

AWA SERIES HEAT-SINK ALUMINIUM ENCLOSURE

AWA series is an aluminium enclosure that has a frame with heat-sink fins on both sides. Furthermore, the enclosure is also conductive, which provides a shielding effect.

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

APPLICATION EXAMPLE

INDUSTRIAL IoT INTERFACE DEVICE

Product by SEE Système Radio (France)



INDUSTRIAL FANLESS PC



AUDIO AMPLIFIER



WIDE-BAND SOLID STATE OPTICAL AMPLIFIER

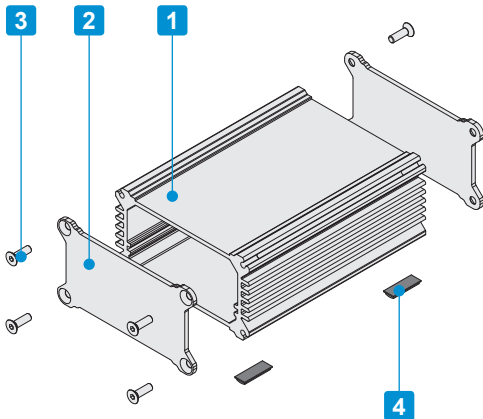
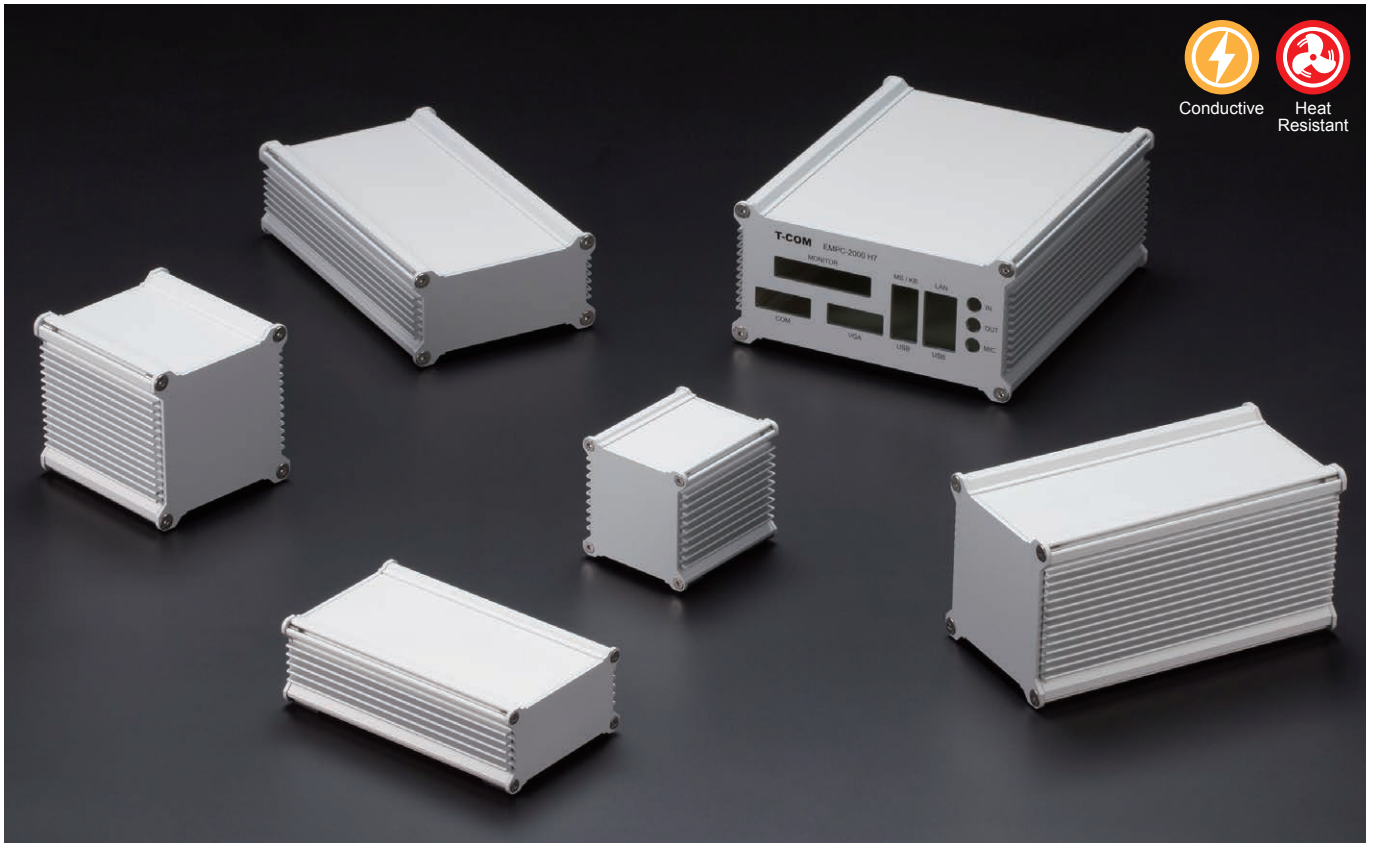
Product by Spectra Quest Lab. (Japan)



CUSTOMIZATION

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





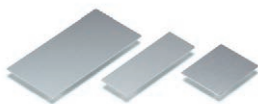
- Extruded aluminium frame manufactured with heat-sink sides.
- Silver anodized end panels makes for a luxurious finish.
- Conductivity is achieved by utilizing the contact between the unfinished end panels side, and the unfinished ends of the frame.
- PCB or chassis can be horizontally mounted by sliding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

Included screws :
 AWA5-3, 6-6, 8-4 models : Hex countersunk M3-10 x 8 pcs
 AWA8-8, 10-5, 12-7, 15-8 models : Hex countersunk M4-10 x 8 pcs
 AWA20-8 models : Hex countersunk M5-10 x 8 pcs
 ※Hexagonal wrench included.

Component

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

Accessories (Optional parts)

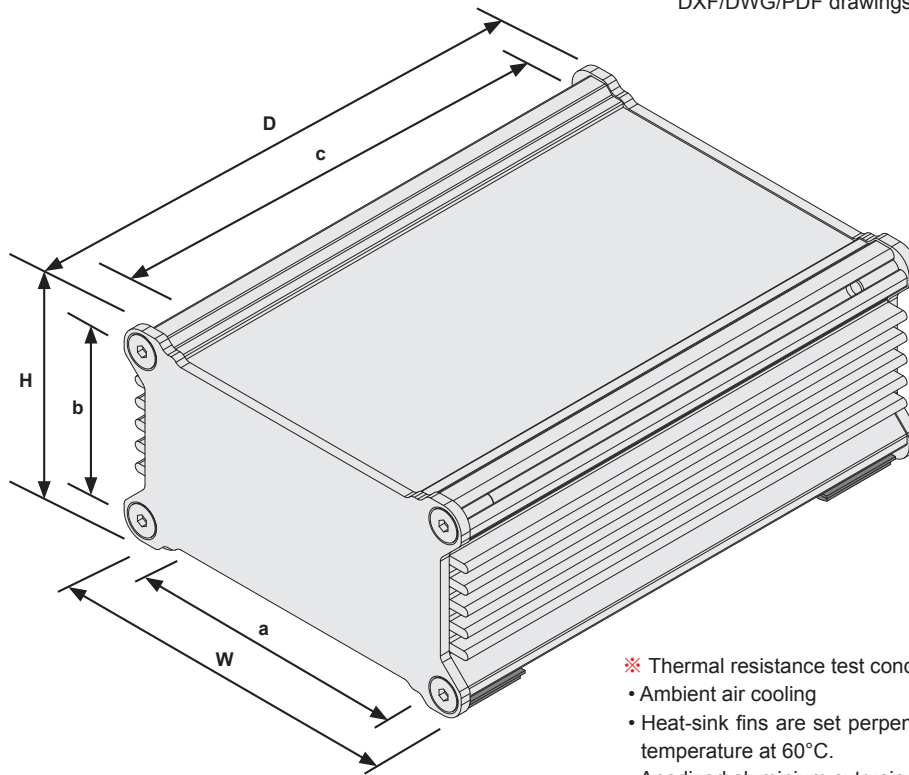


Mounting plate AWC series
 See page 170



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

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



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

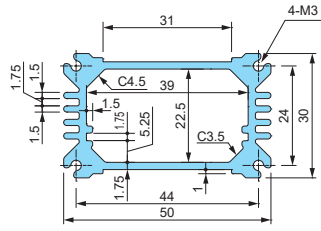
Product no. / Dimensions

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

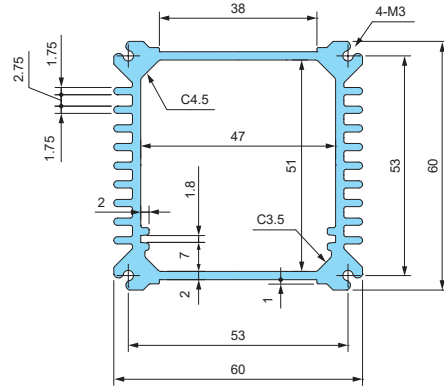
AW • AWN • AWP • AWA frame

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

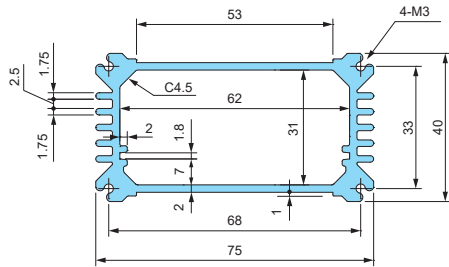
AW/AWN5-4-□
AWA5-3-□



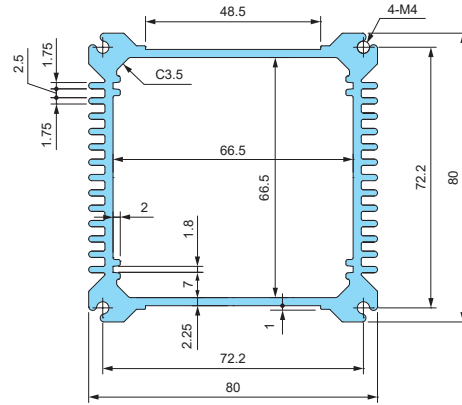
AW/AWN/AWP7-7-□
AWA6-6-□



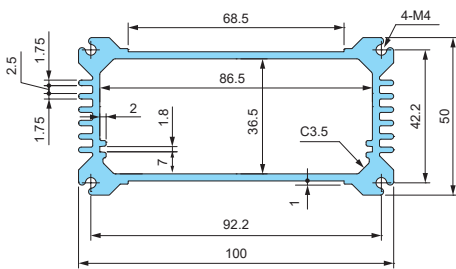
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AWA8-4-□



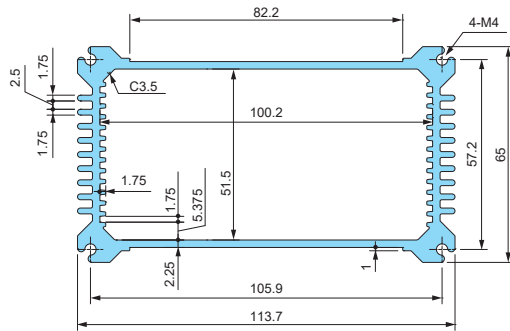
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AWA8-8-□



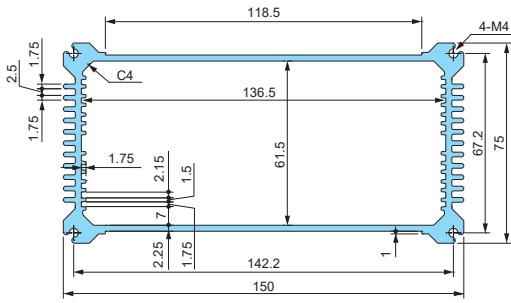
AW/AWN/AWP11-6-□
AWA10-5-□



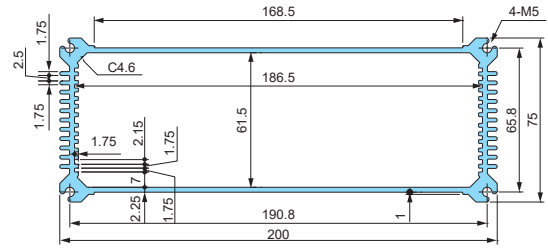
AW/AWN/AWP12-8-□
AWA12-7-□



AW/AWN/AWP16-9-□
AWA15-8-□



AW/AWN/AWP21-9-□
AWA20-8-□

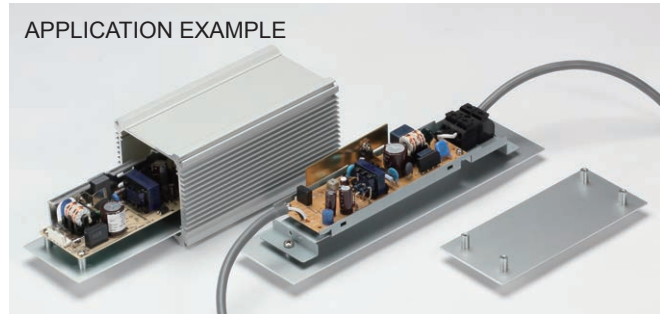
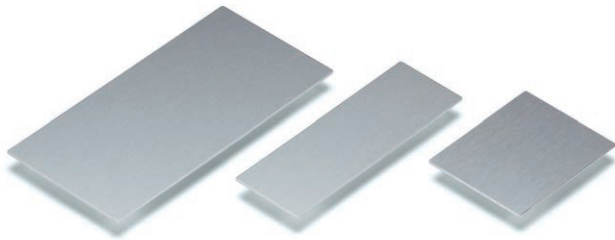


- ※ Thermal resistance test condition
- Ambient air cooling
 - Heat-sink fins are set perpendicular to the ground with temperature at 60°C.
 - Anodized aluminium extrusion
 - Heat source is applied on the opposite side (inner side) of the fins.

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

AWC SERIES

ALUMINIUM MOUNTING PLATE

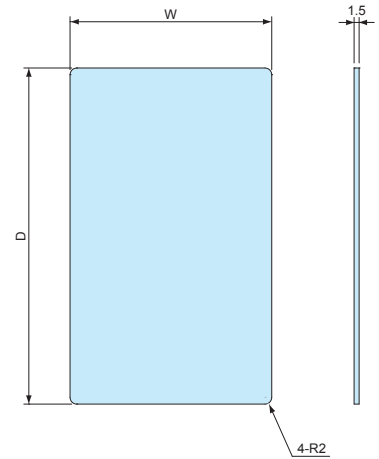


- Material: Aluminium A1050P t=1.5 / Silver anodized
- Mounting plate for AW, AWN, AWP, and AWA series enclosures.
- Utilize for mounting PCB, power supply, terminal blocks, etc.

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

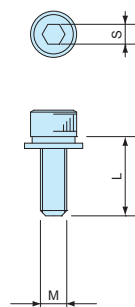
Product no. / Dimensions

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



HCS SERIES

HEXAGON SOCKET HEAD SCREW



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

Product no. / Dimensions

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

AFS•AFM SERIES

ALUMINIUM ISOLATION FEET



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

Available in both internal and external screw installation type.

External type / Shot blast finish (AFS series)



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

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

Available in both silver and black.

Internal type / Reflective finish (AFM series)



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

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

Available only in Silver.

Accessories (Optional parts)

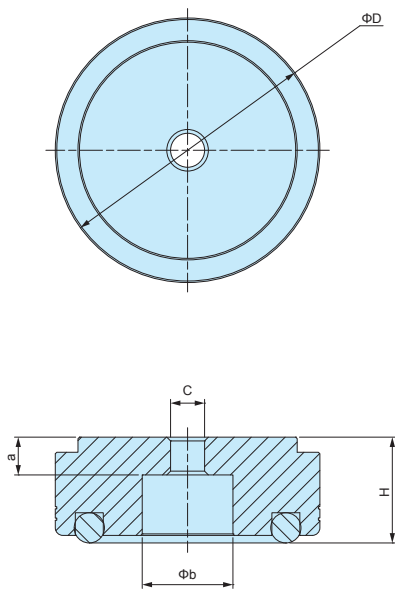
Product no. / Dimensions

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

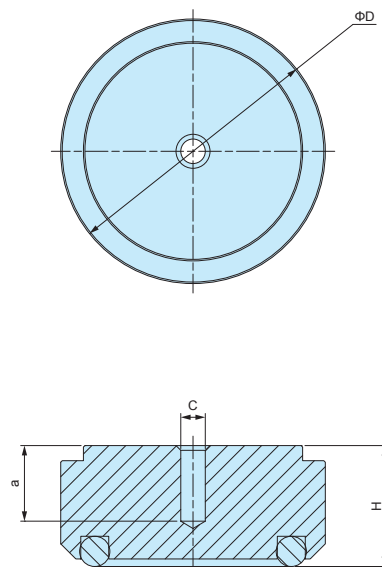
AFS • AFM dimensions

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DXF/DWG/PDF drawings available on our website.

AFS SERIES



AFM SERIES



APPLICATION EXAMPLE

