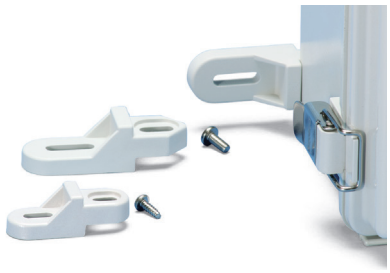
IP65 LATCH-HINGED PLASTIC BOX



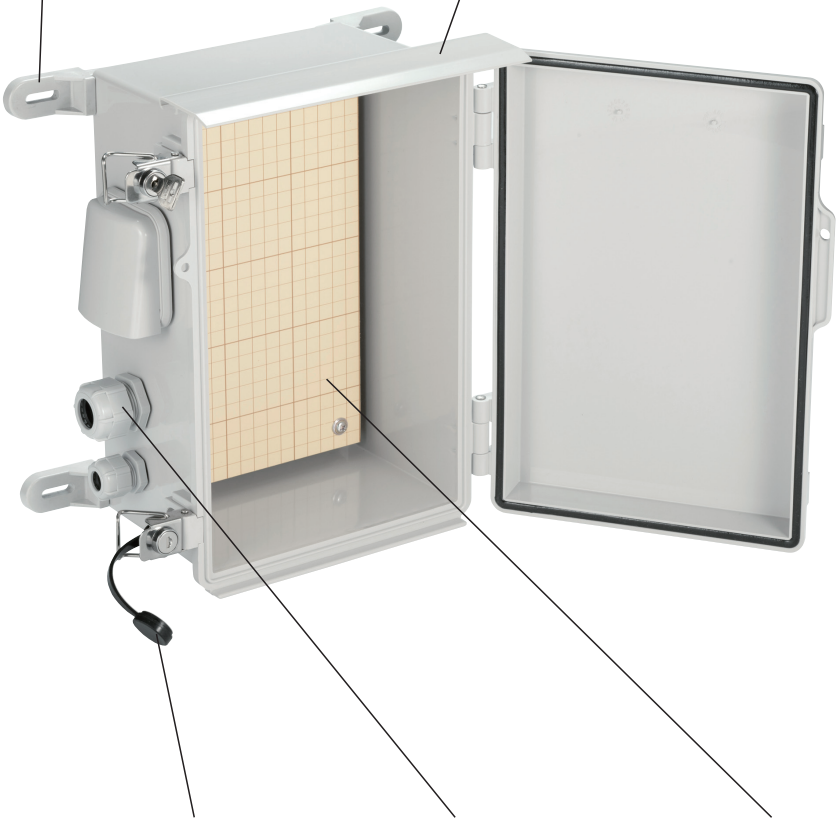
Stainless steel and plastic mounting brackets are available.
See page 146

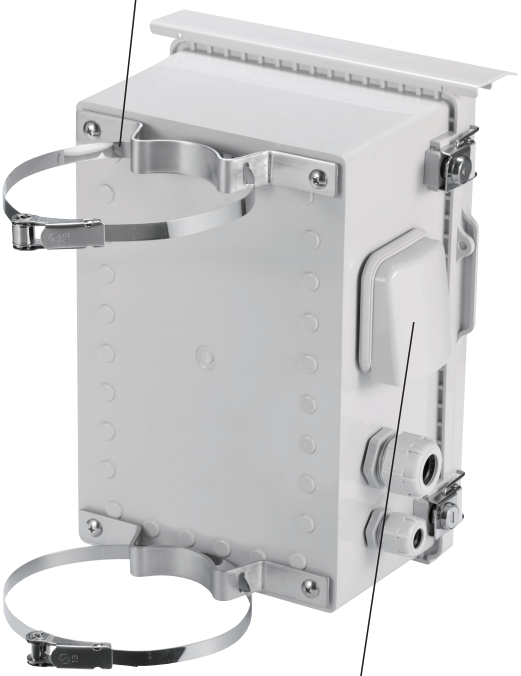


BCAR • BCPR series come with an attachable BRF series outdoor roof.
See page 135 ~ 136



Pole mounting bracket for pole installation
See page 205 ~ 208







Dust protection cap (for lock/key type)
See page 142



Cable gland
For waterproofing enclosure openings to insert cables and wires
See page 181 ~ 193



Mounting plate
3 types of mounting plates are available (plastic / steel / wood)
See page 143 ~ 145



Ventilation cover
For heat dissipation and prevention of condensation build-up
See page 202

APPLICATION EXAMPLE

Universal plastic enclosure series suitable for a wide range of applications such as FA/control, electrical switchboard, network communication and more.

Outdoor WiFi Spot

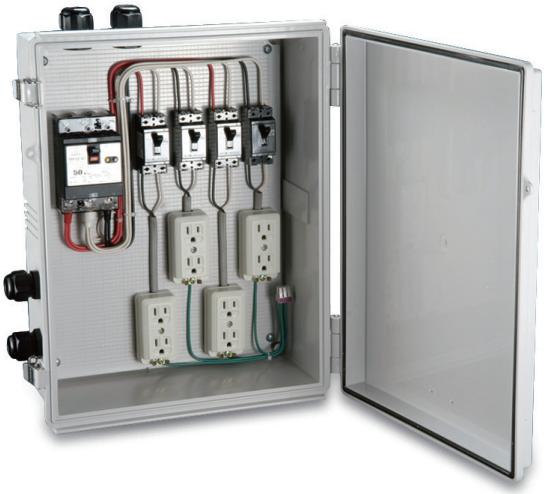


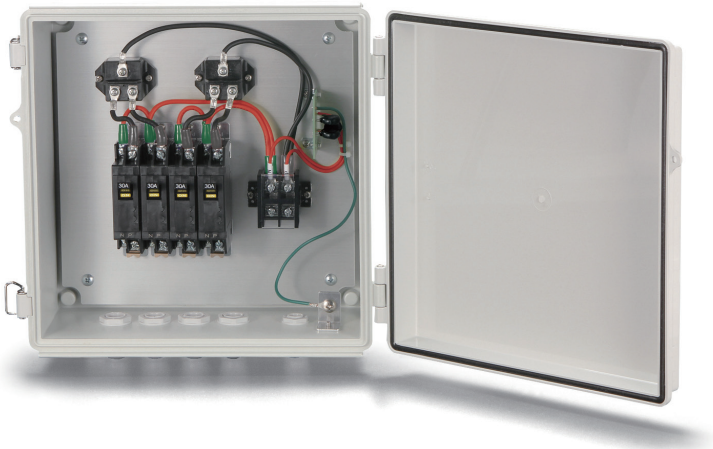
Solar Power Junction Box





Power Switchboard Box





8 Channel Data Logger for Agriculture

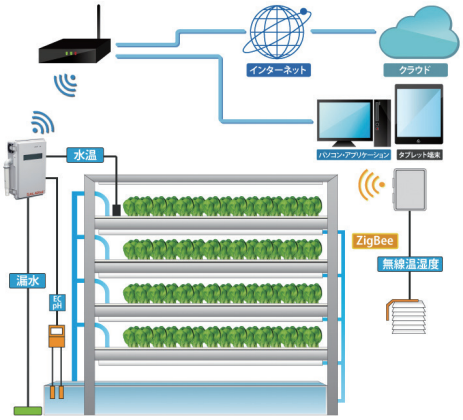




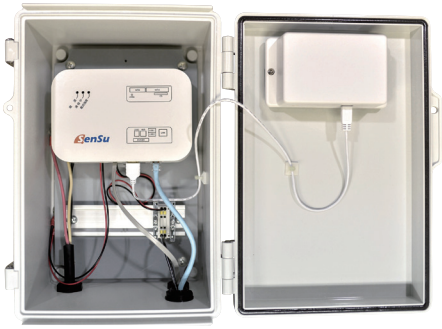
Environmental Data Measurement and Controller Unit







"SenSu" Communication Unit with Sensor





Network Sensor System for Agriculture



Wildlife Damage Monitoring System



Valve Controller



Building Surveillance Unit



Digital Pressure Gauge



Radiation Monitor





Anemometer



Water Gauge





Monitoring Camera

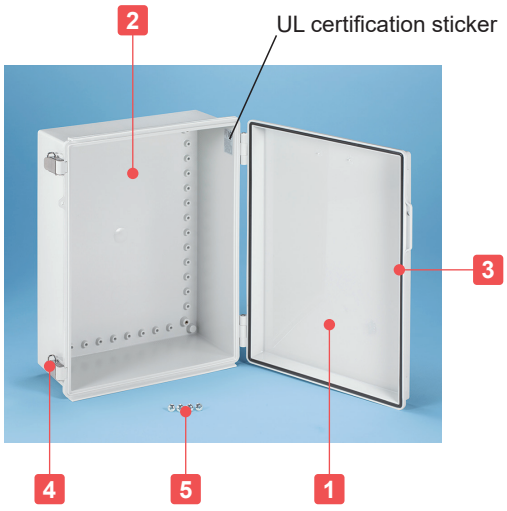


BC-C series NEMA 4X POLYCARBONATE BOX

NEW



Technical Data	
Protection class:	NEMA Type 1, 4X (equivalent to IP56)
Operating temperature:	
	BC-CGP -20°C ~ +75°C
	BC-CTP -20°C ~ +75°C



- UL FILE No,E343339 / UL508A(USA), CSA C22.2 No. 14(Canada) certified products.
- Applicable standard: INDUSTRIAL CONTROL PANELS
  See www.ul.com for additional information.
- NEMA standards are developed by the National Electrical Manufacturers Association (NEMA) in USA.
- NEMA Type 4X rating is equivalent to IP56 protection rating.

- Make sure to read "Precautions for UL Certified Products" notice before ordering.
- UL certified products are built to order. Refer to page BC-C-2 for delivery time.

- UL certified latch-hinged box for easy opening and closing.
- Applicable for various uses in fields such as FA, network communication, power switch controls and more.
- 49 different sizes available and selectable from 2 different cover types (Light gray and Transparent).
- Polycarbonate material allows good heat resistant performance. Suitable for telecommunication devices and solar power connecting boxes.

Components

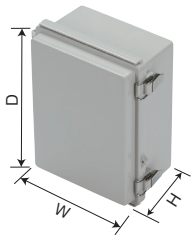
No.	Part name	Pcs	Material	Color / Finish
1	Top cover	1	Polycarbonate	Light gray • Transparent
2	Base	1	Glass fiber filled polycarbonate	Light gray
3	Gasket	1	Polyurethane	Black
4	Latch	1~3	Stainless steel	Unfinished
5	Screw for mounting plate (M4-8)	2~8	Steel	Trivalent chromate

- Stainless steel mounting brackets are included together with the following models : 506018, 506025, 507018, 507025, 608018, and 608028.

■ DXF/DWG/PDF drawings and UL sticker position available on our website.

Color Type

Color code	Top cover color / Material	Base color / Material
BC-CGP	Light gray / Polycarbonate	Light gray / Glass fiber filled polycarbonate
BC-CTP	Transparent / Polycarbonate	Light gray / Glass fiber filled polycarbonate



Product no. / Details

Product no.	W	D	H	Weight (g)	BTO Delivery time
BC-CGP-091207	90	120	70	226	2 months
BC-CGP-091208	90	120	85	247	2 months
BC-CGP-101507	100	150	70	312	2 months
BC-CGP-101508	100	150	85	336	2 months
BC-CGP-112107	110	210	75	420	2 months
BC-CGP-112110	110	210	100	473	2 months
BC-CGP-112607	110	260	75	493	2 months
BC-CGP-112610	110	260	100.5	569	2 months
BC-CGP-131508	135	155	85	406	2 months
BC-CGP-131808	135	185	85.5	452	2 months
BC-CGP-131810	135	185	100.5	448	2 months
BC-CGP-151509	150	150	90	395	2 months
BC-CGP-151512	150	150	120.5	482	2 months
BC-CGP-162110	160	210	100	556	2 months
BC-CGP-162113	160	210	130	611	2 months
BC-CGP-162610	160	260	100	671	2 months
BC-CGP-162613	160	260	130	779	2 months
BC-CGP-172711	170	270	110.5	775	2 months
BC-CGP-192810	190	280	100.5	858	2 months
BC-CGP-192814	190	280	141	1,028	2 months
BC-CGP-203013	200	300	130	1,070	2 months
BC-CGP-203015	200	300	150	1,150	2 months
BC-CGP-203018	200	300	180	1,295	2 months
BC-CGP-212110	210	210	100	742	2 months
BC-CGP-212113	210	210	130	827	2 months
BC-CGP-253515	250	350	150	1,485	2 months
BC-CGP-253518	250	350	180	1,648	2 months
BC-CGP-282813	280	280	130.5	1,371	2 months
BC-CGP-283813	280	380	130	1,695	2 months
BC-CGP-303015	300	300	151	1,610	2 months
BC-CGP-303018	300	300	181	1,760	2 months
BC-CGP-304012	300	400	120	1,846	2 months
BC-CGP-304015	300	400	150	1,862	2 months
BC-CGP-304018	300	400	181	2,030	2 months
BC-CGP-353515	350	350	150	2,045	2 months
BC-CGP-353518	350	350	181	2,142	2 months
BC-CGP-354512	350	450	120	2,397	2 months
BC-CGP-354516	350	450	160	2,826	2 months
BC-CGP-354520	350	450	201	3,151	2 months
BC-CGP-405016	400	500	160	3,188	2 months
BC-CGP-405020	400	500	201	3,811	2 months
BC-CGP-406018	400	600	181	4,153	2 months
BC-CGP-406023	400	600	231	4,637	2 months
BC-CGP-506018	530	630	185	6,305	2 months
BC-CGP-506025	530	630	255	7,213	2 months
BC-CGP-507018	530	730	188	7,410	2 months
BC-CGP-507025	530	730	258	8,200	2 months
BC-CGP-608018	630	830	188	9,820	2 months
BC-CGP-608028	630	830	288	11,550	2 months

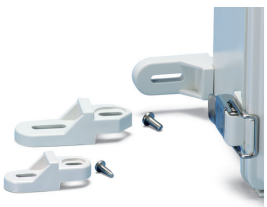
Product no. / Details

Product no.	W	D	H	Weight (g)	BTO Delivery time
BC-CTP-091207	90	120	70	226	2 months
BC-CTP-091208	90	120	85	247	2 months
BC-CTP-101507	100	150	70	312	2 months
BC-CTP-101508	100	150	85	336	2 months
BC-CTP-112107	110	210	75	420	2 months
BC-CTP-112110	110	210	100	473	2 months
BC-CTP-112607	110	260	75	493	2 months
BC-CTP-112610	110	260	100.5	569	2 months
BC-CTP-131508	135	155	85	406	2 months
BC-CTP-131808	135	185	85.5	452	2 months
BC-CTP-131810	135	185	100.5	448	2 months
BC-CTP-151509	150	150	90	395	2 months
BC-CTP-151512	150	150	120.5	482	2 months
BC-CTP-162110	160	210	100	556	2 months
BC-CTP-162113	160	210	130	611	2 months
BC-CTP-162610	160	260	100	671	2 months
BC-CTP-162613	160	260	130	779	2 months
BC-CTP-172711	170	270	110.5	775	2 months
BC-CTP-192810	190	280	100.5	858	2 months
BC-CTP-192814	190	280	141	1,028	2 months
BC-CTP-203013	200	300	130	1,070	2 months
BC-CTP-203015	200	300	150	1,150	2 months
BC-CTP-203018	200	300	180	1,295	2 months
BC-CTP-212110	210	210	100	742	2 months
BC-CTP-212113	210	210	130	827	2 months
BC-CTP-253515	250	350	150	1,485	2 months
BC-CTP-253518	250	350	180	1,648	2 months
BC-CTP-282813	280	280	130.5	1,371	2 months
BC-CTP-283813	280	380	130	1,695	2 months
BC-CTP-303015	300	300	151	1,610	2 months
BC-CTP-303018	300	300	181	1,760	2 months
BC-CTP-304012	300	400	120	1,846	2 months
BC-CTP-304015	300	400	150	1,862	2 months
BC-CTP-304018	300	400	181	2,030	2 months
BC-CTP-353515	350	350	150	2,045	2 months
BC-CTP-353518	350	350	181	2,142	2 months
BC-CTP-354512	350	450	120	2,397	2 months
BC-CTP-354516	350	450	160	2,826	2 months
BC-CTP-354520	350	450	201	3,151	2 months
BC-CTP-405016	400	500	160	3,188	2 months
BC-CTP-405020	400	500	201	3,811	2 months
BC-CTP-406018	400	600	181	4,153	2 months
BC-CTP-406023	400	600	231	4,637	2 months
BC-CTP-506018	530	630	185	6,305	2 months
BC-CTP-506025	530	630	255	7,213	2 months
BC-CTP-507018	530	730	188	7,410	2 months
BC-CTP-507025	530	730	258	8,200	2 months
BC-CTP-608018	630	830	188	9,820	2 months
BC-CTP-608028	630	830	288	11,550	2 months

Accessories (Optional parts) ■ Not UL certified products.



Mounting plate BMP series
See page 143 ~ 145



Mounting bracket CK • BFL series
See page 146



Pole mounting bracket SSK series
See page 205 ~ 208



Cable gland
See page 181 ~ 193



Ventilation parts
See page 195 ~ 202

TAKACHI

⚠ Precautions for UL Certified Products

Please note that the important information remains the same even in case of ordering customized product(s).

1. **UL certified products are not returnable or replaceable (except for defects).**

2. **Each UL certified product has a unique UL certification sticker with a serial number.**
   This sticker cannot be easily removed and in the event where it is damaged or the characters are illegible, UL application may be rejected.

3. **The position of the UL certification sticker is determined according to the product size and cannot be changed. Please check the position of the sticker on the drawing (such as CAD, PDF or other drawings) of the corresponding model number. Drawings are downloadable from our website.**

4. **The serial number on the UL certification sticker cannot be reissued with the same serial number.**

5. **Defective products (such as those with molding error) are subject of replacement.**
   Note that the replacement(s) will incur a manufacturing and delivery lead-time; the serial number will also change.

6. **UL certification sticker cannot be sold or issued separately (each product has an unique UL certification sticker attached).**

7. **Enclosure model number cannot be changed when applying for UL certification as each UL registered serial number is unique to each individual enclosure that is manufactured.**

8. **Customers are responsible for the UL application for the final product.**
   TAKACHI does not offer any application support, documentation assistance, or any other forms of guidance etc. related to the application process.

9. **For details on UL application and E-numbers, please contact UL directly.**

Specifications Overview

UL508A is a standard for industrial control panels published by Underwriters Laboratories Limited Liability Company (UL LLC) in USA.

NEMA standards are a set of technical standards developed by the National Electrical Manufacturers Association (NEMA) in USA.

The NEMA Type 4X rating is equivalent to the IP56 protection rating.

BRF series OUTDOOR ROOF



- Recommended to be used for outdoor environments for protection against rain etc.
- Snap-in easy installation.
- Available for use with BCAP, BCPC, and BCPK series' models except 151509, 151512, 405016, 405020, 406018, and 406023 models.

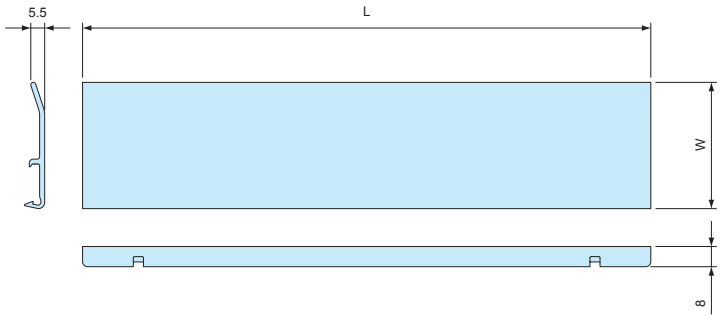
Color Type

Color code	Material	Color	Suitable models
G	PVC	White gray	BCAP
S	PVC	Light gray	BCPC • BCPK

BRF dimensions

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

Roof for 091207 ~ 353518

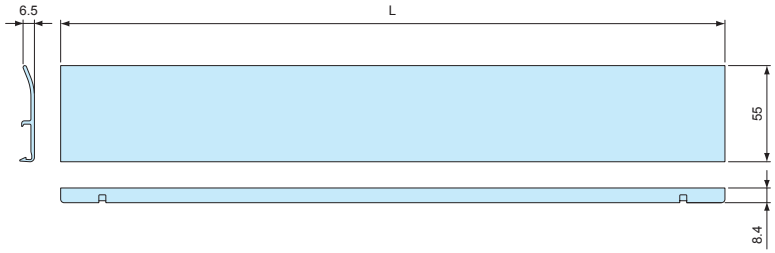


Product no. / Details

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

Product no.	Suitable models	L	W
BRF- 90□	BCAP • BCPC • BCPK 091207 091208	105	45
BRF-100□	BCAP • BCPC • BCPK 101507 101508	115	45
BRF-110□	BCAP • BCPC • BCPK 112107 112110 112607 112610	125	45
BRF-135□	BCAP • BCPC • BCPK 131508 131808 131810	150	45
BRF-160□	BCAP • BCPC • BCPK 162110 162113 162610 162613	175	45
BRF-170□	BCAP • BCPC • BCPK 172711	185	45
BRF-1722□	BCAP • BCPC • BCPK 172210	180	45
BRF-190□	BCAP • BCPC • BCPK 192810 192814	205	45
BRF-210□	BCAP • BCPC • BCPK 212110 212113	225	45
BRF-200□N	BCAP • BCPC • BCPK 203013□N 203015□N 203018□N	225	50
BRF-250□N	BCAP • BCPC • BCPK 253515□N 253518□N	275	50
BRF-280□	BCAP • BCPC • BCPK 282813 283813	305	50
BRF-300□	BCAP • BCPC • BCPK 303015 303018 304012 304015 304018	325	50
BRF-350□	BCAP • BCPC • BCPK 353515 353518	375	50

Roof for 354512 ~ 354520



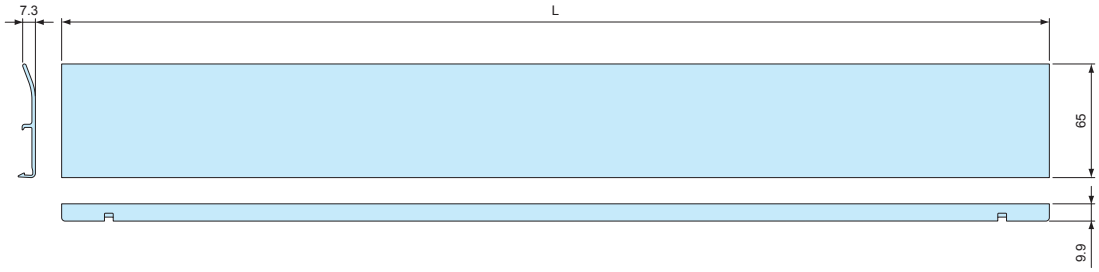
Product no. / Details

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

Product no.	Suitable models	L
BRF-350L□	BCAP • BCPC • BCPK 354512 354516 354520	380

■ S color type is light gray painted.

Roof for 506018 ~ 608028



Product no. / Details

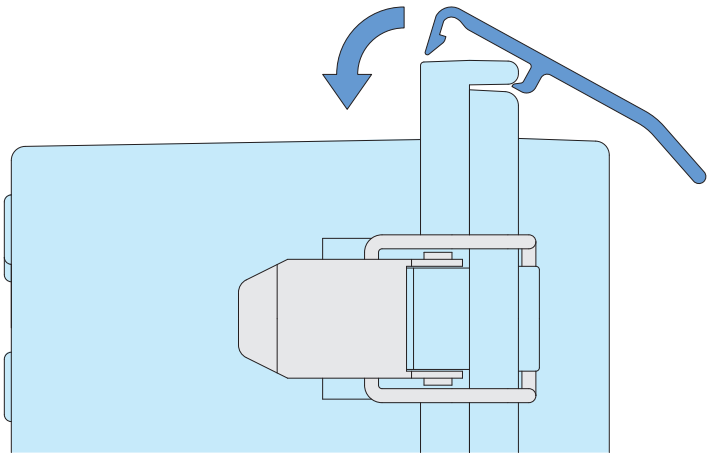
■ Please suffix the color code at the end of the product number.

Product no.	Suitable models	L
BRF-530☐	BCAP • BCPC • BCPK 506018 506025 507018 507025	565
BRF-630☐	BCAP • BCPC • BCPK 608018 608028	665

■ S color type is light gray painted.

■ How to install BRF outdoor roof

Refer to illustration.



BCC-1 DUST PROTECTION CAP







- Prevents dust and other foreign material entry.
- Protection against corrosion on key hole part in environments such as coastal areas.
- When ordering, please ensure that the quantity required corresponds to the number of latches on your selected model.

Product no. / Details

Product no.	Material	Color	Pack of
BCC-1	Silicone	Black	1

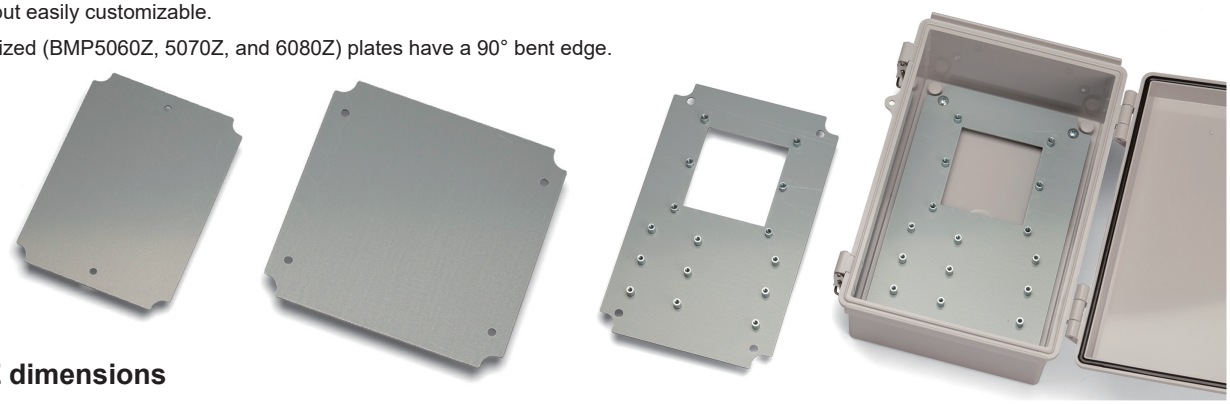
Suitable models

Suitable models	Required
BCPK192810 ~ 203018, 253515 ~ 405020	2
BCPK406018 ~ 608028	3

■ Not suitable for BCPK 212110, 212113, 172711 and smaller models.

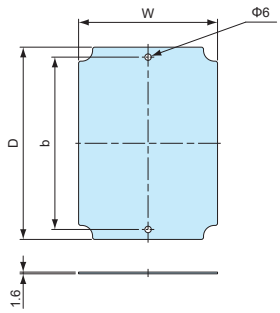
BMP-Z series STEEL MOUNTING PLATE

- Customization services (machining, punch press or clinching nut insertion) are available. See website for more details.
- Tough but easily customizable.
- Large sized (BMP5060Z, 5070Z, and 6080Z) plates have a 90° bent edge.

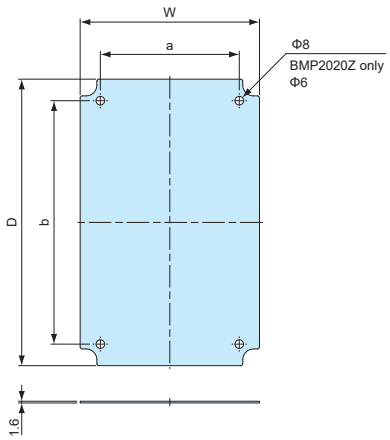


BMP-Z dimensions

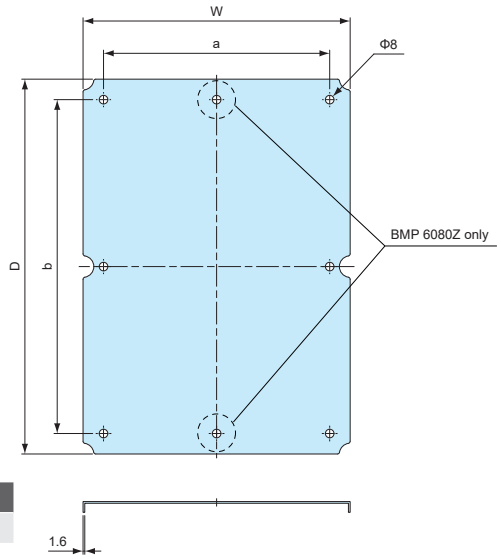
BMP0912Z ~ 1727Z



BMP1928Z ~ 4060Z



BMP5060Z ~ 6080Z



Components

Part name	Material	Finish
Mounting plate	Steel SECC t = 1.6	Zinc coated

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

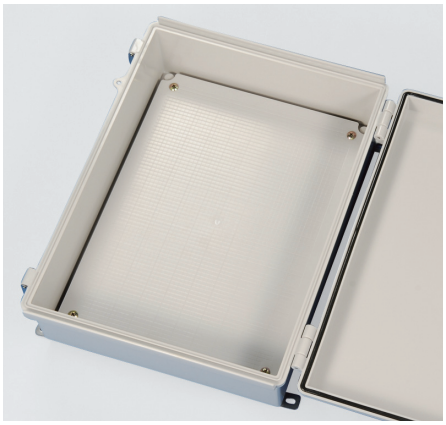
Product no. / Details

Product no.	W	D	a	b	Suitable models	Screw	Weight (g)
BMP0912Z	58	88	–	69	BCAP • R, BCPC • K • R 091207, 091208	–	53
BMP0813Z	68	118	–	100	BCAP • R, BCPC • K • R 101507, 101508	–	87
BMP1121Z	77	177	–	158	BCAP • R, BCPC • K • R 112107, 112110	–	159
BMP1126Z	77	227	–	208	BCAP • R, BCPC • K • R 112607, 112610	–	210
BMP1315Z	102	122	–	110	BCAP • R, BCPC • K • R 131508	–	141
BMP1217Z	102	152	–	140	BCAP • R, BCPC • K • R 131808, 131810	–	180
BMP1515Z	121	121	–	110	BCAP BCPC • K 151509, 151512	–	172
BMP1520Z	126	176	–	160	BCAP • R, BCPC • K • R 162110, 162113	–	262
BMP1525Z	127	227	–	210	BCAP • R, BCPC • K • R 162610, 162613	–	346
BMP1722Z	137	187	–	160	BCAP • R, BCPC • K • R 172210	–	308
BMP1727Z	137	237	–	210	BCAP • R, BCPC • K • R 172711	–	391
BMP1928Z	157	247	120	210	BCAP • R, BCPC • K • R 192810, 192814	M5-8 × 4 pcs	462.5
BMP2020Z	176	176	120	150	BCAP • R, BCPC • K • R 212110, 212113	–	371
BMP2030Z	165	265	129	226	BCAP • R, BCPC • K • R 203013, 203015, 203018	M5-8 × 4 pcs	519
BMP2535Z	215	315	180	270	BCAP • R, BCPC • K • R 253515, 253518	M5-8 × 4 pcs	816
BMP2828Z	246	246	210	210	BCAP • R, BCPC • K • R 282813	M5-8 × 4 pcs	727.5
BMP2838Z	246	346	210	310	BCAP • R, BCPC • K • R 283813	M5-8 × 4 pcs	1,018
BMP3030Z	264	264	219	219	BCAP • R, BCPC • K • R 303015, 303018	M5-8 × 4 pcs	826.5
BMP3040Z	265	365	228	325	BCAP • R, BCPC • K • R 304012, 304015, 304018	M5-8 × 4 pcs	1,154
BMP3535Z	315	315	270	270	BCAP • R, BCPC • K • R 353515, 353518	M5-8 × 4 pcs	1,196.5
BMP3545Z	301	401	274	365	BCAP • R, BCPC • K • R 354512, 354516, 354520	M5-8 × 4 pcs	1,443
BMP4050Z	354	454	328	428	BCAP BCPC • K 405016, 405020	M5-8 × 4 pcs	1,998
BMP4060Z	354	551	328	525	BCAP BCPC • K 406018, 406023	M5-8 × 4 pcs	2,328
BMP5060Z	474	574	426	526	BCAP • R, BCPC • K • R 506018, 506025	M5-8 × 6 pcs	3,286
BMP5070Z	472	672	426	626	BCAP • R, BCPC • K • R 507018, 507025	M5-8 × 6 pcs	3,864
BMP6080Z	565	765	526	726	BCAP • R, BCPC • K • R 608018, 608028	–	5,288.5

■ K = BCPK series, R = BCAR • BCPR series.

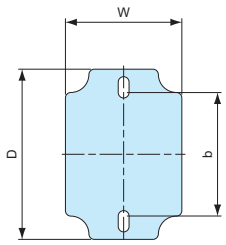
BMP-P series PLASTIC MOUNTING PLATE

■ Light weight ABS plastic mounting plate.

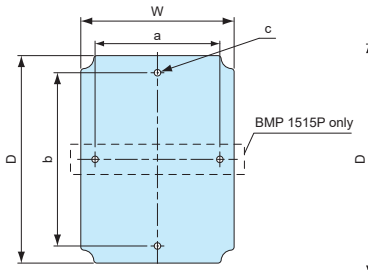


BMP-P dimensions

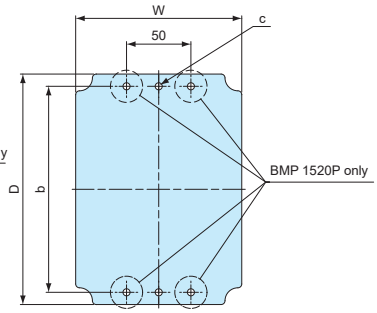
BMP0811P



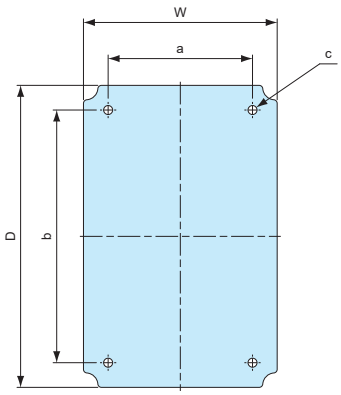
BMP0813P ~ 1515P



BMP1520P, 1525P



BMP1928P ~ 4050P



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

Components

Part name	Material	Color
Mounting plate	ABS	White gray

Product no. / Details

Product no.	W	D	a	b	c (Φ)	Thickness	Suitable models	Weight (g)
BMP0811P	64.5	94.3	–	68.4	–	3.5	BCAP • R, BCPC • K • R 091207, 091208	21
BMP0813P	64.6	114.5	–	88.4	–	3.5	BCAP • R, BCPC • K • R 101507, 101508	24
BMP1121P	76.5	176	–	157.8	6	3	BCAP • R, BCPC • K • R 112107, 112110	40
BMP1126P	76.5	226	–	208	6	3	BCAP • R, BCPC • K • R 112607, 112610	53
BMP1315P	101.5	121.5	–	110	5.5	3.5	BCAP • R, BCPC • K • R 131508	36
BMP1217P	110	160	–	140	6	3.5	BCAP • R, BCPC • K • R 131808, 131810	62
BMP1515P	123	123	110	110	6	3.5	BCAP BCPC • K 151509, 151512	52
BMP1520P	129	179	–	160	5.5	3.5	BCAP • R, BCPC • K • R 162110, 162113, 172210	92
BMP1525P	129	228.5	–	210	6	3.5	BCAP • R, BCPC • K • R 162610, 162613, 172711	112
BMP1928P	158.5	248	120	210	8	3.5	BCAP • R, BCPC • K • R 192810, 192814	162
BMP2020P	178.5	178.5	120	150	5.5	3.5	BCAP • R, BCPC • K • R 212110, 212113	125
BMP2030P	166.5	266	128	225.5	8	4	BCAP • R, BCPC • K • R 203013, 203015, 203018	188
BMP2535P	215.5	315	180	268.5	8	4	BCAP • R, BCPC • K • R 253515, 253518	292
BMP2828P	248.5	248.5	210	210	8	4	BCAP • R, BCPC • K • R 282813	237
BMP2838P	248	347.5	209	309.5	8	4	BCAP • R, BCPC • K • R 283813	368
BMP3030P	262.5	262.5	219	219	7.5	4	BCAP • R, BCPC • K • R 303015, 303018	281
BMP3040P	264	364	228	324	7	3.7	BCAP • R, BCPC • K • R 304012, 304015, 304018	437
BMP3535P	313.5	313.5	269.5	269.5	8	4	BCAP • R, BCPC • K • R 353515, 353518	424.5
BMP3545P	305	405.5	273	364	8	4	BCAP • R, BCPC • K • R 354512, 354516, 354520	539
BMP4050P	357	457	328	428	8.5	4	BCAP BCPC • K 405016, 405020	725.5

■ K = BCPK series, R = BCAR • BCPR series.

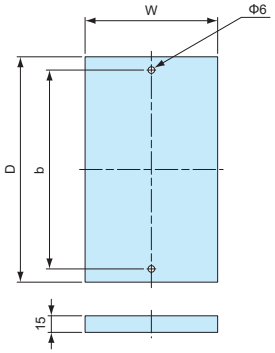
BMP-W series WOODEN MOUNTING PLATE

- Easily customizable hard wooden plate.
- Easy installation with screws provided.
- Plate comes with scales printed on for easy references.

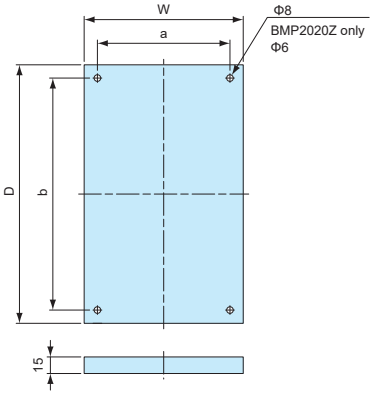


BMP-W dimensions

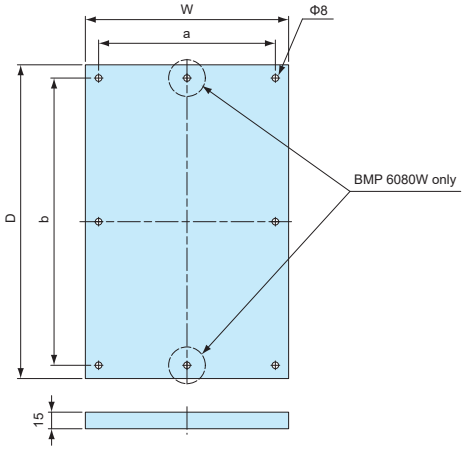
BMP0912W ~ 1727W



BMP1928W ~ 4060W



BMP5060W ~ 6080W



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

Components

Part name	Pcs	Material	Finish
Mounting plate	1	Wood board t=15	Scaled sheet
Screw (M5-20 pan washer head)	2 ~ 8	Steel	Trivalent chromate

Product no. / Details

Product no.	W	D	a	b	Suitable models	Screw	Weight (g)
BMP0912W	58	92	–	69	BCAP • R, BCPC • K • R 091207, 091208	M4×20 2 pcs	62
BMP0813W	68	122	–	99	BCAP • R, BCPC • K • R 101507, 101508	M4×20 2 pcs	94
BMP1121W	77	181	–	158	BCAP • R, BCPC • K • R 112107, 112110	M4×20 2 pcs	166
BMP1126W	77	231	–	208	BCAP • R, BCPC • K • R 112607, 112610	M4×20 2 pcs	191
BMP1315W	102	126	–	110	BCAP • R, BCPC • K • R 131508	M4×20 2 pcs	127
BMP1217W	102	156	–	140	BCAP • R, BCPC • K • R 131808, 131810	M4×20 2 pcs	190
BMP1515W	118	125	–	110	BCAP BCPC • K 151509, 151512	M4×20 2 pcs	172
BMP1520W	126	180	–	160	BCAP • R, BCPC • K • R 162110, 162113	M4×20 2 pcs	243
BMP1525W	127	231	–	210	BCAP • R, BCPC • K • R 162610, 162613	M4×20 2 pcs	352
BMP1722W	137	191	–	160	BCAP • R, BCPC • K • R 172210	M4×20 2 pcs	286
BMP1727W	137	241	–	210	BCAP • R, BCPC • K • R 172711	M4×20 2 pcs	212
BMP1928W	150	240	120	210	BCAP • R, BCPC • K • R 192810, 192814	M5×20 4 pcs	350
BMP2020W	170	174	120	150	BCAP • R, BCPC • K • R 212110, 212113	M4×20 4 pcs	336
BMP2030W	159	256	129	226	BCAP • R, BCPC • K • R 203013, 203015, 203018	M5×20 4 pcs	482
BMP2535W	210	300	180	270	BCAP • R, BCPC • K • R 253515, 253518	M5×20 4 pcs	688
BMP2828W	240	240	210	210	BCAP • R, BCPC • K • R 282813	M5×20 4 pcs	565
BMP2838W	240	340	210	310	BCAP • R, BCPC • K • R 283813	M5×20 4 pcs	893
BMP3030W	249	249	219	219	BCAP • R, BCPC • K • R 303015, 303018	M5×20 4 pcs	659
BMP3040W	258	355	228	324	BCAP • R, BCPC • K • R 304012, 304015, 304018	M5×20 4 pcs	965
BMP3535W	300	300	270	270	BCAP • R, BCPC • K • R 353515, 353518	M5×20 4 pcs	964
BMP3545W	301	395	274	365	BCAP • R, BCPC • K • R 354512, 354516, 354520	M5×20 4 pcs	1,314
BMP4050W	355	455	328	428	BCAP BCPC • K 405016, 405020	M5×20 4 pcs	1,754
BMP4060W	355	552	328	525	BCAP BCPC • K 406018, 406023	M5×20 4 pcs	2,015.5
BMP5060W	455	556	426	526	BCAP • R, BCPC • K • R 506018, 506025	M5×20 6 pcs	2,650
BMP5070W	455	656	426	626	BCAP • R, BCPC • K • R 507018, 507025	M5×20 6 pcs	3,152.5
BMP6080W	556	756	526	726	BCAP • R, BCPC • K • R 608018, 608028	M6×20 8 pcs	4,434

■ K = BCPK series, R = BCAR • BCPR series.

BFL series PLASTIC MOUNTING BRACKET

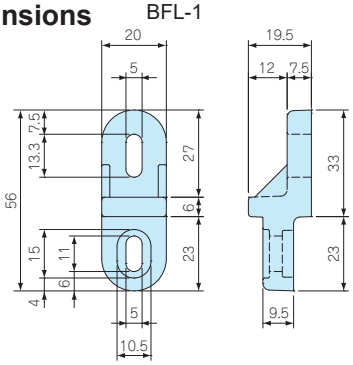


Color G Color S

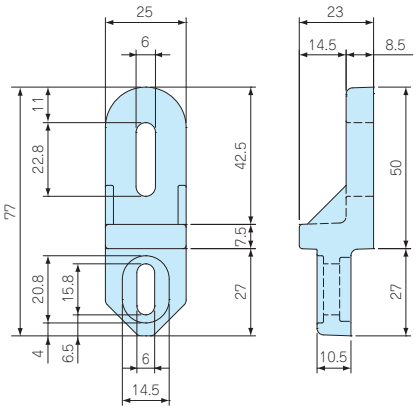
- 2 different colored types to match box colors.
- Tough and strong glass fiber filled polycarbonate.

BFL dimensions

BFL-1



BFL-2 / BFL2-21



Color Type

Code	Color	Suitable models
G	White gray	BCAP • BCAR
S	Light gray	BCPC • BCPK • BCPR

Components

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

Part name	Pcs	Material / Finish
Mounting bracket	4	Glass fiber filled polycarbonate • ABS
Screw	4	Stainless steel / Unfinished

Product no. / Details

Product no.	Suitable models	Screw
BFL-1□	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 212113	Self-tapping M4-12 bind head
BFL-2□	BCAP • R, BCPC • K • R 1928, 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060	M5-12 bind head
BFL-2-21□	BCAP • R, BCPC • K • R 212110	Self-tapping M4-12 bind head

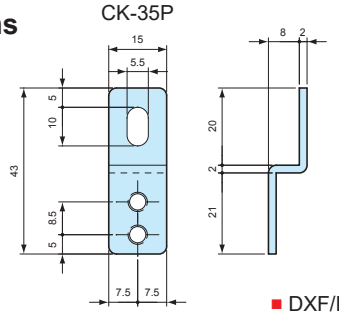
■ Please suffix color code at the end of the product number.
*Not suitable for BCAP1515 models. Use CK-35P (Stainless steel) instead.

CK series STAINLESS STEEL MOUNTING BRACKET

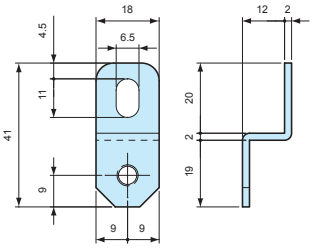


CK dimensions

CK-35P



CK-26P



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

Components

Part name	Pcs	Material	Finish
Mounting bracket	4	Stainless steel SUS304	Barrel finish
Screw	4	Stainless steel	Unfinished

Product no. / Details

Product no.	Suitable models	Screw
CK-35P	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 2121	Self-tapping M4-10 pan head
CK-26P	BCAP • R, BCPC • K • R 1928, 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060	M5-10 pan head

MT series PCB MOUNTING SCREW



■ PCB mounting screws for inner bosses of BCAP • BCAR • BCPC • BCPK • BCPR series.

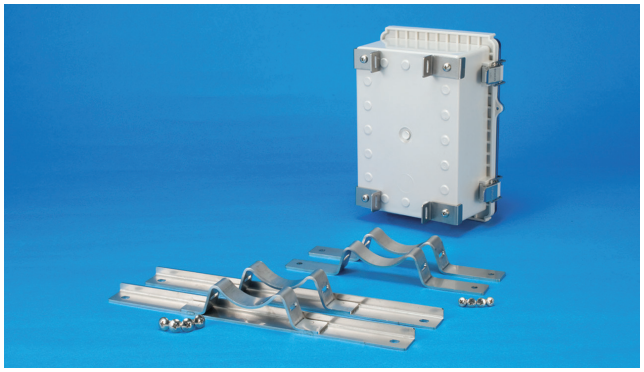
Product no. / Details

Product no.	Screw details	Material	Finish	Pack of
MT4-8T	Self-tapping M4-8 bind head	Steel	Trivalent chromate	20
MT5-8T	Self-tapping M5-8 bind head	Steel	Trivalent chromate	20

Product no. / Details

Product no.	Suitable models	Recommended torque
MT4-8T	BCAP • R, BCPC • K • R 0912, 1015, 1121, 1126, 1315, 1318, 1515, 1621, 1626, 1722, 1727, 1928, 2121	0.7N • m
MT5-8T	BCAP • R, BCPC • K • R 2030, 2535, 2828, 2838, 3030, 3040, 3535, 3545, 4050, 4060, 5060, 5070, 6080	1.4N • m

SSK series POLE MOUNTING BRACKET for BCAP • BCAR • BCPC • BCPK • BCPR

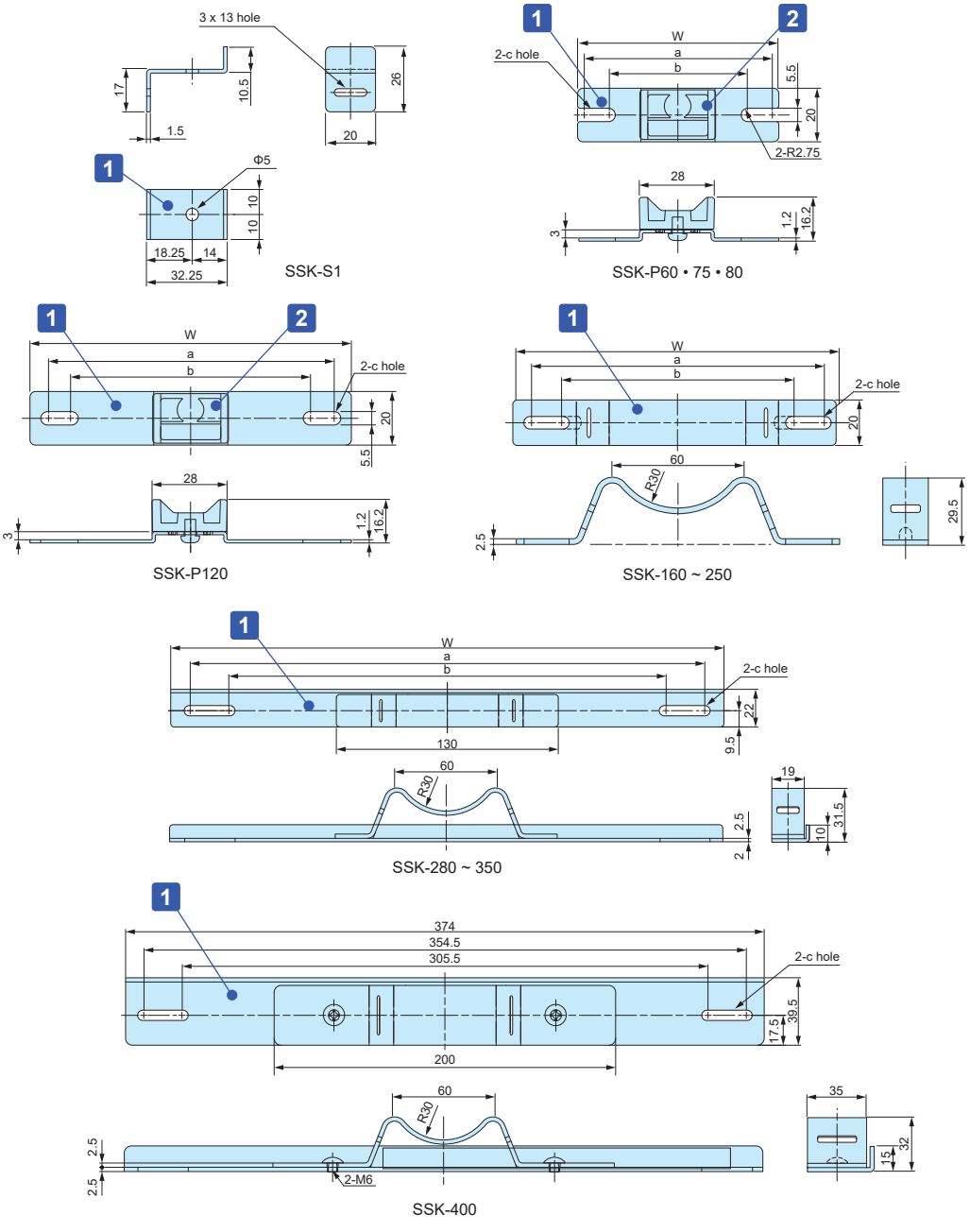




- Stainless steel pole mounting bracket for BCAP • BCAR • BCPC • BCPK • BCPR series.
- No hole milling is required for maintaining the IP rating of the boxes.
- SSK-P models come with plastic brackets.

SSK dimensions

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



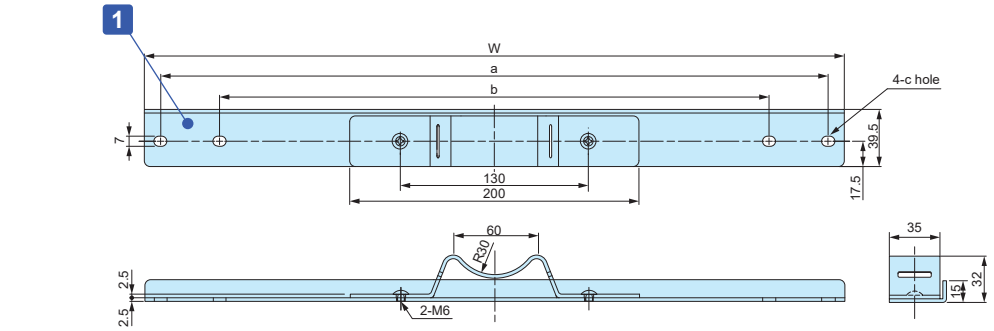
APPLICATION EXAMPLE

Weather Station Data Logger

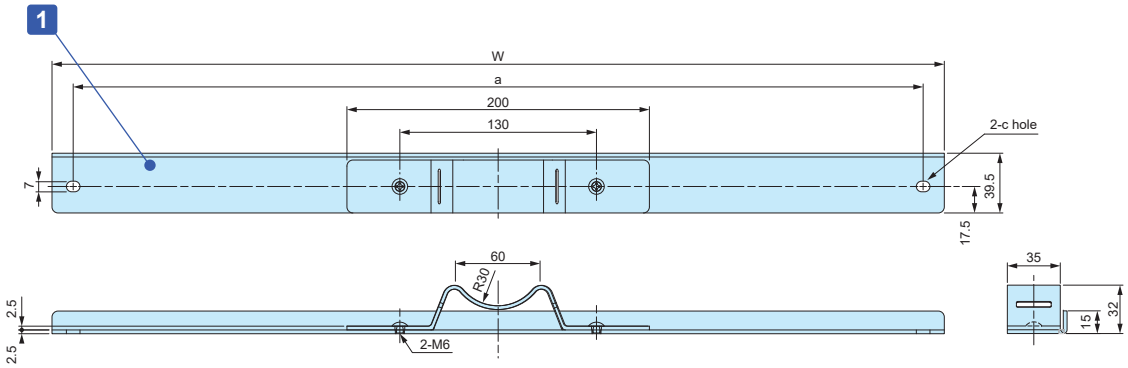


Water Level Detector





SSK-530



SSK-630

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

Components

No.	Part name	Pcs	Material	Color / Finish
1	Mounting bracket	2 / 4	Stainless steel SUS304	Barrel finish
2	Plastic bracket (SSK-P only)	2	ASA UL94HB	White gray
–	Screw	4	Stainless steel	Unfinished

Product no. / Details

Product no.	W	a	b	c	Suitable models BCAP • BCAR • BCPC • BCPK • BCPR	Belt to use with	Pack of
SSK-S1	–	–	–	–	0912, 1015, 1121, 1126, 1315, 1318, 1621, 1626, 1722, 1727, 2121	PKB10PM, 10P, PKB10S, SNB series	4
SSK-P60	60	54.5	47.5	5.5 x 9	0912	PKB10PM, 10P, PKB10S	2
SSK-P75	75	69.5	55.5	5.5 x 12.5	1015	PKB10PM, 10P, PKB10S	2
SSK-P80	80	74.5	64.5	5.5 x 10.5	1121, 1126	PKB10PM, 10P, PKB10S	2
SSK-P120	120	106.5	88.5	5.5 x 14.5	1315, 1318	PKB10PM, 10P, PKB10S	2
SSK-160	142	129.5	106.5	–	1515, 1621, 1626	PKB10PM, 10P, PKB10S, SNB series	2
SSK-170	152	142.3	101	–	1722, 1727	PKB10PM, 10P, PKB10S, SNB series	2
SSK-200	174	161.5	112.5	5.5 x 30	1928, 2030	PKB10PM, 10P, PKB10S, SNB series	2
SSK-210	192	180.5	131.5	5.5 x 30	2121	PKB10PM, 10P, PKB10S, SNB series	2
SSK-250	230	215.5	166.5	5.5 x 30	2535	PKB10PM, 10P, PKB10S, SNB series	2
SSK-280	260	244.5	195.5	5.5 x 30	2828, 2838	PKB10PM, 10P, PKB10S, SNB series	2
SSK-300	280	264.5	215.5	5.5 x 30	3030, 3040	PKB10PM, 10P, PKB10S, SNB series	2
SSK-350	324	302.5	253.5	5.5 x 30	3535, 3545	PKB10PM, 10P, PKB10S, SNB series	2
SSK-400	374	354.5	305.5	5.5 x 30	4050, 4060	PKB20S, SNB series	2
SSK-530	484	462	380	7 x 9	5060, 5070	PKB20S, SNB series	2
SSK-630	590	562	–	7 x 9	6080	PKB20S, SNB series	2



SNB series



PKB−10PM, 10P



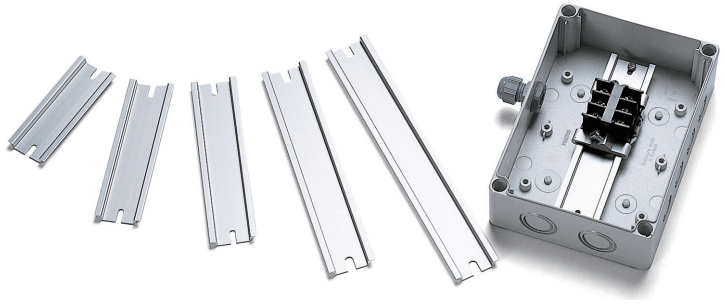
PKB−10S, 20S

■ Pole mounting strap and belt, SNB and PKB series are sold separately. See page 207 ~ 208 for further details.

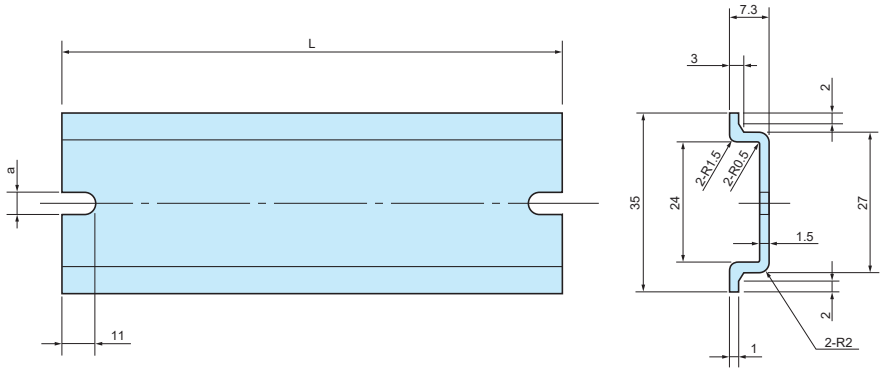
FDR series DIN RAIL

NEW SIZE

Application example



- DIN Rail for installation of terminals, relays, or switches inside enclosures.
- Suitable for DIN Rail types of various manufacturers.



Product no. / Details

Product no.	L	a	Matching boss pitch	Weight
FDR- 50	50	4.2	32 ~ 42	8.6
FDR- 57	57	4.2	39 ~ 49	9.5
FDR- 66	66	4.2	48 ~ 58	10
FDR- 77	77	4.2	59 ~ 69	12
FDR- 80	80	4.2	62 ~ 72	13
FDR- 87	87	4.2	69 ~ 79	14
FDR- 92	92	4.2	74 ~ 84	15
FDR-100	100	4.2	82 ~ 92	17.8
FDR-106	106	4.2	88 ~ 98	19
FDR-110	110	4.2	92 ~ 102	20
FDR-120	120	4.2	102 ~ 112	21
FDR-128	128	4.2	110 ~ 120	23
FDR-137	137	4.2	119 ~ 129	24
FDR-142	142	4.2	124 ~ 134	25
FDR-146	146	4.2	128 ~ 138	26
FDR-150	150	4.2	132 ~ 142	25.8
FDR-168	168	4.2	150 ~ 160	30
FDR-170	170	4.2	152 ~ 162	30
FDR-186	186	4.2	168 ~ 178	32
FDR-202	202	4.2	184 ~ 194	37
FDR-205	205	4.2	187 ~ 197	36
FDR-223	223	4.2	205 ~ 215	39.3
FDR-226	226	4.2	208 ~ 218	39
FDR-235	235	4.2	217 ~ 227	42
FDR-242	242	4.2	224 ~ 234	43
FDR-249	249	4.2	231 ~ 241	43
FDR-283	283	4.2	265 ~ 275	49
FDR-300	300	4.2	282 ~ 292	52
NEW FDR-314	314	4.2	296 ~ 306	51.5
FDR-350	350	4.2	332 ~ 342	60
FDR-400	400	4.2	382 ~ 392	69
FDR-450	450	4.2	432 ~ 442	78
FDR-550	550	4.2	532 ~ 542	94

Product no.	L	a	Matching boss pitch	Weight
NEW FDR-B106	106	6.5	90 ~ 96	17.5
FDR-B124	124	6.5	108 ~ 114	21.4
FDR-B142	142	6.5	126 ~ 132	24
FDR-B160	160	6.5	144 ~ 150	28
FDR-B165	165	6.5	149 ~ 155	28
FDR-B176	176	6.5	160 ~ 166	30
FDR-B183	183	6.5	167 ~ 173	30
FDR-B196	196	6.5	180 ~ 186	33
FDR-B223	223	6.5	207 ~ 213	37
FDR-B256	256	6.5	240 ~ 246	43
FDR-B260	260	6.5	244 ~ 250	45
NEW FDR-B276	276	6.5	260 ~ 266	47.5
FDR-B303	303	6.5	287 ~ 293	52
NEW FDR-B327	327	6.5	311 ~ 317	56.2
FDR-B338	338	6.5	322 ~ 328	57
FDR-B360	360	6.5	344 ~ 350	63
FDR-B376	376	6.5	360 ~ 366	64
FDR-B383	383	6.5	367 ~ 373	65
FDR-B463	463	6.5	447 ~ 453	87
FDR-1000	1,000	–	–	169.5

- Material / Finish: A6063S-T5 / Silver anodized
- FDR-1000 does not have mounting holes.

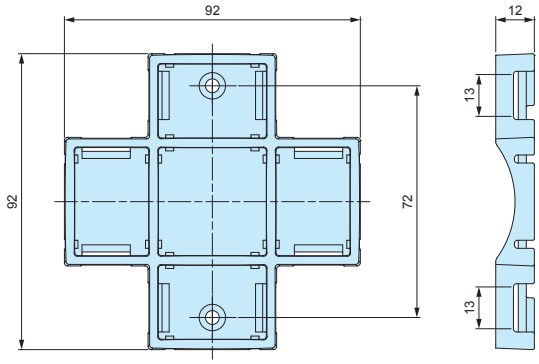
WPMB-M4-3 series POLE MOUNTING BRACKET



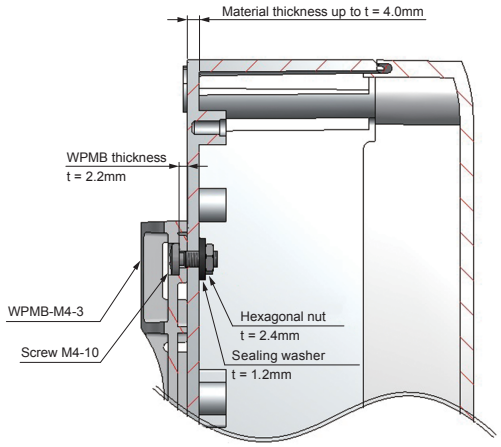
- Pole mount bracket made from weather resistant ASA material.
- Suitable for both vertical and horizontal mounting.
- IPX7 protection can be maintained through the use of sealing washers.
- Hole milling is required for bracket installation.
- Pole mount is possible with the use of PKB series mounting belt. (see page 324 for PKB series)

WPMB-M4-3 dimensions

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



Installation



Components

No.	Part name	Pcs	Material	Color / Finish
1	Bracket	1	ASA UL94HB	White gray • Dark gray
2	Sealing washer	2	NBR, SPCC	Black
3	Screw (M4-10 Pan head)	2	Stainless steel	Unfinished
4	Hexagonal nut (M4 - JIS Type 3)	2	Stainless steel	Unfinished

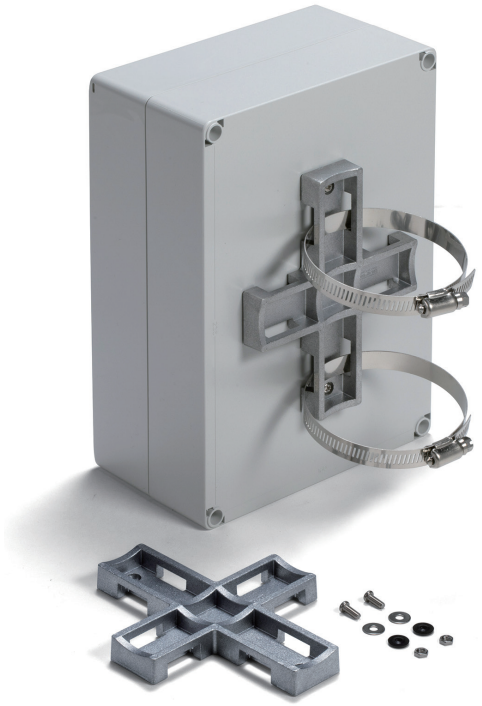
Product no. / Dimensions

Product no.		Material thickness to install	Recommended torque	Max load (kg)	Weight (g)
● White gray	● Dark gray				
WPMB-M4-3G	WPMB-M4-3D	Up to t = 4.0mm	0.45N • m	5	26.5

- Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

WGMB-2SW POLE MOUNTING BRACKET

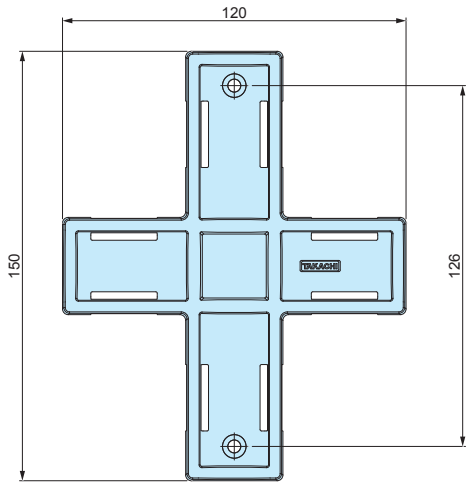
NEW

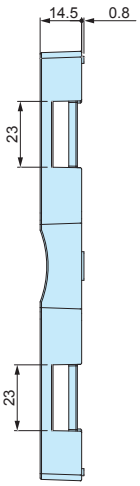


- Pole mount bracket made from robust diecast aluminium.
- Bracket can be mounted on both vertically, and horizontally.
- Sealing washers enables the installation to have a protection class equivalent to IPX7, X5.
- Hole milling on enclosures is required when installing mounting bracket.
- Pole mount is possible with the use of SNB or PKB series mounting belt. (See page 323 ~ 324)
- Installation can be done on a variety of enclosures made from plastic, diecast aluminium or stainless steel.

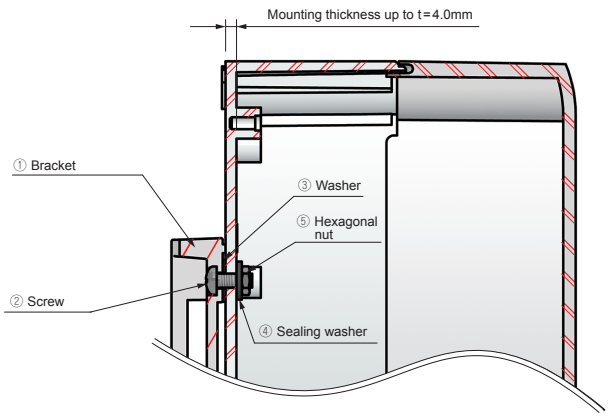
WGMB-2SW dimensions

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





Installation example



Components

No.	Part name	Pcs	Material	Color / Finish
1	Bracket	1	Diecast aluminium ADC12	Natural / Shot blast
2	Screw (Pan head M4-10)	2	Stainless steel	Unfinished
3	Washer	2	Stainless steel	Unfinished
4	Sealing washer	2	NBR, SPCC	Black
5	Hexagonal nut (M4-JIS Type3)	2	Stainless steel	Unfinished

Product no. / Details

Product no.	Mounting thickness	Recommended torque	Weight (g)
WGMB-2SW	Up to t=4.0mm	0.45N • m ~ 0.5N • m	130

- Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

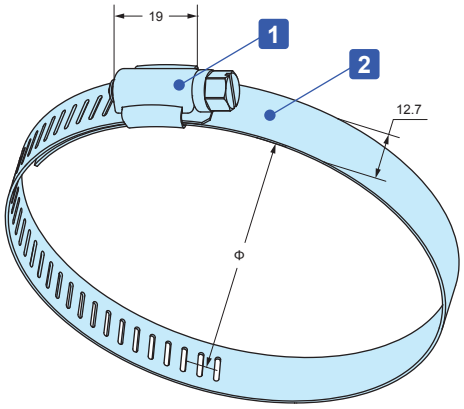
SNB series STAINLESS STEEL POLE MOUNTING STRAP







SNB dimensions



- Corrosion resistant stainless steel (SUS304) belt clamp.
- It can be installed securely by tightening the screw.
- 8 mm nut driver (box driver) is recommended for tightening. Flat-bladed screwdrivers can also be used.

Components

No.	Part name	Pcs	Material	Finish
1	Bracket	1	Stainless steel SUS304	Polished
2	Strap	1	Stainless steel SUS304	Polished

Product no. / Details

Product no.	Applicable diameter (Φ)	Strap width	Strap thickness	Recommended torque N • m	Weight (g)	Pack of
SNB 52- 76	52 ~ 76	12.7	0.6	0.7 ~ 1.0	27.5	1
SNB 72- 95	72 ~ 95	12.7	0.6	0.7 ~ 1.0	30	1
SNB 91-114	91 ~ 114	12.7	0.6	0.7 ~ 1.0	34.5	1
SNB105-127	105 ~ 127	12.7	0.6	0.7 ~ 1.0	37.5	1
SNB117-140	117 ~ 140	12.7	0.6	0.7 ~ 1.0	39.5	1
SNB130-153	130 ~ 153	12.7	0.6	0.7 ~ 1.0	41.5	1
SNB142-165	142 ~ 165	12.7	0.6	0.7 ~ 1.0	43.5	1
SNB155-178	155 ~ 178	12.7	0.6	0.7 ~ 1.0	46.5	1
SNB168-191	168 ~ 191	12.7	0.6	0.7 ~ 1.0	49	1
SNB181-204	181 ~ 204	12.7	0.6	0.7 ~ 1.0	51	1
SNB194-217	194 ~ 217	12.7	0.6	0.7 ~ 1.0	52.5	1
SNB207-230	207 ~ 230	12.7	0.6	0.7 ~ 1.0	57	1
SNB220-243	220 ~ 243	12.7	0.6	0.7 ~ 1.0	59.5	1
SNB233-256	233 ~ 256	12.7	0.6	0.7 ~ 1.0	62.5	1
SNB246-269	246 ~ 269	12.7	0.6	0.7 ~ 1.0	64	1
SNB259-282	259 ~ 282	12.7	0.6	0.7 ~ 1.0	67.5	1
SNB272-295	272 ~ 295	12.7	0.6	0.7 ~ 1.0	70	1
SNB285-308	285 ~ 308	12.7	0.6	0.7 ~ 1.0	71	1

- Recommended torque listed is for reference only; actual may differ. Assemble after testing torque.

SNB Strap required

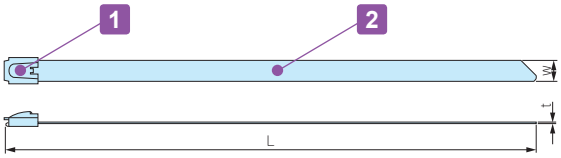
Suitable series	Suitable models						Required
SSK series	SSK-S1	SSK-160	SSK-170	SSK-200	SSK-210	SSK-250	2
	SSK-280	SSK-300	SSK-350	SSK-400	SSK-530		
WGMB series	WGMB-1W						1

SCT series STAINLESS STEEL TIES for POLE MOUNTING

NEW







- Corrosion resistant stainless steel (SUS304) cable tie.
- Can be used to bundle cables or mounting enclosures to poles.
- Self-locking bracket allows easy mounting / cable bundling.
- Designed for one time use only (not reusable).

- Suitable for easy mounting.
- Wear gloves or other protections while installation.

Components

No.	Part name	Pcs	Material	Finish
1	Bracket	1	Stainless steel SUS304	Polished
2	Strap	1	Stainless steel SUS304	Polished

Product no. / Details

Product no.	W	L	t	Pack of
SCT 4.6- 100	4.6	100	0.25	10
SCT 4.6- 150	4.6	150	0.25	10
SCT 4.6- 200	4.6	200	0.25	10
SCT 4.6- 300	4.6	300	0.25	10
SCT 4.6- 500	4.6	500	0.25	2
SCT 4.6-1000	4.6	1,000	0.25	2
SCT 4.6-1500	4.6	1,500	0.25	2
SCT 7.9- 100	7.9	100	0.25	10
SCT 7.9- 150	7.9	150	0.25	10
SCT 7.9- 200	7.9	200	0.25	10
SCT 7.9- 300	7.9	300	0.25	10
SCT 7.9- 500	7.9	500	0.25	2
SCT 7.9-1000	7.9	1,000	0.25	2
SCT 7.9-1500	7.9	1,500	0.25	2

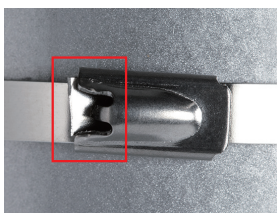
G3388 TIGHTEN GUN for SCT

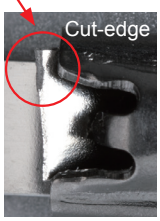
NEW



Note: Tighten gun is not subject to RoHS regulations.

- Tool for cutting and tightening stainless steel strap.
  *Be careful of the sharp cut-edge of strap.





Product no.
G3388

PKB series POLE MOUNTING BELT



PKB−10PM, 10P



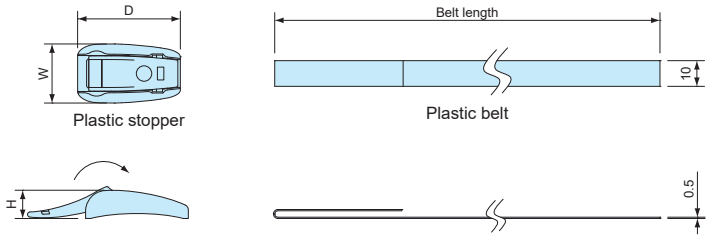
PKB−10S, 20S

- Pole mounting belt for attachment of enclosures with suitable pole mount brackets or construction onto poles.
- Designed for one time use only (not reusable).
- Strong stainless steel clamping type and easy installation plastic type are available.

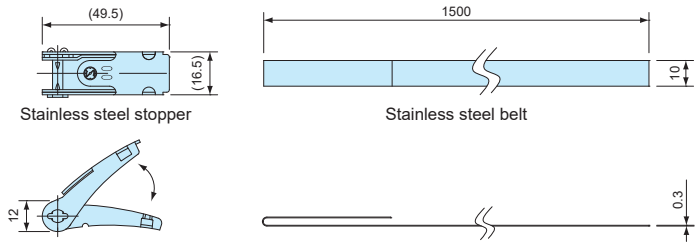
PKB dimensions

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

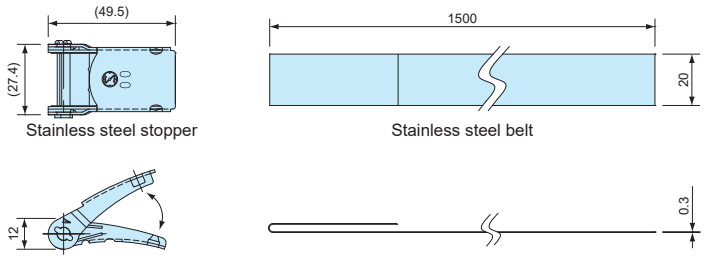
PKB-10PM, 10P



PKB-10S



PKB-20S



Components

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

Product no. / Details

Product no.	W	D	H	Belt length	Belt material	Tensile strength (horizontal)	Weight (g)	Pack of
PKB-10PM	23	24	11	500 mm	PET	0.8kN	14	2
PKB-10P	23	40	11	1,500 mm	PET	1.3kN	31.8	2
PKB-10S	—	—	—	1,500 mm	Stainless steel SUS304	1.4kN	101.6	2
PKB-20S	—	—	—	1,500 mm	Stainless steel SUS430	2.9kN	182.2	2

PMF series PROTECTIVE VENT

Pressure Equalization / Ventilation



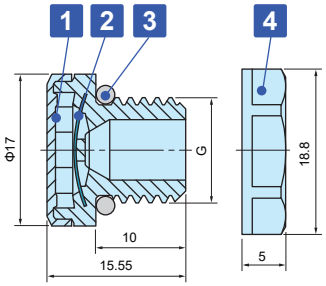


Application Example

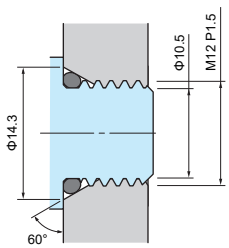
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- IP68 protection class (water depth 2 meters / 60 mins) with an operating temperature range -40°C ~ +125°C allows them to be used in harsh environments.
- PMF-12 and PMF-12HS models are suitable for up to 5 and 50 liters respectively.
- Recommended to be installed at the sides of the enclosure.
- Use in industrial and electrical / electronic products only; not suitable to be used in medical, food and beverage, and cosmetic industries and related industrial equipment.

PMF dimensions

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

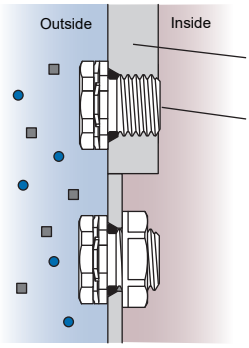


Hole milling drawings



- Recommended for prevention of O-ring deformation during tightening.
  If tightened with a lock nut, a standard through-hole is sufficient for installation.

Installation drawings



- If used with a lock nut, material thickness should not exceed 4.0mm.

Technical Data

Product no.	PMF-12	PMF-12HA
Airflow	450ml / min (dp = 7kPa)	4,000ml / min (dp = 7kPa)
Recommended torque	0.6 ~ 0.8N • m	0.6 ~ 0.8N • m
Certifications	IEC60529 (Protection class test) : IP65 • IP66 • IP67 • IP68 • IP69K IEC60068-2-1, 2, 14 (Heat resistance test) : - 40°C ~ +125°C IEC60068-2-78 (Humidity test) : 85°C • 85% humidity • 1,000 hours IEC60068-2-11, 52 (Salt spray test) IEC60068-2-64 (Vibration test) GR-3108-CORE (Corrosive gas test) UL94V-0 (Flame-resistant) • UL746C f1	

Product no. / Details

Product no.		Material				G		Lock nut SW
● Light gray	● Black	1 Housing	2 Filter	3 O-ring	4 Lock nut	Thread size	Mount hole	
PMF-12S	PMF-12B	PA66 / 6	PTFE	Silicone	PA66 (UL94V-2)	M12 x P1.5	Φ12.2	17
PMF-12HAS	PMF-12HAB	PA66 / 6	PTFE	Silicone	PA66 (UL94V-2)	M12 x P1.5	Φ12.2	17

PMF-32S LARGE PROTECTIVE VENT

Pressure Equalization / Ventilation

IP68 IP69K



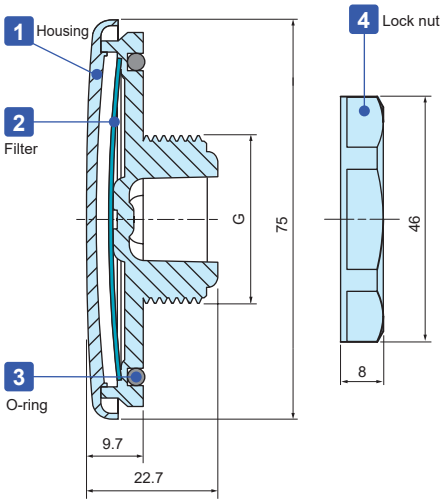


Application Example

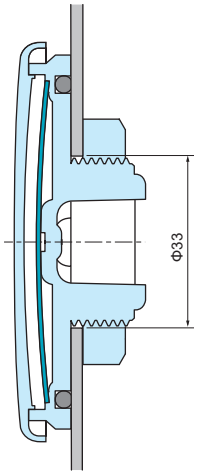
- Maintains exceptionally high airflow in extra-large enclosures with volumes of up to 200 liters in an outdoor environment.
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- Simple and flat design allows it to be used on a wide variety of enclosure types.
- IP68 protection class rated (water depth 2 meters / 60 mins) with an operating temperature range of -40°C ~ +125°C allows it to be used in harsh environments.
- Compliant with Solar industry testing IEC62108 standards.
- Recommended to be installed at the sides of the enclosure.
- Use in industrial and electrical / electronic products only; not suitable to be used in medical, food and beverage, and cosmetic industries and related industrial equipment.

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

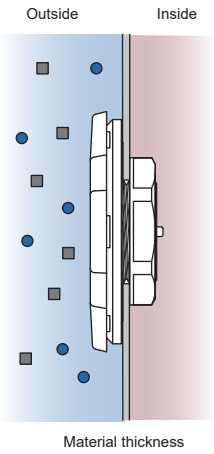
PMF-32 dimensions



Hole milling drawings



Installation drawings



■ If used with a lock nut, material thickness should not exceed 5.0mm.

Technical Data

Airflow	16ℓ / min (dp = 1.2kPa)
Recommended torque	5 N • m
Certifications	IEC529, 2nd (Protection class test) : IP66 • IP67 • IP68 • IP69K IEC60068-2-1, 2, 14 (Heat resistance test) : - 40°C ~ +125°C IEC60068-2-78 (Humidity test) : 85°C • 85% humidity • 1,000 hours IEC60068-2-11, 52 (Salt spray test)　IEC60068-2-64 (Vibration test) IEC62108, 10.8 • 9 (Solar industry test) : Freezing • High temperature tes • Hail impact test GR-3108-CORE (Corrosive gas test)　UL94V-0 (Flame-resistant) • UL746C f1

Product no. / Details

Product no.	Material				G			Lock nut SW
	1 Housing	2 Filter	3 O-ring	4 Lock nut	Thread size	Thread diameter	Mount hole	
PMF-32S	Polycarbonate	PTFE	Silicone	PA66	M32 x P1.5	Φ32	Φ33	41.5

VE8 series ADHESIVE PROTECTIVE VENT FILTER



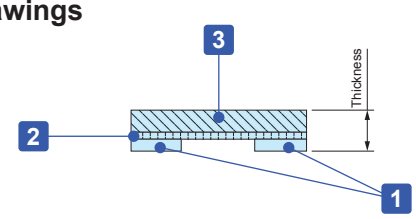
Technical Data
Protection class : Dustproof IP6X Waterproof IPX4, IPX7 Airflow : 3,300ml/min/cm2 (at 7Kpa) Operating temperature : -40°C ~ +100°C

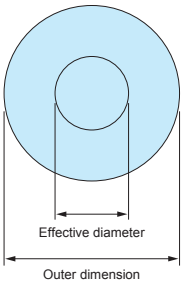
- Vent filter protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- Allows water vapor molecules to diffuse through the microporous membrane.
- Highly water and oil repellent membrane protects electronic components from water, corrosive liquids, salts and dust.
- Easy installation adhesive filter.
- Recommended to be adhered onto flat plastic or metallic surfaces.

CAUTION

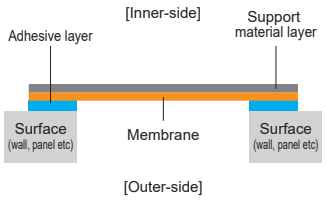
- Install only on the inner surface of the case / box with the membrane and adhesive side facing outwards.
- An initial period of 24 hours is required for the adhesive to properly bond to the surface. Avoid using the vent filter with a heavy load.
- Please do not adhere onto the top-side of enclosures. Rain water etc. will collect on the filter, which will weaken the adhesive seal and prevent proper ventilation.
- After degreasing and cleaning, adhere the filter without touching the center part of the vent filter.
- Use in industrial and electrical / electronic products only; not suitable to be used in medical, food and beverage, and cosmetic industries and related industrial equipment.

VE8 drawings





Installation drawings



Adhesive type protective vent filter can be installed on any flat surface.

Components

No.	Part name	Material	Color
1	Adhesive	Acrylic adhesive	Transparent
		Silicon adhesive (VE82029S, VE82029S-S)	
2	Filter	ePTFE (Oil-repellent type)	White
3	Support material	Polyester fabric	White

Product no. / Details

Product no.	Outer dimension (Φ·mm)	Effective diameter (Φ·mm)	Thickness (mm)	Sales unit
VE80308	7.6	3.3	0.26	8 pcs (per pack)
VE80814	14.0	8.0	0.26	4 pcs (per pack)
VE81221	21.5	12.5	0.26	4 pcs (per pack)
VE82029S	29.0	20.0	0.35	2 pcs (per pack)
VE80308-S	7.6	3.3	0.26	96 pcs (per sheet)
VE80814-S	14.0	8.0	0.26	56 pcs (per sheet)
VE81221-S	21.5	12.5	0.26	20 pcs (per sheet)
VE82029S-S	29.0	20.0	0.35	10 pcs (per sheet)

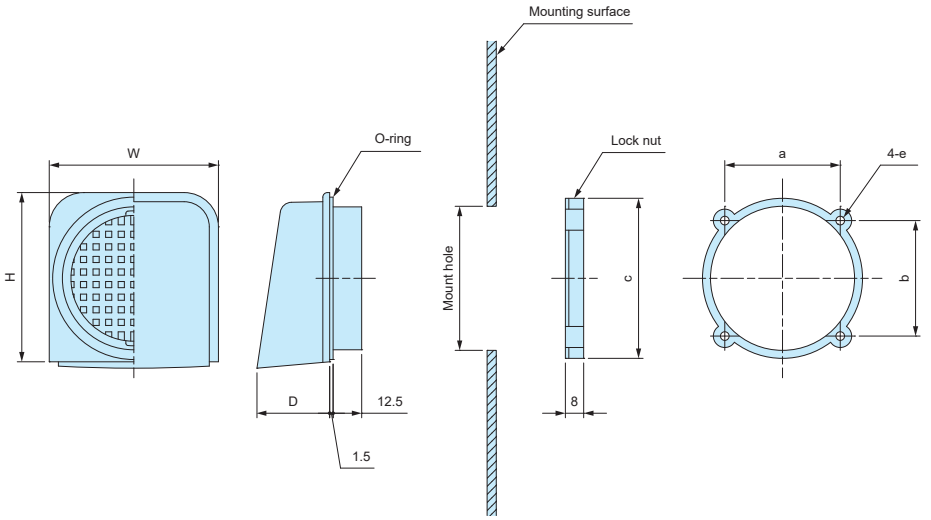
V series VENTILATION LOUVER



- Recommended for condensation prevention and heat dissipation.
- 2 models available : ABS V60, V80 match the color for BCAP and BCAR series, and polycarbonate V60S and V80S match the color for BCPC, BCPK, and BCAR series.
- Suitable to be used on a variety of enclosure types, series and models.

V dimensions

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



Product no. / Details

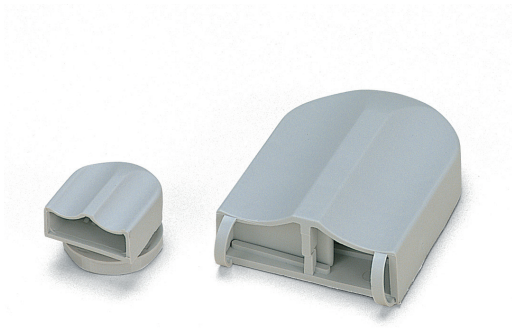
Product no.	Material	Color	Mount hole	W	H	D	a	b	c	e
V60	ABS	White gray	Φ63	74	74	31.8	50.5	50.5	70	Φ3.8
V80	ABS	White gray	Φ88	100	100	37	71.5	71.5	94.8	Φ3.3
V60S	Polycarbonate	Light gray	Φ63	74	74	31.8	50.5	50.5	70	Φ3.8
V80S	Polycarbonate	Light gray	Φ88	100	100	37	71.5	71.5	94.8	Φ3.3

■ O-ring material : EPDM / Black

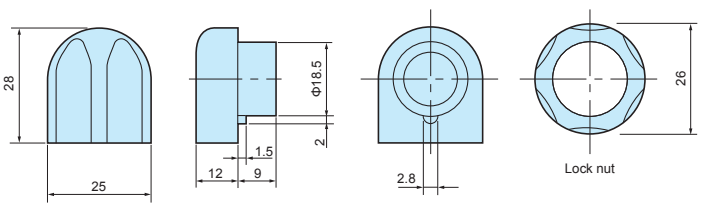
VF series VENTILATION PARTS

VF dimensions

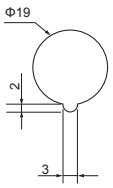
■ DXF/DWG/PDF drawings available on our website.



VF-1



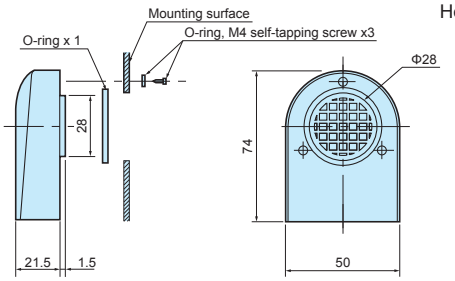
Hole layout for mounting



Technical Data

Protection class : VF-1 IP33
VF-2 IP24

VF-2

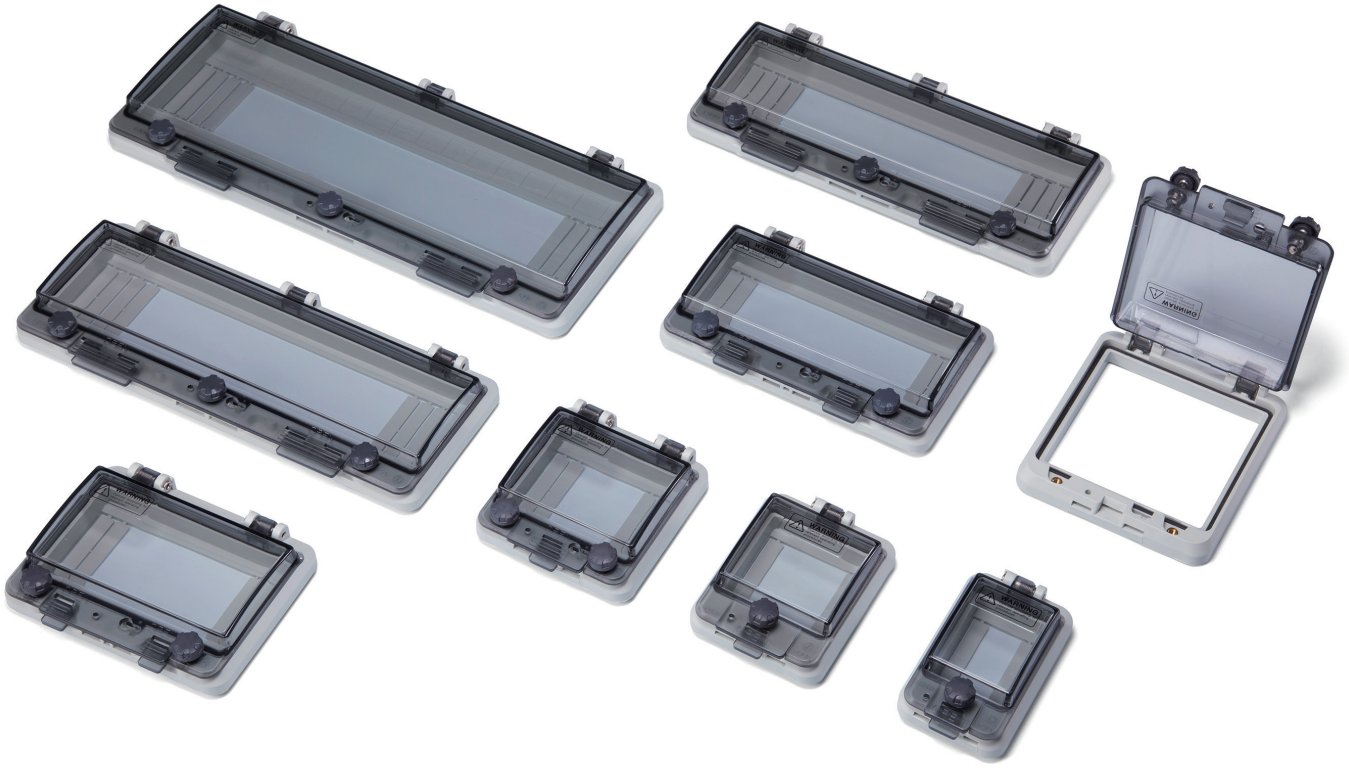


Hole layout for mounting

Product no. / Details

Product no.	Material / Color
VF-1	Polyamide / White gray
VF-2	Polyamide / White gray

IW series HINGED INSPECTION WINDOW





IP64 IP54

Technical Data

Protection class : IP64
IW0412B
IW0413B
IW0416B
IW0416A
IP54 Category 2*
(*Prevents dust ingress with no negative pressure inside)
Operating temperature : -20°C ~ +75°C
Recommended torque to install : 1.1N • m ~ 1.5N • m
Required panel thickness to install : 2.0 ~ 6.0mm

- IP64 water resistant see-through hinged inspection window.
- Smartly designed window for protection of switches and displays, etc.
  Use in situations where component status, access and maintenance is necessary.
- Knurled thumb screws for easy securing.

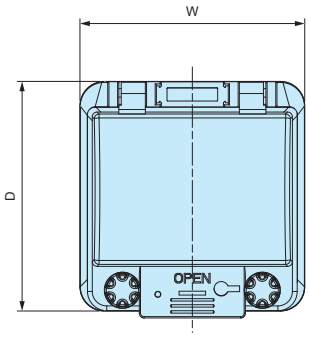
- Be careful not to get fingers caught on the spring loaded self-closing cover.
- See TECHNICAL INFORMATION on our website for more information on the protection class IP rating.

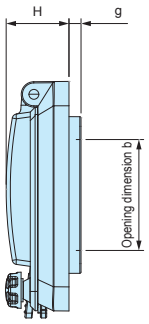
Components

No.	Part name	Pcs	Material	Color / Finish
1	Cover	1	Polycarbonate UL94V-2	Smoke gray
2	Base	1	PC + ABS UL94V-0	Light gray
3	Gasket	2	Polyurethane	Black
4	Knurled thumb screw	1 / 2 / 3	PC + ABS • Stainless steel	Black • Unfinished
–	Screw	4 / 6 / 8	Steel	Zinc plated

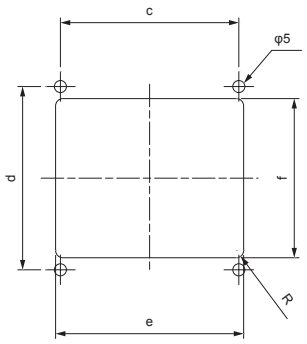
IW dimensions

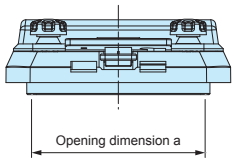
■ DXF/DWG/PDF drawings available on our website.





Hole layout for mounting





Product no. / Details

Product no.	W	D	H	a	b	c	d	e	f	g	Weight (g)
IW0402B	57.2	95.2	(26)	36	46	38	76	42	62	5	69
IW0403B	75.2	95.2	(26)	54	46	56	76	60	62	5	82
IW0404B	93.2	95.2	(26)	72	46	74	76	78	66	5	98
IW0405B	107.2	121.7	(31)	86.8	87.2	88	102	92	92	—	114
IW0406B	129.2	95.2	(26)	108	46	105	76	114	66	5	122.5
IW0408B	165.2	95.2	(26)	144	46	140	76	149	66	5	145
IW0412B	237.2	95.2	(26)	216	46	213	76	221	66	5	202
IW0413B	255.2	95.2	(26)	234	46	230	76	239	66	5	215
IW0416B	309.2	95.2	(26)	288	46	282	76	293	66	5	254
IW0416A	309.2	125.2	(26)	288	46	282	106	293	96	5	314

APPLICATION EXAMPLE

Circuit Breaker Cover



Connector Cover



Command Panel Cover



Switch Cover

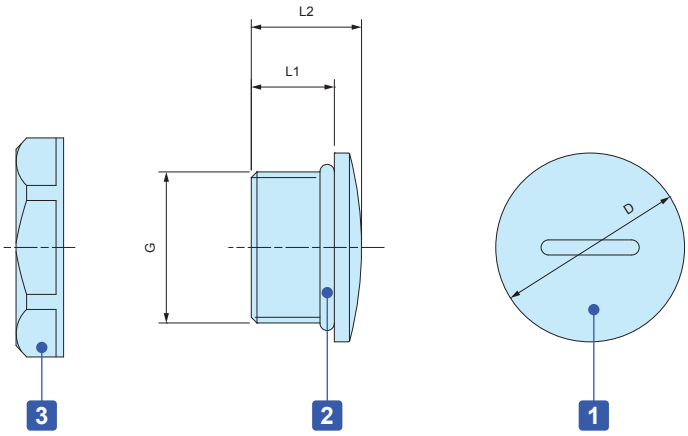


SHP series BLIND PLUG with O-ring



- A hole plug for sealing holes that are not in use.
- IP67 rating is achieved through the use of a lock nut.
- Waterproofing is not guaranteed when directly secured through thread holes.

SHP dimensions





A gloss-like finish distinctive to injection molded products may be visible in certain areas of the black color type. This does not affect the performance of the product.

Components

■ PA = Polyamide

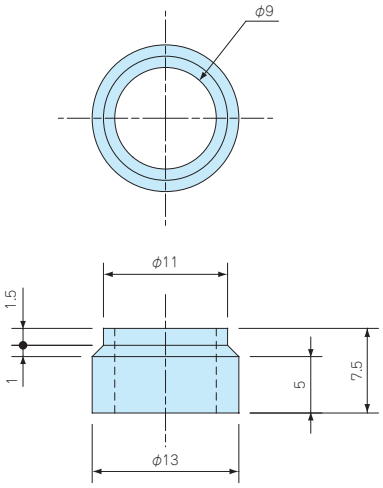
No.	Part name	Material
1	Housing	PA66 (UL94V-2)
2	O-ring	NBR
3	Lock nut	PA66 (UL94V-2)

Product no. / Details

Product no.		G		D	L1	L2	Pack of
● Black	● Light gray	Thread size	Mounting hole				
SHP-12B	SHP-12S	M12×1.5	Φ12.2	Φ16	9	12.2	1
SHP-16B	SHP-16S	M16×1.5	Φ16.2	Φ20	9	12.2	1
SHP-20B	SHP-20S	M20×1.5	Φ20.2	Φ25	11	14.6	1
SHP-25B	SHP-25S	M25×1.5	Φ25.2	Φ30	11	14.5	1
SHP-32B	SHP-32S	M32×1.5	Φ32.3	Φ38	11	15	1
SHP-40B	SHP-40S	M40×1.5	Φ40.3	Φ46	12	16	1

RB-9 RUBBER BUSH



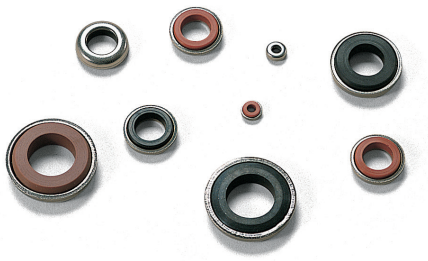


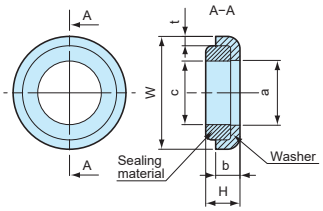
- Rubber bush for TMC series terminal junction box.
- Applicable for Φ8 ~ Φ9mm diameter cable.

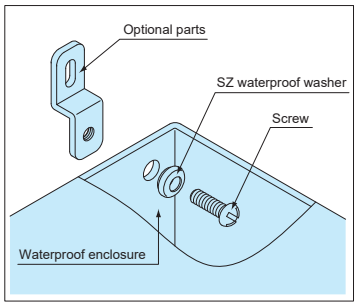
Product no. / Details

Product no.	Material	Color	Cable range	Pack of
RB-9	NBR	Black	Φ8 ~ Φ9mm	2

SZ series WATERPROOF WASHER







- Waterproof washer for screwing onto waterproof boxes.
- NBR sealing material has superior oil resistance (N models only).
- Silicone sealing material has wider operating temperature with superior temperature and water resistance (S models only).

Technical Data

Water pressure resistance :
M3 ~ M16
0.98MPa (10kgf/cm2) / 1hour

Product no. / Details

- Shape of the sealing material vary by product.

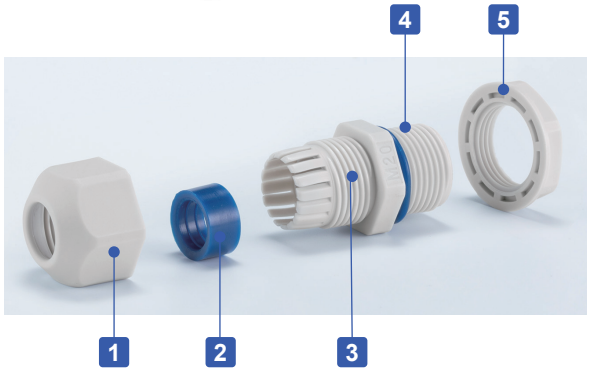
Product no.	W	H	a	b	c	t	Washer material	Sealing material	Color	Screw size	Pack of
SZ- 3N	7	2.7	3.2	2.2	3.1	0.5	SUS304	NBR	Black	M 3	1
SZ- 3S	7	2.7	3.2	2.2	3.1	0.5	SUS304	Silicone	Brown	M 3	1
SZ- 4N	8	2.8	4.2	2.1	4.1	0.5	SUS304	NBR	Black	M 4	1
SZ- 4S	8	2.8	4.2	2.1	4.1	0.5	SUS304	Silicone	Brown	M 4	1
SZ- 5N	9.5	3.6	5.2	2.7	5.1	0.8	SUS304	NBR	Black	M 5	1
SZ- 5S	9.5	3.6	5.2	2.7	5.1	0.8	SUS304	Silicone	Brown	M 5	1
SZ- 6N	11.5	4	6.2	3	6.2	1	SUS304	NBR	Black	M 6	1
SZ- 6S	11.5	4	6.2	3	6.2	1	SUS304	Silicone	Brown	M 6	1
SZ- 8N	15.2	3.8	8.2	3.2	8.2	1	SUS304	NBR	Black	M 8	1
SZ- 8S	15.2	3.8	8.2	3.2	8.2	1	SUS304	Silicone	Brown	M 8	1
SZ-10N	18	5.3	10.2	4	10.2	1.5	SUS304	NBR	Black	M10	1
SZ-10S	18	5.3	10.2	4	10.2	1.5	SUS304	Silicone	Brown	M10	1
SZ-12N	24	6.1	14.2	4.8	12.2	1.5	SUS304	NBR	Black	M12	1
SZ-12S	24	6.1	14.2	4.8	12.2	1.5	SUS304	Silicone	Brown	M12	1
SZ-16N	30	6.8	18.4	5.3	16	1.9	SUS304	NBR	Black	M16	1
SZ-16S	30	6.8	18.4	5.3	16	1.9	SUS304	Silicone	Brown	M16	1
NEW SZ-3N-P	7	2.7	3.2	2.2	3.1	0.5	SUS304	NBR	Black	M 3	50
NEW SZ-3S-P	7	2.7	3.2	2.2	3.1	0.5	SUS304	Silicone	Brown	M 3	50
NEW SZ-4N-P	8	2.8	4.2	2.1	4.1	0.5	SUS304	NBR	Black	M 4	50
NEW SZ-4S-P	8	2.8	4.2	2.1	4.1	0.5	SUS304	Silicone	Brown	M 4	50
NEW SZ-5N-P	9.5	3.6	5.2	2.7	5.1	0.8	SUS304	NBR	Black	M 5	50
NEW SZ-5S-P	9.5	3.6	5.2	2.7	5.1	0.8	SUS304	Silicone	Brown	M 5	50

RMW series WEATHERPROOF CABLE GLAND





IP67



- Weatherproof cable gland equipped with high ultraviolet and degradation resistant silicone sealing insert and O-ring.
- Recommended to use outdoors where waterproofing is critical.
- Protection class equivalent to IP67.

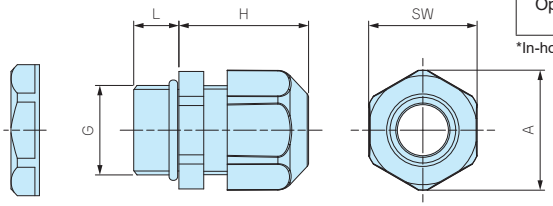
Components

■ PA = Polyamide

No.	Part name	Material
1	Cap	PA66 UL94V-2
2	Sealing insert	Silicone
3	Connector	PA66 UL94V-2
4	O-ring	Silicone
5	Lock nut	PA66 UL94V-2

RMW dimensions

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



Technical Data
Protection class : Equivalent to IP67*
Operating temperature : -20°C ~ +80°C

*In-house test

- Lock nut is not included for RMW10S-6.
  Please drill a proper thread hole into the enclosure for installation.

Cap design varies by size



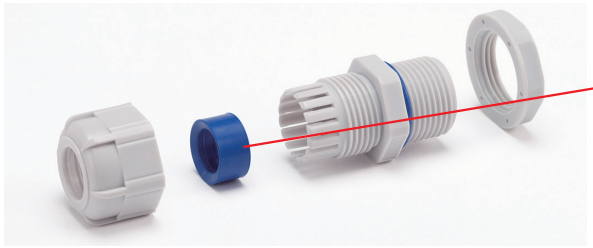
RMW40 or smaller | RMW50

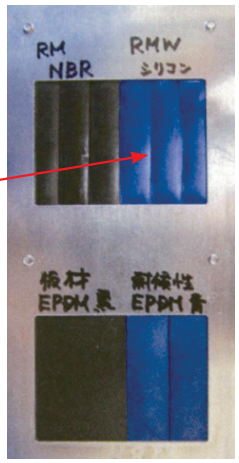
Product no. / Details

Product no.		G		Cable range		L	H Max	SW	A	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max					
RMW8L-2.5B	RMW8L-2.5S	M8×1.25	Φ8.2	1	2.5	13	19.5	12	13.6	1
RMW8L-4B	RMW8L-4S	M8×1.25	Φ8.2	2.5	4	13	19.5	12	13.6	1
RMW10S-6B	RMW10S-6S	M10×1.5	—	3	6	8	20.5	13	14.6	1
RMW10L-6B	RMW10L-6S	M10×1.5	Φ10.2	3	6	13	20.5	13	14.6	1
RMW12S-7B	RMW12S-7S	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.7	1
RMW12L-7B	RMW12L-7S	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	1
RMW16S-8B	RMW16S-8S	M16×1.5	Φ16.2	4	8	9	23.5	19.2	21.3	1
RMW16L-8B	RMW16L-8S	M16×1.5	Φ16.2	4	8	15	24	19.2	21.3	1
RMW20S-12B	RMW20S-12S	M20×1.5	Φ20.2	6	12	10	29	24.3	26.8	1
RMW20L-12B	RMW20L-12S	M20×1.5	Φ20.2	6	12	15	28.5	24.3	26.8	1
RMW25L-17B	RMW25L-17S	M25×1.5	Φ25.2	11	17	15	35	33.3	36.8	1
RMW32L-21B	RMW32L-21S	M32×1.5	Φ32.3	13	21	15	38	36.1	39.8	1
RMW40L-27B	RMW40L-27S	M40×1.5	Φ40.3	18	27	18	43.5	46.1	51.2	1
RMW50L-38B	RMW50L-38S	M50×1.5	Φ50.4	27	38	20	50.5	60	66.5	1
RMW10L-6B-P	RMW10L-6S-P	M10×1.5	Φ10.2	3	6	13	20.5	13	14.6	100
RMW12S-7B-P	RMW12S-7S-P	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.7	100
RMW12L-7B-P	RMW12L-7S-P	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	100
RMW16S-8B-P	RMW16S-8S-P	M16×1.5	Φ16.2	4	8	9	23.5	19.2	21.3	100
RMW16L-8B-P	RMW16L-8S-P	M16×1.5	Φ16.2	4	8	15	24	19.2	21.3	100
RMW20S-12B-P	RMW20S-12S-P	M20×1.5	Φ20.2	6	12	10	29	24.3	26.8	100
RMW20L-12B-P	RMW20L-12S-P	M20×1.5	Φ20.2	6	12	15	28.5	24.3	26.8	100

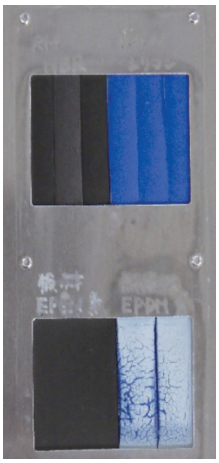
RMW series silicone sealing insert weatherproof test report

Object: Cut into a piece of the silicone sealing insert from RMW series and attach it onto an aluminium plate.
For comparison, NBR sealing insert from our RM and EPDM sealing insert from another manufacturer is also attached.





Before



After

Testing conditions

Equipment : 7.5kW Super Xenon Weather Meter SX75 (Suga Test Instruments Co., Ltd.- http://www.sugatest.co.jp/english/)

Conditions : JIS B7754 : 1991
Testing with an authorized Xenon arc lamp weathering test equipment under the conditions denoted below.
Irradiance : 180W/m^2 at 300-400nm
Black Panel Temperature : 63±3°C Humidity Range : 50±10%
Cycle Conditions : 120 minutes cycle (18 minutes irradiation + water spray - 102 minutes irradiation)

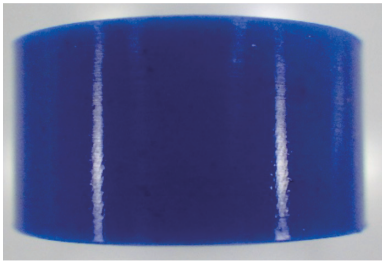
Time period : 2,000 hours (equivalent to a period of 4 years under natural conditions)

Total radiant exposure : 1296MJ/m^2

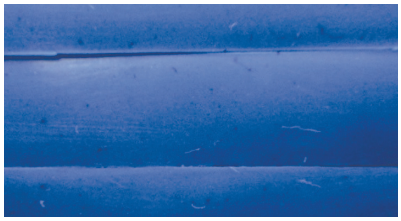
Test result (visual / touch inspection)

Silicone sealing insert material : No cracks, no gloss transition, no powder - no appearance change at all. Flexibility remains unchanged.

Before



After



NBR material from our RM series : Lost glossiness on the surface and material is stiffened.

Before

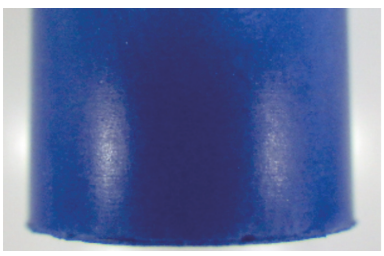


After

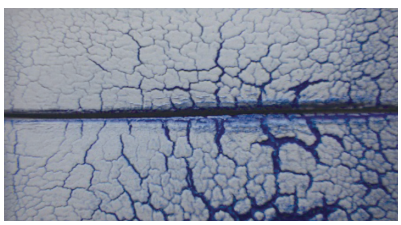


EPDM material from weatherproof cable gland of another manufacturer : Cracked, color drastically faded and powder appeared on the surface.

Before

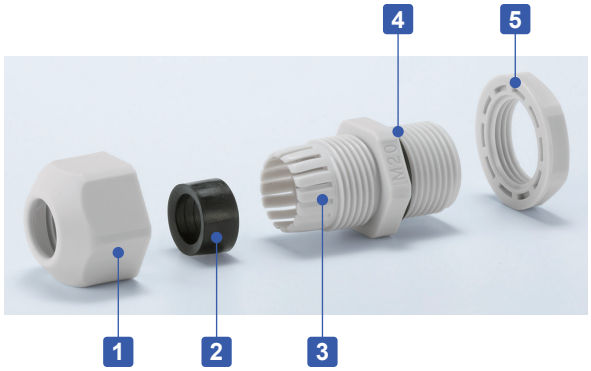


After



RM series POLYAMIDE CABLE GLAND





- Low cost cable glands made from polyamide material.
- Wide selection, for M8 ~ M63, suitable for Φ1mm ~ Φ44 mm cable.
- High oil resistant NBR rubber sealing and O-ring.
- Protection class equivalent to IP67.

Technical Data
Protection class : Equivalent to IP67* Operating temperature : -20°C ~ +80°C

*In-house test

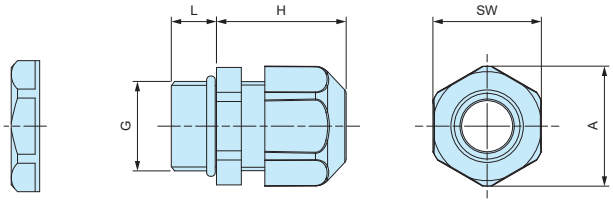
Components

■ PA = Polyamide

No.	Part name	Material
1	Cap	PA66 UL94V-2
2	Sealing insert	NBR
3	Connector	PA66 UL94V-2
4	O-ring	NBR
5	Lock nut	PA66 UL94V-2

RM dimensions

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



■ Lock nut is not included for RM8S-2.5, 8S-4, and 10S-6 models.
Please drill an appropriate thread hole into the enclosure for installation.

Cap design varies by size



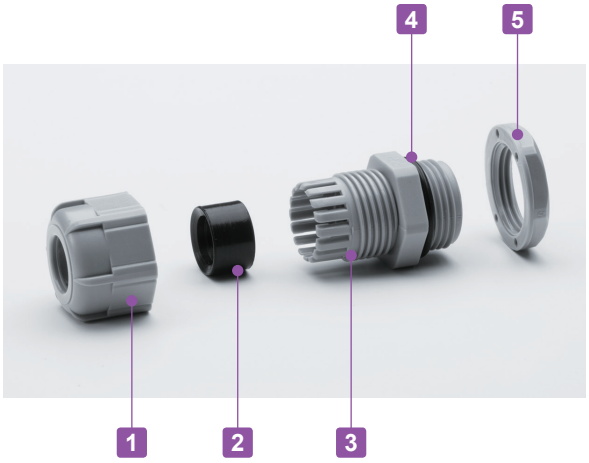
RM40 or smaller | RM50 or larger

Product no. / Details

Product no.		G		Cable range		L	H Max	SW	A	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max					
RM8S-2.5B	RM8S-2.5S	M8×1.25	—	1	2.5	7.5	19.5	12	13.6	1
RM8L-2.5B	RM8L-2.5S	M8×1.25	Φ8.2	1	2.5	13	19.5	12	13.6	1
RM8S-4B	RM8S-4S	M8×1.25	—	2.5	4	7.5	19.5	12	13.6	1
RM8L-4B	RM8L-4S	M8×1.25	Φ8.2	2.5	4	13	19.5	12	13.6	1
RM10S-6B	RM10S-6S	M10×1.5	—	3	6	8	20.5	13	14.6	1
RM10L-6B	RM10L-6S	M10×1.5	Φ10.2	3	6	13	20.5	13	14.6	1
RM12S-7B	RM12S-7S	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.7	1
RM12L-7B	RM12L-7S	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	1
RM16S-8B	RM16S-8S	M16×1.5	Φ16.2	4	8	9	23.5	19.2	21.3	1
RM16L-8B	RM16L-8S	M16×1.5	Φ16.2	4	8	15	24	19.2	21.3	1
RM20S-12B	RM20S-12S	M20×1.5	Φ20.2	6	12	10	29	24.3	26.8	1
RM20L-12B	RM20L-12S	M20×1.5	Φ20.2	6	12	15	28.5	24.3	26.8	1
RM25L-17B	RM25L-17S	M25×1.5	Φ25.2	11	17	15	35	33.3	36.8	1
RM32L-21B	RM32L-21S	M32×1.5	Φ32.3	13	21	15	38	36.1	39.8	1
RM40L-27B	RM40L-27S	M40×1.5	Φ40.3	18	27	18	43.5	46.1	51.2	1
RM50L-38B	RM50L-38S	M50×1.5	Φ50.4	27	38	20	50.5	60	66.5	1
RM63L-44B	RM63L-44S	M63×1.5	Φ63.4	37	44	20	53	68	75.5	1
RM10L-6B-P	RM10L-6S-P	M10×1.5	Φ10.2	3	6	13	20.5	13	14.6	100
RM12S-7B-P	RM12S-7S-P	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.7	100
RM12L-7B-P	RM12L-7S-P	M12×1.5	Φ12.2	3.5	7	14.5	20.5	16	17.7	100
RM16S-8B-P	RM16S-8S-P	M16×1.5	Φ16.2	4	8	9	23.5	19.2	21.3	100
RM16L-8B-P	RM16L-8S-P	M16×1.5	Φ16.2	4	8	15	24	19.2	21.3	100
RM20S-12B-P	RM20S-12S-P	M20×1.5	Φ20.2	6	12	10	29	24.3	26.8	100
RM20L-12B-P	RM20L-12S-P	M20×1.5	Φ20.2	6	12	15	28.5	24.3	26.8	100
RM25L-17B-P	RM25L-17S-P	M25×1.5	Φ25.2	11	17	15	35	33.3	36.8	100

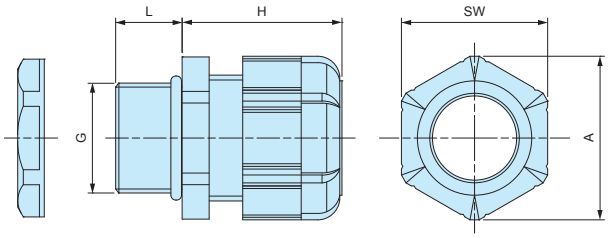
RPG SERIES POLYAMIDE CABLE GLAND





- Inexpensive cable glands made from polyamide material with PG threading.
- High oil resistant NBR rubber sealing and O-ring.
- IP67 protection class.

RPG dimensions



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

Components

- PA = Polyamide

No.	Part name	Material
1	Cap	PA66 UL94V-2
2	Sealing insert	NBR
3	Connector	PA66 UL94V-2
4	O-Ring	NBR
5	Lock-nut	PA66 UL94V-2

Technical Data

Protection class: IP67
Operating temperature: -20°C ~ +80°C

Product no. / Dimensions

Product no.		G			Cable range		L	H Max	SW	A	Pack of
● Black	● Gray	Thread size	Thread dia.	Mounting hole	Min	Max					
RPG7-7B	RPG7-7G	PG7	12.5	Φ12.7	3	7	9	20.5	16	17.7	1
RPG9-8B	RPG9-8G	PG9	15.2	Φ15.4	4	8	9	23.5	19	21	1
RPG11-10B	RPG11-10G	PG11	18.6	Φ18.8	5	10	9	26	22	24	1
RPG13.5-11B	RPG13.5-11G	PG13.5	20.4	Φ20.6	6	11	10	29	24	26.4	1
RPG16-14B	RPG16-14G	PG16	22.5	Φ22.7	8	14	10	30	26.7	29.5	1
RPG21-18B	RPG21-18G	PG21	28.3	Φ28.5	13	18	12	35	33	36.5	1
RPG29-25B	RPG29-25G	PG29	37	Φ37.2	18	25	12	41.5	42	46.5	1

AG series HIGH WATER PROTECTION CABLE GLAND

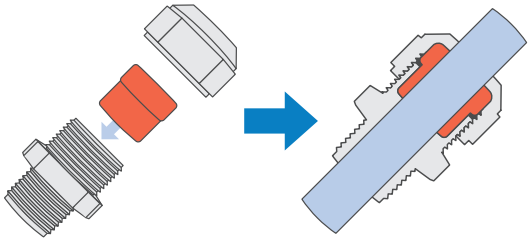


- High water protection IP68 (1bar / 30min) polyamide cable gland.
- Wide selection, for M8 ~ M50, suitable for Φ2.5mm ~ Φ42 mm cable.
- Super tough and superior heat resistant PA6GF (glass fiber filled PA6) material on cap and connector.
- Safer halogen free, eco-friendly product.

Technical Data
Protection class : IP68 1bar / 30min Operating temperature : -20°C ~ +100°C Compliant with EN50262 Ver. A

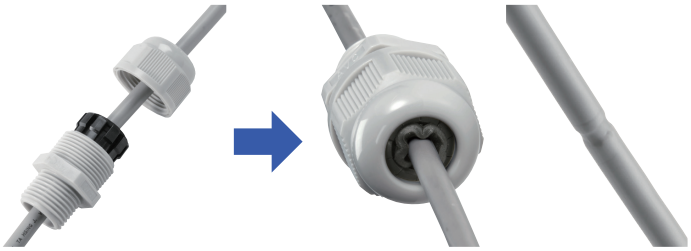
AG series

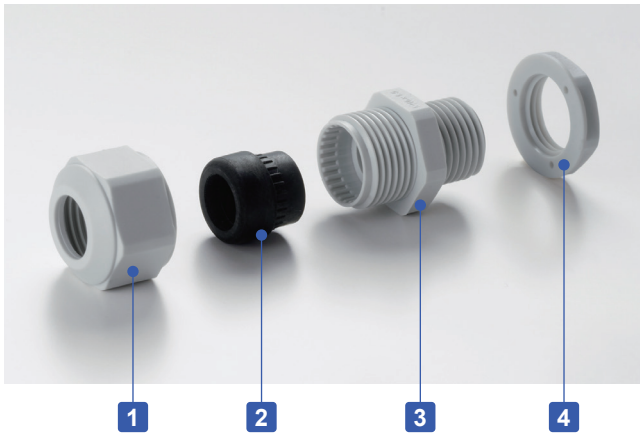
Thicker sealing insert evenly hold a cable by having a larger holding area. Remains durable even after repeated tightening / loosening.



Lamellar insert type

If over-tightened, it can cause the rubber bush or cable to deform, which can allow water to seep in.





Components

■ PA6GF = Polyamide6 Glass Fiber Filled

No.	Part name	Material
1	Cap	PA6GF
2	Sealing insert	TPE
3	Connector	PA6GF
4	Lock nut	PA6

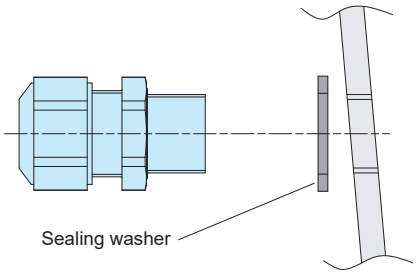
■ Lock nut is not included for M8 and M10 sizes.
Please drill an appropriate thread hole into the enclosure for installation.

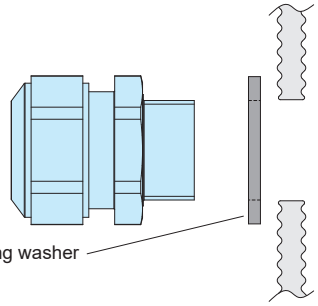
■ Appropriate tightening torque varies by each cable diameter. Tighten the cap until top of the sealing insert forms a small bead between the cap and the cable.



■ No optional sealing washer is required when installing on an even surface because of the built-in waterproof rib.

■ An optional sealing washer is required when installing on an uneven surface. (See website for more information on the optional sealing washer AGP series)



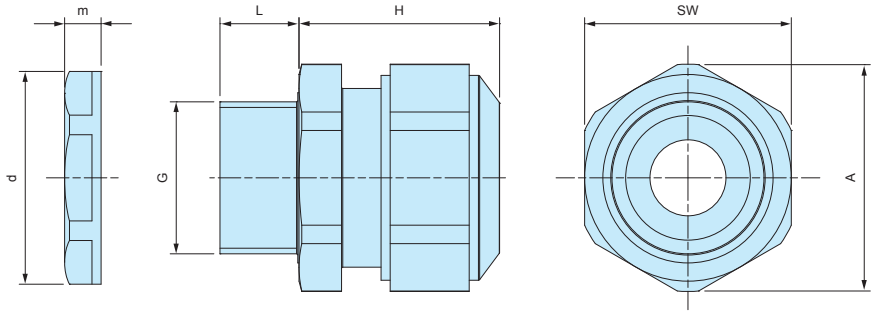






AG dimensions

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

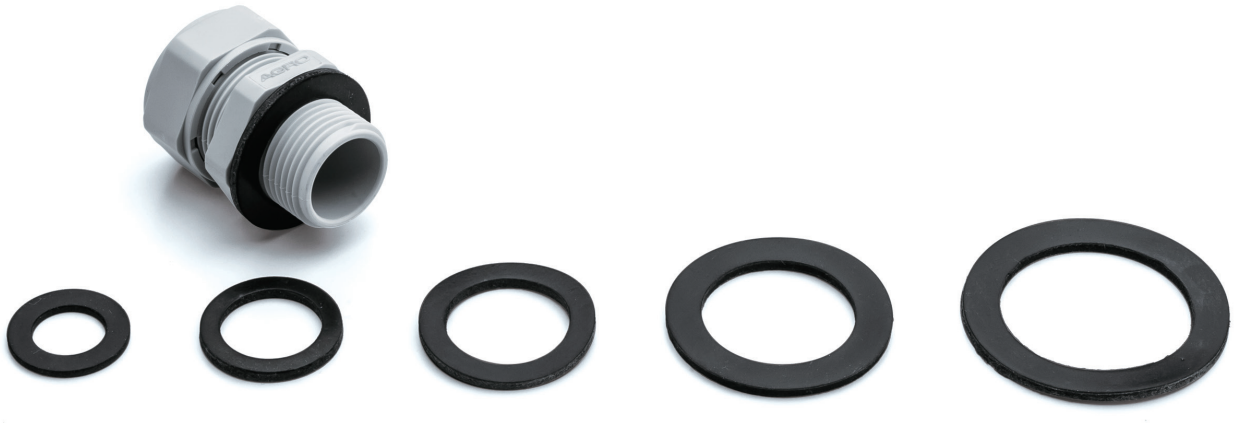


■ Lock nut is not included for M8 and M10 sizes.
Please drill an appropriate thread hole into the enclosure for installation.

Product no. / Details

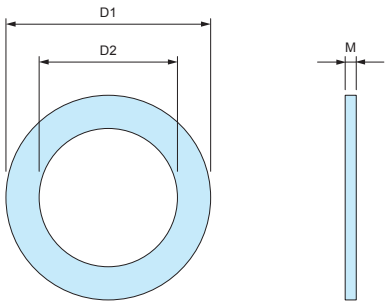
Product no.		G		Cable range		L	H Max	SW	A	d	m	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max							
AG8-3.5B	AG8-3.5S	M8×1.0	—	2.5	3.5	10	17	12	13.2	—	—	1
AG8-5B	AG8-5S	M8×1.0	—	3.5	4.7	10	17	12	13.2	—	—	1
AG10-6B	AG10-6S	M10×1.0	—	4	6	10	19	15	16.5	—	—	1
AG12-5B	AG12-5S	M12×1.5	Φ12.2	3.5	4.7	12	23.5	17	18.7	18.8	5	1
AG12-6.5B	AG12-6.5S	M12×1.5	Φ12.2	5	6.5	12	23	17	18.7	18.8	5	1
AG12-8B	AG12-8S	M12×1.5	Φ12.2	6.5	7.8	12	23	17	18.7	18.8	5	1
AG16-10B	AG16-10S	M16×1.5	Φ16.2	8	10	12	26	21	23.1	24.3	5	1
AG20-15B	AG20-15S	M20×1.5	Φ20.2	11	15	13	27	27	29.7	29	6	1
AG25-16B	AG25-16S	M25×1.5	Φ25.2	12.5	16	13	34	34	37.4	36	6.7	1
AG25-20B	AG25-20S	M25×1.5	Φ25.2	16	20	13	34	34	37.4	36	6.7	1
AG32-25.5B	AG32-25.5S	M32×1.5	Φ32.3	21	25.5	15	36	41	45.6	46	8	1
AG40-28.5B	AG40-28.5S	M40×1.5	Φ40.3	24	28.5	15	41	50	55.4	53.5	9	1
AG40-33B	AG40-33S	M40×1.5	Φ40.3	28.5	33	15	41	50	55.4	53.5	9	1
AG50-37B	AG50-37S	M50×1.5	Φ50.4	33	37	16	45	60	65.5	66	9.6	1
AG50-42B	AG50-42S	M50×1.5	Φ50.4	37	42	16	45	60	65.5	66	9.6	1

AGP SERIES SEALING WASHER for AG • AGSP

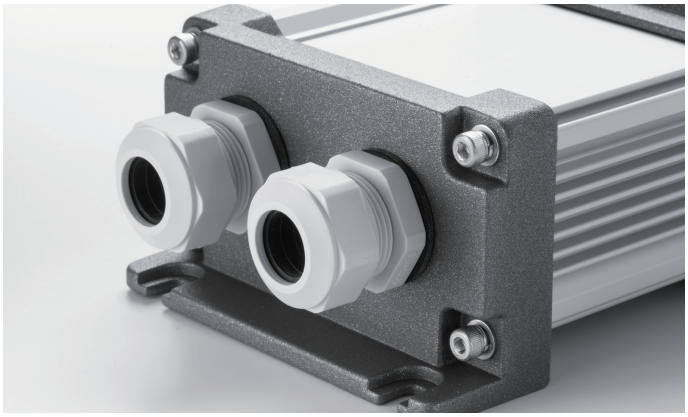


- Sealing washer for AG series.
- Made from oil resistant NBR material.
- Use in the case of installation on a rough or uneven surfaces.
- Selectable in 7 sizes (from M12 to M50)
- Sealing washer is not necessary for installation on flat surfaces.

AGP Dimensions



- Material : NBR



Product no. / Dimensions

Product no.	D1	D2	M	Suitable cable gland	Pack of
AGP-12	20	12	1.6	AG12	10
AGP-16	23.5	16.5	2.0	AG16	10
AGP-20	29	20	2.0	AG20	10
AGP-25	37	25	2.0	AG25	10
AGP-32	44	32	2.2	AG32	5
AGP-40	52	40	2.2	AG40	5
AGP-50	64	50	3.1	AG50	5

TAKACHI

THA45 series IP68 SEAMLESS CABLE GLAND



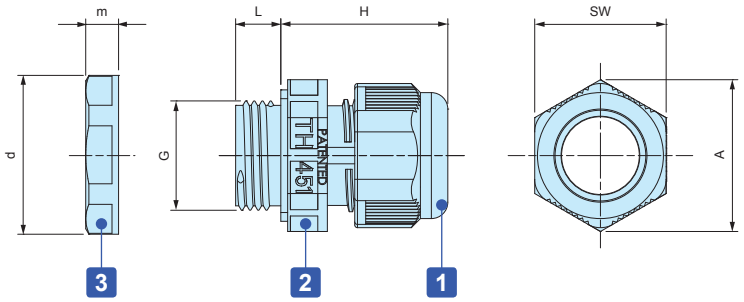
■ Seamless construction of connector and sealing insert for superb waterproof performance.



Technical Data

Protection class : IP68 5bar/1h (1 hour / 50m depth)
Operating temperature : -40°C ~ +125°C
EN50262 VarA compliant

THA45 dimensions



Color

Code	L Light gray / Gray	B Black / Gray	G Black / Green
Color			

Components

■ PA66 = Polyamide 66
■ PA66GF = Glass fiber filled polyamide 66

No.	Part name	Material
1	Cap	*PA66 • PA66GF
2	Connector	PA66 • TPE
3	Lock nut	PA66

*PA66 material for THA452-25 models.

Product no. / Details

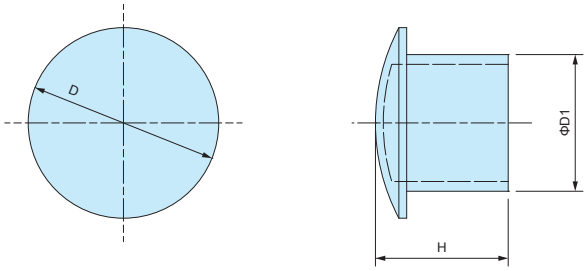
■ Please suffix color code at the end of the product number.

Product no.	G			Cable range		L	H Max	SW	A	d	m	Pack of
	Thread size	Thread diameter	Mounting hole	Max	Min							
THA450-16S□	M16×1.5	15.3	Φ15.7	5	7.5	8	29.5	19	21.6	24	5	1
THA450-16L□	M16×1.5	15.3	Φ15.7	7.5	9.5	8	29.5	19	21.6	24	5	1
THA451-20□	M20×1.5	20	Φ20.2	10.5	14	8	31	24	26.3	26.5	7	1
THA451-20-2□	M20×1.5	20	Φ20.2	Φ6×2		8	31	24	26.3	26.5	7	1
THA452-25□	M25×1.5	25	Φ25.2	14	17	8	34	29	32	35.2	6	1

SP SERIES SEALING PLUG



SP dimensions



- Material : Nylon

- Sealing plug for cable glands when not in use.
- Maintain a waterproof seal when plugged into the sealing insert on cable glands.

Product no. / Dimensions

Product no.	D	D1	H	Suitable cable glands	Pack of
SP-12	10.2	6	15.5	RMW12, RM12, RMW16, RM16, RPG7, RPG9	10
SP-16	15.6	9.5	15.5	RMW20, RM20, RPG11, RPG13.5	10
SP-20	19.6	13.5	16.5	RPG16	10
SP-25	24.4	17.5	17	RMW25, RM25, RMW32, RM32, RPG21	5
SP-40	32.5	24.5	17.5	RMW40, RM40, RPG29	5
SP-50	47.2	38.9	17.6	RMW50, RM50	5

RSP series STRAIN RELIEF CABLE GLAND



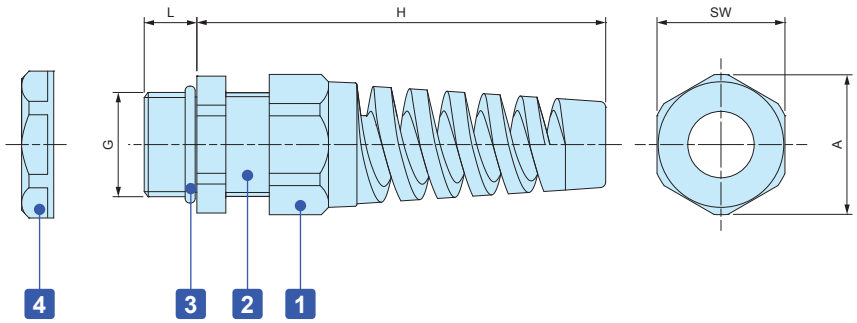
- A total of 14 models available for selection.
- Strain relief cap protects cables by preventing it from bending beyond its limit and breaking.
- Economical price but high waterproofing capability equivalent to IP67.

Technical Data
Protection class : Equivalent to IP67*
Operating temperature : -20°C ~ +80°C

*In-house test

RSP dimensions

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



Components

- PA = Polyamide

No.	Part name	Material
1	Stain relief cap	PA66 UL94V-2
-	Sealing insert	NBR
2	Connector	PA66 UL94V-2
3	O-ring	NBR
4	Lock nut	PA66 UL94V-2

Product no. / Details

Product no.		G		Cable range		L	H	SW	A	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max					
RSP 8-2.5B	RSP 8-2.5S	M 8×1.25	Φ 8.2	1	2.5	10.5	48	12.1	13.8	1
RSP 8-4B	RSP 8-4S	M 8×1.25	Φ 8.2	2.5	4	10.5	48	12.1	13.8	1
RSP10-6B	RSP10-6S	M10×1.5	Φ10.2	3	6	12.2	54	13.1	14.5	1
RSP12-6B	RSP12-6S	M12×1.5	Φ12.2	3.5	6	9	62	16	17	1
RSP16-8B	RSP16-8S	M16×1.5	Φ16.2	4	8	9	69	19.5	21	1
RSP20-11B	RSP20-11S	M20×1.5	Φ20.2	6	11	10	82	24	26	1
RSP25-16B	RSP25-16S	M25×1.5	Φ25.2	11	16	12	102	33	36	1

TAKACHI

REL series RIGHT ANGLED CABLE GLAND

NEW



IP67

- L-shape cable gland with M type threads.
- Allow wires to be routed vertically.
- Equivalent to IP67 protection class.

Technical Data
Protection class : Equivalent to IP67*
Operating temperature : -20°C ~ +80°C

*In-house test

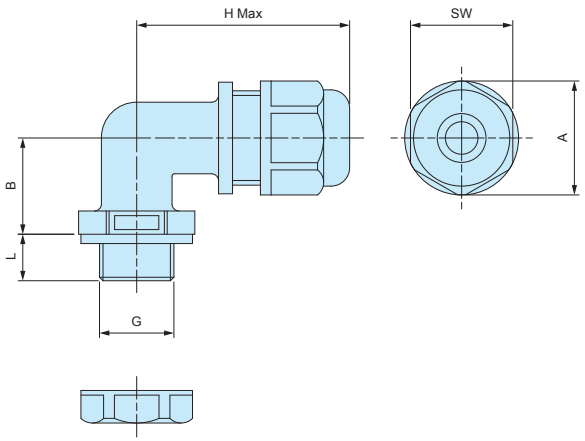


Components

No.	Part name	Material
1	Cap	PA66
2	Sealing Insert	NBR/PA66
3	Connector	PA66
4	O-ring	NBR
5	Lock Nut	PA66

REL dimensions

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



Installation example



Product no. / Details

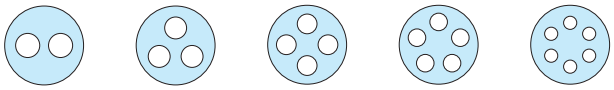
Product no.	G		Cable range		H Max	L	SW	A	B	Pack of
● Black	Thread size	Mounting hole	Min	Max						
REL16- 7B	M16×1.5	Φ16.1	5	7	45.8	10	22	24.5	20.7	1
REL16-10B	M16×1.5	Φ16.1	8	10	45.8	10	22	24.5	20.7	1
REL20-11B	M20×1.5	Φ20.1	7	11	52.4	15	27.3	30.8	24.9	1
REL20-14B	M20×1.5	Φ20.1	11	14	52.4	15	27.3	30.8	24.9	1
REL25-16B	M25×1.5	Φ25.1	12	16	58	15	33.2	36.8	29.5	1
REL25-18B	M25×1.5	Φ25.1	15	18	58	15	33.2	36.8	29.5	1
REL32-22B	M32×1.5	Φ32.1	18	22	70	15	41	45.7	33.9	1

RMH series MULTI-HOLE CABLE GLAND



- Multihole cable gland with M threads.
- Multiple cables can be protected with single cable gland.
- Equivalent to IP65 protection class.
- Please use cables of the same diameter.

Up to a maximum of 6 cables can be protected with 1 cable gland.





IP65

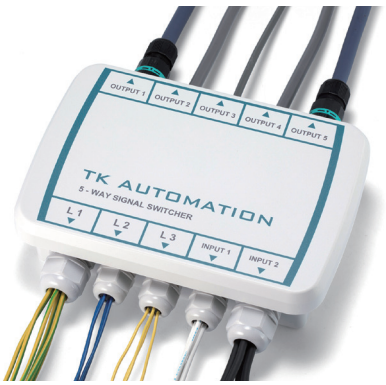
Technical Data
Protection class : equivalent to IP65 Operating temperature : -20°C ~ +80°C

*In-house test

Components

No.	Part name	Material
1	Cap	PA66 UL94V-2
2	Sealing insert	NBR/PA66 UL94V-2
3	Connector	PA66 UL94V-2
4	O-ring	NBR
5	Lock nut	PA66 UL94V-2

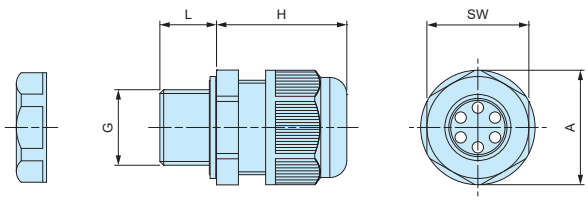




Installation Examples

RMH dimensions

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



Product no. / Details

Product no.		G		Cable range		No. of holes	L	H	SW	A	Pack of
● Black	○ Light gray	Thread size	Mounting hole	Min.	Max.						
RMH12-2B	RMH12-2S	M12×1.5	Φ12.2	2.5	3	2	9.4	26	18.9	21.2	1
RMH12-3B	RMH12-3S	M12×1.5	Φ12.2	2	2.5	3	9.4	26	18.9	21.2	1
RMH12-4B	RMH12-4S	M12×1.5	Φ12.2	2	2.5	4	9.4	26	18.9	21.2	1
RMH16-2B	RMH16-2S	M16×1.5	Φ16.2	3	4	2	15	29	22	24.7	1
RMH16-3B	RMH16-3S	M16×1.5	Φ16.2	3	4	3	15	29	22	24.7	1
RMH16-4B	RMH16-4S	M16×1.5	Φ16.2	2	3	4	15	29	22	24.7	1
RMH16-5B	RMH16-5S	M16×1.5	Φ16.2	2	2.5	5	15	29	22	24.7	1
RMH16-6B	RMH16-6S	M16×1.5	Φ16.2	1.5	2	6	15	29	22	24.7	1
RMH20-2B	RMH20-2S	M20×1.5	Φ20.2	4.5	6	2	15	34.5	27	30.3	1
RMH20-3B	RMH20-3S	M20×1.5	Φ20.2	4	5	3	15	34.5	27	30.3	1
RMH20-4B	RMH20-4S	M20×1.5	Φ20.2	4	4.5	4	15	34.5	27	30.3	1
RMH20-5B	RMH20-5S	M20×1.5	Φ20.2	3	4	5	15	34.5	27	30.3	1
RMH20-6B	RMH20-6S	M20×1.5	Φ20.2	2	3	6	15	34.5	27	30.3	1
RMH25-2B	RMH25-2S	M25×1.5	Φ25.2	6	8	2	15	37.5	33	37	1
RMH25-3B	RMH25-3S	M25×1.5	Φ25.2	5	7	3	15	37.5	33	37	1
RMH25-4B	RMH25-4S	M25×1.5	Φ25.2	4	6	4	15	37.5	33	37	1
RMH25-5B	RMH25-5S	M25×1.5	Φ25.2	4.5	5.5	5	15	37.5	33	37	1
RMH25-6B	RMH25-6S	M25×1.5	Φ25.2	3	4.5	6	15	37.5	33	37	1
RMH32-2B	RMH32-2S	M32×1.5	Φ32.3	8.5	11	2	15	44	42	46.5	1
RMH32-3B	RMH32-3S	M32×1.5	Φ32.3	9	10	3	15	44	42	46.5	1
RMH32-4B	RMH32-4S	M32×1.5	Φ32.3	8	9	4	15	44	42	46.5	1
RMH32-5B	RMH32-5S	M32×1.5	Φ32.3	6	8	5	15	44	42	46.5	1
RMH32-6B	RMH32-6S	M32×1.5	Φ32.3	5.5	7	6	15	44	42	46.5	1

RSC series IP67 SPLIT INSERT CABLE GLAND

NEW

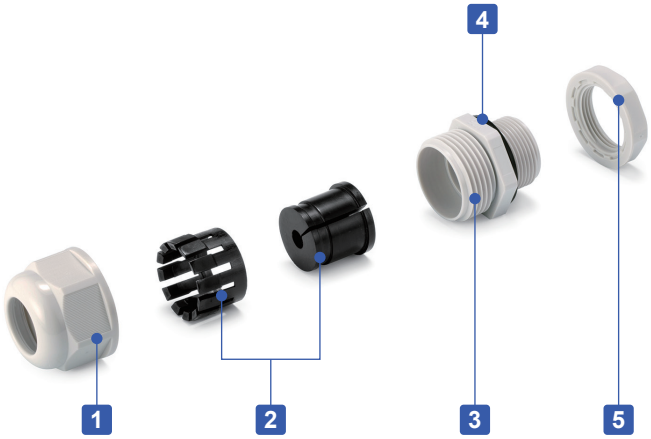


IP67

■ Split type sealing insert can protect cables with connector.

Technical Data
Protection class : Equivalent to IP67*
Operating temperature : -20°C ~ +80°C

*In-house test

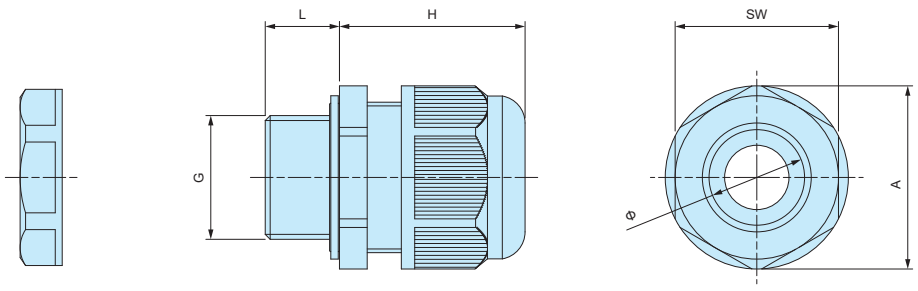


Components

No.	Part name	Material
1	Cap	PA66 (UL94V-2)
2	Sealing Insert	Silicone / PA66 (UL94V-2)
3	Connector	PA66 (UL94V-2)
4	Sealing Washer	Silicone
5	Lock Nut	PA66 (UL94V-2)

RSC dimensions

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



Product no. / Details

Product no.		G		Cable range		L	H Max	SW	A	Φ	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max						
RSC25-6.5B	RSC25-6.5S	M25×1.5	Φ25.2	5	6.5	15	37.5	33	37	19	1
RSC25-10.5B	RSC25-10.5S	M25×1.5	Φ25.2	7.5	10.5	15	37.5	33	37	19	1
RSC32-6.5B	RSC32-6.5S	M32×1.5	Φ32.3	5	6.5	15	44	42	46.5	25	1
RSC32-10.5B	RSC32-10.5S	M32×1.5	Φ32.3	7.5	10.5	15	44	42	46.5	25	1

TWH series INTERCHANGEABLE HEAD TORQUE WRENCH NEW



- Torque wrench with interchangeable head.
- Suitable for the tightening of cable glands requiring a specific torque.
- Open end interchangeable head (spanner head) TWE series available separately.
- Spanner head is not included.

Product no. / Details

Product no.	Length	Torque range (N • m)	Increments (N • m)
TWH0.5-5	215	0.5 ~ 5.0	0.05

Notes

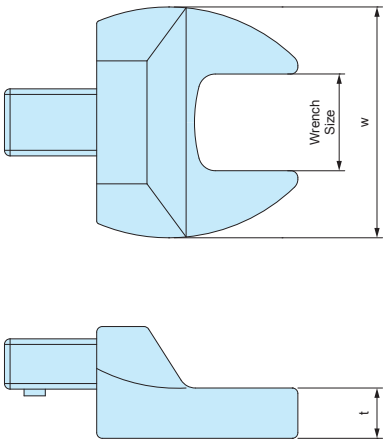
The torque wrench is not subject to RoHS regulations.
Since it is an OEM product and not a JIS-compliant product, no calibration services or inspection reports, etc. are provided.

When tightening, proceed first with a low value (half of the reference) of the recommended torque,
and set the appropriate tightening torque for the cable and mounting part that will be tightened thereafter.

Please read the operation manual (refer to TAKACHI website) before use to ensure correct and safe usage of the product.

TWE series OPEN END INTERCHANGEABLE HEAD NEW





- Dedicated open end interchangeable head for TWH series.
- Various interchangeable heads are available to fit a range of cable gland sizes.

Product no. / Details

Product no.	Wrench size	w	t
TWE- 8	8	27	6
TWE- 9	9	27	6
TWE-11	11	27	6
TWE-12	12	30	6
TWE-13	13	31	6
TWE-15	15	40	9
TWE-16	16	40	9
TWE-17	17	41	9
TWE-18	18	42	9
TWE-19	19	42	10
TWE-21	21	47	10

Product no.	Wrench size	w	t
TWE-22	22	52	10
TWE-23	23	53	11
TWE-24	24	55	11
TWE-27	27	58	13
TWE-29	29	58	13
TWE-30	30	65	14
TWE-32	32	65	14
TWE-33	33	65	14
TWE-34	34	70	15
TWE-36	36	72	15

Note: These open end head is not subject to RoHS regulations.

Suitable TWE model

RM • RMW series

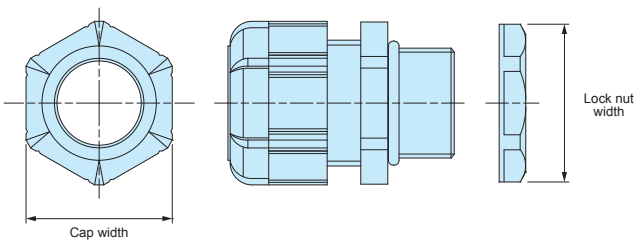
Product no.	Cap width	Suitable model	Lock nut width	Suitable model
RM8S-2.5	11.8	TWE-12	–	n/a
RM • RMW8L-2.5	11.8	TWE-12	12.6	TWE-13
RM8S-4	11.8	TWE-12	–	n/a
RM • RMW8L-4	11.8	TWE-12	12.6	TWE-13
RM • RMW10S-6	13	TWE-13	–	n/a
RM • RMW10L-6	13	TWE-13	14.8	TWE-15
RM • RMW12S-7	16	TWE-16	17	TWE-17
RM • RMW12L-7	16	TWE-16	17	TWE-17
RM • RMW16S-8	19	TWE-19	22	TWE-22
RM • RMW16L-8	19	TWE-19	22	TWE-22
RM • RMW20S-12	24	TWE-24	26.2	n/a
RM • RMW20L-12	24	TWE-24	26.2	n/a
RM • RMW25L-17	33	TWE-33	32.6	n/a
RM • RMW32L-21	36	TWE-36	40.3	n/a
RM • RMW40L-27	45.7	n/a	51	n/a
RM • RMW50L-38	60	n/a	61.2	n/a
RM63L-44	68	n/a	73.4	n/a

RPG series

Product no.	Cap width	Suitable model	Lock nut width	Suitable model
RPG7-7	16	TWE-16	18.7	TWE-19
RPG9-8	19	TWE-19	21.8	TWE-22
RPG11-10	22	TWE-22	23.7	TWE-24
RPG13.5-11	24	TWE-24	27	TWE-27
RPG16-14	26.7	TWE-27	29.8	TWE-30
RPG21-18	33	n/a	35.8	TWE-36
RPG29-25	42	n/a	45.8	n/a

RSP series

Product no.	Cap width	Suitable model	Lock nut width	Suitable model
RSP12-6	16	TWE-16	17	TWE-17
RSP16-8	19.5	n/a	22	TWE-22
RSP20-11	24	TWE-24	26.2	n/a
RSP25-16	33	TWE-33	32.6	n/a



Note 1) ""n/a"" indicates no suitable spanner head size and torque value available.
Note 2) Dimensions of Cap and Lock nut width are in mm.

AG series

Product no.	Cap width	Suitable model	Lock nut width	Suitable model
AG8-3.5	12	TWE-12	–	n/a
AG8-5	12	TWE-12	–	n/a
AG10-6	15	TWE-15	–	n/a
AG12-5	17	TWE-17	17	TWE-17
AG12-6.5	17	TWE-17	17	TWE-17
AG12-8	17	TWE-17	17	TWE-17
AG16-10	21	TWE-21	22	TWE-22
AG20-15	27	TWE-27	27	TWE-27
AG25-16	34	TWE-34	33	TWE-33
AG25-20	34	TWE-34	33	TWE-33
AG32-25.5	41	n/a	42	n/a
AG40-28.5	50	n/a	48	n/a
AG40-33	50	n/a	48	n/a
AG50-37	60	n/a	59	n/a
AG50-42	60	n/a	59	n/a

AGM series

Product no.	Cap width	Suitable model	Lock nut width	Suitable model
AGM6-2.5	8	TWE-8	9	TWE- 9
AGM6-3	8	TWE-8	9	TWE- 9
AGM6-3.5	8	TWE-8	9	TWE- 9
AGM8-5	11	TWE-11	11	TWE-11
AGM10-6	13	TWE-13	13	TWE-13
AGM12-8	15	TWE-15	15	TWE-15
AGM16-10.5	18	TWE-18	19	TWE-19
AGM20-15	24	TWE-24	24	TWE-24
AGM25-20	30	TWE-30	30	TWE-30
AGM32-25.5	36	TWE-36	36	TWE-36
AGM40-28.5	46	n/a	51	n/a
AGM40-33	46	n/a	51	n/a
AGM50-37	55	n/a	60	n/a
AGM50-42	55	n/a	60	n/a

AGE series

Product no.	Cap width	Suitable model	Lock nut width	Suitable model
AGE12-5	15	TWE-15	15	TWE-15
AGE12-6.5	15	TWE-15	15	TWE-15
AGE16-10.5	18	TWE-18	19	TWE-19
AGE20-15	24	TWE-24	24	TWE-24
AGE25-20	30	TWE-30	30	TWE-30
AGE32-25	36	n/a	36	n/a

AGH series

Product no.	Cap width	Suitable model	Lock nut width	Suitable model
AGH10-6	13	TWE-13	13	TWE-13
AGH12-8	15	TWE-15	15	TWE-15
AGH16-10.5	18	TWE-18	19	TWE-19
AGH20-15	24	TWE-24	24	TWE-24
AGH25-20	30	TWE-30	30	TWE-30
AGH32-25.5	36	TWE-36	36	TWE-36

TWH0.5-5 Torque Wrench Operation Manual

1 For Safety Use

Safety Precautions

Please read this manual carefully before use while following operation instructions. The manufacturer / retailer etc. will not be are not liable for any personal injuries, damage to the product, or other property damage, etc. caused by improper use.

Warnings



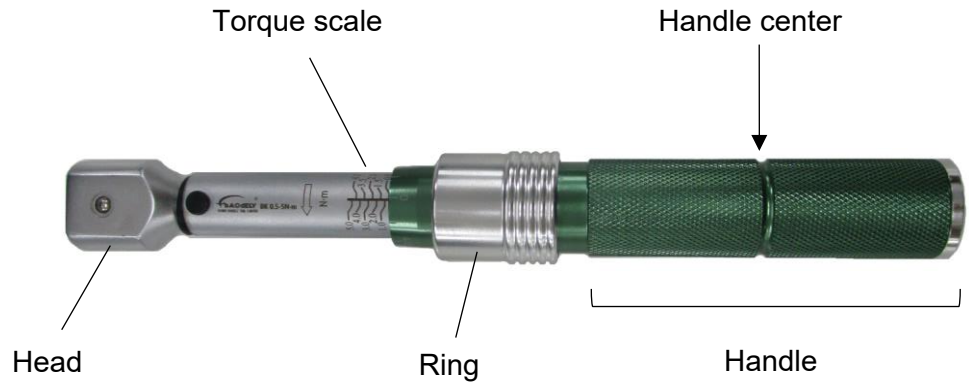
- **Do not use beyond the maximum torque value. This may cause damage and injury.**
- **Do not use the torque wrench as a hammer or lever, or applying strong impact.**
- **Do not modify or disassemble the torque wrench. These may cause strength or accuracy problems, which may lead to accidents and injuries.**
- **Before use, check for damage, cracks, rust, or deformation. These may cause damage and injury.**
- **Do not use the torque wrench to loosen nuts or caps as it is a precision instrument.**
- **Do not operate the torque wrench with oily or greasy hands. This may cause your hands to slip while tightening, leading to accidents or injuries.**
- **Wear safety glasses or other eye protection while using.**
- **Be careful not to hit your hands or elbows on surrounding objects when working with a torque wrench.**
- **Do not use the torque wrench underwater or in the sea.**
- **When working on elevated platforms, take measures to prevent torque wrenches from falling.**

Cautions



- **Set the torque before each use.**
- **Do not lower the scale below the minimum.**
- **Do not use it outside of the torque scale range.**
- **Every time before setting the torque, ensure that the handle lock is in the unlock position first before rotating the handle.**
- **Grip the center of the handle to tighten. Gripping the edge of the handle may cause incorrect torque value.**
- **Tighten slowly while applying minimal force. Otherwise applied torque value may be incorrect.**
- **Stop tightening after hearing, or feeling a clicking sound or sensation. Further tightening may result in overtorque.**
- **Do not use parts such as a pipe to extend the handle.**
- **Do not drop the torque wrench or apply strong impact.**
- **Do not use in high temperature and humid environments.**
- **After use, set the torque wrench to the minimum value.**
- **After use, remove dirt, dust, mud, oil, water, etc. before storing.**
- **Store in a dry place when not in use for an extended period of time.**

2 Components



3 How to use

① Push and hold the ring down to unlock.	② Turn the handle.
	 ・Turn the handle while the ring is in the unlock position.
③ Adjust to required torque.	**④ Release the ring.**
	 ・The ring will spring back to its original (lock) position.

TAKACHI ELECTRONICS ENCLOSURE CO., LTD.
TEL. +81-48-222-5409
https://www.takachi-enclosure.com/

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