

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	External dimensions			Internal dimensions			※Thermal resistance rate (°C/W)
	W	H	D	a	b	c	
EXH 8-3- 6□□	80.6	30.7	60	69.6	20.3	56	7.32
EXH 8-3- 9□□	80.6	30.7	90	69.6	20.3	86	5.65
EXH 8-3-12□□	80.6	30.7	120	69.6	20.3	116	4.72
EXH 8-4- 6□□	80.6	40.7	60	69.6	30.3	56	7.32
EXH 8-4- 9□□	80.6	40.7	90	69.6	30.3	86	5.65
EXH 8-4-12□□	80.6	40.7	120	69.6	30.3	116	4.72
EXH 8-6- 6□□	80.6	55.7	60	69.6	45.3	56	7.32
EXH 8-6- 9□□	80.6	55.7	90	69.6	45.3	86	5.65
EXH 8-6-12□□	80.6	55.7	120	69.6	45.3	116	4.72
EXH11-3- 8□□	106	31.1	78	94.6	19.3	74	4.82
EXH11-3-12□□	106	31.1	118	94.6	19.3	114	3.72
EXH11-3-16□□	106	31.1	164	94.6	19.3	160	3.03
EXH11-5- 8□□	106	46.1	78	94.6	34.3	74	4.82
EXH11-5-12□□	106	46.1	118	94.6	34.3	114	3.72
EXH11-5-16□□	106	46.1	164	94.6	34.3	160	3.03
EXH11-6- 8□□	106	61.1	78	94.6	49.3	74	4.82
EXH11-6-12□□	106	61.1	118	94.6	49.3	114	3.72
EXH11-6-16□□	106	61.1	164	94.6	49.3	160	3.03
EXH14-4-10□□	141	36.1	97	129.6	24.3	93	3.4
EXH14-4-14□□	141	36.1	137	129.6	24.3	133	2.75
EXH14-4-19□□	141	36.1	187	129.6	24.3	183	2.27
EXH14-5-10□□	141	51.1	97	129.6	39.3	93	3.4
EXH14-5-14□□	141	51.1	137	129.6	39.3	133	2.75
EXH14-5-19□□	141	51.1	187	129.6	39.3	183	2.27
EXH14-7-10□□	141	71.1	97	129.6	59.3	93	3.4
EXH14-7-14□□	141	71.1	137	129.6	59.3	133	2.75
EXH14-7-19□□	141	71.1	187	129.6	59.3	183	2.27
EXH14-9-10□□	141	91.1	97	129.6	79.3	93	3.4
EXH14-9-14□□	141	91.1	137	129.6	79.3	133	2.75
EXH14-9-19□□	141	91.1	187	129.6	79.3	183	2.27

■ Custom length available.

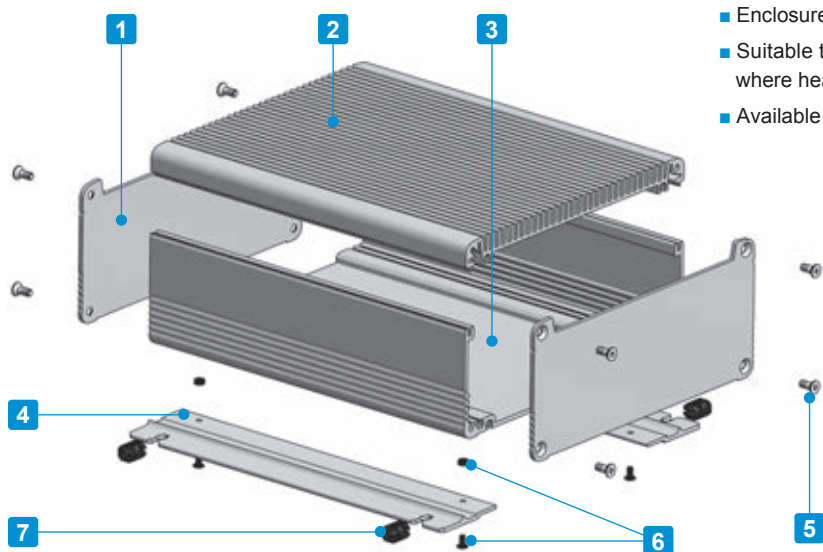
Product no.	External dimensions			Internal dimensions			※Thermal resistance rate (°C/W)
	W	H	D	a	b	c	
NEW EXH19- 4-13□□	186.5	43.5	125	170	26.85	120	1.92
NEW EXH19- 4-18□□	186.5	43.5	177	170	26.85	172	1.56
NEW EXH19- 4-23□□	186.5	43.5	230	170	26.85	225	1.32
NEW EXH19- 4-29□□	186.5	43.5	285	170	26.85	280	1.15
NEW EXH19- 6-13□□	186.5	61.5	125	170	44.85	120	1.92
NEW EXH19- 6-18□□	186.5	61.5	177	170	44.85	172	1.56
NEW EXH19- 6-23□□	186.5	61.5	230	170	44.85	225	1.32
NEW EXH19- 6-29□□	186.5	61.5	285	170	44.85	280	1.15
NEW EXH19- 8-13□□	186.5	81.5	125	170	64.85	120	1.92
NEW EXH19- 8-18□□	186.5	81.5	177	170	64.85	172	1.56
NEW EXH19- 8-23□□	186.5	81.5	230	170	64.85	225	1.32
NEW EXH19- 8-29□□	186.5	81.5	285	170	64.85	280	1.15
NEW EXH19-11-13□□	186.5	106.5	125	170	89.85	120	1.92
NEW EXH19-11-18□□	186.5	106.5	177	170	89.85	172	1.56
NEW EXH19-11-23□□	186.5	106.5	230	170	89.85	225	1.32
NEW EXH19-11-29□□	186.5	106.5	285	170	89.85	280	1.15
NEW EXH23- 5-15□□	232	52	153	215	34.85	147	1.47
NEW EXH23- 5-21□□	232	52	213	215	34.85	207	1.2
NEW EXH23- 5-27□□	232	52	273	215	34.85	267	1.03
NEW EXH23- 5-33□□	232	52	333	215	34.85	327	0.91
NEW EXH23- 8-15□□	232	77	153	215	59.85	147	1.47
NEW EXH23- 8-21□□	232	77	213	215	59.85	207	1.2
NEW EXH23- 8-27□□	232	77	273	215	59.85	267	1.03
NEW EXH23- 8-33□□	232	77	333	215	59.85	327	0.91
NEW EXH23-10-15□□	232	102	153	215	84.85	147	1.47
NEW EXH23-10-21□□	232	102	213	215	84.85	207	1.2
NEW EXH23-10-27□□	232	102	273	215	84.85	267	1.03
NEW EXH23-10-33□□	232	102	333	215	84.85	327	0.91

※Thermal resistance test condition

- Ambient air cooling
- Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
- Anodized aluminum extrusion
- Heat source is applied on the opposite side (inner side) of the fins.

EXHF SERIES

FLANGED HEAT-SINK ALUMINIUM ENCLOSURE

Heat
Resistant

- Equipped with flanged bracket for easy wall mounting.
- Enclosure equipped with a highly efficient heat-sink top cover.
- Suitable to be used as a fanless PC, amplifier, power supply etc. where heat dissipation is required.
- Available in 28 different sizes and 2 different color combinations.

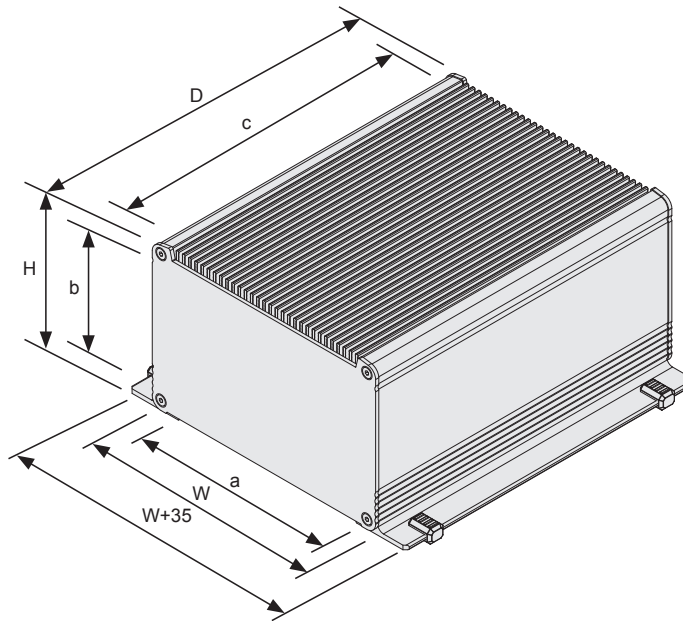
Components

No.	Part name	Pcs	Material	Color / Finish
1	Panel	2	Aluminium A1050P	Metallic silver / Painted • Black / Anodized
2	Heat-sink top cover	1	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
3	Bottom frame	1	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
4	Flange bracket	2	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
5	Panel screw (Hexagonal)	8	Stainless steel	Unfinished
6	Flange screw	4	Steel	Trivalent chromate
7	Rubber feet	4	Silicone	Black

Color Type

Code	S S Silver / Silver	B B Black / Black
Color		

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



Included screws
EXHF19-□ models : M4-10 x 8 pcs
EXHF23-□ models : M5-10 x 8 pcs
※Hexagonal wrench included.

- ※Thermal resistance test condition
- Ambient air cooling
 - Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
 - Anodized aluminum extrusion
 - Heat source is applied on the opposite side (inner side) of the fins.

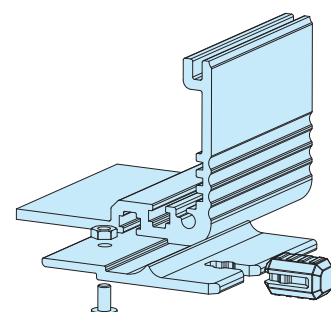
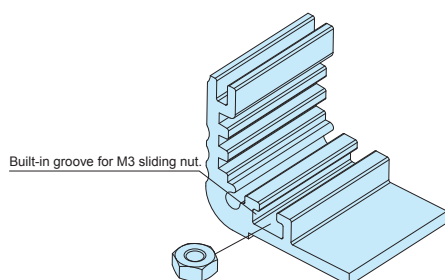
Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	External dimensions			Internal dimensions			※Thermal resistance rate (°C/W)
	W	H	D	a	b	c	
NEW EXHF19- 4-13□□	186.5	45.25	125	170	26.85	120	1.92
NEW EXHF19- 4-18□□	186.5	45.25	177	170	26.85	172	1.56
NEW EXHF19- 4-23□□	186.5	45.25	230	170	26.85	225	1.32
NEW EXHF19- 4-29□□	186.5	45.25	285	170	26.85	280	1.15
NEW EXHF19- 6-13□□	186.5	63.25	125	170	44.85	120	1.92
NEW EXHF19- 6-18□□	186.5	63.25	177	170	44.85	172	1.56
NEW EXHF19- 6-23□□	186.5	63.25	230	170	44.85	225	1.32
NEW EXHF19- 6-29□□	186.5	63.25	285	170	44.85	280	1.15
NEW EXHF19- 8-13□□	186.5	83.25	125	170	64.85	120	1.92
NEW EXHF19- 8-18□□	186.5	83.25	177	170	64.85	172	1.56
NEW EXHF19- 8-23□□	186.5	83.25	230	170	64.85	225	1.32
NEW EXHF19- 8-29□□	186.5	83.25	285	170	64.85	280	1.15
NEW EXHF19-11-13□□	186.5	108.25	125	170	89.85	120	1.92
NEW EXHF19-11-18□□	186.5	108.25	177	170	89.85	172	1.56
NEW EXHF19-11-23□□	186.5	108.25	230	170	89.85	225	1.32
NEW EXHF19-11-29□□	186.5	108.25	285	170	89.85	280	1.15
NEW EXHF23- 5-15□□	232	53.5	153	215	34.85	147	1.47
NEW EXHF23- 5-21□□	232	53.5	213	215	34.85	207	1.2
NEW EXHF23- 5-27□□	232	53.5	273	215	34.85	267	1.03
NEW EXHF23- 5-33□□	232	53.5	333	215	34.85	327	0.91
NEW EXHF23- 8-15□□	232	78.5	153	215	59.85	147	1.47
NEW EXHF23- 8-21□□	232	78.5	213	215	59.85	207	1.2
NEW EXHF23- 8-27□□	232	78.5	273	215	59.85	267	1.03
NEW EXHF23- 8-33□□	232	78.5	333	215	59.85	327	0.91
NEW EXHF23-10-15□□	232	103.5	153	215	84.85	147	1.47
NEW EXHF23-10-21□□	232	103.5	213	215	84.85	207	1.2
NEW EXHF23-10-27□□	232	103.5	273	215	84.85	267	1.03
NEW EXHF23-10-33□□	232	103.5	333	215	84.85	327	0.91

■ Grooves for M3 sliding nut are found on the heat-sink top cover and bottom frame (140mm or wider).

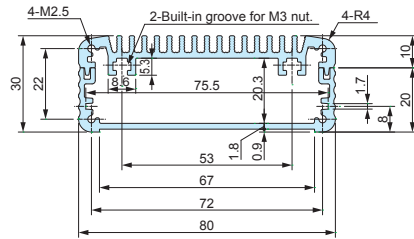
■ Flange bracket is installed as per the diagram below.



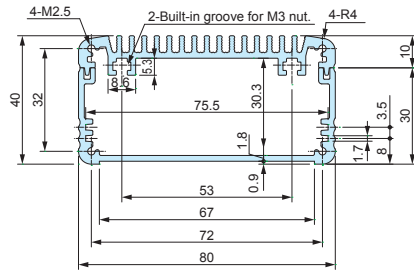
EXH • EXHF heat-sink top cover / bottom frame

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

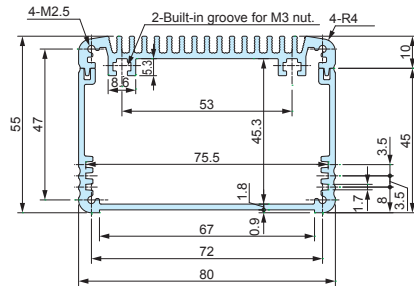
EXH8-3-□



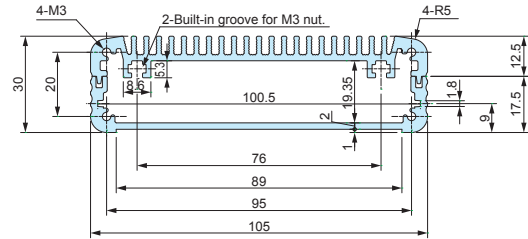
EXH8-4-□



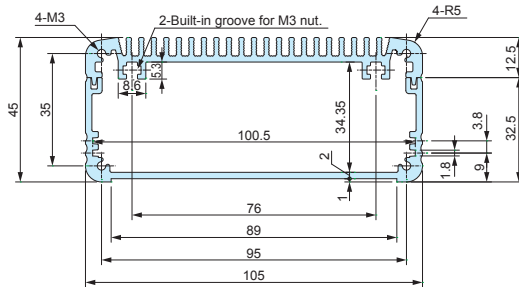
EXH8-6-□



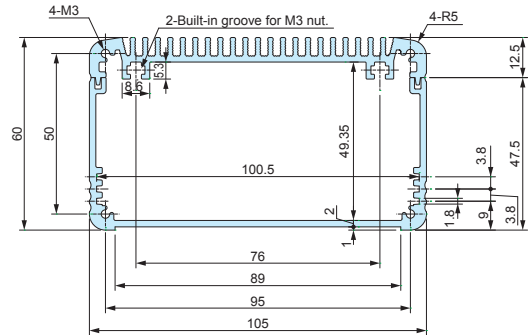
EXH11-3-□



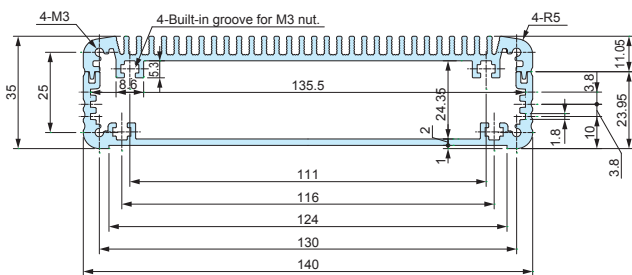
EXH11-5-□



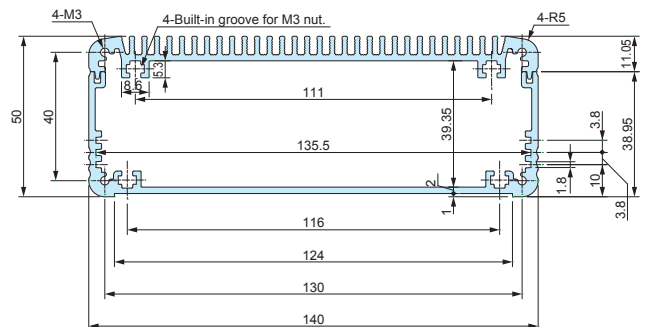
EXH11-6-□



EXH14-4-□



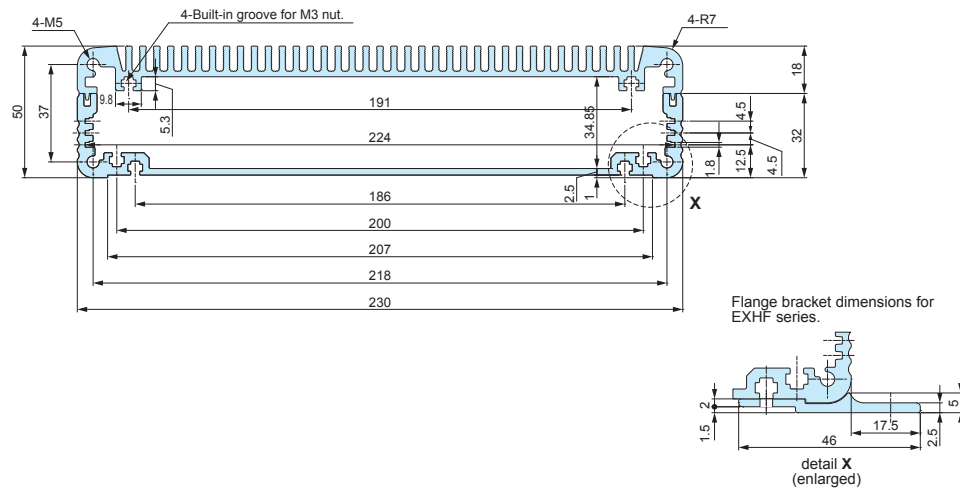
EXH14-5-□



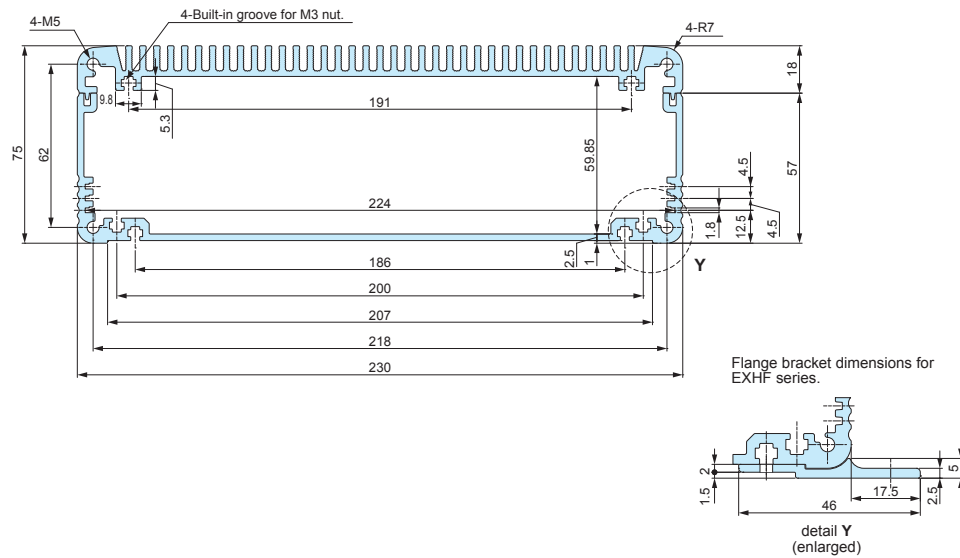
EXH • EXHF heat-sink top cover / bottom frame

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

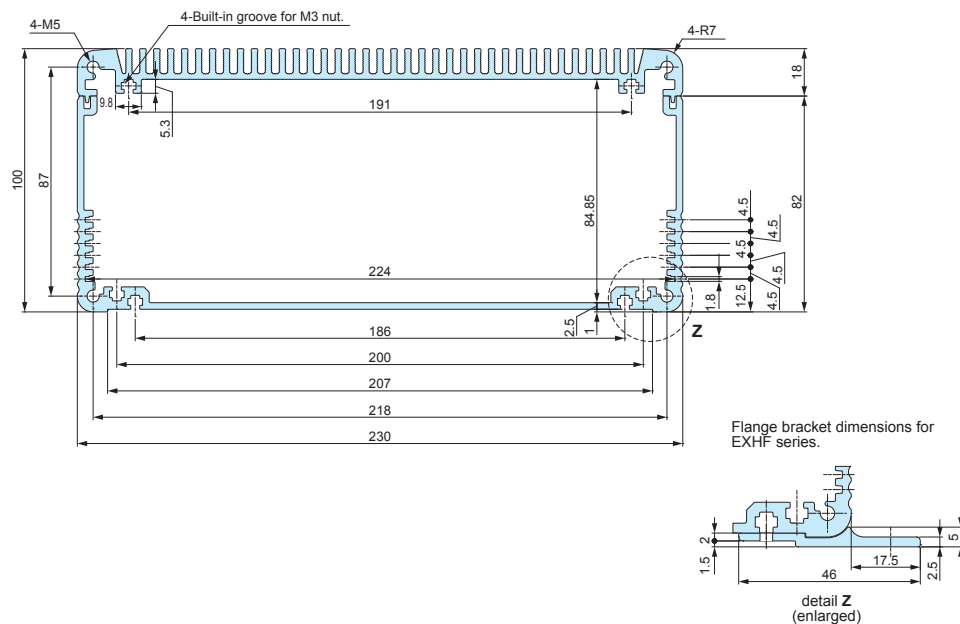
EXH • EXHF23-5-□



EXH • EXHF23-8-□



EXH • EXHF23-10-□



EF SERIES

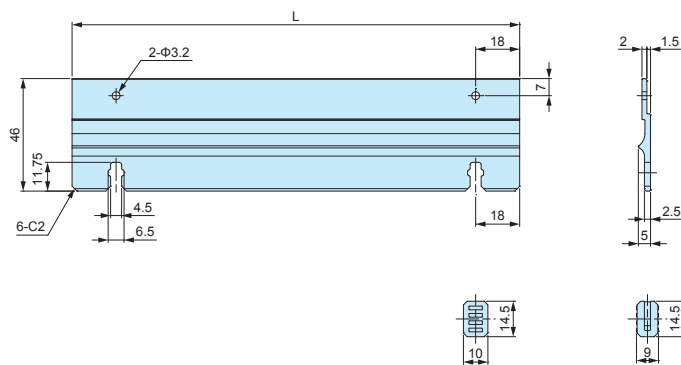
WALL MOUNTING BRACKET for EX • EXH

★ ★ NEW

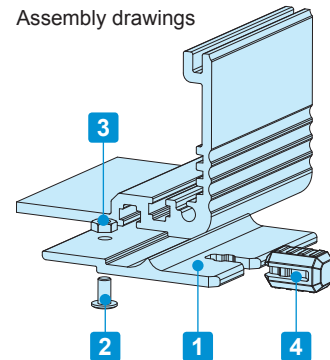
APPLICATION EXAMPLE



- Wall mounting bracket for EX • EXH series. Applicable only for width 185 and 225mm bottom covers.
- Easy installation by inserting the nuts into built-in grooves on EX • EXH bottom cover.
- Rubber feet are included to mask the mounting cutouts when not used for wall mounting.



Assembly drawings



Components

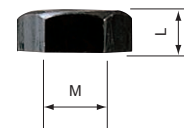
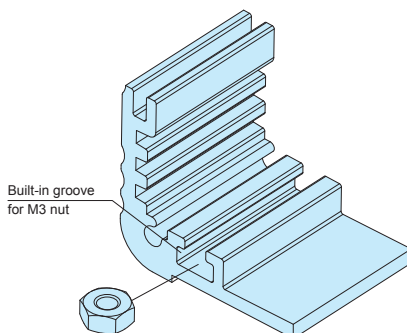
No.	Part name	Pcs	Material	Color / Finish
1	Bracket	2	Extruded aluminium A6063S-T5	Metallic silver / Painted • Black / Anodized
2	Screw	4	Steel M3-6	Black trivalent chromate
3	Nut	4	Steel	Black trivalent chromate
4	Rubber feet	4	Silicone	Black

Product no. / Dimensions

Product no.		L	Suitable enclosure
● Silver	● Black		
NEW EF19-13S	NEW EF19-13B	119.5	EX • EXH19-○-13□□
NEW EF19-18S	NEW EF19-18B	171.5	EX • EXH19-○-18□□
NEW EF19-23S	NEW EF19-23B	224.5	EX • EXH19-○-23□□
NEW EF19-29S	NEW EF19-29B	279.5	EX • EXH19-○-29□□
NEW EF23-15S	NEW EF23-15B	146.5	EX • EXH23-○-15□□
NEW EF23-21S	NEW EF23-21B	206.5	EX • EXH23-○-21□□
NEW EF23-27S	NEW EF23-27B	266.5	EX • EXH23-○-27□□
NEW EF23-33S	NEW EF23-33B	326.5	EX • EXH23-○-33□□

MT-3N

SLIDING NUT for EXH • EXHF



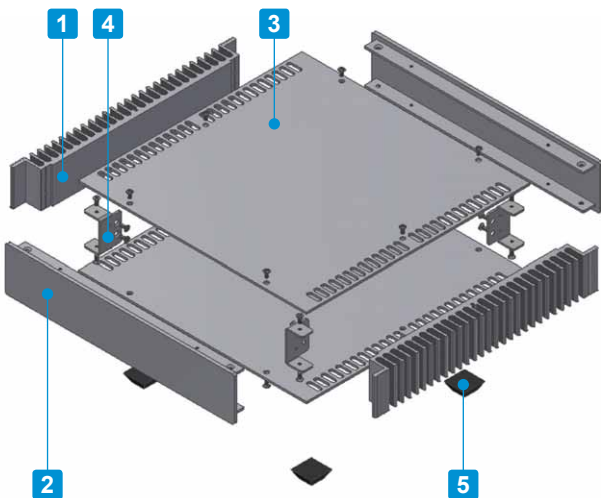
Product no. / Dimensions

Product no.	M	L	Material	Finish	Pack of
MT-3N	3	2.4	Steel	Black trivalent chromate	50

- Sliding nut can be used on all EXH • EXHF heat-sink top covers, as well as with width 140mm or larger bottom covers.



Variations of HY series, HYR and HYRH series are also available. See website for more details.



- Stylish and elegantly designed with a hairline finish.
- Excellent cooling performance with the heat-sink side plates.
- Now available in 56 sizes, and 2 different colors.
- Tough and robust enclosure from using aluminium extrusion parts.
- Simple and easy to assemble construction.
- Flat back heat-sink plates for more effective heat spreading.

Included screws

BB color type

M3-6 countersunk • Black trivalent chromate x 16 pcs

M3-5 Slotted raised countersunk • Black trivalent chromate x 12 pcs

SS color type

M3-6 countersunk • Nickel plated x 16 pcs

M3-5 Slotted raised countersunk • Nickel plated x 12 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Heat-sink side plate	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Panel	2	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
3	Top • Bottom cover	2	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
4	Corner support	4	Steel SPCC t=1.6	Trivalent chromate
5	Rubber feet	4	Polyurethane	Black

※HL = Hairline brushed

Accessories (Optional parts)



Mounting plate HYC series
See page HYC • HYCL-1



L-bracket HYCL series
See page HYC • HYCL-1

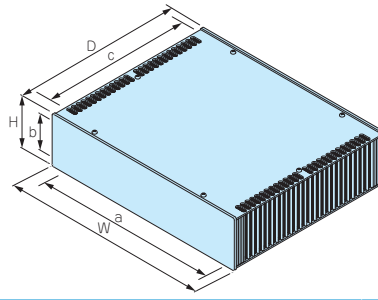


Aluminium isolation feet AFS • AFM series
See page AFS • AFM-1 ~ 2



TORX screw - for top / bottom cover MR3-5Z series
See page HY • HYR • HYRH-2





■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

Product no.		Dimensions (External)			Dimensions (Internal)			Weight (kg)
● Silver	● Black	W	H	D	a	b	c	
HY 44-23-23SS	HY 44-23-23BB	230	44	231	186	36	225	1.1
HY 44-23-33SS	HY 44-23-33BB	230	44	330	186	36	324	1.6
HY 44-28-23SS	HY 44-28-23BB	280	44	231	196	36	225	1.4
HY 44-28-33SS	HY 44-28-33BB	280	44	330	196	36	324	1.9
HY 44-33-23SS	HY 44-33-23BB	330	44	231	286	36	225	1.5
HY 44-33-33SS	HY 44-33-33BB	330	44	330	286	36	324	2.2
HY 44-43-23SS	HY 44-43-23BB	430	44	231	386	36	225	1.9
HY 44-43-33SS	HY 44-43-33BB	430	44	330	386	36	324	2.6
HY 70-23-23SS	HY 70-23-23BB	230	70	231	186	62	225	1.6
HY 70-23-33SS	HY 70-23-33BB	230	70	330	186	62	324	2.2
HY 70-28-23SS	HY 70-28-23BB	280	70	231	196	62	225	1.8
HY 70-28-33SS	HY 70-28-33BB	280	70	330	196	62	324	2.5
HY 70-33-23SS	HY 70-33-23BB	330	70	231	286	62	225	2.0
HY 70-33-33SS	HY 70-33-33BB	330	70	330	286	62	324	2.8
HY 70-43-23SS	HY 70-43-23BB	430	70	231	386	62	225	2.3
HY 70-43-33SS	HY 70-43-33BB	430	70	330	386	62	324	3.2
HY 88-23-23SS	HY 88-23-23BB	230	88	231	186	80	225	1.9
HY 88-23-33SS	HY 88-23-33BB	230	88	330	186	80	324	2.6
HY 88-28-23SS	HY 88-28-23BB	280	88	231	196	80	225	2.1
HY 88-28-33SS	HY 88-28-33BB	280	88	330	196	80	324	2.8
HY 88-33-23SS	HY 88-33-23BB	330	88	231	286	80	225	2.3
HY 88-33-33SS	HY 88-33-33BB	330	88	330	286	80	324	3.1
HY 88-43-23SS	HY 88-43-23BB	430	88	231	386	80	225	2.7
HY 88-43-33SS	HY 88-43-33BB	430	88	330	386	80	324	3.6
HY 99-23-23SS	HY 99-23-23BB	230	99	231	186	91	225	2.1
HY 99-23-33SS	HY 99-23-33BB	230	99	330	186	91	324	2.7
HY 99-28-23SS	HY 99-28-23BB	280	99	231	196	91	225	2.3
HY 99-28-33SS	HY 99-28-33BB	280	99	330	196	91	324	3.1
HY 99-33-23SS	HY 99-33-23BB	330	99	231	286	91	225	2.5
HY 99-33-33SS	HY 99-33-33BB	330	99	330	286	91	324	3.4
HY 99-43-23SS	HY 99-43-23BB	430	99	231	386	91	225	2.9
HY 99-43-33SS	HY 99-43-33BB	430	99	330	386	91	324	3.9
HY133-23-23SS	HY133-23-23BB	230	132.5	231	186	124.5	225	2.6
HY133-23-33SS	HY133-23-33BB	230	132.5	330	186	124.5	324	3.4
HY133-28-23SS	HY133-28-23BB	280	132.5	231	196	124.5	225	2.8
HY133-28-33SS	HY133-28-33BB	280	132.5	330	196	124.5	324	3.8
HY133-33-23SS	HY133-33-23BB	330	132.5	231	286	124.5	225	3.0
HY133-33-33SS	HY133-33-33BB	330	132.5	330	286	124.5	324	4.1
HY133-43-23SS	HY133-43-23BB	430	132.5	231	386	124.5	225	3.5
HY133-43-33SS	HY133-43-33BB	430	132.5	330	386	124.5	324	4.7
HY149-23-23SS	HY149-23-23BB	230	149	231	186	141	225	2.8
HY149-23-33SS	HY149-23-33BB	230	149	330	186	141	324	3.8
HY149-28-23SS	HY149-28-23BB	280	149	231	196	141	225	3.1
HY149-28-33SS	HY149-28-33BB	280	149	330	196	141	324	4.2
HY149-33-23SS	HY149-33-23BB	330	149	231	286	141	225	3.3
HY149-33-33SS	HY149-33-33BB	330	149	330	286	141	324	4.5
HY149-43-23SS	HY149-43-23BB	430	149	231	386	141	225	3.8
HY149-43-33SS	HY149-43-33BB	430	149	330	386	141	324	5.1
HY177-23-23SS	HY177-23-23BB	230	177	231	186	169	225	3.4
HY177-23-33SS	HY177-23-33BB	230	177	330	186	169	324	4.5
HY177-28-23SS	HY177-28-23BB	280	177	231	196	169	225	3.6
HY177-28-33SS	HY177-28-33BB	280	177	330	196	169	324	4.8
HY177-33-23SS	HY177-33-23BB	330	177	231	286	169	225	3.9
HY177-33-33SS	HY177-33-33BB	330	177	330	286	169	324	5.2
HY177-43-23SS	HY177-43-23BB	430	177	231	386	169	225	4.5
HY177-43-33SS	HY177-43-33BB	430	177	330	386	169	324	5.8

HY SERIES APPLICATION EXAMPLE

COMPLETE BALANCED SPECIAL TUNED DC HEADPHONE AMPLIFIER

Product by Sanyo Kasei (Japan)



ENERGY CREATION POWER CONDITIONER DEVELOPMENT KIT

Product by Smart Energy Laboratory (Japan)



LINEAR POWER SUPPLY

Product by UpTone Audio (USA)



INDUSTRIAL FANLESS COMPUTER

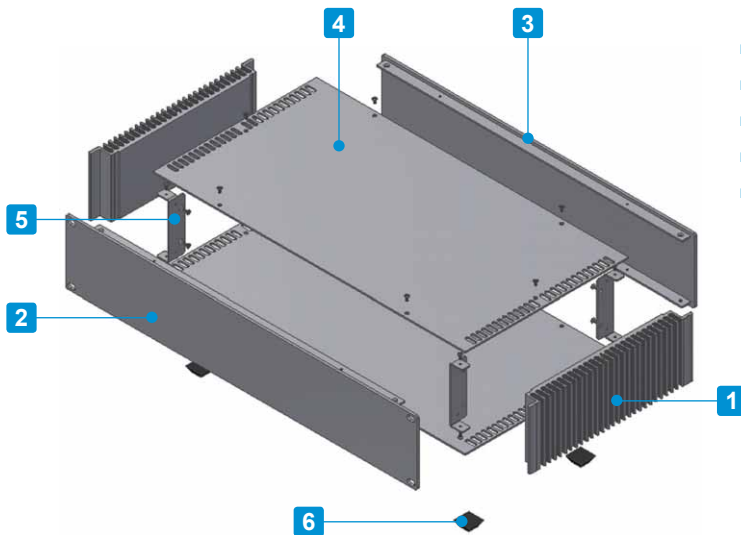
Product by Techno Veins (Japan)





Technical Data

Protection class: IP40



- 8 different sizes, each with 2 color types available for selection.
- Stylish and elegantly designed with a hairline finish.
- Excellent cooling performance with the heat-sink side plates.
- Tough and robust enclosure from using aluminium extrusion parts.
- Simple and easy to assemble construction.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Heat-sink side plate	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Front panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
3	Rear panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
4	Top • Bottom cover	2	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
5	Corner support	4	Steel SPCC t=1.6	Trivalent chromate
6	Rubber feet	4	Polyurethane	Black
-	Screw	1 set	Steel M3	Nickel plated • Black trivalent chromate

Accessories (Optional parts)



Mounting plate HYC series
See page HYC • HYCL-1



L-bracket HYCL series
See page HYC • HYCL-1

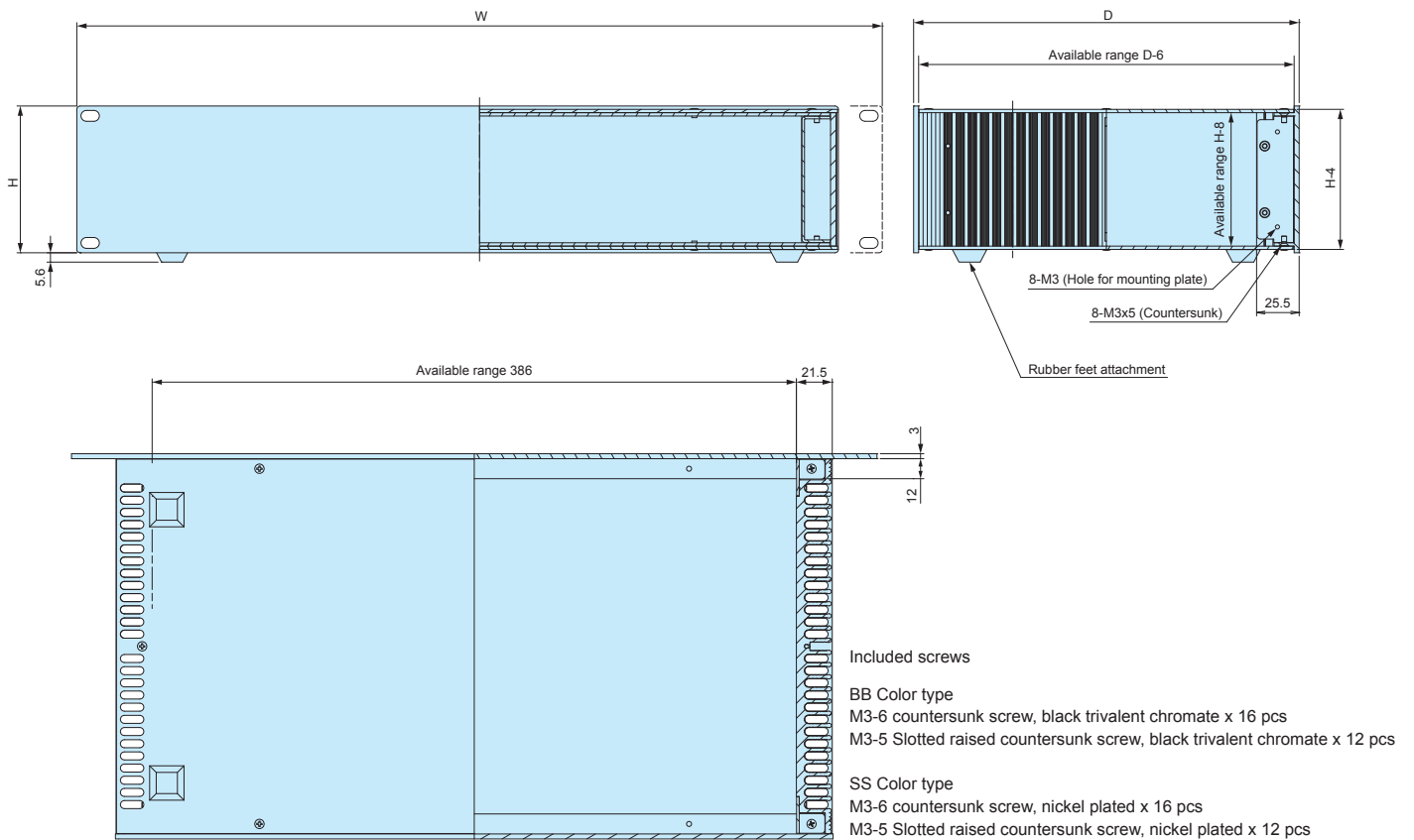


TORX screw MR3-5Z series
See page HY • HYR • HYRH-2



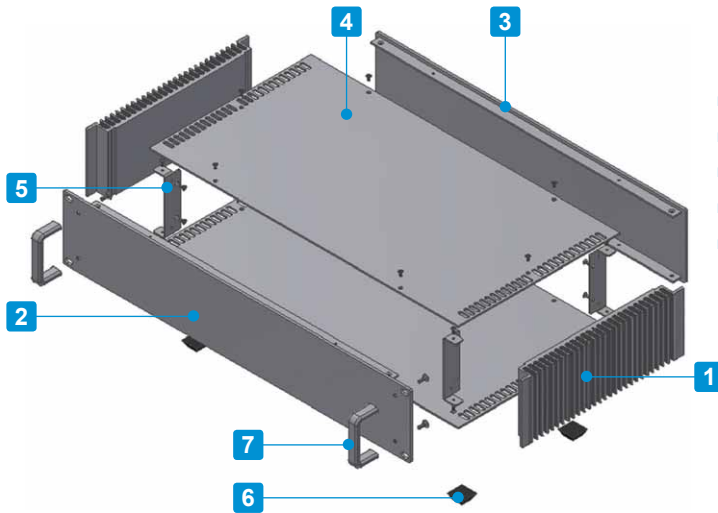
HYR dimensions (outside view)

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

Product no.		W	H	D	Standard	Weight (kg)
● Silver	● Black					
HYR 44-43-23SS	HYR 44-43-23BB	482.6	44	231	EIA	1.9
HYR 44-43-33SS	HYR 44-43-33BB	482.6	44	330	EIA	2.6
HYR 88-43-23SS	HYR 88-43-23BB	482.6	88	231	EIA	2.8
HYR 88-43-33SS	HYR 88-43-33BB	482.6	88	330	EIA	3.7
HYR133-43-23SS	HYR133-43-23BB	482.6	132.5	231	EIA	3.6
HYR133-43-33SS	HYR133-43-33BB	482.6	132.5	330	EIA	4.7
HYR177-43-23SS	HYR177-43-23BB	482.6	177	231	EIA	4.5
HYR177-43-33SS	HYR177-43-33BB	482.6	177	330	EIA	5.9



Technical Data

Protection class: IP40

- Equipped with handy rack mount / pull out handles.
- Available in 8 sizes, and 2 different colors.
- Excellent cooling performance with the heat-sink side plates.
- Tough and robust enclosure from using aluminium extrusion parts.
- Simple and easy to assemble construction.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Heat-sink side plate	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Front panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
3	Rear panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
4	Top • Bottom cover	2	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
5	Corner support	4	Steel SPCC t=1.6	Trivalent chromate
6	Rubber feet	4	Polyurethane	Black
7	Handle	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
-	Screw	1 set	Steel	Nickel plated • Black trivalent chromate

Accessories (Optional parts)



Mounting plate HYC series
See page HYC • HYCL-1



L-bracket HYCL series
See page HYC • HYCL-1

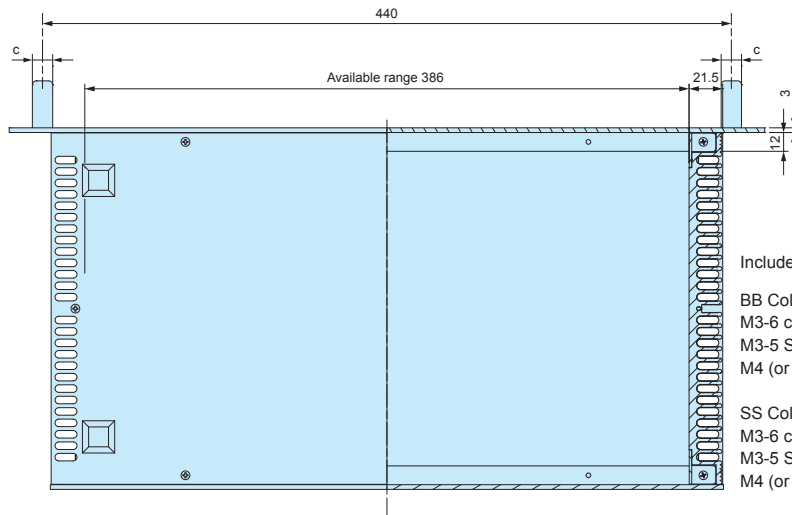
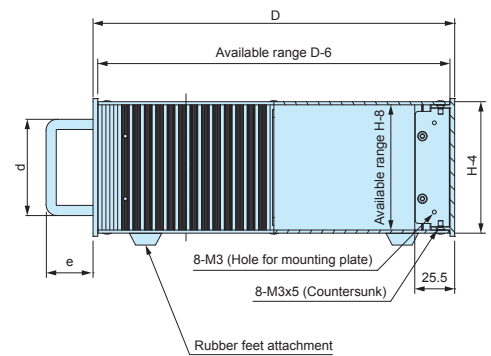
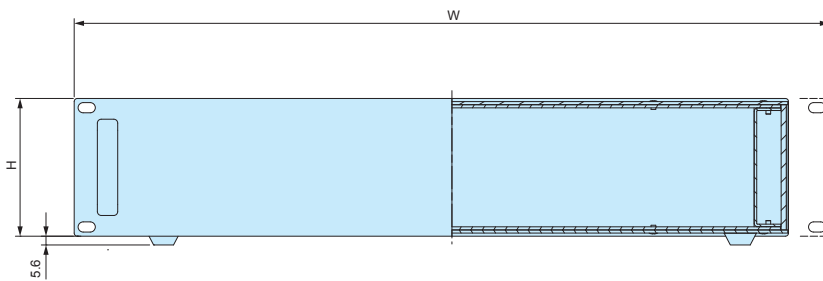


TORX screw MR3-5Z series
See page HY • HYR • HYRH-2



HYRH dimensions (outside view)

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws

BB Color type

M3-6 countersunk screw, black trivalent chromate x 16 pcs

M3-5 Slotted raised countersunk screw, black trivalent chromate x 12 pcs

M4 (or M5) countersunk screw, trivalent chromate x 4 pcs

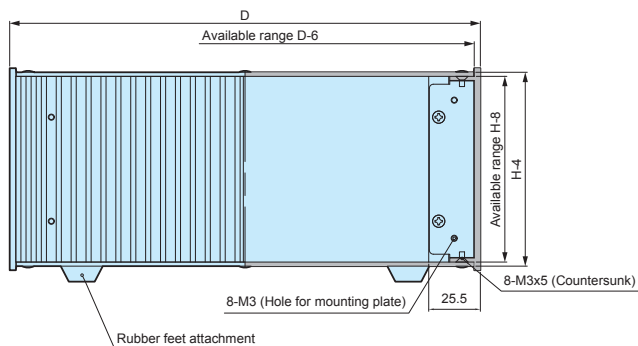
SS Color type

M3-6 countersunk screw, nickel plated x 16 pcs

M3-5 Slotted raised countersunk screw, nickel plated x 12 pcs

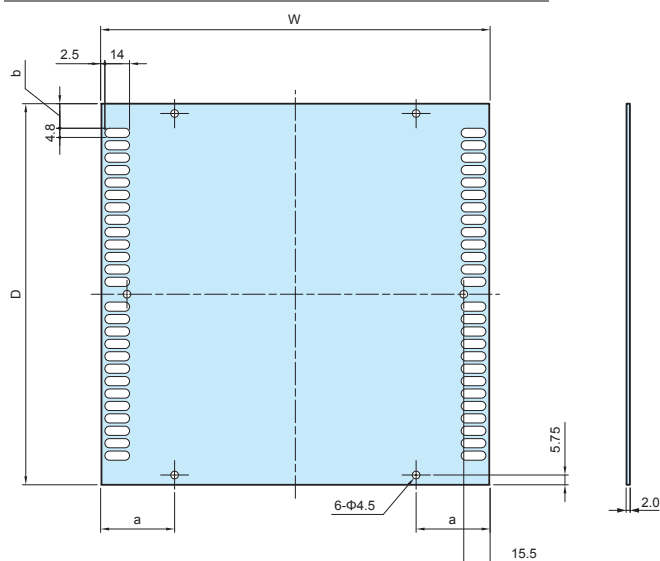
M4 (or M5) countersunk screw, trivalent chromate x 4 pcs

Product no.		W	H	D	c	d	e	Standard	Weight (kg)
● Silver	● Black								
HYRH 44-43-23SS	HYRH 44-43-23BB	482.6	44	231	12	41.0	40	EIA	2.0
HYRH 44-43-33SS	HYRH 44-43-33BB	482.6	44	330	12	41.0	40	EIA	2.6
HYRH 88-43-23SS	HYRH 88-43-23BB	482.6	88	231	13	61.5	30	EIA	2.8
HYRH 88-43-33SS	HYRH 88-43-33BB	482.6	88	330	13	61.5	30	EIA	3.7
HYRH133-43-23SS	HYRH133-43-23BB	482.6	132.5	231	13	106.5	30	EIA	3.6
HYRH133-43-33SS	HYRH133-43-33BB	482.6	132.5	330	13	106.5	30	EIA	4.8
HYRH177-43-23SS	HYRH177-43-23BB	482.6	177	231	13	126.5	30	EIA	4.6
HYRH177-43-33SS	HYRH177-43-33BB	482.6	177	330	13	126.5	30	EIA	5.9



M3-5 Slotted raised countersunk screw, nickel plated x 12 pcs

HY • HYR • HYRH top / bottom cover



Code	Material	Color / Finish
SS	Aluminium A1050P t = 2.0	Silver / Hairline brushed & Anodized
BB	Aluminium A1050P t = 2.0	Black / Hairline brushed & Anodized

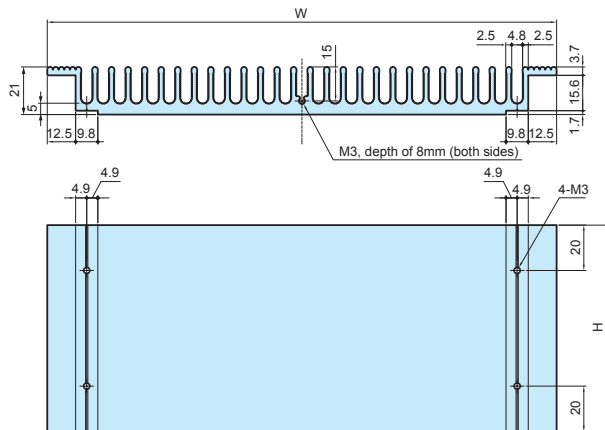
Enclosure W x D	W	D	a	b
230 x 231	229	224.5	45.7	14.95
230 x 330	229	323.5	45.7	15.1
280 x 231	279	224.5	55.8	14.95
280 x 330	279	323.5	55.8	15.1
330 x 231	329	224.5	65.8	14.95
330 x 330	329	323.5	65.8	15.1
430 x 231	429	224.5	85.8	14.95
430 x 330	429	323.5	85.8	15.1

Technical drawing of a rectangular plate. The top view shows a rectangle with width W and height H . The bottom view shows a cross-section with a total thickness of 3. The bottom view includes four 4-M3 (Countersunk) holes. The distance from the left edge to the first hole is 12.9. The distance between the first and second holes is a . The distance between the third and fourth holes is a . The distance from the fourth hole to the right edge is 7.75. The bottom view also shows a 4-M3 hole on the right side, with a distance of 6.6 from the right edge to its center and a distance of 5.15 from the right edge to its outer edge. The bottom view also shows a 4-M3 hole on the left side, with a distance of 12.9 from the left edge to its center. The bottom view also shows a 4-M3 hole on the right side, with a distance of 6.6 from the right edge to its center and a distance of 5.15 from the right edge to its outer edge. The bottom view also shows a 4-M3 hole on the left side, with a distance of 12.9 from the left edge to its center. The bottom view also shows a 4-M3 hole on the right side, with a distance of 6.6 from the right edge to its center and a distance of 5.15 from the right edge to its outer edge.

Code	Material	Color / Finish
SS	Extruded aluminium A6063S-T5	Silver / Hairline brushed & Anodized
BB	Extruded aluminium A6063S-T5	Black / Hairline brushed & Anodized

Enclosure W	W	a	H(44)	H(70)	H(88)	H(99)	H(132.5)	H(149)	H(177)
230	230	33.3	44	70	88	99	132.5	149	177
280	280	43.4	44	70	88	99	132.5	149	177
330	330	53.4	44	70	88	99	132.5	149	177
430	430	73.4	44	70	88	99	132.5	149	177

HY • HYR • HYRH heat-sink side plate



Color Type

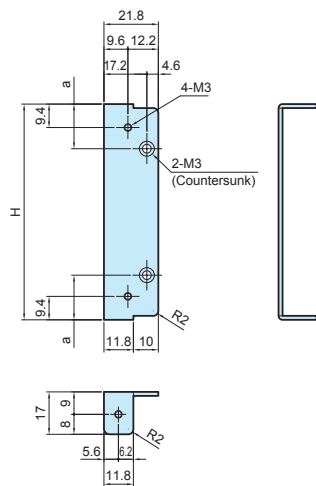
Code	Material	Color / Finish
SS	Extruded aluminium A6063S-T5	Silver / Anodized
BB	Extruded aluminium A6063S-T5	Black / Anodized

Dimensions

Enclosure D x H	W	H	Thermal resistance (°C/W)
231 × 44	224.6	36	2.41
330 × 44	323.6	36	1.89
231 × 70	224.6	62	1.49
330 × 70	323.6	62	1.36
231 × 88	224.6	80	1.49
330 × 88	323.6	80	1.17
231 × 99	224.6	91	1.38
330 × 99	323.6	91	1.08
231 × 132.5	224.6	124.5	1.14
330 × 132.5	323.6	124.5	0.89
231 × 149	224.6	141	1.06
330 × 149	323.6	141	0.83
231 × 177	224.6	169	0.95
330 × 177	323.6	169	0.74

■ Thermal resistance calculation is based on the fins being perpendicular to the ground with temperature at 60°C.

HY • HYR • HYRH corner support



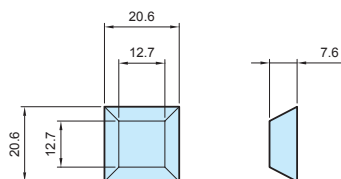
Part Information

Part name	Material	Finish
Corner support	Steel t=1.6	Trivalent chromate

Dimensions

Enclosure H	H	a
44	31.8	10.9
70	57.8	17.9
88	75.8	17.9
99	86.8	17.9
132.5	120.3	17.9
149	136.8	17.9
177	164.8	17.9

HY • HYR • HYRH rubber feet



Part Information

Part name	Material	Color
Rubber feet	Polyurethane	Black

Accessories (Optional parts)

MR SERIES

SLOTTED RAISED COUNTERSUNK TORX SCREW

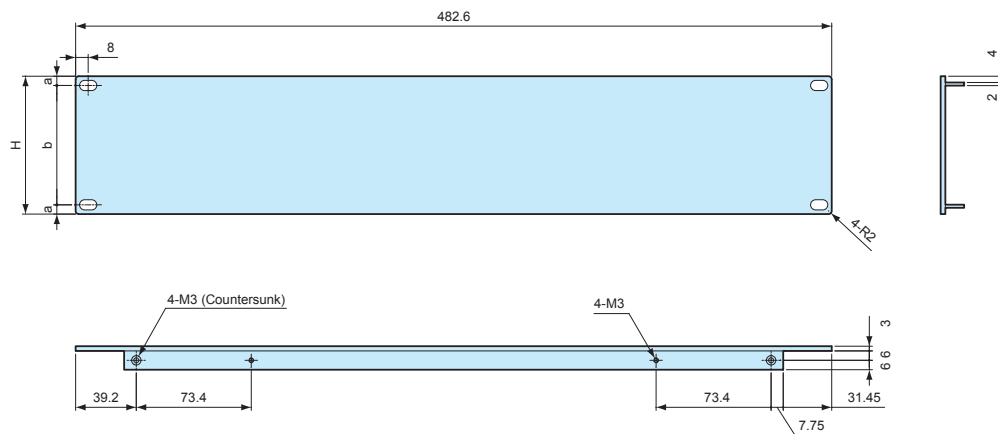


- For use with top/bottom cover.
- Recommended for aesthetic purposes, or for tampering resistance.
- Requires the use of a specialized screwdriver.

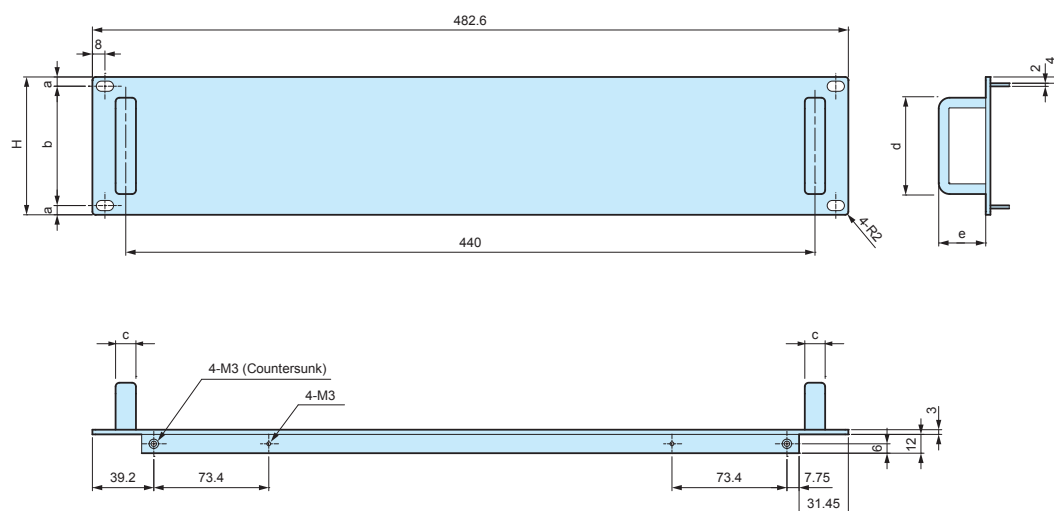
Product no. / Dimensions

Product no.	M	L	TORX head no.	Material	Color / Finish	Pack of
MR3-5ZS	3	5	T10	Steel	Nickel plated	20
MR3-5ZB	3	5	T10	Steel	Black trivalent chromate	20

HYR front panel



HYRH front panel



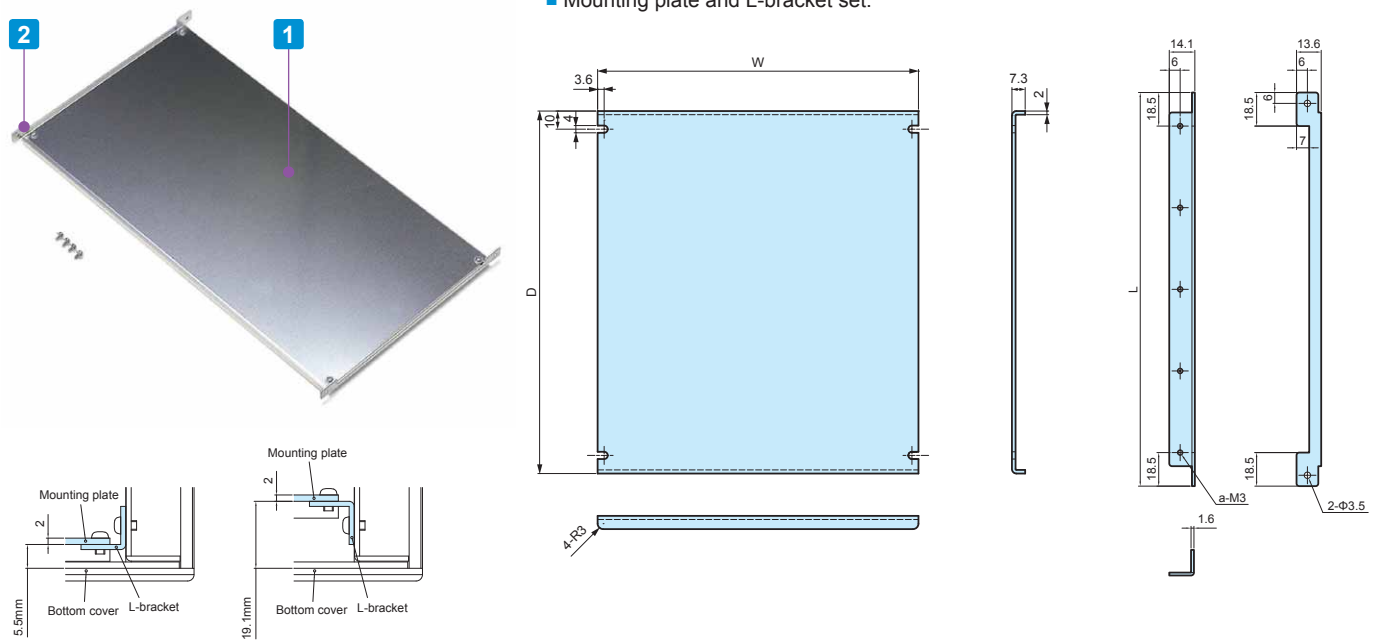
Color Type

Code	Material	Color / Finish
SS	Extruded aluminium A6063S-T5	Silver / Hairline brushed & Anodized
BB	Extruded aluminium A6063S-T5	Black / Hairline brushed & Anodized

Product no.	H	a	b	c	d	e
HYR/HYRH 44-43-23□	44	6.1	31.8	12	41	40
HYR/HYRH 44-43-33□	44	6.1	31.8	12	41	40
HYR/HYRH 88-43-23□	88	5.9	76.2	13	61.5	30
HYR/HYRH 88-43-33□	88	5.9	76.2	13	61.5	30
HYR/HYRH133-43-23□	132.5	37.7	57.1	13	106.5	30
HYR/HYRH133-43-33□	132.5	37.7	57.1	13	106.5	30
HYR/HYRH177-43-23□	177	37.7	101.6	13	126.5	30
HYR/HYRH177-43-33□	177	37.7	101.6	13	126.5	30

HYC SERIES

MOUNTING PLATE for HY · HYR · HYRH



Components

No.	Part name	Pcs	Material	Color / Finish
1	Mounting plate	1	Aluminium A1050P t=2.0	Unfinished
2	L-bracket	2	Steel SPCC t=1.6	Tivalent chromate
?	Screw	1 set	Steel M3	Tivalent chromate

Product no. / Dimensions

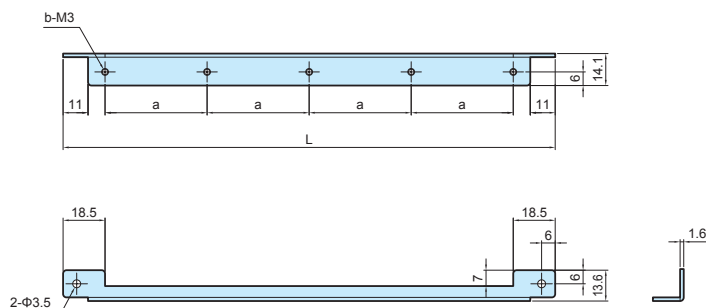
Product no.	W	D	L	a	Suitable models	Weight (g)
HYC23-23	177	200	217	5	HY□-23-23	300
HYC23-28	227	200	217	5	HY□-28-23	350
HYC23-33	277	200	217	5	HY□-33-23	410
HYC23-43	377	200	217	5	HY□-43-23	520
HYC33-23	177	299	316	7	HY□-23-33	450
HYC33-28	227	299	316	7	HY□-28-33	550
HYC33-33	277	299	316	7	HY□-33-33	710
HYC33-43	377	299	316	7	HY□-43-33	800



Clinching stud customization service available.

HYCL SERIES

L-bracket for HY · HYR · HYRH



- Simple L-bracket and screw set.
- Use with your original mounting plate or PCB.

Components

No.	Part name	Material	Color / Finish
1	L-bracket	Steel t=1.6	Tivalent chromate
2	Screw	Steel M3	Tivalent chromate

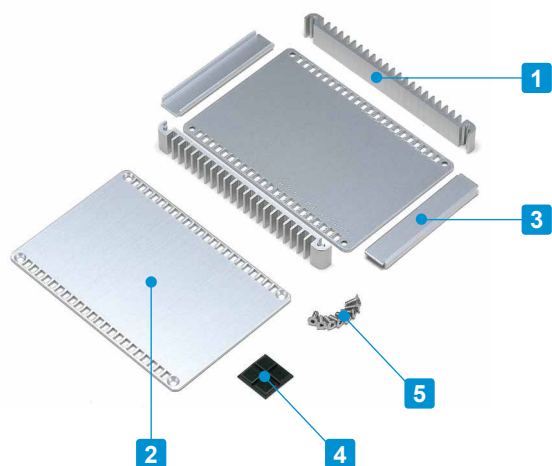
Product no. / Dimensions

Product no.	L	a	b	Pack of
HYCL-23	217	45	5	2
HYCL-33	316	46.5	7	2



- Heat dissipation and cooling via the utilization of extruded aluminium heat-sink side plates.
- Rounded corners gives it an elegant feel.
- Aluminium extrusion parts provides high structural durability.
- Suitable for use as small-type fanless PC, digital audio equipment, and so on.
- Available in both Silver and Black color types.

- Optional aluminium isolation feet, AFS and AFM series are available. See page AFS•AFM-1 ~ AFS•AFM-2 for more details.



Application example



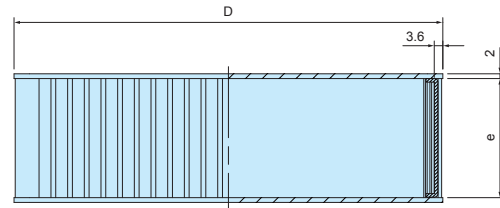
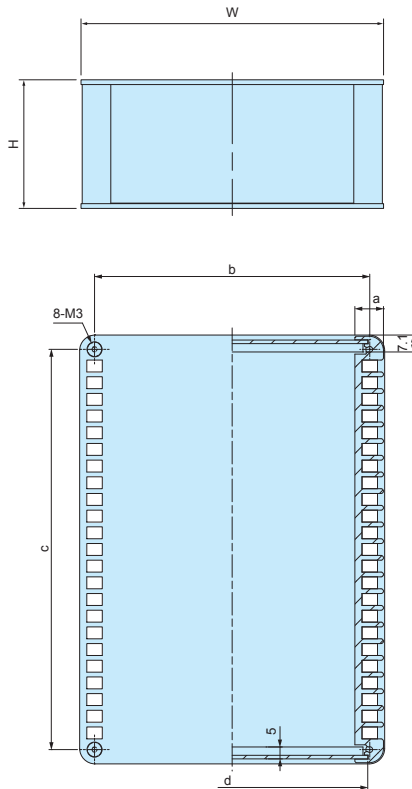
Included screws
 Enclosure (Silver) M3-8 Hexagonal countersunk : Stainless steel : Unfinished x 8 pcs
 Enclosure (Black) M3-8 Hexagonal countersunk : Steel : Black trivalent chromate x 8 pcs
 ※Hexagonal wrench included

Components

No.	Part name	Pcs	Material	Color / Finish
1	Heat-sink side plate	2	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Top • Bottom cover	2	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
3	Front • Rear panel	2	Aluminium A1050P t=1.5	Silver • Black / Hairline brushed & Anodized
4	Rubber feet	1 set	Polyurethane	Black
5	Screw	8	Stainless steel (SS color type) Steel (BB color type)	Unfinished Black trivalent chromate (Steel)

HIT dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



APPLICATION EXAMPLE

FIBER OPTICS EXTENSION UNIT

Product by Sanritz Automation (Japan)



AUDIO POWER SUPPLY for MacBook

Product by AY-densi (Japan)



Product no. / Dimensions

■ Thermal resistance calculation is based on the fins being perpendicular to the ground with temperature at 60°C.

Product no.		W	H	D	a	b	c	d	e	※ Thermal resistance rate (°C/W)	Weight (g)
● Silver	● Black										
HIT 9-2-13SS	HIT 9-2-13BB	89	20	130	8	81	118.6	78.8	16	9.14	183
HIT 9-4-13SS	HIT 9-4-13BB	89	40	130	8	81	118.6	78.8	36	5.6	255
HIT13-3-13SS	HIT13-3-13BB	130	30	130	8	122	118.6	119.8	26	6.82	289
HIT13-5-13SS	HIT13-5-13BB	130	50	130	8	122	118.6	119.8	46	4.83	370
HIT18-4-13SS	HIT18-4-13BB	180	40	130	8	172	118.6	169.8	36	5.6	414
HIT18-6-13SS	HIT18-6-13BB	180	60	130	8	172	118.6	169.8	56	4.29	503
HIT13-3-18SS	HIT13-3-18BB	128	30	180	12	115.5	168	113.8	26	4.38	411
HIT13-5-18SS	HIT13-5-18BB	128	50	180	12	115.5	168	113.8	46	3.1	535
HIT17-4-18SS	HIT17-4-18BB	174	40	180	12	161.5	168	159.8	36	3.6	578
HIT17-6-18SS	HIT17-6-18BB	174	60	180	12	161.5	168	159.8	56	2.76	719
HIT23-5-18SS	HIT23-5-18BB	228	50	180	12	215.5	168	213.8	46	3.1	772
HIT23-7-18SS	HIT23-7-18BB	228	70	180	12	215.5	168	213.8	66	2.5	928



- Stylish design coupled with hairline brushed finish makes for a luxurious high-end case.
- Heat dissipation and cooling via the utilization of extruded aluminium heat-sink top/bottom cover.
- Available in 18 sizes.
- Sturdy extruded case construction.

Included screws

Enclosure (Silver) M3-6 countersunk : Steel : Nickel plated x 8 pcs

Enclosure (Black) M3-6 countersunk : Steel : Black trivalent chromate x 8 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
2	Bottom cover	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
3	Front • Rear panel	2	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
4	Screw	8	Steel countersunk M3-6	Nickel plated • Black trivalent chromate
5	Rubber feet	4	Polyurethane	Black

※HL = Hairline brushed

Accessories (Optional parts)



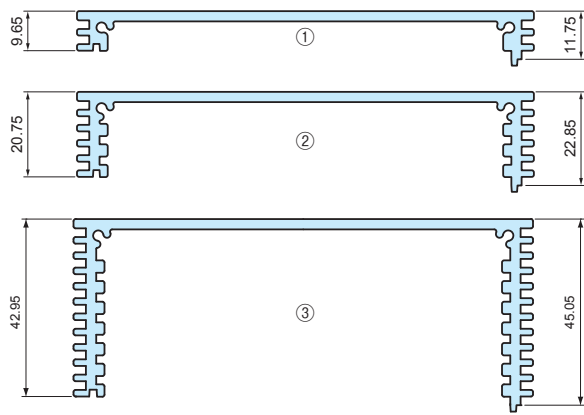
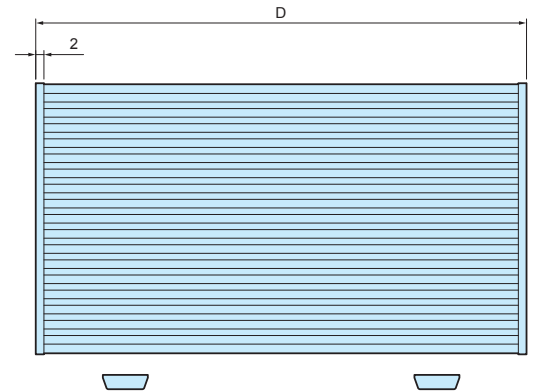
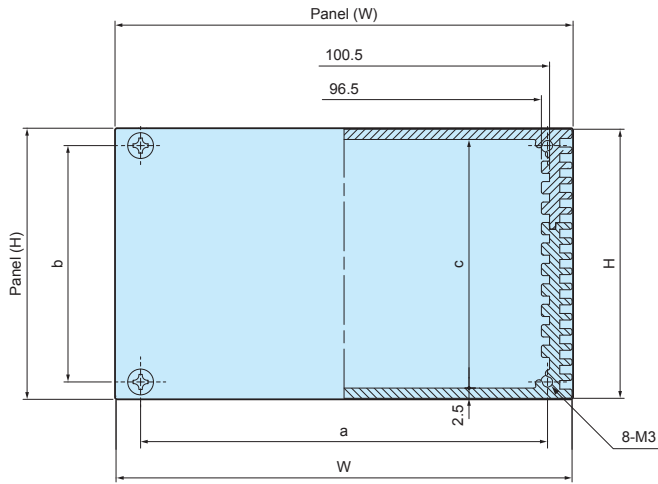
TORX screw MR-2S
See page EM•MR-1



Aluminium isolation feet AFS • AFM series
See page AFS•AFM-1 ~ AFS•AFM-2

HEN dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Cover Type

Cover	Cover length (D-4)	※ Thermal resistance rate (°C/W)
①	56	6.7
	116	3.6
	196	2.1
②	56	5
	116	2.6
	196	1.5
③	56	3.3
	116	1.7
	196	0.93

■ Thermal resistance calculation is based on the fins being perpendicular to the ground with temperature at 60°C.

Product no. / Dimensions

Product no.		W	H	D	Panel (W)	Panel (H)	a	b	c	Cover combination	Weight (g)
● Silver	● Black										
HEN110206S	HEN110206B	111.2	21.4	60	112	21.9	99.2	13.4	16.4	①×2	143
HEN110212S	HEN110212B	111.2	21.4	120	112	21.9	99.2	13.4	16.4		258
HEN110220S	HEN110220B	111.2	21.4	200	112	21.9	99.2	13.4	16.4		411
HEN110306S	HEN110306B	111.2	32.5	60	112	33.0	99.2	24.5	27.5	①×1 ②×1	179
HEN110312S	HEN110312B	111.2	32.5	120	112	33.0	99.2	24.5	27.5		311
HEN110320S	HEN110320B	111.2	32.5	200	112	33.0	99.2	24.5	27.5		488
HEN110406S	HEN110406B	111.2	43.6	60	112	44.1	99.2	35.6	38.6	②×2	215
HEN110412S	HEN110412B	111.2	43.6	120	112	44.1	99.2	35.6	38.6		365
HEN110420S	HEN110420B	111.2	43.6	200	112	44.1	99.2	35.6	38.6		565
HEN110506S	HEN110506B	111.2	54.7	60	112	55.2	99.2	46.7	49.7	①×1 ③×1	250
HEN110512S	HEN110512B	111.2	54.7	120	112	55.2	99.2	46.7	49.7		417
HEN110520S	HEN110520B	111.2	54.7	200	112	55.2	99.2	46.7	49.7		640
HEN110606S	HEN110606B	111.2	65.8	60	112	66.3	99.2	57.8	60.8	②×1 ③×1	286
HEN110612S	HEN110612B	111.2	65.8	120	112	66.3	99.2	57.8	60.8		471
HEN110620S	HEN110620B	111.2	65.8	200	112	66.3	99.2	57.8	60.8		717
HEN110806S	HEN110806B	111.2	88.0	60	112	88.5	99.2	80.8	83.0	③×2	358
HEN110812S	HEN110812B	111.2	88.0	120	112	88.5	99.2	80.8	83.0		577
HEN110820S	HEN110820B	111.2	88.0	200	112	88.5	99.2	80.8	83.0		869

APPLICATION EXAMPLE AUDIO POWER SUPPLY

Product by AY-densi (Japan)



HS SERIES

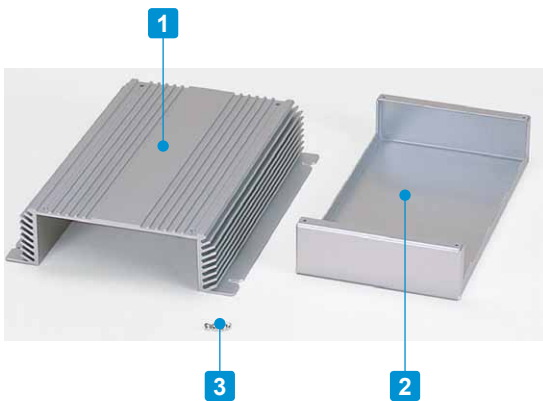
HEAT-SINK ALUMINIUM CASE



- Aluminium case with heat dissipating heat-sink cover for superior cooling effect.
- Recommended for use with equipment requiring heat dissipation.
- Manufactured with mounting flange for easy attachment onto walls and other surfaces.

APPLICATION EXAMPLE

HIGH-END PERFORMANCE AUDIO AMPLIFIER



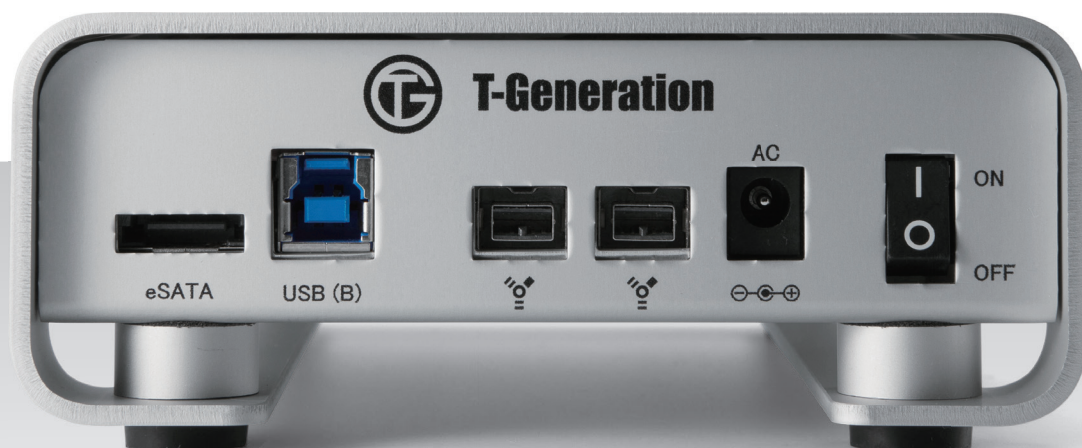
Product by: IC Technologies (Australia)

Components

No.	Part name	Pcs	Material	Color / Finish
1	Heat-sink cover	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Bottom chassis	1	Aluminium A1050P t=1.5	Silver • Black / Anodized
3	Screw	4	Steel M3-5	Nickel plated • Black trivalent chromate

HIGH END DESIGN Aluminium Case

HD SERIES

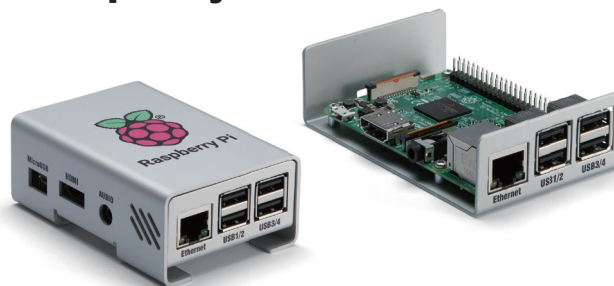


**Distinctive design,
suitable for many different devices**

Industrial Embedded System



Raspberry Pi



Data Transmitter / Receiver



Measurement / Test Equipment

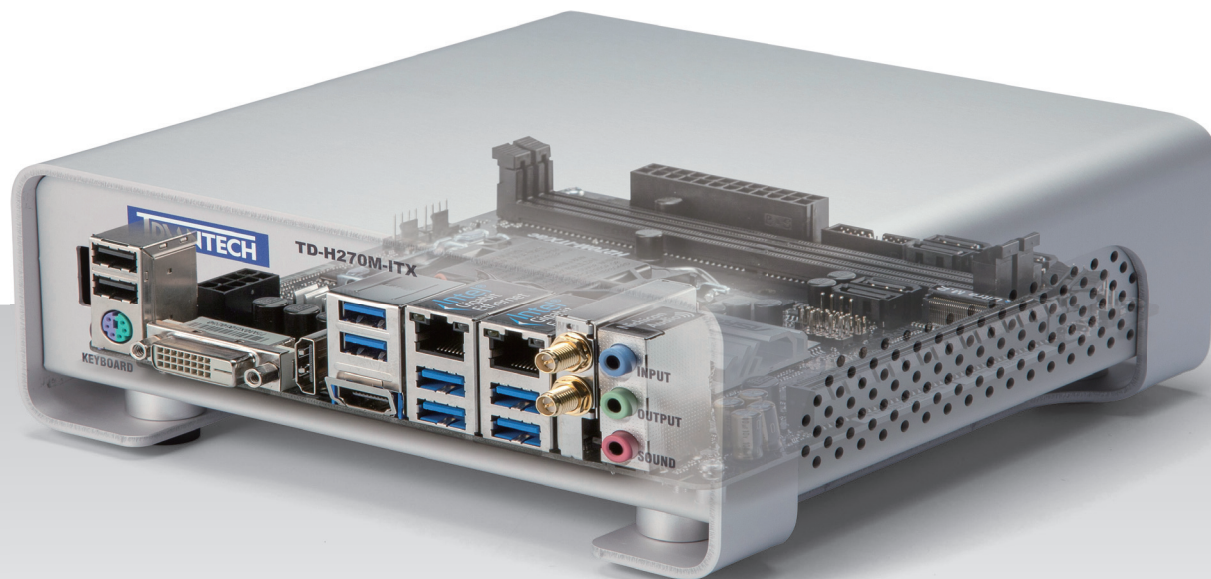


Audio Amplifier



Power Supply





Compatibility with Standard Board Sizes

Raspberry Pi

Board Size
56×85mm

EURO BOARD

Board Size
100×160mm

3.5 inch Board

Board Size
146×102mm

Mini STX

Board Size
140×147mm

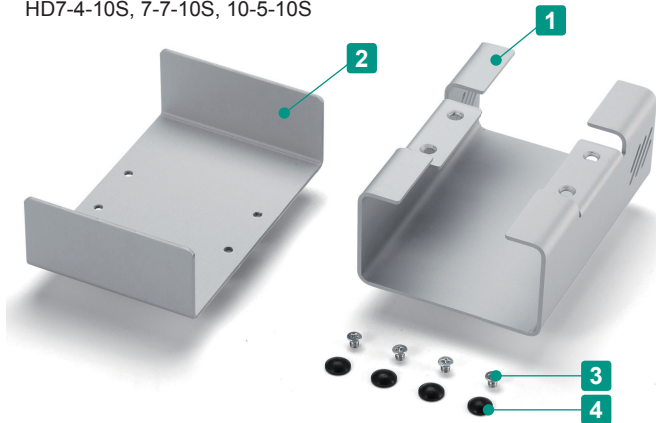
Mini ITX

Board Size
170×170mm

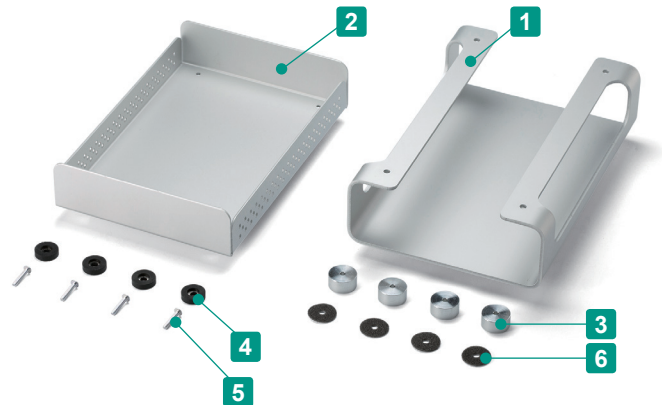


- Distinctively designed aluminium case.
- Polished, elegant and sleek metallic silver finish.
- Suitable for embedded system, measurement equipment, data transmitter, audio amplifier, and so on.

HD7-4-10S, 7-7-10S, 10-5-10S



Other models



Components

HD7-4-10S, 7-7-10S, 10-5-10S

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Aluminium A1100P	Metallic silver / Painted : Conductive inside
2	Base	1	Aluminium A1100P	Metallic silver / Painted : Conductive inside
3	Screw (M3-4 Flat-head)	4	Steel	Trivalent chromate
4	Rubber feet	4	Rubber	Black

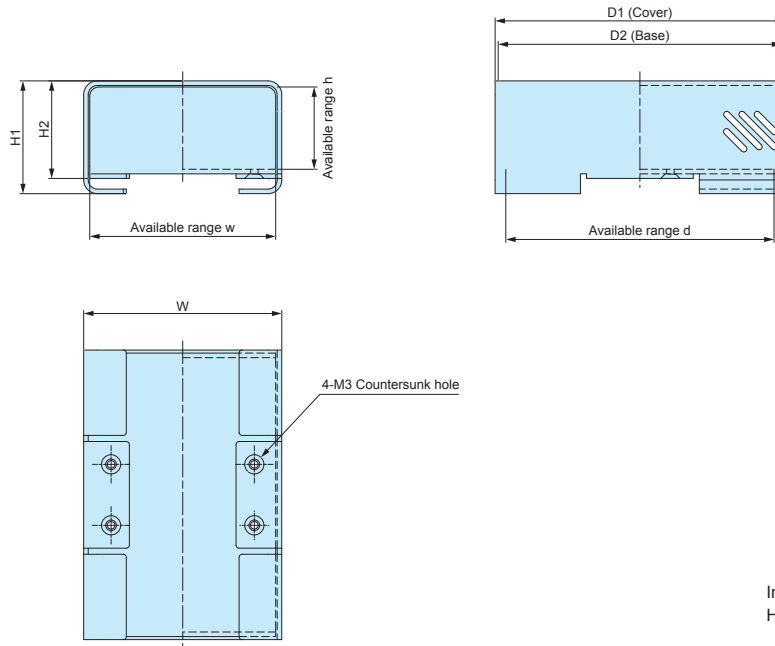
Other models

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Aluminium A1050P	Metallic silver / Painted
2	Base	1	Aluminium A1050P	Metallic silver / Painted
3	Pillar feet	4	Extruded Aluminium A6063S-T5	Silver / Anodized
4	Rubber feet	4	Rubber	Black
5	Screw (M3-16 Flat-head)	4	Steel	Trivalent chromate
6	Cushion	4	Polyethylene	Black

HD dimensions

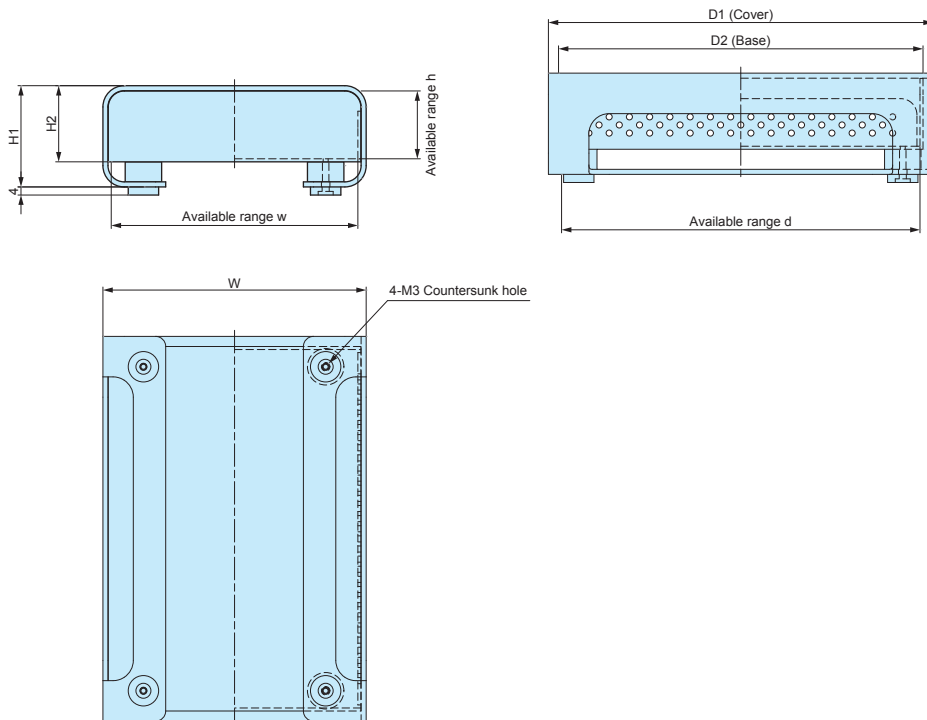
■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

HD7-4-10S • 7-7-10S • 10-5-10S (Conductive models)



Included screws
HD7-4-10S • 7-7-10S • 10-5-10S : M3-4 x 4 pcs

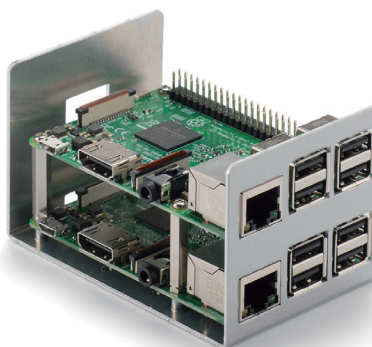
Other models



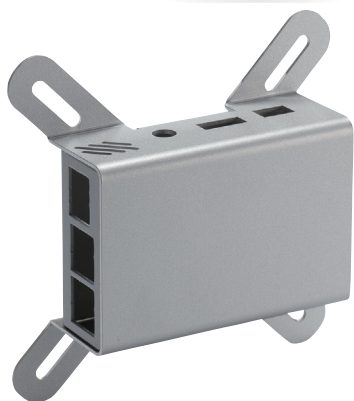
Included screws
Other models : M3-16 x 4 pcs

Product no. / Dimensions

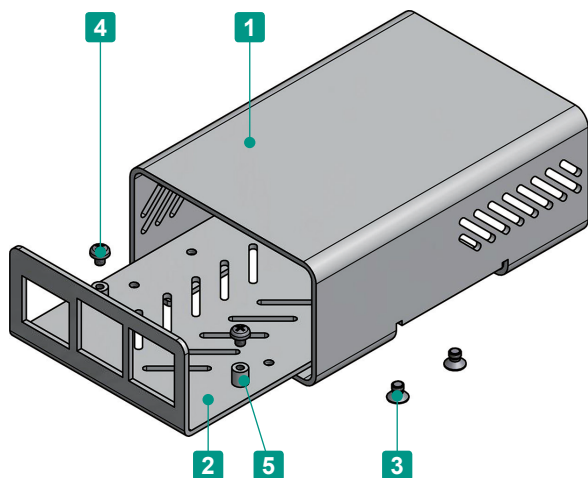
Product no.	W	H1	H2	D1	D2	w	h	d	Compatible Board Size	Weight (g)
NEW HD 7- 4-10S	65	37	32	95	93	61	27	90	Raspberry Pi (56 x 85)	94.1
NEW HD 7- 7-10S	65	65	60	95	93	61	55.5	90		129
NEW HD10- 5-10S	95	48	40	95	93	91	35.5	90	—	138.5
NEW HD11- 5-18S	111	50	37.6	175	165	102.4	33.5	162	Euro Board (100 x 160)	386.3
NEW HD11- 7-18S	111	70	57.6	175	165	102.4	53.5	162		447.7
NEW HD15- 7-16S	151	65	52.6	162	152	142.4	48.5	149	Mini STX (140 x 147)	500.8
NEW HD16- 6-12S	157	60	47.6	118	108	148.4	43.5	105	3.5 Inch Board (146 x 102)	382.1
NEW HD16- 5-21S	160	50	37.6	210	200	151.4	33.5	197	—	573.9
NEW HD19- 8-21S	192	75	62.1	210	200	182.4	57.5	197	Mini ITX (170 x 170)	838.1
NEW HD21-14-25S	210	135	122.1	250	240	199.4	117	236	—	1587.8
NEW HD26- 8-20S	260	80	67.1	200	190	249.4	62	186	—	1162.8
NEW HD32-10-23S	320	100	87.1	230	220	309.4	82	216	—	1678



Two Raspberry Pi boards can be installed in RPI-2 model.



RPI-1F is compatible with VESA formula screw pitch (75 x 75mm / 100 x 100mm) and can be installed on the back side of PC displays, etc.



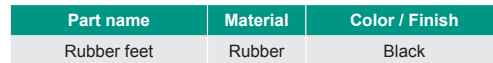
- Exclusively for use with Raspberry Pi.
Compatible with Raspberry Pi 2B, 3B and 3B+ boards.
- All aluminium, polished and elegant metallic silver finish.
- 3 types are available: normal, double-layered, and flanged.
- The internal part is made to be conductive.
- Raspberry Pi Board is not included.

Included screws
M3-4 Flat-head x 4 pcs (for case)
M2.5-3 Pan-head x 4 pcs (for board)

Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Aluminium A1100P t=1.5	Metallic silver / Painted : Conductive inside
2	Base	1	Aluminium A1100P t=1.5	Metallic silver / Painted : Conductive inside
3	Screw (M3-4 Flat-head)	4	Steel	Trivalent chromate
4	Screw for Board (M2.5-3)	4	Brass	Nickel plated
5	Clinching standoff	4	Steel	Trivalent chromate

RPI-1



Part name	Material	Color / Finish
Rubber feet	Rubber	Black
Hexagonal spacer	Brass	Nickel plated

Technical drawings of the D1 (Cover) and D2 (Base) components.

D1 (Cover) Dimensions:

- Overall width: D1 (Cover)
- Overall height: H1
- Internal height: H2
- Overall width of the top section: W
- Available range w

D2 (Base) Dimensions:

- Overall width: 100
- Overall height: 100
- Internal width: 74.5
- Internal height: 74.5
- Available range d
- 4-5x23

Additional Information:

- Climbing standoff H=4.5

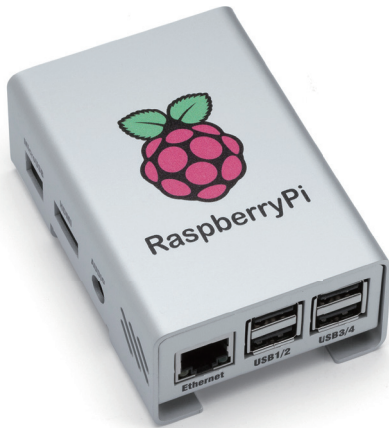
Product no.		W	H1	H2	D1	D2	w	h	d	Weight (g)
NEW	RPI-1	65	37	32	95	93	61	19.5	90	90.5
NEW	RPI-2	65	65	60	95	93	61	47.5	90	136
NEW	RPI-1F	65	37	32	95	93	61	19.5	90	91.5

Raspberry Pi Case customization

Create your very own unique Raspberry Pi Case!

Unique Logo (Inkjet print, Engraving)

Inkjet printing services are available from just 1 piece, with low initial cost.
Engraving is also available.



Size adjustment

Size can be customized to fit your PCB.



Stainless Steel material

Stainless steel material can also be used for customization.

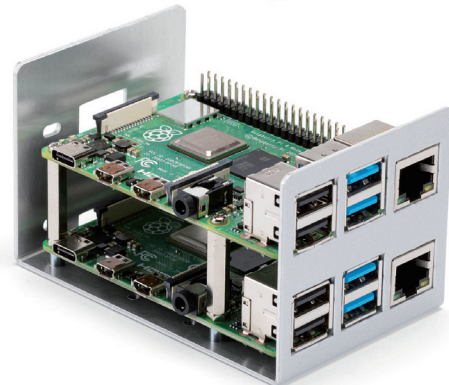
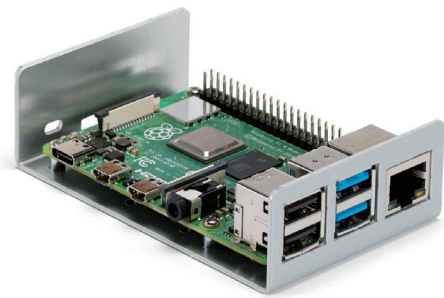
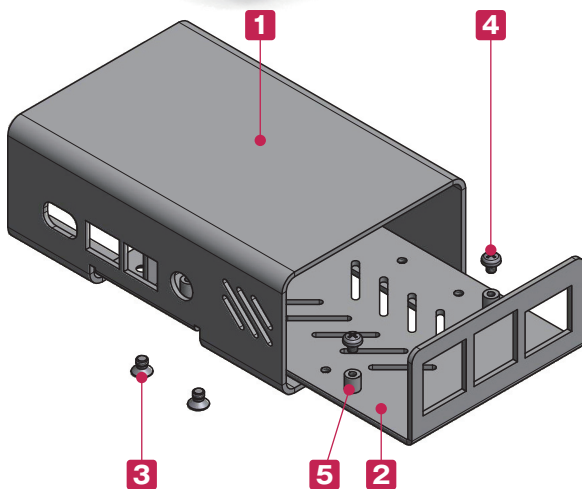
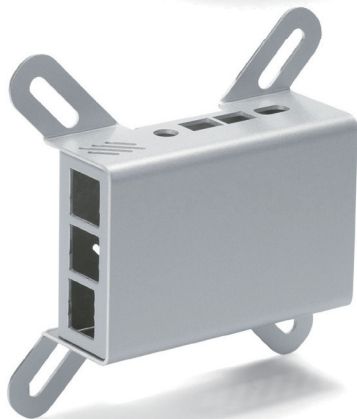


Color Anodizing · Painting





Conductive



Two Raspberry Pi 4B boards can be installed into the RPI-4B-2.



The wall mount screw pitch (75 x 75mm / 100 x 100mm) of RPI-4B-1F is compatible with VESA, and it can be installed on the back side of PC displays, etc.

- Exclusively for use with Raspberry Pi 4B.
- All aluminium, polished and elegant metallic silver finish.
- 3 models are available: Normal, Double-decker, and Flanged.
- Electrically conductive internal surface.
- Raspberry Pi Board is excluded.

Included screws

M3-4 Flat-head x 4 pcs (for case)

M2.5-3 Pan-head x 4 pcs (for board)

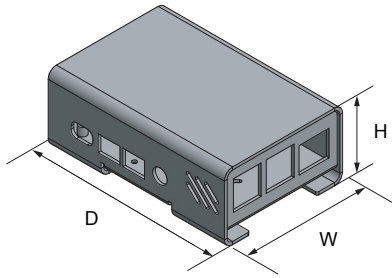
Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Aluminium A1100P t=1.5	Metallic silver / Painted : Conductive inside
2	Base	1	Aluminium A1100P t=1.5	Metallic silver / Painted : Conductive inside
3	Screw (M3-4 Flat-head)	4	Steel	Trivalent chromate
4	Screw for Board (M2.5-3)	4	Brass	Nickel plated
5	Clinching standoff	4	Steel	Trivalent chromate

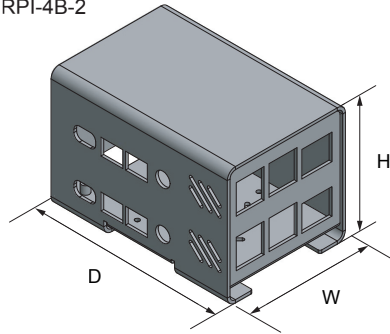
RPI dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

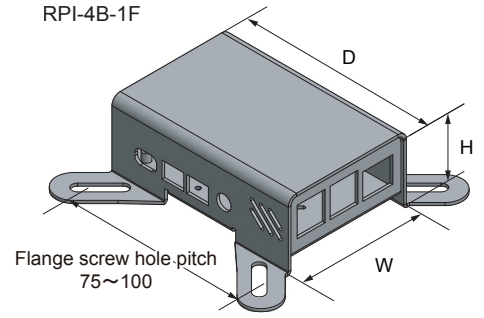
RPI-4B-1



RPI-4B-2



RPI-4B-1F



Product no. / Dimensions

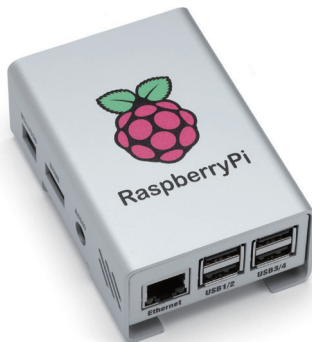
Product no.	Dimensions			Included accessory	Weight (g)
	W	H	D		
RPI-4B-1	65	37	97	Rubber feet	91.5
RPI-4B-2	65	65	97	Rubber feet	138.8
				Hexagonal spacer	
RPI-4B-1F	65	37	97	—	93.8

■ Rubber feet . . . Synthetic rubber / Black Hexagonal spacer . . . Brass / Nickel plated

Raspberry Pi Case customization

Unique Logo (Inkjet print, Engraving)

Inkjet printing services are available from just 1 piece, with a low initial cost.
Engraving is also available.



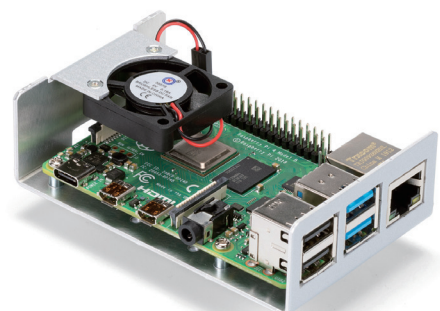
Size adjustment

Size can be customized to fit your PCB.



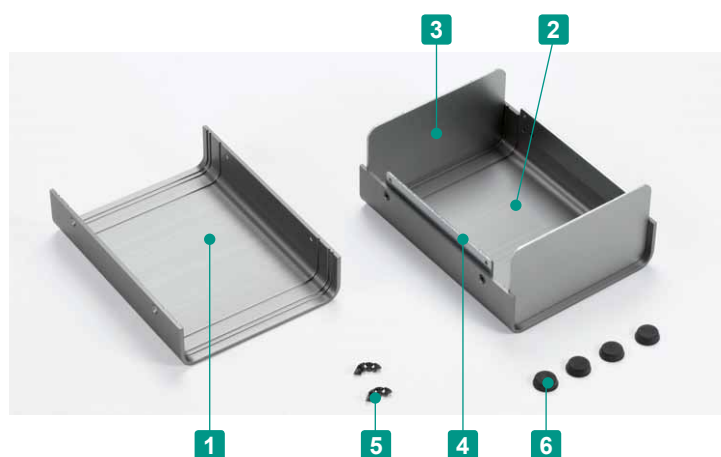
Heat dissipation

Fan installation is possible with base shape customization.



Color Anodizing · Painting





- Simple structure and tough case with extruded aluminium covers.
- 36 sizes and 3 different colors for a total of 108 different combinations.
- New BB color type is available.
- 2 or 3 grooves available on top/bottom covers for adjusting front/rear panel positions or PCB insertion.
- Custom sizes are available.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Extruded aluminium A6063S-T5	Bronze • Light gray • Black / Anodized • Painted • Painted
2	Bottom cover	1	Extruded aluminium A6063S-T5	Bronze • Light gray • Black / Anodized • Painted • Painted
3	Panel	2	Aluminium A1050P t=1.5	Silver / Hairline brushed & Anodized
			Aluminium A1100P t=1.5	Light gray • Black / Painted
4	Joint plate	2	Steel SPCC t=2.0	Trivalent chromate
5	Screw	12	Steel M3	Black trivalent chromate
6	Rubber feet	4	Rubber	Black

- Bronze color may vary between each production lot.
- Panels are covered with a protective film on one side.

Accessories (Optional parts)



Mounting plate UCC series
See page UC-3 ~ UC-4



Mounting bracket UCK-P series
See page UC-5



Panel retainer UCF-26
See page UC-4



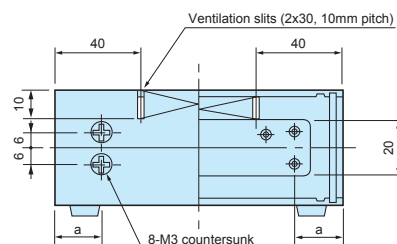
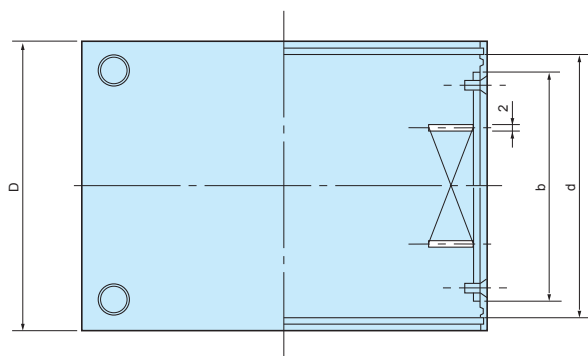
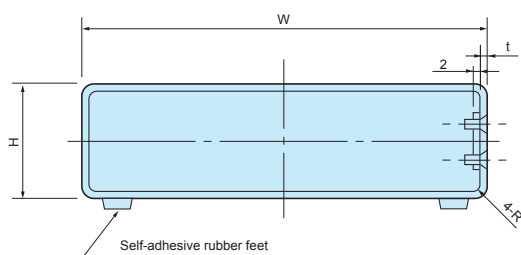
TORX screw MR-1 series
See page 135



Aluminium isolation feet
AFS · AFM series
See page 191 ~ 192

UC dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Color Type

● GG



Cover	Light gray · Painted
Panel	Light gray · Painted

● DD



Cover	Bronze · Anodized
Panel	Silver / Hairline brushed & Anodized

NEW ● BB



Cover	Black · Painted
Panel	Black · Painted

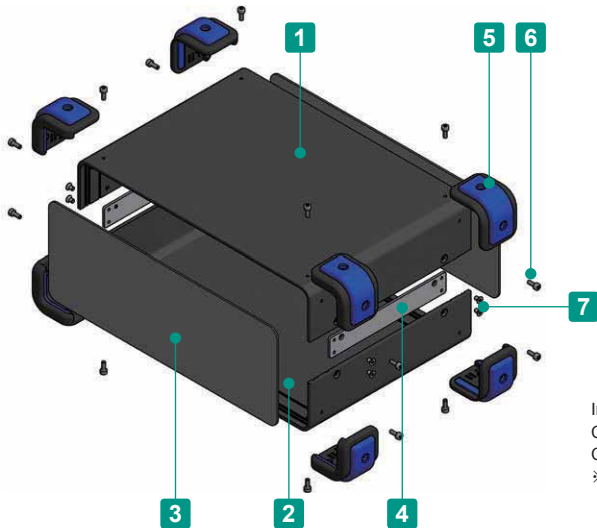
Product no. / Dimensions

■ Please suffix color code at the end of the product number.
■ Refer to the below chart for ventilation slits availability.

Product no.	W	H	D	d	R	t	a	b	Ventilation slits	Weight (kg)
UC 6- 3- 8□	60	35	80	72	3	2	16	58	—	0.12
UC 7- 3-10□	75	30	100	92	3	2	16	78	—	0.16
UC 9- 5-12□	90	50	120	112	5	2.5	18	94	—	0.29
UC10- 4-14□	100	40	140	130	5	2.5	28	94	—	0.32
UC12- 7-16□	120	70	160	146	8	3	30	110	—	0.56
UC13- 4-18□	130	40	180	166	8	3	30	130	—	0.56
UC15- 8-20□	150	80	200	186	8	3	30	150	○	0.86
UC16- 5-22□	165	50	220	206	8	3	30	170	○	0.84
UC18-10-24□	180	100	240	226	8	3	30	190	○	1.26
UC22-12-26□	220	120	260	246	8	3	30	210	○	1.70
UC24-14-34□	240	140	340	326	8	3.2	30	290	○	2.54
UC 8- 3- 6□	80	30	60	52	3	2	16	38	—	0.10
UC11- 3- 8□	110	30	80	72	3	2	16	58	—	0.17
UC11- 5- 8□	110	50	80	72	3	2	16	58	—	0.20
UC14- 4-10□	140	40	100	92	3	2	16	78	—	0.27
UC14- 6-10□	140	60	100	92	3	2	16	78	—	0.31
UC15-10-12□	150	100	120	112	5	2.5	18	94	—	0.53
UC17- 5-12□	170	50	120	112	5	2.5	18	94	—	0.45
UC17- 7-12□	170	70	120	112	5	2.5	18	94	—	0.51
UC20- 5-14□	200	50	140	130	5	2.5	28	94	—	0.56
UC20- 8-14□	200	80	140	130	5	2.5	28	94	—	0.67
UC20-12-16□	200	120	160	146	8	3	30	110	—	0.82
UC26- 5-18□	260	50	180	166	8	3	30	130	○	1.02
UC26-10-18□	260	100	180	166	8	3	30	130	○	1.26
UC26- 7-20□	260	70	200	186	8	3	30	150	○	1.23
UC32- 5-22□	320	50	220	206	8	3	30	170	○	1.45
UC32-12-22□	320	120	220	206	8	3	30	170	○	1.88
UC32- 8-24□	320	80	240	226	8	3	30	190	○	1.76
UC35-13-26□	350	130	260	246	8	3	30	210	○	2.45
UC43- 5-28□	430	50	280	266	8	3	30	230	○	2.37
UC43-14-28□	430	140	280	266	8	3	30	230	○	3.05
UC 7- 8-14□	75	85	140	130	5	2.5	28	94	—	0.37
UC10-11-18□	100	110	180	166	8	3	30	130	—	0.72
UC12-14-22□	120	140	220	206	8	3	30	170	○	1.08
UC15-18-28□	150	180	280	266	8	3	30	230	○	1.74
UC18-21-34□	180	210	340	326	8	3.2	30	290	○	2.63

UCG SERIES

UNIVERSAL ALUMINIUM CASE with CORNER GUARD



- Aluminium case equipped with shockproof and anti-slip corner guards.
- Available in 8 sizes and 5 different corner guard color variations.
- Custom sizes available.

Included screws

Corner guard screw - M3-8 Hexagonal : Steel : Trivalent chromate x 16 pcs

Case screw - M3 Hexagonal countersunk : Steel : Trivalent chromate x 12 pcs

※2 Hexagonal wrenches included. (The larger for corner guard screw, the smaller for case screw)

Components

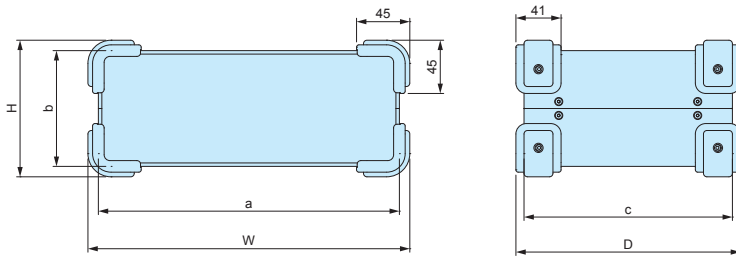
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Extruded aluminium A6063s-T5	Black / Painted
2	Bottom cover	1	Extruded aluminium A6063s-T5	Black / Painted
3	Panel	2	Aluminium A1100P t=1.5	Black / Painted
4	Joint plate	2	Steel SPCC t=2.0	Trivalent chromate
5	Corner guard	8	PP + Silicone	Black • Emerald • Gray • Navy • Red
6	Corner guard screw	16	Steel	Trivalent chromate
7	Case screw	12	Steel	Trivalent chromate

Color Type

Code	BB Black / Black	BE Black / Emerald	BG Black / Gray	BN Black / Navy	BR Black / Red
Color					

UCG dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Accessories (Optional parts)



Mounting plate UCC series
See website



Elastomer handle FM200 series
See website

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

	Product no.	W	H	D	a	b	c	Standard Compatible Mounting Plate	Weight (kg)
NEW	UCG15- 9-20□□	168	108	214	150	90	200	YES	1.14
NEW	UCG18-10-24□□	198	118	254	180	100	240	YES	1.44
NEW	UCG18-18-28□□	198	198	294	180	180	280	n/a	2.23
NEW	UCG20- 9-14□□	218	108	154	200	90	140	YES	1.13
NEW	UCG22-12-16□□	238	138	174	220	120	160	n/a	1.28
NEW	UCG26-10-18□□	278	118	194	260	100	180	YES	1.96
NEW	UCG32-12-22□□	338	138	234	320	120	220	YES	2.13
NEW	UCG38-15-26□□	398	168	274	380	150	260	n/a	3.19

■ Mounting plate can be custom ordered.

Accessories (Optional parts)

UG-1

CORNER GUARD for UC • UCG



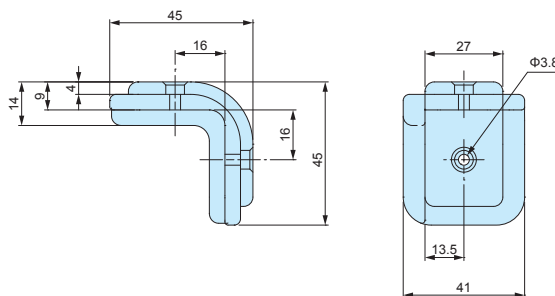
Application example



- Corner guard parts for UC • UCG series.
- M3 thread holes are required in order to fix on UC series.
- Available in 5 different color variations.

UG-1 dimensions

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



Components

No.	Part name	Material
1	Corner guard base	PP
2	Corner guard	Silicone
3	Screw (M3-8 Hexagonal)	Steel

Product no. / Details

Product no.					Weight (g)	Pack of
Black	Emerald	Gray	Navy	Red		
NEW UG-1B	NEW UG-1E	NEW UG-1G	NEW UG-1N	NEW UG-1R	210.5	8

Included screw : M3-8 Hexagonal : Steel : Trivalent chromate x 16 pcs + 2 Hexagonal wrench

UCC SERIES

MOUNTING PLATE for UC

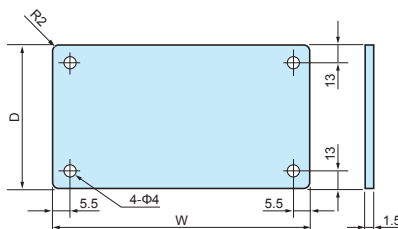
■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

Components

Part name	Pcs	Material	Color / Finish
Mounting plate	1	Aluminium A1050P t=1.5	Unfinished
Screw	4	Steel M3-5	Trivalent chromate

■ See "Suitable cases" on the chart below for matching cases.

Type A

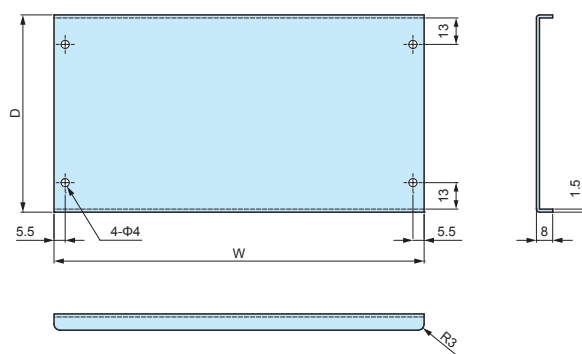


Product no. / Dimensions (Type A)

Product no.	Suitable cases	W	D
UCC 6- 8	UC 6- 3- 8	43	58
UCC 7-10	UC 7- 3-10	58	78
UCC 8- 6	UC 8- 3- 6	63	38
UCC11- 8	UC 11- 3- 8	93	58
	UC 11- 5- 8		
UCC 9-12	UC 9- 5-12	72	94
UCC10-14	UC 10- 4-14	82	94
UCC12-16	UC 12- 7-16	101	110
UCC13-18	UC 13- 4-18	111	130
UCC15-20	UC 15- 8-20	131	150
	UCG15- 9-20		

Product no.	Suitable cases	W	D
UCC14-10	UC 14- 4-10	123	78
	UC 14- 6-10		
UCC15-12	UC 15-10-12	132	94
UCC17-12	UC 17- 5-12	152	94
	UC 17- 7-12		
UCC 7-14	UC 7- 8-14	57	94
UCC10-18	UC 10-11-18	81	130
UCC12-22	UC 12-14-22	101	170
	UCY12-14-22		

Type B

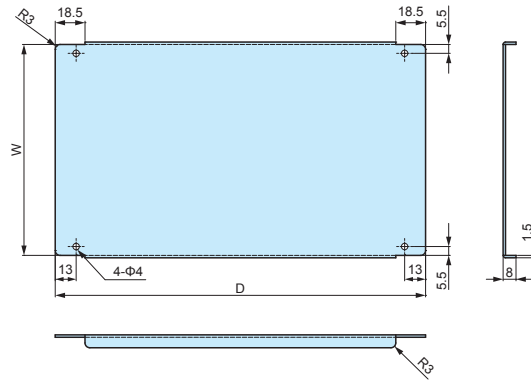


Product no. / Dimensions (Type B)

Product no.	Suitable cases	W	D
UCC16-22	UC 16- 5-22	146	173
UCC18-24	UC 18-10-24	161	193
	UCY18-10-24		
	UCG18-10-24		
UCC20-14	UC 20- 5-14	182	97
	UC 20- 8-14		
	UCG20- 9-14		
UCC22-26	UC 22-12-26	201	213
UCC20-16	UC 20-12-16	181	113
UCC26-18	UC 26- 5-18	241	133
	UC 26-10-18		
	UCG26-10-18		

Product no.	Suitable cases	W	D
UCC26-20	UC 26- 7-20	241	153
UCC32-22	UC 32- 5-22	301	173
	UC 32-12-22		
	UCG32-12-22		
UCC32-24	UC 32- 8-24	301	193
UCC35-26	UC 35-13-26	331	213
UCC43-28	UC 43- 5-28	411	233
	UC 43-14-28		

Type C



Product no. / Dimensions (Type C)

Product no.	Suitable cases	W	D
UCC15-28	UC 15-18-28	134	230
	UCY15-18-28		
UCC18-34	UC 18-21-34	163.6	290
UCC24-34	UC 24-14-34	223.6	290

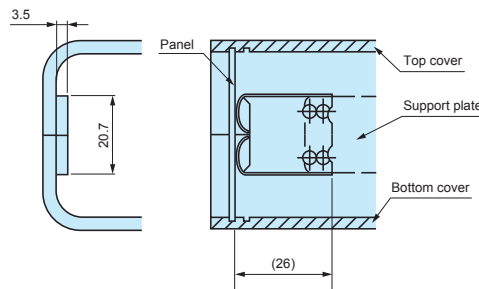
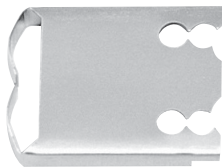
UCF-26

PANEL RETAINER for UC

- Use to minimize panel vibration.
- Possible to use with UCK-P mounting bracket.

Installation drawings

- UCF-26 and the joint plate on UC case with screw fastening.



Product no.

Product no.	Material	Finish	Pack of
UCF-26	Stainless steel t=0.3	Unfinished	2

- Not applicable for use on 60, 80, 100 and 120 "D" dimension cases.

Installation Example



UCK-P SERIES

MOUNTING BRACKET for UC



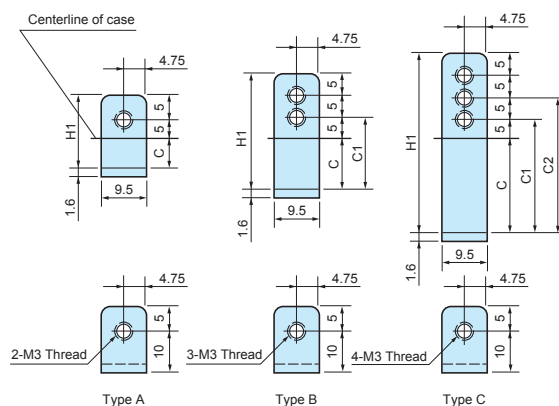
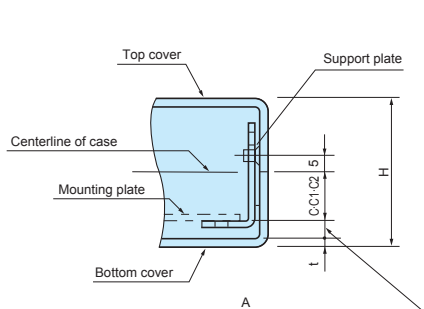
Product no. / Dimensions

Product no.	Type	H1	C	C1	C2	Pack of
UCK-P 13	A	13	3	—	—	4
UCK-P 17	A	17	7	—	—	4
UCK-P 27	B	27	12	17	—	4
UCK-P 42	C	42	22	27	32	4
UCK-P 57	C	57	37	42	47	4
UCK-P 72	C	72	52	57	62	4
UCK-P 87	C	87	67	72	77	4
UCK-P102	C	102	82	87	92	4

■ Screws are not included (screw set available with UC case)

■ Material / Finish : Steel SPCC t=1.6 / Trivalent chromate

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



■ Calculation formula for A dimension

(Case height (H) / 2) - (C, C1 or C2 + Bottom cover thickness) = A dimension.

Use either C, C1 or C2 values from chart above.

Bracket matching chart / A dimension

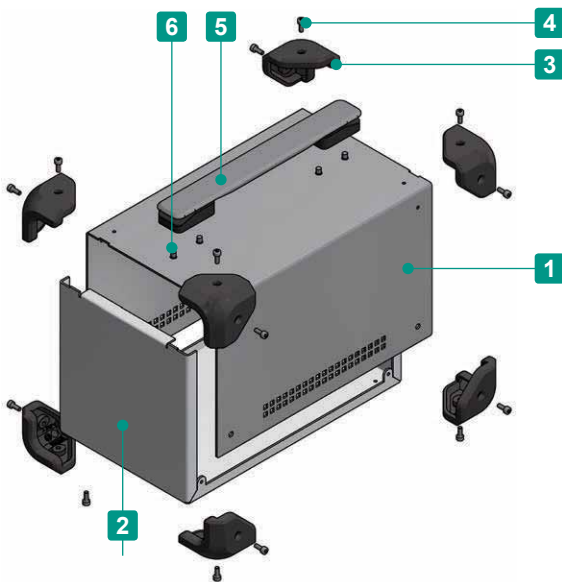
Product no. (Case)	Bracket no.	A
UC 6- 3- 8	UCK-P 13	12.5
	UCK-P 17	8.5
UC 7- 3-10	UCK-P 13	10
	UCK-P 17	6
UC 9- 5-12	UCK-P 17	15.5
	UCK-P 27	10.5 5.5
UC 10- 4-14	UCK-P 13	14.5
	UCK-P 17	10.5
	UCK-P 27	5.5
UC 12- 7-16	UCK-P 27	15
	UCK-P 42	10
UC 13- 4-18	UCK-P 13	14
	UCK-P 17	10
UC 15- 8-20	UCK-P 42	15 10 5
UC 16- 5-22	UCK-P 13	19
	UCK-P 17	15
	UCK-P 27	10
UC 24-14-34	UCK-P 57	19.8
	UCK-P 72	14.8 9.8
UC 8- 3- 6	UCK-P 13	10
	UCK-P 17	6
UC 11- 3- 8	UCK-P 13	10
	UCK-P 17	6
UC 11- 5- 8	UCK-P 17	16
	UCK-P 27	11 6

Product no. (Case)	Bracket no.	A
UC 14- 4-10	UCK-P 13	15
	UCK-P 17	11
	UCK-P 27	6
UC 14- 6-10	UCK-P 27	16 11
	UCK-P 42	6
UCG 15- 9-20	UCK-P 42	10
	UCK-P 57	10
UC 15-10-12	UCK-P 42	20.5 15.5
	UCK-P 57	10.5 5.5
UC 17- 5-12	UCK-P 17	15.5
	UCK-P 27	10.5 5.5
UC 17- 7-12	UCK-P 27	15.5
	UCK-P 42	10.5 5.5
UC 20- 5-14	UCK-P 13	19.5
	UCK-P 17	15.5
	UCK-P 27	10.5 5.5
UC 20- 8-14	UCK-P 27	20.5
	UCK-P 42	15.5 10.5
UCG 20- 9-14	UCK-P 42	5
	UCK-P 57	5
UC 20-12-16	UCK-P 57	20 15 10
UC 26- 5-18	UCK-P 13	19
	UCK-P 17	15
	UCK-P 27	10
UC 26-10-18	UCK-P 42	20 15
UCG 26-10-18	UCK-P 57	10

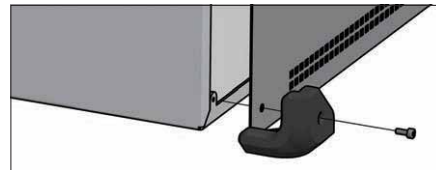
Product no. (Case)	Bracket no.	A
UC 26- 7-20	UCK-P 27	15
	UCK-P 42	10
UC 18-10-24	UCK-P 42	20 15
UCY 18-10-24		10
UCG 18-10-24	UCK-P 57	10
UC 22-12-26	UCK-P 57	20 15 10
UC 32- 5-22	UCK-P 13	19
	UCK-P 17	15
	UCK-P 27	10
UC 32-12-22	UCK-P 57	20 15 10
UCG 32-12-22		10
UC 32- 8-24	UCK-P 42	15 10 5
UC 35-13-26	UCK-P 57	25 20 15
	UCK-P 72	10 5
UC 43- 5-28	UCK-P 13	19
	UCK-P 17	15
	UCK-P 27	10
UC 43-14-28	UCK-P 57	20
	UCK-P 72	15 10
UC 7- 8-14	UCK-P 42	18 13 8
UC 10-11-18	UCK-P 57	15 10 5
UC 12-14-22	UCK-P 72	15 10 5
UCY 12-14-22		5
UC 15-18-28	UCK-P 87	20 15 10
UCY 15-18-28		10
UC 18-21-34	UCK-P102	19.8 14.8 9.8



- Aluminium case equipped with shockproof and anti-slip elastomer corner guards.
- Suitable to be used as a fanless PC, power supply, power storage device etc.
Carrying handle can withstand a maximum load up to 30.0 kg.
- Corner guards are available in 4 different color variations.
- Custom sizes available.



- Aluminium case and corner guard with screw fastening.



Included screws

Case / Corner guard - M4-8 Hexagonal : Steel : Black trivalent chromate x 16 or 18 pcs

Carrying handle - M5-8 : Steel : Trivalent chromate x 4 pcs

※Hexagonal wrenches included.

Components

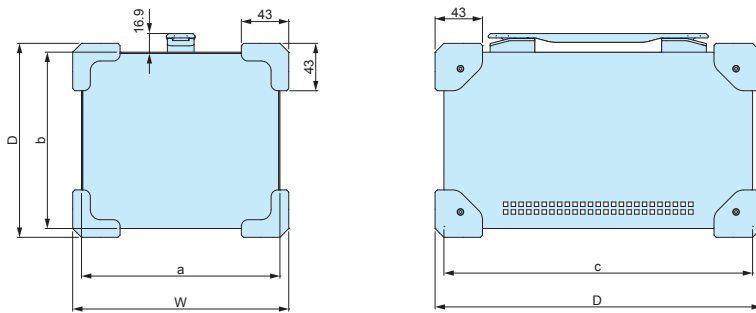
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Steel SECC t=10	Black / Painted
			Aluminium A1100P t=1.5	Metallic silver / Painted : Conductive inside
2	Base	1	Aluminium A1050P t=1.5	Black / Painted
			Aluminium A1100P t=1.5	Metallic silver / Painted : Conductive inside
3	Corner guard	8	TPE	Black • Gray • Navy • Red
4	Case / Corner guard screw	16 / 18	Steel	Black trivalent chromate
5	Carrying handle	1	PU • PA6 • ABS • Steel	Black • Gray
6	Carrying handle screw	4	Steel	Trivalent chromate

Color Type

Code	B B B	B G B	B N B	B R B
Color				
Code	S B B Conductive	S G G Conductive	S N G Conductive	S R G Conductive
Color				

UCG dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

■ Please suffix color code at the end of the product number.

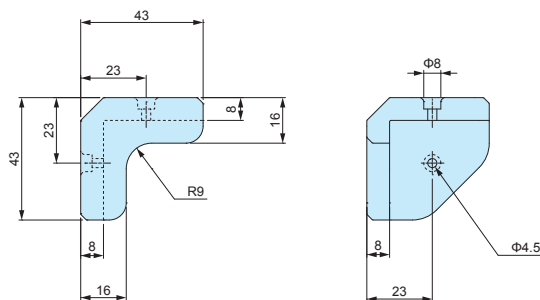
Product no.	W	H	D	a	b	c	Weight (kg)	
							B models	S models
NEW MCG14-14-23	156	156	246	140	140	230	1.2	0.9
NEW MCG18-16-28	196	176	296	180	160	280	1.8	1.3
NEW MCG21-14-24	226	156	256	210	140	240	1.6	1.2
NEW MCG26-18-30	276	196	316	260	180	300	2.3	1.6

Accessories (Optional parts)

MG-1

CORNER GUARD

★ ★ **NEW**



- Corner guard part for MCG case.
- Corner guard can be installed on other enclosures than UCG series.
- M4 thread holes are required for installation.
- Available in 4 different color variations.

Components

No.	Part name	Material
1	Corner guard	TPE
2	Screw (M4-8 Hexagonal)	Steel

Product no. / Details

Product no.				Weight (g)	Pack of
Black	Gray	Navy	Red		
NEW MG-1B	NEW MG-1G	NEW MG-1N	NEW MG-1R	124	8

Included screw : M4-8 Hexagonal : Steel : Black trivalent chromate x 18 pcs + Hexagonal wrench

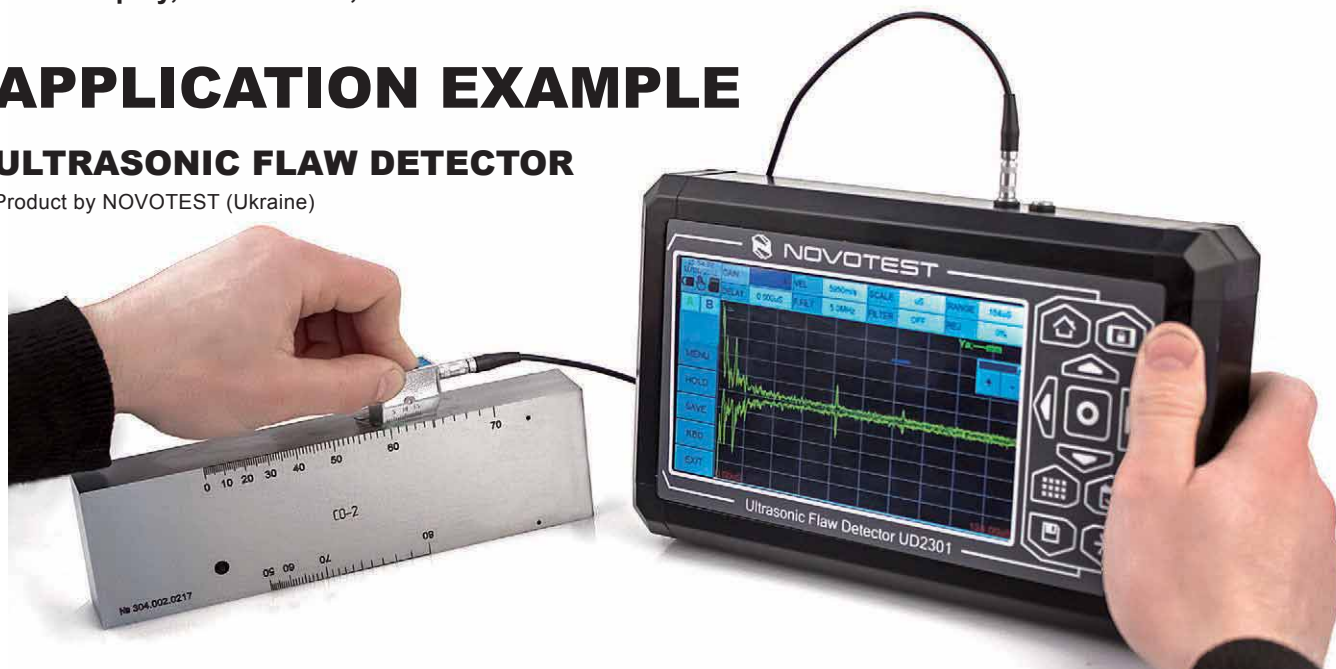
FC SERIES ALUMINIUM CONTROL BOX

FC and FCW series are applicable for various purposes such as control and switch box, touch panel display, monitor box, and so on.

APPLICATION EXAMPLE

ULTRASONIC FLAW DETECTOR

Product by NOVOTEST (Ukraine)



COIL WINDING MACHINE

Product by TNK (Japan)



4-AXIS ROBOT CONTROLLER

Product by KDS (Japan)



STREAMING VIDEO PROVIDER



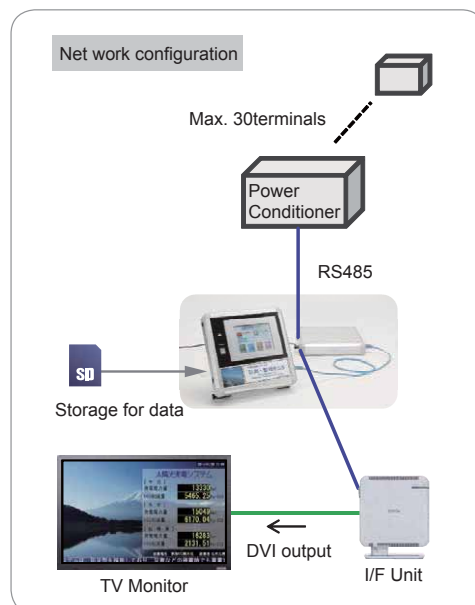
Product by StreamingVideoProvider (UK)

HAND-CARRY CONTROL BOX



Product by Coms (Japan)

SOLAR MONITORING SYSTEM



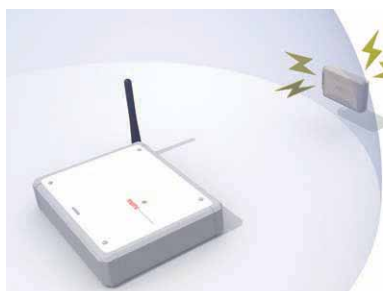
4 CHANNEL EDGE NODE

Product by SHINWA (Japan)



ACTIVE RFID TAG READER • TRIGGER

Product by Matrix (Japan)



Touch type



COMPACT SOLAR POWER SUPPLY

Product by Elenagic (Japan)



FC SERIES

ALUMINIUM CONTROL BOX

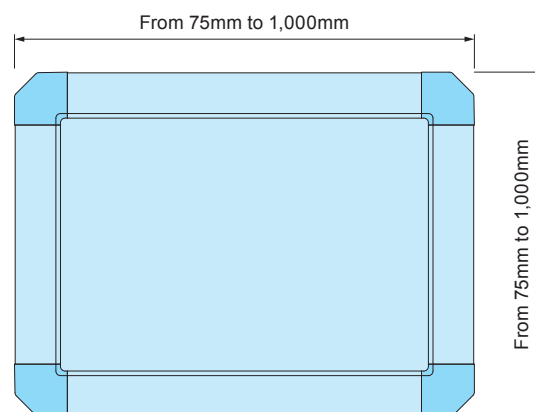


Technical Data

Protection class: IP40

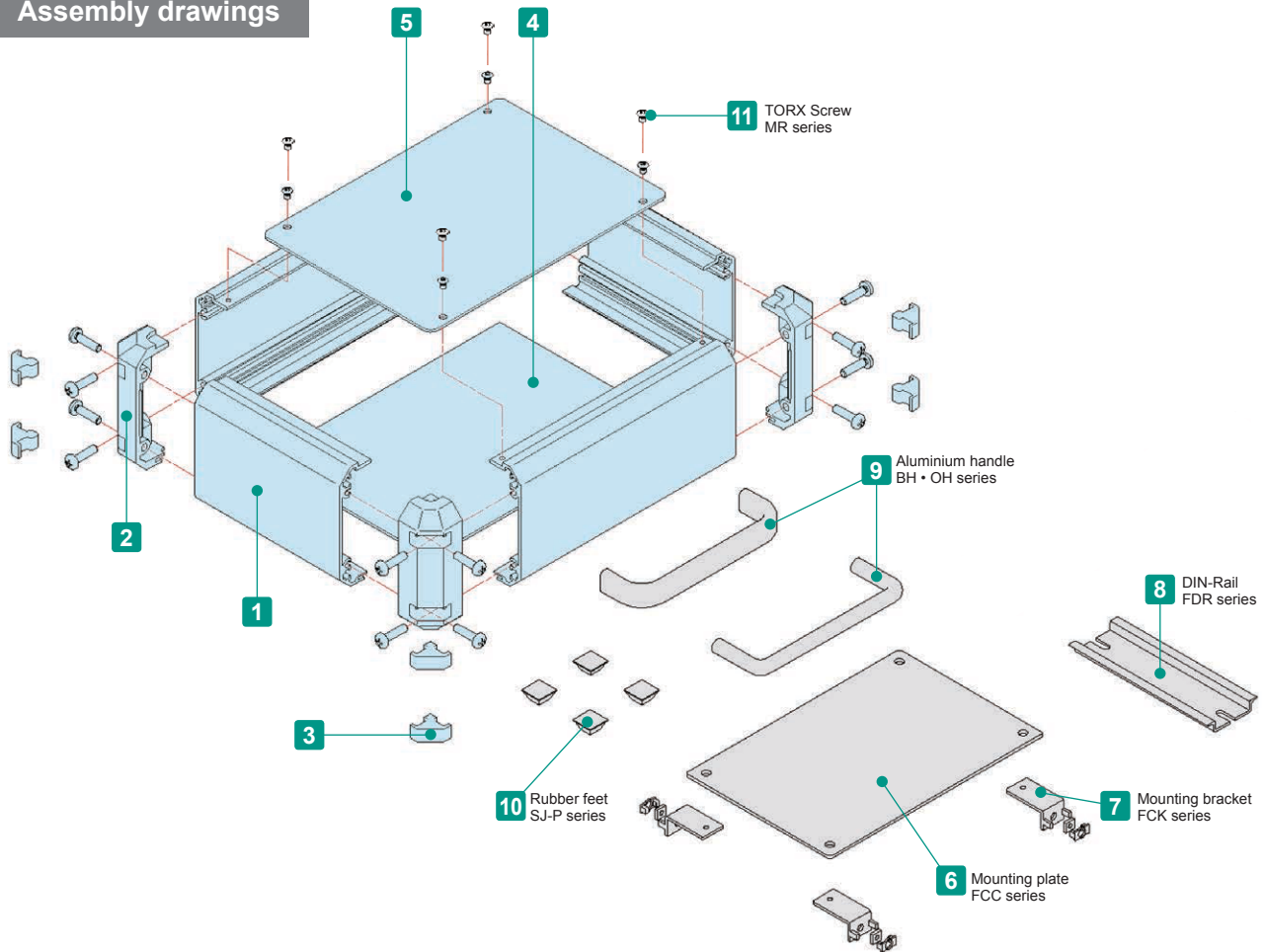
- 175 different sizes in 4 different color variations available.
- Simple designed aluminium utility box composed of extruded aluminium frames, aluminium panels and ABS corner joints.
- Suitable for touch panel display, industrial control equipment, and various other devices.

Custom width / length available in 1mm intervals



- Flexible frame width / length from 75mm to 1,000mm in 1mm intervals.
- No minimum order quantity and short lead time for small quantity order.

Assembly drawings



Included screws
M4-15 Trivalent chromate
(M3-15 for FC4 models)

M3-5 Slotted raised countersunk / Silver = Nickel plated, Black = Trivalent chromate

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	4	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Corner block	4	ABS UL94HB	Light gray • Black
3	Blind plug	8	TPE	Light gray • Black
4	Slide panel	1	Aluminium A1050P t=1.5	Silver / Hairline brushed & Anodized
			Aluminium A1100P t=1.5	Black / painted
5	Screwed panel	1	Aluminium A1050P t=1.5	Silver / Hairline brushed & Anodized
			Aluminium A1100P t=1.5	Black / painted

Accessories (Optional parts)



6 Mounting plate FCC series
See page FCC • FCK-1 ~
FCC • FCK-2

7 Mounting bracket FCK series
See page FCC • FCK-2

8 DIN-Rail FDR series
See MR • FDR-1

9 Aluminium handle BH • OH series
See page BH • Z-P-1 &
OH • KH-1

10 Rubber feet SJ-P series
See page Feet-2



11 TORX screw MR3-5Z
See MR • FDR-1

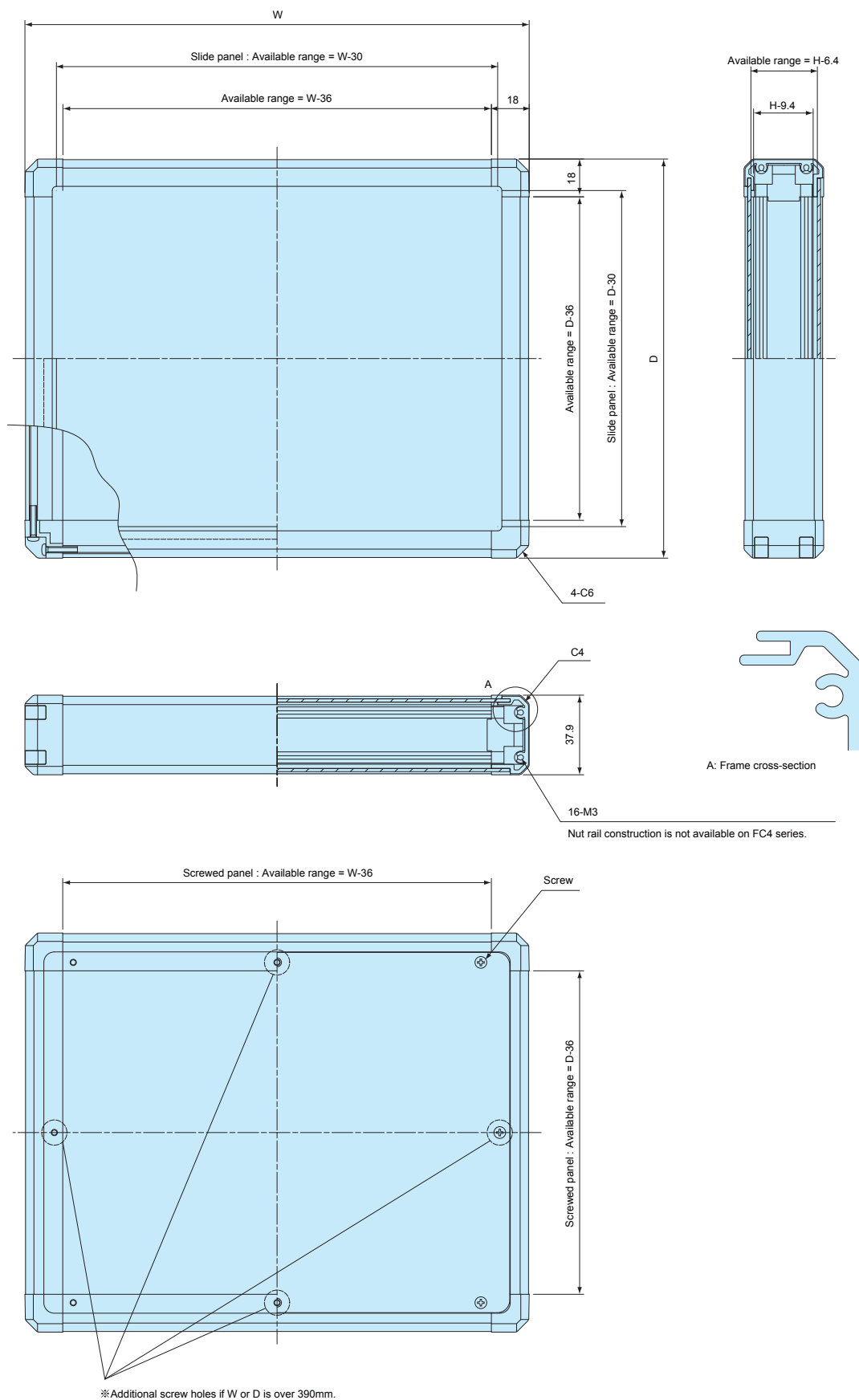


FC dimensions

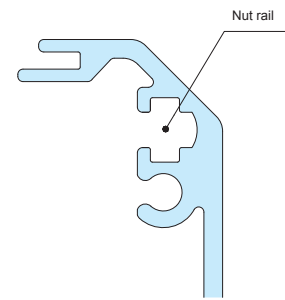
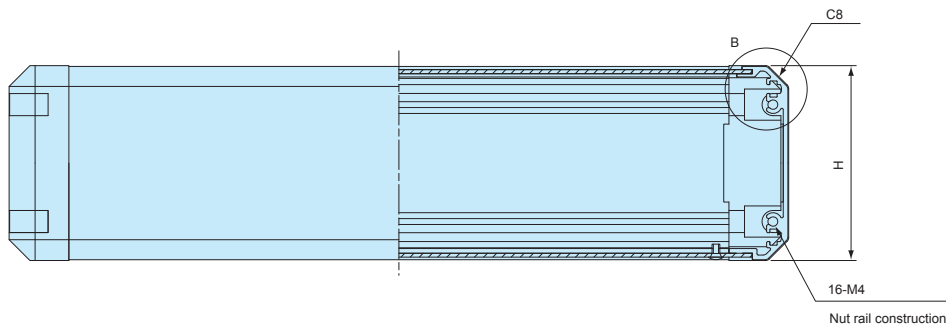
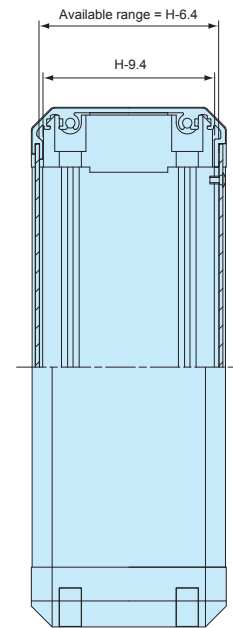
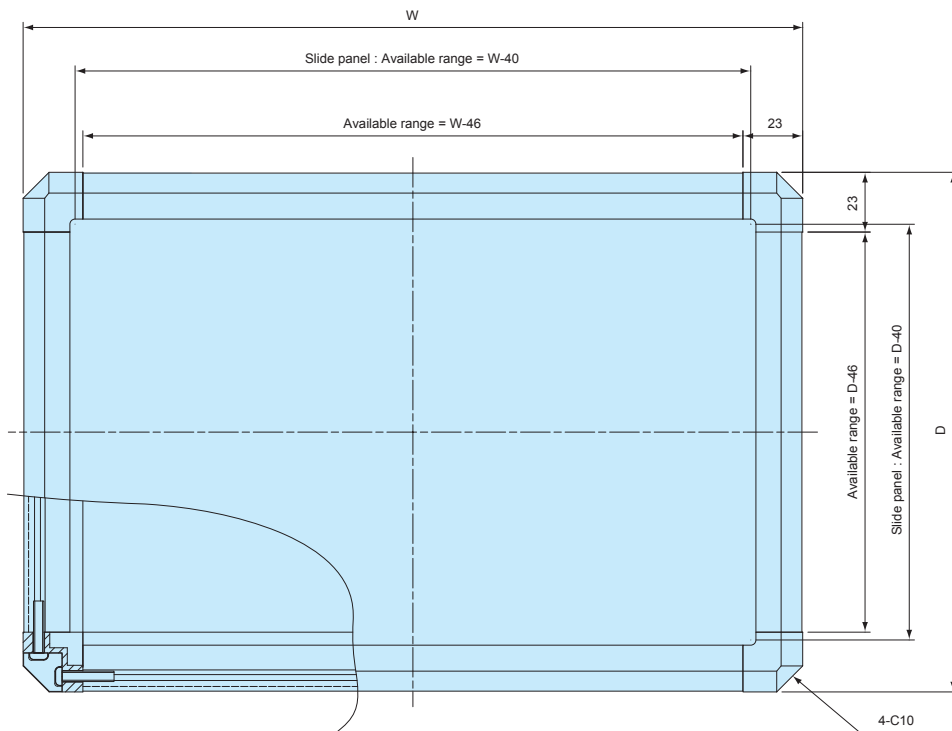
■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

FC4 models

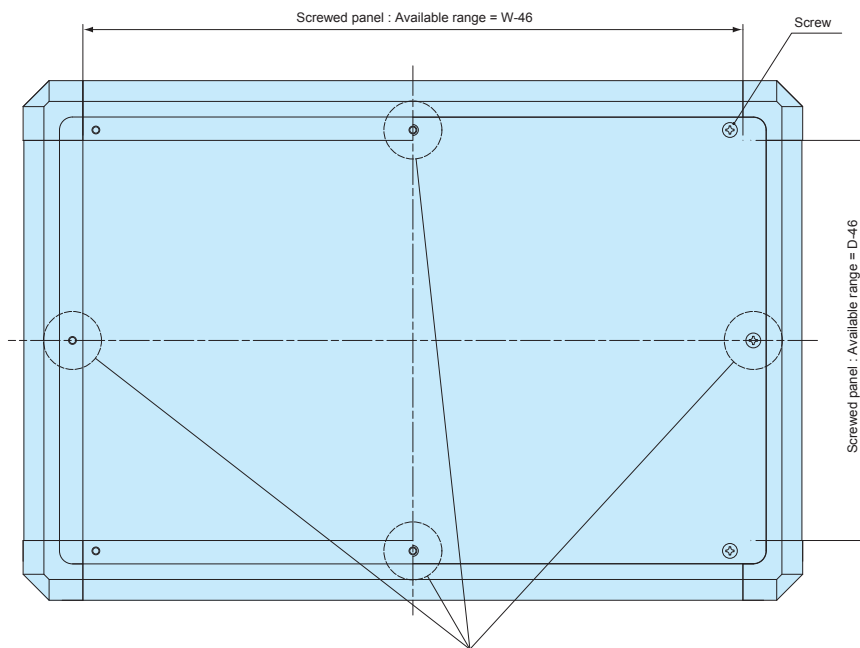
■ Refer to page 211 ~ 212 for enclosure dimensions.



FC5 • FC6 • FC8 • FC10 • FC13 • FC15 models



A: Frame cross-section



※Additional screw holes if W or D is over 400mm.

Color Type

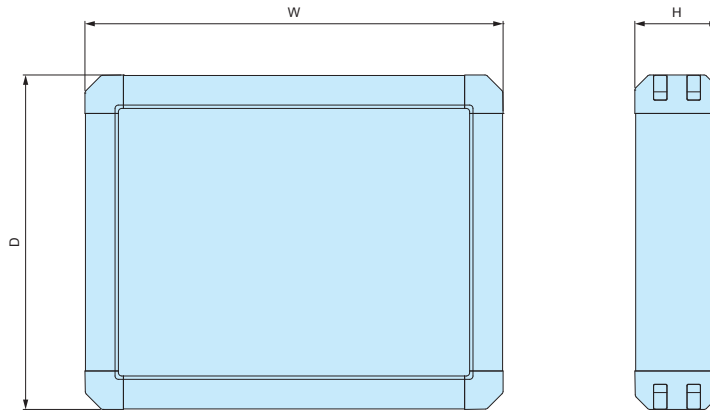
GS		BS		BX		BB	
							
Panel	Silver	Panel	Silver	Panel	Silver	Panel	Black
Frame	Silver	Frame	Silver	Frame	Black	Frame	Black
Corner	Light gray	Corner	Black	Corner	Black	Corner	Black

Product no. / Dimensions

■ Please suffix color code at the end of the product number.

Product no.	H	W	D	Weight (kg)	Panel mount screw pcs
FC4- 9- 9□	37.9	90	90	0.17	4
FC4-14- 9□	37.9	140	90	0.24	4
FC4-14-14□	37.9	140	140	0.33	4
FC4-19- 9□	37.9	190	90	0.31	4
FC4-19-14□	37.9	190	140	0.50	4
FC4-19-19□	37.9	190	190	0.53	4
FC4-24-14□	37.9	240	140	0.51	4
FC4-24-19□	37.9	240	190	0.64	4
FC4-24-24□	37.9	240	240	0.78	4
FC4-29-14□	37.9	290	140	0.60	4
FC4-29-19□	37.9	290	190	0.75	4
FC4-29-24□	37.9	290	240	0.91	4
FC4-29-29□	37.9	290	290	1.07	4
FC4-34-19□	37.9	340	190	0.87	4
FC4-34-24□	37.9	340	240	1.04	4
FC4-34-29□	37.9	340	290	0.94	4
FC4-39-19□	37.9	390	190	0.97	6
FC4-39-24□	37.9	390	240	1.17	6
FC4-39-29□	37.9	390	290	1.37	6
FC4-39-39□	37.9	390	390	1.77	8
FC4-49-24□	37.9	490	240	1.39	6
FC4-49-29□	37.9	490	290	1.64	6
FC4-49-39□	37.9	490	390	2.12	8
FC4-59-29□	37.9	590	290	1.92	6
FC4-59-39□	37.9	590	390	2.46	8
FC5-10-10□	50.4	100	100	0.24	4
FC5-15-10□	50.4	150	100	0.33	4
FC5-15-15□	50.4	150	150	0.44	4
FC5-20-10□	50.4	200	100	0.42	4
FC5-20-15□	50.4	200	150	0.55	4
FC5-20-20□	50.4	200	200	0.68	4
FC5-25-15□	50.4	250	150	0.66	4
FC5-25-20□	50.4	250	200	0.81	4
FC5-25-25□	50.4	250	250	0.97	4
FC5-30-15□	50.4	300	150	0.77	4
FC5-30-20□	50.4	300	200	0.94	4
FC5-30-25□	50.4	300	250	1.11	4
FC5-30-30□	50.4	300	300	1.29	4
FC5-35-20□	50.4	350	200	1.07	4
FC5-35-25□	50.4	350	250	1.26	4
FC5-35-30□	50.4	350	300	1.46	4
FC5-40-20□	50.4	400	200	1.20	6
FC5-40-25□	50.4	400	250	1.42	6
FC5-40-30□	50.4	400	300	1.64	6

Product no.	H	W	D	Weight (kg)	Panel mount screw pcs
FC5-40-40□	50.4	400	400	2.07	8
FC5-50-25□	50.4	500	250	1.66	6
FC5-50-30□	50.4	500	300	1.92	6
FC5-50-40□	50.4	500	400	2.44	8
FC5-60-30□	50.4	600	300	2.22	6
FC5-60-40□	50.4	600	400	2.81	8
FC6-10-10□	62.9	100	100	0.26	4
FC6-15-10□	62.9	150	100	0.35	4
FC6-15-15□	62.9	150	150	0.47	4
FC6-20-10□	62.9	200	100	0.45	4
FC6-20-15□	62.9	200	150	0.58	4
FC6-20-20□	62.9	200	200	0.72	4
FC6-25-15□	62.9	250	150	0.70	4
FC6-25-20□	62.9	250	200	0.85	4
FC6-25-25□	62.9	250	250	1.01	4
FC6-30-15□	62.9	300	150	0.81	4
FC6-30-20□	62.9	300	200	0.99	4
FC6-30-25□	62.9	300	250	1.16	4
FC6-30-30□	62.9	300	300	1.35	4
FC6-35-20□	62.9	350	200	1.12	4
FC6-35-25□	62.9	350	250	1.32	4
FC6-35-30□	62.9	350	300	1.52	4
FC6-40-20□	62.9	400	200	1.25	6
FC6-40-25□	62.9	400	250	1.47	6
FC6-40-30□	62.9	400	300	1.70	6
FC6-40-40□	62.9	400	400	2.15	8
FC6-50-25□	62.9	500	250	1.72	6
FC6-50-30□	62.9	500	300	1.99	6
FC6-50-40□	62.9	500	400	2.52	8
FC6-60-30□	62.9	600	300	2.29	6
FC6-60-40□	62.9	600	400	2.43	8
FC8-10-10□	75.4	100	100	0.28	4
FC8-15-10□	75.4	150	100	0.38	4
FC8-15-15□	75.4	150	150	0.50	4
FC8-20-10□	75.4	200	100	0.48	4
FC8-20-15□	75.4	200	150	0.62	4
FC8-20-20□	75.4	200	200	0.76	4
FC8-25-15□	75.4	250	150	0.74	4
FC8-25-20□	75.4	250	200	0.90	4
FC8-25-25□	75.4	250	250	1.07	4
FC8-30-15□	75.4	300	150	0.86	4
FC8-30-20□	75.4	300	200	1.04	4
FC8-30-25□	75.4	300	250	1.23	4
FC8-30-30□	75.4	300	300	1.42	4



Product no.	H	W	D	Weight (kg)	Panel mount screw pcs
FC 8-35-20□	75.4	350	200	1.19	4
FC 8-35-25□	75.4	350	250	1.39	4
FC 8-35-30□	75.4	350	300	1.51	4
FC 8-40-20□	75.4	400	200	1.32	6
FC 8-40-25□	75.4	400	250	1.46	6
FC 8-40-30□	75.4	400	300	1.78	6
FC 8-40-40□	75.4	400	400	2.24	8
FC 8-50-25□	75.4	500	250	1.81	6
FC 8-50-30□	75.4	500	300	2.08	6
FC 8-50-40□	75.4	500	400	2.62	8
FC 8-60-30□	75.4	600	300	2.39	6
FC 8-60-40□	75.4	600	400	3.00	8
FC10-10-10□	100.4	100	100	0.31	4
FC10-15-10□	100.4	150	100	0.43	4
FC10-15-15□	100.4	150	150	0.56	4
FC10-20-10□	100.4	200	100	0.54	4
FC10-20-15□	100.4	200	150	0.70	4
FC10-20-20□	100.4	200	200	0.85	4
FC10-25-15□	100.4	250	150	0.83	4
FC10-25-20□	100.4	250	200	1.01	4
FC10-25-25□	100.4	250	250	1.19	4
FC10-30-15□	100.4	300	150	0.97	4
FC10-30-20□	100.4	300	200	1.16	4
FC10-30-25□	100.4	300	250	1.36	4
FC10-30-30□	100.4	300	300	1.57	4
FC10-35-20□	100.4	350	200	1.32	4
FC10-35-25□	100.4	350	250	1.54	4
FC10-35-30□	100.4	350	300	1.77	4
FC10-40-20□	100.4	400	200	1.47	6
FC10-40-25□	100.4	400	250	1.72	6
FC10-40-30□	100.4	400	300	1.96	6
FC10-40-40□	100.4	400	400	2.45	8
FC10-50-25□	100.4	500	250	1.99	6
FC10-50-30□	100.4	500	300	2.27	6
FC10-50-40□	100.4	500	400	2.84	8
FC10-60-30□	100.4	600	300	2.60	6
FC10-60-40□	100.4	600	400	2.70	8
FC13-10-10□	125.4	100	100	0.35	4
FC13-15-10□	125.4	150	100	0.47	4
FC13-15-15□	125.4	150	150	0.61	4
FC13-20-10□	125.4	200	100	0.59	4
FC13-20-15□	125.4	200	150	0.75	4
FC13-20-20□	125.4	200	200	0.92	4
FC13-25-15□	125.4	250	150	0.90	4

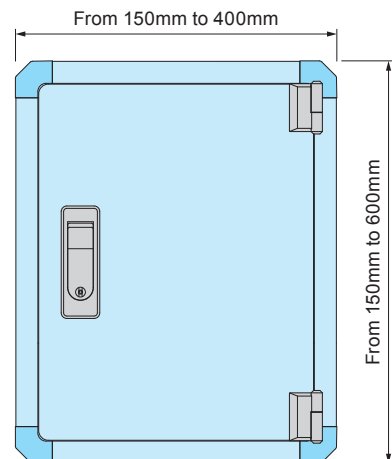
Product no.	H	W	D	Weight (kg)	Panel mount screw pcs
FC13-25-20□	125.4	250	200	1.08	4
FC13-25-25□	125.4	250	250	1.27	4
FC13-30-15□	125.4	300	150	1.04	4
FC13-30-20□	125.4	300	200	1.24	4
FC13-30-25□	125.4	300	250	1.44	4
FC13-30-30□	125.4	300	300	1.66	4
FC13-35-20□	125.4	350	200	1.40	4
FC13-35-25□	125.4	350	250	1.63	4
FC13-35-30□	125.4	350	300	1.86	4
FC13-40-20□	125.4	400	200	1.56	6
FC13-40-25□	125.4	400	250	1.81	6
FC13-40-30□	125.4	400	300	2.06	6
FC13-40-40□	125.4	400	400	2.56	8
FC13-50-25□	125.4	500	250	2.09	6
FC13-50-30□	125.4	500	300	2.38	6
FC13-50-40□	125.4	500	400	2.96	8
FC13-60-30□	125.4	600	300	2.89	6
FC13-60-40□	125.4	600	400	3.36	8
FC15-10-10□	150.4	100	100	0.40	4
FC15-15-10□	150.4	150	100	0.54	4
FC15-15-15□	150.4	150	150	0.70	4
FC15-20-10□	150.4	200	100	0.68	4
FC15-20-15□	150.4	200	150	0.85	4
FC15-20-20□	150.4	200	200	1.04	4
FC15-25-15□	150.4	250	150	1.02	4
FC15-25-20□	150.4	250	200	1.22	4
FC15-25-25□	150.4	250	250	1.42	4
FC15-30-15□	150.4	300	150	1.17	4
FC15-30-20□	150.4	300	200	1.40	4
FC15-30-25□	150.4	300	250	1.62	4
FC15-30-30□	150.4	300	300	1.85	4
FC15-35-20□	150.4	350	200	1.58	4
FC15-35-25□	150.4	350	250	1.82	4
FC15-35-30□	150.4	350	300	2.07	4
FC15-40-20□	150.4	400	200	1.76	6
FC15-40-25□	150.4	400	250	2.02	6
FC15-40-30□	150.4	400	300	2.29	6
FC15-40-40□	150.4	400	400	2.83	8
FC15-50-25□	150.4	500	250	2.32	6
FC15-50-30□	150.4	500	300	2.63	6
FC15-50-40□	150.4	500	400	3.25	8
FC15-60-30□	150.4	600	300	2.98	6
FC15-60-40□	150.4	600	400	3.66	8

FCW SERIES**OPEN-CLOSING CONTROL BOX**

- 108 different sizes in 4 different color variations available.
- Easy access to the inside of the case with open/closing cover.
- Both with and without key lock types are available.
- Suitable for touch panel display, industrial control equipment and many others.

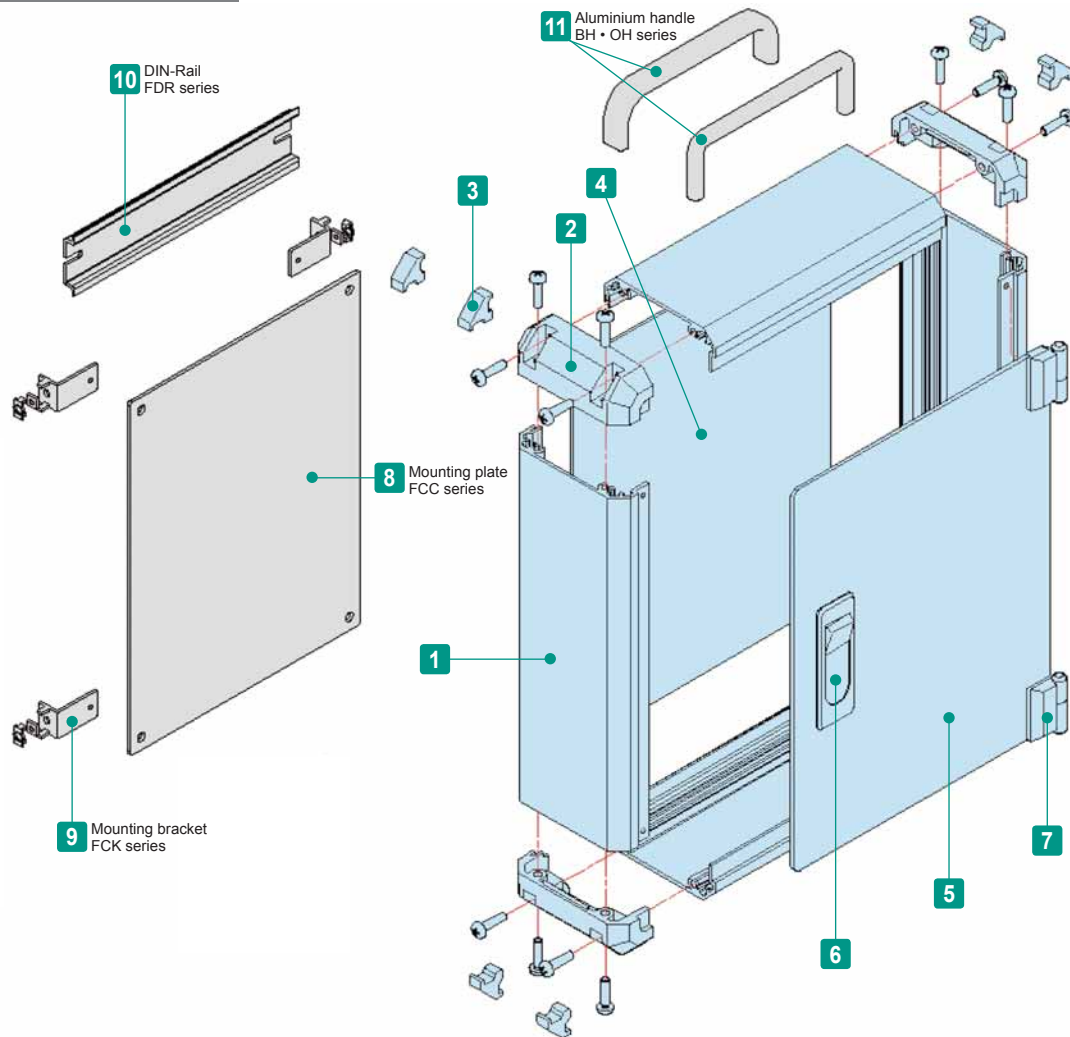
Technical Data

Protection class: IP40

Custom width / length available

- Flexible frame width / length in 1mm intervals.
- No minimum order quantity and short lead time for small quantity order.

Assembly drawings



Included screws
M4-15 pan head, trivalent chromate / black trivalent chromate x 16 pcs
M3-5 pan head, trivalent chromate / black trivalent chromate x 2 pcs or 3 pcs
M3-5 countersunk trivalent chromate / black trivalent chromate x 2 pcs or 3 pcs
M4-8 trivalent chromate with washer x 2 pcs or 4 pcs
M4-6 trivalent chromate with washer x 2 pcs or 4 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	4	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Corner block	4	ABS UL94HB	Light gray • Black
3	Blind plug	8	TPE	Light gray • Black
4	Slide panel	1	Aluminium A1050P t=1.5	Silver / Hairline brushed & Anodized
			Aluminium A1100P t=1.5	Black / Painted
5	Open-closing panel	1	Aluminium A1050P t=2.0	Silver / Hairline brushed & Anodized
			Aluminium A1050P t=2.0	Black / Anodized
6	Flat handle	1 set	Diecast zinc	Silver • Black / Painted
7	Hinge	1 set	Diecast zinc	Silver • Black / Painted
-	Panel protection pad	6	Polyolefin foam	Black

Accessories (Optional parts)



8 Mounting plate FCC series
See page FCC • FCK-1 ~
FCC • FCK-2

9 Mounting bracket FCK series
See page FCC • FCK-2

10 DIN-Rail FDR series
MR • FDR-1

11 Aluminium handle BH • OH series
See See page BH • Z-P-1 & OH • KH-1

Flat Handle Type

N : Normal type		K : Key lock type	
			

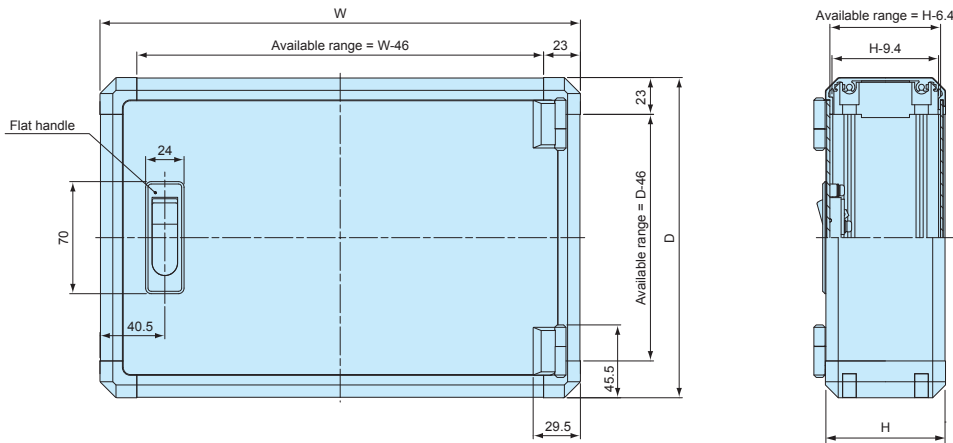
Color Type

GS		BS		BX		BB	
							
Panel	Silver	Panel	Silver	Panel	Silver	Panel	Black
Frame	Silver	Frame	Silver	Frame	Black	Frame	Black
Corner	Light gray	Corner	Black	Corner	Black	Corner	Black
Flat handle	Silver	Flat handle	Silver	Flat handle	Black	Flat handle	Black

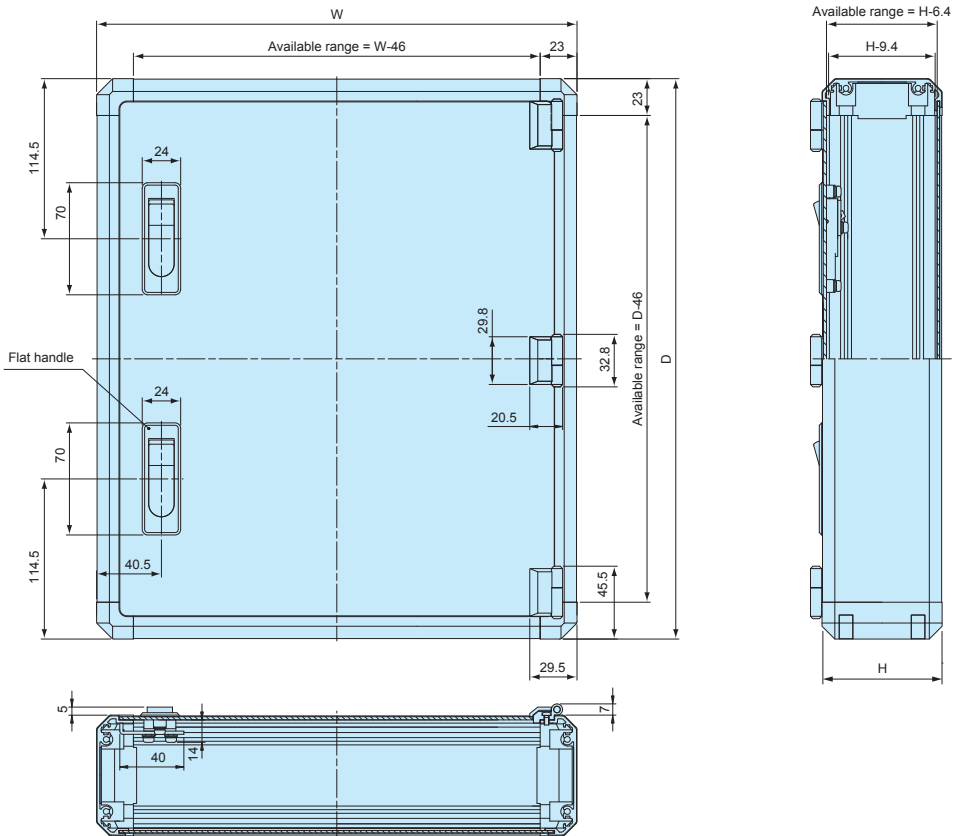
FCW dimensions

Handle - 1 pc / Hinge - 2 pcs type
Not applicable for FCW□-30-50, FCW□-40-50, and FCW□-40-60 models.

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Handle - 2 pcs / Hinge - 3 pcs type
Applicable for FCW□-30-50, FCW□-40-50, and FCW□-40-60 models.



Specify your order with complete combination product number as per below

FCW 5 - 20 - 15Flat Handle Type
(N or K)Color Code
(GS, BS, BX, or BB)**Product no. / Dimensions**

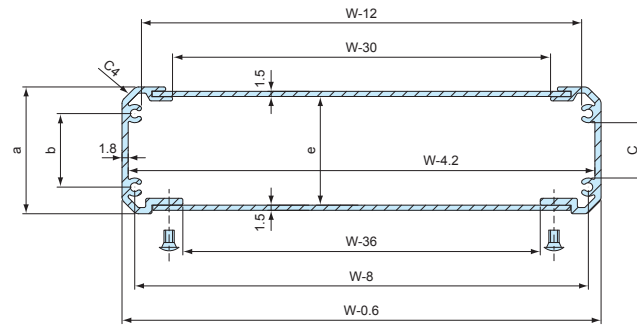
Product no.	H	W	D	Weight (kg)	Flat handle / Hinge pcs
FCW5-15-20□□	50.4	150	200	0.69	1 / 2
FCW5-15-25□□	50.4	150	250	0.80	1 / 2
FCW5-20-15□□	50.4	200	150	0.69	1 / 2
FCW5-20-20□□	50.4	200	200	0.83	1 / 2
FCW5-20-25□□	50.4	200	250	0.97	1 / 2
FCW5-20-30□□	50.4	200	300	1.11	1 / 2
FCW5-25-25□□	50.4	250	250	1.14	1 / 2
FCW5-25-30□□	50.4	250	300	1.30	1 / 2
FCW5-25-40□□	50.4	250	400	1.63	1 / 2
FCW5-30-20□□	50.4	300	200	1.11	1 / 2
FCW5-30-30□□	50.4	300	300	1.50	1 / 2
FCW5-30-40□□	50.4	300	400	1.87	1 / 2
FCW5-30-50□□	50.4	300	500	2.28	2 / 3
FCW5-35-25□□	50.4	350	250	1.47	1 / 2
FCW5-40-30□□	50.4	400	300	1.88	1 / 2
FCW5-40-40□□	50.4	400	400	2.37	1 / 2
FCW5-40-50□□	50.4	400	500	2.82	2 / 3
FCW5-40-60□□	50.4	400	600	3.28	2 / 3
FCW6-15-20□□	62.9	150	200	0.72	1 / 2
FCW6-15-25□□	62.9	150	250	0.84	1 / 2
FCW6-20-15□□	62.9	200	150	0.72	1 / 2
FCW6-20-20□□	62.9	200	200	0.86	1 / 2
FCW6-20-25□□	62.9	200	250	1.01	1 / 2
FCW6-20-30□□	62.9	200	300	1.16	1 / 2
FCW6-25-25□□	62.9	250	250	1.18	1 / 2
FCW6-25-30□□	62.9	250	300	1.35	1 / 2
FCW6-25-40□□	62.9	250	400	1.69	1 / 2
FCW6-30-20□□	62.9	300	200	1.16	1 / 2
FCW6-30-30□□	62.9	300	300	1.55	1 / 2
FCW6-30-40□□	62.9	300	400	1.93	1 / 2
FCW6-30-50□□	62.9	300	500	2.35	2 / 3
FCW6-35-25□□	62.9	350	250	1.46	1 / 2
FCW6-40-30□□	62.9	400	300	1.94	1 / 2
FCW6-40-40□□	62.9	400	400	2.44	1 / 2
FCW6-40-50□□	62.9	400	500	2.94	2 / 3
FCW6-40-60□□	62.9	400	600	3.36	2 / 3
FCW8-15-20□□	75.4	150	200	0.76	1 / 2
FCW8-15-25□□	75.4	150	250	0.88	1 / 2
FCW8-20-15□□	75.4	200	150	0.76	1 / 2
FCW8-20-20□□	75.4	200	200	0.91	1 / 2
FCW8-20-25□□	75.4	200	250	1.06	1 / 2
FCW8-20-30□□	75.4	200	300	1.21	1 / 2
FCW8-25-25□□	75.4	250	250	1.24	1 / 2
FCW8-25-30□□	75.4	250	300	1.41	1 / 2
FCW8-25-40□□	75.4	250	400	1.76	1 / 2
FCW8-30-20□□	75.4	300	200	1.21	1 / 2
FCW8-30-30□□	75.4	300	300	1.62	1 / 2
FCW8-30-40□□	75.4	300	400	2.02	1 / 2
FCW8-30-50□□	75.4	300	500	2.44	2 / 3
FCW8-35-25□□	75.4	350	250	1.59	1 / 2
FCW8-40-30□□	75.4	400	300	2.02	1 / 2
FCW8-40-40□□	75.4	400	400	2.53	1 / 2
FCW8-40-50□□	75.4	400	500	3.05	2 / 3
FCW8-40-60□□	75.4	400	600	3.47	2 / 3

Product no.	H	W	D	Weight (kg)	Flat handle / Hinge pcs
FCW10-15-20□□	100.4	150	200	0.83	1 / 2
FCW10-15-25□□	100.4	150	250	0.97	1 / 2
FCW10-20-15□□	100.4	200	150	0.83	1 / 2
FCW10-20-20□□	100.4	200	200	1.00	1 / 2
FCW10-20-25□□	100.4	200	250	1.17	1 / 2
FCW10-20-30□□	100.4	200	300	1.33	1 / 2
FCW10-25-25□□	100.4	250	250	1.36	1 / 2
FCW10-25-30□□	100.4	250	300	1.55	1 / 2
FCW10-25-40□□	100.4	250	400	1.93	1 / 2
FCW10-30-20□□	100.4	300	200	1.34	1 / 2
FCW10-30-30□□	100.4	300	300	1.77	1 / 2
FCW10-30-40□□	100.4	300	400	2.20	1 / 2
FCW10-30-50□□	100.4	300	500	2.64	2 / 3
FCW10-35-25□□	100.4	350	250	1.74	1 / 2
FCW10-40-30□□	100.4	400	300	2.21	1 / 2
FCW10-40-40□□	100.4	400	400	2.74	1 / 2
FCW10-40-50□□	100.4	400	500	3.27	2 / 3
FCW10-40-60□□	100.4	400	600	3.71	2 / 3
FCW13-15-20□□	125.4	150	200	0.89	1 / 2
FCW13-15-25□□	125.4	150	250	1.04	1 / 2
FCW13-20-15□□	125.4	200	150	0.89	1 / 2
FCW13-20-20□□	125.4	200	200	1.06	1 / 2
FCW13-20-25□□	125.4	200	250	1.32	1 / 2
FCW13-20-30□□	125.4	200	300	1.41	1 / 2
FCW13-25-25□□	125.4	250	250	1.44	1 / 2
FCW13-25-30□□	125.4	250	300	1.63	1 / 2
FCW13-25-40□□	125.4	250	400	2.02	1 / 2
FCW13-30-20□□	125.4	300	200	1.41	1 / 2
FCW13-30-30□□	125.4	300	300	1.94	1 / 2
FCW13-30-40□□	125.4	300	400	2.30	1 / 2
FCW13-30-50□□	125.4	300	500	2.74	2 / 3
FCW13-35-25□□	125.4	350	250	1.83	1 / 2
FCW13-40-30□□	125.4	400	300	2.30	1 / 2
FCW13-40-40□□	125.4	400	400	2.86	1 / 2
FCW13-40-50□□	125.4	400	500	3.39	2 / 3
FCW13-40-60□□	125.4	400	600	3.84	2 / 3
FCW15-15-20□□	150.4	150	200	0.96	1 / 2
FCW15-15-25□□	150.4	150	250	1.07	1 / 2
FCW15-20-15□□	150.4	200	150	0.91	1 / 2
FCW15-20-20□□	150.4	200	200	1.18	1 / 2
FCW15-20-25□□	150.4	200	250	1.37	1 / 2
FCW15-20-30□□	150.4	200	300	1.57	1 / 2
FCW15-25-25□□	150.4	250	250	1.59	1 / 2
FCW15-25-30□□	150.4	250	300	1.80	1 / 2
FCW15-25-40□□	150.4	250	400	2.23	1 / 2
FCW15-30-20□□	150.4	300	200	1.57	1 / 2
FCW15-30-30□□	150.4	300	300	2.05	1 / 2
FCW15-30-40□□	150.4	300	400	2.53	1 / 2
FCW15-30-50□□	150.4	300	500	2.99	2 / 3
FCW15-35-25□□	150.4	350	250	2.02	1 / 2
FCW15-40-30□□	150.4	400	300	2.53	1 / 2
FCW15-40-40□□	150.4	400	400	3.12	1 / 2
FCW15-40-50□□	150.4	400	500	3.68	2 / 3
FCW15-40-60□□	150.4	400	600	4.14	2 / 3

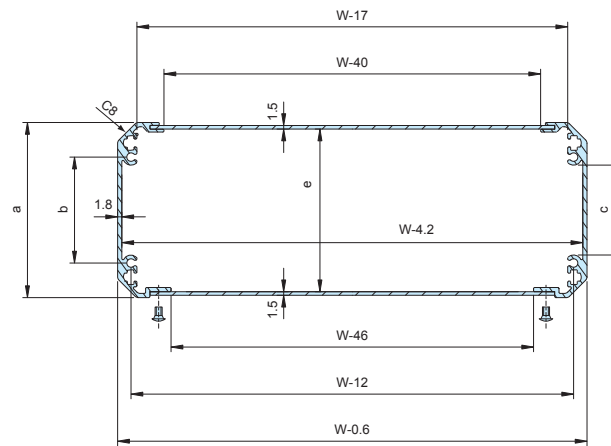
FC • FCW cross-section view

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

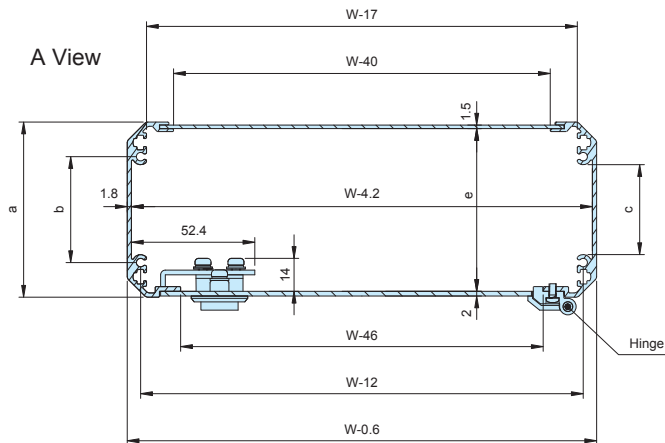
FC4 models



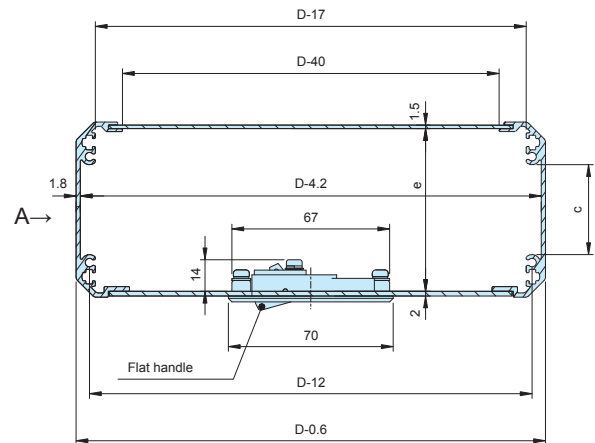
FC5 • FC6 • FC8 • FC10 • FC13 • FC15 models



FCW series

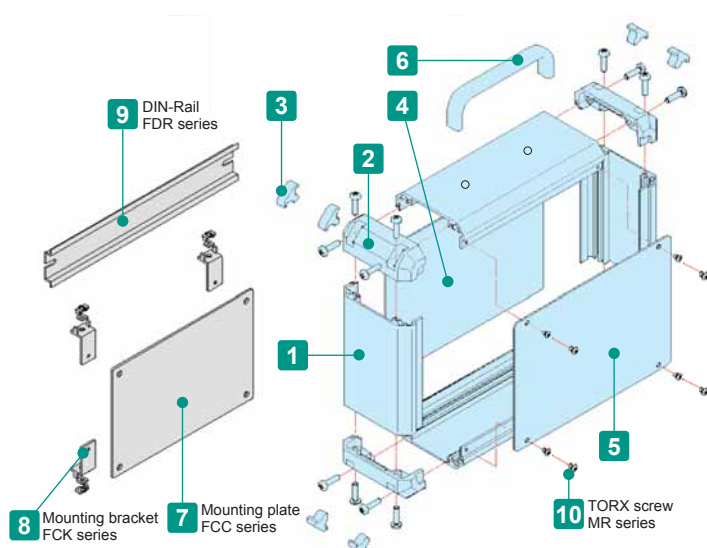


W Cross-section



D cross-section

Box height	a	b	c	e
37.9	36.9	21.4	16.1	31.5
50.4	49.4	20	13.2	44
62.9	61.9	32.5	25.7	56.5
75.4	74.4	45	38.2	69
100.4	99.4	70	63.2	94
125.4	124.4	95	88.2	119
150.4	149.4	120	113.2	144

FCH SERIES**CONTROL BOX with CARRYING HANDLE****Technical Data**

Protection class: IP40

- 23 different sizes in 2 different color variations available.
- Equipped with an aluminium carrying handle for mobile use.
- Comes with a 25kg maximum load carrying handle attachment.
- Simple designed aluminium utility box composed of extruded aluminium frames, aluminium panels and ABS corner joints.

Included screws

M4-15 Pan head trivalent chromate x 16 pcs

M3-5 Slotted raised countersunk / Silver = Nickel plated, Black = Trivalent chromate x 8 pcs

M4-10 Pan head trivalent chromate with spring washer x 2 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Frame	4	Extruded aluminium A6063S-T5	Silver • Black / Anodized
2	Corner block	4	ABS UL94HB	Light gray • Black
3	Blind plug	8	TPE	Light gray • Black
4	Slide panel	1	Aluminium A1050P t=1.5	Silver / Hairline brushed & Anodized
			Aluminium A1100P t=1.5	Black / Painted
5	Screwed panel	1	Aluminium A1050P t=1.5	Silver / Hairline brushed & Anodized
			Aluminium A1100P t=1.5	Black / Painted
6	Carrying handle	1	Aluminium A6063S-T5	Silver • Black / Anodized

Accessories (Optional parts)

7 Mounting plate FCC series
See page FCC • FCC-1 ~
FCC • FCC-2



8 Mounting bracket FCC series
See page FCC • FCC-2



9 DIN-Rail FDR series
See page MR • FDR-1

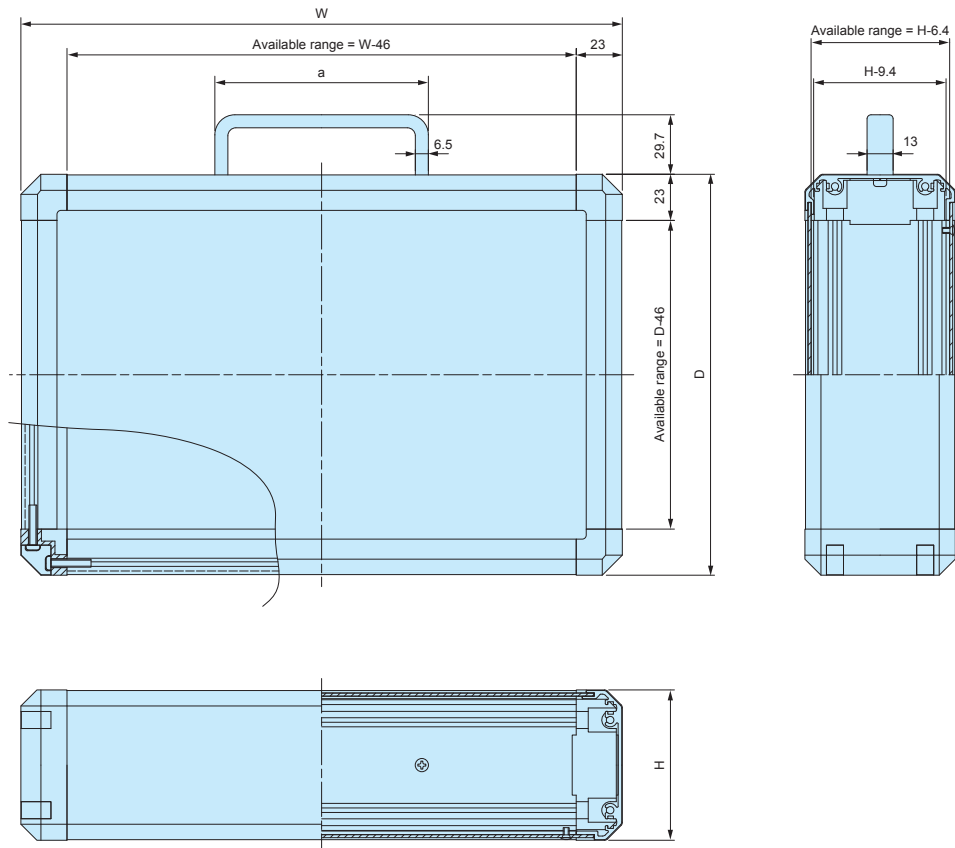


10 TORX screw MR3-5Z
See page MR • FDR-1



FCH dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



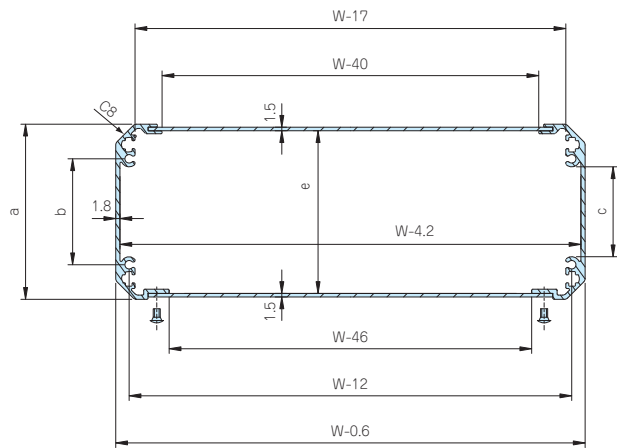
Product no. / Dimensions

Product no.		H	W	D	a	Weight (kg)
● Light gray • Silver	● Black • Black					
FCH 8-20-15GS	FCH 8-20-15BB	75.4	200	150	106.5	0.65
FCH 8-20-20GS	FCH 8-20-20BB	75.4	200	200	106.5	0.79
FCH 8-25-15GS	FCH 8-25-15BB	75.4	250	150	106.5	0.77
FCH 8-25-20GS	FCH 8-25-20BB	75.4	250	200	106.5	0.93
FCH 8-25-25GS	FCH 8-25-25BB	75.4	250	250	106.5	1.10
FCH 8-30-20GS	FCH 8-30-20BB	75.4	300	200	126.5	1.07
FCH 8-30-25GS	FCH 8-30-25BB	75.4	300	250	126.5	1.26
FCH 8-30-30GS	FCH 8-30-30BB	75.4	300	300	126.5	1.45
FCH 8-35-20GS	FCH 8-35-20BB	75.4	350	200	126.5	1.22
FCH 8-35-25GS	FCH 8-35-25BB	75.4	350	250	126.5	1.42
FCH 8-35-30GS	FCH 8-35-30BB	75.4	350	300	126.5	1.54
FCH 8-40-25GS	FCH 8-40-25BB	75.4	400	250	126.5	1.49
FCH 8-40-30GS	FCH 8-40-30BB	75.4	400	300	126.5	1.81
FCH 8-40-40GS	FCH 8-40-40BB	75.4	400	400	126.5	2.27
FCH10-30-20GS	FCH10-30-20BB	100.4	300	200	126.5	1.19
FCH10-30-25GS	FCH10-30-25BB	100.4	300	250	126.5	1.39
FCH10-30-30GS	FCH10-30-30BB	100.4	300	300	126.5	1.60
FCH10-35-20GS	FCH10-35-20BB	100.4	350	200	126.5	1.35
FCH10-35-25GS	FCH10-35-25BB	100.4	350	250	126.5	1.57
FCH10-35-30GS	FCH10-35-30BB	100.4	350	300	126.5	1.80
FCH10-40-25GS	FCH10-40-25BB	100.4	400	250	126.5	1.75
FCH10-40-30GS	FCH10-40-30BB	100.4	400	300	126.5	1.99
FCH10-40-40GS	FCH10-40-40BB	100.4	400	400	126.5	2.48

FCH cross-section view

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

FCH series

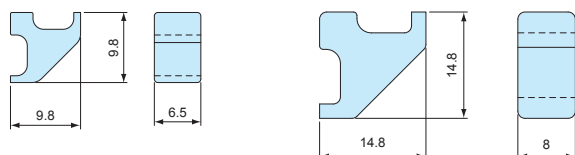


Box height	a	b	c	e
75.4	74.4	45	38.2	69
100.4	99.4	70	63.2	94

FC-BK SERIES**BLIND PLUG**

- Spare / Replacement bling plug for FC • FCW series.

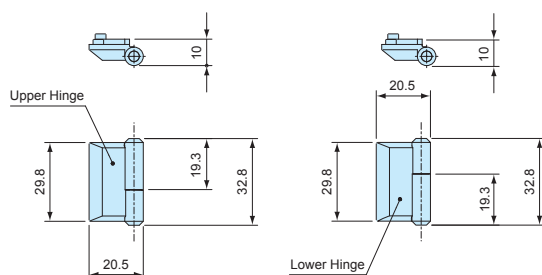
FC-BK-S□ (FC4 models) FC-BK-□ (Other FC models • FCW series)



Product no.	Material	Color	Pack of
FC-BK-SG	TPE	Light gray	1 set (4 pcs)
FC-BK-SB	TPE	Black	1 set (4 pcs)
FC-BK-G	TPE	Light gray	1 set (4 pcs)
FC-BK-B	TPE	Black	1 set (4 pcs)

FW SERIES**HINGE for FCW**

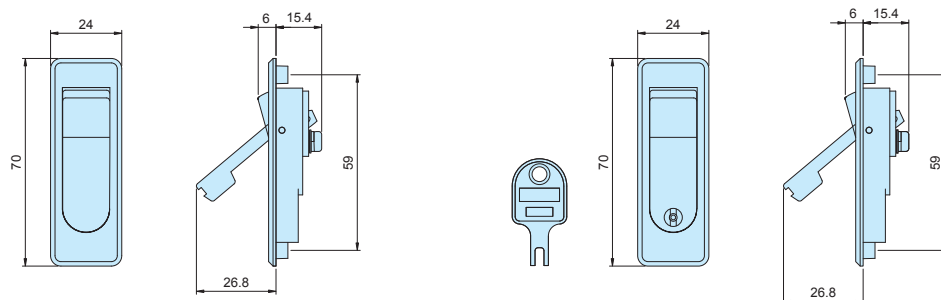
- Spare / Replacement hinge for FCW series.



Product no.	Material	Color / Finish	Pack of
FW-2S	Diecast zinc	Silver / Painted	1 set (Upper/Lower)
FW-2B	Diecast zinc	Black / Painted	1 set (Upper/Lower)

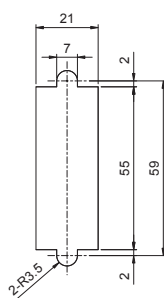
PH-88 SERIES**FLAT HANDLE for FCW**

- Spare / Replacement flat handle for FCW series.



Normal type (without Key)

Key-lock type (with Key)

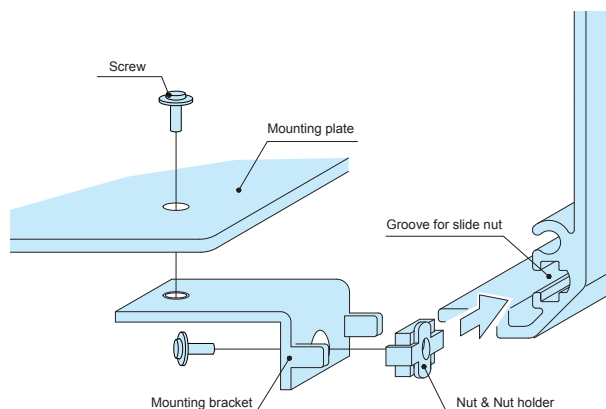
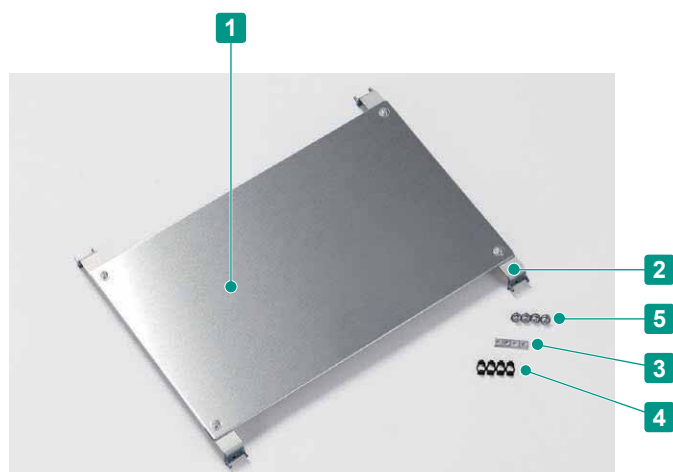


Mounting hole dimensions

Product no.	Key	Material	Color / Finish
PH-88A-2S	without	Diecast zinc	Silver / Painted
PH-88A-2B	without	Diecast zinc	Black / Painted
PH-88 -2S	with	Diecast zinc	Silver / Painted
PH-88 -2B	with	Diecast zinc	Black / Painted

FCC SERIES

MOUNTING PLATE for FC • FCW



How to assemble

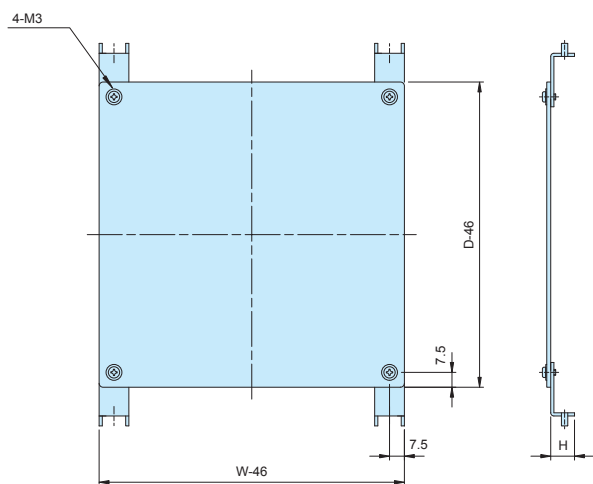
- ① Slide a M3 nut and nut holder into the groove on the frame.
- ② Screw the mounting bracket into the nut holder.
- ③ Screw the mounting plate onto the mounting bracket.

- The mounting bracket comes in 2 different height versions, 12mm and 22mm.
- Use 22mm height version when set on the open/close panel side of FCW series.
- Not suitable for FC4 (H = 37.9mm)
- Mounting brackets (FCK) are included with FCC series.
- DXF/DWG/PDF drawings available on our website.

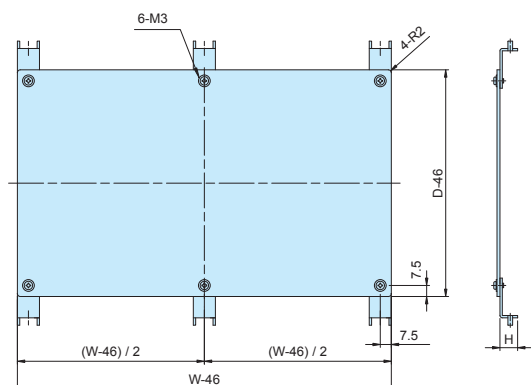
Components

No.	Part name	Material	Color / Finish
1	Mounting plate	Aluminium A1050P t=2.0	Unfinished
2	Mounting bracket	Steel SECC t=1.6	Zinc coated
3	M3 nut	Steel SPCC t=1.6	Trivalent chromate
4	Nut holder	POM	Black
5	Screw	Steel M3-6	Trivalent chromate

For box size (W x D or D x W) 100 x 100mm to 350 x 300mm



For box size (W x D or D x W) 400/500/600 x 200/250/300 mm



Product no. / Dimensions

Product no.	H	Box W x D or D x W	Product no.	H	Box W x D or D x W
FCC10-10-1	12	100×100	FCC10-10-2	22	100×100
FCC15-10-1	12	150×100	FCC15-10-2	22	150×100
FCC15-15-1	12	150×150	FCC15-15-2	22	150×150
FCC20-10-1	12	200×100	FCC20-10-2	22	200×100
FCC20-15-1	12	200×150	FCC20-15-2	22	200×150
FCC20-20-1	12	200×200	FCC20-20-2	22	200×200
FCC25-15-1	12	250×150	FCC25-15-2	22	250×150
FCC25-20-1	12	250×200	FCC25-20-2	22	250×200
FCC25-25-1	12	250×250	FCC25-25-2	22	250×250
FCC30-15-1	12	300×150	FCC30-15-2	22	300×150
FCC30-20-1	12	300×200	FCC30-20-2	22	300×200
FCC30-25-1	12	300×250	FCC30-25-2	22	300×250
FCC30-30-1	12	300×300	FCC30-30-2	22	300×300
FCC35-20-1	12	350×200	FCC35-20-2	22	350×200
FCC35-25-1	12	350×250	FCC35-25-2	22	350×250
FCC35-30-1	12	350×300	FCC35-30-2	22	350×300

Included screws: M3-6 pan head trivalent chromate with flat washer x 8 pcs

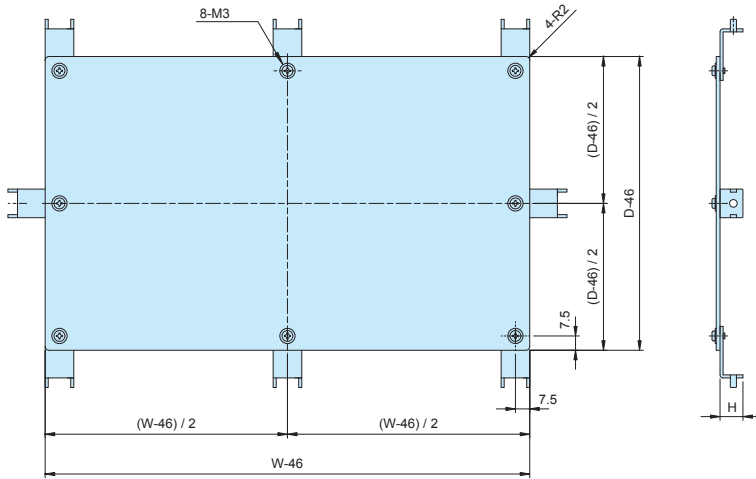
Product no. / Dimensions

Product no.	H	Box W x D or D x W	Product no.	H	Box W x D or D x W
FCC40-20-1	12	400×200	FCC40-20-2	22	400×200
FCC40-25-1	12	400×250	FCC40-25-2	22	400×250
FCC40-30-1	12	400×300	FCC40-30-2	22	400×300
FCC50-25-1	12	500×250	FCC50-25-2	22	500×250
FCC50-30-1	12	500×300	FCC50-30-2	22	500×300
FCC60-30-1	12	600×300	FCC60-30-2	22	600×300

Included screws: M3-6 pan head trivalent chromate with flat washer x 12 pcs

For box size (W x D or D x W) 400/500/600 x 400mm

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



Product no. / Dimensions

Product no.	H	Box W x D or D x W	Product no.	H	Box W x D or D x W
FCC40-40-1	12	400×400	FCC40-40-2	22	400×400
FCC50-40-1	12	500×400	FCC50-40-2	22	500×400
FCC60-40-1	12	600×400	FCC60-40-2	22	600×400

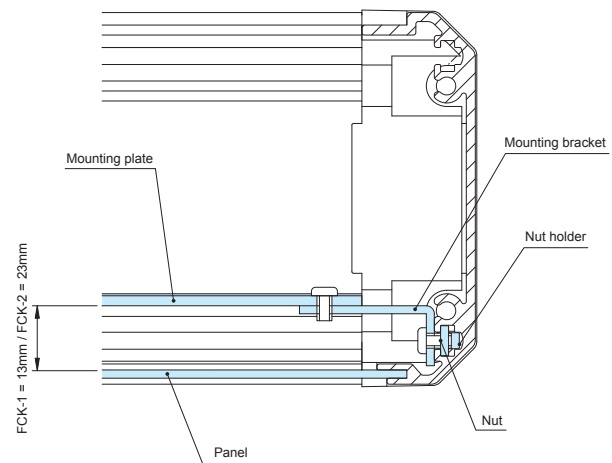
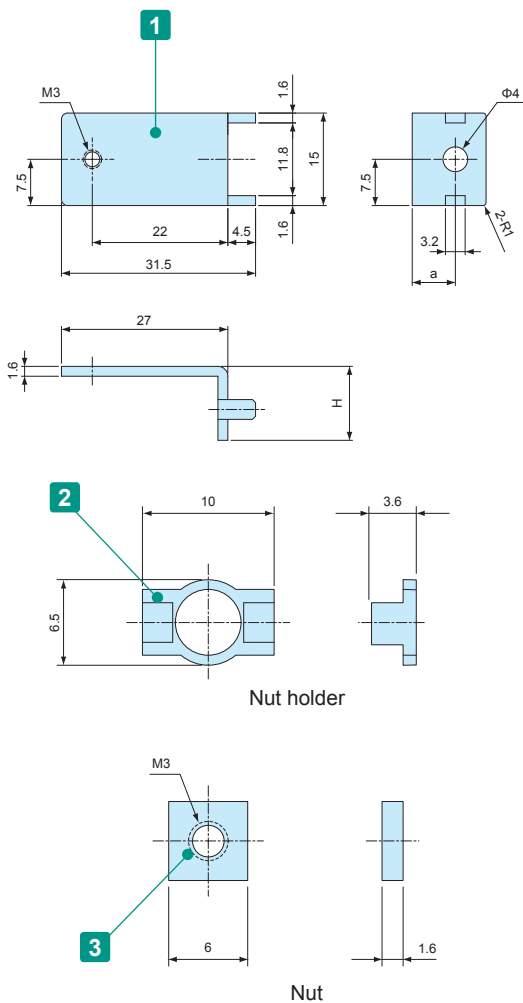
Included screws: M3-6 pan head trivalent chromate with flat washer x 16 pcs

Accessories (Optional parts)

FCK SERIES

MOUNTING BRACKET

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



- 2 mounting brackets for PCB or DIN-Rail.
- FCK mounting bracket comes with FCC mounting plate.
Additional FCK is not necessary when purchasing FCC series.
- Not suitable for FC4 ($H = 37.9mm$).

Components

No.	Part name	Material	Color / Finish
1	Mounting bracket	Steel SECC t=1.6	Zinc coated
2	Nut holder	POM	Black
3	M3 nut	Steel SPCC t=1.6	Trivalent chromate

Product no. / Dimensions

Product no.	H	a	Pack of
FCK-1	12	7	10
FCK-2	22	17	10

Included screws: M3-6 pan head trivalent chromate with flat washer x 20 pcs

MR SERIES**SLOTTED RAISED COUNTERSUNK TORX SCREW**

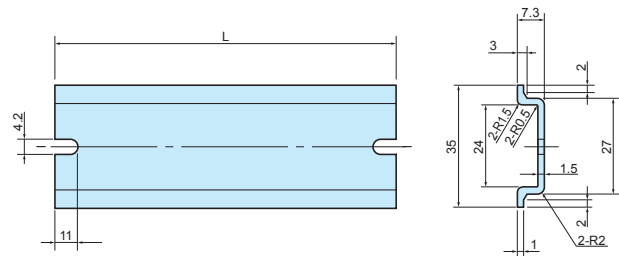
- For use with top / bottom cover.
- Recommended for aesthetic purposes, or for tampering resistance.
- Requires the use of a specialized screwdriver.

Product no. / Dimensions

Product no.	M	L	TORX head no.	Material	Color / Finish	Pack of
MR3-5ZS	3	5	T10	Steel	Nickel plated	20
MR3-5ZB	3	5	T10	Steel	Black trivalent chromate	20

FDR SERIES**DIN-RAIL**

- FCK mounting bracket is required for installation.
- Not suitable for FC4 (H = 37.9mm).

**Components**

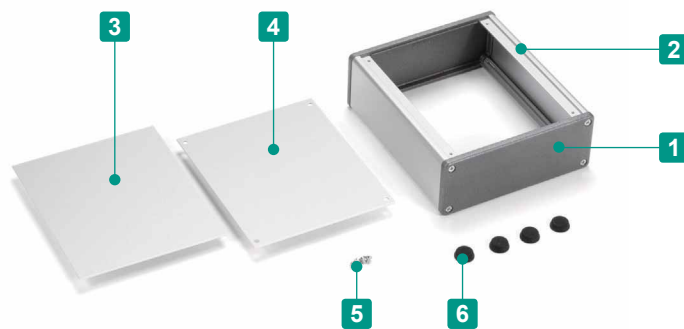
Material	Color / Finish
Aluminium A6063S-T5	Silver / Anodized

Product no. / Dimensions

Product no.	L	Box length
FDR- 50	50	100
FDR-100	100	150
FDR-150	150	200
FDR-205	205	250
FDR-249	249	300
FDR-300	300	350
FDR-350	350	400
FDR-450	450	500
FDR-550	550	600

CH SERIES

ALUMINIUM CONTROL BOX



- Simple and strong construction with diecast and extruded aluminium material.
- Durable powder-coated side plate.
- Both the slide and screwed panel can be utilized as the front panel.
- 2 color types available.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Side plate	2	Diecast aluminium ADC12	Black • Metallic gray / Powder coated
2	Frame	2	Extruded aluminium A6063S-T5	Black / Anodized • Silver / Hairline brushed & Anodized
3	Slide panel	1	Aluminium A1100P • A1050P	Black / Painted • Silver / Hairline brushed & Anodized
4	Screwed panel	1	Aluminium A1100P • A1050P	Black / Painted • Silver / Hairline brushed & Anodized
5	Screw	1 set	Steel	Black trivalent chromate • Nickel plated
6	Rubber feet	4	Synthetic rubber	Black

■ Note: panels are covered with a protective film on one side. Remove before assembly.

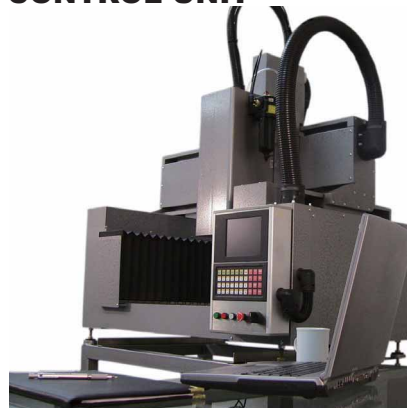
※CH7 models come with copper plated screws for grounding.

APPLICATION EXAMPLE

WAVEFORM ANALYZER



Product by Graviton Inc. (Japan)

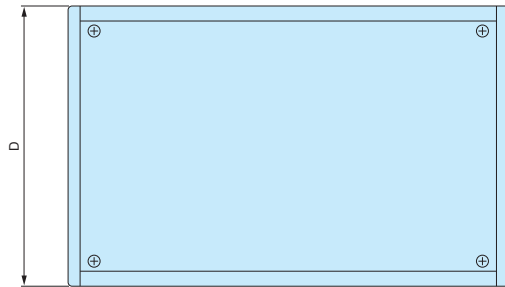
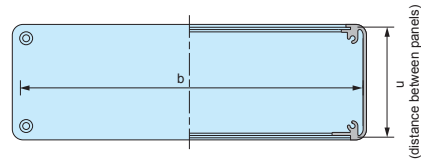
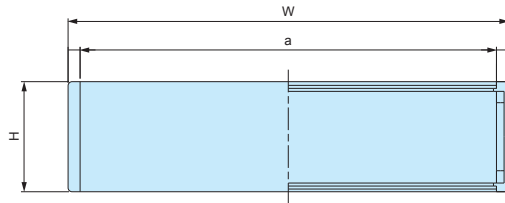
CNC MACHINING CENTER
CONTROL UNIT

Product by FNS Co. Ltd. (Japan)



CH dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws

CH4 • CH6 models

M3-5 Slotted raised countersunk • Black trivalent chromate x 4 pcs
M3-5 Slotted raised countersunk • Nickel plated x 4 pcs
M3-10 countersunk • Black trivalent chromate x 8 pcs
M3-10 countersunk • Nickel plated x 8 pcs

CH7 • CH8 models

M3-5 Slotted raised countersunk • Black trivalent chromate x 4 pcs
M3-5 Slotted raised countersunk • Nickel plated x 4 pcs
M4-12 countersunk • Black trivalent chromate x 8 pcs
M4-12 countersunk • Nickel plated x 8 pcs

Product no. / Dimensions

Product no.		W	H	D	a	b	u	Weight (kg)
● Black (BBP)	● Gray-Silver(GSP)							
CH4- 7-10BBP	CH4- 7-10GSP	70	36.5	100.5	60	96.4	30.5	0.15
CH4-10-10BBP	CH4-10-10GSP	100	36.5	100.5	90	96.4	30.5	0.20
CH4-15-10BBP	CH4-15-10GSP	150	36.5	100.5	140	96.4	30.5	0.27
CH4-20-10BBP	CH4-20-10GSP	200	36.5	100.5	190	96.4	30.5	0.35
CH4-25-10BBP	CH4-25-10GSP	250	36.5	100.5	240	96.4	30.5	0.42
CH6- 8-14BBP	CH6- 8-14GSP	80	55	140.7	68	135.7	48.8	0.25
CH6-11-14BBP	CH6-11-14GSP	110	55	140.7	98	135.7	48.8	0.31
CH6-16-14BBP	CH6-16-14GSP	160	55	140.7	148	135.7	48.8	0.41
CH6-22-14BBP	CH6-22-14GSP	220	55	140.7	208	135.7	48.8	0.53
CH6-29-14BBP	CH6-29-14GSP	290	55	140.7	278	135.7	48.8	0.67

Product no.		W	H	D	a	b	u	Weight (kg)
● Black (BBP)	● Gray-Silver(GSP)							
CH7- 9-17BBP	CH7- 9-17GSP	90	65.5	168.5	74	164.4	58	0.50
CH7-12-17BBP	CH7-12-17GSP	120	65.5	168.5	104	164.4	58	0.58
CH7-17-17BBP	CH7-17-17GSP	170	65.5	168.5	154	164.4	58	0.72
CH7-25-17BBP	CH7-25-17GSP	250	65.5	168.5	234	164.4	58	0.94
CH7-33-17BBP	CH7-33-17GSP	330	65.5	168.5	314	164.4	58	1.16
CH8-15-23BBP	CH8-15-23GSP	150	75	230.6	134	226.1	68.8	0.74
CH8-25-23BBP	CH8-25-23GSP	250	75	230.6	234	226.1	68.8	1.06
CH8-33-23BBP	CH8-33-23GSP	330	75	230.6	314	226.1	68.8	1.31
CH8-43-23BBP	CH8-43-23GSP	430	75	230.6	414	226.1	68.8	1.63

Accessories (Optional parts)

MR SERIES

TORX SCREW



- Material / Finish : Steel / Nickel plated
- TORX screw set for 1 unit.
- Recommended for aesthetic purposes, or for tamper-resistance.
- Requires the use of a specialized screwdriver.

Suitable Enclosures

Product no.	Suitable enclosures
MR-3CS	CH4 and CH6 models
MR-4CS	CH7 and CH8 models

Product no. / Dimensions

Product no.	Included screws	TORX head no.
MR-3CS	M3-10 countersunk x 8 pcs • M3-5 Slotted raised countersunk x 4 pcs	T10 (M3)
MR-4CS	M4-12 countersunk x 8 pcs • M3-5 Slotted raised countersunk x 4 pcs	T10 (M3) • T20 (M4)

MS SERIES

APPLICATION EXAMPLE

The desktop metal type MS series enclosure is suitable for use as measuring instruments, testing equipment, power supply controller, etc.

A wide variety of 3 different colors and 176 different sizes are available.

DIAGNOSTIC DEVICE



Digital panel recorder by Cors (Japan) can display, analyze, save and transmit measured data.



Measured data is saved on SD card as CSV format.

Product by Cors (Japan)

- Digital panel recorder by Cors (Japan) is embedded onto the MS enclosure.
- Measuring an electric flow on the machine to analyze the machine conditions. Suitable even for machines in severe environment.
- Measured data can be displayed, transmitted and also saved on SD card as CSV format.

X-RAY FLORESCENCE ANALYZER



Product by SinmatrikX (Japan)

- Processor to withdraw max ability of SDD detector from low to high energy X-ray.
- Best used for florescence analysis with low noise, high capacity, wide range and high speed.
- Used as a radiation detector and florescence analysis.

INTENSITY METER



Desktop Type



Rack Mount Type

Product by TOKYO SOKUSHIN (Japan)

- Multi-channel input type seismic monitor.
- Display seismic intensity, scale of intensity and peak acceleration on the color LCD.

PIEZO CONTROLLER



STEPPING PIEZO CONTROLLER



LANGEVIN TRANSDUCER (BLT) CONTROLLER



Product by MESS-TEK (Japan)

PIEZO CONTROLLER

- A device used for precise positioning at the micron/nano meter level with PIEZO actuator.
- Used for semiconductor manufacturing, and biotechnology fields where precise positioning is required.

LANGEVIN TRANSDUCER (BLT) CONTROLLER

- A controller for Langevin Transducer used for ultrasonic experiments where precise work is required.
- Automatically adjust the resonant frequency of the transducer while working.

QUENCHING DEPTH INDICATOR



STEEL DETECTOR



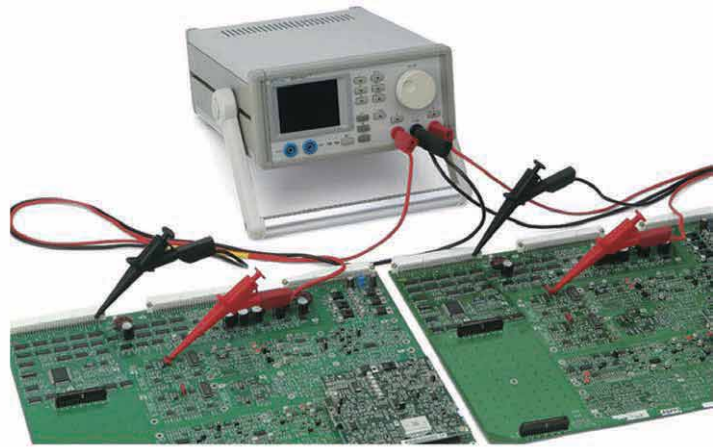
Product by Denshijiki Industry (Japan)

- The survey instrument which does quenching depth measurement in steel without destroying it.
6 probe sensors can analyze the internal texture of the steel and calculate the depth of quenching accurately.
- STEEL DETECTOR can calculate weld quality, hardness, material quality and quenching depth in steel.
4 probe sensors can analyze the transformation of the steel and detect welding quality, hardness, material quality and quenching depth.

MS SERIES

APPLICATION EXAMPLE

EMBEDDED PCB CHECKER Product by KYOSAITECHNOS (Japan)



- A device to test parts on a PCB under de-energized conditions.
- Easy operation to determine the waveform on the display.

PRECISION PROGRAMMABLE RESISTANCE BOX / RTD SIMULATOR Product by Alpha Electronics (Japan)



- Easily able to set to any desired resistance value using a PC.
- Automated inspection to minimize inspection time while avoiding human error.

REFERENCE SIGNAL DISTRIBUTOR Product by Freqtime (Japan)



- A desktop device for the distribution of a signal to 8 ports.

FIBER OPTIC THERMOMETER Product by Anritsu Meter (Japan)



- Enables the measurement of temperature in environments subjected to high-frequency waves, microwaves, or high voltages-areas where electric type thermometers are ineffective.
- Fiber optic thermometer offering a wide measurement range.
- 1 and 4 channel versions are available. Calibration function enables an accuracy range of around $\pm 0.5^{\circ}\text{C}$.

PRECISION PLATINUM RESISTANCE THERMOMETER



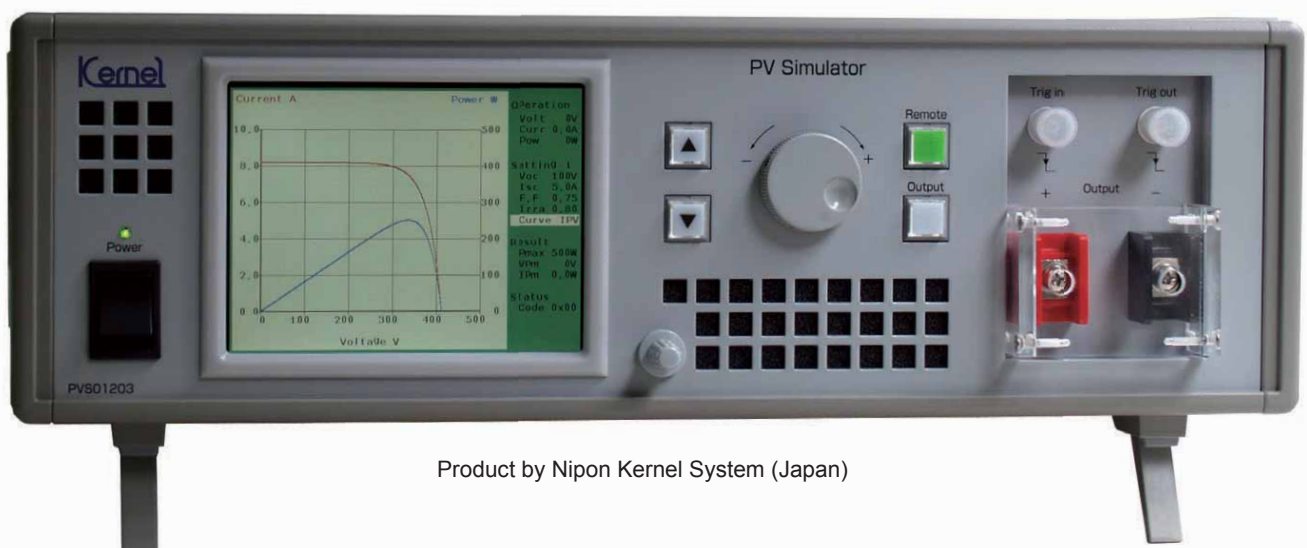
Product by Anritsu Meter (Japan)

ANALOG OUTPUT THERMOMETER



Product by Anritsu Meter (Japan)

PORTABLE PV SIMULATOR



Product by Nipon Kernel System (Japan)

- Compact and portable solar cell simulator with color LCD.
- I-V curve character is calculated according to Semiconductor formula. Setting can be changed during operation. 4 parameters (Voc, Isc, F.F., Irra) can be set individually.
- Large input voltage range (AC85 ~ 264[V]). Only the film condenser of the low volume is connected at output terminal.

MS SERIES

DESKTOP ENCLOSURE



- Available in 3 different colors and 176 different sizes.
- Screws are hidden out of view for a sophisticated and elegant look.
- Suitable for use as measuring instruments, testing equipment, power supply controller, etc.



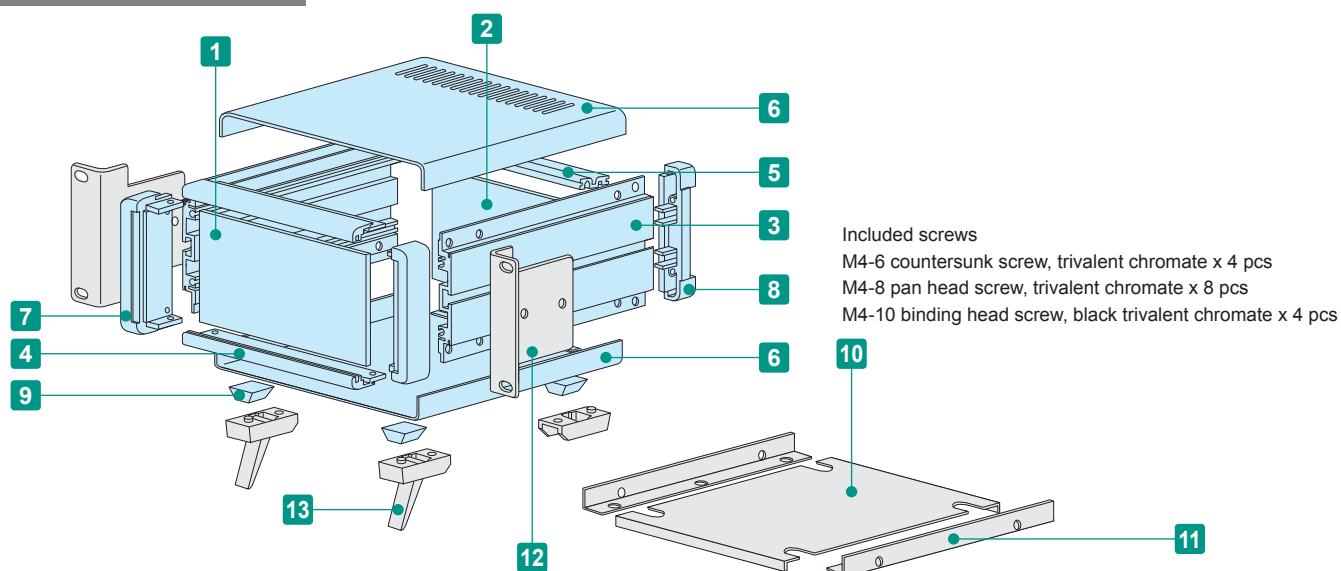
MSN series
Equipped with STAND HANDLE

MSY series
Equipped with CARRYING HANDLE

MSR series
Rack Mount

Variations of MS series, MSN, MSY and MSR series are also available. See website for more details.

Assembly drawings



Included screws
M4-6 countersunk screw, trivalent chromate x 4 pcs
M4-8 pan head screw, trivalent chromate x 8 pcs
M4-10 binding head screw, black trivalent chromate x 4 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Front panel	1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
2	Rear panel	1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
5	Rear frame	2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top • Bottom cover	1 each	Steel SPCC t=1.0	Light gray • Black / Painted
7	Corner block	2	Diecast aluminium ADC12	Gray • Black / Painted
8	Rear feet	2	ABS UL94V-0	Gray • Black
9	Rubber feet	4	Polyurethane	Black

■ Front • Rear panels comes with a protective sheet cover.

Accessories (Optional parts)



10 Mounting plate MSC series
See page MSC • MSCL-1



11 L-bracket MSCL series
See page MSC • MSCL-1



12 Rack mounting MSM series
See page MSM • MZ-1



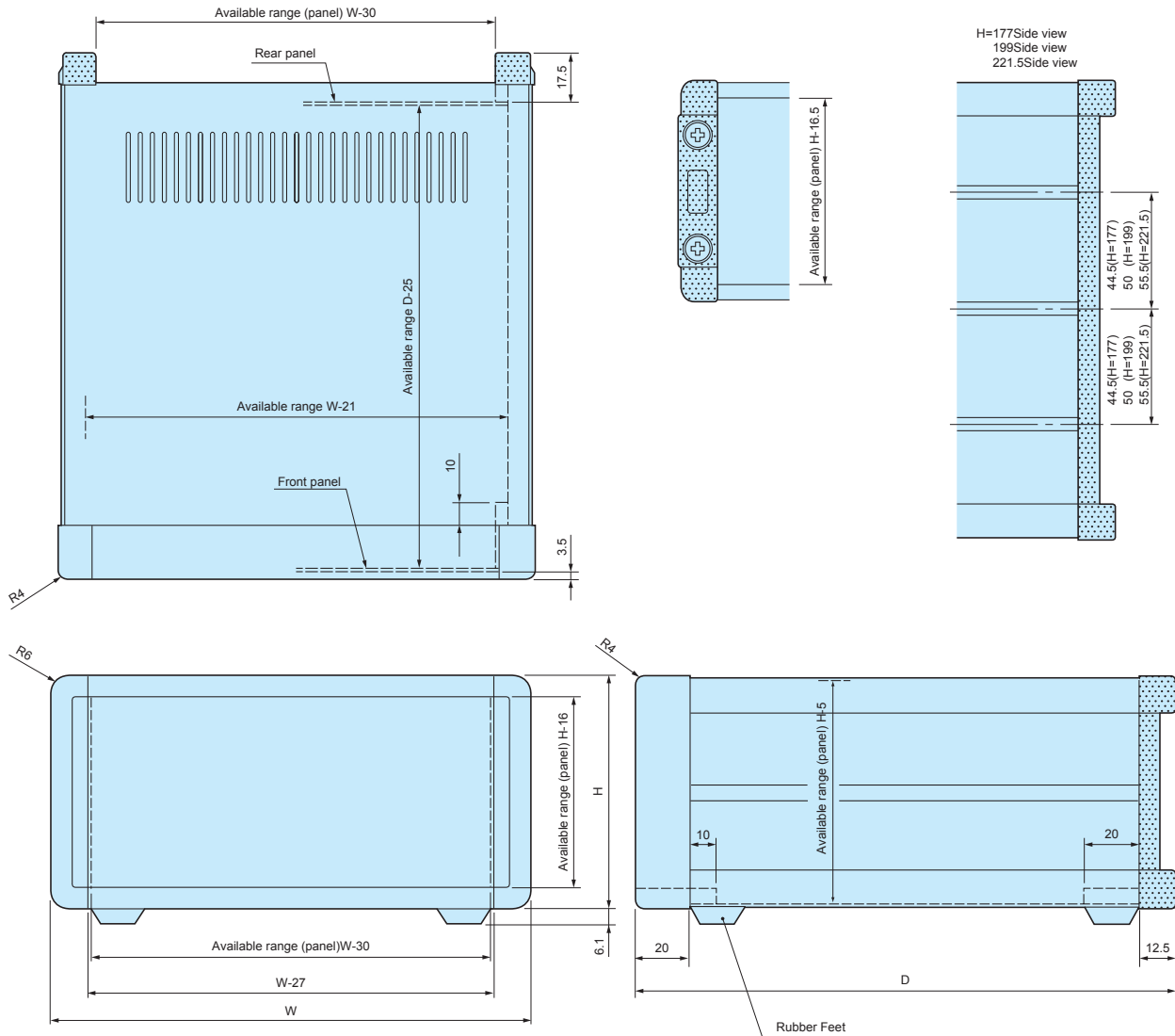
13 Tilt leg TL series
See page TL • CBF-1



Cable hook CBF series
See page TL • CBF-1

MS dimensions

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



■ Top • Bottom cover of sizes 160x160, 160x230, 160x280, 210x160 do not have ventilation holes.

Color Type

■ Please suffix color code at the end of the product number.

● G		● B		● BS	
Panel	Silver	Panel	Black	Panel	Silver
Top • Bottom cover	Light gray	Top • Bottom cover	Black	Top • Bottom cover	Black
Side frame	Gray	Side frame	Black	Side frame	Black

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MS 66-16-16□	66	160	160	1.0
MS 66-16-23□	66	160	230	1.3
MS 66-16-28□	66	160	280	1.6
MS 66-21-16□	66	210	160	1.2
MS 66-21-23□	66	210	230	1.6
MS 66-21-28□	66	210	280	1.8
MS 66-21-35□	66	210	350	2.2
MS 66-26-23□	66	260	230	1.8
MS 66-26-28□	66	260	280	2.1
MS 66-26-35□	66	260	350	2.6
MS 66-32-23□	66	320	230	2.1
MS 66-32-28□	66	320	280	2.5
MS 66-32-35□	66	320	350	3.0
MS 66-32-45□	66	320	450	3.7
MS 66-37-23□	66	370	230	2.4
MS 66-37-28□	66	370	280	2.8
MS 66-37-35□	66	370	350	3.3
MS 66-37-45□	66	370	450	4.1
MS 66-43-23□	66	430	230	2.7
MS 66-43-28□	66	430	280	3.1
MS 66-43-35□	66	430	350	3.7
MS 66-43-45□	66	430	450	4.6
MS 88-16-16□	88	160	160	1.1
MS 88-16-23□	88	160	230	1.5
MS 88-16-28□	88	160	280	1.7
MS 88-21-16□	88	210	160	1.3
MS 88-21-23□	88	210	230	1.8
MS 88-21-28□	88	210	280	2.1
MS 88-21-35□	88	210	350	2.5
MS 88-26-23□	88	260	230	2.0
MS 88-26-28□	88	260	280	2.5
MS 88-26-35□	88	260	350	2.8
MS 88-32-23□	88	320	230	2.3
MS 88-32-28□	88	320	280	2.8
MS 88-32-35□	88	320	350	3.2
MS 88-32-45□	88	320	450	4.0
MS 88-37-23□	88	370	230	2.6
MS 88-37-28□	88	370	280	3.0
MS 88-37-35□	88	370	350	3.6
MS 88-37-45□	88	370	450	4.4
MS 88-43-23□	88	430	230	2.9
MS 88-43-28□	88	430	280	3.4
MS 88-43-35□	88	430	350	4.0
MS 88-43-45□	88	430	450	5.0

Product no.	H	W	D	Weight (kg)
MS 99-16-16□	99	160	160	1.1
MS 99-16-23□	99	160	230	1.5
MS 99-16-28□	99	160	280	1.8
MS 99-21-16□	99	210	160	1.4
MS 99-21-23□	99	210	230	1.8
MS 99-21-28□	99	210	280	2.1
MS 99-21-35□	99	210	350	2.5
MS 99-26-23□	99	260	230	2.0
MS 99-26-28□	99	260	280	2.4
MS 99-26-35□	99	260	350	2.8
MS 99-32-23□	99	320	230	2.4
MS 99-32-28□	99	320	280	2.8
MS 99-32-35□	99	320	350	3.3
MS 99-32-45□	99	320	450	4.0
MS 99-37-23□	99	370	230	2.6
MS 99-37-28□	99	370	280	3.0
MS 99-37-35□	99	370	350	3.6
MS 99-37-45□	99	370	450	4.5
MS 99-43-23□	99	430	230	3.0
MS 99-43-28□	99	430	280	3.4
MS 99-43-35□	99	430	350	4.1
MS 99-43-45□	99	430	450	5.0
MS133-16-16□	133	160	160	1.3
MS133-16-23□	133	160	230	1.7
MS133-16-28□	133	160	280	2.0
MS133-21-16□	133	210	160	1.6
MS133-21-23□	133	210	230	2.1
MS133-21-28□	133	210	280	2.4
MS133-21-35□	133	210	350	2.9
MS133-26-23□	133	260	230	2.4
MS133-26-28□	133	260	280	2.8
MS133-26-35□	133	260	350	3.3
MS133-32-23□	133	320	230	2.7
MS133-32-28□	133	320	280	3.2
MS133-32-35□	133	320	350	3.7
MS133-32-45□	133	320	450	4.5
MS133-37-23□	133	370	230	3.0
MS133-37-28□	133	370	280	3.5
MS133-37-35□	133	370	350	4.1
MS133-37-45□	133	370	450	5.0
MS133-43-23□	133	430	230	3.4
MS133-43-28□	133	430	280	3.9
MS133-43-35□	133	430	350	4.6
MS133-43-45□	133	430	450	5.6

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MS149-16-16□	149	160	160	1.4
MS149-16-23□	149	160	230	1.8
MS149-16-28□	149	160	280	2.1
MS149-21-16□	149	210	160	1.6
MS149-21-23□	149	210	230	2.1
MS149-21-28□	149	210	280	2.4
MS149-21-35□	149	210	350	2.9
MS149-26-23□	149	260	230	2.4
MS149-26-28□	149	260	280	2.8
MS149-26-35□	149	260	350	3.3
MS149-32-23□	149	320	230	2.7
MS149-32-28□	149	320	280	3.2
MS149-32-35□	149	320	350	3.8
MS149-32-45□	149	320	450	4.6
MS149-37-23□	149	370	230	3.0
MS149-37-28□	149	370	280	3.5
MS149-37-35□	149	370	350	4.1
MS149-37-45□	149	370	450	5.1
MS149-43-23□	149	430	230	3.4
MS149-43-28□	149	430	280	3.9
MS149-43-35□	149	430	350	4.6
MS149-43-45□	149	430	450	5.6
MS177-16-16□	177	160	160	1.6
MS177-16-23□	177	160	230	2.2
MS177-16-28□	177	160	280	2.5
MS177-21-16□	177	210	160	1.9
MS177-21-23□	177	210	230	2.7
MS177-21-28□	177	210	280	3.1
MS177-21-35□	177	210	350	3.6
MS177-26-23□	177	260	230	3.0
MS177-26-28□	177	260	280	3.4
MS177-26-35□	177	260	350	4.0
MS177-32-23□	177	320	230	3.3
MS177-32-28□	177	320	280	3.9
MS177-32-35□	177	320	350	4.5
MS177-32-45□	177	320	450	5.5
MS177-37-23□	177	370	230	3.6
MS177-37-28□	177	370	280	4.2
MS177-37-35□	177	370	350	4.9
MS177-37-45□	177	370	450	6.0
MS177-43-23□	177	430	230	4.0
MS177-43-28□	177	430	280	4.6
MS177-43-35□	177	430	350	5.4
MS177-43-45□	177	430	450	6.6

Product no.	H	W	D	Weight (kg)
MS199-16-16□	199	160	160	1.9
MS199-16-23□	199	160	230	2.4
MS199-16-28□	199	160	280	2.7
MS199-21-16□	199	210	160	2.1
MS199-21-23□	199	210	230	2.7
MS199-21-28□	199	210	280	3.1
MS199-21-35□	199	210	350	3.7
MS199-26-23□	199	260	230	3.1
MS199-26-28□	199	260	280	3.5
MS199-26-35□	199	260	350	4.1
MS199-32-23□	199	320	230	3.4
MS199-32-28□	199	320	280	3.9
MS199-32-35□	199	320	350	4.7
MS199-32-45□	199	320	450	5.7
MS199-37-23□	199	370	230	3.8
MS199-37-28□	199	370	280	4.3
MS199-37-35□	199	370	350	5.1
MS199-37-45□	199	370	450	6.0
MS199-43-23□	199	430	230	4.2
MS199-43-28□	199	430	280	4.8
MS199-43-35□	199	430	350	5.6
MS199-43-45□	199	430	450	6.9
MS222-16-16□	222	160	160	2.0
MS222-16-23□	222	160	230	2.5
MS222-16-28□	222	160	280	2.8
MS222-21-16□	222	210	160	2.2
MS222-21-23□	222	210	230	2.8
MS222-21-28□	222	210	280	3.2
MS222-21-35□	222	210	350	3.8
MS222-26-23□	222	260	230	3.2
MS222-26-28□	222	260	280	3.6
MS222-26-35□	222	260	350	4.3
MS222-32-23□	222	320	230	3.6
MS222-32-28□	222	320	280	4.1
MS222-32-35□	222	320	350	4.9
MS222-32-45□	222	320	450	6.0
MS222-37-23□	222	370	230	3.9
MS222-37-28□	222	370	280	4.5
MS222-37-35□	222	370	350	5.3
MS222-37-45□	222	370	450	6.4
MS222-43-23□	222	430	230	4.4
MS222-43-28□	222	430	280	5.0
MS222-43-35□	222	430	350	5.9
MS222-43-45□	222	430	450	7.2

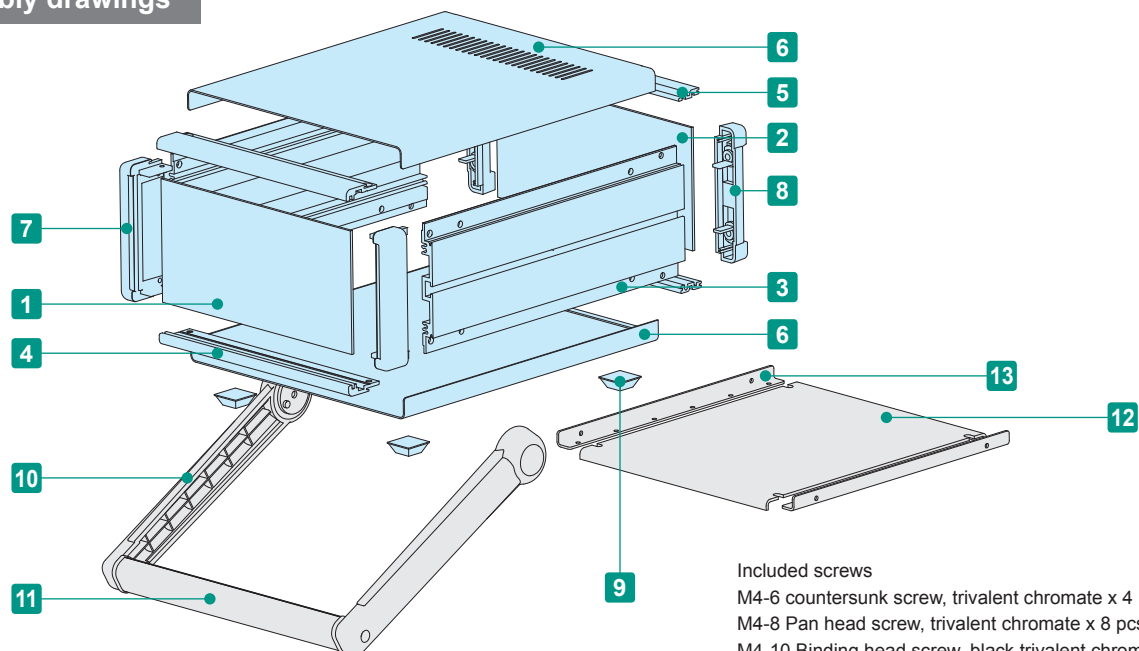
MSN SERIES

DESKTOP ENCLOSURE with STAND HANDLE



- Available in 3 different colors and 176 different sizes.
- Stand handle can be shifted and locked at 30° intervals.
- Maximum load support of 25kg.

Assembly drawings



Included screws

M4-6 countersunk screw, trivalent chromate x 4 pcs

M4-8 Pan head screw, trivalent chromate x 8 pcs

M4-10 Binding head screw, black trivalent chromate x 4 pcs

Components

No.	Part name		Pcs	Material	Color / Finish
1	Front panel		1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
2	Rear panel		1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame		2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame		2	Extruded aluminium A6063S-T5	Gray • Black / Painted
5	Rear frame		2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top • Bottom cover		1 each	Steel SPCC t=1.0	Light gray • Black / Painted
7	Corner block		2	Diecast aluminium ADC12	Gray • Black / Painted
8	Rear feet		2	ABS UL94V-0	Gray • Black
9	Rubber feet		4	Polyurethane	Black
10	Stand handle	Bracket	2	ABS UL94HB	Light gray • Black
11		Grip	1	Extruded aluminium A6063S-T5	Silver • Black

■ Note: Front / rear panels are covered with a protective film on one side. Remove before assembly.

Accessories (Optional parts)



12 Mounting plate MSC series
See page MSC • MSCL-1

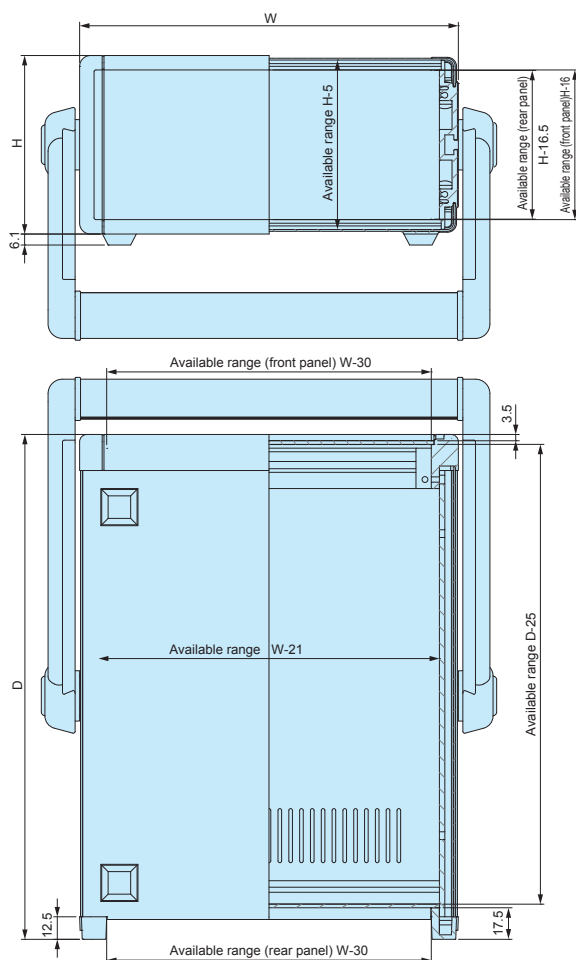


2 L-bracket MSCL series
See page MSC • MSCL-1

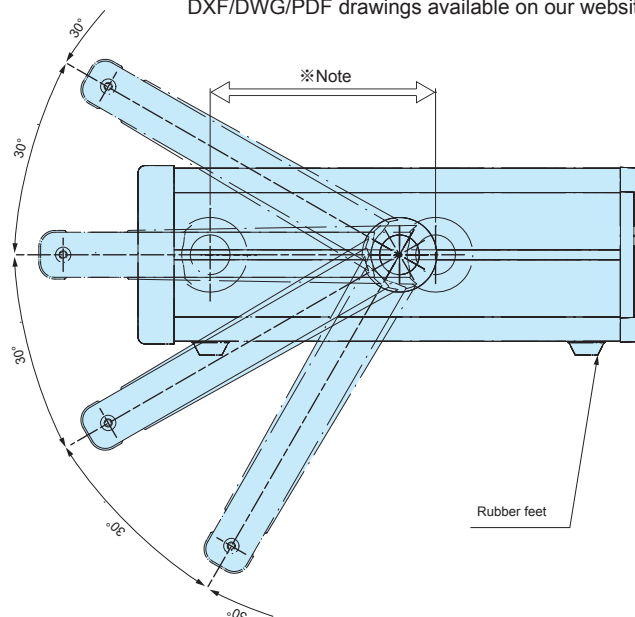


Cable hook CBF series
See page TL • CBF-1

MSN dimensions



■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



※ Note
Stand handle location can be freely affixed within denoted range.

■ Top • Bottom cover of sizes 160x160, 160x230, 160x280, 210x160 do not have ventilation holes.

Color Type

■ Please suffix color code at the end of the product number.

● G		● B		● BS	
Panel	Silver	Panel	Black	Panel	Silver
Top • Bottom cover	Light gray	Top • Bottom cover	Black	Top • Bottom cover	Black
Side frame	Gray	Side frame	Black	Side frame	Black

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MSN 66-16-16 □	66	160	160	1.2
MSN 66-16-23 □	66	160	230	1.5
MSN 66-16-28 □	66	160	280	1.8
MSN 66-21-16 □	66	210	160	1.4
MSN 66-21-23 □	66	210	230	1.8
MSN 66-21-28 □	66	210	280	2.1
MSN 66-21-35 □	66	210	350	2.5
MSN 66-26-23 □	66	260	230	2.1
MSN 66-26-28 □	66	260	280	2.4
MSN 66-26-35 □	66	260	350	2.9
MSN 66-32-23 □	66	320	230	2.4
MSN 66-32-28 □	66	320	280	2.8
MSN 66-32-35 □	66	320	350	3.4
MSN 66-32-45 □	66	320	450	4.1
MSN 66-37-23 □	66	370	230	2.6
MSN 66-37-28 □	66	370	280	3.1
MSN 66-37-35 □	66	370	350	3.7
MSN 66-37-45 □	66	370	450	4.4
MSN 66-43-23 □	66	430	230	3.0
MSN 66-43-28 □	66	430	280	3.5
MSN 66-43-35 □	66	430	350	4.2
MSN 66-43-45 □	66	430	450	5.2
MSN 88-16-16 □	88	160	160	1.3
MSN 88-16-23 □	88	160	230	1.6
MSN 88-16-28 □	88	160	280	1.9
MSN 88-21-16 □	88	210	160	1.5
MSN 88-21-23 □	88	210	230	1.9
MSN 88-21-28 □	88	210	280	2.3
MSN 88-21-35 □	88	210	350	2.7
MSN 88-26-23 □	88	260	230	2.3
MSN 88-26-28 □	88	260	280	2.6
MSN 88-26-35 □	88	260	350	3.1
MSN 88-32-23 □	88	320	230	2.6
MSN 88-32-28 □	88	320	280	3.0
MSN 88-32-35 □	88	320	350	3.6
MSN 88-32-45 □	88	320	450	4.4
MSN 88-37-23 □	88	370	230	2.9
MSN 88-37-28 □	88	370	280	3.3
MSN 88-37-35 □	88	370	350	4.0
MSN 88-37-45 □	88	370	450	4.7
MSN 88-43-23 □	88	430	230	3.2
MSN 88-43-28 □	88	430	280	3.7
MSN 88-43-35 □	88	430	350	4.4
MSN 88-43-45 □	88	430	450	5.5

Product no.	H	W	D	Weight (kg)
MSN 99-16-16 □	99	160	160	1.3
MSN 99-16-23 □	99	160	230	1.7
MSN 99-16-28 □	99	160	280	2.0
MSN 99-21-16 □	99	210	160	1.6
MSN 99-21-23 □	99	210	230	2.0
MSN 99-21-28 □	99	210	280	2.3
MSN 99-21-35 □	99	210	350	2.8
MSN 99-26-23 □	99	260	230	2.3
MSN 99-26-28 □	99	260	280	2.7
MSN 99-26-35 □	99	260	350	3.2
MSN 99-32-23 □	99	320	230	2.6
MSN 99-32-28 □	99	320	280	3.1
MSN 99-32-35 □	99	320	350	3.7
MSN 99-32-45 □	99	320	450	4.5
MSN 99-37-23 □	99	370	230	2.9
MSN 99-37-28 □	99	370	280	3.4
MSN 99-37-35 □	99	370	350	4.1
MSN 99-37-45 □	99	370	450	4.8
MSN 99-43-23 □	99	430	230	3.3
MSN 99-43-28 □	99	430	280	3.8
MSN 99-43-35 □	99	430	350	4.5
MSN 99-43-45 □	99	430	450	5.6
MSN133-16-16 □	133	160	160	1.5
MSN133-16-23 □	133	160	230	1.9
MSN133-16-28 □	133	160	280	2.2
MSN133-21-16 □	133	210	160	1.8
MSN133-21-23 □	133	210	230	2.3
MSN133-21-28 □	133	210	280	2.6
MSN133-21-35 □	133	210	350	3.1
MSN133-26-23 □	133	260	230	2.6
MSN133-26-28 □	133	260	280	3.0
MSN133-26-35 □	133	260	350	3.5
MSN133-32-23 □	133	320	230	2.9
MSN133-32-28 □	133	320	280	3.4
MSN133-32-35 □	133	320	350	4.0
MSN133-32-45 □	133	320	450	4.9
MSN133-37-23 □	133	370	230	3.3
MSN133-37-28 □	133	370	280	3.8
MSN133-37-35 □	133	370	350	4.4
MSN133-37-45 □	133	370	450	5.2
MSN133-43-23 □	133	430	230	3.7
MSN133-43-28 □	133	430	280	4.2
MSN133-43-35 □	133	430	350	4.9
MSN133-43-45 □	133	430	450	6.0

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MSN149-16-16 □	149	160	160	1.6
MSN149-16-23 □	149	160	230	2.0
MSN149-16-28 □	149	160	280	2.4
MSN149-21-16 □	149	210	160	1.8
MSN149-21-23 □	149	210	230	2.4
MSN149-21-28 □	149	210	280	2.7
MSN149-21-35 □	149	210	350	3.2
MSN149-26-23 □	149	260	230	2.7
MSN149-26-28 □	149	260	280	3.1
MSN149-26-35 □	149	260	350	3.6
MSN149-32-23 □	149	320	230	3.1
MSN149-32-28 □	149	320	280	3.5
MSN149-32-35 □	149	320	350	4.2
MSN149-32-45 □	149	320	450	5.1
MSN149-37-23 □	149	370	230	3.4
MSN149-37-28 □	149	370	280	3.9
MSN149-37-35 □	149	370	350	4.6
MSN149-37-45 □	149	370	450	5.4
MSN149-43-23 □	149	430	230	3.8
MSN149-43-28 □	149	430	280	4.4
MSN149-43-35 □	149	430	350	5.1
MSN149-43-45 □	149	430	450	6.3
MSN177-16-16 □	177	160	160	1.9
MSN177-16-23 □	177	160	230	2.4
MSN177-16-28 □	177	160	280	2.8
MSN177-21-16 □	177	210	160	2.2
MSN177-21-23 □	177	210	230	2.8
MSN177-21-28 □	177	210	280	3.2
MSN177-21-35 □	177	210	350	3.8
MSN177-26-23 □	177	260	230	3.2
MSN177-26-28 □	177	260	280	3.6
MSN177-26-35 □	177	260	350	4.2
MSN177-32-23 □	177	320	230	3.5
MSN177-32-28 □	177	320	280	4.0
MSN177-32-35 □	177	320	350	4.8
MSN177-32-45 □	177	320	450	5.8
MSN177-37-23 □	177	370	230	3.9
MSN177-37-28 □	177	370	280	4.4
MSN177-37-35 □	177	370	350	5.2
MSN177-37-45 □	177	370	450	6.1
MSN177-43-23 □	177	430	230	4.3
MSN177-43-28 □	177	430	280	4.9
MSN177-43-35 □	177	430	350	5.7
MSN177-43-45 □	177	430	450	7.0

Product no.	H	W	D	Weight (kg)
MSN199-16-16 □	199	160	160	2.0
MSN199-16-23 □	199	160	230	2.6
MSN199-16-28 □	199	160	280	2.9
MSN199-21-16 □	199	210	160	2.3
MSN199-21-23 □	199	210	230	2.9
MSN199-21-28 □	199	210	280	3.3
MSN199-21-35 □	199	210	350	3.9
MSN199-26-23 □	199	260	230	3.3
MSN199-26-28 □	199	260	280	3.7
MSN199-26-35 □	199	260	350	4.4
MSN199-32-23 □	199	320	230	3.7
MSN199-32-28 □	199	320	280	4.2
MSN199-32-35 □	199	320	350	4.9
MSN199-32-45 □	199	320	450	5.9
MSN199-37-23 □	199	370	230	4.0
MSN199-37-28 □	199	370	280	4.6
MSN199-37-35 □	199	370	350	5.4
MSN199-37-45 □	199	370	450	6.3
MSN199-43-23 □	199	430	230	4.5
MSN199-43-28 □	199	430	280	5.1
MSN199-43-35 □	199	430	350	5.9
MSN199-43-45 □	199	430	450	7.2
MSN222-16-16 □	222	160	160	2.2
MSN222-16-23 □	222	160	230	2.7
MSN222-16-28 □	222	160	280	3.0
MSN222-21-16 □	222	210	160	2.5
MSN222-21-23 □	222	210	230	3.0
MSN222-21-28 □	222	210	280	3.4
MSN222-21-35 □	222	210	350	4.1
MSN222-26-23 □	222	260	230	3.4
MSN222-26-28 □	222	260	280	3.8
MSN222-26-35 □	222	260	350	4.5
MSN222-32-23 □	222	320	230	3.8
MSN222-32-28 □	222	320	280	4.3
MSN222-32-35 □	222	320	350	5.1
MSN222-32-45 □	222	320	450	6.2
MSN222-37-23 □	222	370	230	4.2
MSN222-37-28 □	222	370	280	4.8
MSN222-37-35 □	222	370	350	5.6
MSN222-37-45 □	222	370	450	6.6
MSN222-43-23 □	222	430	230	4.7
MSN222-43-28 □	222	430	280	5.2
MSN222-43-35 □	222	430	350	6.1
MSN222-43-45 □	222	430	450	7.5

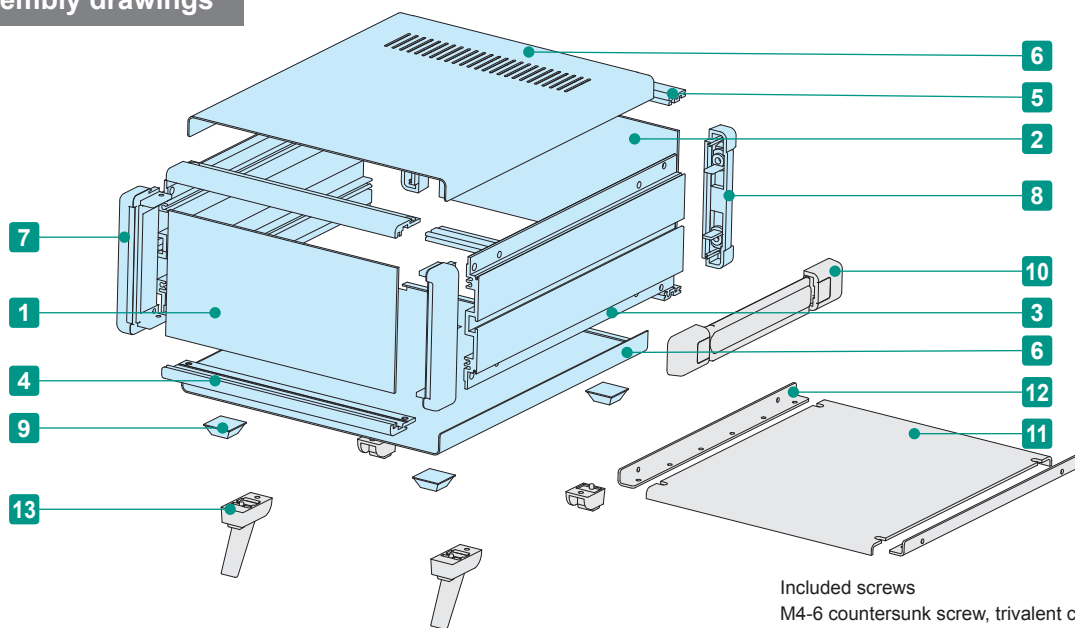
MSY SERIES

DESKTOP ENCLOSURE with CARRYING HANDLE



- Available in 3 different colors and 160 different sizes.
- Maximum load support of 20kg.

Assembly drawings



Included screws
 M4-6 countersunk screw, trivalent chromate x 4 pcs
 M4-8 Pan head screw, trivalent chromate x 8 pcs
 M4-10 Binding head screw, black trivalent chromate x 4 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Front panel	1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
2	Rear panel	1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
5	Rear frame	2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top • Bottom cover	1 each	Steel SPCC t=1.0	Light gray • Black / Painted
7	Corner block	2	Diecast aluminium ADC12	Gray • Black / Painted
8	Rear feet	2	ABS UL94V-0	Gray • Black
9	Rubber feet	4	Polyurethane	Black
10	Carrying handle	1	PP + Elastomer	Gray • Black

■ Note: Front / rear panels are covered with a protective film on one side. Remove before assembly.

Accessories (Optional parts)



11 Mounting plate MSC series
See page MSC • MSCL-1



12 L-bracket MSCL series
See page MSC • MSCL-1



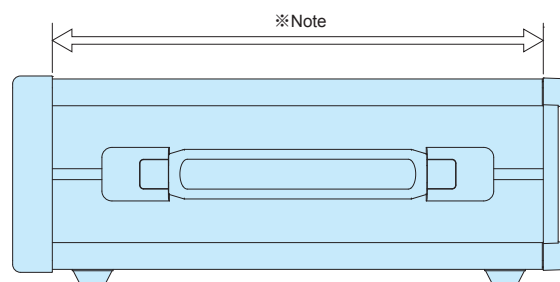
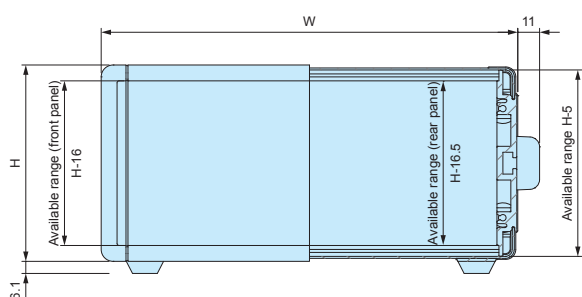
13 Tilt leg TL series
See page TL • CBF-1



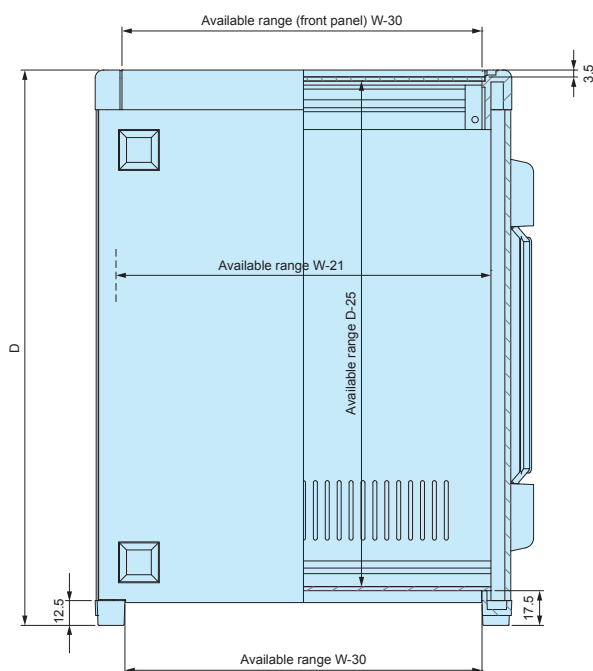
Cable hook CBF series
See page TL • CBF-1

MSY dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



※ Note
Carrying handle location can be freely affixed within denoted range.



■ Top • Bottom cover of sizes 160×230, 160×280 do not have ventilation holes.

Color Type

■ Please suffix color code at the end of the product number.

● G		● B		● BS	
Panel	Silver	Panel	Black	Panel	Silver
Top • Bottom cover	Light gray	Top • Bottom cover	Black	Top • Bottom cover	Black
Side frame	Gray	Side frame	Black	Side frame	Black

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MSY 66-16-23 □	66	160	230	1.4
MSY 66-16-28 □	66	160	280	1.6
MSY 66-21-23 □	66	210	230	1.6
MSY 66-21-28 □	66	210	280	1.9
MSY 66-21-35 □	66	210	350	2.3
MSY 66-26-23 □	66	260	230	1.9
MSY 66-26-28 □	66	260	280	2.2
MSY 66-26-35 □	66	260	350	2.7
MSY 66-32-23 □	66	320	230	2.2
MSY 66-32-28 □	66	320	280	2.6
MSY 66-32-35 □	66	320	350	3.1
MSY 66-32-45 □	66	320	450	3.9
MSY 66-37-23 □	66	370	230	2.5
MSY 66-37-28 □	66	370	280	2.9
MSY 66-37-35 □	66	370	350	3.5
MSY 66-37-45 □	66	370	450	4.2
MSY 66-43-23 □	66	430	230	2.8
MSY 66-43-28 □	66	430	280	3.3
MSY 66-43-35 □	66	430	350	3.9
MSY 66-43-45 □	66	430	450	4.9
MSY 88-16-23 □	88	160	230	1.5
MSY 88-16-28 □	88	160	280	1.8
MSY 88-21-23 □	88	210	230	1.8
MSY 88-21-28 □	88	210	280	2.1
MSY 88-21-35 □	88	210	350	2.5
MSY 88-26-23 □	88	260	230	2.1
MSY 88-26-28 □	88	260	280	2.4
MSY 88-26-35 □	88	260	350	2.9
MSY 88-32-23 □	88	320	230	2.4
MSY 88-32-28 □	88	320	280	2.8
MSY 88-32-35 □	88	320	350	3.4
MSY 88-32-45 □	88	320	450	4.2
MSY 88-37-23 □	88	370	230	2.7
MSY 88-37-28 □	88	370	280	3.1
MSY 88-37-35 □	88	370	350	3.7
MSY 88-37-45 □	88	370	450	4.5
MSY 88-43-23 □	88	430	230	3.0
MSY 88-43-28 □	88	430	280	3.5
MSY 88-43-35 □	88	430	350	4.2
MSY 88-43-45 □	88	430	450	5.2

Product no.	H	W	D	Weight (kg)
MSY 99-16-23 □	99	160	230	1.6
MSY 99-16-28 □	99	160	280	1.8
MSY 99-21-23 □	99	210	230	1.8
MSY 99-21-28 □	99	210	280	2.1
MSY 99-21-35 □	99	210	350	2.6
MSY 99-26-23 □	99	260	230	2.2
MSY 99-26-28 □	99	260	280	2.5
MSY 99-26-35 □	99	260	350	3.0
MSY 99-32-23 □	99	320	230	2.5
MSY 99-32-28 □	99	320	280	2.9
MSY 99-32-35 □	99	320	350	3.5
MSY 99-32-45 □	99	320	450	4.3
MSY 99-37-23 □	99	370	230	2.7
MSY 99-37-28 □	99	370	280	3.2
MSY 99-37-35 □	99	370	350	3.8
MSY 99-37-45 □	99	370	450	4.6
MSY 99-43-23 □	99	430	230	3.1
MSY 99-43-28 □	99	430	280	3.6
MSY 99-43-35 □	99	430	350	4.3
MSY 99-43-45 □	99	430	450	5.3
MSY133-16-23 □	133	160	230	1.8
MSY133-16-28 □	133	160	280	2.1
MSY133-21-23 □	133	210	230	2.1
MSY133-21-28 □	133	210	280	2.4
MSY133-21-35 □	133	210	350	2.9
MSY133-26-23 □	133	260	230	2.4
MSY133-26-28 □	133	260	280	2.8
MSY133-26-35 □	133	260	350	3.3
MSY133-32-23 □	133	320	230	2.7
MSY133-32-28 □	133	320	280	3.2
MSY133-32-35 □	133	320	350	3.8
MSY133-32-45 □	133	320	450	4.6
MSY133-37-23 □	133	370	230	3.0
MSY133-37-28 □	133	370	280	3.5
MSY133-37-35 □	133	370	350	4.2
MSY133-37-45 □	133	370	450	5.0
MSY133-43-23 □	133	430	230	3.4
MSY133-43-28 □	133	430	280	3.9
MSY133-43-35 □	133	430	350	4.7
MSY133-43-45 □	133	430	450	5.8

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MSY149-16-23 □	149	160	230	1.9
MSY149-16-28 □	149	160	280	2.2
MSY149-21-23 □	149	210	230	2.2
MSY149-21-28 □	149	210	280	2.5
MSY149-21-35 □	149	210	350	3.0
MSY149-26-23 □	149	260	230	2.5
MSY149-26-28 □	149	260	280	2.9
MSY149-26-35 □	149	260	350	3.4
MSY149-32-23 □	149	320	230	2.9
MSY149-32-28 □	149	320	280	3.3
MSY149-32-35 □	149	320	350	4.0
MSY149-32-45 □	149	320	450	4.9
MSY149-37-23 □	149	370	230	3.2
MSY149-37-28 □	149	370	280	3.7
MSY149-37-35 □	149	370	350	4.3
MSY149-37-45 □	149	370	450	5.2
MSY149-43-23 □	149	430	230	3.6
MSY149-43-28 □	149	430	280	4.1
MSY149-43-35 □	149	430	350	4.8
MSY149-43-45 □	149	430	450	6.0
MSY177-16-23 □	177	160	230	2.3
MSY177-16-28 □	177	160	280	2.6
MSY177-21-23 □	177	210	230	2.6
MSY177-21-28 □	177	210	280	3.0
MSY177-21-35 □	177	210	350	3.6
MSY177-26-23 □	177	260	230	3.0
MSY177-26-28 □	177	260	280	3.4
MSY177-26-35 □	177	260	350	4.0
MSY177-32-23 □	177	320	230	3.3
MSY177-32-28 □	177	320	280	3.8
MSY177-32-35 □	177	320	350	4.6
MSY177-32-45 □	177	320	450	5.6
MSY177-37-23 □	177	370	230	3.6
MSY177-37-28 □	177	370	280	4.2
MSY177-37-35 □	177	370	350	5.0
MSY177-37-45 □	177	370	450	5.9
MSY177-43-23 □	177	430	230	4.0
MSY177-43-28 □	177	430	280	4.6
MSY177-43-35 □	177	430	350	5.5
MSY177-43-45 □	177	430	450	6.7

Product no.	H	W	D	Weight (kg)
MSY199-16-23 □	199	160	230	2.4
MSY199-16-28 □	199	160	280	2.8
MSY199-21-23 □	199	210	230	2.7
MSY199-21-28 □	199	210	280	3.1
MSY199-21-35 □	199	210	350	3.7
MSY199-26-23 □	199	260	230	3.1
MSY199-26-28 □	199	260	280	3.5
MSY199-26-35 □	199	260	350	4.2
MSY199-32-23 □	199	320	230	3.5
MSY199-32-28 □	199	320	280	4.0
MSY199-32-35 □	199	320	350	4.7
MSY199-32-45 □	199	320	450	5.7
MSY199-37-23 □	199	370	230	3.8
MSY199-37-28 □	199	370	280	4.4
MSY199-37-35 □	199	370	350	5.1
MSY199-37-45 □	199	370	450	6.1
MSY199-43-23 □	199	430	230	4.2
MSY199-43-28 □	199	430	280	4.8
MSY199-43-35 □	199	430	350	5.6
MSY199-43-45 □	199	430	450	6.9
MSY222-16-23 □	222	160	230	2.5
MSY222-16-28 □	222	160	280	2.9
MSY222-21-23 □	222	210	230	2.9
MSY222-21-28 □	222	210	280	3.3
MSY222-21-35 □	222	210	350	3.9
MSY222-26-23 □	222	260	230	3.3
MSY222-26-28 □	222	260	280	3.7
MSY222-26-35 □	222	260	350	4.4
MSY222-32-23 □	222	320	230	3.6
MSY222-32-28 □	222	320	280	4.1
MSY222-32-35 □	222	320	350	4.9
MSY222-32-45 □	222	320	450	6.0
MSY222-37-23 □	222	370	230	4.0
MSY222-37-28 □	222	370	280	4.5
MSY222-37-35 □	222	370	350	5.3
MSY222-37-45 □	222	370	450	6.4
MSY222-43-23 □	222	430	230	4.4
MSY222-43-28 □	222	430	280	5.0
MSY222-43-35 □	222	430	350	5.9
MSY222-43-45 □	222	430	450	7.2

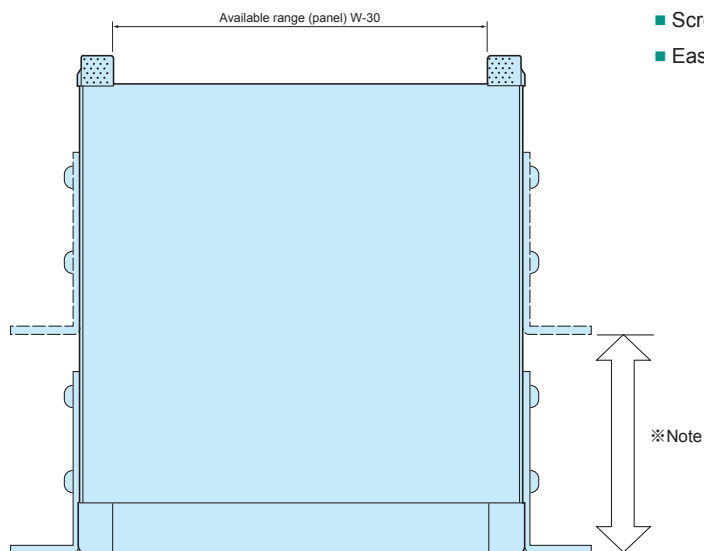
MSR SERIES

RACK MOUNT ENCLOSURE

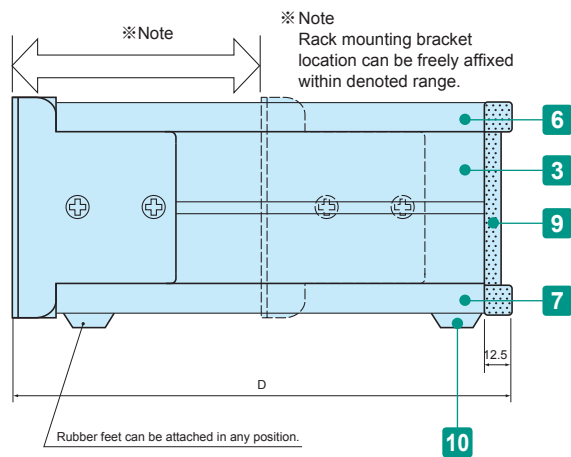
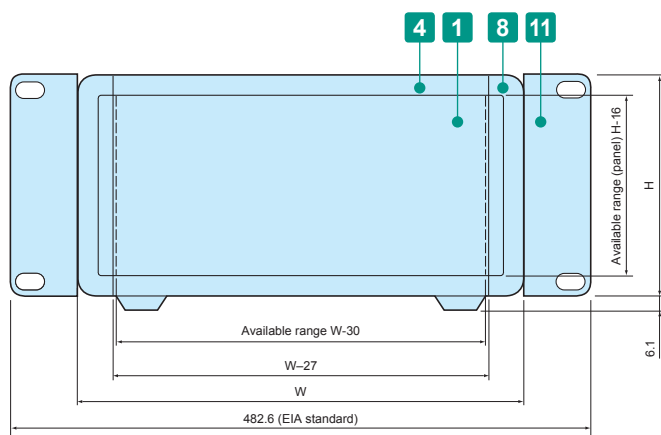


MSR dimensions

- 16 different sizes available.
- Screws are hidden out of view for a sophisticated and elegant look.
- Easy to punch or mill holes on both front and rear panels.



■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Components

■ Refer to page 250 for more information on rack mounting bracket.

No.	Part name	Pcs	Material	Color / Finish
1	Front panel	1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
–	Rear panel	1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
–	Rear frame	2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top cover	1	Steel SPCC t=1.0	Light gray • Black / Painted
7	Bottom cover	1	Steel SPCC t=1.0	Light gray • Black / Painted
8	Corner block	2	Diecast aluminium ADC12	Gray • Black / Painted
9	Rear feet	2	ABS UL94V-0	Gray • Black
10	Rubber feet	4	Polyurethane	Black
11	Rack mounting bracket	2	Extruded aluminium A6063S-T5	Gray • Black painted

■ Note: Front / rear panels are covered with a protective film on one side. Remove before assembly.

Included screws and nuts
M4-6 countersunk • Trivalent chromate x 4 pcs
M4-8 Pan head • Trivalent chromate x 8 pcs
M4-10 Binding head • Black trivalent chromate x 4 pcs
M5-10 Flat head • Black trivalent chromate x 4 pcs
M5 Nut (Product no. MZ-5) x 4 pcs

Accessories (Optional parts)



Mounting plate MSC series
See page MSC • MSCL-1



L-bracket MSCL series
See page MSC • MSCL-1



Aluminium handle OH series
See page OH • KH-1



Cable hook CBF series
See page TL • CBF-1

Color Type

■ Please suffix color code at the end of the product number.

● G		● B		● BS	
Panel	Silver	Panel	Black	Panel	Silver
Top • Bottom cover	Light gray	Top • Bottom cover	Black	Top • Bottom cover	Black
Side frame	Gray	Side frame	Black	Side frame	Black

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MSR 88-43-23□	88	430	230	3.1
MSR 88-43-28□	88	430	280	3.5
MSR 88-43-35□	88	430	350	4.2
MSR 88-43-45□	88	430	450	5.1
MSR133-43-23□	132.5	430	230	3.6
MSR133-43-28□	132.5	430	280	4.1
MSR133-43-35□	132.5	430	350	4.8
MSR133-43-45□	132.5	430	450	5.8
MSR177-43-23□	177	430	230	4.3
MSR177-43-28□	177	430	280	4.9
MSR177-43-35□	177	430	350	5.7
MSR177-43-45□	177	430	450	6.9
MSR222-43-23□	221.5	430	230	4.7
MSR222-43-28□	221.5	430	280	5.3
MSR222-43-35□	221.5	430	350	6.2
MSR222-43-45□	221.5	430	450	7.5

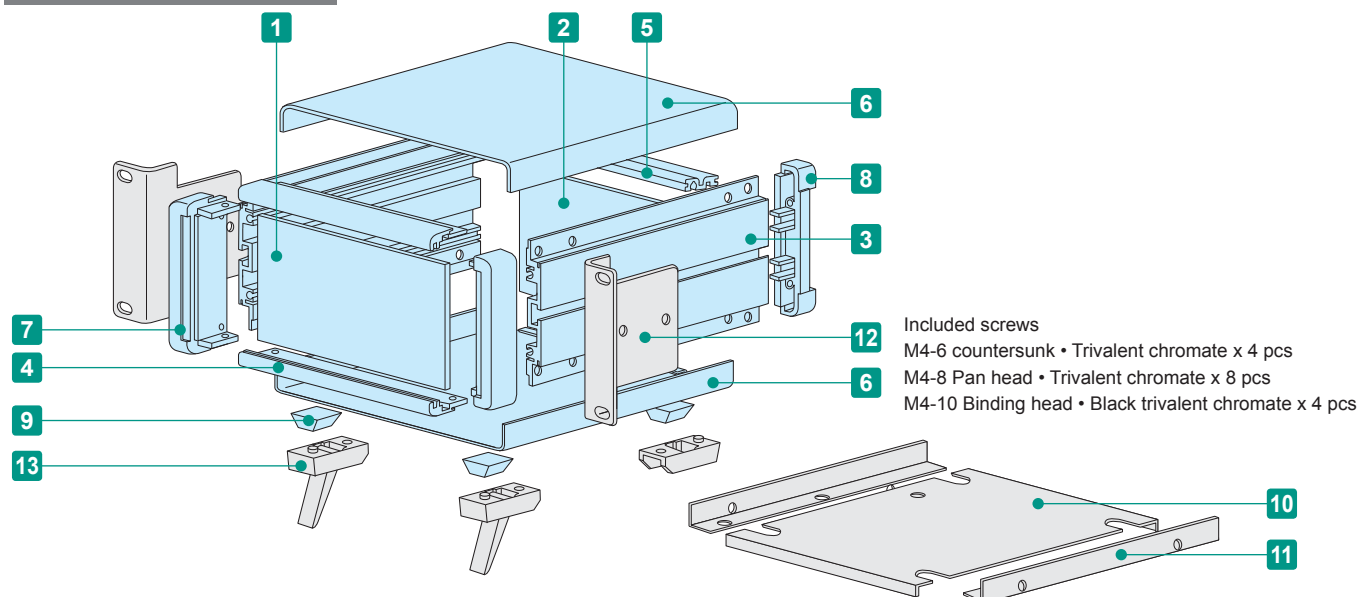
MO SERIES

ALUMINIUM SYSTEM CASE



- Available in 3 different colors and 176 different sizes.
- Lightweight aluminium system case.
- Suitable for use as measuring instruments, testing equipment, power supply controller, etc.

Assembly drawings



Components

No.	Part name	Pcs	Material	Color / Finish
1	Front panel	1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
2	Rear panel	1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
5	Rear frame	2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top • bottom cover	1 each	Aluminium A1100P t=1.0	Light gray • Black / Painted
7	Corner block	2	Diecast aluminium ADC12	Gray • Black / Painted
8	Rear feet	2	ABS UL94V-0	Gray • Black
9	Rubber feet	4	Polyurethane	Black

■ Note: Front / rear panels and top / bottom covers are covered with a protective film on one side. Remove before assembly.

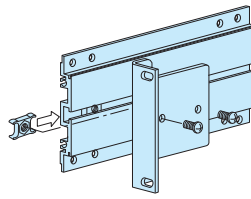
Accessories (Optional parts)



10 Mounting plate MSC series
See page MSC • MSCL-1



11 L-bracket MSCL series
See page MSC • MSCL-1



12 Rack mounting MSM series
See MSM • MZ-1



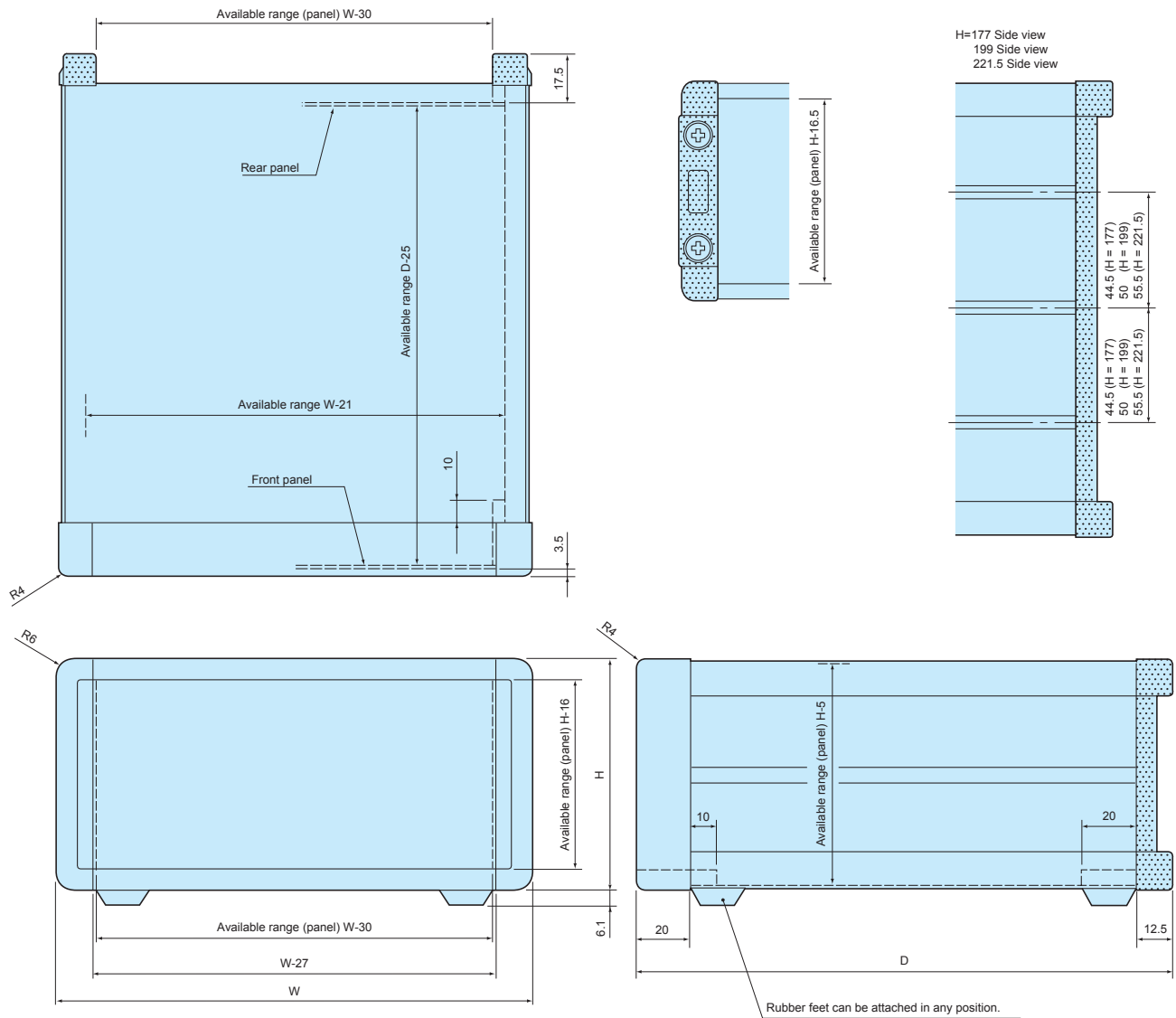
13 Tilt let TL series
See page TL • CBF-1



Cable hook CBF series
See page TL • CBF-1

MO dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Color Type

■ Please suffix color code at the end of the product number.

● G

● B

● BS



Panel	Silver
Top • Bottom cover	Light Gray
Side frame	Gray



Panel	Black
Top • Bottom cover	Black
Side frame	Black



Panel	Silver
Top • Bottom cover	Black
Side frame	Black

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MO 66-16-16 □	66	160	160	0.8
MO 66-16-23 □	66	160	230	1.0
MO 66-16-28 □	66	160	280	1.1
MO 66-21-16 □	66	210	160	0.9
MO 66-21-23 □	66	210	230	1.1
MO 66-21-28 □	66	210	280	1.3
MO 66-21-35 □	66	210	350	1.5
MO 66-26-23 □	66	260	230	1.3
MO 66-26-28 □	66	260	280	1.5
MO 66-26-35 □	66	260	350	1.7
MO 66-32-23 □	66	320	230	1.5
MO 66-32-28 □	66	320	280	1.7
MO 66-32-35 □	66	320	350	2.0
MO 66-32-45 □	66	320	450	2.4
MO 66-37-23 □	66	370	230	1.6
MO 66-37-28 □	66	370	280	1.9
MO 66-37-35 □	66	370	350	2.2
MO 66-37-45 □	66	370	450	2.6
MO 66-43-23 □	66	430	230	1.8
MO 66-43-28 □	66	430	280	2.1
MO 66-43-35 □	66	430	350	2.4
MO 66-43-45 □	66	430	450	2.9
MO 88-16-16 □	88	160	160	0.9
MO 88-16-23 □	88	160	230	1.1
MO 88-16-28 □	88	160	280	1.3
MO 88-21-16 □	88	210	160	1.0
MO 88-21-23 □	88	210	230	1.3
MO 88-21-28 □	88	210	280	1.5
MO 88-21-35 □	88	210	350	1.7
MO 88-26-23 □	88	260	230	1.5
MO 88-26-28 □	88	260	280	1.7
MO 88-26-35 □	88	260	350	2.0
MO 88-32-23 □	88	320	230	1.7
MO 88-32-28 □	88	320	280	1.9
MO 88-32-35 □	88	320	350	2.2
MO 88-32-45 □	88	320	450	2.7
MO 88-37-23 □	88	370	230	1.8
MO 88-37-28 □	88	370	280	2.1
MO 88-37-35 □	88	370	350	2.4
MO 88-37-45 □	88	370	450	2.9
MO 88-43-23 □	88	430	230	2.1
MO 88-43-28 □	88	430	280	2.3
MO 88-43-35 □	88	430	350	2.7
MO 88-43-45 □	88	430	450	3.2

Product no.	H	W	D	Weight (kg)
MO 99-16-16 □	99	160	160	0.9
MO 99-16-23 □	99	160	230	1.2
MO 99-16-28 □	99	160	280	1.3
MO 99-21-16 □	99	210	160	1.1
MO 99-21-23 □	99	210	230	1.3
MO 99-21-28 □	99	210	280	1.5
MO 99-21-35 □	99	210	350	1.8
MO 99-26-23 □	99	260	230	1.6
MO 99-26-28 □	99	260	280	1.7
MO 99-26-35 □	99	260	350	2.0
MO 99-32-23 □	99	320	230	1.7
MO 99-32-28 □	99	320	280	2.0
MO 99-32-35 □	99	320	350	2.3
MO 99-32-45 □	99	320	450	2.8
MO 99-37-23 □	99	370	230	1.9
MO 99-37-28 □	99	370	280	2.2
MO 99-37-35 □	99	370	350	2.5
MO 99-37-45 □	99	370	450	3.0
MO 99-43-23 □	99	430	230	2.1
MO 99-43-28 □	99	430	280	2.4
MO 99-43-35 □	99	430	350	2.8
MO 99-43-45 □	99	430	450	3.4
MO133-16-16 □	132.5	160	160	1.1
MO133-16-23 □	132.5	160	230	1.4
MO133-16-28 □	132.5	160	280	1.6
MO133-21-16 □	132.5	210	160	1.3
MO133-21-23 □	132.5	210	230	1.6
MO133-21-28 □	132.5	210	280	1.8
MO133-21-35 □	132.5	210	350	2.1
MO133-26-23 □	132.5	260	230	1.8
MO133-26-28 □	132.5	260	280	2.0
MO133-26-35 □	132.5	260	350	2.4
MO133-32-23 □	132.5	320	230	2.0
MO133-32-28 □	132.5	320	280	2.3
MO133-32-35 □	132.5	320	350	2.7
MO133-32-45 □	132.5	320	450	3.2
MO133-37-23 □	132.5	370	230	2.2
MO133-37-28 □	132.5	370	280	2.5
MO133-37-35 □	132.5	370	350	2.9
MO133-37-45 □	132.5	370	450	3.4
MO133-43-23 □	132.5	430	230	2.5
MO133-43-28 □	132.5	430	280	2.8
MO133-43-35 □	132.5	430	350	3.2
MO133-43-45 □	132.5	430	450	3.8

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MO149-16-16 □	149	160	160	1.2
MO149-16-23 □	149	160	230	1.5
MO149-16-28 □	149	160	280	1.7
MO149-21-16 □	149	210	160	1.4
MO149-21-23 □	149	210	230	1.7
MO149-21-28 □	149	210	280	1.9
MO149-21-35 □	149	210	350	2.2
MO149-26-23 □	149	260	230	1.9
MO149-26-28 □	149	260	280	2.2
MO149-26-35 □	149	260	350	2.5
MO149-32-23 □	149	320	230	2.1
MO149-32-28 □	149	320	280	2.4
MO149-32-35 □	149	320	350	2.8
MO149-32-45 □	149	320	450	3.4
MO149-37-23 □	149	370	230	2.4
MO149-37-28 □	149	370	280	2.6
MO149-37-35 □	149	370	350	3.0
MO149-37-45 □	149	370	450	3.6
MO149-43-23 □	149	430	230	2.6
MO149-43-28 □	149	430	280	2.9
MO149-43-35 □	149	430	350	3.3
MO149-43-45 □	149	430	450	4.0
MO177-16-16 □	177	160	160	1.5
MO177-16-23 □	177	160	230	1.9
MO177-16-28 □	177	160	280	2.1
MO177-21-16 □	177	210	160	1.7
MO177-21-23 □	177	210	230	2.1
MO177-21-28 □	177	210	280	2.4
MO177-21-35 □	177	210	350	2.8
MO177-26-23 □	177	260	230	2.3
MO177-26-28 □	177	260	280	2.6
MO177-26-35 □	177	260	350	3.1
MO177-32-23 □	177	320	230	2.6
MO177-32-28 □	177	320	280	2.9
MO177-32-35 □	177	320	350	3.4
MO177-32-45 □	177	320	450	4.1
MO177-37-23 □	177	370	230	2.8
MO177-37-28 □	177	370	280	3.2
MO177-37-35 □	177	370	350	3.7
MO177-37-45 □	177	370	450	4.3
MO177-43-23 □	177	430	230	3.1
MO177-43-28 □	177	430	280	3.5
MO177-43-35 □	177	430	350	4.0
MO177-43-45 □	177	430	450	4.8

Product no.	H	W	D	Weight (kg)
MO199-16-16 □	199	160	160	1.6
MO199-16-23 □	199	160	230	2.0
MO199-16-28 □	199	160	280	2.3
MO199-21-16 □	199	210	160	1.8
MO199-21-23 □	199	210	230	2.2
MO199-21-28 □	199	210	280	2.5
MO199-21-35 □	199	210	350	2.9
MO199-26-23 □	199	260	230	2.5
MO199-26-28 □	199	260	280	2.8
MO199-26-35 □	199	260	350	3.2
MO199-32-23 □	199	320	230	2.7
MO199-32-28 □	199	320	280	3.1
MO199-32-35 □	199	320	350	3.6
MO199-32-45 □	199	320	450	4.2
MO199-37-23 □	199	370	230	3.0
MO199-37-28 □	199	370	280	3.3
MO199-37-35 □	199	370	350	3.8
MO199-37-45 □	199	370	450	4.5
MO199-43-23 □	199	430	230	3.3
MO199-43-28 □	199	430	280	3.6
MO199-43-35 □	199	430	350	4.2
MO199-43-45 □	199	430	450	4.9
MO222-16-16 □	221.5	160	160	1.7
MO222-16-23 □	221.5	160	230	2.1
MO222-16-28 □	221.5	160	280	2.4
MO222-21-16 □	221.5	210	160	1.9
MO222-21-23 □	221.5	210	230	2.4
MO222-21-28 □	221.5	210	280	2.6
MO222-21-35 □	221.5	210	350	3.1
MO222-26-23 □	221.5	260	230	2.6
MO222-26-28 □	221.5	260	280	2.9
MO222-26-35 □	221.5	260	350	3.4
MO222-32-23 □	221.5	320	230	2.9
MO222-32-28 □	221.5	320	280	3.2
MO222-32-35 □	221.5	320	350	3.8
MO222-32-45 □	221.5	320	450	4.5
MO222-37-23 □	221.5	370	230	3.2
MO222-37-28 □	221.5	370	280	3.5
MO222-37-35 □	221.5	370	350	4.1
MO222-37-45 □	221.5	370	450	4.8
MO222-43-23 □	221.5	430	230	3.5
MO222-43-28 □	221.5	430	280	3.8
MO222-43-35 □	221.5	430	350	4.4
MO222-43-45 □	221.5	430	450	5.3

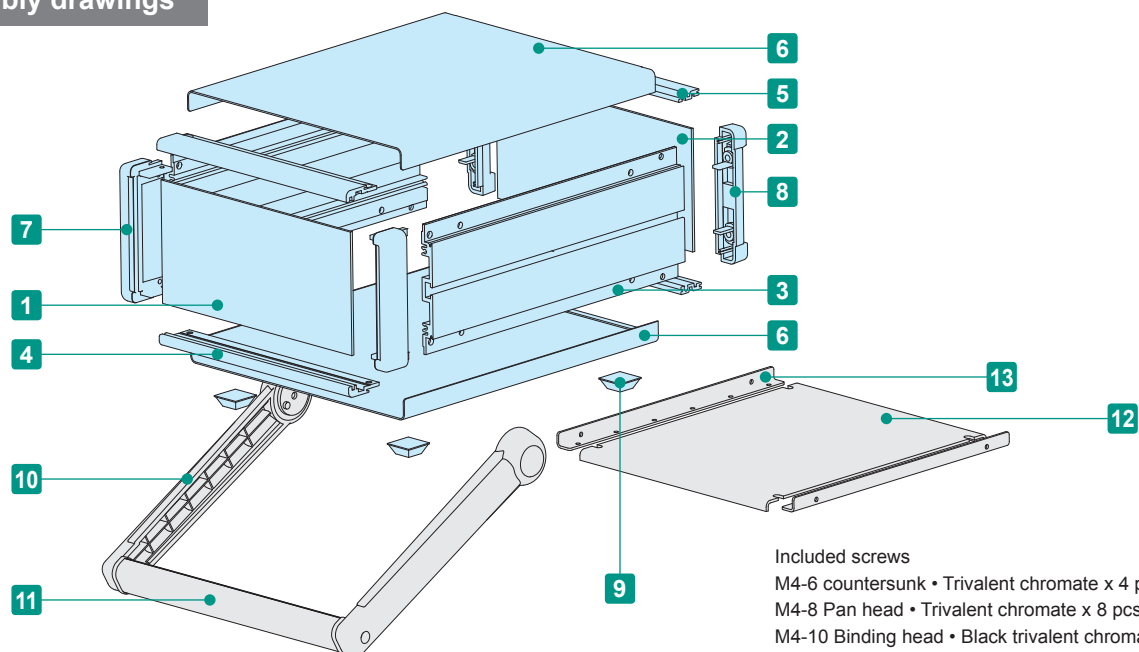
MON SERIES

SYSTEM CASE with STAND HANDLE



- Available in 3 different colors and 176 different sizes.
- Stand handle can be shifted and locked at 30° intervals. Maximum load support of 25kg.
- Lightweight system case with stand handle. Suitable for use as measuring instruments, etc.

Assembly drawings



Components

No.	Part name		Pcs	Material	Color / Finish
1	Front panel		1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
2	Rear panel		1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame		2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame		2	Extruded aluminium A6063S-T5	Gray • Black / Painted
5	Rear frame		2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top • Bottom cover		1 each	Aluminium A1100P t=1.0	Light gray • Black / Painted
7	Corner block		2	Diecast aluminium ADC12	Gray • Black / Painted
8	Rear feet		2	ABS UL94V-0	Gray • Black
9	Rubber feet		4	Polyurethane	Black
10	Stand handle	Bracket	2	ABS UL94HB	Light gray • Black
11		Grip	1	Extruded aluminium A6063S-T5	Silver • Black

■ Note: Front / rear panels and top / bottom covers are covered with a protective film on one side. Remove before assembly.

Accessories (Optional parts)



12 Mounting plate MSC series
See page MSC • MSCL-1



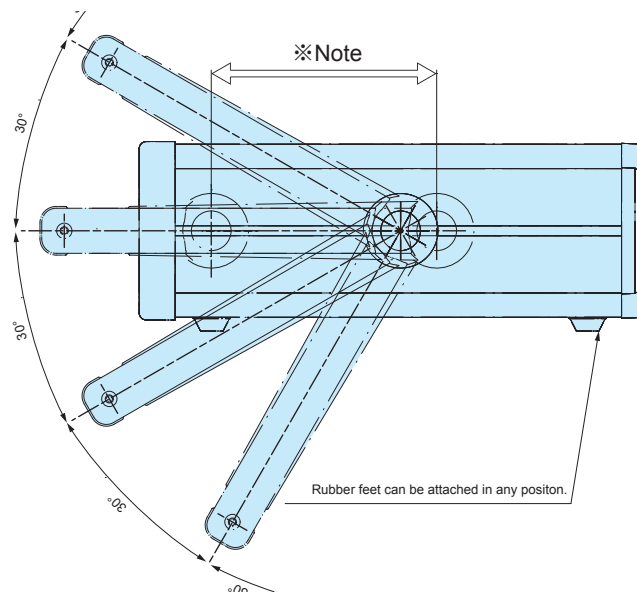
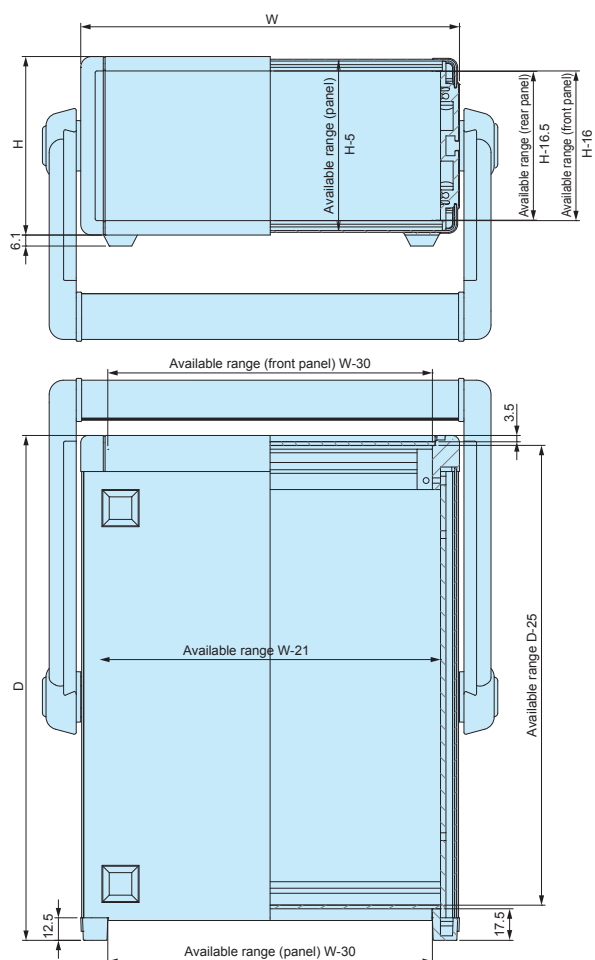
13 L-bracket MSCL series
See page MSC • MSCL-1



Cable hook CBF series
See page TL • CBF-1

MON dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Color Type

■ Please suffix color code at the end of the product number.

● G



Panel	Silver
Top • Bottom cover	Light Gray
Side frame	Gray

● B



Panel	Black
Top • Bottom cover	Black
Side frame	Black

● BS



Panel	Silver
Top • Bottom cover	Black
Side frame	Black

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MON 66-16-16□	66	160	160	0.9
MON 66-16-23□	66	160	230	1.1
MON 66-16-28□	66	160	280	1.3
MON 66-21-16□	66	210	160	1.1
MON 66-21-23□	66	210	230	1.3
MON 66-21-28□	66	210	280	1.5
MON 66-21-35□	66	210	350	1.7
MON 66-26-23□	66	260	230	1.5
MON 66-26-28□	66	260	280	1.7
MON 66-26-35□	66	260	350	2.0
MON 66-32-23□	66	320	230	1.7
MON 66-32-28□	66	320	280	1.9
MON 66-32-35□	66	320	350	2.2
MON 66-32-45□	66	320	450	2.6
MON 66-37-23□	66	370	230	1.9
MON 66-37-28□	66	370	280	2.1
MON 66-37-35□	66	370	350	2.4
MON 66-37-45□	66	370	450	2.8
MON 66-43-23□	66	430	230	2.1
MON 66-43-28□	66	430	280	2.4
MON 66-43-35□	66	430	350	2.7
MON 66-43-45□	66	430	450	3.2
MON 88-16-16□	88	160	160	1.0
MON 88-16-23□	88	160	230	1.3
MON 88-16-28□	88	160	280	1.5
MON 88-21-16□	88	210	160	1.2
MON 88-21-23□	88	210	230	1.5
MON 88-21-28□	88	210	280	1.7
MON 88-21-35□	88	210	350	1.9
MON 88-26-23□	88	260	230	1.7
MON 88-26-28□	88	260	280	1.9
MON 88-26-35□	88	260	350	2.2
MON 88-32-23□	88	320	230	1.9
MON 88-32-28□	88	320	280	2.1
MON 88-32-35□	88	320	350	2.5
MON 88-32-45□	88	320	450	2.9
MON 88-37-23□	88	370	230	2.1
MON 88-37-28□	88	370	280	2.3
MON 88-37-35□	88	370	350	2.7
MON 88-37-45□	88	370	450	3.1
MON 88-43-23□	88	430	230	2.3
MON 88-43-28□	88	430	280	2.6
MON 88-43-35□	88	430	350	3.0
MON 88-43-45□	88	430	450	3.5

Product no.	H	W	D	Weight (kg)
MON 99-16-16□	99	160	160	1.1
MON 99-16-23□	99	160	230	1.3
MON 99-16-28□	99	160	280	1.5
MON 99-21-16□	99	210	160	1.3
MON 99-21-23□	99	210	230	1.5
MON 99-21-28□	99	210	280	1.7
MON 99-21-35□	99	210	350	2.0
MON 99-26-23□	99	260	230	1.7
MON 99-26-28□	99	260	280	2.0
MON 99-26-35□	99	260	350	2.3
MON 99-32-23□	99	320	230	2.0
MON 99-32-28□	99	320	280	2.2
MON 99-32-35□	99	320	350	2.6
MON 99-32-45□	99	320	450	3.0
MON 99-37-23□	99	370	230	2.1
MON 99-37-28□	99	370	280	2.4
MON 99-37-35□	99	370	350	2.8
MON 99-37-45□	99	370	450	3.2
MON 99-43-23□	99	430	230	2.4
MON 99-43-28□	99	430	280	2.7
MON 99-43-35□	99	430	350	3.1
MON 99-43-45□	99	430	450	3.7
MON133-16-16□	132.5	160	160	1.3
MON133-16-23□	132.5	160	230	1.6
MON133-16-28□	132.5	160	280	1.8
MON133-21-16□	132.5	210	160	1.5
MON133-21-23□	132.5	210	230	1.8
MON133-21-28□	132.5	210	280	2.0
MON133-21-35□	132.5	210	350	2.3
MON133-26-23□	132.5	260	230	2.0
MON133-26-28□	132.5	260	280	2.3
MON133-26-35□	132.5	260	350	2.6
MON133-32-23□	132.5	320	230	2.3
MON133-32-28□	132.5	320	280	2.5
MON133-32-35□	132.5	320	350	2.9
MON133-32-45□	132.5	320	450	3.4
MON133-37-23□	132.5	370	230	2.5
MON133-37-28□	132.5	370	280	2.8
MON133-37-35□	132.5	370	350	3.2
MON133-37-45□	132.5	370	450	3.6
MON133-43-23□	132.5	430	230	2.7
MON133-43-28□	132.5	430	280	3.0
MON133-43-35□	132.5	430	350	3.5
MON133-43-45□	132.5	430	450	4.1

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MON149-16-16□	149	160	160	1.3
MON149-16-23□	149	160	230	1.7
MON149-16-28□	149	160	280	1.9
MON149-21-16□	149	210	160	1.5
MON149-21-23□	149	210	230	1.9
MON149-21-28□	149	210	280	2.1
MON149-21-35□	149	210	350	2.4
MON149-26-23□	149	260	230	2.1
MON149-26-28□	149	260	280	2.4
MON149-26-35□	149	260	350	2.7
MON149-32-23□	149	320	230	2.4
MON149-32-28□	149	320	280	2.7
MON149-32-35□	149	320	350	3.1
MON149-32-45□	149	320	450	3.6
MON149-37-23□	149	370	230	2.6
MON149-37-28□	149	370	280	2.9
MON149-37-35□	149	370	350	3.3
MON149-37-45□	149	370	450	3.9
MON149-43-23□	149	430	230	2.9
MON149-43-28□	149	430	280	3.2
MON149-43-35□	149	430	350	3.6
MON149-43-45□	149	430	450	4.3
MON177-16-16□	177	160	160	1.6
MON177-16-23□	177	160	230	2.1
MON177-16-28□	177	160	280	2.3
MON177-21-16□	177	210	160	1.8
MON177-21-23□	177	210	230	2.3
MON177-21-28□	177	210	280	2.6
MON177-21-35□	177	210	350	3.0
MON177-26-23□	177	260	230	2.6
MON177-26-28□	177	260	280	2.9
MON177-26-35□	177	260	350	3.3
MON177-32-23□	177	320	230	2.8
MON177-32-28□	177	320	280	3.2
MON177-32-35□	177	320	350	3.7
MON177-32-45□	177	320	450	4.3
MON177-37-23□	177	370	230	3.1
MON177-37-28□	177	370	280	3.4
MON177-37-35□	177	370	350	3.9
MON177-37-45□	177	370	450	4.6
MON177-43-23□	177	430	230	3.4
MON177-43-28□	177	430	280	3.7
MON177-43-35□	177	430	350	4.3
MON177-43-45□	177	430	450	5.0

Product no.	H	W	D	Weight (kg)
MON199-16-16□	199	160	160	1.8
MON199-16-23□	199	160	230	2.2
MON199-16-28□	199	160	280	2.5
MON199-21-16□	199	210	160	2.0
MON199-21-23□	199	210	230	2.4
MON199-21-28□	199	210	280	2.7
MON199-21-35□	199	210	350	3.1
MON199-26-23□	199	260	230	2.7
MON199-26-28□	199	260	280	3.0
MON199-26-35□	199	260	350	3.4
MON199-32-23□	199	320	230	3.0
MON199-32-28□	199	320	280	3.3
MON199-32-35□	199	320	350	3.8
MON199-32-45□	199	320	450	4.5
MON199-37-23□	199	370	230	3.2
MON199-37-28□	199	370	280	3.6
MON199-37-35□	199	370	350	4.1
MON199-37-45□	199	370	450	4.7
MON199-43-23□	199	430	230	3.5
MON199-43-28□	199	430	280	3.9
MON199-43-35□	199	430	350	4.4
MON199-43-45□	199	430	450	5.2
MON222-16-16□	221.5	160	160	1.9
MON222-16-23□	221.5	160	230	2.3
MON222-16-28□	221.5	160	280	2.6
MON222-21-16□	221.5	210	160	2.1
MON222-21-23□	221.5	210	230	2.6
MON222-21-28□	221.5	210	280	2.9
MON222-21-35□	221.5	210	350	3.3
MON222-26-23□	221.5	260	230	2.9
MON222-26-28□	221.5	260	280	3.1
MON222-26-35□	221.5	260	350	3.6
MON222-32-23□	221.5	320	230	3.1
MON222-32-28□	221.5	320	280	3.5
MON222-32-35□	221.5	320	350	4.0
MON222-32-45□	221.5	320	450	4.8
MON222-37-23□	221.5	370	230	3.4
MON222-37-28□	221.5	370	280	3.8
MON222-37-35□	221.5	370	350	4.3
MON222-37-45□	221.5	370	450	5.0
MON222-43-23□	221.5	430	230	3.7
MON222-43-28□	221.5	430	280	4.1
MON222-43-35□	221.5	430	350	4.7
MON222-43-45□	221.5	430	450	5.5

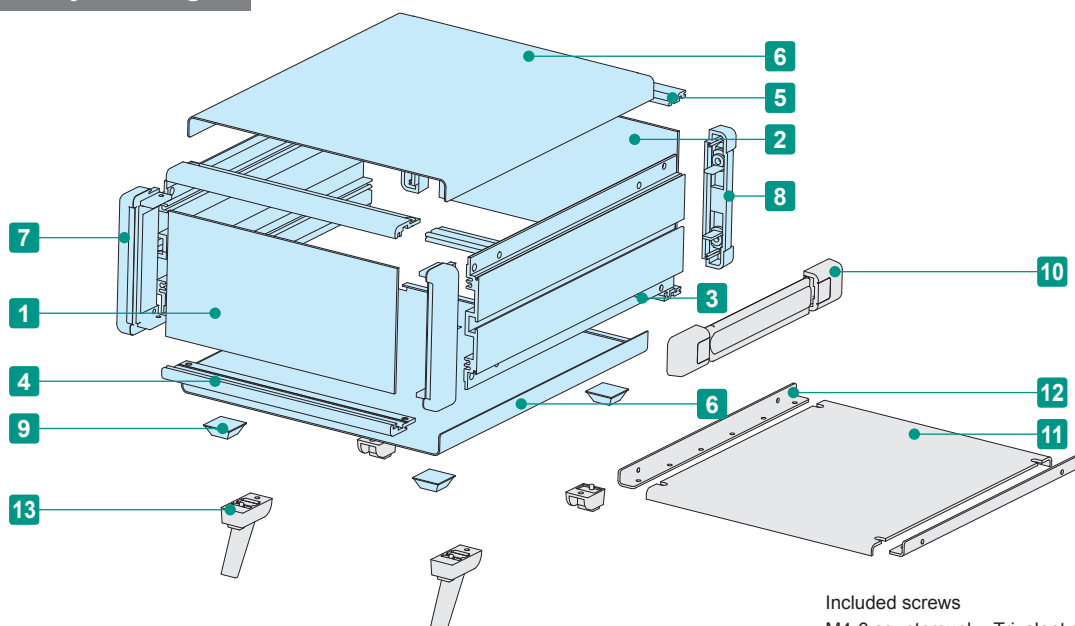
MOY SERIES

SYSTEM CASE with CARRYING HANDLE



- Available in 3 different colors and 160 different sizes.
- Lightweight system case with carrying handle. Suitable for use as measuring instruments, etc.
- Maximum load support of 20kg.

Assembly drawings



Included screws
 M4-6 countersunk • Trivalent chromate x 4 pcs
 M4-8 Pan head • Trivalent chromate x 8 pcs
 M4-10 Binding head • Black trivalent chromate x 4 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Front panel	1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
2	Rear panel	1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
5	Rear frame	2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top • Bottom cover	1 each	Aluminium A1100P t=1.0	Light gray • Black / Painted
7	Corner block	2	Diecast aluminium ADC12	Gray • Black / Painted
8	Rear feet	2	ABS UL94V-0	Gray • Black
9	Rubber feet	4	Polyurethane	Black
10	Carrying handle	1	PP + Elastomer	Gray • Black

■ Note: Front / rear panels and top / bottom covers are covered with a protective film on one side. Remove before assembly.

Accessories (Optional parts)



11 Mounting plate MSC series
See page MSC • MSCL-1



12 L-bracket MSCL series
See page MSC • MSCL-1



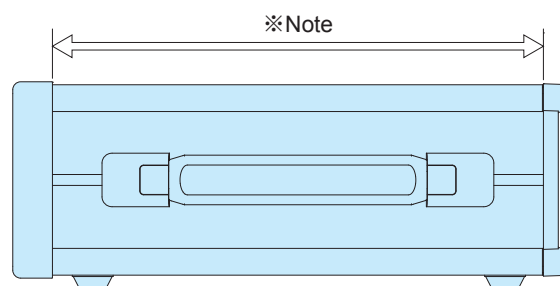
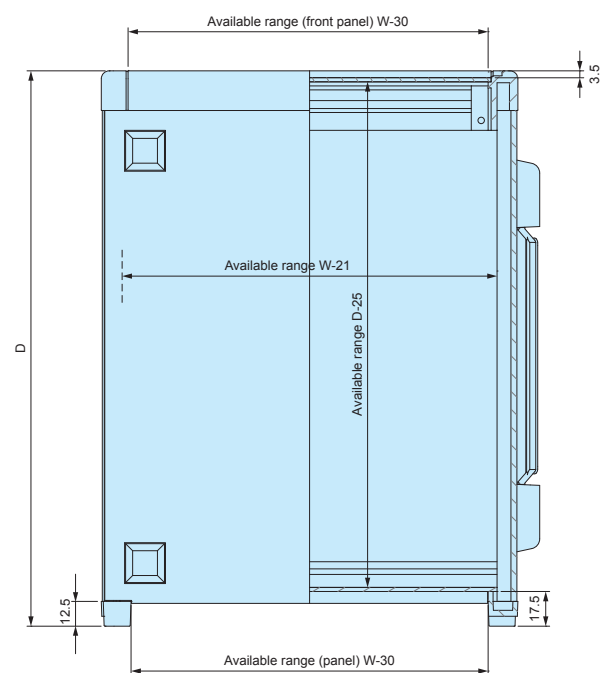
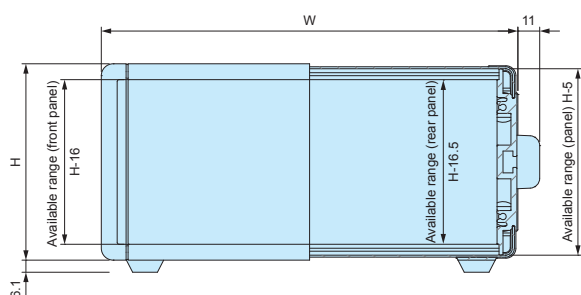
13 Tilt leg TL series
See page TL • CBF-1



Cable hook CBF series
See page TL • CBF-1

MOY dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



※Note
Carrying handle location can be freely affixed within denoted range.

Color Type

■ Please suffix color code at the end of the product number.

● G

● B

● BS



Panel	Silver
Top • Bottom cover	Light Gray
Side frame	Gray

Panel	Black
Top • Bottom cover	Black
Side frame	Black

Panel	Silver
Top • Bottom cover	Black
Side frame	Black

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MOY 66-16-23 □	66	160	230	1.0
MOY 66-16-28 □	66	160	280	1.1
MOY 66-21-23 □	66	210	230	1.2
MOY 66-21-28 □	66	210	280	1.3
MOY 66-21-35 □	66	210	350	1.6
MOY 66-26-23 □	66	260	230	1.3
MOY 66-26-28 □	66	260	280	1.5
MOY 66-26-35 □	66	260	350	1.8
MOY 66-32-23 □	66	320	230	1.5
MOY 66-32-28 □	66	320	280	1.7
MOY 66-32-35 □	66	320	350	2.0
MOY 66-32-45 □	66	320	450	2.4
MOY 66-37-23 □	66	370	230	1.7
MOY 66-37-28 □	66	370	280	1.9
MOY 66-37-35 □	66	370	350	2.2
MOY 66-37-45 □	66	370	450	2.6
MOY 66-43-23 □	66	430	230	1.9
MOY 66-43-28 □	66	430	280	2.1
MOY 66-43-35 □	66	430	350	2.5
MOY 66-43-45 □	66	430	450	3.0
MOY 88-16-23 □	88	160	230	1.1
MOY 88-16-28 □	88	160	280	1.3
MOY 88-21-23 □	88	210	230	1.3
MOY 88-21-28 □	88	210	280	1.5
MOY 88-21-35 □	88	210	350	1.8
MOY 88-26-23 □	88	260	230	1.5
MOY 88-26-28 □	88	260	280	1.7
MOY 88-26-35 □	88	260	350	2.0
MOY 88-32-23 □	88	320	230	1.7
MOY 88-32-28 □	88	320	280	1.9
MOY 88-32-35 □	88	320	350	2.3
MOY 88-32-45 □	88	320	450	2.7
MOY 88-37-23 □	88	370	230	1.9
MOY 88-37-28 □	88	370	280	2.1
MOY 88-37-35 □	88	370	350	2.5
MOY 88-37-45 □	88	370	450	2.9
MOY 88-43-23 □	88	430	230	2.1
MOY 88-43-28 □	88	430	280	2.3
MOY 88-43-35 □	88	430	350	2.7
MOY 88-43-45 □	88	430	450	3.3

Product no.	H	W	D	Weight (kg)
MOY 99-16-23 □	99	160	230	1.2
MOY 99-16-28 □	99	160	280	1.4
MOY 99-21-23 □	99	210	230	1.4
MOY 99-21-28 □	99	210	280	1.6
MOY 99-21-35 □	99	210	350	1.8
MOY 99-26-23 □	99	260	230	1.6
MOY 99-26-28 □	99	260	280	1.8
MOY 99-26-35 □	99	260	350	2.1
MOY 99-32-23 □	99	320	230	1.8
MOY 99-32-28 □	99	320	280	2.0
MOY 99-32-35 □	99	320	350	2.4
MOY 99-32-45 □	99	320	450	2.8
MOY 99-37-23 □	99	370	230	2.0
MOY 99-37-28 □	99	370	280	2.2
MOY 99-37-35 □	99	370	350	2.6
MOY 99-37-45 □	99	370	450	3.0
MOY 99-43-23 □	99	430	230	2.2
MOY 99-43-28 □	99	430	280	2.4
MOY 99-43-35 □	99	430	350	2.8
MOY 99-43-45 □	99	430	450	3.4
MOY133-16-23 □	132.5	160	230	1.4
MOY133-16-28 □	132.5	160	280	1.6
MOY133-21-23 □	132.5	210	230	1.6
MOY133-21-28 □	132.5	210	280	1.8
MOY133-21-35 □	132.5	210	350	2.1
MOY133-26-23 □	132.5	260	230	1.8
MOY133-26-28 □	132.5	260	280	2.1
MOY133-26-35 □	132.5	260	350	2.4
MOY133-32-23 □	132.5	320	230	2.0
MOY133-32-28 □	132.5	320	280	2.3
MOY133-32-35 □	132.5	320	350	2.7
MOY133-32-45 □	132.5	320	450	3.2
MOY133-37-23 □	132.5	370	230	2.2
MOY133-37-28 □	132.5	370	280	2.5
MOY133-37-35 □	132.5	370	350	2.9
MOY133-37-45 □	132.5	370	450	3.4
MOY133-43-23 □	132.5	430	230	2.5
MOY133-43-28 □	132.5	430	280	2.8
MOY133-43-35 □	132.5	430	350	3.2
MOY133-43-45 □	132.5	430	450	3.8

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MOY149-16-23 □	149	160	230	1.5
MOY149-16-28 □	149	160	280	1.7
MOY149-21-23 □	149	210	230	1.7
MOY149-21-28 □	149	210	280	2.0
MOY149-21-35 □	149	210	350	2.3
MOY149-26-23 □	149	260	230	2.0
MOY149-26-28 □	149	260	280	2.2
MOY149-26-35 □	149	260	350	2.5
MOY149-32-23 □	149	320	230	2.2
MOY149-32-28 □	149	320	280	2.4
MOY149-32-35 □	149	320	350	2.8
MOY149-32-45 □	149	320	450	3.4
MOY149-37-23 □	149	370	230	2.4
MOY149-37-28 □	149	370	280	2.7
MOY149-37-35 □	149	370	350	3.1
MOY149-37-45 □	149	370	450	3.6
MOY149-43-23 □	149	430	230	2.6
MOY149-43-28 □	149	430	280	3.0
MOY149-43-35 □	149	430	350	3.4
MOY149-43-45 □	149	430	450	4.1
MOY177-16-23 □	177	160	230	1.9
MOY177-16-28 □	177	160	280	2.2
MOY177-21-23 □	177	210	230	2.1
MOY177-21-28 □	177	210	280	2.4
MOY177-21-35 □	177	210	350	2.8
MOY177-26-23 □	177	260	230	2.4
MOY177-26-28 □	177	260	280	2.7
MOY177-26-35 □	177	260	350	3.1
MOY177-32-23 □	177	320	230	2.6
MOY177-32-28 □	177	320	280	2.9
MOY177-32-35 □	177	320	350	3.4
MOY177-32-45 □	177	320	450	4.1
MOY177-37-23 □	177	370	230	2.8
MOY177-37-28 □	177	370	280	3.2
MOY177-37-35 □	177	370	350	3.7
MOY177-37-45 □	177	370	450	4.3
MOY177-43-23 □	177	430	230	3.1
MOY177-43-28 □	177	430	280	3.5
MOY177-43-35 □	177	430	350	4.0
MOY177-43-45 □	177	430	450	4.8

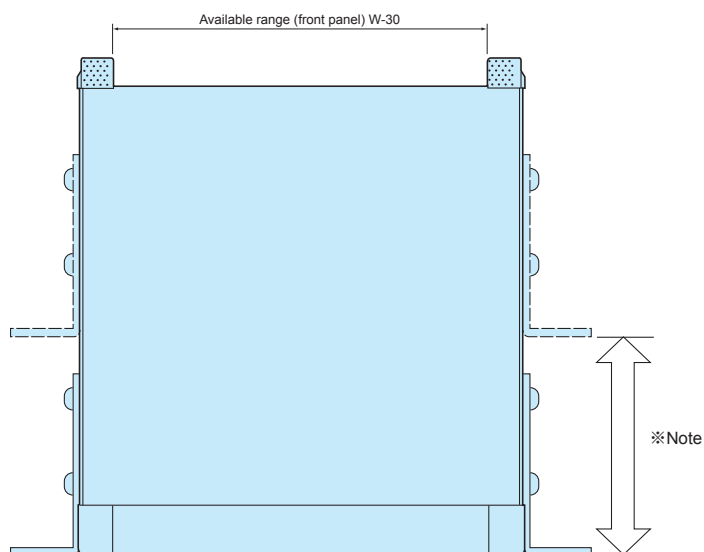
Product no.	H	W	D	Weight (kg)
MOY199-16-23 □	199	160	230	2.0
MOY199-16-28 □	199	160	280	2.3
MOY199-21-23 □	199	210	230	2.2
MOY199-21-28 □	199	210	280	2.5
MOY199-21-35 □	199	210	350	2.9
MOY199-26-23 □	199	260	230	2.5
MOY199-26-28 □	199	260	280	2.8
MOY199-26-35 □	199	260	350	3.2
MOY199-32-23 □	199	320	230	2.7
MOY199-32-28 □	199	320	280	3.1
MOY199-32-35 □	199	320	350	3.6
MOY199-32-45 □	199	320	450	4.2
MOY199-37-23 □	199	370	230	3.0
MOY199-37-28 □	199	370	280	3.3
MOY199-37-35 □	199	370	350	3.8
MOY199-37-45 □	199	370	450	4.5
MOY199-43-23 □	199	430	230	3.6
MOY199-43-28 □	199	430	280	3.9
MOY199-43-35 □	199	430	350	4.5
MOY199-43-45 □	199	430	450	5.2
MOY222-16-23 □	221.5	160	230	2.2
MOY222-16-28 □	221.5	160	280	2.4
MOY222-21-23 □	221.5	210	230	2.4
MOY222-21-28 □	221.5	210	280	2.7
MOY222-21-35 □	221.5	210	350	3.1
MOY222-26-23 □	221.5	260	230	2.7
MOY222-26-28 □	221.5	260	280	2.9
MOY222-26-35 □	221.5	260	350	3.4
MOY222-32-23 □	221.5	320	230	2.9
MOY222-32-28 □	221.5	320	280	3.3
MOY222-32-35 □	221.5	320	350	3.8
MOY222-32-45 □	221.5	320	450	4.6
MOY222-37-23 □	221.5	370	230	3.2
MOY222-37-28 □	221.5	370	280	3.5
MOY222-37-35 □	221.5	370	350	4.1
MOY222-37-45 □	221.5	370	450	4.8
MOY222-43-23 □	221.5	430	230	3.5
MOY222-43-28 □	221.5	430	280	3.8
MOY222-43-35 □	221.5	430	350	4.4
MOY222-43-45 □	221.5	430	450	5.3

MOR SERIES

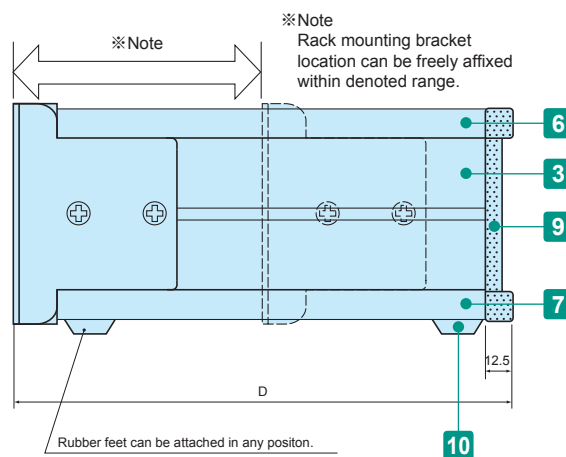
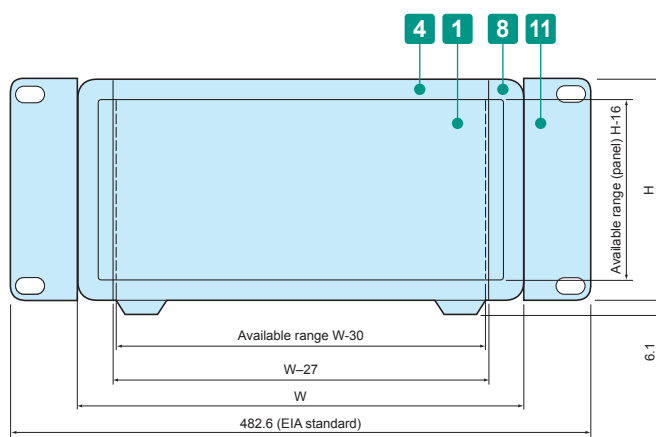
SYSTEM RACK MOUNT CASE



- Available in 3 different colors and 16 different sizes.
- Lightweight system rack mount case.
- Screws are hidden out of view for a sophisticated and elegant look.



- Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Components

No.	Part name	Pcs	Material	Color / Finish
1	Front panel	1	Aluminium A1050P t=2.0	Silver • Black / Hairline brushed & Anodized
2	Rear panel	1	Aluminium A1050P t=2.0	Silver • Black / Anodized
3	Side frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
4	Front frame	2	Extruded aluminium A6063S-T5	Gray • Black / Painted
5	Rear frame	2	Extruded aluminium A6063S-T5	Silver / Anodized
6	Top cover	1	Aluminium A1100P t=1.0	Light gray • Black / Painted
7	Bottom cover	1	Aluminium A1100P t=1.0	Light gray • Black / Painted
8	Corner block	2	Diecast aluminium ADC12	Gray • Black / Painted
9	Rear feet	2	ABS UL94V-0	Gray • Black
10	Rubber feet	4	Polyurethane	Black
11	Rack mount bracket	2	Extruded aluminium A6063S-T5	Gray • Black / Painted

■ Note: Front / rear panels and top / bottom covers are covered with a protective film on one side. Remove before assembly.

Included screws and nuts
M4-6 countersunk • Trivalent chromate x 4 pcs
M4-8 Pan head • Trivalent chromate x 8 pcs
M4-10 Binding head • Black trivalent chromate x 4 pcs
M5-10 Flat head • Black trivalent chromate x 4 pcs
M5 nut (Product no. MZ-5) x 4 pcs

Accessories (Optional parts)



Mounting plate MSC series
See page MSC • MSCL-1



L-bracket MSCL series
See page MSC • MSCL-1



Aluminium handle OH series
See page OH • KH-1



Cable hook CBF series
See page TL • CBF-1

Color Type

● G



Panel	Silver
Top • Bottom cover	Light Gray
Side frame	Gray

● B



Panel	Black
Top • Bottom cover	Black
Side frame	Black

● BS



Panel	Silver
Top • Bottom cover	Black
Side frame	Black

■ Please suffix color code at the end of the product number.

Product no. / Dimensions

Product no.	H	W	D	Weight (kg)
MOR 88-43-23 □	88	430	230	2.2
MOR 88-43-28 □	88	430	280	2.4
MOR 88-43-35 □	88	430	350	2.8
MOR 88-43-45 □	88	430	450	3.4
MOR133-43-23 □	132.5	430	230	2.7
MOR133-43-28 □	132.5	430	280	3.0
MOR133-43-35 □	132.5	430	350	3.4
MOR133-43-45 □	132.5	430	450	4.0
MOR177-43-23 □	177	430	230	3.4
MOR177-43-28 □	177	430	280	3.7
MOR177-43-35 □	177	430	350	4.3
MOR177-43-45 □	177	430	450	5.0
MOR222-43-23 □	221.5	430	230	3.8
MOR222-43-28 □	221.5	430	280	4.1
MOR222-43-35 □	221.5	430	350	4.7
MOR222-43-45 □	221.5	430	450	5.6

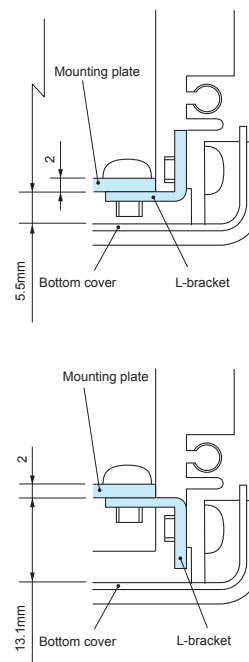
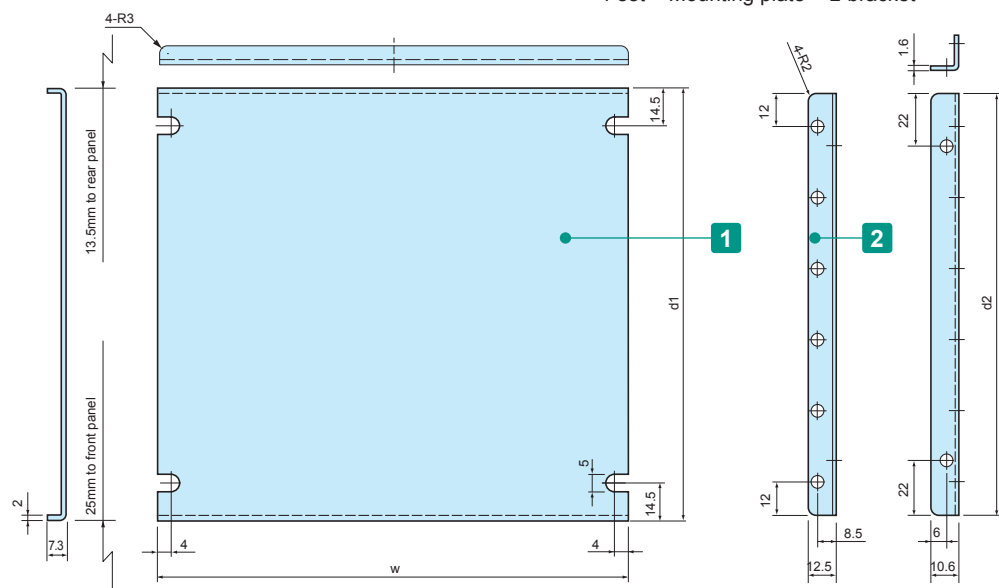
MSC SERIES

MOUNTING PLATE for MS • MSN • MSY • MSR • MO • MON • MOY • MOR

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

■ 1 set = Mounting plate + L-bracket

Mounting example



Components

No.	Part name	Pcs	Material	Color / Finish
1	Mounting plate	1	Aluminium A1050P t=2.0	Unfinished
2	L-bracket	2	Steel SPCC	Trivalent chromate

Included screws: M4-6 pan head, trivalent chromate x8

Product no. / Dimensions

Product no.	w	d1	d2	Enclosure W×D	Weight (g)
MSC16-16	130	96.5	91.5	160 × 160	120
MSC16-23	130	166.5	161.5	160 × 230	210
MSC16-28	130	216.5	211.5	160 × 280	270
MSC21-16	180	96.5	91.5	210 × 160	150
MSC21-23	180	166.5	161.5	210 × 230	250
MSC21-28	180	216.5	211.5	210 × 280	330
MSC21-35	180	286.5	281.5	210 × 350	430
MSC26-23	230	166.5	161.5	260 × 230	300
MSC26-28	230	216.5	211.5	260 × 280	390
MSC26-35	230	286.5	281.5	260 × 350	510
MSC32-23	290	166.5	161.5	320 × 230	360

Product no.	w	d1	d2	Enclosure W×D	Weight (g)
MSC32-28	290	216.5	211.5	320 × 280	460
MSC32-35	290	286.5	281.5	320 × 350	600
MSC32-45	290	386.5	381.5	320 × 450	810
MSC37-23	340	166.5	161.5	370 × 230	410
MSC37-28	340	216.5	211.5	370 × 280	520
MSC37-35	340	286.5	281.5	370 × 350	680
MSC37-45	340	386.5	381.5	370 × 450	910
MSC43-23	400	166.5	161.5	430 × 230	460
MSC43-28	400	216.5	211.5	430 × 280	590
MSC43-35	400	286.5	281.5	430 × 350	770
MSC43-45	400	386.5	381.5	430 × 450	1,040

MSCL SERIES

L-BRACKET for MS • MSN • MSY • MSR • MO • MON • MOY • MOR

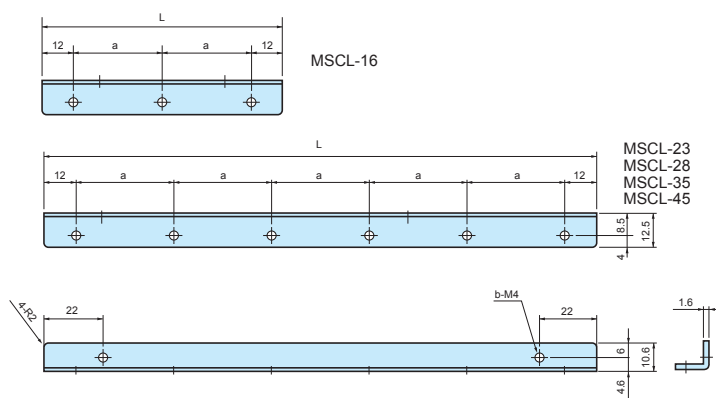
- Use with your original mounting plate or PCB.
- 1 pair of L-bracket are included with each MSC mounting plate.

Components

Part name	Material	Color / Finish
L-bracket	Steel SPCC	Trivalent chromate

Product no. / Dimensions

Product no.	L	a	b	Sales unit
MSCL-16	91.5	33.75	5	1 set (2 pcs)
MSCL-23	161.5	27.5	8	1 set (2 pcs)
MSCL-28	211.5	37.5	8	1 set (2 pcs)
MSCL-35	281.5	51.5	8	1 set (2 pcs)
MSCL-45	381.5	71.5	8	1 set (2 pcs)



MSM SERIES

RACK MOUNT BRACKET

Components

Material	Color / Finish
Extruded aluminium A6063S-T5	Gray • Black / Painted

Included screws : M5-10 Flat head x 4 pcs / Black trivalent chromate + Nut x 4 pcs

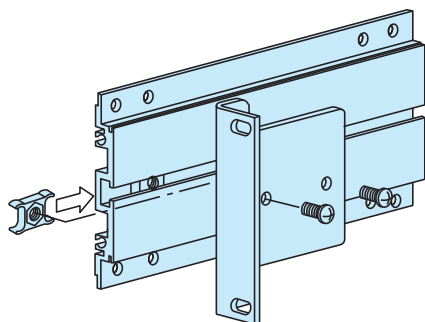
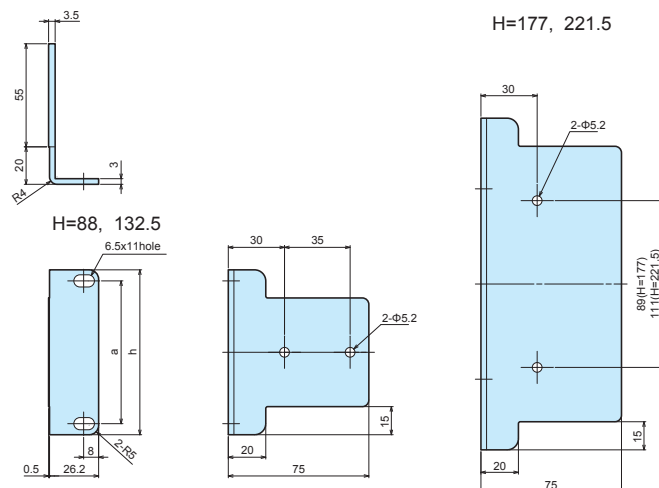
Color Type

Color code	Material	Color / Finish
G	Extruded aluminium A6063S-T5	Gray / Painted
B	Extruded aluminium A6063S-T5	Black / Painted

Product no. / Dimensions

Product no.	h (Enclosure H)	a	Pack of
MSM- 88□	88	76.2	2
MSM-133□	132.5	57.1	2
MSM-177□	177	101.6	2
MSM-222□	221.5	146	2

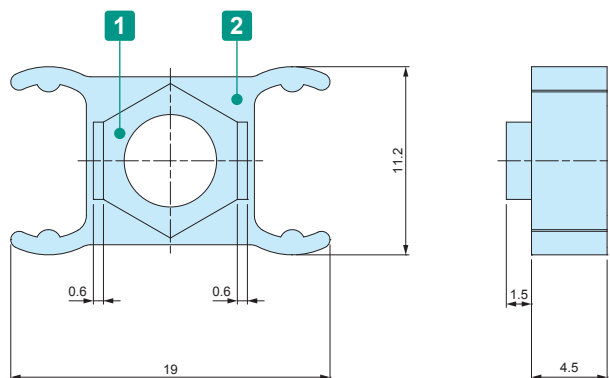
■ Please suffix color code at the end of the product number.



MZ SERIES

SIDE FRAME NUT

■ Side frame nut for MS • MSN • MSY • MSR • MO • MON • MOY • MOR series.



Components

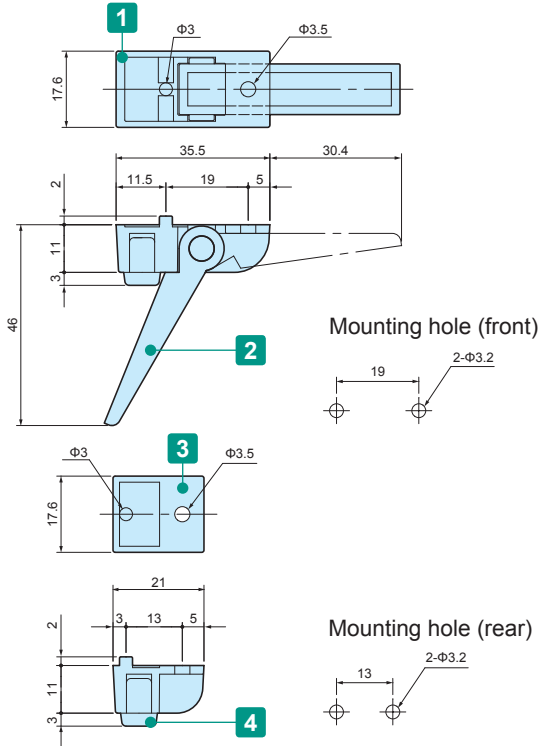
No.	Part name	Material	Color / Finish
1	Nut	Brass • Steel	Nickel plated
2	Holder	Polyethylene	Black

Product no. / Feature

Product no.	Screw size	Nut material	Pack of
MZ-4	M4	Brass	10
MZ-5	M5	Steel	10

TL SERIES

TILT LEG



Components

* Maximum load = 7 kg

No.	Part name	Pcs	Material	Color / Finish
1	Front feet	2	ABS UL94HB	Black • Gray • Light gray
2	Leg	2	ABS UL94HB	Black • Gray • Light gray
3	Rear feet	2	ABS UL94HB	Black • Gray • Light gray
4	Rubber feet	4	EPDM	Gray • Black
-	Screw	4	Steel	Black trivalent chromate

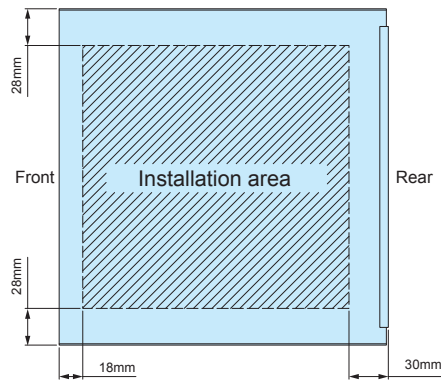
■ Included screws: M3-8 and M3 nut (with washer) set.

Product no. / Dimensions

Product no.	Color (body)	Color (rubber feet)	Sales unit
● TL-45BB	Black	Black	1 set
● TL-45GG	Gray	Gray	1 set
● TL-45SG	Light gray	Gray	1 set

■ EPDM (black) may have its color migrate onto the placement surface.

MS SERIES INSTALLATION AREA



CBF SERIES

CABLE HOOK



- Used for wrapping and securing cords and wires.
- Can be used with a variety of different enclosure series and models.
- Requires a panel thickness of between 1.0 ~ 3.0mm.

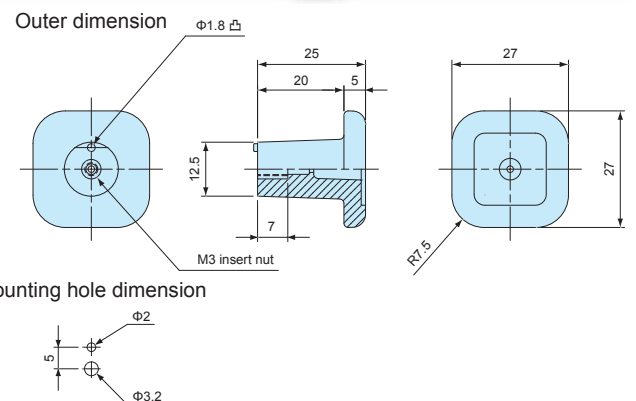
Product no. / Dimensions

Product no.	Material	Pack of
● Gray	● Black	
CBF-1G	CBF-1B	POM
		4

■ Included screws: M3-8 trivalent chromate (with washer) x 4 pcs



APPLICATION EXAMPLE

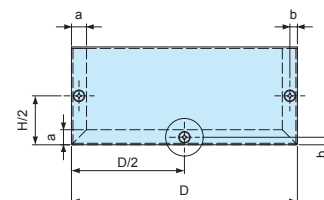
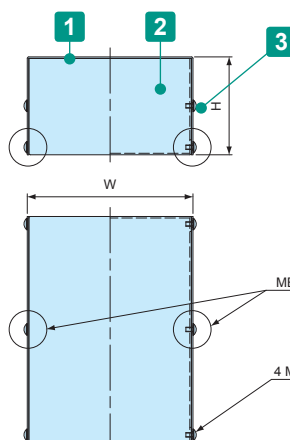
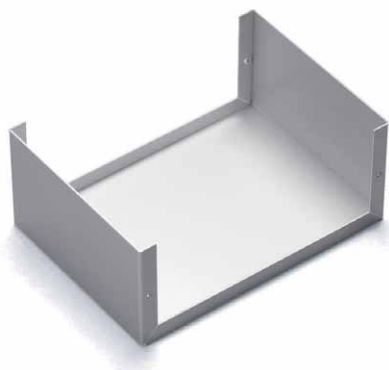




- Simple, low-cost aluminium case. Addition of 8 sizes for a total of 49 different selectable sizes.
- The inner surface is unfinished, allowing the enclosure to be conductive.
- Custom size available.

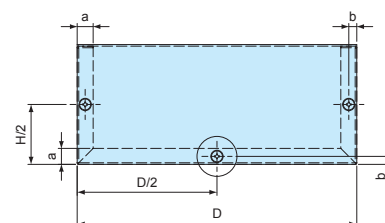
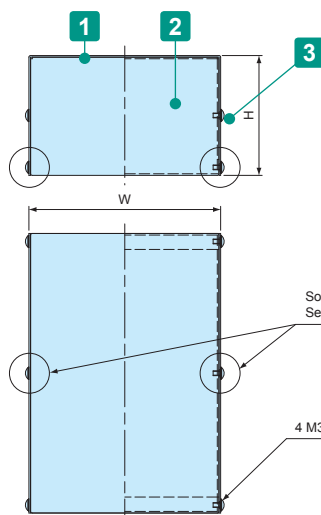
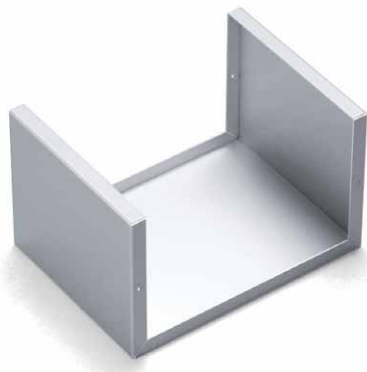
MB dimensions

Base : A type (Standard)



4 M3 Truss head screws (4 M2.6 Truss head screws for MB4-3-5)

Base : B type (Reinforced)



4 M3 Truss head screws

Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Aluminium A1100P	Metallic silver / Painted : Conductive inside
2	Base	1	Aluminium A1100P	Metallic silver / Painted : Conductive inside
3	Screw	4 / 6	Brass	Nickel plated
	Washer	4 / 6	Brass	Nickel plated

Product no. / Dimensions

Product no.	W	H	D	a	b	Thickness (t)	Screw pcs	Base type	Weight (g)
MB 4 -3 -5	35	25	45	10	5	1.0	4	A	23
MB 4- 3- 6	40	30	55	10	5	1.0	4	A	32
MB 5- 4- 7	50	40	70	10	5	1.0	4	A	51
MB 5- 5-16	50	45	160	10	5	1.0	4	A	103
MB 6- 4-25	55	40	250	10	5	1.0	4	A	153
MB 6- 5- 9	60	45	85	10	5	1.0	4	A	69
MB 6- 5-12	60	50	120	10	5	1.0	4	A	97
MB 7- 5-10	70	50	100	10	5	1.0	4	A	92
MB 8- 6-33	75	55	325	10	5	1.0	6	A	270
MB 8- 3-11	80	25	110	10	5	1.0	4	A	89
MB 8- 6- 8	80	55	80	10	5	1.0	4	A	91
MB 8- 6-15	80	55	150	10	5	1.0	4	A	144
MB 8- 7- 9	80	70	90	10	5	1.0	4	A	111
MB 8- 7-18	80	70	180	10	5	1.0	4	A	190
MB 9- 3- 9	90	25	90	10	5	1.0	4	A	72
MB 9- 6-13	90	60	125	10	5	1.0	4	A	142
NEW MB10- 5- 7	100	50	70	10	5	1.0	4	A	91
MB10- 7-20	100	65	200	10	5	1.0	4	A	228
MB10- 9-12	100	90	120	10	5	1.0	4	B	189
MB11- 3-14	110	30	140	10	5	1.0	4	A	129
MB11- 7-15	110	65	150	10	5	1.0	4	A	192
NEW MB11- 7-11	110	70	110	10	5	1.0	4	A	159.5
MB11- 8-25	110	75	250	10	5	1.0	4	B	317
MB12- 3-12	120	25	120	10	5	1.0	4	A	115
MB12- 5-18	120	50	175	10	5	1.0	4	B	200
MB12- 8-18	120	75	175	10	5	1.0	4	B	252
MB12-10-16	120	100	160	10	5	1.0	4	B	277
MB13- 3-18	130	30	180	10	5	1.0	4	A	183
NEW MB13- 6- 9	130	60	90	10	5	1.0	4	A	143.5
MB14- 5-20	140	50	200	10	5	1.0	4	B	250
MB14- 6-14	140	60	140	10	5	1.0	4	B	214
MB14- 8-20	140	75	200	10	5	1.0	4	B	312
MB15- 3-15	150	30	150	10	5	1.0	4	A	176
MB15- 3-21	150	30	210	10	5	1.0	4	A	236
NEW MB15- 7-10	150	70	100	10	5	1.0	4	A	186
MB15-12-20	150	120	200	10	5	1.2	4	B	494
MB16- 6-25	160	60	250	10	5	1.0	4	B	358
MB16- 9-25	160	85	250	10	5	1.0	4	B	431
NEW MB18- 8-13	180	75	130	10	5	1.0	4	B	272
MB18-14-23	180	140	230	10	5	1.2	4	B	665
MB19- 9-30	190	85	300	10	5	1.2	4	B	673
NEW MB20- 8-15	200	80	150	10	5	1.2	4	B	400
MB20- 8-20	200	80	200	10	5	1.2	4	B	492
MB21- 9-35	210	90	350	10	5	1.2	6	B	843
MB21-16-26	210	160	260	12	6	1.5	4	B	1,091
MB23-10-40	230	100	400	10	5	1.2	6	B	1,051
MB24-18-29	240	180	290	12	6	1.5	4	B	1,381
NEW MB25-10-18	250	100	175	10	5	1.2	4	B	588.5
NEW MB30-12-20	300	120	200	10	5	1.2	4	B	815

Accessories (Optional parts)



Rubber feet B, A-P, TP series
See page Feet 1 ~ 4



Torx screw MR3-5Z
See page MR • FDR-1



Conductive screw EV3-5S
See page EV-1



Adhesive standoff T-600, T-700, ASR series
See page Standoff-1

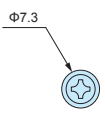
EV3-5S

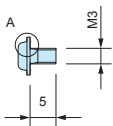
CONDUCTIVE SCREW

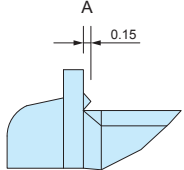


Conductive











■ When tightened, protrusions on the underside of the screw head will shave away at painted or anodized surface to expose the base material for achieving conductivity.

Product no. / Dimensions

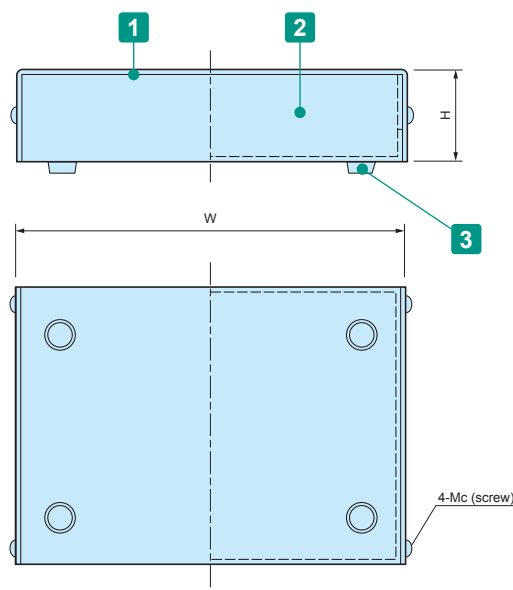
Product no.	M	L	Material	Finish	Pack of
EV3-5S	3	5	Steel	Nickel plated	20

YM SERIES

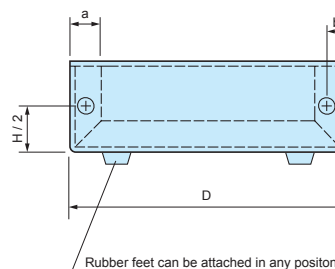
FLAT ALUMINIUM CASE



YM dimensions



■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws and washers
Truss head • Nickel plated x 4 pcs
(YM-30, 40 = M2-5)
(YM-65, 90, 115 = M2.6-5)
(Others = M3-5)
Flat washer • Nickel plated x 4 pcs
(YM-30, 40 = M2)
(YM-65, 90, 115 = M2.6)
(Others = M3)

Components

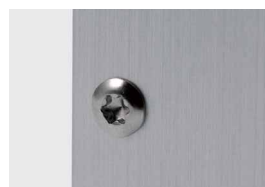
No.	Part name	Pcs	Material	Color / Finish
1	Cover	2	Aluminium A1050P t = 1.0	Silver / Hairline brushed & Anodized
2	Base	2	Aluminium A1100P t = 1.0	Black / Painted • Silver
3	Rubber feet	4	Synthetic rubber	Black
-	Screw	1 set	Brass	Nickel plated

Note: The cover and base are covered with a protective film on one side. Remove before assembly.

Product no. / Dimensions

Product no.	W	H	D	a	b	c	Weight (g)
YM- 30	30	18	25	8	4	2	12
YM- 40	40	22	30	8	4	2	18
YM- 50	50	30	45	10	5	3	36
YM- 65	65	20	50	10	5	2.6	40
YM- 80	80	30	50	10	5	3	53
YM- 90	90	20	60	10	5	2.6	55
YM-100	100	30	70	10	5	3	80
YM-115	115	20	80	10	5	2.6	80
YM-130	130	30	90	10	5	3	115
YM-150	150	40	100	10	5	3	155

Accessories (Optional parts) ■ MR3-5Z and EV3-5S are not applicable for YM-30, 40, 65, 90, and 115 models.



TORX screw MR3-5Z
See page MR • FDR-1



Conductive screw EV3-5S
See page EV-1

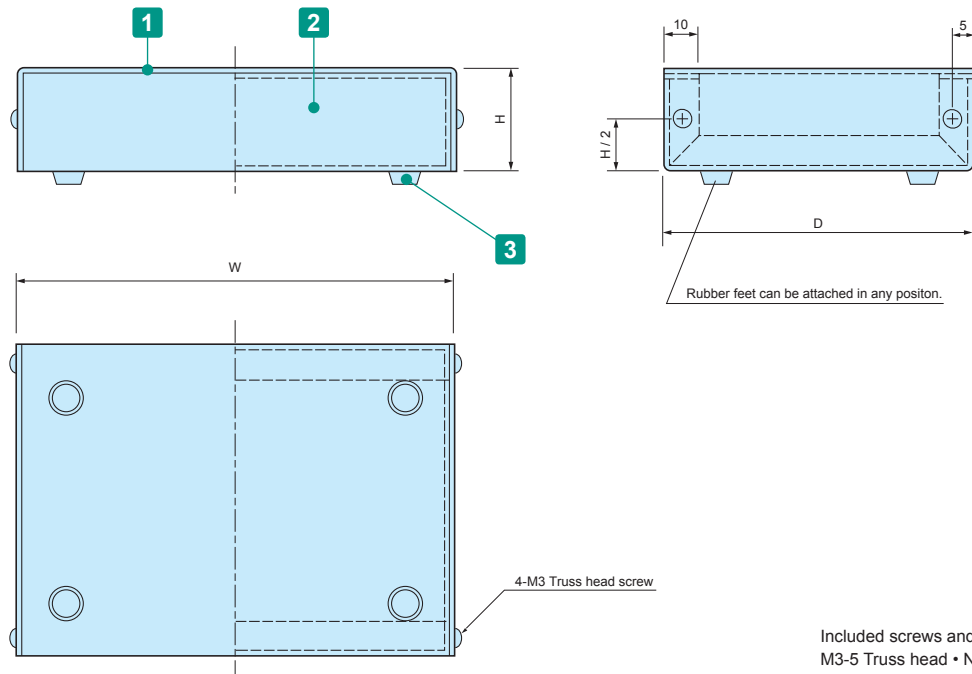


Adhesive standoff T-600, T-700, ASR
See page Standoff-1



YM dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws and washers
M3-5 Truss head • Nickel plated x 4 pcs
M3 Flat washer • Nickel plated x 4 pcs

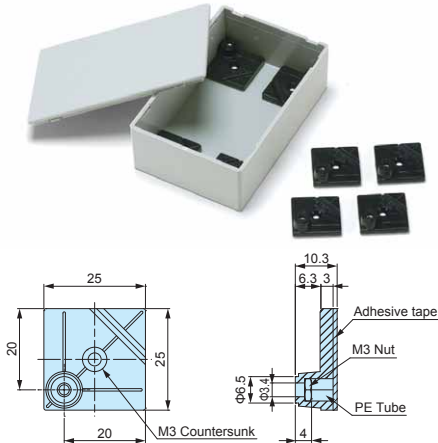
Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	2	Aluminium A1050P t = 1.0	Silver / Hairline brushed & Anodized
2	Base	2	Aluminium A1100P t = 1.0	Black / Painted • Silver
3	Rubber feet	4	Synthetic rubber	Black
-	Screw	1 set	Brass	Nickel plated

■ Note: The cover and base are covered with a protective film on one side. Remove before assembly.

Product no. / Dimensions

Product no.	W	H	D	Weight (g)
YM-180	180	40	130	230
YM-200	200	40	150	280
YM-250	250	50	170	395
YM-300	300	50	200	525
YM-350	350	55	230	680
YM-400	400	55	250	815

T-600**M3 INSERT NUT ADHESIVE STANDOFF**

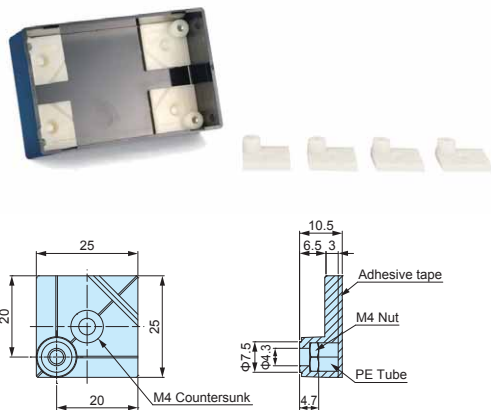
- Double-sided adhesive tape allows the standoff to be mounted easily; allows PCB mounting in non-boss enclosures.

NOTE

- Please ensure the surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.
- Recommended screw torque: 4kgf • cm (0.4N • m).

Product no. / Dimensions

Product no.	Material	Color	Weight (g)	Pack of
T-600	ABS	Black	2.6 (g) / pc	10

T-700**M4 INSERT NUT ADHESIVE STANDOFF**

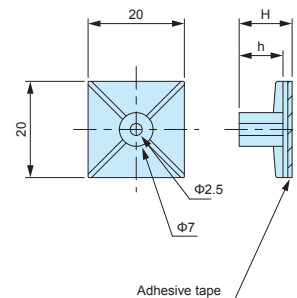
- Double-sided adhesive tape allows the standoff to be mounted easily; allows PCB mounting in non-boss enclosures.

NOTE

- Please ensure the surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.
- Recommended screw torque: 8.1kgf • cm (0.81N • m).

Product no. / Dimensions

Product no.	Material	Color	Weight (g)	Pack of
T-700	ABS	Natural	2.6 (g) / pc	10

ASR SERIES**ADHESIVE STANDOFF**

- M3 tapping screw use adhesive standoff.

Recommended to be used with EM-3 or EM-3-6 tapping screws (See page 115).

NOTE

- Please ensure the surface is cleaned and grease-free before adhering.
- Once removed, it cannot be adhered on again.
- Recommended screw torque: 4kgf • cm (0.4N • m).

Product no. / Dimensions

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

- Material: Nylon 66 UL94V-2

SRDSL SERIES**ALUMINIUM DESKTOP CHASSIS**

- Designed with an elegant and stylish hairline brushed top cover.
- Champagne gold and silver top covers available.
- Recommended for audio amplifier use.

APPLICATION EXAMPLE**VACUUM TUBE POWER AMPLIFIER**

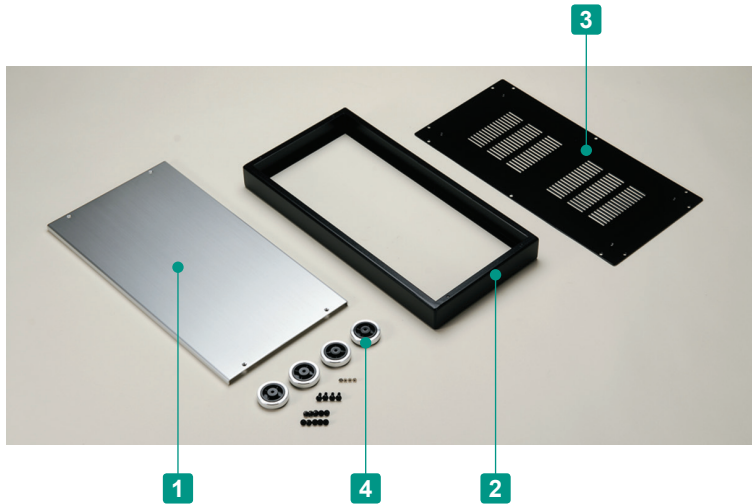
Product by MJ Musen to Jikken (Japan)

**DIGITAL MULTI-CHANNEL ANALYZER**

Product by Project Integration LLC (Armenia)

**Accessories (Optional parts)**

Aluminium isolation feet AFS • AFM series
See page AFS • AFM-1 ~ AFS • AFM-2



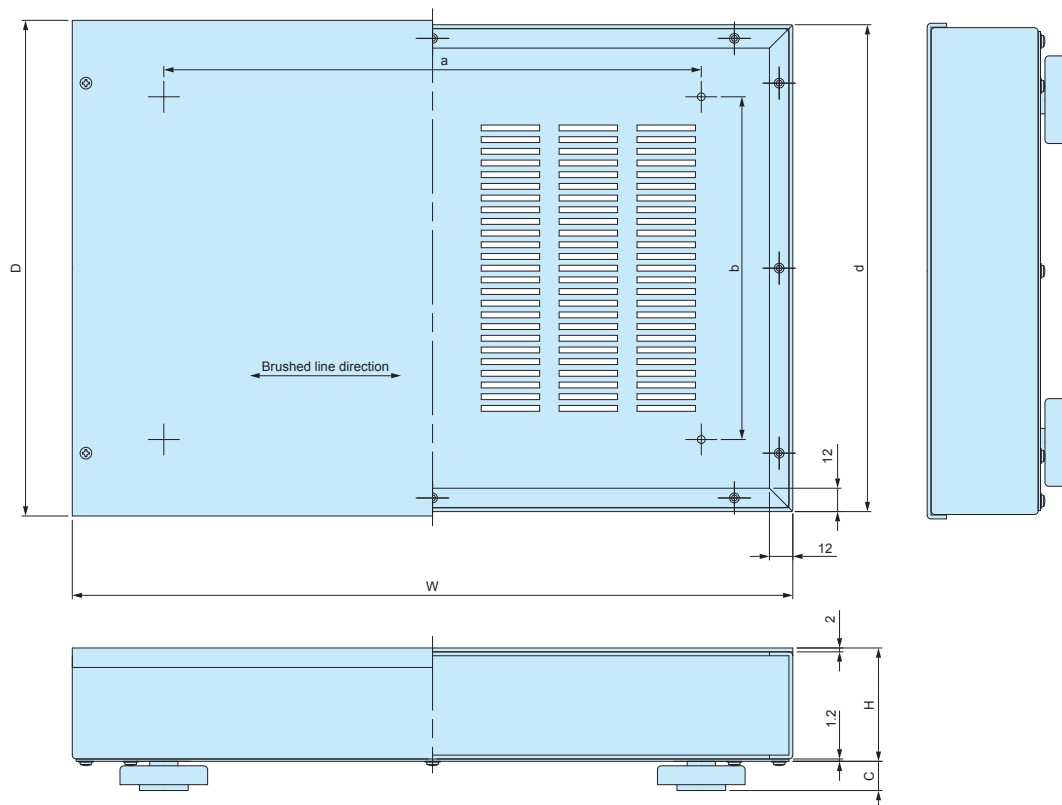
Included screws
M3-5 countersunk • Nickel plated x 4 pcs
M3-5 Binding head with washer • Black trivalent chromate x 14 pcs
M4-10 Binding head • Black trivalent chromate x 4 pcs

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Aluminium A1050P t=2.0	Champagne gold • Silver / Hairline brushed & Anodized
2	Body frame	1	Aluminium A1050P t=2.0	Black / Painted (leather tone)
3	Bottom cover	1	Steel SECC t=1.2	Black / Painted
4	Feet	4	ABS UL94HB : Aluminium	Black : Gold • Black : Silver

SRDSL dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

Product no.		W	H	D	a	b	c	d	Weight (kg)
● Champagne gold	● Silver								
SRDSL- 7HG	SRDSL- 7HS	400	43.2	164.5	336	96	12	160	1.29
SRDSL- 8HG	SRDSL- 8HS	350	58.2	224.5	246	142	12	220	1.56
SRDSL- 9HG	SRDSL- 9HS	400	43.2	204.5	336	136	12	200	1.53
SRDSL-10HG	SRDSL-10HS	370	58.2	254.5	276	176	15	250	1.77
SRDSL-15HG	SRDSL-15HS	460	63.2	224.5	396	156	15	220	1.91
SRDSL-20HG	SRDSL-20HS	450	68.2	305	336	208	15	300	2.49

※Cross out products are discontinued.

CF SERIES

SLOPED ENCLOSURE



- Simple designed box with 10° angle of inclination for operational ease.
- Both the Slide or Screwed panel side can be utilized as a front panel.
- Rubber feet can be attached in any position based on your design requirements.



Low-cost digital printed overlay customization is available with a short lead time.
Refer to page Custom 1 ~ 2 for more details.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Side plate	2	ABS UL94V-0	Black • Gray
2	Front frame	1	Extruded aluminium A6063S-T5	Black • Silver / Anodized
3	Rear frame	1	Extruded aluminium A6063S-T5	Black • Silver / Anodized
4	Slide panel	1	Aluminium A1100P t=1.5	Black / Painted
			Aluminium A1100P t=1.5	Silver / Hairline brushed & Anodized
5	Screwed panel	1	Aluminium A1100P t=1.5	Black / Painted
			Aluminium A1100P t=1.5	Silver / Hairline brushed & Anodized
6	Screw	12	Steel	Black trivalent chromate • Nickel plated
7	Rubber feet	4	Rubber	Black

■ Please peel off the protection sheet cover on both panels before application.

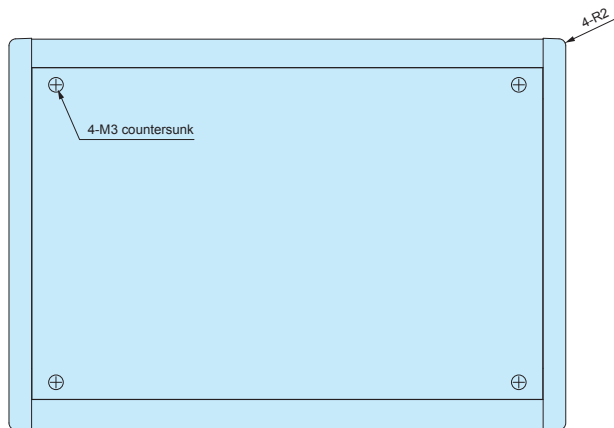
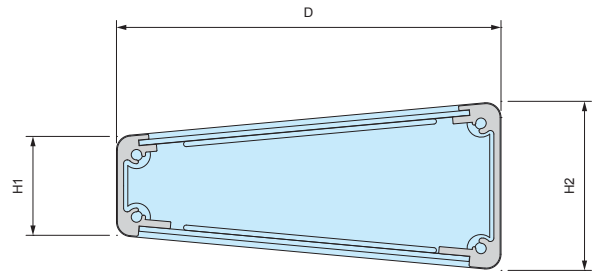
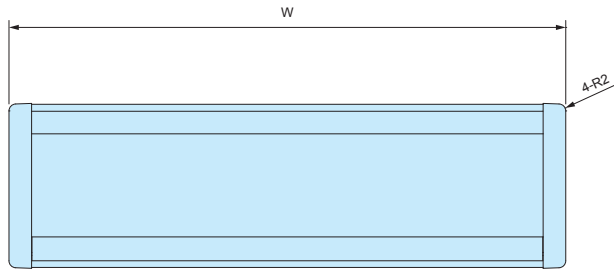
Product no. / Dimensions

Product no.		W	H1	H2	D	Weight (kg)
● Black	● Gray/Silver					
CF 7-11BB	CF 7-11GS	70	28.4	48.6	110.5	0.15
CF11-11BB	CF11-11GS	110	28.4	48.6	110.5	0.21
CF16-11BB	CF16-11GS	160	28.4	48.6	110.5	0.29
CF22-11BB	CF22-11GS	220	28.4	48.6	110.5	0.38
CF28-11BB	CF28-11GS	280	28.4	48.6	110.5	0.47
CF12-18BB	CF12-18GS	120	32.4	66.7	180.5	0.38
CF18-18BB	CF18-18GS	180	32.4	66.7	180.5	0.53
CF27-18BB	CF27-18GS	270	32.4	66.7	180.5	0.76
CF35-18BB	CF35-18GS	350	32.4	66.7	180.5	0.97
CF43-18BB	CF43-18GS	430	32.4	66.7	180.5	1.17

Product no.		W	H1	H2	D	Weight (kg)
● Black	● Gray/Silver					
CF15-23BB	CF15-23GS	150	39.8	80	230	0.52
CF21-23BB	CF21-23GS	210	39.8	80	230	0.7
CF27-23BB	CF27-23GS	270	39.8	80	230	0.88
CF36-23BB	CF36-23GS	360	39.8	80	230	1.14
CF45-23BB	CF45-23GS	450	39.8	80	230	1.41
CF21-28BB	CF21-28GS	210	50	99	280	0.93
CF28-28BB	CF28-28GS	280	50	99	280	1.17
CF36-28BB	CF36-28GS	360	50	99	280	1.46
CF45-28BB	CF45-28GS	450	50	99	280	1.77

CF dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Included screws

CF□-11 models

M3-5 slotted raised countersunk - Black trivalent chromate x 4 pcs

M3-5 slotted raised countersunk - Nickel plated x 4 pcs

M3-10 countersunk - Black trivalent chromate x 8 pcs

CF□-18, CF□-23, and CF□-28 models

M3-5 slotted raised countersunk - Black trivalent chromate x 4 pcs

M3-5 slotted raised countersunk - Nickel plated x 4 pcs

M4-12 countersunk - Black trivalent chromate x 8 pcs

Accessories (Optional parts)

MR SERIES

TORX SCREW KIT



■ Material / Finish : Steel / Nickel plated.

■ TORX screw kit for CF series x 1 unit.

■ Recommended for aesthetic purposes, or for tamper-resistance.

■ Requires the use of a specialized screwdriver.

Suitable Enclosures

Product no.	Suitable enclosures
MR-3CS	CF□-11 models
MR-4CS	CF□-18, CF□-23, and CF□-28 models

Product no. / Dimensions

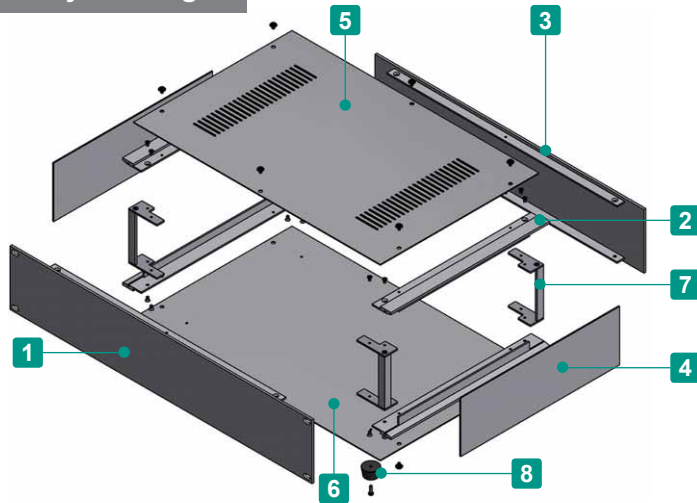
Product no.	Included screws	TORX head no.	Pack of
MR-3CS	M3-10 countersunk x 8 pcs • M3-5 slotted raised countersunk x 4 pcs	T10 (M3)	1 set (for 1 unit)
MR-4CS	M4-12 countersunk x 8 pcs • M3-5 slotted raised countersunk x 4 pcs	T10 (M3) • T20 (M4)	1 set (for 1 unit)

ER SERIES

EIA RACK MOUNT ENCLOSURE



Assembly drawings



- Available in 35 different size combinations.
- Flat panels allows a wide range of customization to be performed easily, such as milling, inkjet printing, engraving and so on.
- 2 different color types available - Silver and Black.

Components

■ Refer to page AC-1 for AC series mounting plate

No.	Part name	Pcs	Material	Color / Finish
1	Panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
2	Frame	4	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
3	Rear panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
4	Side plate	2	Aluminium A1050P t = 1.5	Silver • Black / Hairline brushed & Anodized
5	Top cover	1	Steel SPCC t = 1.0	Black / Painted (leather tone)
6	Bottom cover	1	Steel SPCC t = 1.0	Black / Painted
7	Support bracket	4	Steel SPCC t = 2.0 • Extruded aluminium A6063S-T5	Trivalent chromate • Anodized
8	Rubber feet	4	Synthetic rubber	Black

■ Note: Side plates are covered with a protective film on one side. Remove before assembly.

APPLICATION EXAMPLE

PULSE SIGNAL DISTRIBUTOR



Product by FREQTIME (Japan)

Rear panel



TIME-FREQUENCY REMOTE CALIBRATION DEVICE

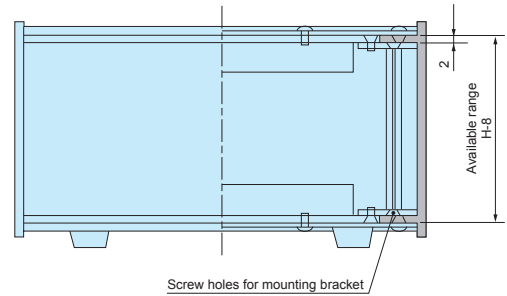
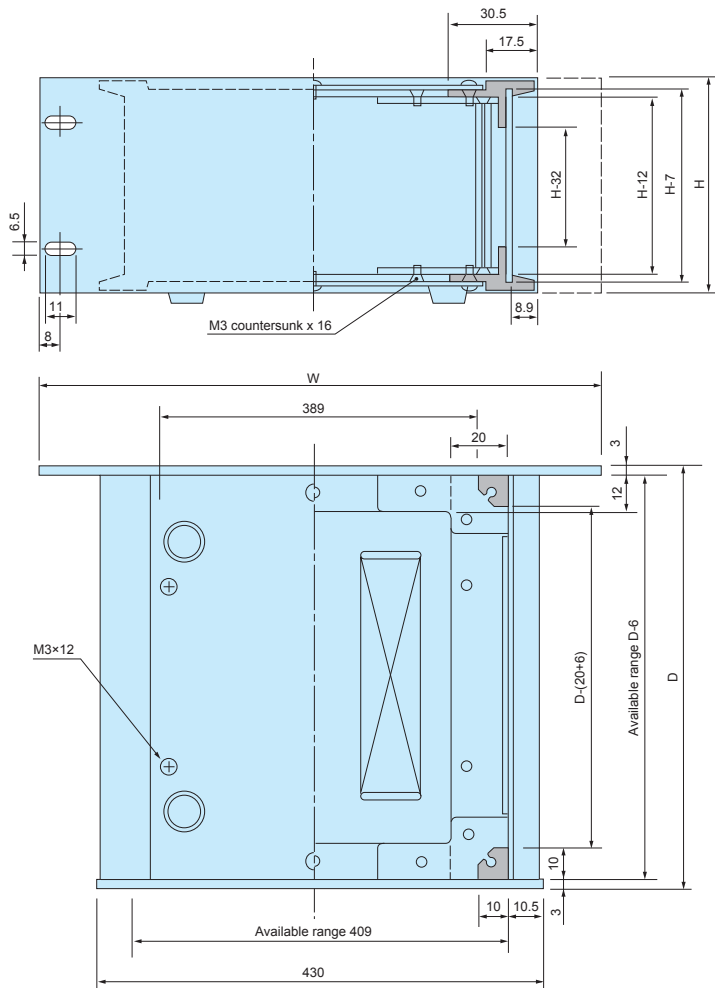


Rear panel



ER dimensions

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



■ Available internal height is H - 29 when assembling AC mounting plate.

Included screws
M3-5 countersunk • Trivalent chromate x 17 pcs
M3-5 Binding head • Black trivalent chromate x 13 pcs
M3-10 Pan head • Trivalent chromate x 4 pcs

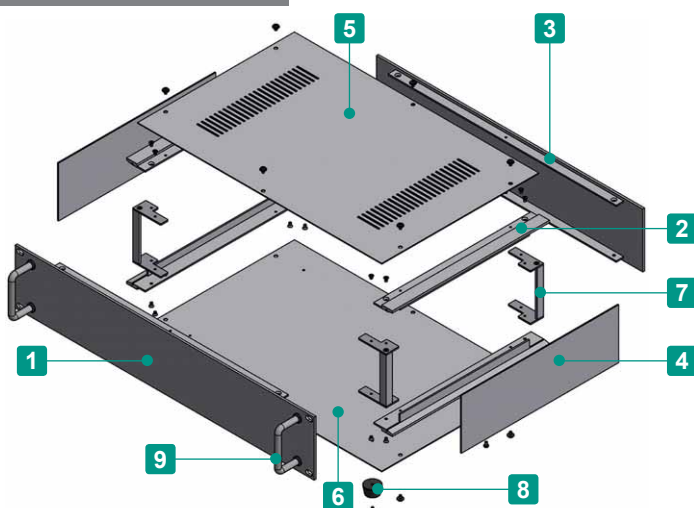
Color type

■ Please suffix color code at the end of the product number.

Code	Panel	Rear panel	Frame	Side plate	Top • Bottom cover
S	Silver	Silver	Silver	Silver	Black
B	Black	Black	Black	Black	Black

Product no. / Dimensions

Product no.	W	H	D	Weight (kg)	Product no.	W	H	D	Weight (kg)
ER 44-16 □	44	482.6	160	1.7	ER133-37 □	132.5	482.6	370	4.2
44-20 □	44	482.6	200	2.0	133-43 □	132.5	482.6	430	4.7
44-26 □	44	482.6	260	2.5	133-50 □	132.5	482.6	500	5.3
44-32 □	44	482.6	320	2.9	ER177-16 □	177	482.6	160	2.8
44-37 □	44	482.6	370	3.2	177-20 □	177	482.6	200	3.3
44-43 □	44	482.6	430	3.7	177-26 □	177	482.6	260	3.8
44-50 □	44	482.6	500	4.2	177-32 □	177	482.6	320	4.4
ER 88-16 □	88	482.6	160	2.1	177-37 □	177	482.6	370	4.8
88-20 □	88	482.6	200	2.5	177-43 □	177	482.6	430	5.3
88-26 □	88	482.6	260	2.9	177-50 □	177	482.6	500	5.9
88-32 □	88	482.6	320	3.4	ER222-16 □	221.5	482.6	160	3.4
88-37 □	88	482.6	370	3.7	222-20 □	221.5	482.6	200	3.8
88-43 □	88	482.6	430	4.2	222-26 □	221.5	482.6	260	4.3
88-50 □	88	482.6	500	4.8	222-32 □	221.5	482.6	320	4.8
ER133-16 □	132.5	482.6	160	2.5	222-37 □	221.5	482.6	370	5.3
133-20 □	132.5	482.6	200	2.9	222-43 □	221.5	482.6	430	5.8
133-26 □	132.5	482.6	260	3.3	222-50 □	221.5	482.6	500	6.5
133-32 □	132.5	482.6	320	3.8					

ERH SERIES**EIA RACK MOUNT ENCLOSURE with HANDLE****Assembly drawings**

- Available in 35 different size combinations.
- Flat panels allows a wide range of customization to be performed easily, such as milling, inkjet printing, engraving and so on.
- 2 different color types available - Silver and Black.

Components

■ Refer to page AC-1 for AC series mounting plate

No.	Part name	Pcs	Material	Color / Finish
1	Panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
2	Frame	4	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
3	Rear panel	1	Extruded aluminium A6063S-T5	Silver • Black / Hairline brushed & Anodized
4	Side plate	2	Aluminium A1050P t = 1.5	Silver • Black / Hairline brushed & Anodized
5	Top cover	1	Steel SPCC t = 1.0	Black / Painted (leather tone)
6	Bottom cover	1	Steel SPCC t = 1.0	Black / Painted
7	Support bracket	4	Steel SPCC t = 2.0 • Extruded aluminium A6063S-T5	Trivalent chromate • Anodized
8	Rubber feet	4	Synthetic rubber	Black
9	Handle	2	Aluminium A5056S • Brass	Silver • Black / Anodized • Chrome plated

■ Note: Side plates are covered with a protective film on one side. Remove before assembly.

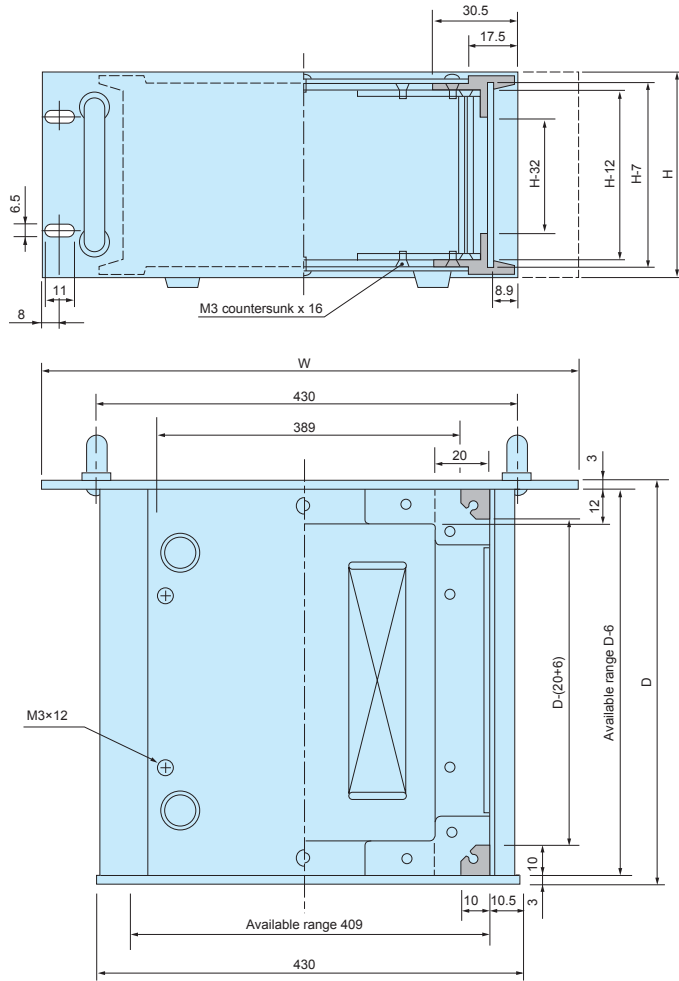
APPLICATION EXAMPLE**FM TRANSMITTER**

Product by Rough and Ready Co., Ltd. (Japan)



ERH dimensions

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



■ Available internal height is H - 29 when assembling AC mounting plate.

Included screws
M3-5 countersunk • Trivalent chromate x 17 pcs
M3-5 Binding head • Black trivalent chromate x 13 pcs
M3-10 Pan head • Trivalent chromate x 4 pcs

Color type

■ Please suffix color code at the end of the product number.

Code	Panel	Rear panel	Frame	Side plate	Top • Bottom cover
S	Silver	Silver	Silver	Silver	Black
B	Black	Black	Black	Black	Black

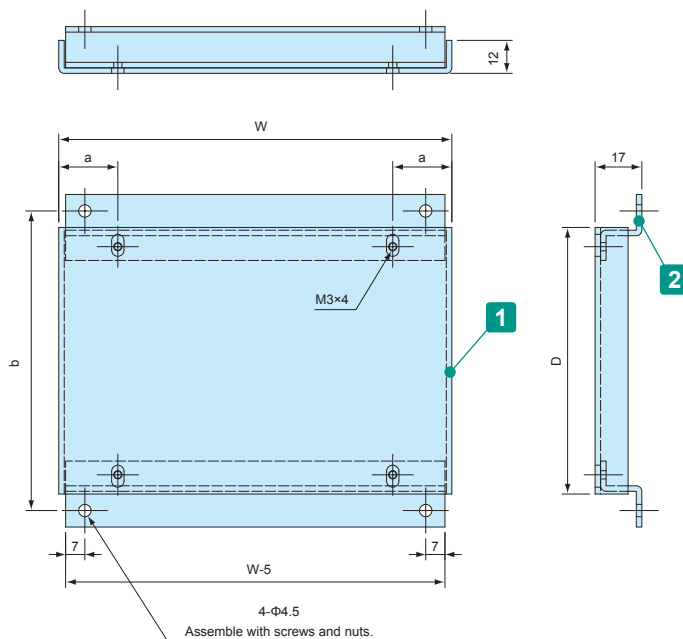
Product no. / Dimensions

Product no.	W	H	D	Weight (kg)	Product no.	W	H	D	Weight (kg)
ERH 44-16□	44	482.6	160	1.7	ERH133-37□	132.5	482.6	370	4.2
44-20□	44	482.6	200	2.0	133-43□	132.5	482.6	430	4.7
44-26□	44	482.6	260	2.5	133-50□	132.5	482.6	500	5.4
44-32□	44	482.6	320	2.9	ERH177-16□	177	482.6	160	2.9
44-37□	44	482.6	370	3.2	177-20□	177	482.6	200	3.4
44-43□	44	482.6	430	3.7	177-26□	177	482.6	260	3.9
44-50□	44	482.6	500	4.2	177-32□	177	482.6	320	4.4
ERH 88-16□	88	482.6	160	2.2	177-37□	177	482.6	370	4.8
88-20□	88	482.6	200	2.5	177-43□	177	482.6	430	5.4
88-26□	88	482.6	260	3.0	177-50□	177	482.6	500	6.0
88-32□	88	482.6	320	3.4	ERH222-16□	221.5	482.6	160	3.5
88-37□	88	482.6	370	3.8	222-20□	221.5	482.6	200	3.9
88-43□	88	482.6	430	4.2	222-26□	221.5	482.6	260	4.4
88-50□	88	482.6	500	4.8	222-32□	221.5	482.6	320	4.9
ERH133-16□	132.5	482.6	160	2.5	222-37□	221.5	482.6	370	5.4
133-20□	132.5	482.6	200	2.9	222-43□	221.5	482.6	430	5.9
133-26□	132.5	482.6	260	3.4	222-50□	221.5	482.6	500	6.5
133-32□	132.5	482.6	320	3.9					

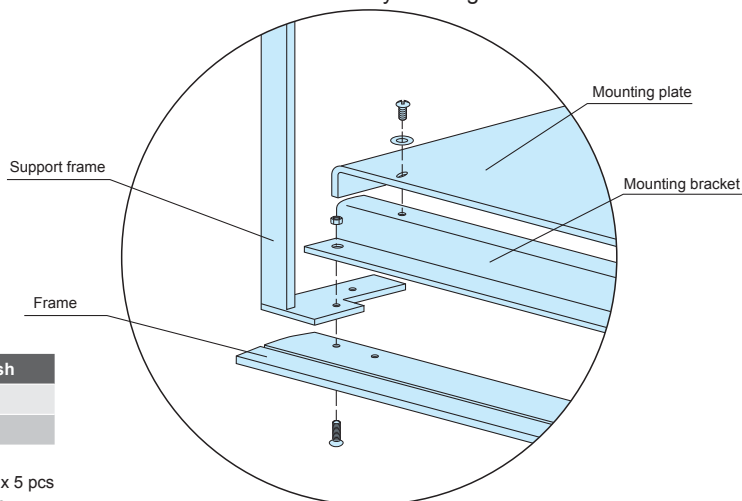
AC SERIES

MOUNTING PLATE for ER • ERH

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



Assembly drawings



Components

No.	Part name	Pcs	Material	Color / Finish
1	Mounting plate	1	Aluminium A1050P t=2.0	Unfinished
2	Mounting bracket	2	Aluminium A1050P t=2.0	Unfinished

Included screws
M3-10 countersunk • Trivalent Chromate x 5 pcs
M3-6 Binding head • Nickel plated x 5 pcs
M3 washer • Nickel plated x 5 pcs
M3 nut • Trivalent Chromate x 5 pcs

Product no. / Dimensions

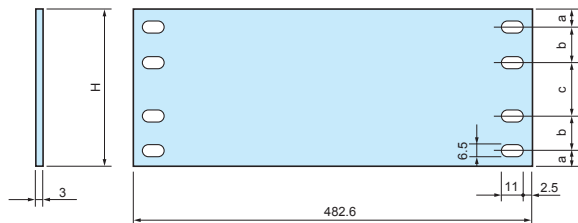
Product no.	W	D	a	b	Suitable enclosure	Weight (g)
AC16-43	143	367	21.5	379	ER□□-16 / ERH□□-16	370
AC20-43	183	367	24.5	379	ER□□-20 / ERH□□-20	460
AC26-43	243	367	31.5	379	ER□□-26 / ERH□□-26	610
AC32-43	303	367	39.5	379	ER□□-32 / ERH□□-32	740
AC37-43	353	367	46.5	379	ER□□-37 / ERH□□-37	860
AC43-43	413	367	54.5	379	ER□□-43 / ERH□□-43	990
AC50-43	483	367	64.5	379	ER□□-50 / ERH□□-50	1,160

AP SERIES

EIA ALUMINIUM RACK PANEL

■ Standard aluminium panel for 19 inch rack.

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Product no. / Dimensions

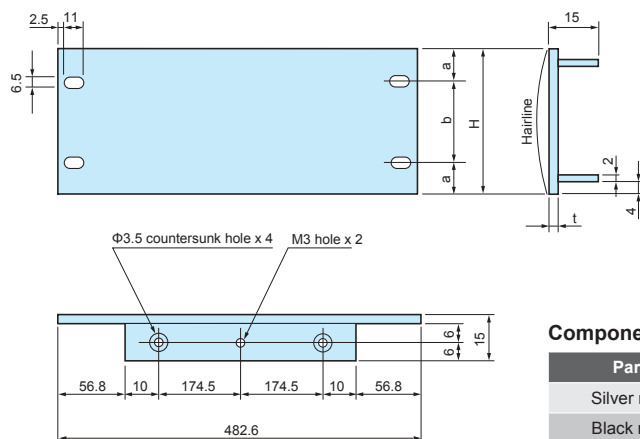
Product no.		H	a	b	c	Mounting hole (One side)	Material	Surface finish	Weight (kg)
● Silver	● Black								
AP- 44S	AP- 44B	44	6.1	—	31.8	2	Extruded aluminium A6063S-T5	Hairline brushed & Anodized	0.18
AP- 88S	AP- 88B	88	5.9	—	76.2	2	Extruded aluminium A6063S-T5	Hairline brushed & Anodized	0.33
AP-133S	AP-133B	132.5	37.7	—	57.1	2	Extruded aluminium A6063S-T5	Hairline brushed & Anodized	0.48
AP-177S	AP-177B	177	37.7	—	101.6	2	Extruded aluminium A6063S-T5	Hairline brushed & Anodized	0.7
AP-222S	AP-222B	221.5	37.75	—	146	2	Aluminium A1050P	Hairline brushed & Anodized	0.87
AP-266S	AP-266B	265.9	37.7	57.2	76.1	4	Aluminium A1050P	Hairline brushed & Anodized	1.06
AP-311S	AP-311B	310.4	37.7	88.9	57.2	4	Aluminium A1050P	Hairline brushed & Anodized	1.24
AP-355S	AP-355B	354.8	37.7	101.6	76.2	4	Aluminium A1050P	Hairline brushed & Anodized	1.42

EP SERIES

EIA EXTRUDED ALUMINIUM RACK PANEL

■ Extruded aluminium panel with reinforced rib for 19 inch rack.

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.



Components

Part name	Material	Surface finish
Silver rack panel	Extruded aluminium A6063S-T5	Hairline brushed & Anodized
Black rack panel	Extruded aluminium A6063S-T5	Hairline brushed & Anodized

Product no. / Dimensions

Product no.		H	a	b	t	Mounting hole (One side)	Weight (kg)
● Silver	● Black						
EP-3- 44S	EP-3- 44B	44	6.1	31.8	3.0	2	0.21
EP-3- 88S	EP-3- 88B	88	5.9	76.2	3.0	2	0.38
EP-3-133S	EP-3-133B	132.5	37.7	57.1	3.0	2	0.54
EP-3-177S	EP-3-177B	177	37.7	101.6	3.0	2	0.72
EP-3-222S	EP-3-222B	221.5	37.75	146	3.0	2	0.93

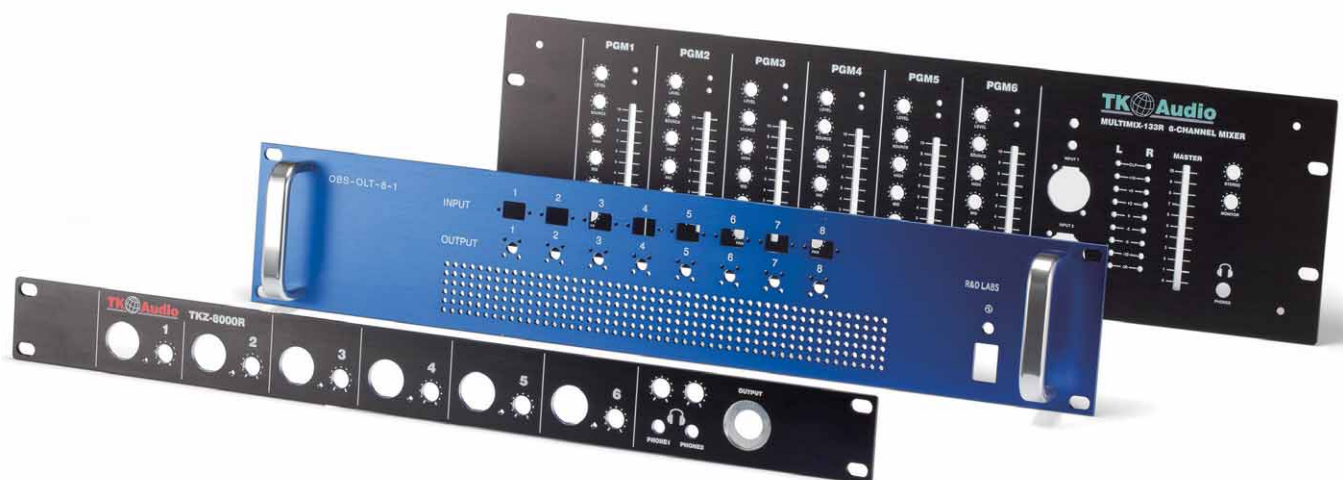


CUSTOMIZATION ON RACK PANEL

- CNC machining service is available from just 1 pc with a short lead time.
- Low-cost digital inkjet printing service is available for your customized front panel.
- Visit our website for more details.



- Anodizing and painting services are also available.



TD SERIES

DIECAST ALUMINIUM BOX



Conductive



- Tough diecast aluminium box.
- Available in 13 sizes and 2 color types.
- Black painted and unfinished boxes are available.
- Conductivity can be achieved by utilization of the contact between the unfinished inner surfaces (only applicable to "N" type).
- Recommended for electric guitar effect pedals.

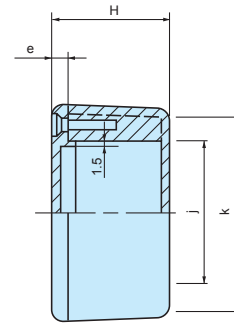
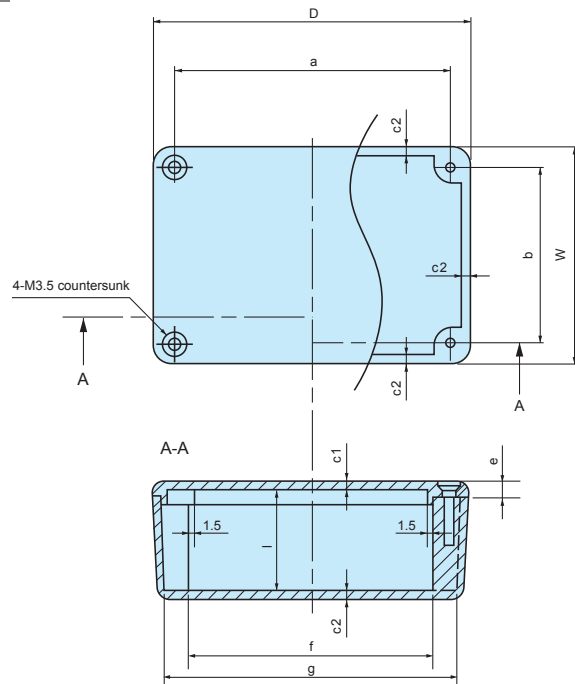
Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Diecast aluminium ADC12	Black • Natural / Painted • Unfinished
2	Base	1	Diecast aluminium ADC12	Black • Natural / Painted • Unfinished
3	Screw	4	Steel M3.5	Nickel plated • Black trivalent chromate

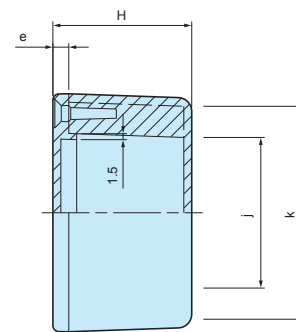
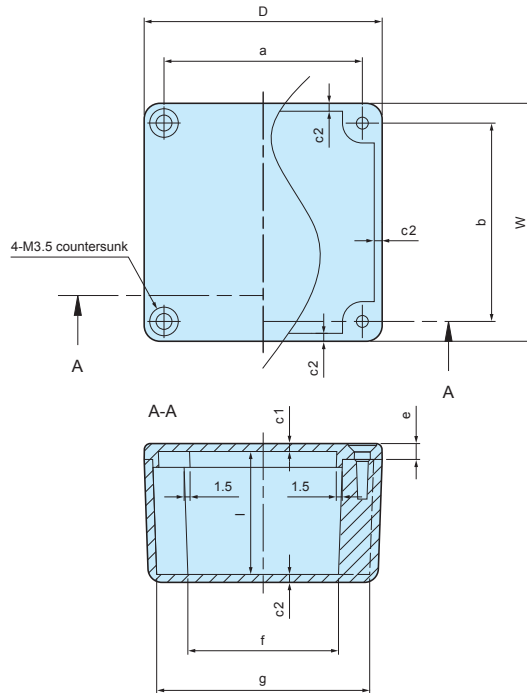
TD dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

TD 4- 6-3
4- 9-3
5- 8-3
6-11-3
7-10-3
8-11-5
9-12-4
10-13-4
10-15-4
12-18-5



TD 6- 6-4
8- 8-4
11-11-5

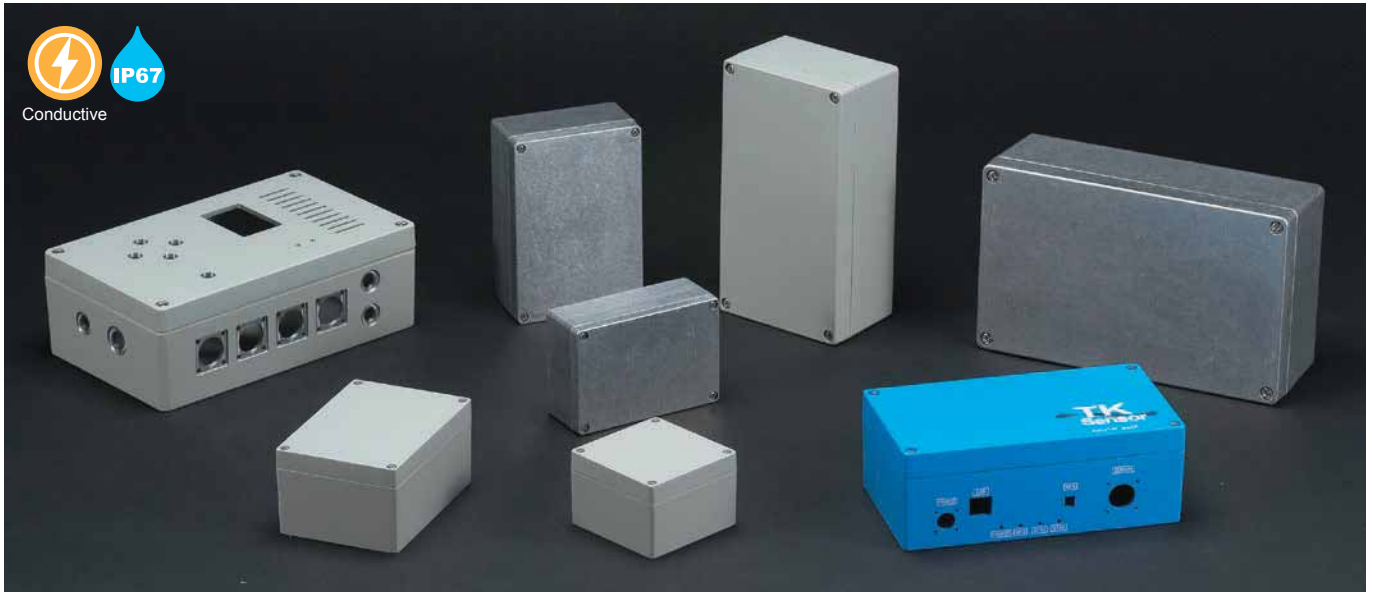
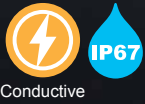


Product no. / Dimensions

Product no.		W	H	D	a	b	c1	c2	e	f	g	j	k	l	Weight (g)
● Black	● Unfinished Conductive														
TD 4- 6-3B	TD 4- 6-3N	40	27	60	50	30	2	2	4	39.5	53.5	20	33.5	23	56
TD 4- 9-3B	TD 4- 9-3N	40.5	32	94.5	84.5	30.5	2.25	2.25	4	74.5	87	20.5	33	27.5	97
TD 5- 8-3B	TD 5- 8-3N	55	30.5	80	70	45	2	2	4.5	58.5	72.5	33.5	47.5	26	95
TD 6- 6-4B	TD 6- 6-4N	60	35	60	50	50	2	2	4	37	51	37	51	31	90
TD 6-11-3B	TD 6-11-3N	64.5	31.8	115.5	105	54	2.25	2.25	4.25	92.5	106.5	42	55.5	27	164.5
TD 7-10-3B	TD 7-10-3N	70	32.5	100	90	60	2.5	2	4.5	78	92	48	62	28	135
TD 8- 8-4B	TD 8- 8-4N	80	40	80	70	70	2	2	4	56.5	70.5	56.5	70.5	36	145
TD 8-11-5B	TD 8-11-5N	86	47.5	113.5	103	75.5	2.25	2.25	4.25	89.5	103	62	75.5	43	226
TD 9-12-4B	TD 9-12-4N	85	35	120	110	75	2	2	4	98.5	112	63.5	77	31	185
TD10-13-4B	TD10-13-4N	95.5	37.8	130.5	120	85	2.25	2.25	4.25	107.5	121	72.5	86	33	263
TD10-15-4B	TD10-15-4N	100	40	150	140	90	2.5	2.5	4	128.5	142	78	92	35	320
TD11-11-5B	TD11-11-5N	110	45	110	100	100	2.5	2.5	4	86	99	86	99	41	280
TD12-18-5B	TD12-18-5N	120	50	180	170	110	2.5	2.5	4	156	171	97.5	110	45	455

BDN SERIES

IP67 DIECAST ALUMINIUM BOX



Technical Data

Protection class: IP67
Operating temperature: -40°C ~ +105°C
Recommended torque: 1.0N • m (10kgf • cm)



- 8 different sizes available for both light gray powder coated and unfinished models.
- O-ring gasket is good for maintaining both waterproof and dustproof functionality.
- Shock resistant diecast aluminium box.
- Conductivity can be achieved by utilization of the contact between the unfinished inner surfaces (only applicable to "N" type).

Components

No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Diecast aluminium ADC12	Light gray • Silver / Powder coated • Unfinished
2	Base	1	Diecast aluminium ADC12	Light gray • Silver / Powder coated • Unfinished
3	O-ring gasket	1	Silicone	Black
4	Screw	4	Stainless steel	Unfinished
5	Earthing screw	2	Steel M4-5	Copper plated

Accessories (Optional parts)



Wall mounting bracket
CK series
See page 296



Mounting plate
FTB series
See page FTB-1



DIN-Rail
FDR series
See page FDR-1 ~ FDR-2

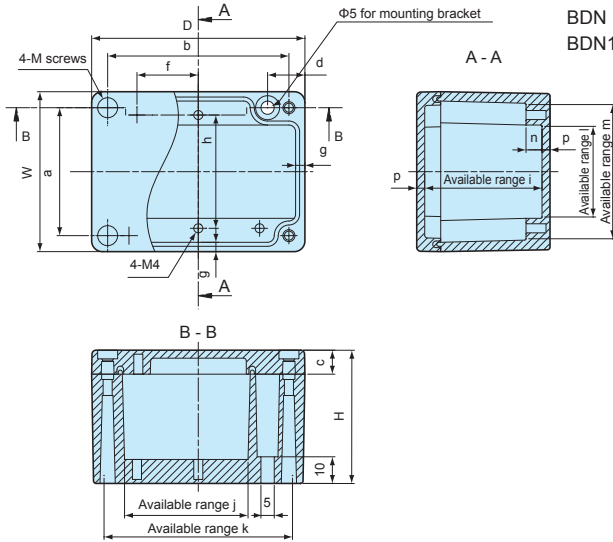


Cable gland
See cable gland pages

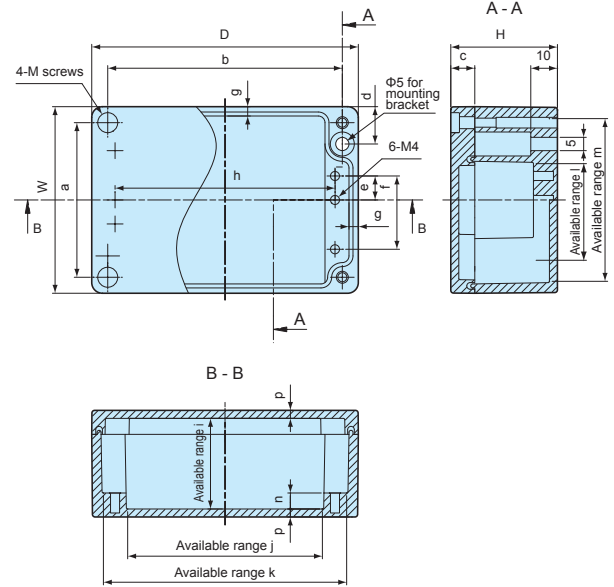
BDN dimensions

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

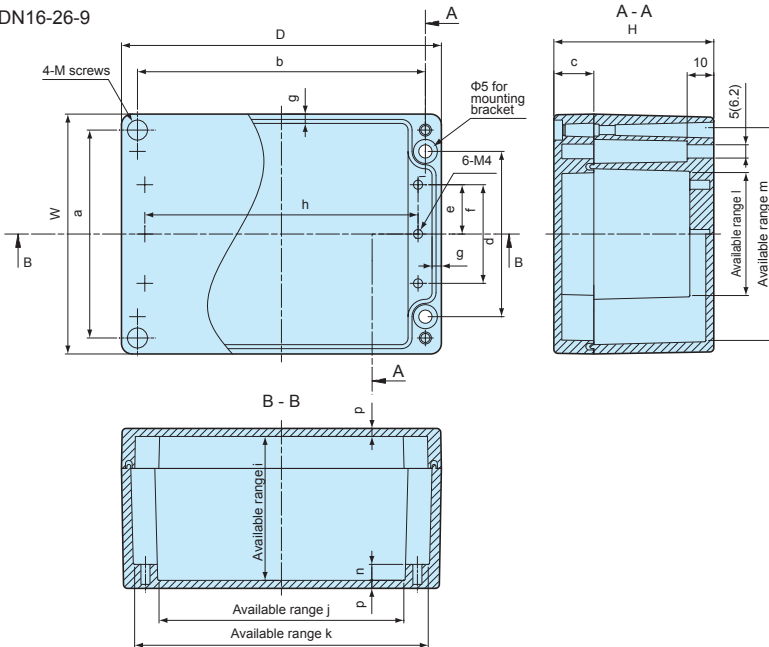
BDN 6-8-5



BDN 7-10-4
BDN 9-13-5
BDN11-16-6



BDN 9- 9-6
BDN10-14-7
BDN12-22-8
BDN16-26-9



Dimension in () = BDN12-22-8
BDN16-26-9

Product no. / Dimensions

Product no.		Dimensions						Weight (g)
● Light gray	● Unfinished Conductive	W	D	H	a	b	c	
BDN 6- 8-5G	BDN 6- 8-5N	60	80	50	48	68	9	240
BDN 7-10-4G	BDN 7-10-4N	70	100	40	58	88	9	250
BDN 9- 9-6G	BDN 9- 9-6N	90	90	60	78	78	15	395
BDN 9-13-5G	BDN 9-13-5N	90	130	50	78	118	9	420
BDN10-14-7G	BDN10-14-7N	100	140	70	88	128	15	635
BDN11-16-6G	BDN11-16-6N	110	160	60	98	148	15	640
BDN12-22-8G	BDN12-22-8N	120	220	80	105	205	20	1,155
BDN16-26-9G	BDN16-26-9N	160	260	90	140	240	20	2,145

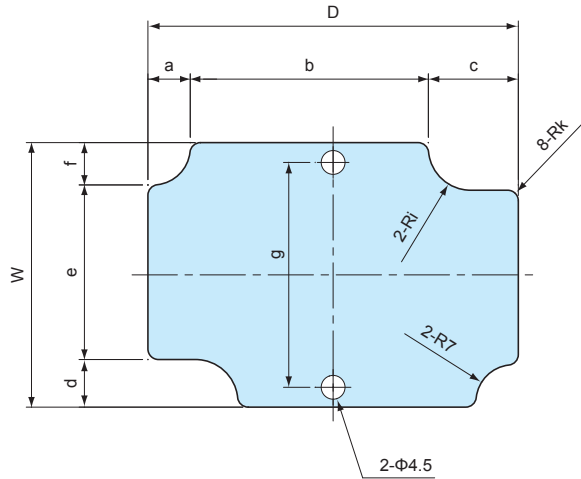
Product no.		Dimensions												
● Light gray	● Unfinished Conductive	d	e	f	g	h	i	j	k	ℓ	m	n	p	M
BDN 6- 8-5G	BDN 6- 8-5N	14	-	23	3.5	42.5	44	45	71	33	51	6	3	M4
BDN 7-10-4G	BDN 7-10-4N	14	11	31	3	85	34	75	92.5	38	62.5	6	3	M4
BDN 9- 9-6G	BDN 9- 9-6N	62	18.5	37	3.5	72	54	62	80	45	80	6	3	M4
BDN 9-13-5G	BDN 9-13-5N	14	19	47.5	3.5	112.5	44	104	121	56	81	6	3	M4
BDN10-14-7G	BDN10-14-7N	72	24	48	3.5	121	64	111	130	56	90	6	3	M4
BDN11-16-6G	BDN11-16-6N	14	29	67.5	3.5	142.5	54	134	151	76	101	6	3	M4
BDN12-22-8G	BDN12-22-8N	84.6	28	56	3.9	196	74	183	206	62	105	6	3	M5
BDN16-26-9G	BDN16-26-9N	110	36	72	4.8	230	82	216	247	87	146	9	4	M6

FTB SERIES

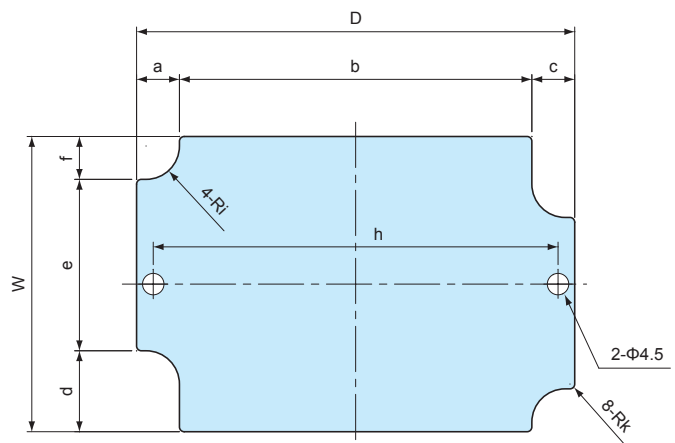
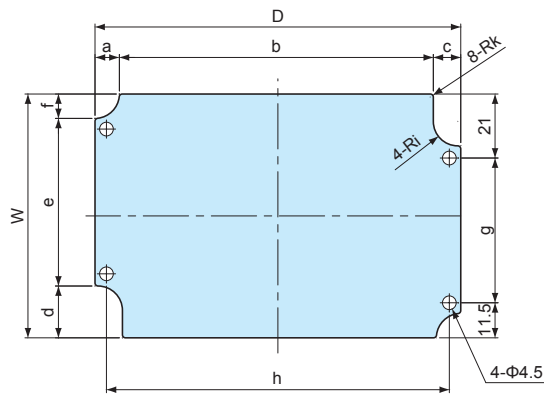
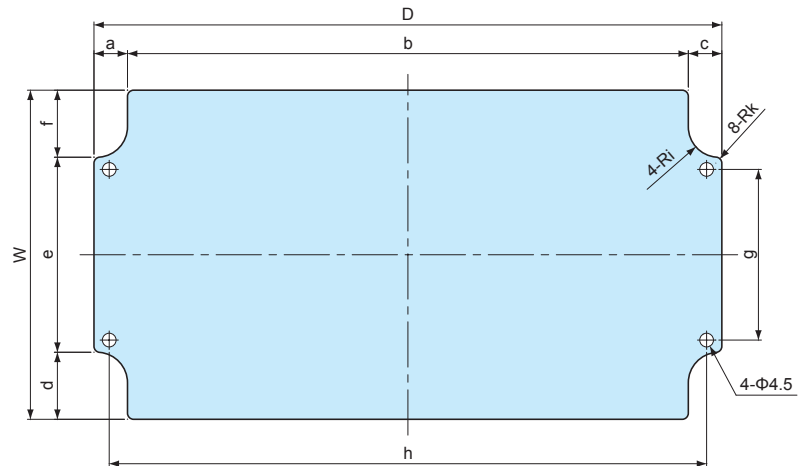
MOUNTING PLATE for BDN



FTB 5-7



FTB 6-9

FTB 8-12
FTB10-15FTB 8- 8 FTB10-20
FTB 9-13 FTB14-24

Material	Color / Finish
Aluminium A1050P t = 1.5	Silver / Anodized

Product no. / Dimensions

Product no.	Suitable box	W	D	a	b	c	d	e	f	g	h	i	k
FTB 5- 7	BDN 6- 8-5	50	70	8	45	17	9	33	8	42.5	-	8	2
FTB 6- 9	BDN 7-10-4	62	92	9	74	9	17	36	9	-	85	7	1
FTB 8- 8	BDN 9- 9-6	80	80	9	62	9	17	46	17	37	72.5	8	2
FTB 8-12	BDN 9-13-5	80	120	8	103	9	17	55	8	47.5	112.5	8	1
FTB 9-13	BDN10-14-7	89	129	9	111	9	17	55	17	48	121	8.5	2
FTB10-15	BDN11-16-6	100	150	8	133	9	17	75	8	67.5	142.5	8	1
FTB10-20	BDN12-22-8	108	206	11	184	11	22	64	22	56	196	10	2
FTB14-24	BDN16-26-9	144	244	15	214	15	30	84	30	72	230	12	3

HQ SERIES

IP67 EMC SHIELDED DIECAST ALUMINIUM BOX

EMC
Shielding
Effects

IP67



Technical Data

Protection class : IP67
 Operating temperature : -40°C ~ +105°C
 Recommended torque : 1N • m

Silicone gasket (waterproof)

Stainless steel mesh gasket
(EMC Shielding)

- A double gasket construction allows both IP67 protection and EMC shielding to be possible.
- 13 different sizes available with 2 different finish types.
- Suitable for CATV terminal, fiber optic transmitter, FA controller, and so on.
- Available in powder coated model and unfinished model.

APPLICATION EXAMPLE

CATV OPTICAL NODE



LPWA OUTDOOR GATEWAY



WIFI ACCESS POINT

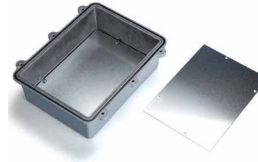
Accessories (Optional parts)



Mounting bracket HQF series
See page HQ-7



Pole Mounting bracket SSK series
See page SSK-M-1 ~ SSK-M-3



Mounting plate HQP series
See page HQ-8



Mounting screw MT series
See page HQ-7



Cable gland
See cable gland pages



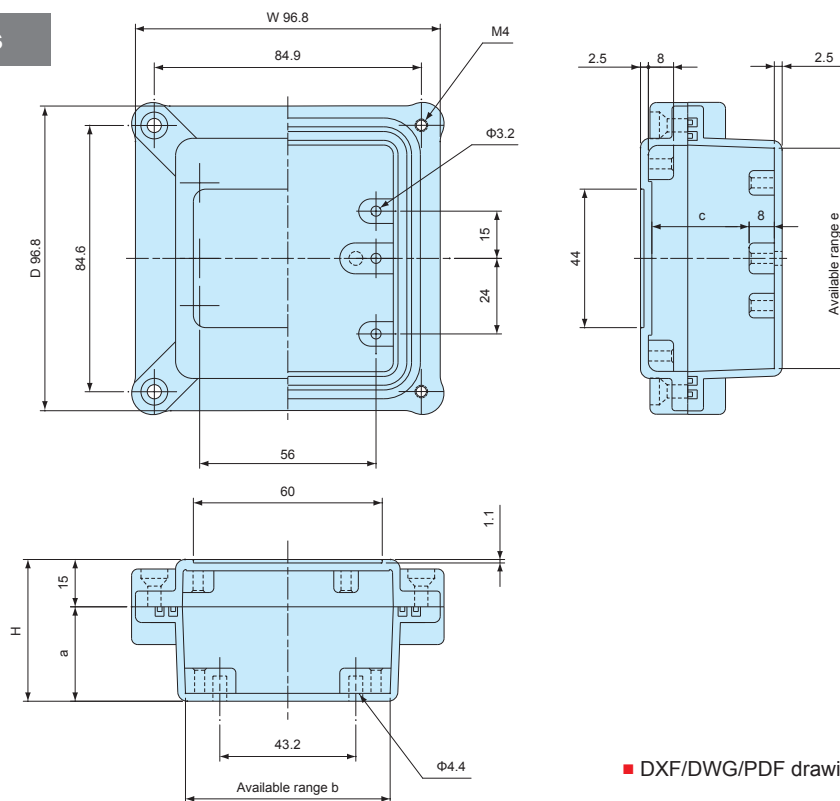
Protective vent PMF series
See PMF pages

Product no. / Dimensions

Product no.		Dimensions			Weight (g)
● Light gray	○ Unfinished	W	D	H	
HQ10-10- 5G	HQ10-10- 5N	96.3	96.8	45	302
HQ10-10- 7G	HQ10-10- 7N	96.8	96.8	67	335
HQ15-10- 5G	HQ15-10- 5N	150	100	50	442
HQ15-10- 8G	HQ15-10- 8N	150	99.5	75	494
HQ16-16- 6G	HQ16-16- 6N	162	162	55	626
HQ16-16- 8G	HQ16-16- 8N	162	162	80	715
HQ19-10- 5G	HQ19-10- 5N	192	96	45	507
HQ19-10- 7G	HQ19-10- 7N	192	96	67	590
HQ20-15- 5G	HQ20-15- 5N	200	150	50	753
HQ20-15- 8G	HQ20-15- 8N	200	150	75	849
HQ26-18- 6G	HQ26-18- 6N	262	181.5	55	961
HQ27-17- 7G	HQ27-17- 7N	274.2	173.2	66	1,129
HQ27-17-10G	HQ27-17-10N	274.2	172.7	100	1,287

HQ dimensions

HQ10-10-5
HQ10-10-7

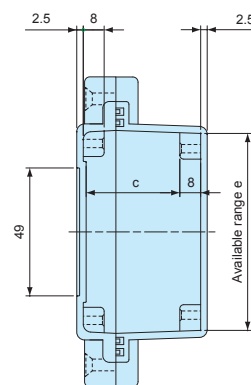
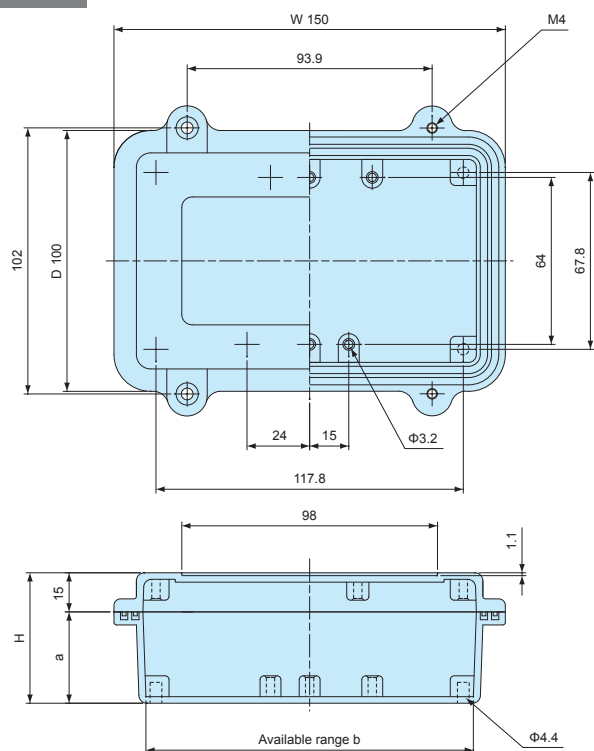


■ DXF/DWG/PDF drawings available on our website.

Product no.	W	D	H	a	b	c	e
HQ10-10- 5	96.3	96.8	45	30	64	30.9	69
HQ10-10- 7	96.8	96.8	67	52	64	52.9	69

HQ dimensions

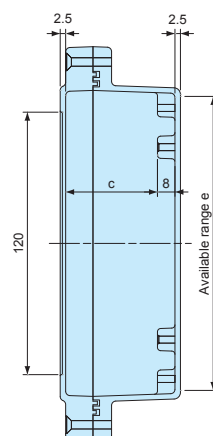
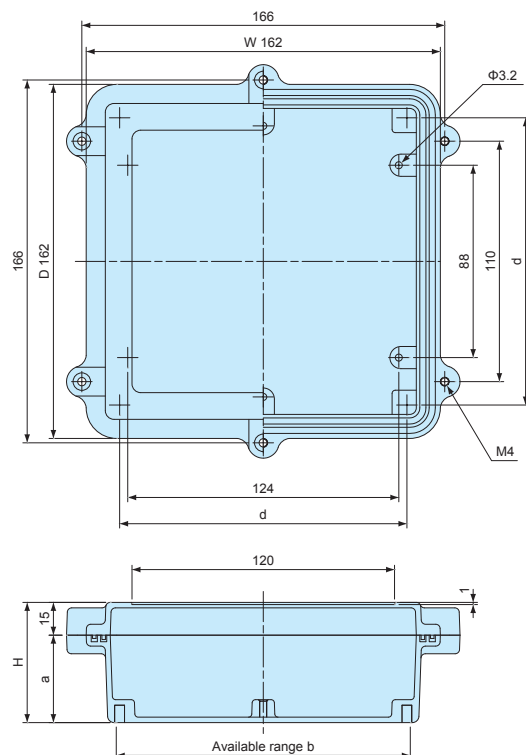
HQ15-10-5
HQ15-10-8



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

Product no.	W	D	H	a	b	c	e
HQ15-10- 5	150	100	50	35	125.5	35.9	75.5
HQ15-10- 8	150	99.5	75	60	123.7	60.9	73.7

HQ16-16-6
HQ16-16-8

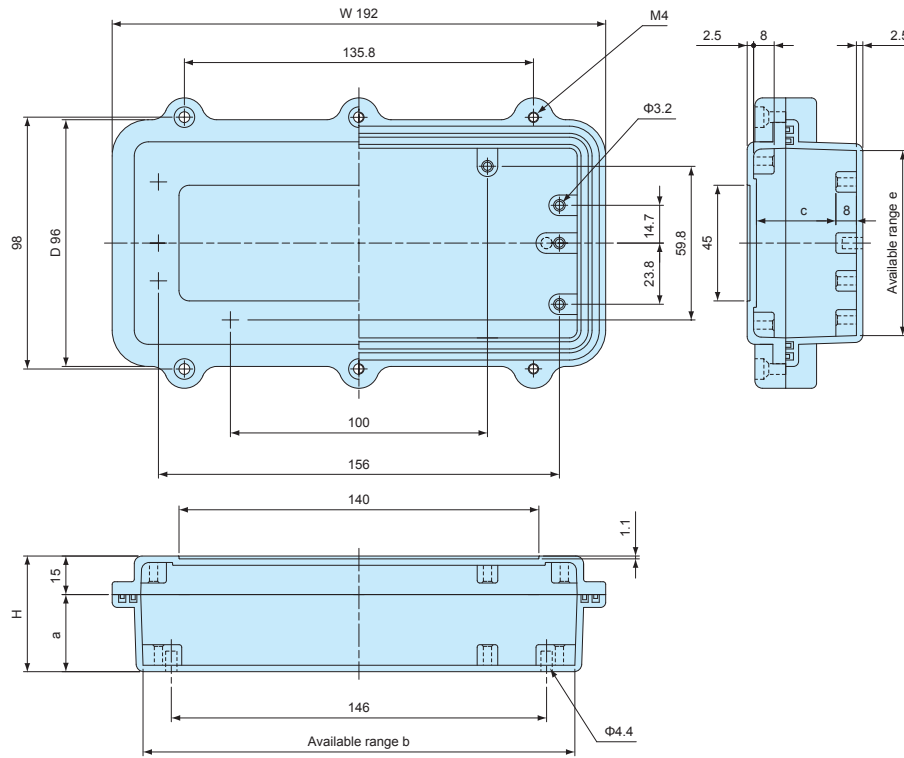


Product no.	W	D	H	a	b	c	d	e
HQ16-16- 6	162	162	55	40	134.5	42	131.41	134.5
HQ16-16- 8	162	162	80	65	132.7	67	129.66	132.7

HQ dimensions

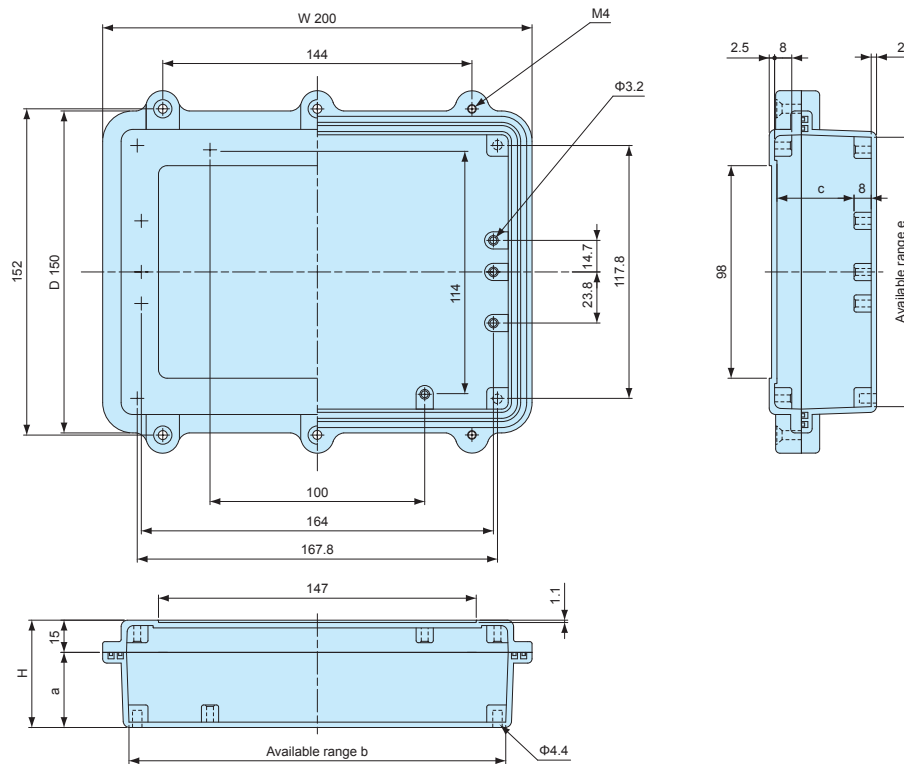
■ DXF/DWG/PDF drawings available on our website.

HQ19-10-5
HQ19-10-7



Product no.	W	D	H	a	b	c	e
HQ19-10- 5	192	96	45	30	168	30.9	72
HQ19-10- 7	192	96	67	52	166.6	52.9	70.6

HQ20-15-5
HQ20-15-8

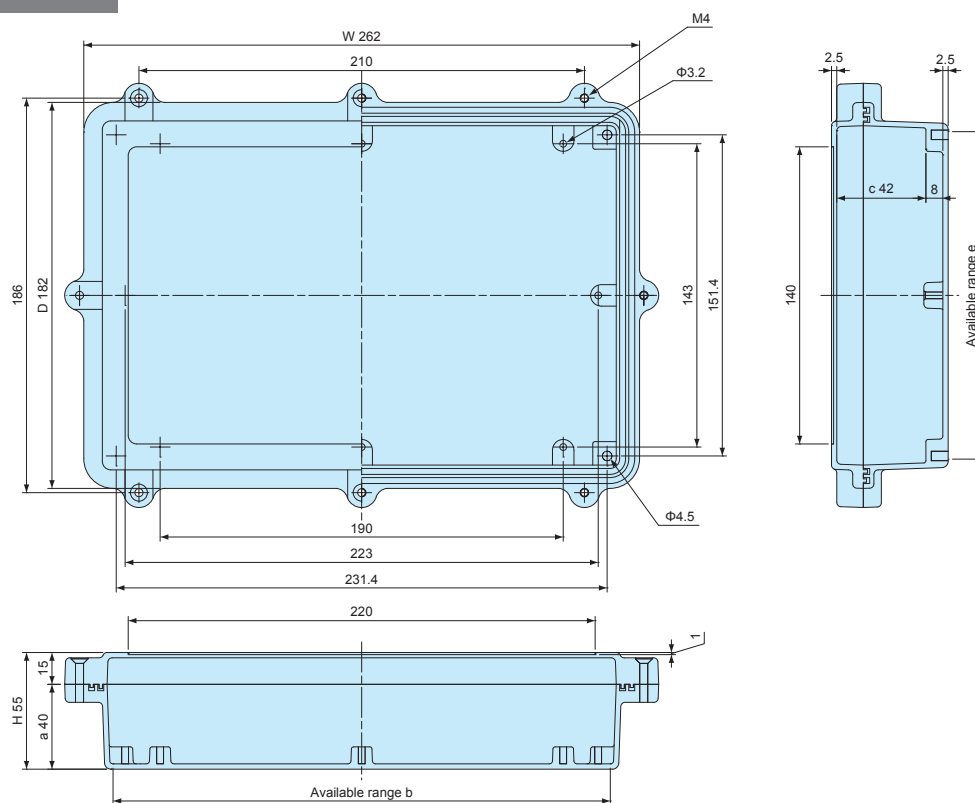


Product no.	W	D	H	a	b	c	e
HQ20-15- 5	200	150	50	35	175.5	35.9	125.5
HQ20-15- 8	200	150	75	60	173.7	60.9	123.7

HQ dimensions

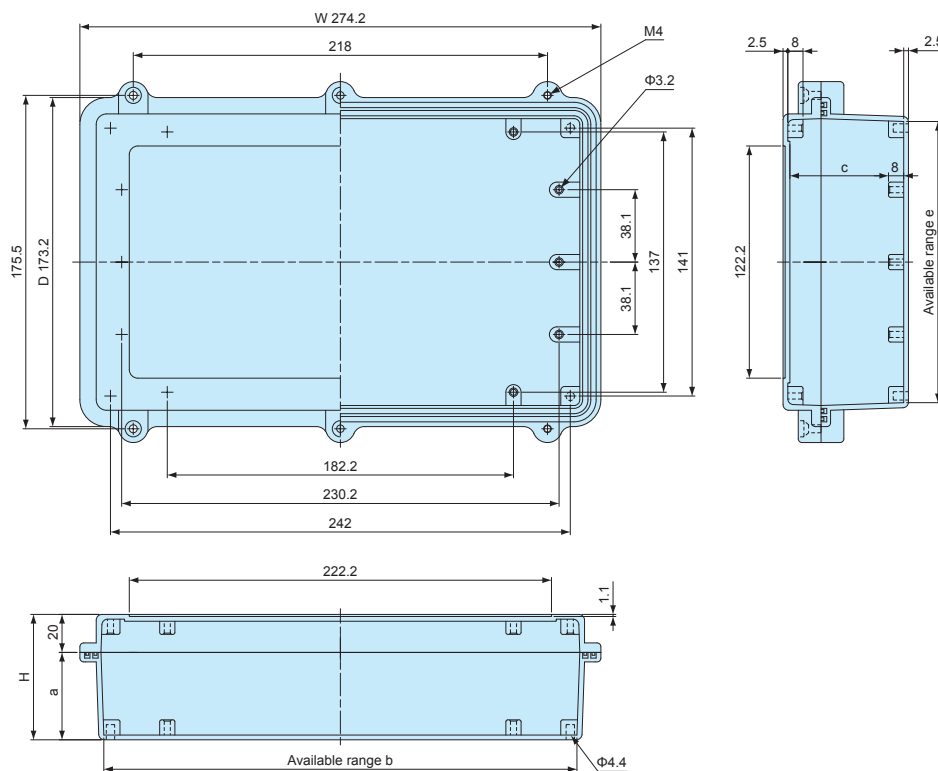
■ DXF/DWG/PDF drawings available on our website.

HQ26-18-6



Product no.	W	D	H	a	b	c	e
HQ26-18- 6	262	181.5	55	40	234.4	42	154.4

HQ27-17- 7
HQ27-17-10



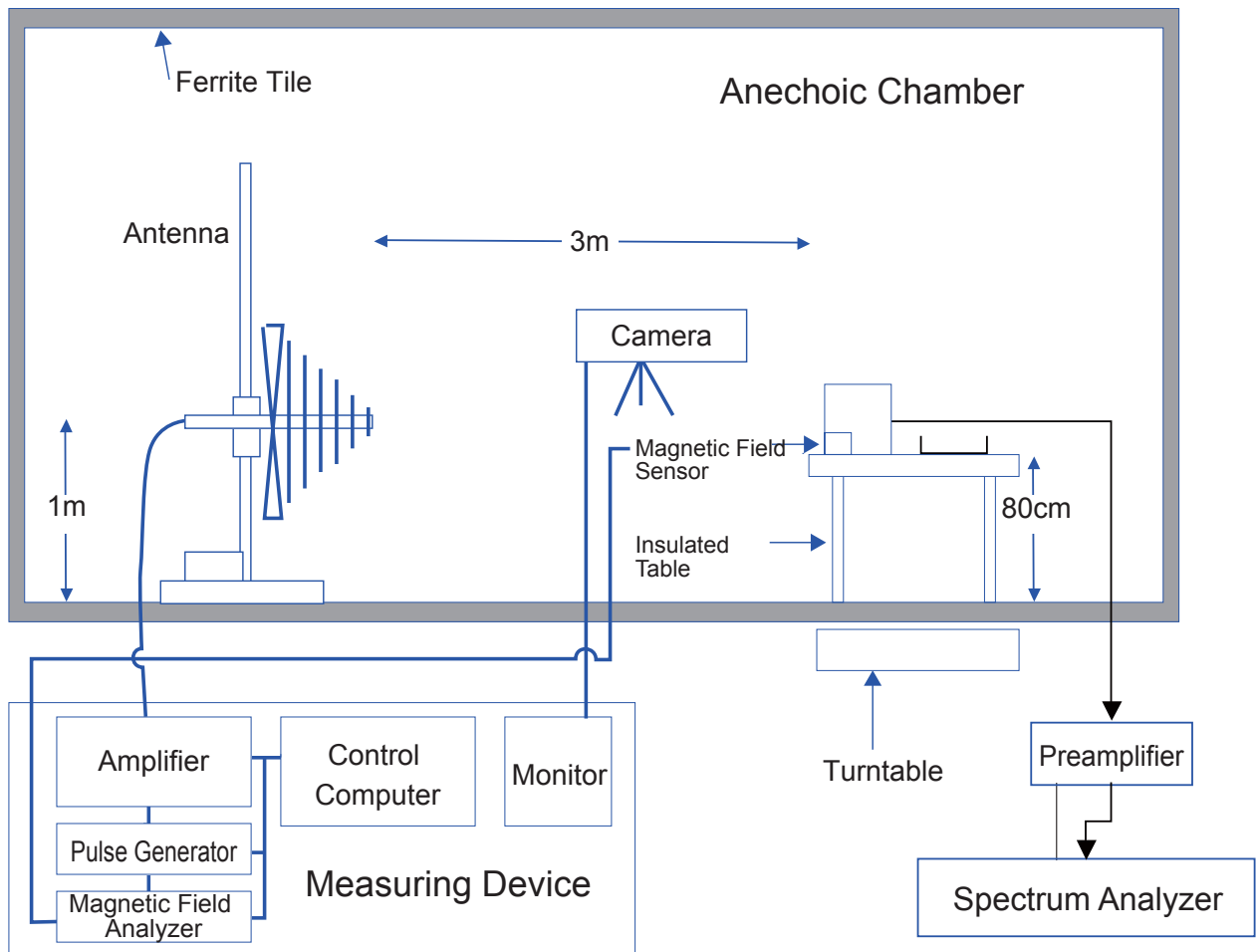
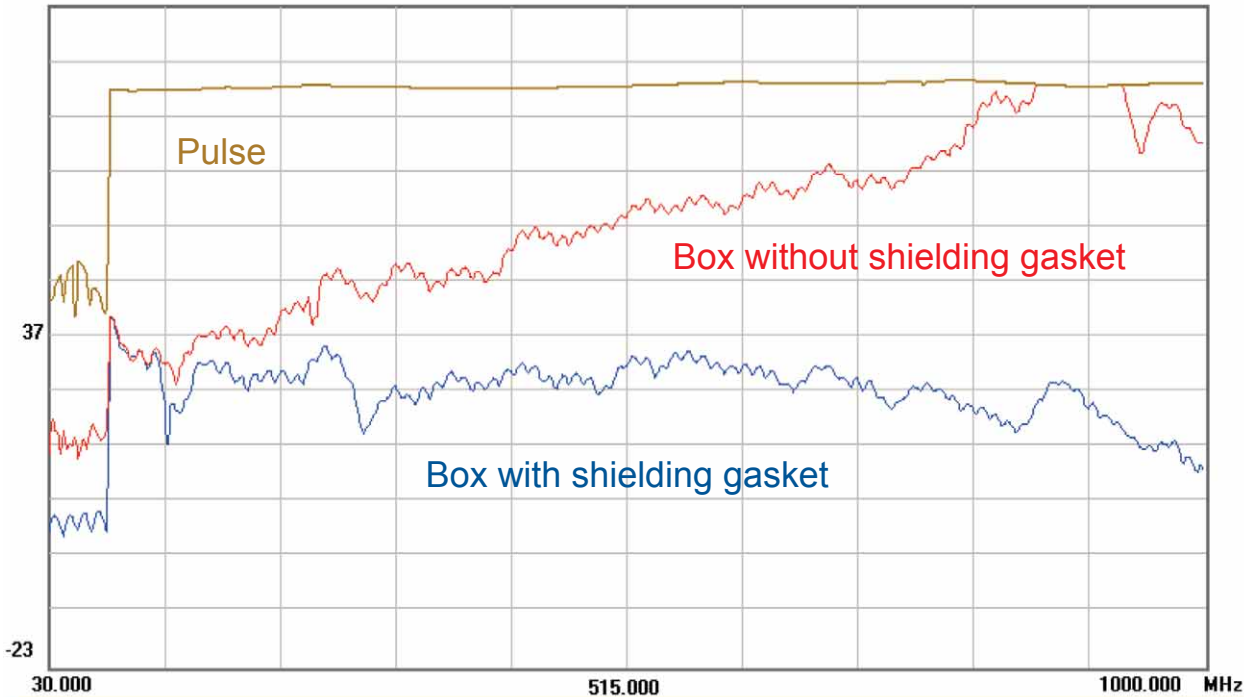
Product no.	W	D	H	a	b	c	e
HQ27-17- 7	274.2	173.2	66	46	249	51.9	148
HQ27-17-10	274.2	172.7	100	80	249	85.9	148

EMI SHIELDING TEST DATA

Test Result
by Gestek

97.0 dBuV/m

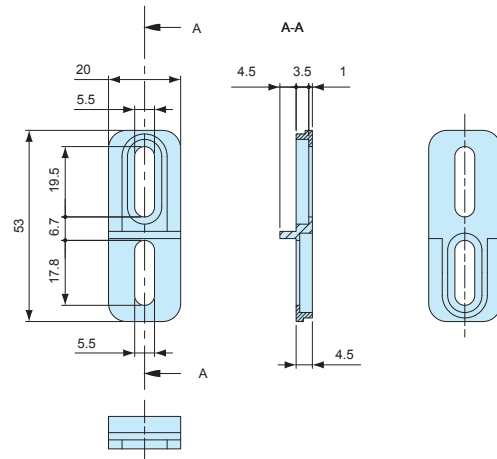
Date : 2007/12/20



HQF SERIES

MOUNTING BRACKET for HQ

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



Components

Part name	Pcs	Material	Color / Finish
Mounting bracket	4	Diecast aluminium ADC12	Powder coated • Unfinished
Screw	4	Stainless steel	Unfinished

Product no. / Feature

Product no.	Color / Finish	Suitable box	Pack of
HQF-1G	Light gray / Powder coated	HQ all models	4
HQF-1N	Unfinished	HQ all models	4

MT SERIES

MOUNTING SCREW for HQ



Product no. / Feature

Product no.	Material	Color / Finish	Pack of
MT3.5-8K	Steel	Trivalent chromate	4

HQG SERIES

WATERPROOF GASKET for HQ



Product no. / Suitable box

Product no.	Suitable box
HQG1010	HQ10-10-□
HQG1510	HQ15-10-□
HQG1616	HQ16-16-□
HQG1910	HQ19-10-□
HQG2015	HQ20-15-□
HQG2618	HQ26-18-□
HQG2717	HQ27-17-□

■ Material : Silicone

HQE SERIES

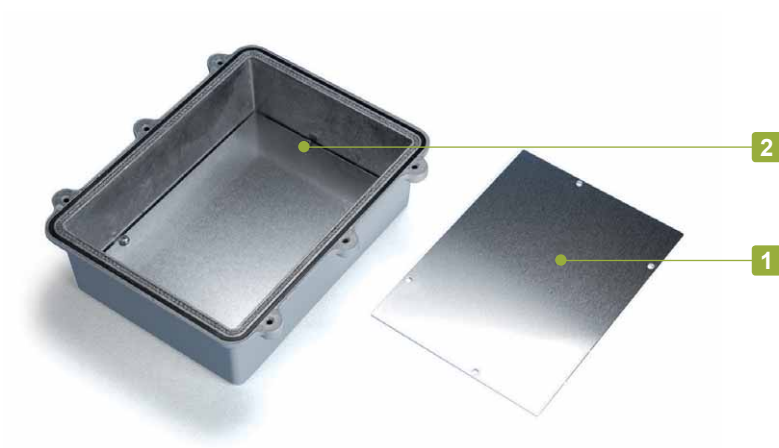
SHIELDING GASKET for HQ



Product no. / Suitable box

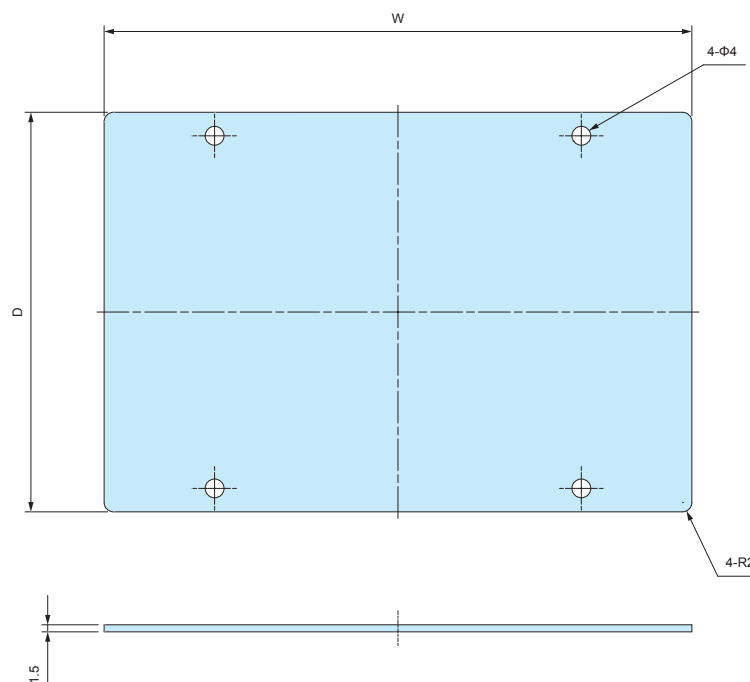
Product no.	Suitable box
HQE1010	HQ10-10-□
HQE1510	HQ15-10-□
HQE1616	HQ16-16-□
HQE1910	HQ19-10-□
HQE2015	HQ20-15-□
HQE2618	HQ26-18-□
HQE2717	HQ27-17-□

■ Material : Stainless steel • Silicone (White)

HQP SERIES**MOUNTING PLATE** for HQ**Components**

No.	Part name	Pcs	Material	Color / Finish
1	Mounting plate	1	Aluminium A1050P t = 1.5	Unfinished
2	Screw (MT3.5-8K)	4	Steel	Trivalent chromate

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

**Product no. / Dimensions**

Product no.	W	D	Suitable box
HQP10-10	63	68	HQ10-10-5 • HQ10-10-7
HQP15-10	122	72	HQ15-10-5 • HQ15-10-8
HQP16-16	132	132	HQ16-16-6 • HQ16-16-8
HQP19-10	166	70	HQ19-10-5 • HQ19-10-7
HQP20-15	172	122	HQ20-15-5 • HQ20-15-8
HQP26-18	235	155	HQ26-18-6
HQP27-17	248	147	HQ27-17-7 • HQ27-17-10

SSK SERIES

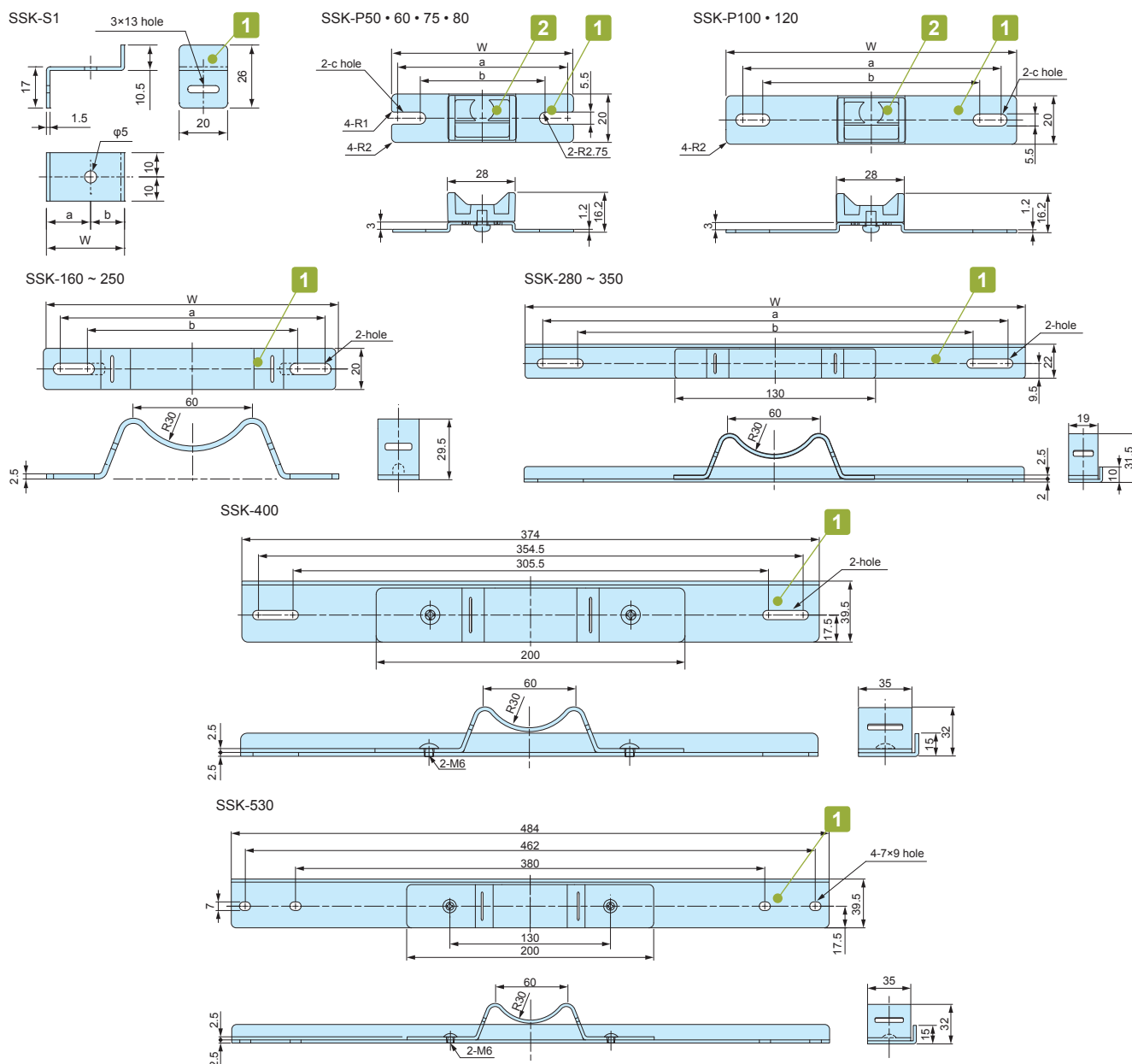
POLE MOUNTING BRACKET



- Stainless steel pole mounting bracket.
- Welding onto stainless steel case can be performed to maintain waterproof ability.
- Use SSK-B series screws (see page SSK-M-2) for installation on diecast aluminium box.
- Use PKB mounting belt (see page PKB-1) for installation onto a pole.

SSK dimensions

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



Components

No.	Part name	Pcs	Material	Color / Finish
1	Bracket	2	Stainless steel SUS304	Barrel finish
2	Mounting bracket (SSK-P models only)	2	ASA UL94HB	White gray

Product no. / Dimensions

Product no.	W	a	b	c	Suitable mounting belt	Pack of
SSK-S1	32.25	18.25	14	—	PKB-10PM, 10P, PKB-10S	4
SSK-P50	50	44.5	37.5	5.5× 9	PKB-10PM, 10P, PKB-10S	2
SSK-P60	60	54.5	47.5	5.5× 9	PKB-10PM, 10P, PKB-10S	2
SSK-P75	75	69.5	55.5	5.5×12.5	PKB-10PM, 10P, PKB-10S	2
SSK-P80	80	74.5	64.5	5.5×10.5	PKB-10PM, 10P, PKB-10S	2
SSK-P100	100	88.1	76.5	5.5×11.3	PKB-10PM, 10P, PKB-10S	2
SSK-P120	120	106.5	88.5	5.5×14.5	PKB-10PM, 10P, PKB-10S	2
SSK-160	142	129.5	106.5	—	PKB-10PM, 10P, PKB-10S	2
SSK-170	152	142.3	101	—	PKB-10PM, 10P, PKB-10S	2
SSK-200	174	161.5	112.5	—	PKB-10PM, 10P, PKB-10S	2
SSK-210	192	180.5	131.5	—	PKB-10PM, 10P, PKB-10S	2
SSK-250	230	215.5	166.5	—	PKB-10PM, 10P, PKB-10S	2
SSK-280	260	244.5	195.5	—	PKB-10PM, 10P, PKB-10S	2
SSK-300	280	264.5	215.5	—	PKB-10PM, 10P, PKB-10S	2
SSK-350	324	302.5	253.5	—	PKB-10PM, 10P, PKB-10S	2
SSK-400	374	354.5	305.5	—	PKB-20S	2
SSK-530	484	462	380	7×9	PKB-20S	2

SSK-B SERIES

MOUNTING SCREW SET for SSK

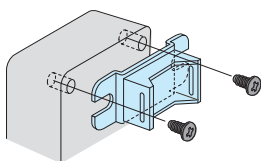
- Mounting screw set for use with SSK pole mounting bracket.
- See below chart for appropriate screw / box combination.
- Material / Finish : Stainless steel / Unfinished.

Product no. / Dimensions

Product no.	Included screws	Suitable box	Pcs
SSK-B4-15N	M4-15 Pan head with nut	AW5-4-7 ~ AW8-5-18	4
SSK-B4-25N	M4-25 Pan head with nut	BDN9-9-6, BDN10-14-7	4
SSK-B5-8T	M5-8 Binding head tapping	HQ series	4
SSK-B5-15N	M5-15 Pan head with nut	AW9-9-10 ~ AW21-9-31	4
SSK-B5-25N	M5-25 Pan head with nut	BDN12-22-8, BDN16-26-9	4

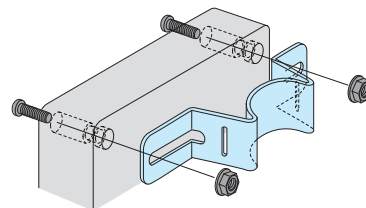
■ Installation Example

M5 thread fastening



SSK-B5-8T

M4/M5 Pan head with nut fastening



SSK-B4-15N SSK-B4-25N
 SSK-B5-15N SSK-B5-25N
 SSK-B5-35N SSK-B6-40N

POLE MOUNTING BRACKET / SCREW SET MATCHING CHART

BDN series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
BDN	9-9-6	SSK-P75	SSK-P100	SSK-B4-25-N
	10-14-7	SSK-P80	SSK-160	SSK-B4-25-N
	12-22-8	SSK-P100	SSK-250	SSK-B5-25-N
	16-26-9	SSK-160	SSK-280	SSK-B5-25-N

HQ series

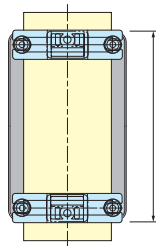
Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
HQ	10-10-5 • 10-10-7	SSK-P50	—	SSK-B5-8T
	15-10-5 • 15-10-8	SSK-P80	SSK-160	SSK-B5-8T
	15-11-3	SSK-P100	SSK-160	SSK-B5-8T
	16-16-6 • 16-16-8	SSK-170	SSK-170	SSK-B5-8T
	19-10-5 • 19-10-7	—	SSK-200	SSK-B5-8T
	20-15-3 • 20-15-5 • 20-15-9	SSK-160	SSK-210	SSK-B5-8T
	26-18-6	SSK-200	SSK-280	SSK-B5-8T
	27-17-7 • 27-17-10	SSK-170	SSK-280	SSK-B5-8T

SSM • SSB series ■ Installation should be done by welding.

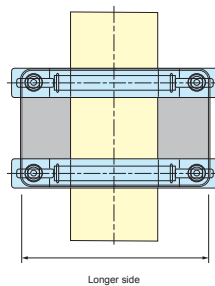
Box Product no.				SSK Product no.	
				Vertical mount	Horizontal mount
SSM SSB	121508			SSK-S1	—
	151508	152206	152210	SSK-160	—
	202010	202806		SSK-210	—
	202812	223312			
	304015			SSK-300	—

■ SSK bracket is different depending on mount type (Vertical or Horizontal).

Vertical mount
(Longer vertical side)



Horizontal mount
(Longer horizontal side)



AW series

Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
AW	5-4-7	—	SSK-P100	SSK-B4-15N
	5-4-9	—	SSK-P120	SSK-B4-15N
	5-4-11	—	SSK-160	SSK-B4-15N
	5-4-14	—	SSK-200	SSK-B4-15N
	7-7-8	SSK-P50	SSK-P120	SSK-B4-15N
	7-7-11	SSK-P50	SSK-160	SSK-B4-15N
	7-7-15	SSK-P50	SSK-210	SSK-B4-15N
	7-7-20	SSK-P50	SSK-250	SSK-B4-15N
	7-7-25	SSK-P50	SSK-300	SSK-B4-15N
	8-5-9	SSK-P75	SSK-160	SSK-B4-15N
	8-5-12	SSK-P75	SSK-160	SSK-B4-15N
	8-5-14	SSK-P75	SSK-200	SSK-B4-15N
	8-5-18	SSK-P75	SSK-250	SSK-B4-15N
	9-9-10	SSK-P75	SSK-160	SSK-B5-15N
	9-9-13	SSK-P75	SSK-170	SSK-B5-15N
	9-9-17	SSK-P75	SSK-250	SSK-B5-15N
	9-9-22	SSK-P75	SSK-280	SSK-B5-15N
	9-9-28	SSK-P75	SSK-350	SSK-B5-15N
	11-6-11	SSK-P100	SSK-160	SSK-B5-15N
	11-6-15	SSK-P100	SSK-210	SSK-B5-15N
	11-6-19	SSK-P100	SSK-250	SSK-B5-15N
	11-6-24	SSK-P100	SSK-300	SSK-B5-15N
	12-8-11	SSK-P120	SSK-160	SSK-B5-15N
	12-8-14	SSK-P120	SSK-200	SSK-B5-15N
	12-8-17	SSK-P120	SSK-250	SSK-B5-15N
	12-8-22	SSK-P120	SSK-280	SSK-B5-15N
	16-9-14	SSK-160	SSK-200	SSK-B5-15N
	16-9-18	SSK-160	SSK-250	SSK-B5-15N
	16-9-23	SSK-160	SSK-280	SSK-B5-15N
	16-9-28	SSK-160	SSK-350	SSK-B5-15N
	21-9-17	SSK-210	SSK-250	SSK-B5-15N
	21-9-21	SSK-210	SSK-280	SSK-B5-15N
	21-9-26	SSK-210	SSK-350	SSK-B5-15N
	21-9-31	SSK-210	SSK-400	SSK-B5-15N

PKB SERIES

POLE MOUNTING BELT



PKB-10PM, 10P

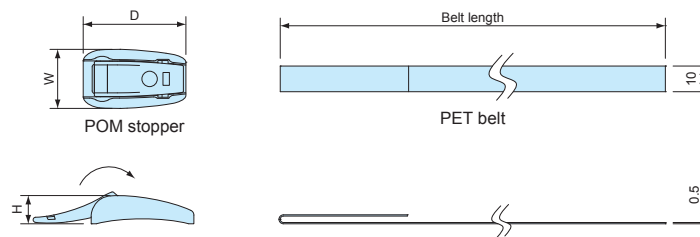


PKB-10S, 20S

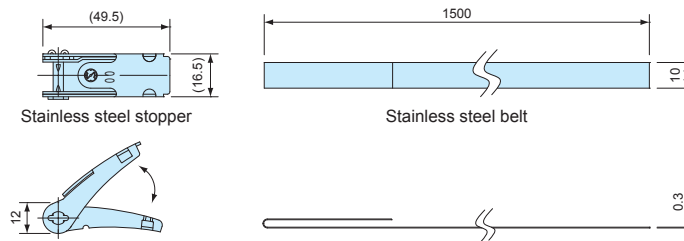
- New shorter belt type PKB-10PM is available for $\phi 25$ to $\phi 60$ mm poles. Other belt types are for $\phi 60$ to $\phi 400$ mm poles.
- Designed for one time use only (not reusable).
- Strong stainless steel clamping type and easy installation plastic type are available.
- Use SSK mounting bracket for installation onto a pole.
- Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

PKB dimensions

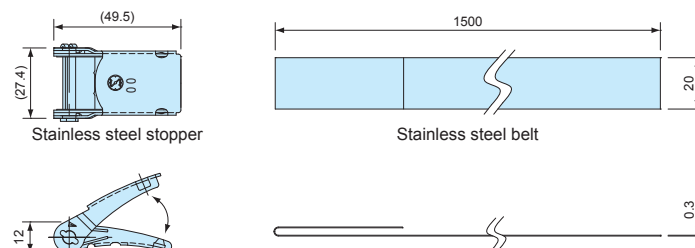
PKB-10PM, 10P



PKB-10S



PKB-20S



Components

Part name	Pcs	Material	Color / Finish
Stopper	2	POM • Stainless steel SUS304	Black • Barrel finish
Belt	2	PET • Stainless steel SUS430	Gray • Bright Annealed finish

Product no. / Dimensions

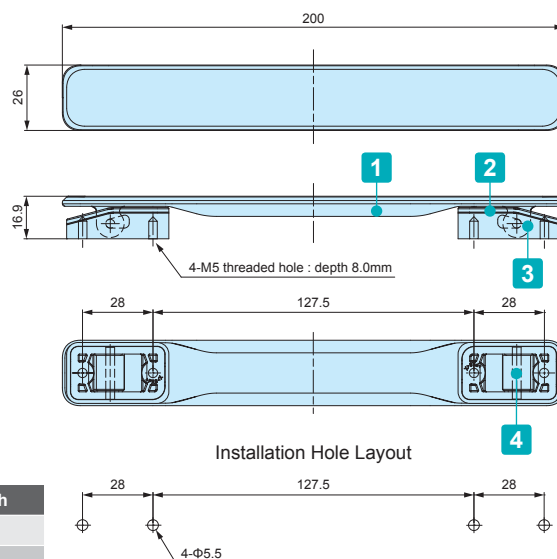
Product no.	W	D	H	Belt material	Belt length	Tensile strength (horizontal)	Weight (g)	Pack of
NEW PKB-10PM	24	23	11	PET	500mm	0.8kN	14	2
PKB-10P	23	40	11	PET	1,500mm	1.3kN	31.8	2
PKB-10S	—	—	—	Stainless steel	1,500mm	1.4kN	101.6	2
PKB-20S	—	—	—	Stainless steel	1,500mm	2.9kN	182.2	2

FM200 SERIES

ELASTOMER CARRYING HANDLE



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



■ Comfortable and easy to grip elastomer handle.

Technical Data

Max load : 20kg

Components

No.	Part name	Pcs	Material	Color / Finish
1	Grip	1	PU	Black • Gray
2	Base	2	PA6	Black • Gray
3	Base cover	2	ABS	Black • Gray
4	Shaft	2	SWCH	Nickel plated
—	Screw (Pan head tapping M5-8)	4	Steel	Trivalent chromate

Product no.

Product no.	
● Black	● Gray
NEW FM200B	NEW FM200G

MH SERIES

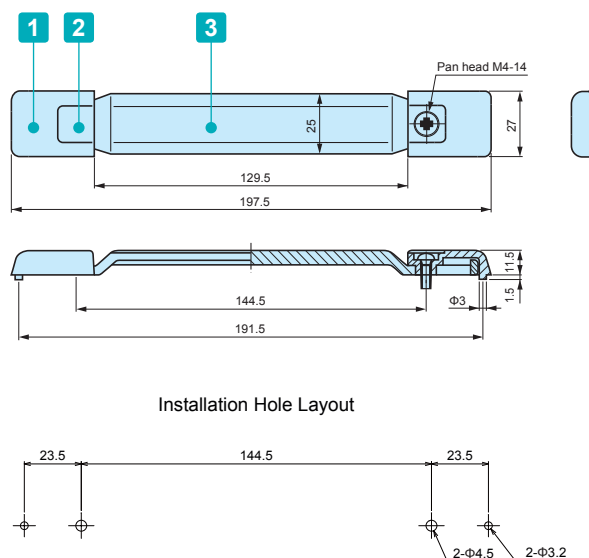
CARRYING HANDLE

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



Components

No.	Part name	Pcs	Material	Color / Finish
1	Holder	2	PC + ABS	Black • Gray
2	Blind cap	2	PP + Elastomer	Black • Gray
3	Grip	1	PP + Elastomer	Black • Gray
—	Screw (Pan head M4-14)	2	Steel	Trivalent chromate
—	Nut	2	Steel	Trivalent chromate
—	Spring washer	2	Steel	Trivalent chromate



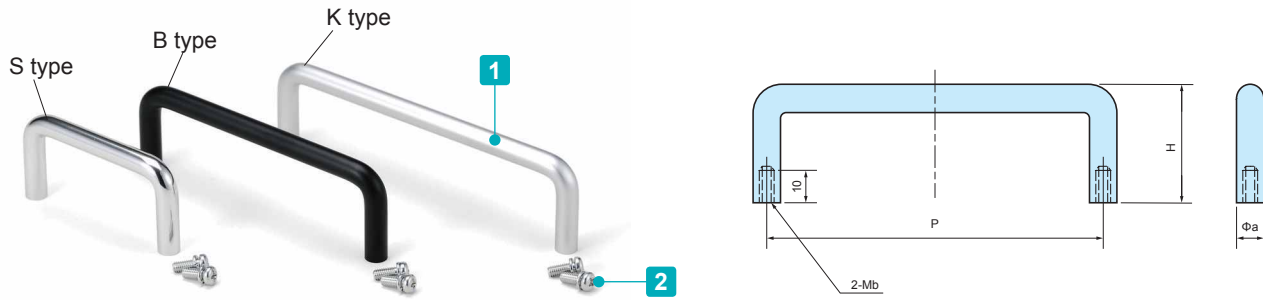
Installation Hole Layout

Product no.

Product no.	
● Black	● Gray
MH-197B	MH-197G

Technical Data

Max load : 20kg

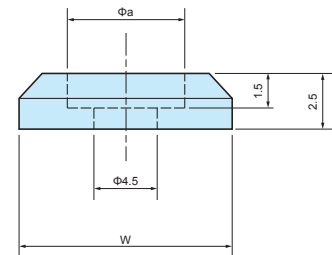
BH SERIES**ROUNDED ALUMINIUM HANDLE****Components**

No.	Part name	Pcs	Material	Color / Finish
1	Handle	1	Extruded aluminium A5056S	Polished • Matte anodized
2	Screw	2	Steel	Trivalent chromate

Product no. / Dimensions

■ K type only available on BH-100, 120, 150, and 180 models.

Product no.			P	H	a	b	Pack of
● Silver polished	● Black matte anodized	● Silver matte anodized					
BH- 26S	BH- 26B	–	26	25	6	3	2
BH- 30S	BH- 30B	–	30	35	8	4	2
BH- 50S	BH- 50B	–	50	35	8	4	2
BH- 60S	BH- 60B	–	60	35	8	4	2
BH- 70S	BH- 70B	–	70	35	8	4	2
BH- 80S	BH- 80B	–	80	35	8	4	2
BH-100S	BH-100B	BH-100K	100	35	8	4	2
BH-110S	BH-110B	–	110	35	8	4	2
BH-120S	BH-120B	BH-120K	120	35	8	4	2
BH-150S	BH-150B	BH-150K	150	35	8	4	2
BH-180S	BH-180B	BH-180K	180	35	8	4	2

Z-P SERIES**WASHER for HANDLE**

■ Brass washer for BH • KH series.

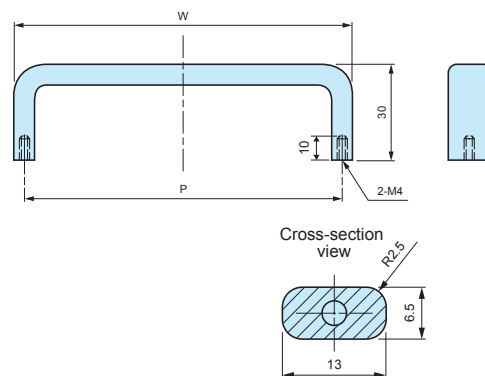
Product no. / Dimensions

■ Material / Brass

Product no.		W	a	Pack of
Chrome plated	Black painted			
Z-P6S	Z-P6B	10	6.2	10
Z-P8S	Z-P8B	12	8.2	10

OH SERIES

ALUMINIUM HANDLE



Components

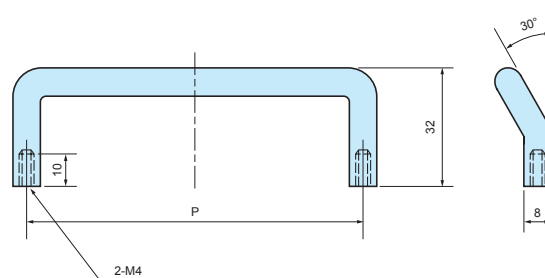
No.	Part name	Pcs	Material	Color / Finish
1	Handle	1	Extruded aluminium A6063S-T5	Matte anodized
2	Screw (M4-10 Pan head with spring washer)	2	Steel	Trivalent chromate

Product no. / Dimensions

Product no.		P	W	Pack of
● Black matte anodized	● Silver matte anodized			
OH- 55B	OH- 55K	55	61.5	2
OH- 70B	OH- 70K	70	76.5	2
OH- 85B	OH- 85K	85	91.5	2
OH-100B	OH-100K	100	106.5	2
OH-120B	OH-120K	120	126.5	2
OH-140B	OH-140K	140	146.5	2
OH-170B	OH-170K	170	176.5	2

KH SERIES

ANGLED ALUMINIUM HANDLE



Components

No.	Part name	Pcs	Material	Color / Finish
1	Handle	1	Extruded aluminium A5056S	Polished • Matte anodized
2	Screw (M4-10 Pan head with spring washer)	2	Steel	Trivalent chromate

Product no. / Dimensions

Product no.		P	Pack of
● Silver polished	● Black matte anodized		
KH- 70S	KH- 70B	70	2
KH-100S	KH-100B	100	2

AFS•AFM SERIES**ALUMINIUM ISOLATION FEET**

- The surface treatment and finish allows the feet to exhibit a polished and luxurious feel.
- Non-slip NBR O-ring is present on the underside of the feet.
- Suitable for use in audio devices.

Available in both internal and external screw installation type.**External type / Shot blast finish (AFS series)**

The external type is secured via screws from the underside / base of the feet to the enclosure. A thread hole is required for direct securing, while a circular hole is required for lock nut securing.

The shot blast finish provides a high quality surface finish look, and pairing well with various types of enclosure surfaces.

Available in both silver and black.

Internal type / Reflective finish (AFM series)

The internal type is secured via screws from the inside of the enclosure. A circular hole is required for securing into the pre-made threads in the top-side of the feet.

The reflective surface finish adds a high quality touch to the unit, allow it to have a luxurious look.

Available only in Silver.

Accessories (Optional parts)

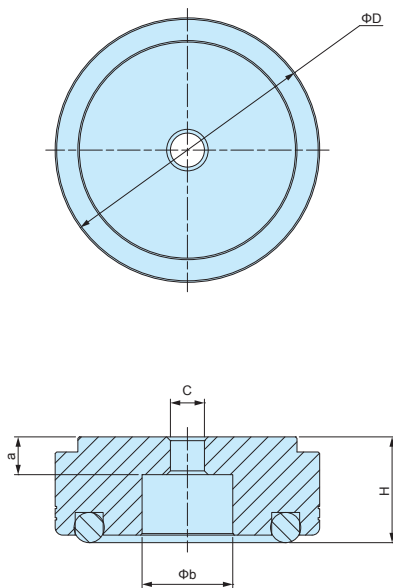
Product no. / Dimensions

Product no.		D	H	Installation type	C	a	b	Pack of
● Silver	● Black							
AFS20- 8S	AFS20- 8B	20	8	Internal	Φ3.4	3	9	4
AFS25-10S	AFS25-10B	25	10	Internal	Φ4.5	4	12	4
AFS30-12S	AFS30-12B	30	12	Internal	Φ4.5	5	12	4
AFS35-14S	AFS35-14B	35	14	Internal	Φ4.5	5	12	4
AFS39-16S	AFS39-16B	39	16	Internal	Φ4.5	5	15	4
AFS44-18S	AFS44-18B	44	18	Internal	Φ4.5	5	20	4
AFS55-20S	AFS55-20B	55	20	Internal	Φ5.5	5	20	4
AFM15- 7S	—	15	7	External	M3	4	—	4
AFM20- 9S	—	20	9	External	M3	5	—	4
AFM25-12S	—	25	12	External	M4	7	—	4
AFM30-14S	—	30	14	External	M4	8	—	4
AFM35-16S	—	35	16	External	M4	10	—	4
AFM39-18S	—	39	18	External	M4	10	—	4
AFM44-20S	—	44	20	External	M4	10	—	4
AFM55-22S	—	55	22	External	M5	15	—	4

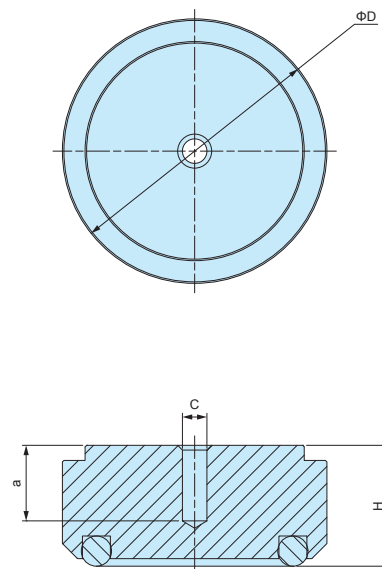
AFS • AFM dimensions

■ Drawings below are reference examples only.
DXF/DWG/PDF drawings available on our website.

AFS SERIES



AFM SERIES



APPLICATION EXAMPLE



RS SERIES

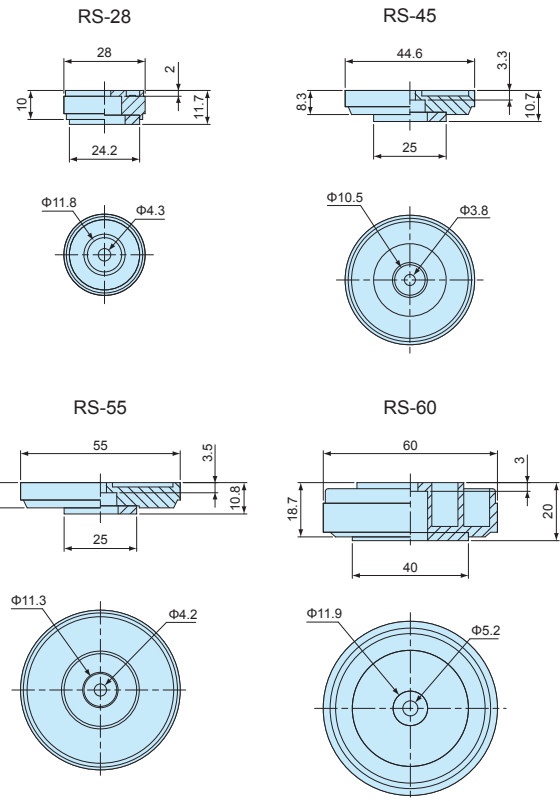
PLATED PLASTIC FEET



- Suitable for audio equipment use.
- Elastomeric foam pad can be found at the underside of the feet.

Product no. / Dimensions

Product no.		Material	Pack of
● Silver	● Gold		
RS-28S	RS-28G	ABS UL94HB / Polyester / EVA	4
RS-45S	RS-45G	ABS UL94HB / Polyester / EVA	4
RS-55S	RS-55G	ABS UL94HB / Polyester / EVA	4
RS-60S	RS-60G	ABS UL94HB / Polyester / EVA	4

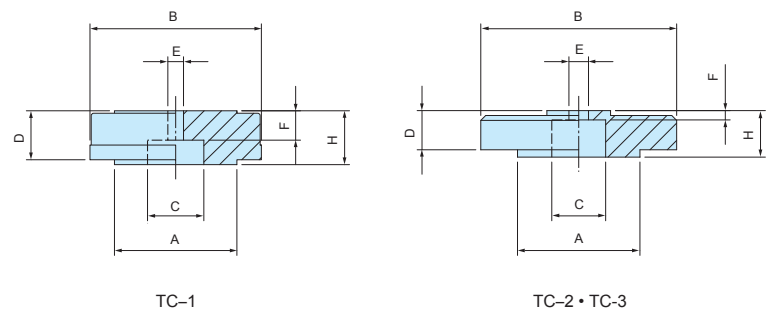


TC SERIES

ALUMINIUM FEET



- Aluminium material gives it a refined and elegant look.
- Suitable for audio equipment use.
- Elastomeric foam pad can be found on the underside of the feet.



Product no. / Dimensions

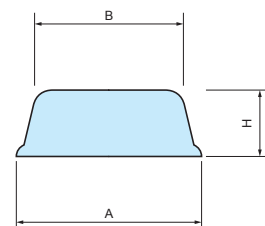
Product no.		A	B	C	D	E	F	H	Material	Pack of
● Silver	● Gold									
TC-1S	TC-1G	25	35	11.5	9.7	3.4	5.6	11.5	ABS UL94HB / Aluminium / EVA	4
TC-2S	TC-2G	25	40	11	10.2	4.1	2.1	12	ABS UL94HB / Aluminium / EVA	4
TC-3S	TC-3G	25	45	11.7	12	4.2	7.5	15	ABS UL94HB / Aluminium / EVA	4

B SERIES**ADHESIVE RUBBER FEET**

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



■ Injection molded type.

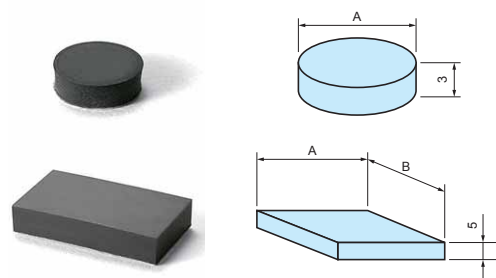
**Product no. / Dimensions**

■ Material : Synthetic rubber

Product no.	A	B	H	Color	Pack of
B 6-2	6	5	1.8	Black	10
B 8-4	8	7.7	3.5	Black	10
B10-4	10	9.2	4.2	Black	10
B11-3	10.8	10.2	3	Black	10
B11-5	11	9.6	5	Black	10
B12-4	12.7	10	3.8	Black	10
B15-5	15.4	14.8	5.1	Black	10
B16-7	16	13	7	Black	10
B19-4	19	15.8	4.2	Black	10
B21-7	21	17	7	Black	10
B23-5	22.8	22.4	5	Black	10
B26-11	26	20	11	Black	10
B 6-2G	6	5	1.8	Gray	10
B11-3G	10.8	10.2	3	Gray	10
B15-5G	15.4	14.8	5.1	Gray	10
B21-7G	21	17	7	Gray	10
B26-11G	26	20	11	Gray	10

B-P SERIES**ADHESIVE RUBBER FEET**

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



■ Press-punched type.

Product no. / Dimensions

■ Material / Color : Synthetic rubber / Black

Product no.	A	Pack of
B-P21	10	10
B-P22	20	10
B-P23	15	10

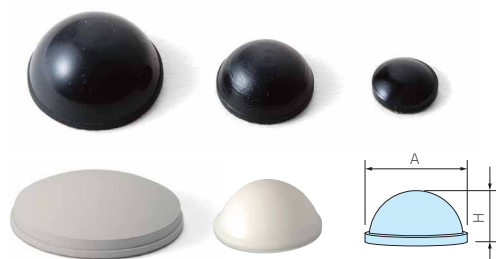
Product no. / Dimensions

■ Material / Color : Synthetic rubber / Black

Product no.	A	B	Pack of
B-P31	28	16	10
B-P32	46	26	10

TB SERIES**ROUNDED ADHESIVE RUBBER FEET**

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

**Product no. / Dimensions**

■ Material : Synthetic rubber

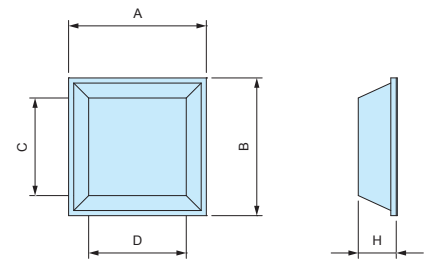
Product no.		A	H	Pack of
● Black	● White (W) ● White gray (G)			
TB- 7	-	6.7	4.2	10
TB- 8	NEW TB- 8W	8	2.6	10
TB-10	-	10	2.8	10
TB-12	NEW TB-12W	11.3	5.6	10
TB-14	-	14	8	10
TB-16	NEW TB-16W	15.9	8	10
TB-21	-	21.6	8.5	10
TB-27	TB-27G	27.8	7.4	10

SF SERIES**SQUARE ADHESIVE RUBBER FEET - LOW COST TYPE**

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

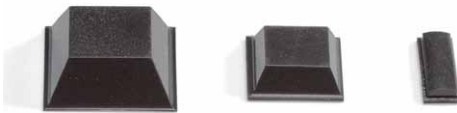


■ Square-shaped adhesive rubber feet.

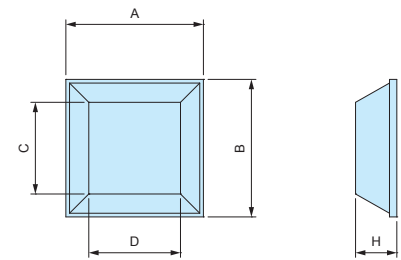
**Product no. / Dimensions**

■ Material / Color : Synthetic rubber / Black

Product no.	A	B	H	C	D	Pack of
SF11-3	10.5	10.5	2.5	8.6	8.6	10
SF13-4	12.7	12.7	3.5	9	9	10
SF13-6	12.7	12.7	6	7	7	10
SF20-8	20	20	7.6	14	14	10

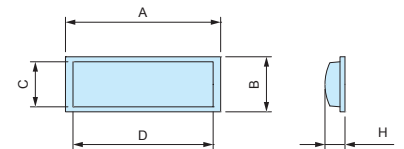
SJ-P SERIES**SQUARE ADHESIVE POLYURETHANE FEET**

- Strong adhesive strength with the use of rubber pressure sensitive adhesive.
- Polyurethane material is resistant against color migration.

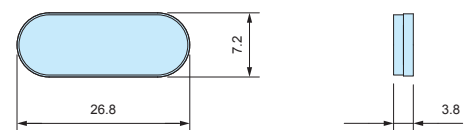
**Product no. / Dimensions**

■ Material / Color : Polyurethane / Black

Product no.	A	B	H	C	D	Pack of
SJ-P5007	10.4	10.4	2.5	7.5	7.5	10
SJ-P5008	12.7	12.7	3	9.5	9.5	10
SJ-P5018	12.7	12.7	5.8	7	7	10
SJ-P1004	15	15	4.5	10	10	10
SJ-P5023	20.6	20.6	7.6	12.7	12.7	10
SJ-P1011	15.5	5.5	2	4.5	14.5	10



SJ-P1011

TN-27**OVAL ADHESIVE RUBBER FEET****Product no. / Feature**

■ Material / Color : Synthetic rubber / Black

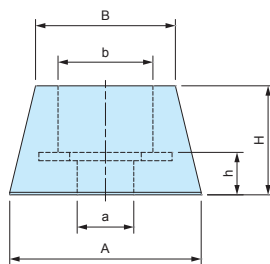
Product no.	Pack of
TN-27	10

B-P SERIES**SCREW MOUNT RUBBER FEET**

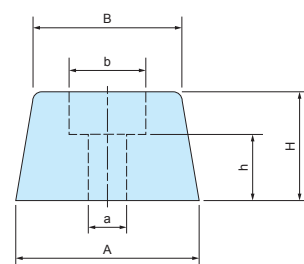
■ DXF/DWG/PDF drawings available on our website.



- Built-in washer and non-washer types are available.
- Installation screws are separately sold.



B-P1S, P1M, P1L, P2S, P4, P5



B-P1, P2, P3

Product no. / Dimensions

■ Color : Black

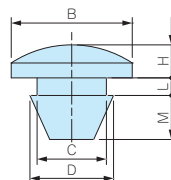
Product no.	A	B	H	a	b	h	Washer	Material	Pack of
B-P1S	11.5	8.4	7.2	3.4	5.7	3.2	○	Synthetic rubber	10
B-P1M	15	15	4	3.5	7.4	2.2	○	Synthetic rubber	10
B-P1	15	13	7.7	3	6	4.2	×	Synthetic rubber	10
B-P1L	16	13	7.8	3	6	3.7	○	Synthetic rubber	10
B-P2S	18	15	11	3	6	5	○	Synthetic rubber	10
B-P2	19	15	8	3	6	4.5	×	Synthetic rubber	10
B-P3	22	18	13	3	7.5	7	×	Synthetic rubber	10
B-P4	32	26	20	5	15	10	○	EPDM	10
B-P5	32	28	15	5	14	10	○	EPDM	10

B-P SERIES**SNAP-IN RUBBER FEET**

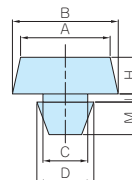
■ DXF/DWG/PDF drawings available on our website.



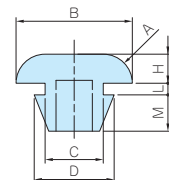
- Hole milling required for installation.



B-P10



B-P10S, P11, P12



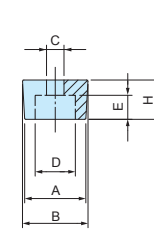
B-P13, P14, P15

Product no. / Dimensions

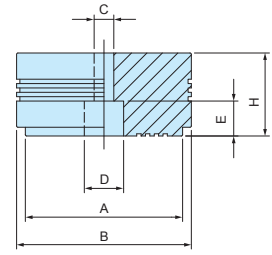
Product no.	A	B	H	C	D	L	M	Material	Color	Pack of
B-P10S	8	8	2	5	5.6	0.9	3	Silicone UL94V-0	Black	10
B-P10	—	11	3	6.3	7.6	1.6	4	Silicone UL94V-0	Black	10
B-P11	11	13	4.5	5.5	7	1	4	Synthetic rubber	Black	10
B-P12	15	17	4.5	5.5	7	1	4	Synthetic rubber	Black	10
B-P13	R3	12	3	5	7	1.6	4	EPDM	Black	10
B-P14	R4	14	4	6	9	1.6	5	EPDM	Black	10
B-P15	R4	16	4	8	11	1.6	5	EPDM	Black	10

A-P SERIES**SCREW MOUNT ELASTOMER FEET**

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



A-P1 ~ A-P5



A-P6

- Prepare screws for installation.
- Resistant against color migration.

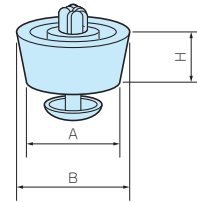
Product no. / Dimensions

■ Material / Color : Elastomer / Black

Product no.	A	B	H	C	D	E	Pack of
A-P1	9.4	10.8	4	3.3	6.8	2	10
A-P2	13.4	14.2	5.5	3	8	3.5	10
A-P3	14	15	9	4	9.5	6	10
A-P4	20	21	8	4	8.2	5	10
A-P5	20	24	14	5.5	8.6	8	10
A-P6	36	40	19	4.5	9	7.5	10

TP SERIES**SNAP-IN ELASTOMER FEET**

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



- Easy installation with snap-in pin.
- Require a hole for installation.
- Resistant against color migration.

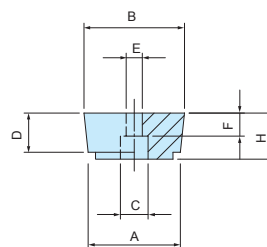
Product no. / Dimensions

■ Material / Color : (Feet) LDPE • (PIN) PP / Black

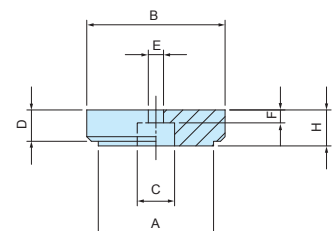
Product no.	A	B	H	Mounting hole	Panel thickness	Pack of
TP-1	12	12.7	4.4	5	1.0 ~ 2.0	10
TP-2	15	15.7	4.4	5	1.0 ~ 2.0	10
TP-3	17.2	19.2	7.9	8	0.8 ~ 1.2	10
TP-4	18	20	10	8	1.0 ~ 2.5	10
TP-5	19.8	20.8	6.4	8	1.0 ~ 2.5	10
TP-6	19.5	23.7	13.7	8	1.0 ~ 2.5	10
TP-7	26.5	29.4	15	10	1.0 ~ 3.5	10

TM SERIES**PLASTIC FEET**

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



TM-1, TM-2



TM-1S, TM-3

- Plastic feet equipped with soft padding on the bottom to prevent sliding.

Product no. / Dimensions

Product no.	A	B	H	C	D	E	F	Feet material	Pad material	Color	Pack of
TM-1S	15.9	19.5	6.3	7	5.8	4	2.3	ABS UL94HB	Silicone	Black	10
TM-1	20	21.8	10	7.2	8.5	3.5	4.5	ABS UL94HB	EVA	Black	10
TM-2	20	21.8	15	7.2	13.5	3.5	4.5	ABS UL94HB	EVA	Black	10
TM-3	25	30	7.8	8.1	6.8	3.3	2.7	ABS UL94HB	EVA	Black	10

CNC MACHINING

CNC milling is a form of computer controlled machining. Similar in operation to drilling and cutting, it is able to create various hole styles and shapes by using a rotating cutting tool to bore into the object.

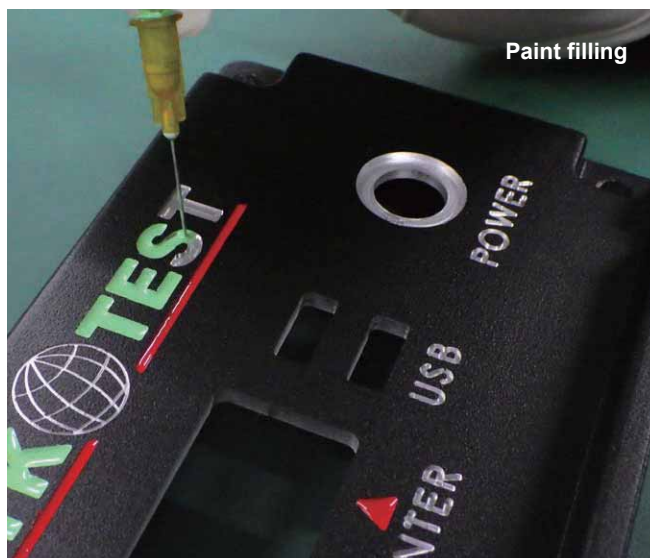
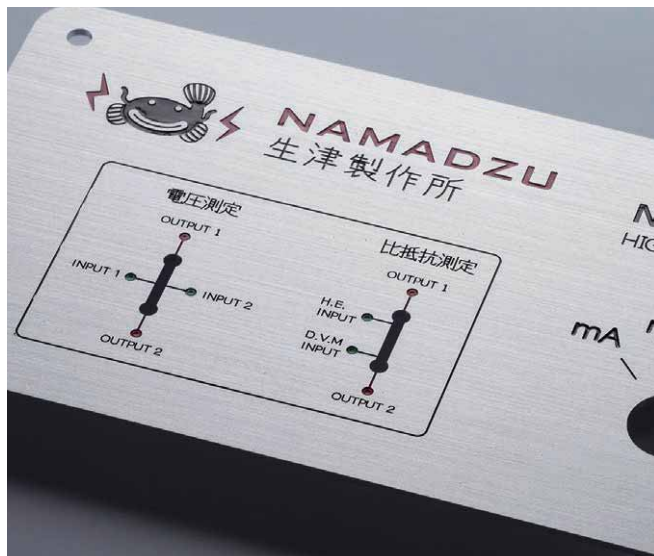


- Mainly used for plastic, aluminium die-cast, and aluminium extrusion material types.
- Able to perform milling for various shapes and sizes.
- Recommended for small quantity customization.



ENGRAVING

By having the drill-head slightly milling the surface, the engraving of fine text or complex designs is able to be performed on a variety of surfaces, be it flat, curved, and so on. Suitable for small batch print, and/or simple lettering. Font shall be similar to VAG Rounded font type.



LASER CUTTING

Laser cutting utilizes a laser to perform cutting on an object, allowing various types and shapes of holes to be cut.

New fiber laser machine allows the processing of aluminium sheets with both high precision and speed. Processing of Pure Aluminium 1050 is also possible with minimal burr as compared to conventional CO² laser machines, which causes excessive burring.

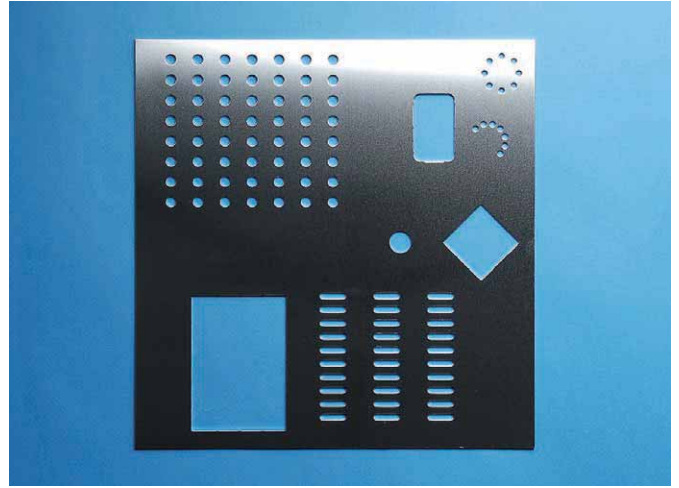
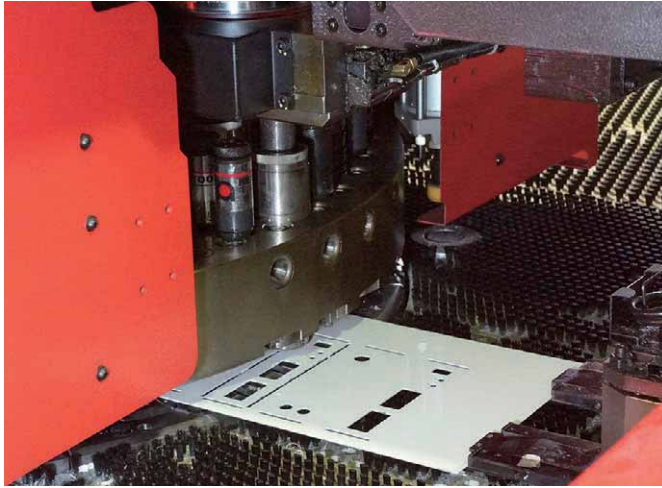


PUNCHING PRESS

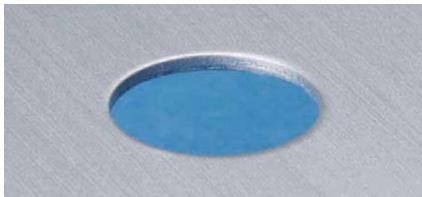
What is punching press? It is a type of machine press used to cut holes in material via the use of various sized die sets.

Punching press allows the realization of high cost performance due to its high speed automated turret punching process, which significantly reduces machining lead-time.

Due to its ability to create designated sized holes by means of rapid multiple hole punches, this enables it to punch holes of various sizes and types quickly and efficiently.

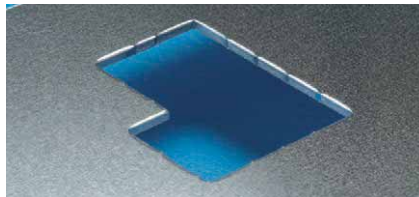


Circular hole



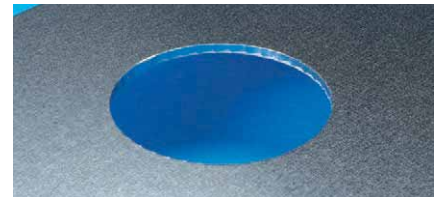
Circular holes as small as 1.0mm in diameter can be punched.

Nibbling press (rectangle)



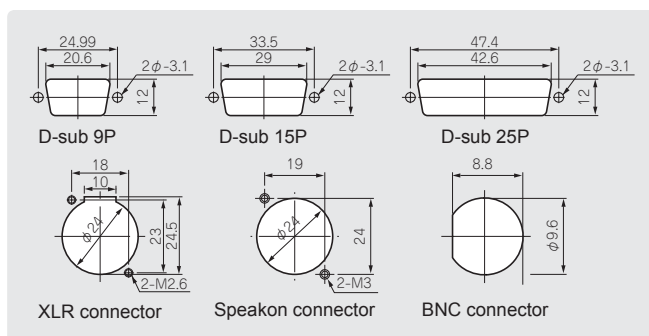
Complex or large rectangular shapes can be punched out with multiple presses.

Nibbling press (round)

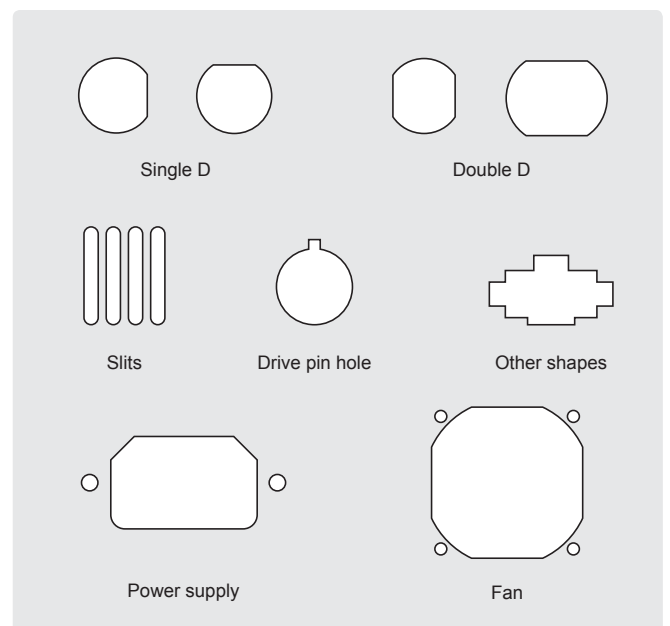


Punching of large circular holes with multiple smaller die strokes.

Common connector shapes



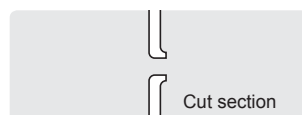
Unique shapes



Burring punch



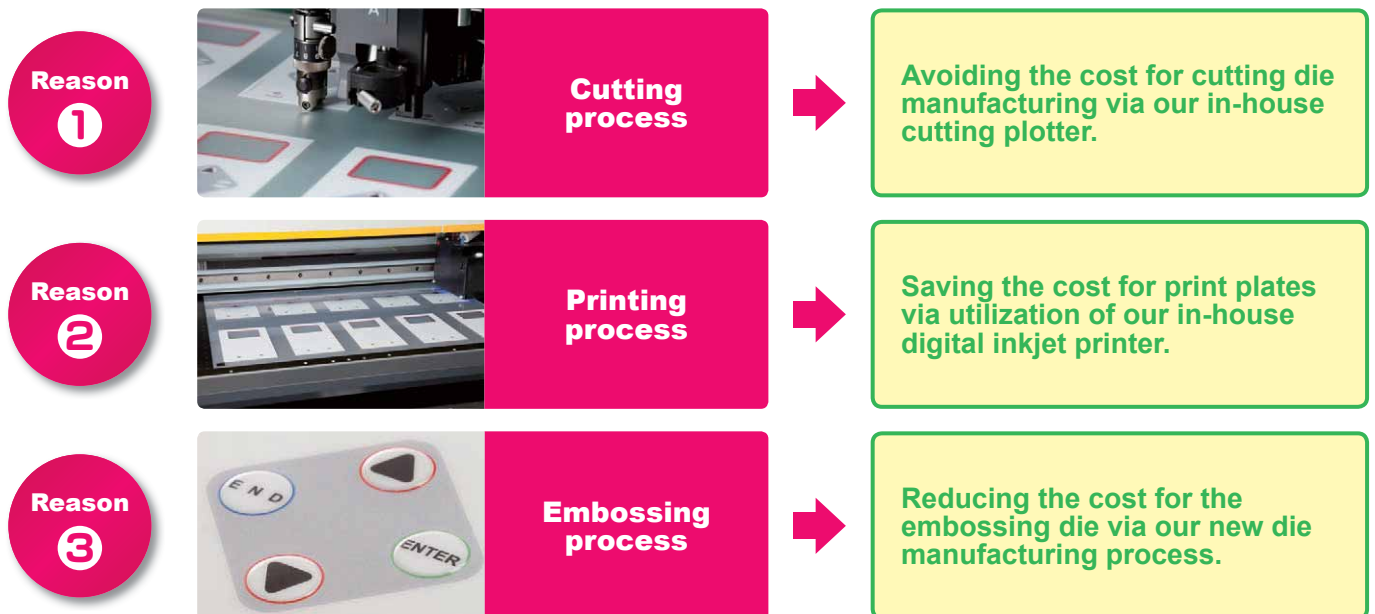
Increasing surface area on a thin metallic sheet for screw threads to bore into.



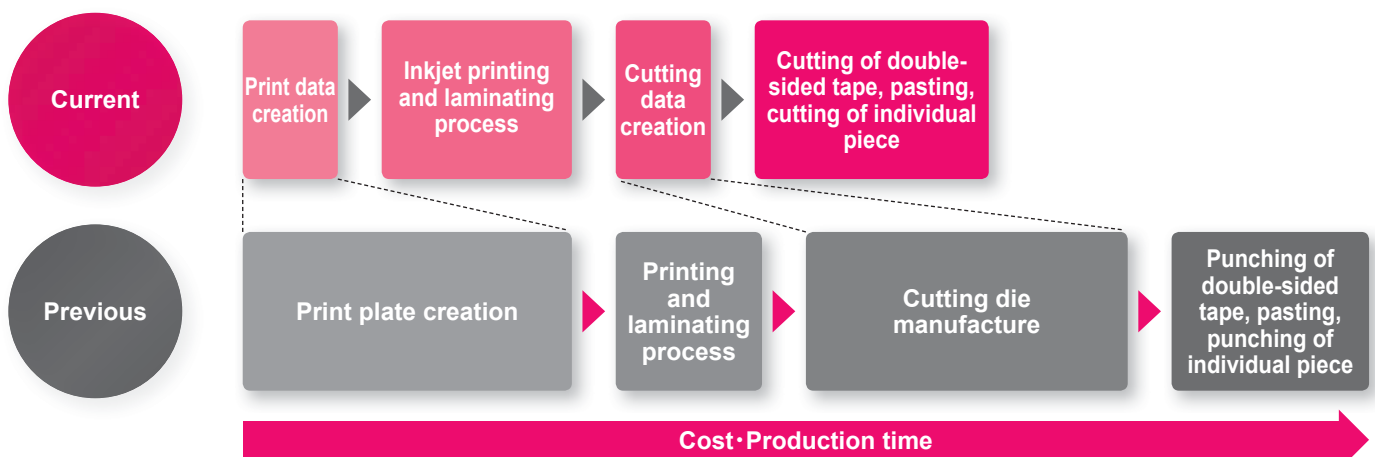
DIGITAL PRINTED OVERLAY



● 3 reasons for low initial costs



● Comparison of current and previous manufacturing methods



PRODUCTION PROCESS



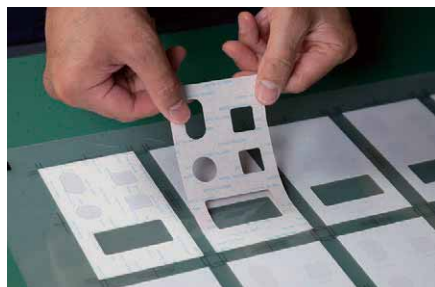
1. Inkjet printing on film



2. Laminating



3. Cutting double-sided tape



4. Sticking double-sided tape on printed film



5. Cutting the sheet to size



6. Embossing



7. Machining on enclosure



8. Sticking overlay sheet onto enclosure



9. Complete

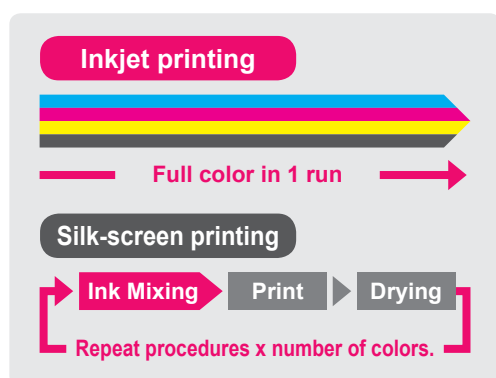
CUSTOMIZATION EXAMPLE



INKJET PRINTING



Full color digitally designed image
can be printed in 1 run.
No cost difference regardless of the
number of colors used.



Low printing cost
Full color print possible
in small quantities

Inkjet printing	1 run only for full color print			
Printing cost Full color				
Silk-screen printing	Printing cost x number of colors			
Printing cost Color 1	Printing cost Color 2	Printing cost Color 3	Printing cost Color 4	

High quality printing of photo image and color gradation.

Print photo images in maximum 1,800 x 1,800 dpi quality.

Pictures, logos and unique designs with color gradation can be recreated in a high quality print.



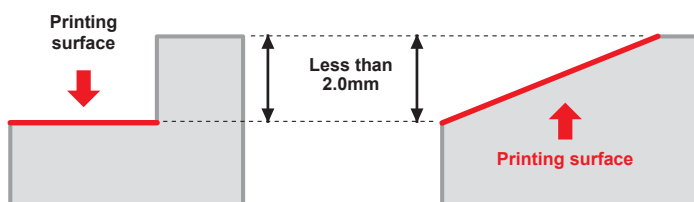
Maximum printable enclosure size



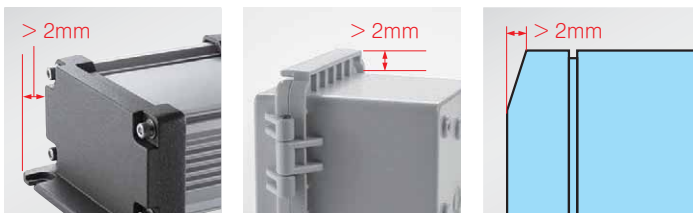
Printable on surfaces with height differential

Printing is possible on recessed, sloped and rounded sections.

Gap difference is less than 2.0mm.



*Not suitable if height difference is more than 2.0mm.



Printed example

