IP68

HIGH PERFORMANCE

Outdoor Waterproof Box for 5G Technology!

WG series

BELTRONICA

5G

T-CONNECT
IoT Gateway

IP68 High performance at 24-hours/1m-depth immersion

*Do not use underwater/underground.

With a silicone waterproof gasket, and supported by multiple enclosing screws from the rear side, it allows the enclosure to maintain a stable high waterproofing capability.

Weather-resistant ASA material

ASA material is resistant to deterioration and discoloration due to ultraviolet rays. Perfect for outdoor communication or network devices.

Captive screws for easy maintenance

There is no risk of screws dropping out and lost during maintenance. Captive screw is able to lock into a pre-drilled hole to provide a secure hold.

Easy installation on walls & poles

By using the optional mounting accessories, it can be installed on walls and poles with ease.

Optional terminal blocks compatible

Optional terminal blocks, WTB series can be installed onto the existing bosses inside the WG series box without additional processing or customization, hence can also function as a terminal junction box. (See page 8 for WTB terminal blocks.)

WGV series - Pressure equalization models with ventilation plug

Ventilation plug protects the enclosure from deformation by equalizing pressure in environments where there are differences between strong daytime and low nighttime temperatures, as well as venting the gas generated within.
See page 5 ~ 6 for WGV series equipped with built-in ventilation plug.

Ventilation plugs are also available separately.
See page 325 ~ 326 for ventilation plugs.

Airflow

LT Link
5G Accesspint
AP-1200

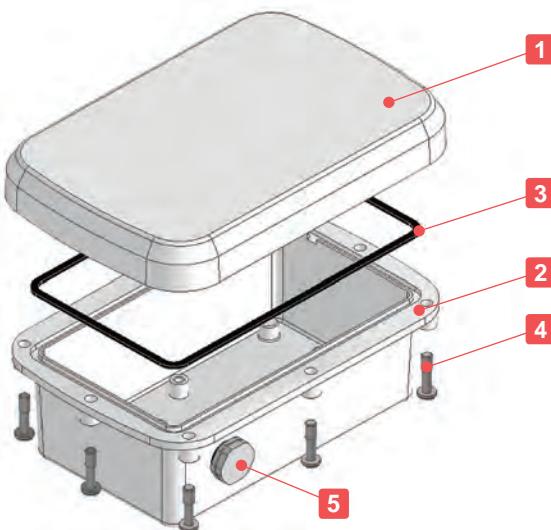# WGV series — IP68 PLASTIC ENCLOSURE with VENTILATION PLUG

NEW

- IP68 high performance plastic box protected from immersion as long as 24 hours at 1m depth where external (surroundings) and internal (inside box) pressure are different.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays. Perfect for use as outdoor communication or network devices.
- Self-tapping captive screws which are able to lock into a pre-drilled hole and provide a secure hold for fastening the cover. Please drive the self-tapping captive screws for cutting a thread into the holes at first so that securing the cover and body together properly.

IP68

Technical Data

Protection class :
IP68 (24-hours/1m-depth)
Operating temperature :
-30°C ~ +60°C
Recommended torque :
0.5 ~ 0.6N・m
Ventilation plug recommended torque :
0.6 ~ 0.8N・m

*May become brittle and break under impact when temperature is lowered close to -30°C.

Ventilation plug protects the enclosure from deformation by equalizing pressure in environments where there are differences between strong daytime and low nighttime temperatures, as well as venting the gas generated within.
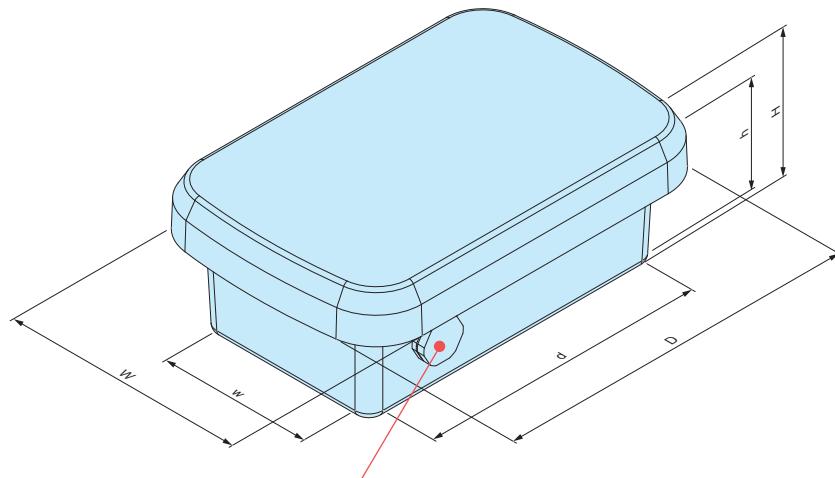
Airflow

Components

No.	Part name	Pcs	Material / Color
1	Cover	1	ASA UL94HB / Off-white
2	Body	1	ASA UL94HB / Off-white
3	Gasket	1	Silicone / Black
4	Self-tapping captive screw	8 ~ 10	Stainless steel / Unfinished
5	Ventilation plug	1	PA66 + PA6・PTFE / Light gray

BELTRONICA

WGV dimensions

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

The location of the ventilation plug is pre-fixed.
*Customization for location change possible.

Product no. / Details

Product no.	External dimensions			Internal dimensions			Screw	Weight (g)
	W	D	H	w	d	h		
WGV10-15- 6W	100	150	55	58	115	43	M4 × 8 pcs	171
WGV10-15- 8W	100	150	75	57	114	63	M4 × 8 pcs	193.5
WGV15-16- 6W	145	155	55	102	120	43	M4 × 8 pcs	233.5
WGV15-16- 8W	145	155	80	100	118	68	M4 × 8 pcs	268
WGV15-21- 6W	145	210	60	102	174	48	M4 × 10 pcs	315.5
WGV15-21- 9W	145	210	90	100	172	78	M4 × 10 pcs	368.5
NEW WGV17-25- 8W	170	250	80	125	209	67.5	M4 × 10 pcs	471.5
NEW WGV17-25-11W	170	250	110	122	206	97.5	M4 × 10 pcs	535.5
NEW WGV23-25- 8W	225	245	80	180	194	67.5	M4 × 10 pcs	571.5
NEW WGV23-25-11W	225	245	110	177	191	97.5	M4 × 10 pcs	646.5

Accessories (Optional parts)

Wall mounting bracket WGF series
See page 9

Pole mounting bracket WGMB • WPMB series
See page WGMB-2N and 9 ~ 10

Mounting plate WGP series
See page 7

PCB mounting screw MT4-8T
See page 7

Pole mounting belt • ties STC • SNB • PKB series
See page SCT / G3388 and 323 ~ 324

Terminal block WTB series
See page 8

DIN rail FDR series
See website

Cable gland
See page 333 ~ 340

WG series — IP68 HIGH PERFORMANCE WATERPROOF BOX ⭐⭐ NEW

- IP68 high performance plastic box protected from immersion as long as 24 hours at 1m depth.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays.
  Perfect for use as outdoor communication or network devices.
- Self-tapping captive screws which are able to lock into a pre-drilled hole and provide a secure hold for fastening the cover. Please drive the self-tapping captive screws for cutting a thread into the holes at first so that securing the cover and body together properly.

Technical Data

IP68

Protection class :
 IP68 (24-hours/1m-depth)
Operating temperature :
 -30°C ~ +60°C
Recommended torque :
 0.5 ~ 0.6N • m

*May become brittle and break under impact when temperature is lowered close to -30°C.
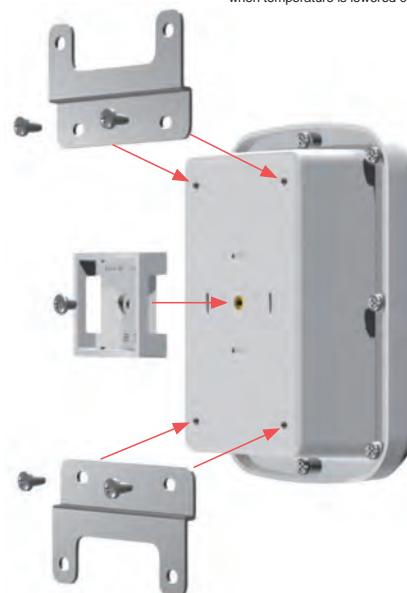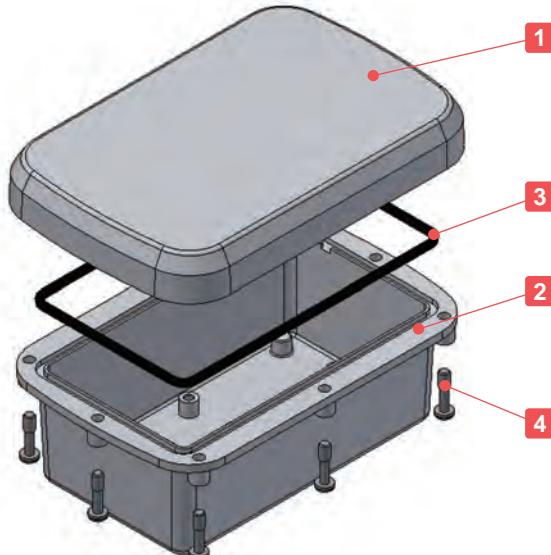
There are 5 holes on the backside of the body (4 at each corner, 1 in center). 4 corner holes are for wall mounting bracket, and 1 center hole is for pole mounting bracket.

Components

No.	Part name	Pcs	Material / Color
1	Cover	1	ASA UL94HB / Off-white
2	Body	1	ASA UL94HB / Off-white
3	Gasket	1	Silicone / Black
4	Self-tapping captive screw	8 ~ 10	Stainless steel / Unfinished

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WG dimensions

■ DXF/DWG/PDF/STP drawings available on our website.
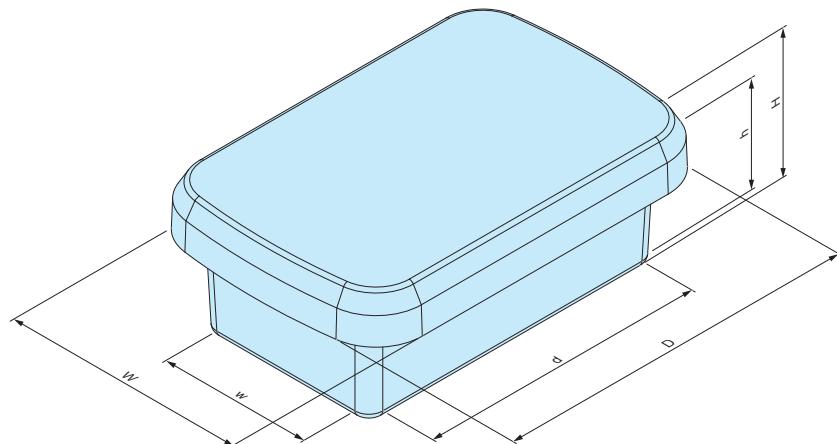
Product no. / Details

Product no.	External dimensions			Internal dimensions			Screw	Weight (g)
	W	D	H	w	d	h		
WG10-15- 6W	100	150	55	63	115	43	M4 × 8 pcs	169.5
WG10-15- 8W	100	150	75	62	114	63	M4 × 8 pcs	192
WG15-16- 6W	145	155	55	107	120	43	M4 × 8 pcs	232
WG15-16- 8W	145	155	80	105	118	68	M4 × 8 pcs	266.5
WG15-21- 6W	145	210	60	107	174	48	M4 × 10 pcs	314
WG15-21- 9W	145	210	90	105	172	78	M4 × 10 pcs	367
NEW WG17-25- 8W	170	250	80	128	209	67.5	M4 × 10 pcs	470
NEW WG17-25-11W	170	250	110	125	206	97.5	M4 × 10 pcs	534
NEW WG23-25- 8W	225	245	80	183	194	67.5	M4 × 10 pcs	570
NEW WG23-25-11W	225	245	110	180	191	97.5	M4 × 10 pcs	645

Accessories (Optional parts)

Wall mounting bracket WGF series
See page 9

Pole mounting bracket WGMB • WPMB series
See page WGMB-2N and 9 ~ 10

Mounting plate WGP series
See page 7

PCB mounting screw MT4-8T
See page 7

Pole mounting belt • ties STC • SNB • PKB series
See page SCT / G3388 and 323 ~ 324

Terminal block WTB series
See page 8

Protective vent PMF series
See page 325 ~ 326

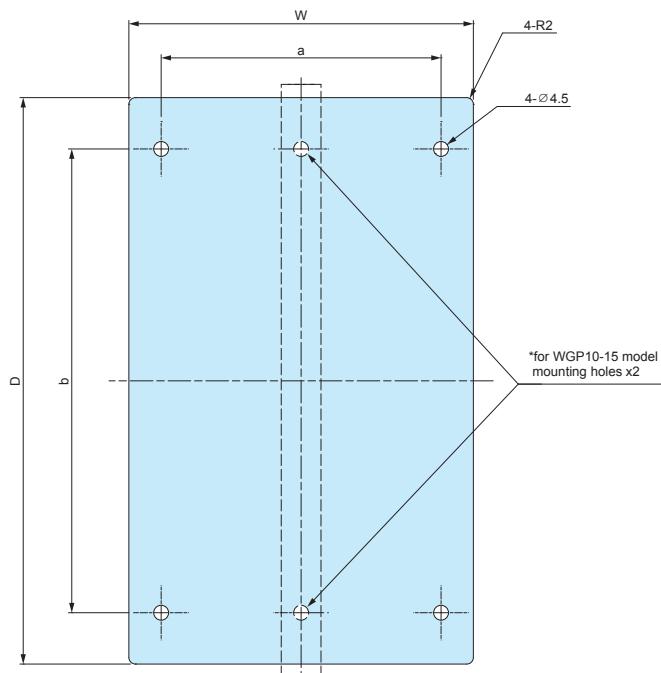

Cable gland
See page 333 ~ 340

DIN rail FDR series
See website

WGP series — MOUNTING PLATE for WG · WGV

NEW SIZE

WGP dimensions

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

W

a

4-R2

4-∅4.5

D

b

*for WGP10-15 model mounting holes x2

■ Material / Finish : A1100P (t=1.5mm) / Silver anodized

■ Hole milling, clinching spacer customizations are available.
See page Custom-7 ~ Custom-10 and our website for more details.

Product no. / Details

■ Mounting screws included.

Product no.	W	D	a	b	Suitable models	Weight (g)
WGP10-15	60	112	–	97	WG · WGV10-15-6, WG · WGV10-15- 8	30
WGP15-16	105	117	84.5	90	WG · WGV15-16-6, WG · WGV15-16- 8	54
WGP15-21	104	171	84.5	140	WG · WGV15-21-6, WG · WGV15-21- 9	76
NEW WGP17-25	120	200	100	176	WG · WGV17-25-8, WG · WGV17-25-11	100
NEW WGP23-25	175	185	152	168	WG · WGV23-25-8, WG · WGV23-25-11	133

MT4-8T — PCB MOUNTING SCREW

■ Self-tapping screws for board mounting on bosses inside WG and WGV series enclosures.

Product no. / Details

Product no.	Material	Finish	Pack of
MT4-8T (Bind tapping M4-8)	Steel	Trivalent chromate	20

WTB series — TERMINAL BLOCK for WG • WGV

NEW SIZE

UL® (FW2)

■ Compatible terminal blocks for WG • WGV series.

Components

No.	Part name	Pcs	Material	Color or Finish
1	Base	1	PBT UL94V-0	Black
2	Conductive plate	1	Brass	Nickel plated
3	Terminal screw (M4-10)	2 x P	Steel	Trivalent chromate
4	Symbol board	1	PET	White
5	Cover	1	Polycarbonate UL94V-0	Transparent
—	Screw (Bind tapping M4-10)	2	Steel	Trivalent chromate

Specification

1. Electrical Rating 600V • 35A
2. Insulation Resistance DC500V 1000MΩ ~
3. Withstand Voltage AC2500V (Tested for 1 min.)
4. Rising Temp. 30°C or less
5. Operating Temp. Range -40°C ~ +90°C
6. Storage Temp. Range -40°C ~ +90°C

WTB dimensions

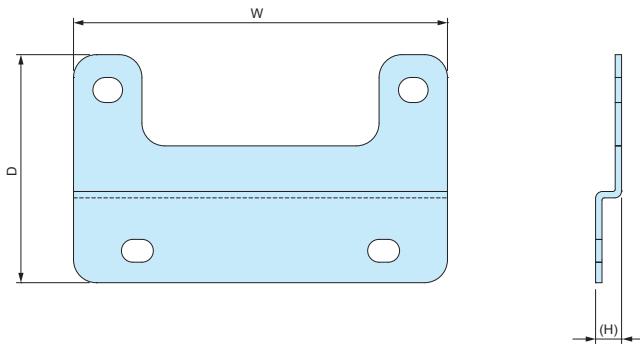■ DXF/DWG/PDF drawings available on our website.
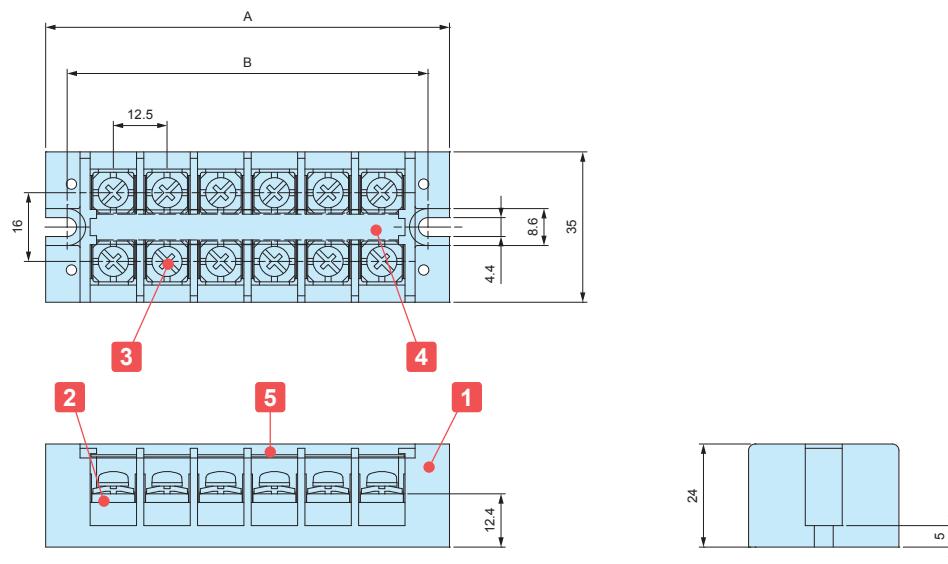
Product no. / Details

Product no.	P (Number of poles)	A	B	Suitable models
WTB-240- 3P-FB	3	56.5	46.5	WG • WGV10-15-☐ (W direction)
WTB-240- 6P-FB	6	94.0	84.0	WG • WGV15-16-☐, WG • WGV15-21-☐ (W direction)
WTB-240- 7P-FB	7	106.5	96.5	WG • WGV10-15-☐, WG • WGV15-16-☐ (D direction)
WTB-240-10P-FB	10	144.0	134.0	WG • WGV15-21-☐ (D direction)
NEW WTB-240-12P-FB	12	169.0	159.0	WG • WGV17-25-☐, WG • WGV23-25-☐ (D direction)

WGF series — WALL MOUNTING BRACKET for WG • WGV
NEW SIZE

WGF dimensions

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

■ Stainless steel mounting screws included.

Product no. / Details

| Product no.	W	D	(H)	Suitable models	Material / Finish	Pack of
WGF-10	82	50	(5.8)	WG • WGV10-15-□ (W direction)	Stainless steel t=1.5mm / Barrel finish	2
WGF-15	132	50	(5.8)	WG • WGV10-15-□ (D direction) WG • WGV15-21-□ (W direction) WG • WGV15-16-□ (W • D direction)		2
NEW WGF-23	184	55	(8.0)	WG・WGV15-21-□ (D direction), WG • WGV23-25-□ (W direction)		2
NEW WGF-25	210	55	(8.0)	WG・WGV17-25-□ (D direction), WG • WGV23-25-□ (D direction)		2

WGMB series — POLE MOUNTING BRACKET for WG • WGV
★★ NEW
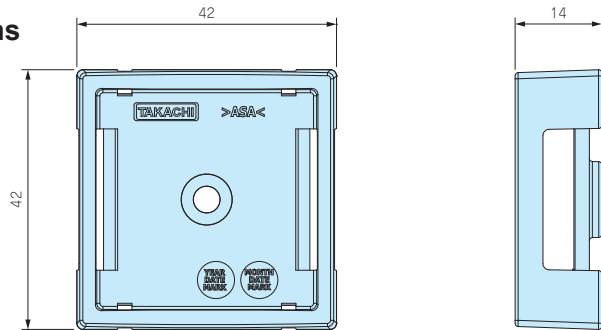
WGMB dimensions

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

■ Pole mount bracket made from weather resistant ASA material.

■ Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its IP rating.

■ WG • WGV10-15-□ and 15-16-□ can be installed in both the W or D direction.

■ Pole mount is possible with the use of SNB or PKB series mounting belt. (See page 323 ~ 324)

Product no. / Details

Product no.	Suitable models	Material / Color	Weight (g)	Pack of
WGMB-1W	WG • WGV10-15-□ WG • WGV15-16-□- (1 pc required) WG • WGV15-21-□- (2 pcs required)	ASA UL94-HB / Off-white	9	1

Installation example

Installation (1 pc)

Installation (2 pcs)
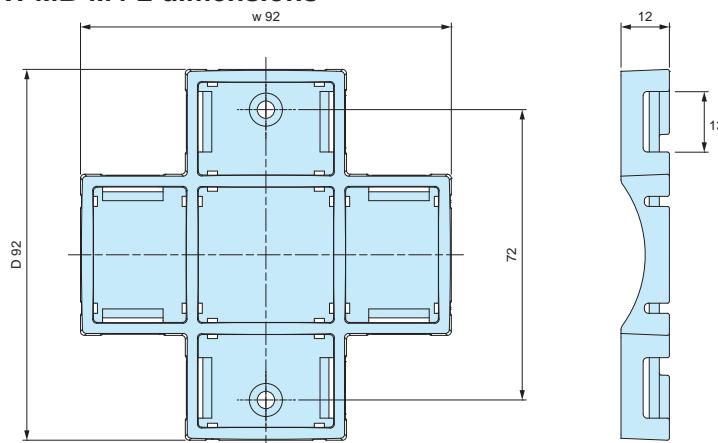
BELTRONICA

TAKACHI

WPMB-M4-2   POLE MOUNTING BRACKET

WPMB-M4-2 dimensions

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

■ Pole mount bracket made from weather resistant ASA material.

■ Pole mounting belt can be installed either W or D direction.

■ Pole mount is possible with the use of PKB series mounting belt. (See page 324)

■ Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its protection class.

  *Stainless steel screw belt SNB series is not usable on WPMB-M4-2 series.

Color
White gray

Product no. / Dimensions

Product no.	Suitable models	Recommended torque (N • m)	Weight (g)	Pack of
WPMB-M4-2G	WG • WGV15-21-6, WG • WGV15-21-9	0.45 ~ 0.5	24	1

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

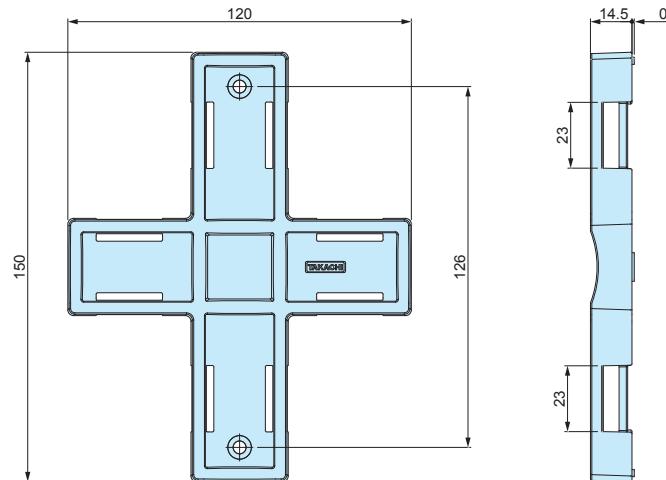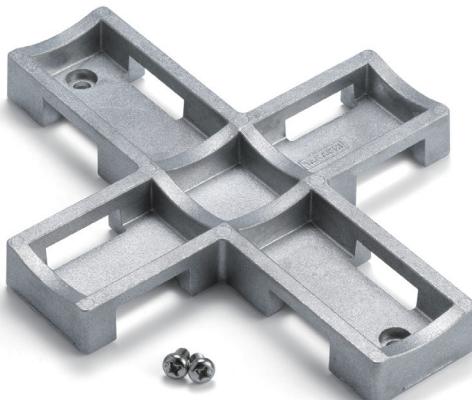### Installation example

Vertical mounting

Horizontal mounting

10

WGMB-2N — DIECAST ALUMINIUM POLE MOUNTING BRACKET for WG • WGV

NEW

120
150
126
14.5   0.8
23
23

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

■ Pole mount bracket made from robust diecast aluminium.

■ Hole milling is not required when installing the mount bracket, thus allowing the enclosure to maintain its protection class.

■ Can be used for WG • WGV17-25-☐, WG • WGV23-25-☐ models.

■ Pole mounting belt can be installed in either W or D direction.

■ Pole mount is possible with the use of SNB or PKB series mounting belt. (See page 323 ~ 324)

Product no. / Details

■ Stainless steel mounting screws included.

Product no.	Suitable models	Material / Finish	Weight (g)	Pack of
WGMB-2N	WG • WGV17-25-☐ WG • WGV23-25-☐	Diecast aluminium ADC12 / Shot blast	126	1

Installation example

Vertical mounting

Horizontal mounting

WGMB-2N

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Accessories (Optional parts)
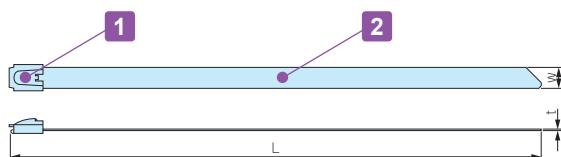
SCT series — STAINLESS STEEL TIES for POLE MOUNTING

- 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

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

Cut-edge
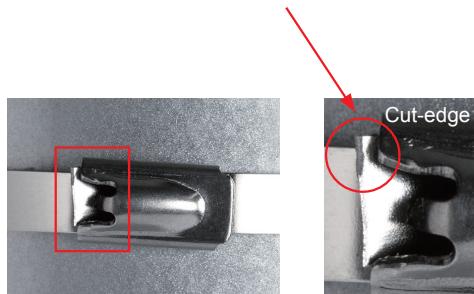
Product no.
G3388

Note: Tighten gun is not subject to RoHS regulations.
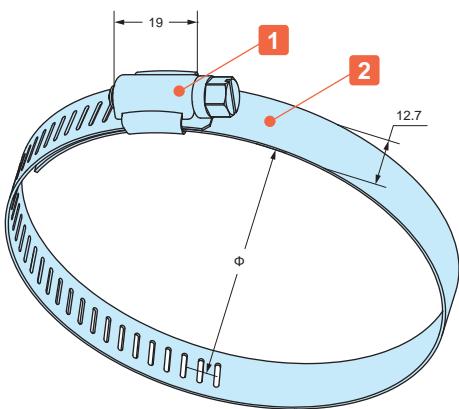
SCT • G3388

SNB series — STAINLESS STEEL POLE MOUNTING STRAP ★★ NEW

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. Minus screw driver 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. / Dimensions

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

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).
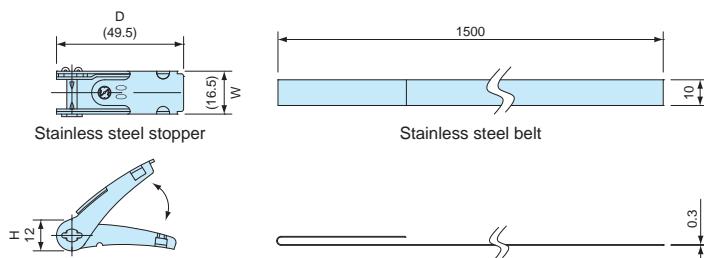- Strong stainless steel clamping type and easy installation plastic type are available.

PKB dimensions

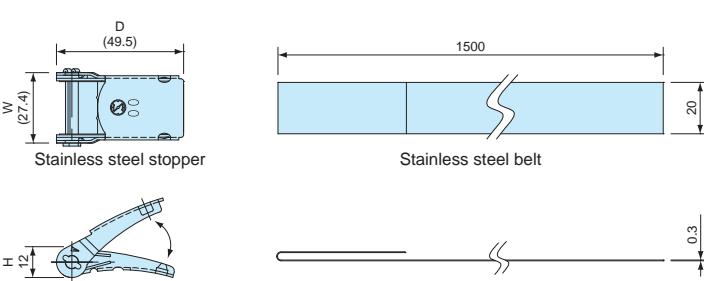■ DXF/DWG/PDF drawings available on our website.

PKB-10PM, 10P

Plastic stopper

Plastic belt

PKB-10S

Stainless steel stopper

Stainless steel belt

PKB-20S

Stainless steel stopper
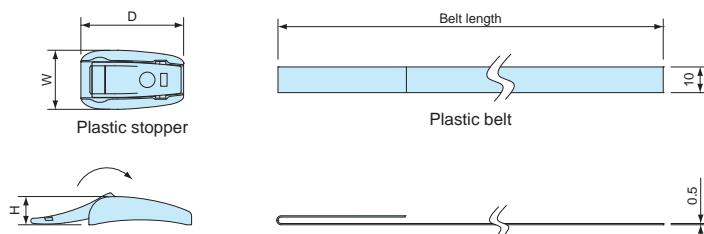
Stainless steel belt

Components

No.	Part name	Material	Color / Finish
1	Stopper	Stainless steel SUS304 • POM	Barrel finish • Black
2	Belt	Stainless steel SUS430 • PET	Bright annealed finish • Gray

Product no. / Dimensions

Product no.	W	D	H	Belt length	Belt material	Tensile strength (horizontal)	Weight (g)	Pack of
PKB-10PM	24	23	11	500 mm	PET	0.8kN	14	2
PKB-10PM	23	40	11	1,500 mm	PET	1.3kN	31.8	2
PKB-10S	16.5	49.5	12	1,500 mm	Stainless steel SUS304	1.4kN	101.6	2
PKB-20S	27.4	49.5	12	1,500 mm	Stainless steel SUS430	2.9kN	182.2	2

TPS series — TAPPING STANDOFF

NEW SIZE

TPS dimensions

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

- Tapping screw head allows for easy installation onto existing enclosure boss mount.
- 4 different sizes available : M2.3, M2.6, M3 and M4 size.
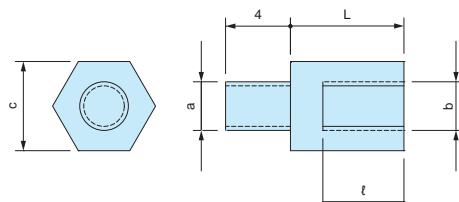
Product no. / Dimensions

■ Material / Finish : Brass / Unfinished

Product no.	Screw size (a)	Screw size (b)	c	L	ℓ	Pack of	Suitable models
TPS-M2.3-4	M2.3	M2.3	5	4	3	4	WH series • PFE series
TPS-M2.3-5	M2.3	M2.3	5	5	3	4	LC • LCE • LCS • LCT series
TPS-M2.3-6	M2.3	M2.3	5	6	4	4	PF • PFF series (M2.3 boss models)
TPS-M2.3-7	M2.3	M2.3	5	7	5	4	TW • TWN • TWF series (M2.3 boss models)
TPS-M2.3-8	M2.3	M2.3	5	8	6	4	WP series (M2.3 boss models)
TPS-M2.3-10	M2.3	M2.3	5	10	6	4	
TPS-M2.3-12	M2.3	M2.3	5	12	6	4	
TPS-M2.6-4	M2.6	M2.6	5	4	3	4	
TPS-M2.6-5	M2.6	M2.6	5	5	3	4	PF • PFF series (M2.6 boss models)
TPS-M2.6-7	M2.6	M2.6	5	7	5	4	WP series (M2.6 boss models)
TPS-M2.6-10	M2.6	M2.6	5	10	6	4	
TPS-M2.6-12	M2.6	M2.6	5	12	6	4	
TPS-M3-4	M3	M3	5.5	4	3	4	
TPS-M3-5	M3	M3	5.5	5	3	4	
TPS-M3-6	M3	M3	5.5	6	4	4	TWS • TW • TWN • TWF series (M3 boss models)
TPS-M3-7	M3	M3	5.5	7	5	4	
TPS-M3-8	M3	M3	5.5	8	5	4	
TPS-M3-10	M3	M3	5.5	10	6	4	
TPS-M3-12	M3	M3	5.5	12	6	4	
NEW TPS-M4-6	M4	M4	7	6	4	4	
NEW TPS-M4-10	M4	M4	7	10	6	4	BCAP • BCPC • BCPK • BCAR • BCPR series (M4 boss models)
NEW TPS-M4-15	M4	M4	7	15	8	4	
NEW TPS-M4-20	M4	M4	7	20	10	4	

How to tighten

- Please use a suitable sized socket driver to both secure and loosen the tapping standoff.

MT series — PCB MOUNTING SCREWS for TPS

Pan head

- PCB mounting Screws for TPS tapping standoffs

Product no. / Dimensions

Product no.	M	L	Head style	Material	Finish	Pack of
MT2.3-4	2.3	4	Pan	Steel	Trivalent chromate	20
MT2.3-6	2.3	6		Steel	Trivalent chromate	20
MT2.6-4	2.6	4		Steel	Trivalent chromate	20
MT3-4	3	4		Steel	Trivalent chromate	20

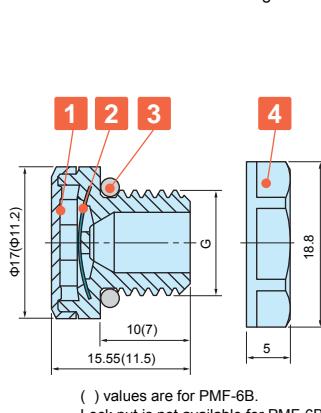# PMF series | PROTECTIVE VENT

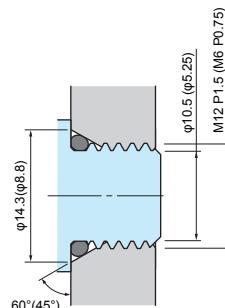## Pressure Equalization / Ventilation

IP68 IP69K

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-6B model is suitable for enclosures with capacities of up to 2.0 liters. 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.

( ) values are for PMF-6B.
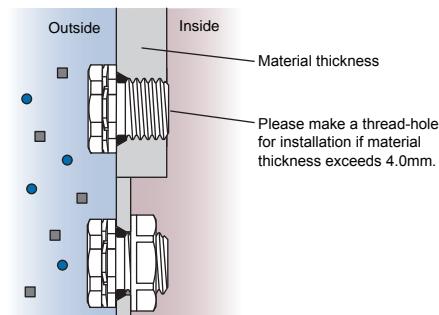Lock nut is not available for PMF-6B.

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

Outside Inside

Material thickness

Please make a thread-hole for installation if material thickness exceeds 4.0mm.

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

Technical Data

Product no.	PMF-6B	PMF-12	PNF-12HA
Airflow	300ml / min (dp = 7kPa)	450ml / min (dp = 7kPa)	4,000ml / min (dp = 7kPa)
Recommended torque	0.2 ~ 0.4N • m	0.6 ~ 0.8N • m	0.6 ~ 0.8N • m
Certifications	IEC60529 (Protection class test) : IP65 • IP66 • IP67 • IP68 • IP69K (Not for PMF-6B) IEC60068-2-1, 2, 14 (Heat resistance test) : - 40°C ~ +125°C (~+150°C for PMF-6B) 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. / Dimensions

Product no.		Material				G		Lock nut
● Light gray	● Black	1 Housing	2 Filter	3 O-ring	4 Lock nut	Thread size	Mount hole	SW
—	PMF- 6B	PA6 / 66	PTFE	Silicone	—	M6 x P0.75	—	—
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

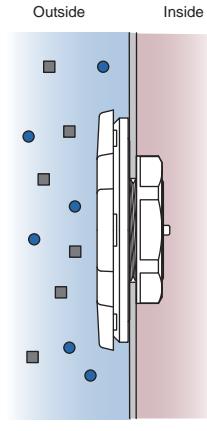## Pressure Equalization / Ventilation

IP68 IP69K
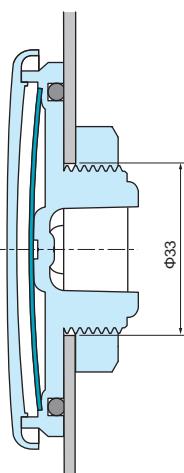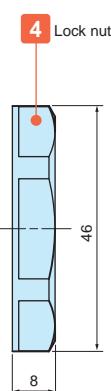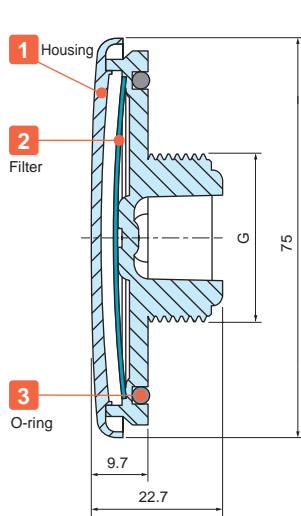

Application Example

- Maintaining high airflow for large enclosures 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 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.

PMF-32 dimensions

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

1 Housing
2 Filter
3 O-ring
4 Lock nut

Hole milling drawings

Installation drawings

Outside   Inside

Material thickness

- 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. / Dimensions

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

Accessories (Optional parts)
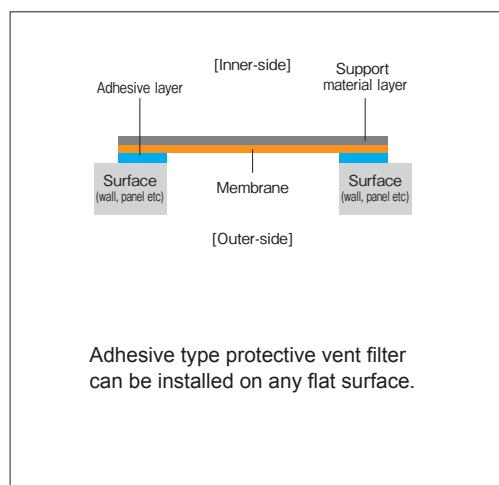
VE8 series ADHESIVE PROTECTIVE VENT FILTER

Technical Data

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

- Improved airflow of 3,300ml/min/cm2 as compared to previous VSC series.
- 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.
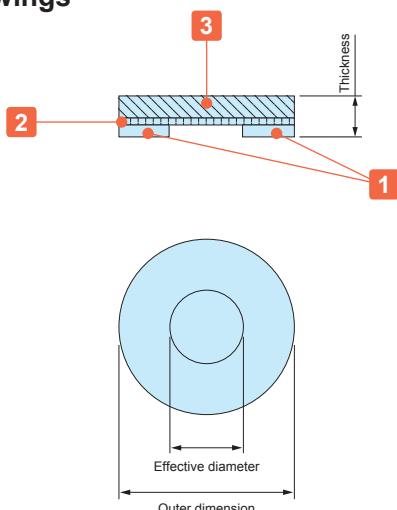
Components

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

Product no. / Dimensions

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)
NEW 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)
NEW VE82029S-S	29.0	20.0	0.35	10 pcs (per sheet)

BELTRONICA

RMW series — WEATHERPROOF CABLE GLAND

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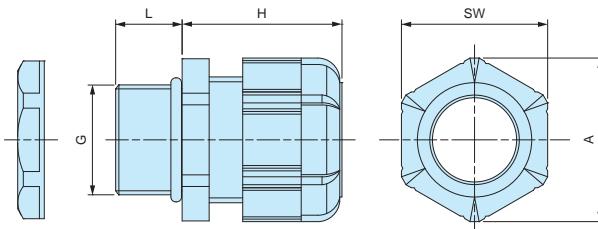- IP67 protection class.

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

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

Product no. / Dimensions

| Product no.				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	11.8	13.5	1
RMW8L-4B	RMW8L-4S	M8×1.25	Φ8.2	2.5	4	13	19.5	11.8	13.5	1
RMW10S-6B	RMW10S-6S	M10×1.5	—	3	6	8	20.5	13	14.4	1
RMW10L-6B	RMW10L-6S	M10×1.5	Φ10.2	3	6	13	20.5	13	14.4	1
RMW12S-7B	RMW12S-7S	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	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	21	1
RMW16L-8B	RMW16L-8S	M16×1.5	Φ16.2	4	8	15	24	19	21	1
RMW20S-12B	RMW20S-12S	M20×1.5	Φ20.2	6	12	10	29	24	26.2	1
RMW20L-12B	RMW20L-12S	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	1
RMW25L-17B	RMW25L-17S	M25×1.5	Φ25.2	11	17	15	35	33	36.2	1
RMW32L-21B	RMW32L-21S	M32×1.5	Φ32.3	13	21	15	38	36	39.5	1
RMW40L-27B	RMW40L-27S	M40×1.5	Φ40.3	18	27	18	43.5	45.7	50.5	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	14.4	100
RMW12S-7B-P	RMW12S-7S-P	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	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	21	100
RMW16L-8B-P	RMW16L-8S-P	M16×1.5	Φ16.2	4	8	15	24	19	21	100
RMW20S-12B-P	RMW20S-12S-P	M20×1.5	Φ20.2	6	12	10	29	24	26.2	100
RMW20L-12B-P	RMW20L-12S-P	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	100

BELTRONICA

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 for comparison purposes.
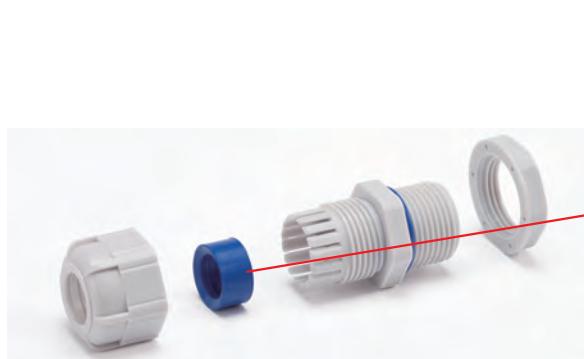
Before   After

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.
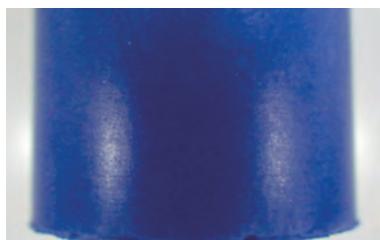
Before

After

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

Before

After

BELTRONICA

## RM series | POLYAMIDE CABLE GLAND

IP67

- 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.
- IP67 protection class.

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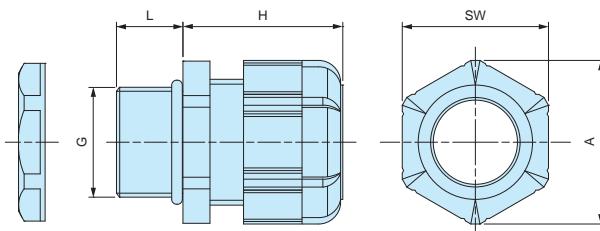
Technical Data
Protection class: IP67 Operating temperature: -20°C ~ +80°C

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

Product no. / Dimensions

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	11.8	13.5	1
RM8L-2.5B	RM8L-2.5S	M8×1.25	Φ8.2	1	2.5	13	19.5	11.8	13.5	1
RM8S-4B	RM8S-4S	M8×1.25	—	2.5	4	7.5	19.5	11.8	13.5	1
RM8L-4B	RM8L-4S	M8×1.25	Φ8.2	2.5	4	13	19.5	11.8	13.5	1
RM10S-6B	RM10S-6S	M10×1.5	—	3	6	8	20.5	13	14.4	1
RM10L-6B	RM10L-6S	M10×1.5	Φ10.2	3	6	13	20.5	13	14.4	1
RM12S-7B	RM12S-7S	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	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	21	1
RM16L-8B	RM16L-8S	M16×1.5	Φ16.2	4	8	15	24	19	21	1
RM20S-12B	RM20S-12S	M20×1.5	Φ20.2	6	12	10	29	24	26.2	1
RM20L-12B	RM20L-12S	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	1
RM25L-17B	RM25L-17S	M25×1.5	Φ25.2	11	17	15	35	33	36.2	1
RM32L-21B	RM32L-21S	M32×1.5	Φ32.3	13	21	15	38	36	39.5	1
RM40L-27B	RM40L-27S	M40×1.5	Φ40.3	18	27	18	43.5	45.7	50.5	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	14.4	100
RM12S-7B-P	RM12S-7S-P	M12×1.5	Φ12.2	3.5	7	9	20.5	16	17.6	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	21	100
RM16L-8B-P	RM16L-8S-P	M16×1.5	Φ16.2	4	8	15	24	19	21	100
RM20S-12B-P	RM20S-12S-P	M20×1.5	Φ20.2	6	12	10	29	24	26.2	100
RM20L-12B-P	RM20L-12S-P	M20×1.5	Φ20.2	6	12	15	28.5	24	26.2	100
RM25L-17B-P	RM25L-17S-P	M25×1.5	Φ25.2	11	17	15	35	33	36.2	100

RSP series — STRAIN RELIEF CABLE GLAND

NEW SIZE

IP67

- New sizes added for 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.
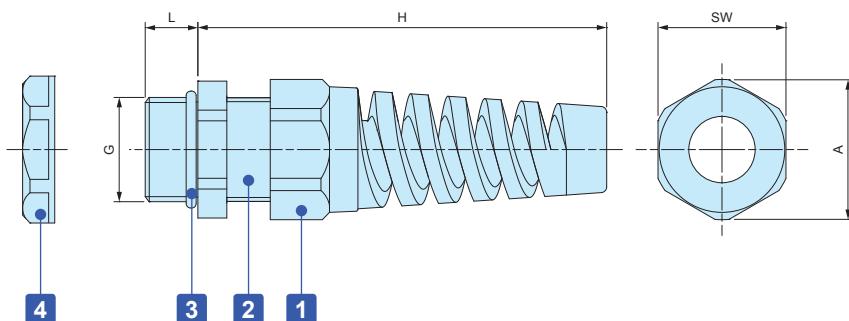
Technical Data
Protection class : Equivalent to IP67* Operating temperature : -20°C ~ +80°C

*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					
NEW RSP 8-2.5B	NEW RSP 8-2.5S	M 8×1.25	Φ 8.2	1	2.5	10.5	48	12.1	13.8	1
NEW RSP 8-4B	NEW RSP 8-4S	M 8×1.25	Φ 8.2	2.5	4	10.5	48	12.1	13.8	1
NEW RSP10-6B	NEW 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

BELTRONICA

AG series — HIGH WATER PROTECTION CABLE GLAND

IP68

- 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.
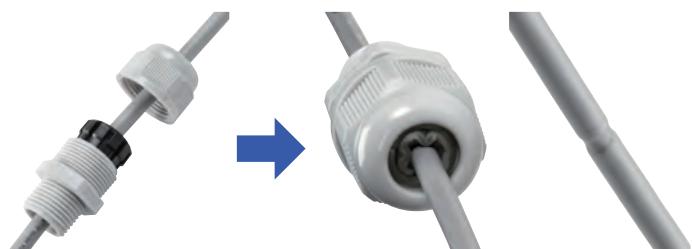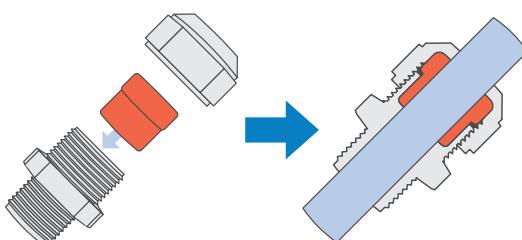
Components

■ PA6GF = Polyamide6 Glass Fiber Filled

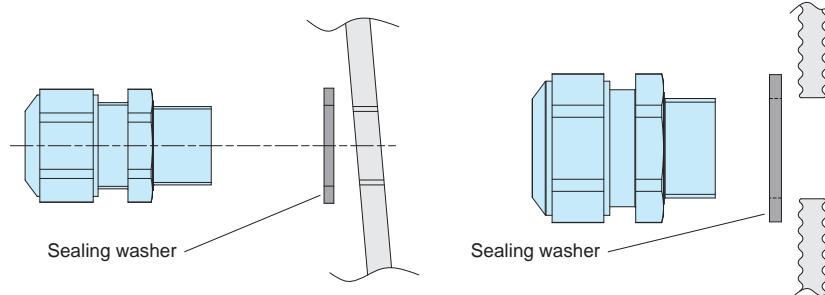| No.	Part name	Material
1	Cap	PA6GF
2	Sealing insert	TPE
3	Connector	PA6GF
4	Lock nut	PA6

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

■ Proper 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.

BELTRONICA

■ 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)

Waterproof rib

Sealing washer

Sealing washer

AG dimensions

■ DXF/DWG/PDF drawings available on our website.
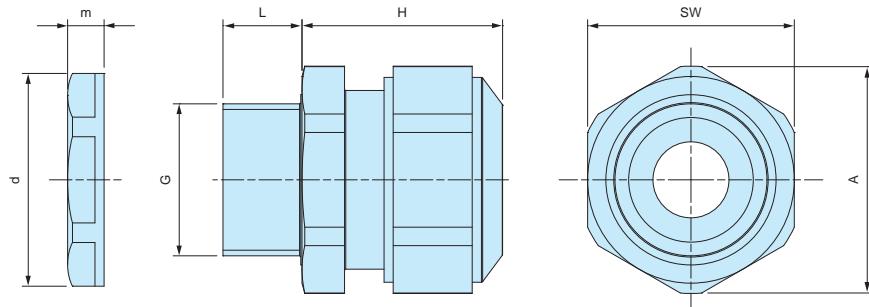
■ Lock nut is not included for M8 and M10 sizes.
Please drill a proper thread hole into the enclosure for installation.

Product no. / Dimensions

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