

AW • AWN • AWP series

IP68 ALUMINIUM ENCLOSURE

AW • AWN • AWP series are highly functional aluminium enclosures which are IP68 (24 hours / 1m depth immersion) rated with heat dissipating heat-sink fins.

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

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

APPLICATION EXAMPLE

Waterproof Boating Network Modular System



GNSS Receiver



Heavy Duty Portable Hardness Tester



LoRa Wan Gateway



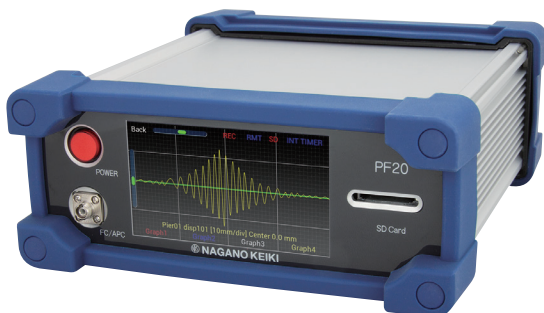
Radio-Control Electronic Exploder



Pin Hole Detector



FBG Data Logger



Data Logger with 3G Modem Report Function



Custom Length Available

Flexible frame length from 50mm to 700mm in 0.1mm intervals.

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

See our website for further details.





- IP68 and heat dissipation enclosure. Designed with flanged end panels.
- PCB or chassis is mounted by sliding it horizontally into an inner-grooved body frame.
- Designed for a tough environment where waterproof and heat countermeasures are required.
- Suitable for outdoor use such as LED power supplies and junction boxes.

Technical Data

Protection class : IP68 (24 hours/1m depth)
 Operating temperature : -40°C ~ +105°C
 Recommended torque : 1.0N • m

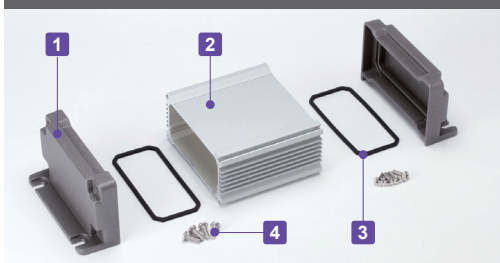
Normal N type Components

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

EMC Shielded E type Components

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

Normal - N type



Color type



Metallic gray / Silver

N G S



Black / Silver

N B S

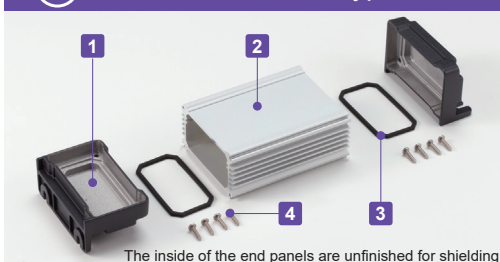


Black / Black

N B B



EMC Shielded - E type



Color type



Silver / Silver

E S S



Black / Silver

E B S

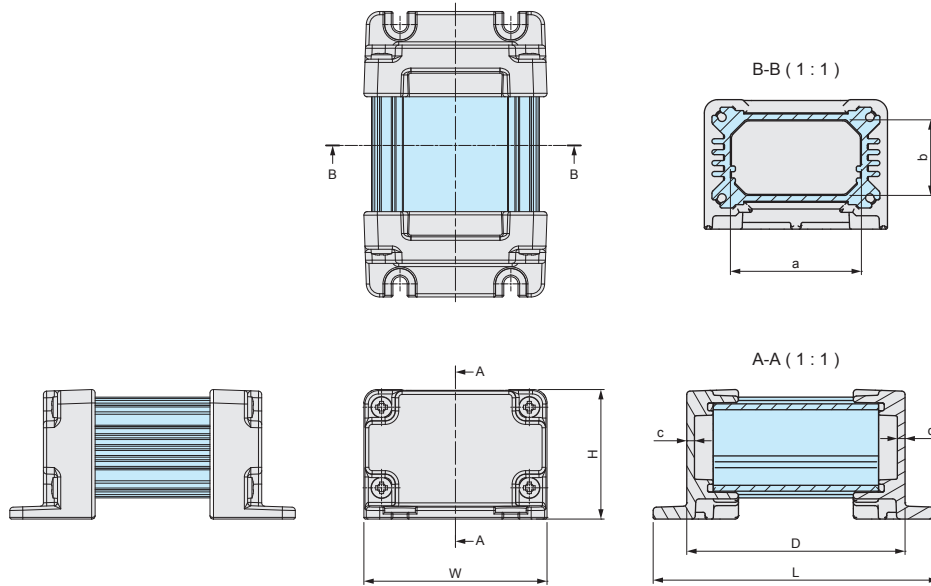


Black / Black

E B B

AW dimensions

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



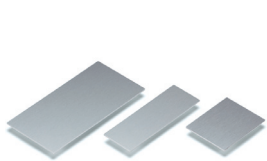
Product no. / Details

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

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

■ Custom length is available.

Accessories (Optional parts)



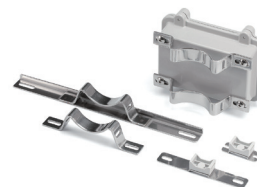
Mounting plate AWC series
See page 166



Hexagon socket head screw HCS series
See page 166



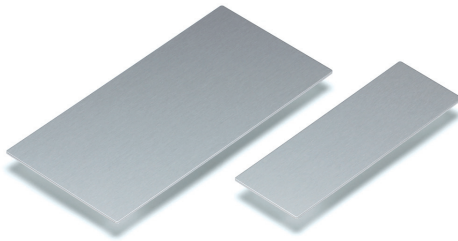
Cable gland
See page 181 ~ 193



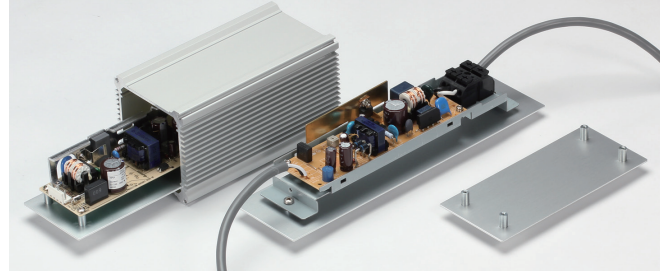
Pole mounting bracket SSK series
See website



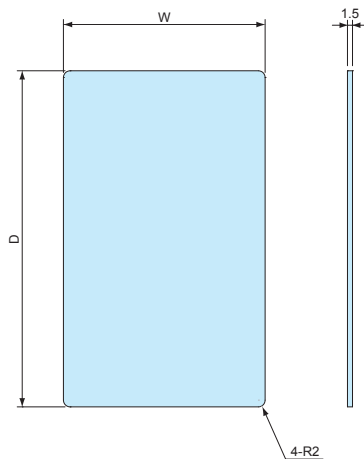
Protective vent CVP • PMF series
See page 195 ~ 200

AWC series**ALUMINIUM MOUNTING PLATE for AW • AWN • AWP • AWA**

APPLICATION EXAMPLE



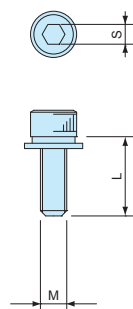
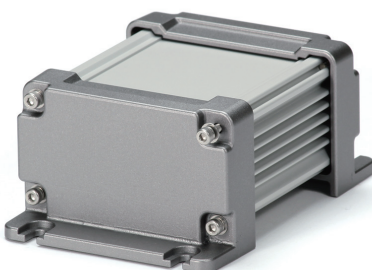
- Material: Aluminium A1050P t=1.5 / Silver anodized
- Mounting plate for AW, AWN, AWP, and AWA enclosures.
- Utilize for mounting PCB, power supply, terminal blocks, etc.

AWC dimensions

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

Product no. / Details

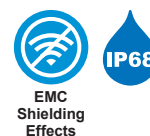
Product no.	W	D	Suitable models
AWC 5- 7	38.9	49.2	AW • AWN 5-4- 7
AWC 5- 9	38.9	69.2	AW • AWN 5-4- 9
AWC 5-11	38.9	94.2	AW • AWN 5-4-11
AWC 5-14	38.9	119.2	AW • AWN 5-4-14
AWC 7- 8	47	64	AW • AWN 7-7- 8 • AWA 6-6- 7
AWC 7-11	47	94	AW • AWN 7-7-11 • AWA 6-6-10
AWC 7-15	47	134	AW • AWN 7-7-15 • AWA 6-6-14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

HCS series**HEXAGON SOCKET HEAD SCREW for AW • AWN**

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

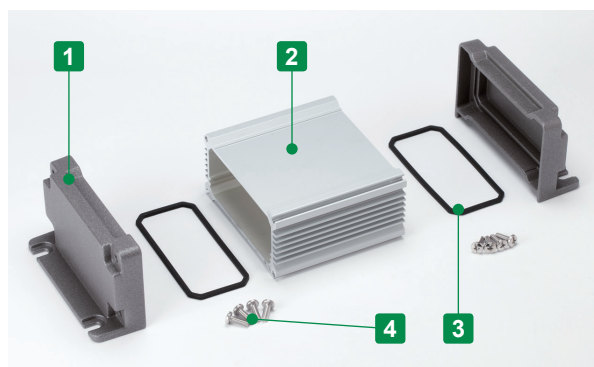
Product no. / Details

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



Technical Data

Protection class: IP68 (24 hours/1m depth)
 Operating temperature: -40°C ~ +105°C
 Recommended torque: 1.0N • m



- IP68 and heat dissipation enclosure with flanged end panels. Selectable in both Normal or EMC Shielded type.
- Selectable in 8 different Width/Height types, with adjustable length (depth) in 1mm intervals from 50 to 700mm.
- PCB or chassis can be horizontally mounted by sliding into an inner-grooved body frame.
- Designed for a tough environment where waterproof and heat countermeasures are required.
- Suitable for outdoor use such as LED power supply and junction boxes.

Components

No.	Part name	Pcs	Material	Color / Finish
1	Flanged end panel	2	Diecast aluminium ADC12	Normal - N type : Metallic gray • Black / Powder coated EMC Shielded - E type : Silver • Black / Painted (Unfinished inside)
2	Body frame	1	Extruded aluminium A6063S-T5	Silver • Black / Anodized with clear coating
3	Gasket	2	Normal - N type : Silicone EMC Shielded - E type : Conductive silicone	Black
4	Screw	8	Stainless steel	Unfinished

■ See page AW-Frame-1 ~ AW-Frame-2 for Body frame dimensions.

Lead Time

Custom Size Only
 Custom Size + Hole Milling

4 business days (1 ~ 10 pcs)
 10 business days (1 ~ 10 pcs)

Order Inquiry

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

CUSTOM SIZE WEB QUOTATION

Send your inquiry via our online form now!

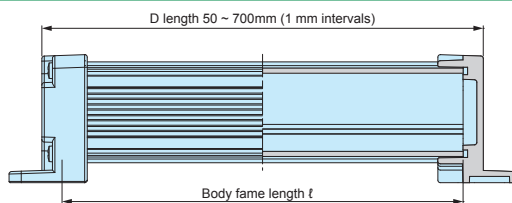
Visit the AWS product page on our website, click on the "CUSTOM SIZE WEB QUOTATION" button, and fill in the required details. The product number will be generated, and once your information have been filled in, simply click on SUBMIT and await for our sales team's contact!

1 Dimensions

To select W-H dimensions from the table below, and D length in 1mm intervals.

55-39 (W-H)	66-71 (W-H)	81-51 (W-H)	86-92 (W-H)	106-62 (W-H)
120-77 (W-H)		156-87 (W-H)		206-87 (W-H)

D length



- D length can be requested in 0.1mm intervals, but with higher tolerances ($\pm 0.3\text{mm}$).

*D length may vary due to expansion and contraction of gasket from screw tightening

- Refer to the chart on AW-Frame-2 for body frame length l .

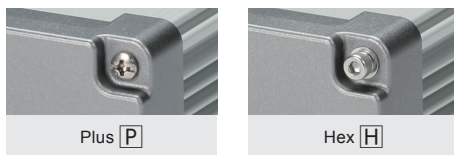
2 Shielding • Color

To select a type and color code from the table below.

Normal - N type			EMC Shielded - E type	
Metallic gray / Silver N G S	Black / Silver N B S	Black / Black N B B	Silver / Silver E S S	Black / Black E B B

3 Screw

To select screw type.



EMC Shielded - E type equipped with painted panels (unfinished inside) and conductive gasket.

Product Number

To determine the product number, fill W-H and D, select Shielding • Color code and Screw type in the following blank boxes.

Product no. AWS -

1 W-H 1 D length 2 Shielding type 2 Color code 3 Screw type

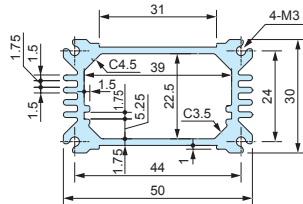
Numbering example: W-H:156-87 x D:456, EMC type, BB color code and Hex screw type

➔ **AWS156-87-456EBBH**

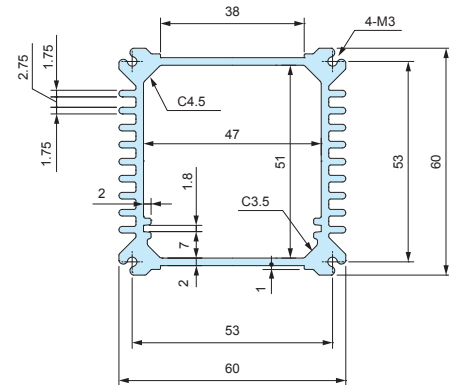
Cross-section view of frame

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

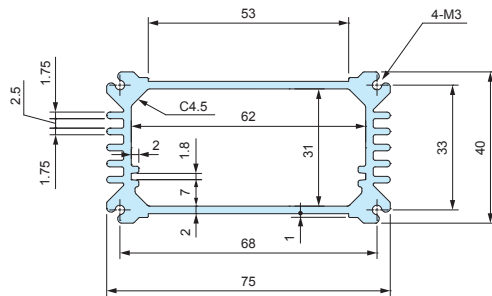
AWS55-39-☐
 AWNS55-35-☐
 AWAS52-32-☐



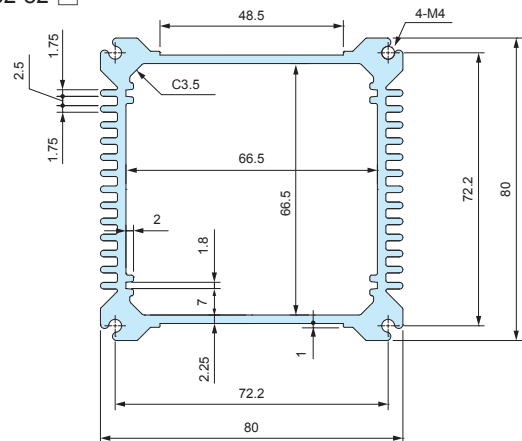
AWS66-71-☐
 AWNS66-66-☐
 AWAS61-61-☐



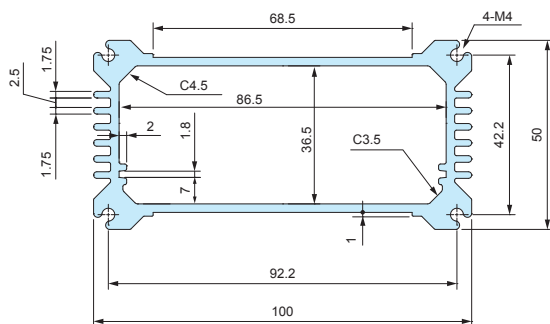
AWS81-51-☐
 AWNS81-46-☐
 AWAS76-41-☐



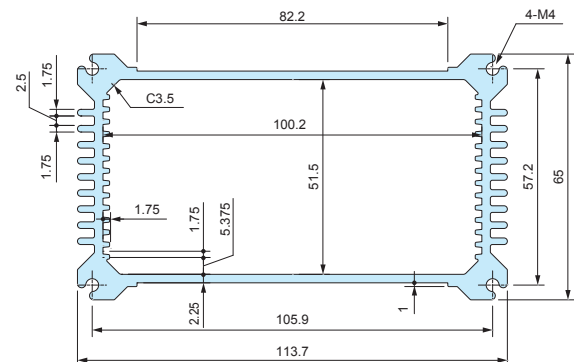
AWS86-92-☐
 AWNS86-86-☐
 AWAS82-82-☐



AWS106-62-☐
 AWNS106-56-☐
 AWAS102-52-☐



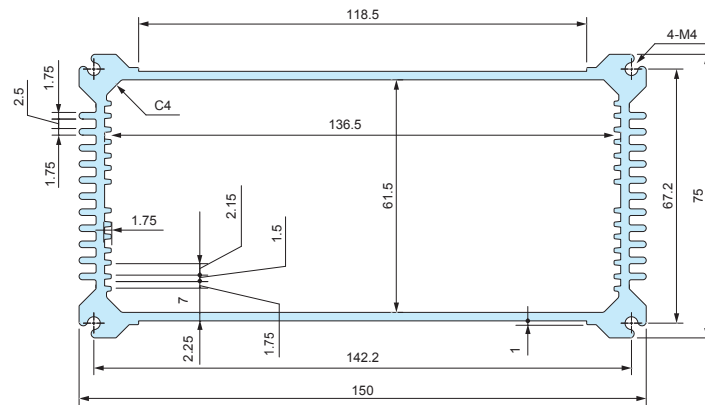
AWS120-77-☐
 AWNS120-71-☐
 AWAS116-67-☐



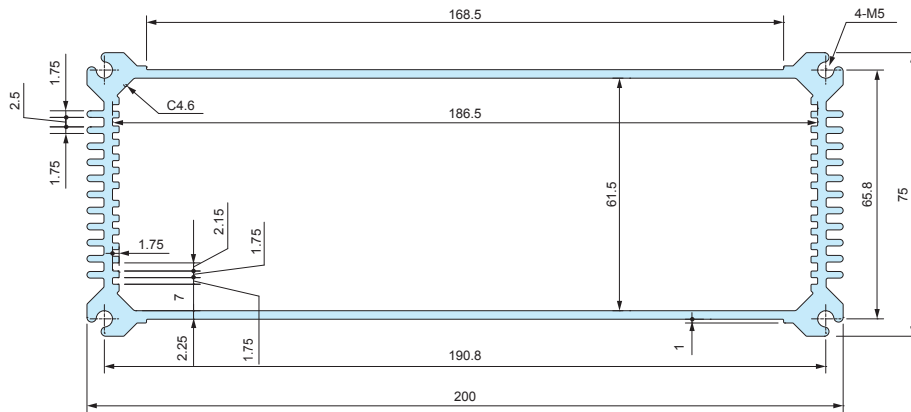
Cross-section view of frame

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

AWS156-87-□
 AWNS156-81-□
 AWAS152-77-□

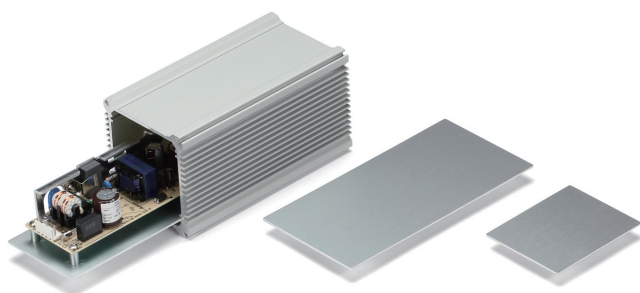


AWS206-87-□
 AWNS206-81-□
 AWAS202-77-□



Product no.	Frame length (ℓ)
AWS55-39-□ AWNS55-35-□	D-15.8
AWS66-71-□ AWNS66-66-□	D-16
AWS81-51-□ AWNS81-46-□	D-16
AWS86-92-□ AWNS86-86-□	D-19
AWS106-62-□ AWNS106-56-□	D-19.4
AWS120-77-□ AWNS120-71-□	D-19.4
AWS156-87-□ AWNS156-81-□	D-19.4
AWS206-87-□ AWNS206-81-□	D-22.2

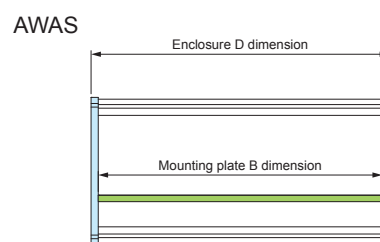
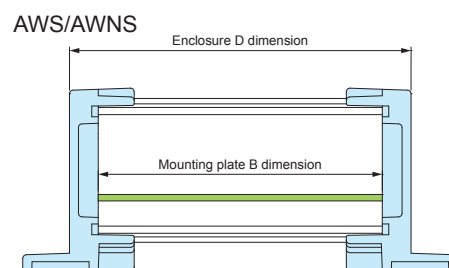
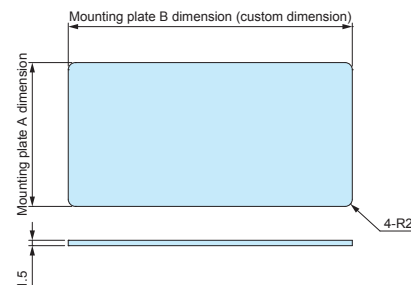
Product no.	Frame length (ℓ)
AWAS52-32-□	D-4
AWAS61-61-□	D-4
AWAS76-41-□	D-4
AWAS82-82-□	D-5
AWAS102-52-□	D-5
AWAS116-67-□	D-5
AWAS152-77-□	D-5
AWAS202-77-□	D-6

AWSC SERIES**CUSTOM SIZED MOUNTING PLATE for AWS • AWNS • AWAS**

- Material / Finish : Aluminium A1050P / Silver anodized

Mounting plate dimensions

Enclosure W-H product no.	Mounting plate A dimension	Mounting plate B dimension	Enclosure W type
AWS55-39/AWNS55-35	38.9	Enclosure D dimension-15.8	55
AWAS52-32	38.9	Enclosure D dimension-4	52
AWS66-71/AWNS66-66	47	Enclosure D dimension-16	66
AWAS61-61	47	Enclosure D dimension-4	61
AWS81-51/AWNS81-46	61.8	Enclosure D dimension-16	81
AWAS76-41	61.8	Enclosure D dimension-4	76
AWS86-92/AWNS86-86	66.5	Enclosure D dimension-19	86
AWAS82-82	66.5	Enclosure D dimension-5	82
AWS106-62/AWNS106-56	86.5	Enclosure D dimension-19.4	106
AWAS102-52	86.5	Enclosure D dimension-5	102
AWS120-77/AWNS120-71	100.2	Enclosure D dimension-19.4	120
AWAS116-67	100.2	Enclosure D dimension-5	116
AWS156-87/AWNS156-81	136.3	Enclosure D dimension-19.4	156
AWAS152-77	136.3	Enclosure D dimension-5	152
AWS206-87/AWNS206-81	186.1	Enclosure D dimension-22.2	206
AWAS202-77	186.1	Enclosure D dimension-6	202

**Confirm Product No.**

Confirm product code with enclosure W product code and enclosure D dimension.

Mounting Plate Product No. **AWSC**

-
Enclosure W type Enclosure D dimension

Example : Enclosure W-H dimensions (i.e. AWS81-51) = 81-51, Enclosure D dimension = 234mm

AWSC -

Lead time

Custom Size Only
Custom Size + Hole Milling

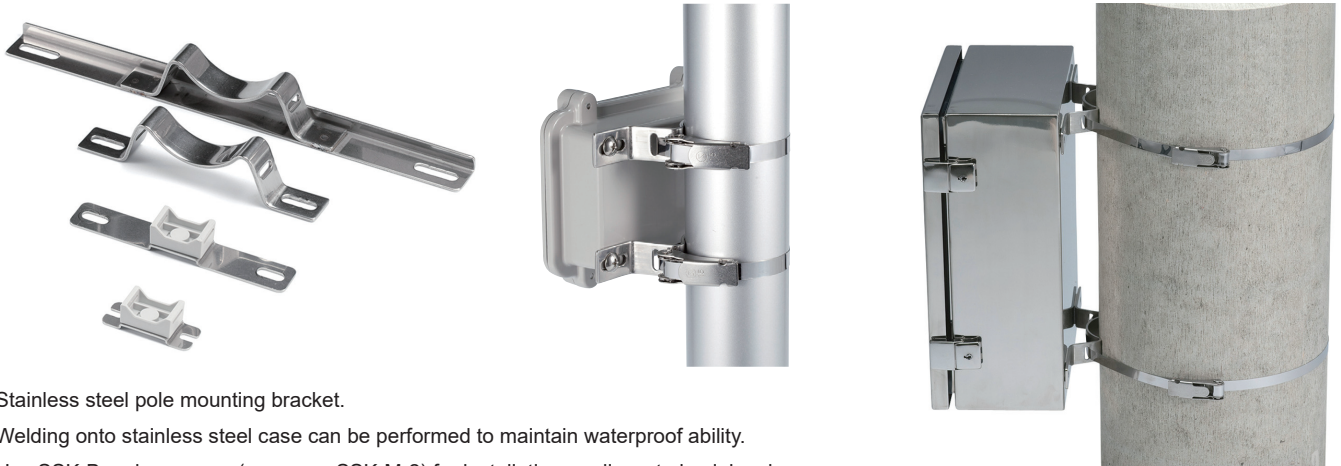
4 business days (1 ~ 10 pcs)
8 business days (1 ~ 10 pcs)

Order Inquiry

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

SSK SERIES

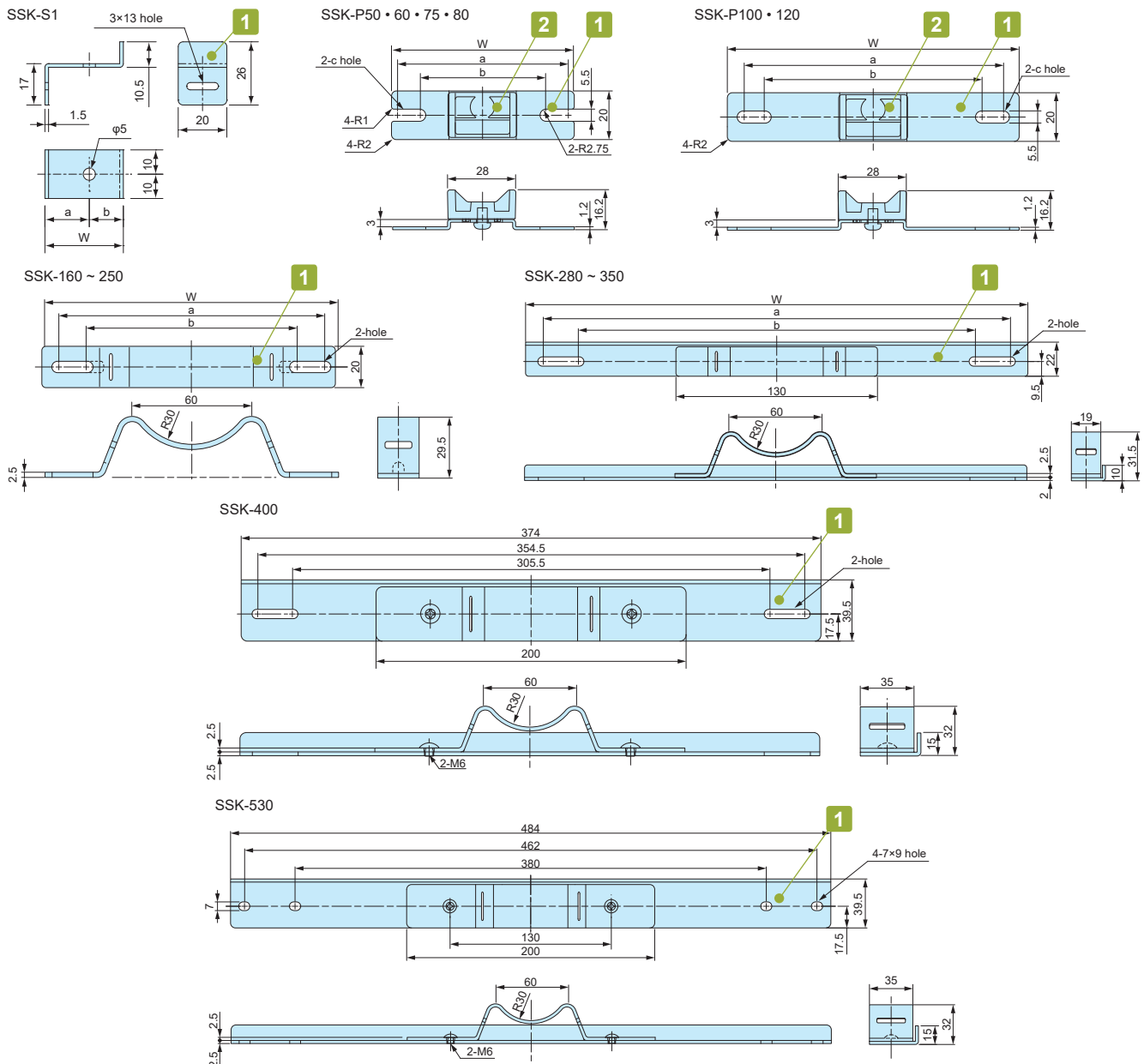
POLE MOUNTING BRACKET



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

SSK dimensions

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



SSK-M-1

Components

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

Product no. / Dimensions

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

SSK-B SERIES

MOUNTING SCREW SET for SSK

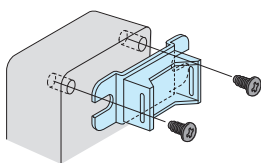
- Mounting screw set for use with SSK pole mounting bracket.
- See below chart for appropriate screw / box combination.
- Material / Finish : Stainless steel / Unfinished.

Product no. / Dimensions

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

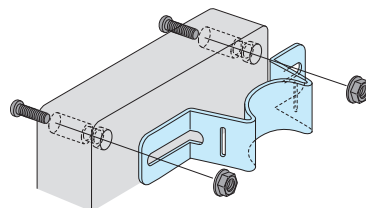
■ Installation Example

M5 thread fastening



SSK-B5-8T

M4/M5 Pan head with nut fastening



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

POLE MOUNTING BRACKET / SCREW SET MATCHING CHART

BDN series

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

HQ series

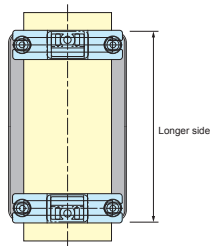
Box Product no.		SSK Product no.		Screw set Product no.
		Vertical mount	Horizontal mount	
HQ	10-10-5 • 10-10-7	SSK-P50	—	SSK-B5-8T
	15-10-5 • 15-10-8	SSK-P80	SSK-160	SSK-B5-8T
	15-11-3	SSK-P100	SSK-160	SSK-B5-8T
	16-16-6 • 16-16-8	SSK-170	SSK-170	SSK-B5-8T
	19-10-5 • 19-10-7	—	SSK-200	SSK-B5-8T
	20-15-3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

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

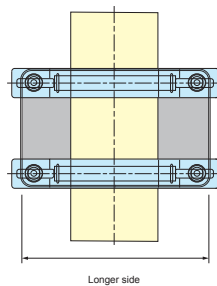
Box Product no.				SSK Product no.	
				Vertical mount	Horizontal mount
SSM SSB	121508			SSK-S1	—
	151508	152206	152210	SSK-160	—
	202010	202806		SSK-210	—
	202812	223312			
	304015			SSK-300	—

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

Vertical mount
(Longer vertical side)

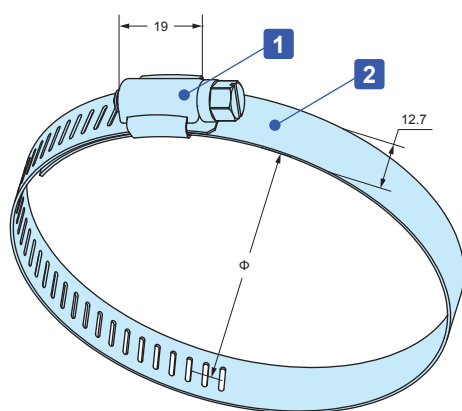


Horizontal mount
(Longer horizontal side)



AW series

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

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

PKB series**POLE MOUNTING BELT**

PKB-10PM, 10P



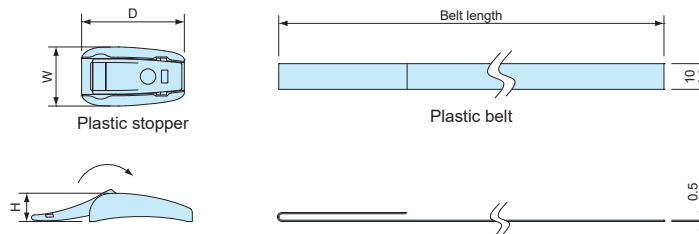
PKB-10S, 20S

- 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.

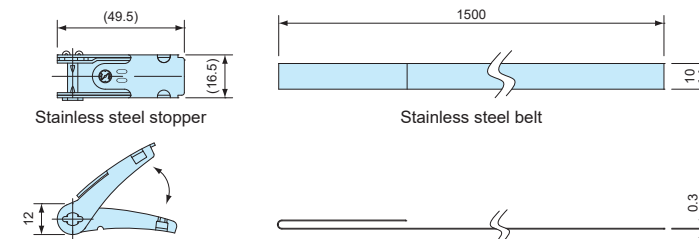
PKB dimensions

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

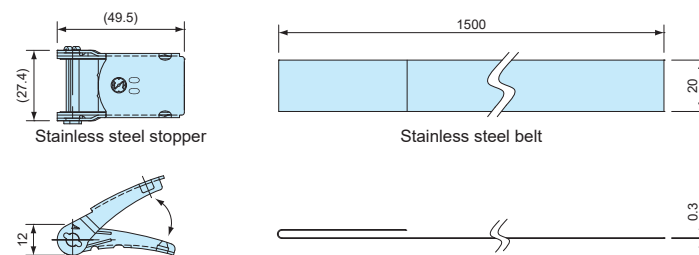
PKB-10PM, 10P



PKB-10S



PKB-20S

**Components**

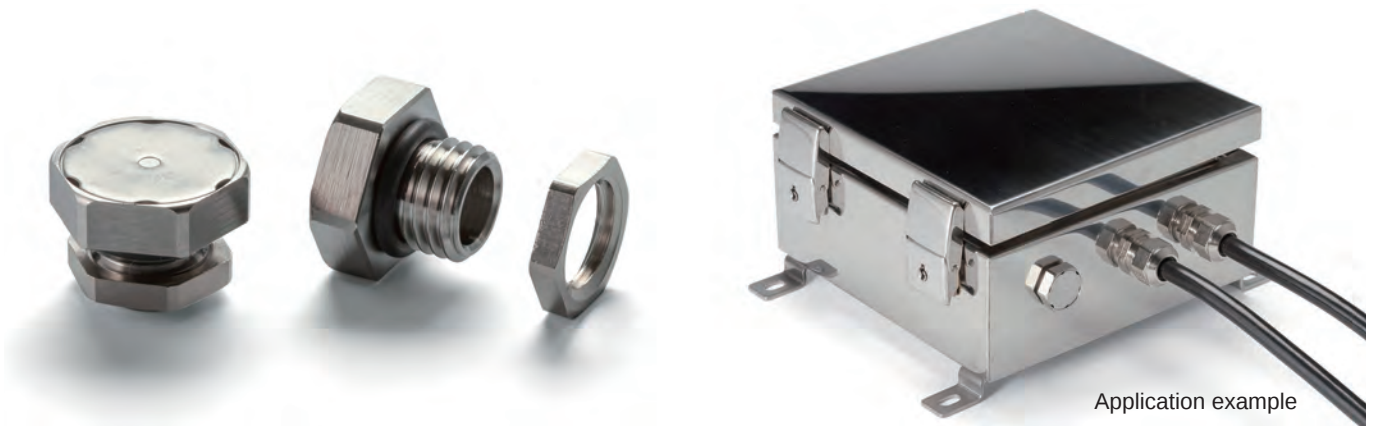
Part name	Material	Color / Finish
Stopper	Stainless steel SUS304 • POM	Barrel finish • Black
Belt	Stainless steel SUS430 • PET	Bright annealed finish • Gray

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-12M

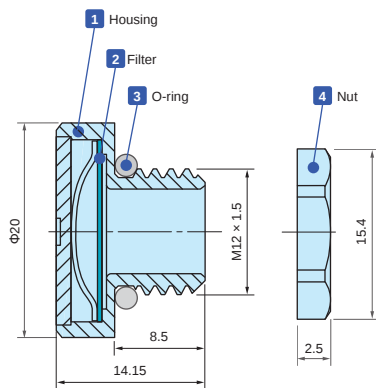
STAINLESS STEEL PROTECTIVE VENT



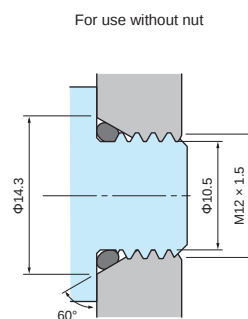
Application example

- Stainless steel protective vent for superior durability and chemical resistance.
- IP68 protection class (water depth 2 meters / 60 mins) and -40°C ~ +125°C operating temperature range allows it to be used in various environments.
- Suitable for enclosures with capacities of 20 litres or under.
- For outdoor use, installation on the side of the enclosure unit is recommended.

PMF-12M dimensions

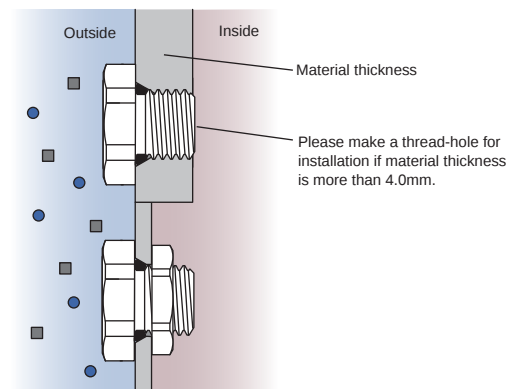


Hole milling drawings



- While $\Phi 12.2\text{mm}$ through-hole is sufficient for installation, 60° angle tapered hole is recommended to prevent deformation of the O-ring.

Installation drawings



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

Technical Data

Airflow	1600ml / min (dp = 7 kPa)
Recommended Torque	0.6 ~ 1.2 N • m
Certifications	IEC60529 (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 • 1000 hours IEC60068-2-64 (Vibration test)

Product no. / Details

Product no.	Material				G		Nut SW
	1 Housing	2 Filter	3 O-ring	4 Nut	Thread size	Mount hole	
PMF-12M	Stainless steel	PTFE	Silicone	Brass • Nickel plated	M12 x 1.5	$\Phi 12.2$	14

PMF series

PROTECTIVE VENT

Pressure Equalization / Ventilation



Application Example

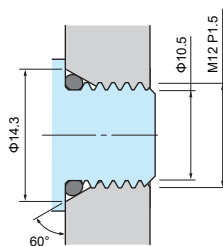
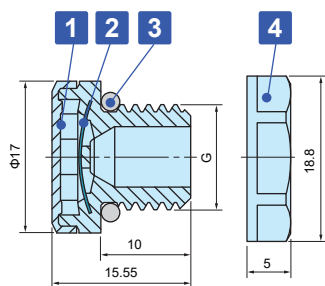
- Protective vent protects the enclosure from deformation by equalizing internal and external pressure differences, as well as venting the gas generated within the enclosure.
- IP68 protection class (water depth 2 meters / 60 mins) with an operating temperature range $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ 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

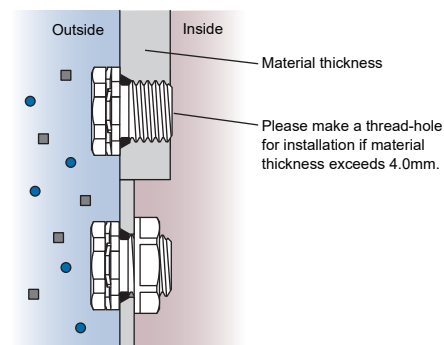
Hole milling drawings

Installation drawings

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



- 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-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) : $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ IEC60068-2-78 (Humidity test) : $85^{\circ}\text{C} \cdot 85\%$ 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
● Light gray	● Black	1 Housing	2 Filter	3 O-ring	4 Lock nut	Thread size	Mount hole	SW
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

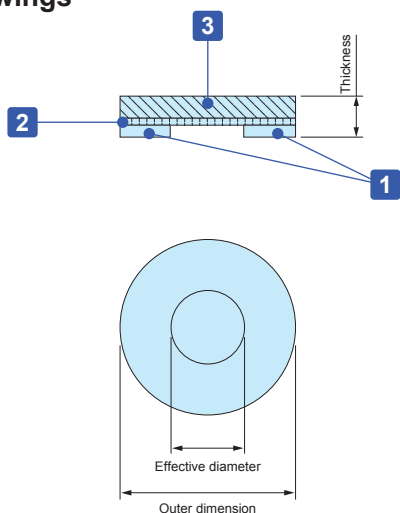
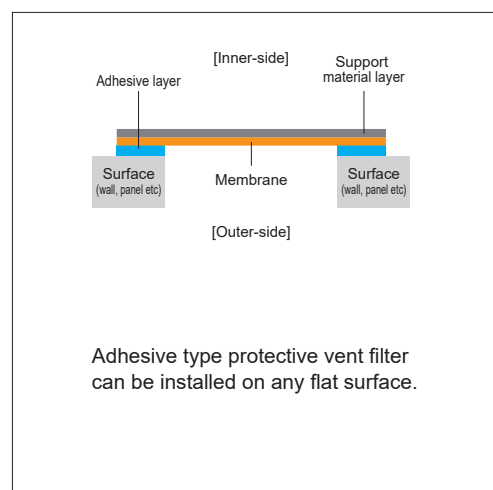
VE8 series**ADHESIVE PROTECTIVE VENT FILTER****Technical Data**

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****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)



- High water protection IP68 (1bar / 30min) polyamide cable gland.
- Wide selection, for M8 ~ M50, suitable for $\Phi 2.5\text{mm}$ ~ $\Phi 42\text{ mm}$ 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

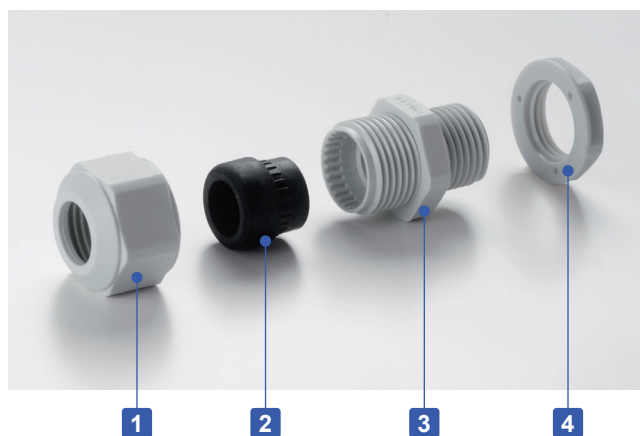
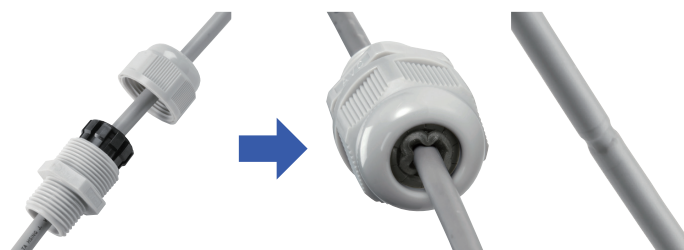
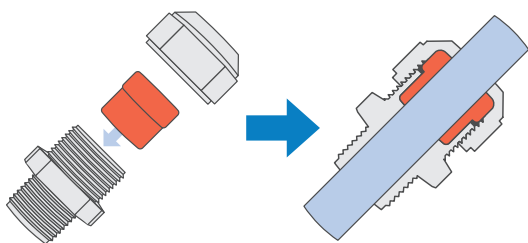
Protection class : IP68 1bar / 30min
 Operating temperature : -20°C ~ $+100^{\circ}\text{C}$
 Compliant with EN50262 Ver. A

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.

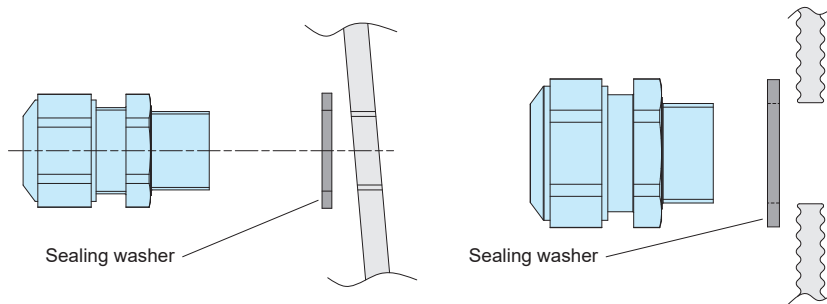
- Appropriate tightening torque varies by each cable diameter. Tighten the cap until top of the sealing insert forms a small bead between the cap and the cable.



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

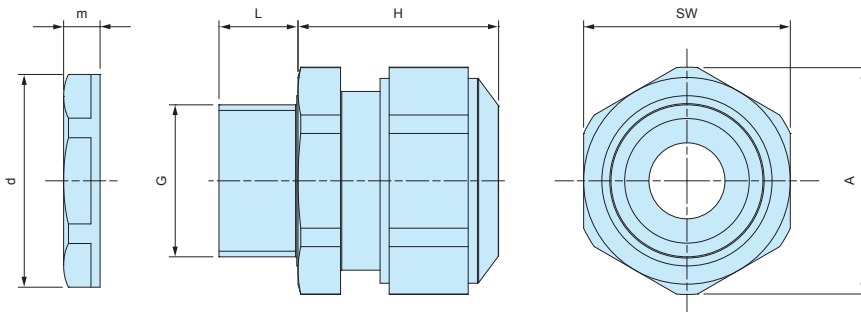
■ An optional sealing washer is required when installing on an uneven surface. (See website for more information on the optional sealing washer AGP series)

Waterproof rib



AG dimensions

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

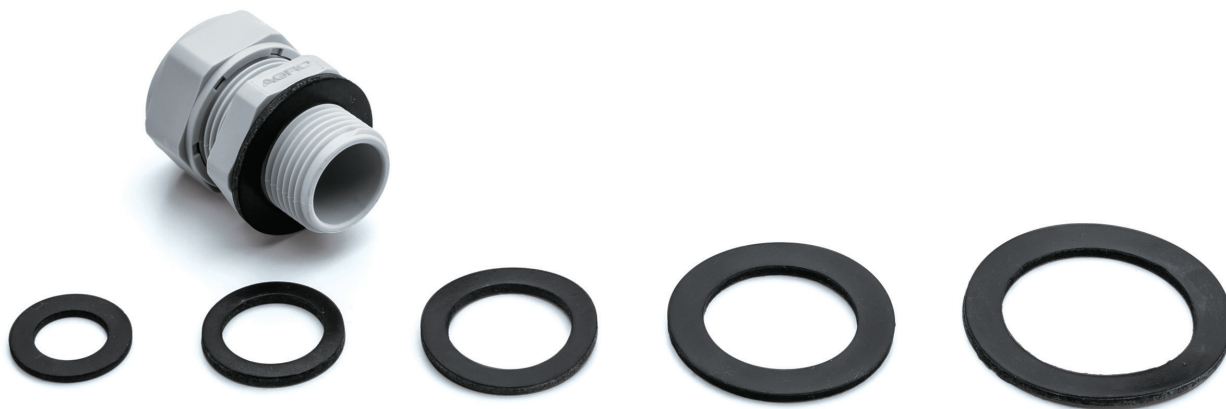


■ Lock nut is not included for M8 and M10 sizes.

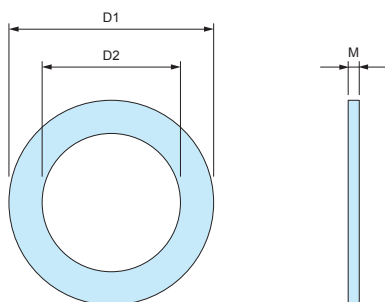
Please drill an appropriate thread hole into the enclosure for installation.

Product no. / Details

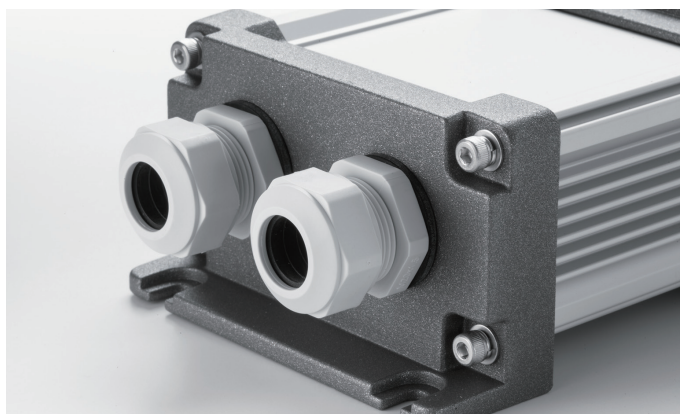
Product no.		G		Cable range		L	H Max	SW	A	d	m	Pack of
● Black	● Light gray	Thread size	Mounting hole	Min	Max							
AG8-3.5B	AG8-3.5S	M8×1.0	—	2.5	3.5	10	17	12	13.2	—	—	1
AG8-5B	AG8-5S	M8×1.0	—	3.5	4.7	10	17	12	13.2	—	—	1
AG10-6B	AG10-6S	M10×1.0	—	4	6	10	19	15	16.5	—	—	1
AG12-5B	AG12-5S	M12×1.5	Φ12.2	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

IP68



- High water protection IP68 (1bar / 30min) metal cable gland.
- Wide selection, for M6 ~ M50.
Suitable for $\Phi 2$ mm ~ $\Phi 42$ mm cable.

Technical Data

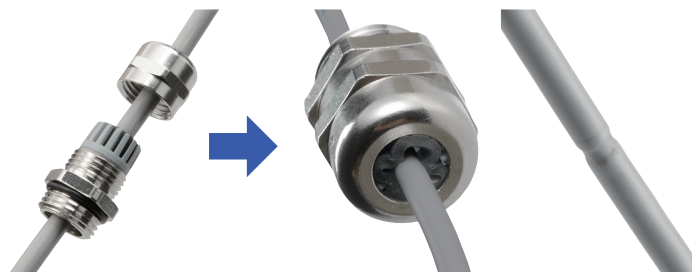
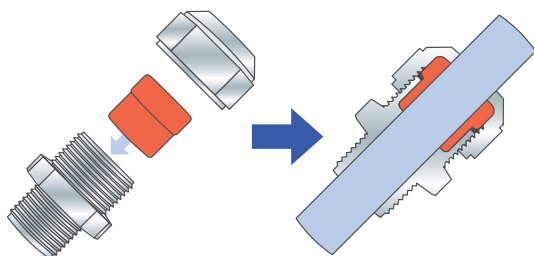
Protection class : IP68 1bar / 30min
 Operating temperature : -40°C ~ +100°C
 Compliant with EN50262 Ver. A

AGM series

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

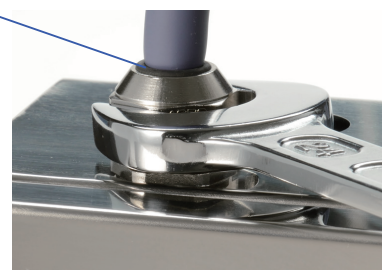
Lamellar insert type

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



- 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.

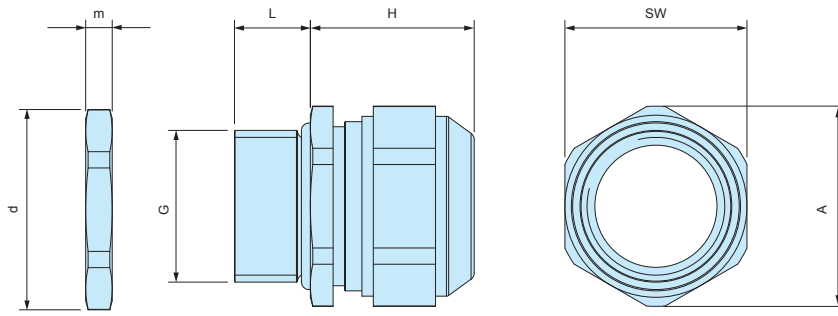


Components

No.	Part name	Material	Color / Finish
1	Cap	Brass	Nickel plated
2	Sealing insert	TPE	Black
3	Connector	Brass	Nickel plated
-	O-ring	NBR	Black
4	Lock nut	Brass	Nickel plated

AGM dimensions

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



Product no. / Details

Product no.	G		Cable range		L	H Max	SW	A	d	m	Pack of
	Thread size	Mounting hole	Min	Max							
AGM6-2.5	M6×1.0	Φ6.2	2	2.5	8	12	8	9	10	2.8	1
AGM6-3	M6×1.0	Φ6.2	2.5	3.0	8	12	8	9	10	2.8	1
AGM6-3.5	M6×1.0	Φ6.2	3.0	3.5	8	12	8	9	10	2.8	1
AGM8-5	M8×1.25	Φ8.2	3.5	4.7	10	14	11	12	12	3	1
AGM10-6	M10×1.5	Φ10.2	4.0	6.0	10	15	13	14.3	14	2.8	1
AGM12-8	M12×1.5	Φ12.2	6.5	8.0	10	17	15	16.5	16.5	2.8	1
AGM16-10.5	M16×1.5	Φ16.2	8.0	10.5	10	21	18	20	21	3	1
AGM20-15	M20×1.5	Φ20.2	11.0	15.0	10	23	24	26.5	26.5	3.5	1
AGM25-20	M25×1.5	Φ25.2	16.0	20.0	11	28	30	33	33	4	1
AGM32-25.5	M32×1.5	Φ32.3	21.0	25.5	13	29.5	36	39.5	39.5	4	1
AGM40-28.5	M40×1.5	Φ40.3	24.0	28.5	13	32	46	50.7	51	5	1
AGM40-33	M40×1.5	Φ40.3	28.5	33.0	13	32	46	50.7	51	5	1
AGM50-37	M50×1.5	Φ50.4	33.0	37.0	14	34	55	59.7	60	5.5	1
AGM50-42	M50×1.5	Φ50.4	37.0	42.0	14	34	55	59.7	60	5.5	1



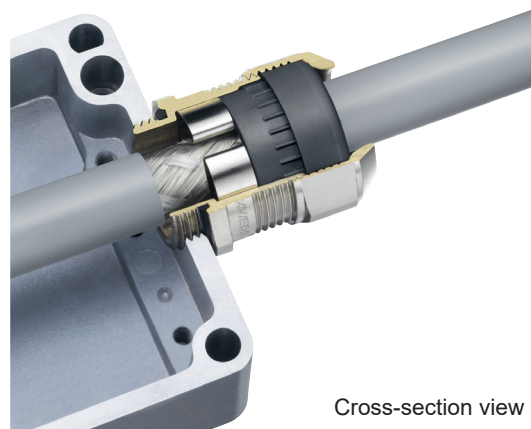
- Optimal contact spring provides excellent shield contact and the smallest possible transfer impedance.
- Clawed lock nut makes a good EMC shield contact possible on conductive enclosures.
- Shape of the contact spring not only allows for a large clamping range to the shield but also enables easy and faster installation and re-installation.
- 2-piece detachable sealing inserts can be adapted to the wider existing cable diameter on site.
(AGE12 available only with 1-piece sealing insert)

Technical Data

Protection class : IP68 2bar / 30min, IP69K
 Operating temperature : -60°C ~ +100°C
 Compliant with IEC62444 Var. A

Cable Range

No.	Sealing insert type	
	Assembled	Detached
AGE16-10.5	Φ 6 ~ Φ 7.5	Φ 7.5 ~ Φ10.5
AGE20-15	Φ 8 ~ Φ10.5	Φ10.5 ~ Φ15
AGE25-20	Φ12.5 ~ Φ15	Φ15 ~ Φ20
AGE32-25	Φ17 ~ Φ20	Φ20 ~ Φ25

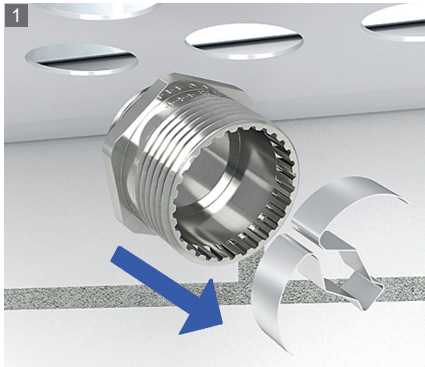


Cross-section view

Components

No.	Part name	Material	Color / Finish
1	Cap	Brass	Nickel plated
2	Sealing insert	TPE	Black
3	Connector	Brass	Nickel plated
4	Contact spring	Stainless steel	Unfinished
-	O-Ring	NBR	Black
5	Lock-nut	Brass	Nickel plated

INSTALLATION Instruction



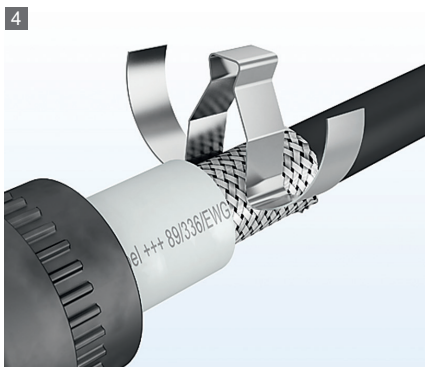
Remove the contact spring from the connector.



Install the connector onto the enclosure.



Strip the cable.



Clip the contact spring on the shielded cable.



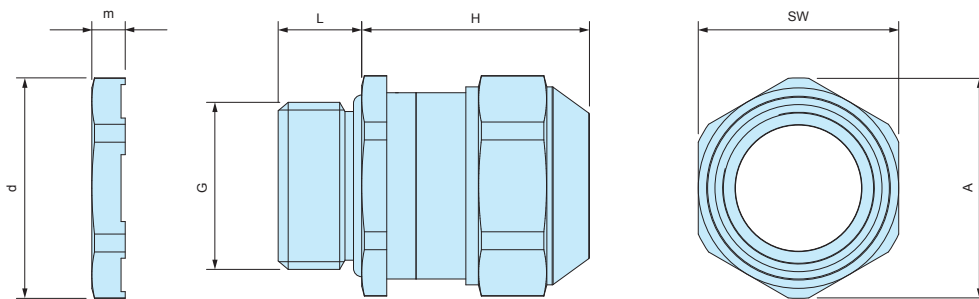
Pass the cable through the sealing insert and cap.



Tighten the cap to complete.

AGE dimensions

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



Product no. / Details

Product no.	G		Cable range		L	H Max	SW	A	d	m	Pack of
	Thread size	Mounting hole	Min	Max							
AGE12-5	M12×1.5	Φ12.2	3.5	5.0	10	22	15	16.5	16.5	3.5	1
AGE12-6.5	M12×1.5	Φ12.2	5.0	6.5	10	22	15	16.5	16.5	3.5	1
AGE16-10.5	M16×1.5	Φ16.2	6.0	10.5	10	25	18	20	21	3.5	1
AGE20-15	M20×1.5	Φ20.2	8.0	15.0	10	27	24	26.5	26.5	4	1
AGE25-20	M25×1.5	Φ25.2	12.5	20.0	11	33	30	33	33	4	1
AGE32-25	M32×1.5	Φ32.3	17.0	25.0	13	34	36	39.5	39.5	5	1

AGH SERIES

HEAT RESISTANT METAL CABLE GLAND



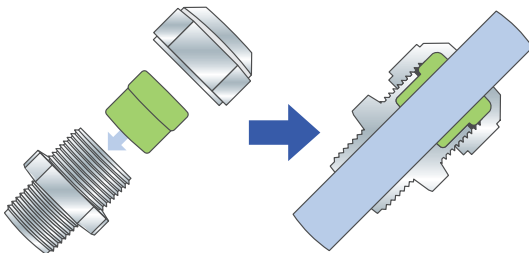
- Heat resistant sealing insert made of FPM material. Resistant up to 200°C
- IP68 1bar / 30min high performance waterproof cable gland.

Technical Data

Protection class : Protection class IP68 1bar / 30min
 10m depth immersion in 30 minutes
 Operating temperature : -40°C ~ +200°C
 Compliant with EN50262 Var. A

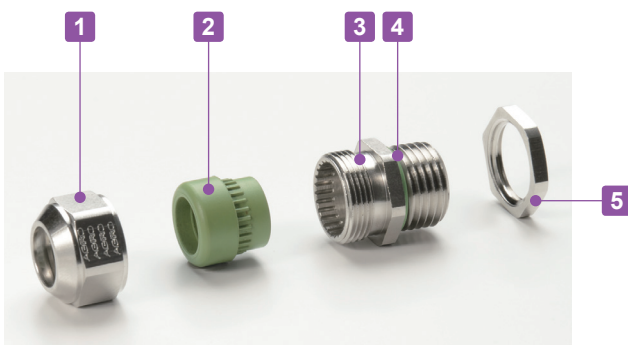
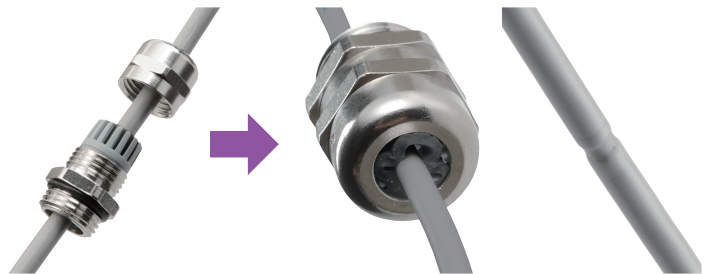
AGH series

Thicker sealing insert evenly clasp onto the cable by having a larger area.
 Remains durable even after repeated tightening / loosening.

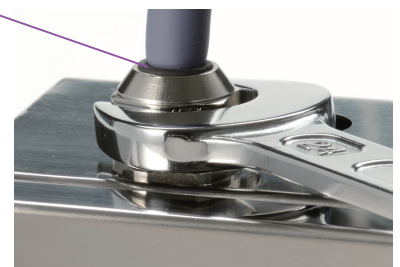


Conventional cable gland

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



- Tightening torque varies depending on the cable diameter.
 Tighten until the sealing insert protrudes slightly from the cap.

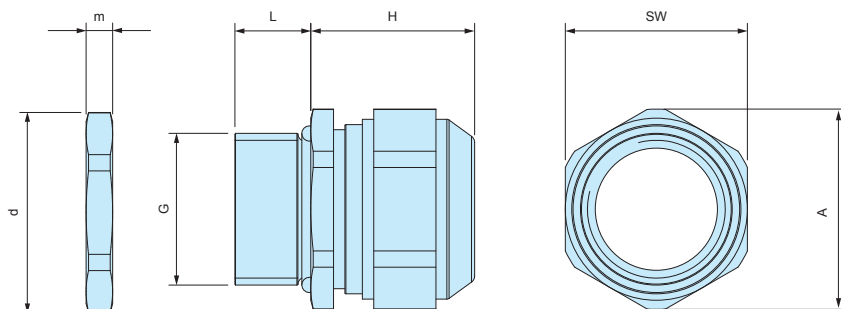


Components

No.	Part name	Material	Color / Finish
1	Cap	Brass	Nickel plated
2	Sealing insert	FPM	Green
3	Connector	Brass	Nickel plated
4	O-Ring	FPM	Green
5	Lock-nut	Brass	Nickel plated

AGH dimensions

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



Product no. / Dimensions

Product no.	G		Cable range		L	H Max	SW	A	d	m	Pack of
	Thread size	Mounting hole	Min	Max							
AGH10-6	M10×1.5	Φ10.2	4.0	6.0	10	15	13	14.3	14.2	3	1
AGH12-8	M12×1.5	Φ12.2	6.5	8.0	10	17	15	16.5	16.5	3	1
AGH16-10.5	M16×1.5	Φ16.2	8.0	10.5	10	20	18	20	21	3	1
AGH20-15	M20×1.5	Φ20.2	11.0	15.0	10	23	24	26.5	26.3	3.5	1
AGH25-20	M25×1.5	Φ25.2	16.0	20.0	11	27	30	33	33	4	1
AGH32-25.5	M32×1.5	Φ32.3	21.0	25.5	13	28.5	36	39.7	39.7	4	1