

IP68

HIGH PERFORMANCE

Outdoor Waterproof Box for 5G Technology!

WG series



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



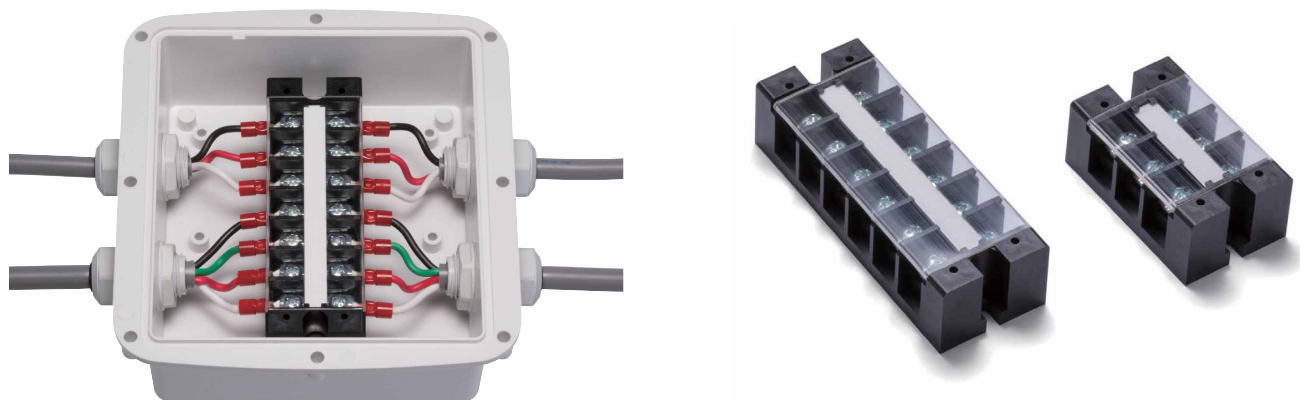
There is no risk of screws dropping out and lost during maintenance. Captive screw is able to lock into a pre-drilled hole to provide a secure hold.

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.





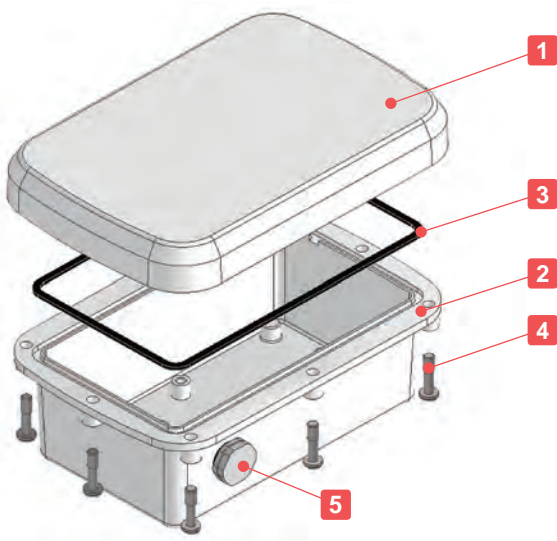
- IP68 high performance plastic box protected from immersion as long as 24 hours at 1m depth where external (surroundings) and internal (inside box) pressure are different.
- ASA material is resistant to deterioration and discoloration from ultraviolet rays. Perfect for use as outdoor communication or 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.



| 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.

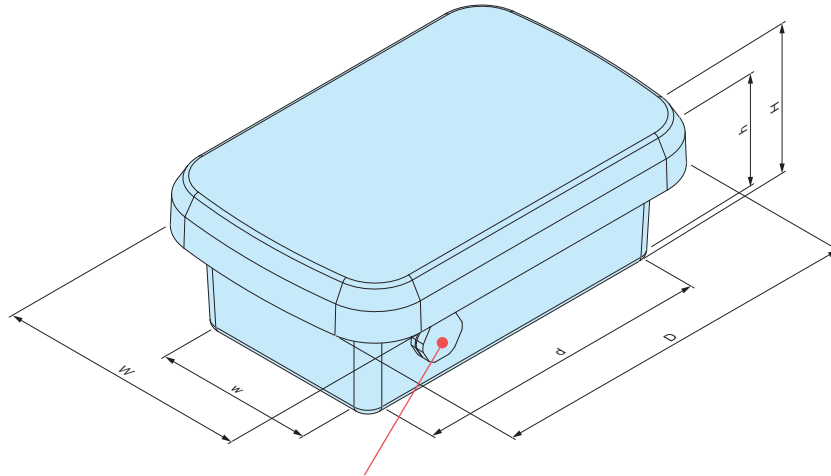


Components

| 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 |

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. / Dimensions

| 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 x 8 pcs | 171 |
| WGV10-15-8W | 100 | 150 | 75 | 57 | 114 | 63 | M4 x 8 pcs | 193.5 |
| WGV15-16-6W | 145 | 155 | 55 | 102 | 120 | 43 | M4 x 8 pcs | 233.5 |
| WGV15-16-8W | 145 | 155 | 80 | 100 | 118 | 68 | M4 x 8 pcs | 268 |
| WGV15-21-6W | 145 | 210 | 60 | 102 | 174 | 48 | M4 x 10 pcs | 315.5 |
| WGV15-21-9W | 145 | 210 | 90 | 100 | 172 | 78 | M4 x 10 pcs | 368.5 |

Accessories (Optional parts)



Wall mounting bracket WGF series
See page 9



Pole mount bracket WGMB • WPMB series
See page 9 ~ 10



Pole mounting belt SNB • PKB series
See page 323 ~ 324



PCB mounting screw MT4-8T
See page 7



Tapping standoff TPS series
See page 122



Cable gland
See page 333 ~ 340



Terminal block WTB series
See page 8



Mounting plate WGP series
See page 7



DIN rail FDR series
See website



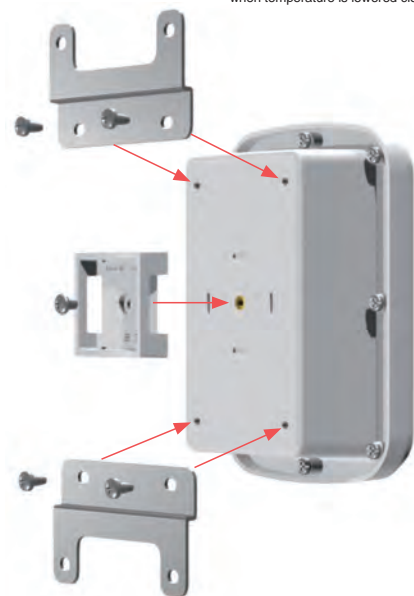
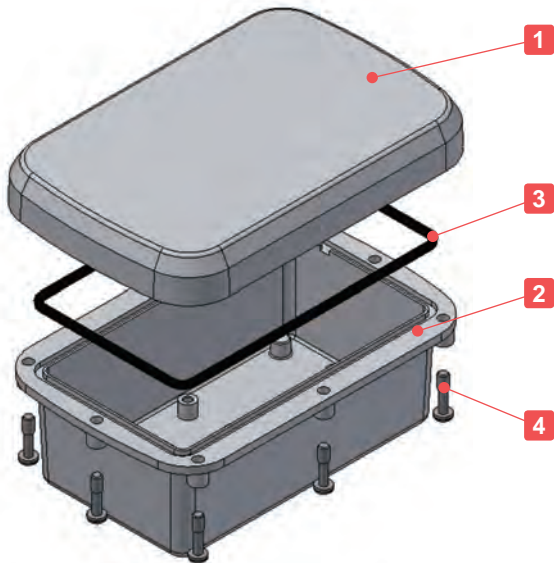
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Technical Data

| | |
|-------------------------|--------------------------|
| 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.



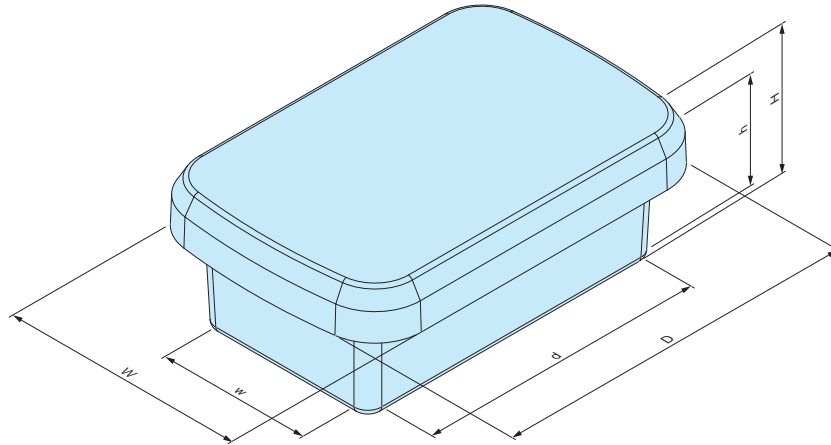
There are 5 holes on the backside of the body (4 at each corner, 1 in center). 4 corner holes are for wall mounting bracket, and 1 center hole is for pole mounting bracket.

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 |

WG dimensions

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



Product no. / Dimensions

| 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 x 8 pcs | 169.5 |
| WG10-15-8W | 100 | 150 | 75 | 62 | 114 | 63 | M4 x 8 pcs | 192 |
| WG15-16-6W | 145 | 155 | 55 | 107 | 120 | 43 | M4 x 8 pcs | 232 |
| WG15-16-8W | 145 | 155 | 80 | 105 | 118 | 68 | M4 x 8 pcs | 266.5 |
| WG15-21-6W | 145 | 210 | 60 | 107 | 174 | 48 | M4 x 10 pcs | 314 |
| WG15-21-9W | 145 | 210 | 90 | 105 | 172 | 78 | M4 x 10 pcs | 367 |

Accessories (Optional parts)



Wall mounting bracket WGF series
See page 9



Pole mount bracket WGMB • WPMB series
See page 9 ~ 10



Pole mounting belt SNB • PKB series
See page 323 ~ 324



PCB mounting screw MT4-8T
See page 7



Tapping standoff TPS series
See page 122



Protective vent PMF series
See page 325 ~ 326



Cable gland
See page 333 ~ 340



Mounting plate WGP series
See page 7



DIN rail FDR series
See website



Terminal block WTB series
See page 8

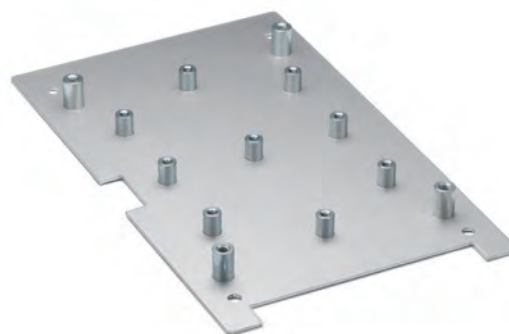
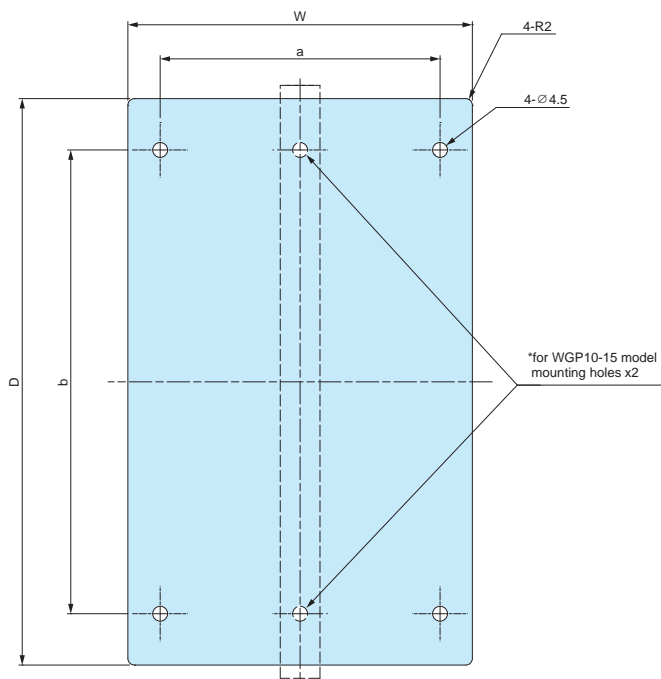
WGP series

MOUNTING PLATE for WG • WGV



WGP dimensions

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



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. / Dimensions

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 |

MT4-8T

PCB MOUNTING SCREW

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

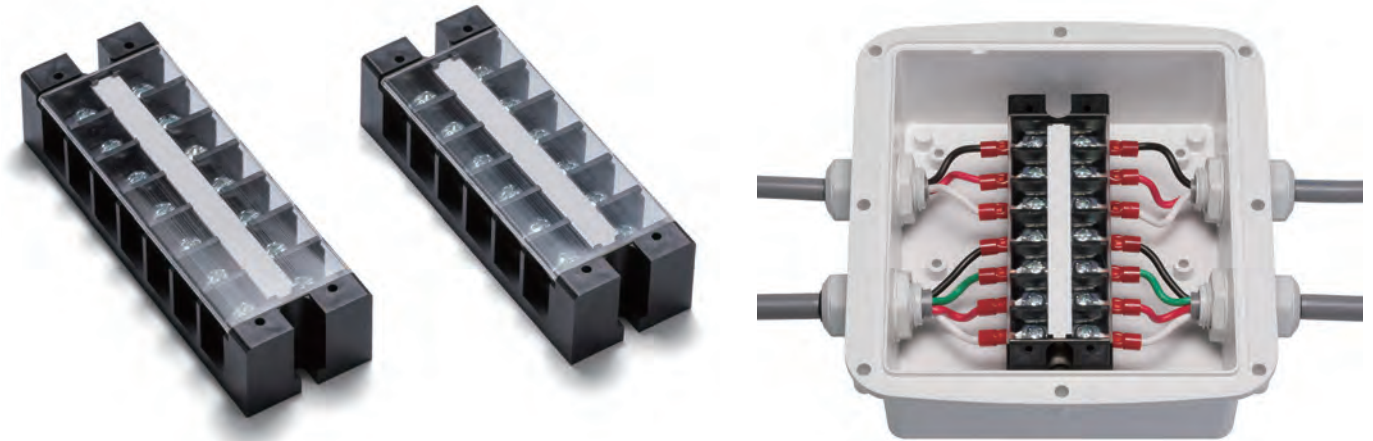


Product no. / Dimensions

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

WTB series

TERMINAL BLOCK for WG • WGV



Compatible terminal blocks for WG • WGV series.

Components

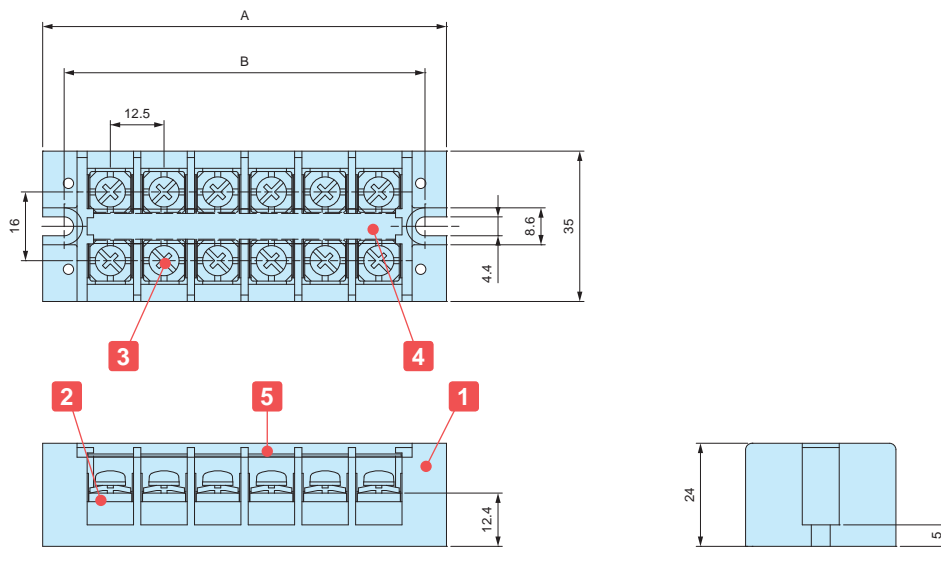
| No. | Part name | Pcs | Material | Color or Finish |
|-----|----------------------------|-------|-----------------------|--------------------|
| 1 | Base | 1 | PBT UL94V-0 | Black |
| 2 | Conductive plate | 1 | Brass | Nickel plated |
| 3 | Terminal screw (M4-10) | 2 x P | Steel | Trivalent chromate |
| 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. / Dimensions

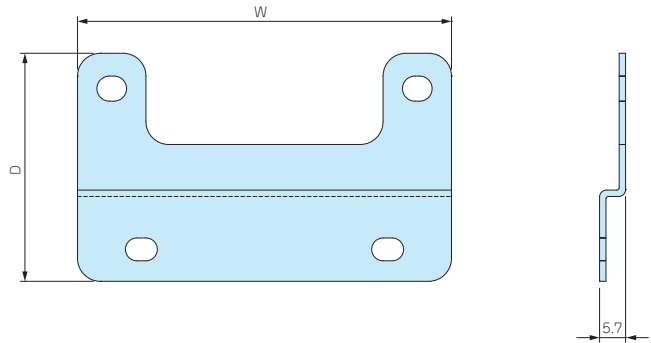
| Product no. | P (Number of poles) | A | B | Suitable models |
|----------------|---------------------|-------|-------|--|
| WTB-240- 3P-FB | 3 | 56.5 | 46.5 | WG • WGV10-15-□ (W direction) |
| WTB-240- 6P-FB | 6 | 94.0 | 84.0 | WG • WGV15-16-□, WG • WGV15-21-□ (W direction) |
| WTB-240- 7P-FB | 7 | 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) |

WGF series

WALL MOUNTING BRACKET for WG • WGV



WGF dimensions



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

Product no. / Dimensions

■ Stainless steel mounting screws included.

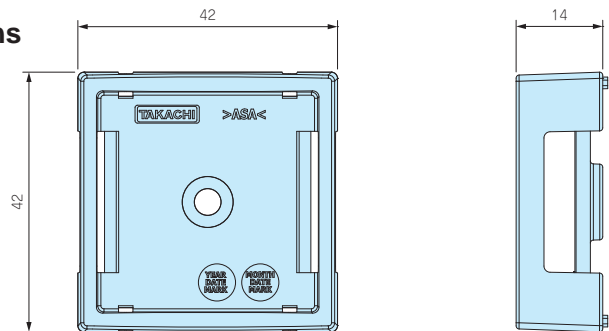
| Product no. | W | D | Suitable models | Material / Finish | Pack of |
|-------------|-----|----|--|---|---------|
| WGF-10 | 82 | 50 | WG • WGV10-15-□ (W direction) | Stainless steel t=1.5mm / Barrel finish | 2 |
| WGF-15 | 132 | 50 | WG • WGV10-15-□ (D direction) WG • WGV15-21-□ (W direction) WG • WGV15-16-□ (W • D direction) | | 2 |

WGMB series

POLE MOUNTING BRACKET for WG • WGV



WGMB dimensions



- 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)

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

Product no. / Dimensions

| 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)

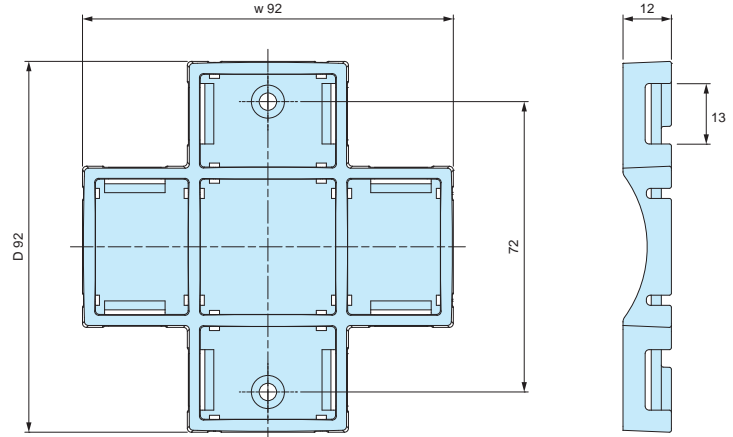
Installation (2 pcs)



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

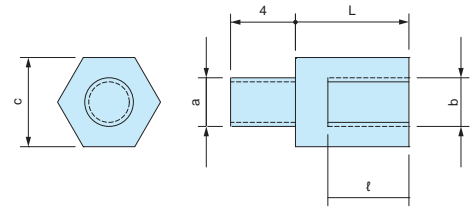


TPS series

TAPPING STANDOFF



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 LC • LCE • LCS • LCT series PF • PFF series (M2.3 boss models) TW • TWN • TWF series (M2.3 boss models) WP series (M2.3 boss models) |
| TPS-M2.3-5 | M2.3 | M2.3 | 5 | 5 | 3 | 4 | |
| TPS-M2.3-6 | M2.3 | M2.3 | 5 | 6 | 4 | 4 | |
| TPS-M2.3-7 | M2.3 | M2.3 | 5 | 7 | 5 | 4 | |
| TPS-M2.3-8 | M2.3 | M2.3 | 5 | 8 | 6 | 4 | |
| 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 | |
| TPS-M2.6-7 | M2.6 | M2.6 | 5 | 7 | 5 | 4 | |
| 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 | TWS • TW • TWN • TWF series (M3 boss models) |
| TPS-M3-5 | M3 | M3 | 5.5 | 5 | 3 | 4 | |
| TPS-M3-6 | M3 | M3 | 5.5 | 6 | 4 | 4 | |
| 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 | BCAP • BCPC • BCPK • BCAR • BCPR series (M4 boss models) |
| NEW TPS-M4-10 | M4 | M4 | 7 | 10 | 6 | 4 | |
| NEW TPS-M4-15 | M4 | M4 | 7 | 15 | 8 | 4 | |
| NEW TPS-M4-20 | M4 | M4 | 7 | 20 | 10 | 4 | |



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



How to tighten

MT series

PCB MOUNTING SCREWS for TPS



■ 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 |

PKB series

POLE MOUNTING BELT



PKB-10PM, 10P



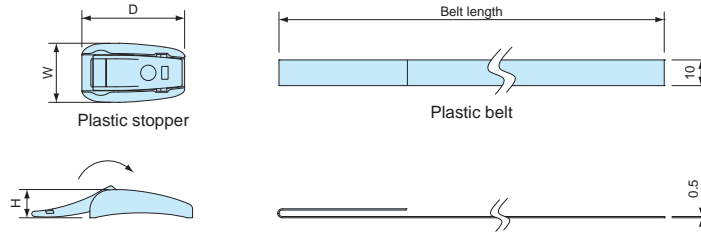
PKB-10S, 20S

- 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.

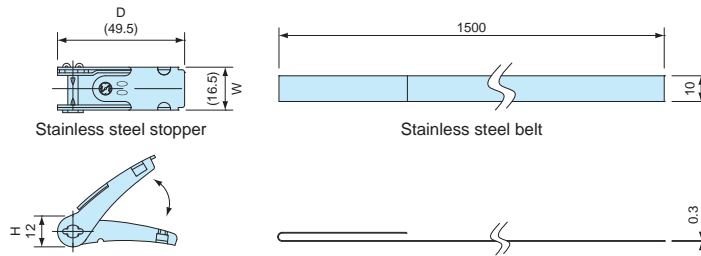
PKB dimensions

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

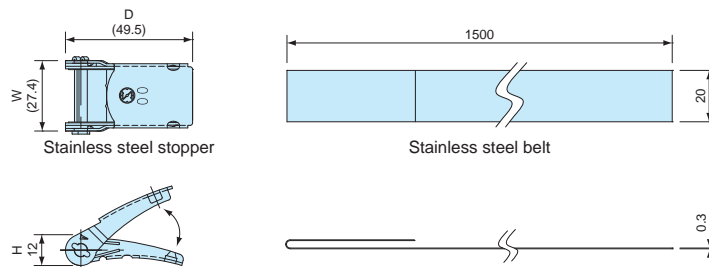
PKB-10PM, 10P



PKB-10S



PKB-20S



Components

| 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 |

PMF series

PROTECTIVE VENT

Pressure Equalization / Ventilation



Application Example

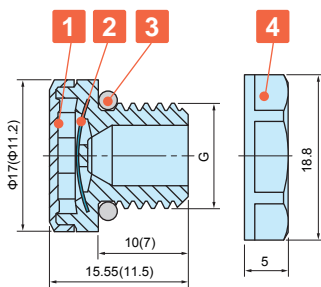
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- IP68 protection class (water depth 2 meters / 60 mins) with an operating temperature range -40°C ~ +125°C allows them to be used in harsh environments.
- PMF-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

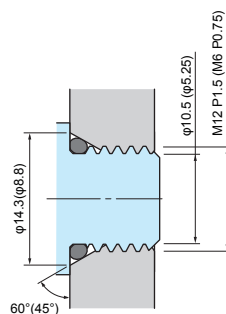
Hole milling drawings

Installation drawings

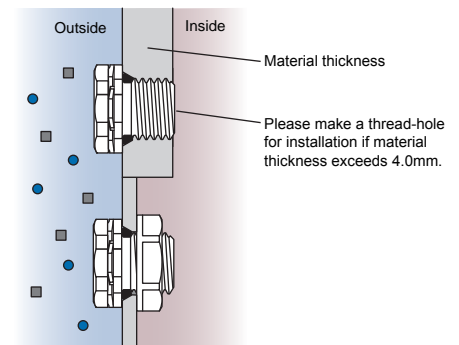
■ DXF/DWG/PDF drawings available on our website.



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



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



■ 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



Application Example

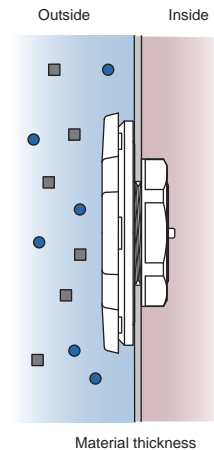
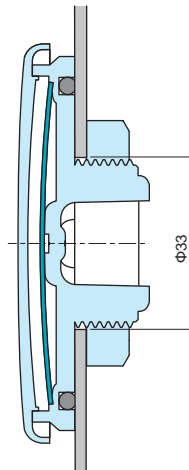
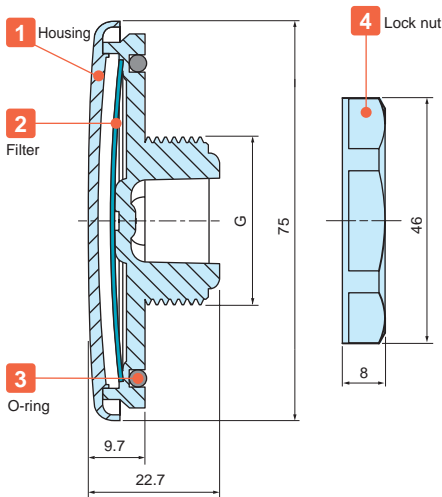
- Maintaining high airflow for large enclosures in an outdoor environment.
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- Simple and flat design allows it to be used on a 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

Hole milling drawings

Installation drawings

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



■ 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 |

VE8 series

ADHESIVE PROTECTIVE VENT FILTER



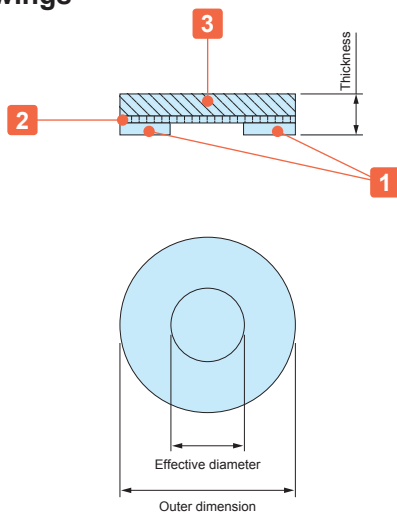
| Technical Data |
|--|
| Protection class : Dustproof IP6X Waterproof IPX4, IPX7 |
| Airflow: 3,300ml/min/cm2 (at 7Kpa) |
| Operating temperature: -40°C ~ +100°C |

- 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.

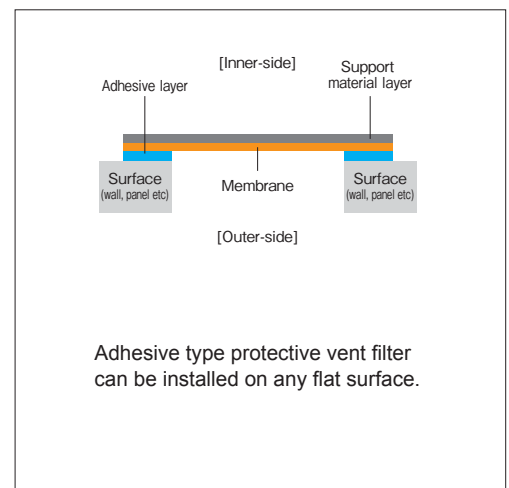
CAUTION

- 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



Components

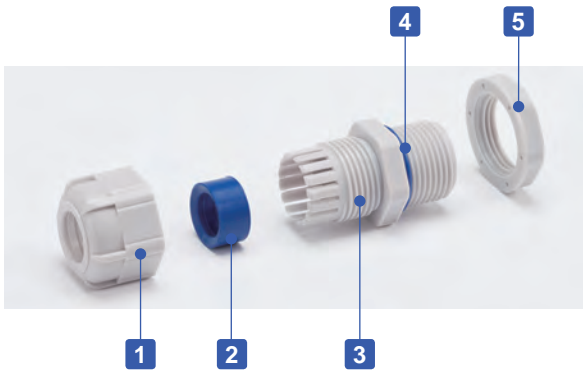
| No. | Part name | Material | Color |
|-----|------------------|----------------------------|-------------|
| 1 | Adhesive | Acrylic adhesive | Transparent |
| 2 | Filter | ePTFE (Oil-repellent type) | White |
| 3 | Support material | Polyester fabric | White |

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) |



- 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.



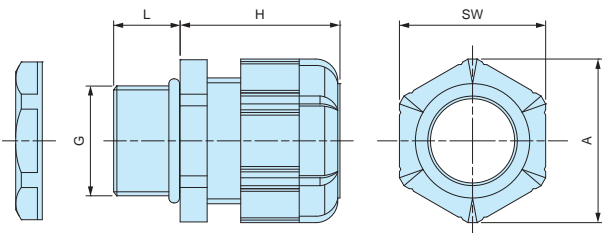
Components

■ 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. | | 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 | M8x1.25 | Φ8.2 | 1 | 2.5 | 13 | 19.5 | 11.8 | 13.5 | 1 |
| RMW8L-4B | RMW8L-4S | M8x1.25 | Φ8.2 | 2.5 | 4 | 13 | 19.5 | 11.8 | 13.5 | 1 |
| RMW10S-6B | RMW10S-6S | M10x1.5 | — | 3 | 6 | 8 | 20.5 | 13 | 14.4 | 1 |
| RMW10L-6B | RMW10L-6S | M10x1.5 | Φ10.2 | 3 | 6 | 13 | 20.5 | 13 | 14.4 | 1 |
| RMW12S-7B | RMW12S-7S | M12x1.5 | Φ12.2 | 3.5 | 7 | 9 | 20.5 | 16 | 17.6 | 1 |
| RMW12L-7B | RMW12L-7S | M12x1.5 | Φ12.2 | 3.5 | 7 | 14.5 | 20.5 | 16 | 17.7 | 1 |
| RMW16S-8B | RMW16S-8S | M16x1.5 | Φ16.2 | 4 | 8 | 9 | 23.5 | 19 | 21 | 1 |
| RMW16L-8B | RMW16L-8S | M16x1.5 | Φ16.2 | 4 | 8 | 15 | 24 | 19 | 21 | 1 |
| RMW20S-12B | RMW20S-12S | M20x1.5 | Φ20.2 | 6 | 12 | 10 | 29 | 24 | 26.2 | 1 |
| RMW20L-12B | RMW20L-12S | M20x1.5 | Φ20.2 | 6 | 12 | 15 | 28.5 | 24 | 26.2 | 1 |
| RMW25L-17B | RMW25L-17S | M25x1.5 | Φ25.2 | 11 | 17 | 15 | 35 | 33 | 36.2 | 1 |
| RMW32L-21B | RMW32L-21S | M32x1.5 | Φ32.3 | 13 | 21 | 15 | 38 | 36 | 39.5 | 1 |
| RMW40L-27B | RMW40L-27S | M40x1.5 | Φ40.3 | 18 | 27 | 18 | 43.5 | 45.7 | 50.5 | 1 |
| RMW50L-38B | RMW50L-38S | M50x1.5 | Φ50.4 | 27 | 38 | 20 | 50.5 | 60 | 66.5 | 1 |
| RMW10L-6B-P | RMW10L-6S-P | M10x1.5 | Φ10.2 | 3 | 6 | 13 | 20.5 | 13 | 14.4 | 100 |
| RMW12S-7B-P | RMW12S-7S-P | M12x1.5 | Φ12.2 | 3.5 | 7 | 9 | 20.5 | 16 | 17.6 | 100 |
| RMW12L-7B-P | RMW12L-7S-P | M12x1.5 | Φ12.2 | 3.5 | 7 | 14.5 | 20.5 | 16 | 17.7 | 100 |
| RMW16S-8B-P | RMW16S-8S-P | M16x1.5 | Φ16.2 | 4 | 8 | 9 | 23.5 | 19 | 21 | 100 |
| RMW16L-8B-P | RMW16L-8S-P | M16x1.5 | Φ16.2 | 4 | 8 | 15 | 24 | 19 | 21 | 100 |
| RMW20S-12B-P | RMW20S-12S-P | M20x1.5 | Φ20.2 | 6 | 12 | 10 | 29 | 24 | 26.2 | 100 |
| RMW20L-12B-P | RMW20L-12S-P | M20x1.5 | Φ20.2 | 6 | 12 | 15 | 28.5 | 24 | 26.2 | 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 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/m² 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/m²

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

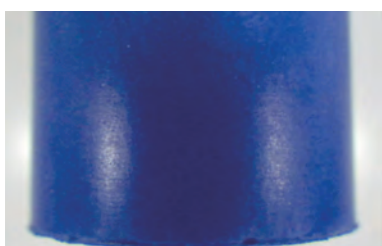


After

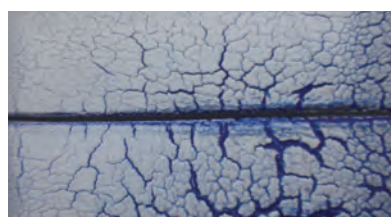


EPDM material from weatherproof cable gland of another manufacturer : Cracked, color drastically faded and powder appeared on the surface.

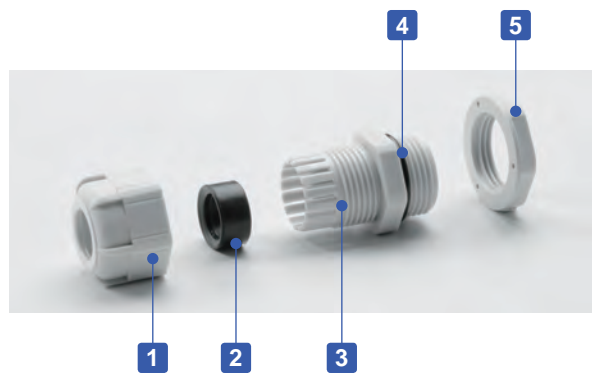
Before



After



RM series POLYAMIDE CABLE GLAND



- Low cost cable glands made from polyamide material.
- Wide selection, for M8 ~ M63, suitable for $\Phi 1\text{mm} \sim \Phi 44\text{ mm}$ cable.
- High oil resistant NBR rubber sealing and O-ring.
- IP67 protection class.

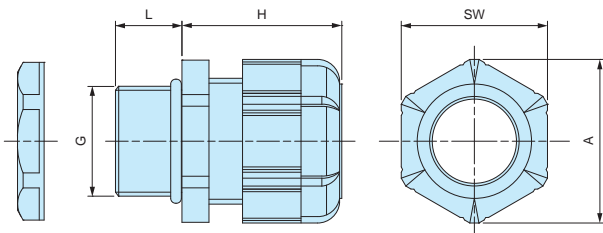
Components

■ 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 | M8x1.25 | — | 1 | 2.5 | 7.5 | 19.5 | 11.8 | 13.5 | 1 |
| RM8L-2.5B | RM8L-2.5S | M8x1.25 | $\Phi 8.2$ | 1 | 2.5 | 13 | 19.5 | 11.8 | 13.5 | 1 |
| RM8S-4B | RM8S-4S | M8x1.25 | — | 2.5 | 4 | 7.5 | 19.5 | 11.8 | 13.5 | 1 |
| RM8L-4B | RM8L-4S | M8x1.25 | $\Phi 8.2$ | 2.5 | 4 | 13 | 19.5 | 11.8 | 13.5 | 1 |
| RM10S-6B | RM10S-6S | M10x1.5 | — | 3 | 6 | 8 | 20.5 | 13 | 14.4 | 1 |
| RM10L-6B | RM10L-6S | M10x1.5 | $\Phi 10.2$ | 3 | 6 | 13 | 20.5 | 13 | 14.4 | 1 |
| RM12S-7B | RM12S-7S | M12x1.5 | $\Phi 12.2$ | 3.5 | 7 | 9 | 20.5 | 16 | 17.6 | 1 |
| RM12L-7B | RM12L-7S | M12x1.5 | $\Phi 12.2$ | 3.5 | 7 | 14.5 | 20.5 | 16 | 17.7 | 1 |
| RM16S-8B | RM16S-8S | M16x1.5 | $\Phi 16.2$ | 4 | 8 | 9 | 23.5 | 19 | 21 | 1 |
| RM16L-8B | RM16L-8S | M16x1.5 | $\Phi 16.2$ | 4 | 8 | 15 | 24 | 19 | 21 | 1 |
| RM20S-12B | RM20S-12S | M20x1.5 | $\Phi 20.2$ | 6 | 12 | 10 | 29 | 24 | 26.2 | 1 |
| RM20L-12B | RM20L-12S | M20x1.5 | $\Phi 20.2$ | 6 | 12 | 15 | 28.5 | 24 | 26.2 | 1 |
| RM25L-17B | RM25L-17S | M25x1.5 | $\Phi 25.2$ | 11 | 17 | 15 | 35 | 33 | 36.2 | 1 |
| RM32L-21B | RM32L-21S | M32x1.5 | $\Phi 32.3$ | 13 | 21 | 15 | 38 | 36 | 39.5 | 1 |
| RM40L-27B | RM40L-27S | M40x1.5 | $\Phi 40.3$ | 18 | 27 | 18 | 43.5 | 45.7 | 50.5 | 1 |
| RM50L-38B | RM50L-38S | M50x1.5 | $\Phi 50.4$ | 27 | 38 | 20 | 50.5 | 60 | 66.5 | 1 |
| RM63L-44B | RM63L-44S | M63x1.5 | $\Phi 63.4$ | 37 | 44 | 20 | 53 | 68 | 75.5 | 1 |
| RM10L-6B-P | RM10L-6S-P | M10x1.5 | $\Phi 10.2$ | 3 | 6 | 13 | 20.5 | 13 | 14.4 | 100 |
| RM12S-7B-P | RM12S-7S-P | M12x1.5 | $\Phi 12.2$ | 3.5 | 7 | 9 | 20.5 | 16 | 17.6 | 100 |
| RM12L-7B-P | RM12L-7S-P | M12x1.5 | $\Phi 12.2$ | 3.5 | 7 | 14.5 | 20.5 | 16 | 17.7 | 100 |
| RM16S-8B-P | RM16S-8S-P | M16x1.5 | $\Phi 16.2$ | 4 | 8 | 9 | 23.5 | 19 | 21 | 100 |
| RM16L-8B-P | RM16L-8S-P | M16x1.5 | $\Phi 16.2$ | 4 | 8 | 15 | 24 | 19 | 21 | 100 |
| RM20S-12B-P | RM20S-12S-P | M20x1.5 | $\Phi 20.2$ | 6 | 12 | 10 | 29 | 24 | 26.2 | 100 |
| RM20L-12B-P | RM20L-12S-P | M20x1.5 | $\Phi 20.2$ | 6 | 12 | 15 | 28.5 | 24 | 26.2 | 100 |
| RM25L-17B-P | RM25L-17S-P | M25x1.5 | $\Phi 25.2$ | 11 | 17 | 15 | 35 | 33 | 36.2 | 100 |

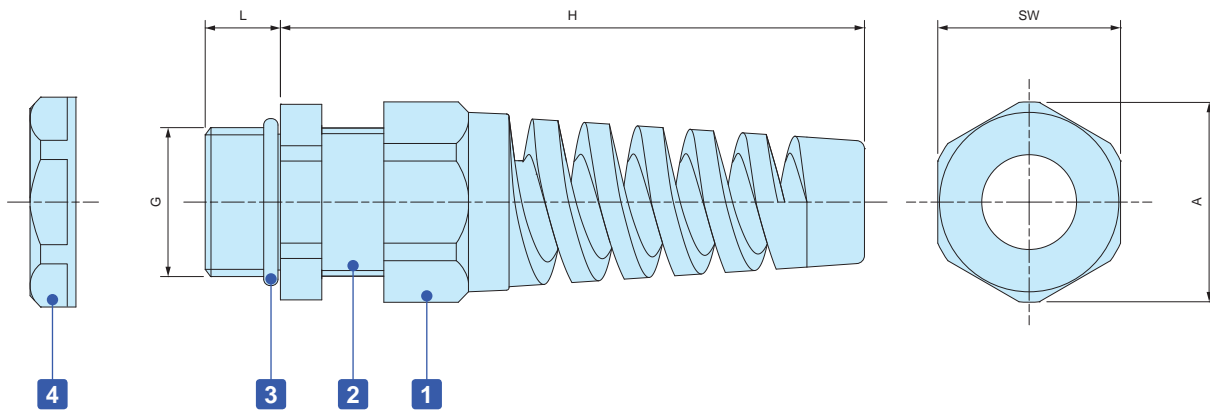


■ Strain relief cap protects cables by preventing it from bending beyond its limit and breaking.

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

RSP dimensions

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



Components

| 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. / Dimensions

| Product no. | | G | | Cable range | | L | H Max | SW | A | Pack of |
|-------------|--------------|-------------|---------------|-------------|-----|----|-------|------|----|---------|
| ● Black | ● Light gray | Thread size | Mounting hole | Min | Max | | | | | |
| RSP12-6B | RSP12-6S | M12x1.5 | Φ12.2 | 3.5 | 6 | 9 | 62 | 16 | 17 | 1 |
| RSP16-8B | RSP16-8S | M16x1.5 | Φ16.2 | 4 | 8 | 9 | 69 | 19.5 | 21 | 1 |
| RSP20-11B | RSP20-11S | M20x1.5 | Φ20.2 | 6 | 11 | 10 | 82 | 24 | 26 | 1 |
| RSP25-16B | RSP25-16S | M25x1.5 | Φ25.2 | 11 | 16 | 12 | 102 | 33 | 36 | 1 |



- High water protection IP68 (1bar / 30min) polyamide cable gland.
- Wide selection, for M8 ~ M50, suitable for Φ 2.5mm ~ Φ 42 mm cable.
- Super tough and superior heat resistant PA6GF (glass fiber filled PA6) material on cap and connector.
- Safer halogen free, eco-friendly product.

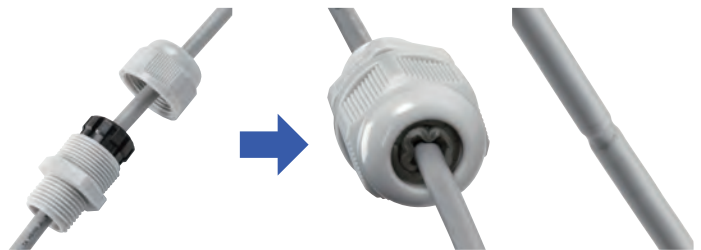
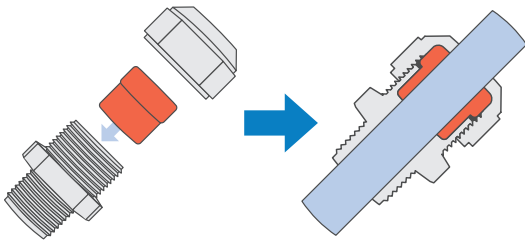
| Technical Data |
|---------------------------------------|
| Protection class: IP68 1bar / 30min |
| Operating temperature: -20°C ~ +100°C |
| Compliant with EN50262 Ver. A |

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.

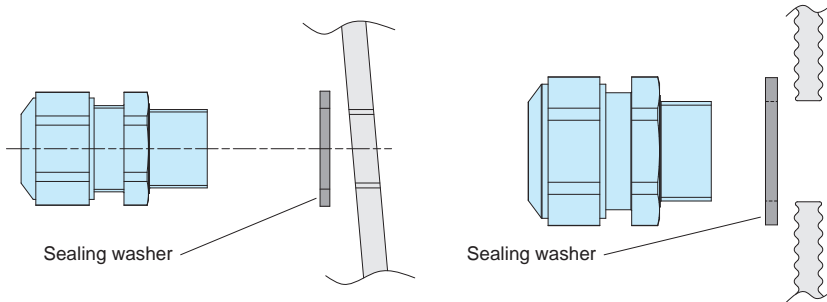
- Proper tightening torque varies by each cable diameter. Tighten the cap until top of the sealing insert forms a small bead between the cap and the cable.



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

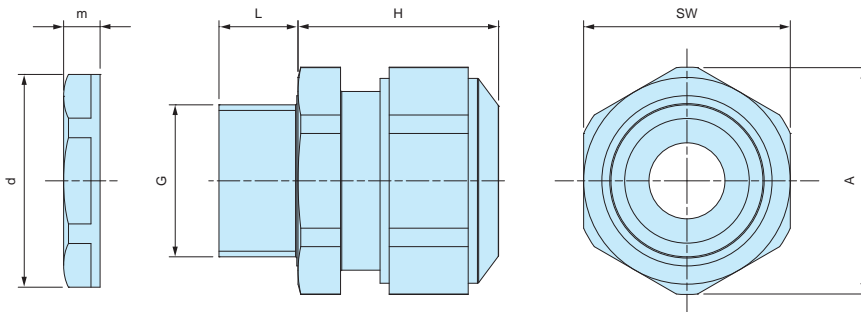
■ An optional sealing washer is required when installing on an uneven surface. (See website for more information on the optional sealing washer)

Waterproof rib



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 | M8x1.0 | — | 2.5 | 3.5 | 10 | 17 | 12 | 13.2 | — | — | 1 |
| AG8-5B | AG8-5S | M8x1.0 | — | 3.5 | 4.7 | 10 | 17 | 12 | 13.2 | — | — | 1 |
| AG10-6B | AG10-6S | M10x1.0 | — | 4 | 6 | 10 | 19 | 15 | 16.5 | — | — | 1 |
| AG12-5B | AG12-5S | M12x1.5 | Φ12.2 | 3.5 | 4.7 | 12 | 23.5 | 17 | 18.7 | 18.8 | 5 | 1 |
| AG12-6.5B | AG12-6.5S | M12x1.5 | Φ12.2 | 5 | 6.5 | 12 | 23 | 17 | 18.7 | 18.8 | 5 | 1 |
| AG12-8B | AG12-8S | M12x1.5 | Φ12.2 | 6.5 | 7.8 | 12 | 23 | 17 | 18.7 | 18.8 | 5 | 1 |
| AG16-10B | AG16-10S | M16x1.5 | Φ16.2 | 8 | 10 | 12 | 26 | 21 | 23.1 | 24.3 | 5 | 1 |
| AG20-15B | AG20-15S | M20x1.5 | Φ20.2 | 11 | 15 | 13 | 27 | 27 | 29.7 | 29 | 6 | 1 |
| AG25-16B | AG25-16S | M25x1.5 | Φ25.2 | 12.5 | 16 | 13 | 34 | 34 | 37.4 | 36 | 6.7 | 1 |
| AG25-20B | AG25-20S | M25x1.5 | Φ25.2 | 16 | 20 | 13 | 34 | 34 | 37.4 | 36 | 6.7 | 1 |
| AG32-25.5B | AG32-25.5S | M32x1.5 | Φ32.3 | 21 | 25.5 | 15 | 36 | 41 | 45.6 | 46 | 8 | 1 |
| AG40-28.5B | AG40-28.5S | M40x1.5 | Φ40.3 | 24 | 28.5 | 15 | 41 | 50 | 55.4 | 53.5 | 9 | 1 |
| AG40-33B | AG40-33S | M40x1.5 | Φ40.3 | 28.5 | 33 | 15 | 41 | 50 | 55.4 | 53.5 | 9 | 1 |
| AG50-37B | AG50-37S | M50x1.5 | Φ50.4 | 33 | 37 | 16 | 45 | 60 | 65.5 | 66 | 9.6 | 1 |
| AG50-42B | AG50-42S | M50x1.5 | Φ50.4 | 37 | 42 | 16 | 45 | 60 | 65.5 | 66 | 9.6 | 1 |