AW·AWN·AWP IP67 ALUMINIUM ENCLOSURE

AW·AWN·AWP series are highly functional aluminium enclosures which are IP67 rated with heat dissipating heat-sink fins.
34 sizes available. Standard, Flanged, Shielding, 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

LIQUID LEVEL SENSOR
Product by Watty Corporation (Japan)
website: watty.co.jp

OPTICAL PHASE INTERROGATOR (OPI) - DEVELOPMENT KIT
Product by Broadcom Limited. (USA)
website: broadcom.com

RADIO-CONTROLLED ELECTRONIC EXPLODER
Product by CODETEL (France)
website: codetel.fr

OUTDOOR LED POWER SUPPLY
Product by Shin-Tomoe Electronic Manufacturing Co., Ltd. (Japan)
website: s-tomoedenki.co.jp

RECHARGEABLE LED WORK LIGHT
Product by Shin-Tomoe Electronic Manufacturing Co., Ltd. (Japan)
website: s-tomoedenki.co.jp
CAMERA

CUSTOM LENGTH AVAILABLE

Flexible frame length from 50mm to 700mm in 1mm intervals.
No minimum order quantity and short lead time for small quantity order.

CUSTOMIZATION

No minimum order quantity required for customization requests.

MEASURING INSTRUMENT

Flexible frame length from 50mm to 700mm in 1mm intervals.
No minimum order quantity and short lead time for small quantity order.

DC CONVERTER

TOUCH PANEL CONTROLLER

CNC Milling

Digital Printing

Embossed Overlay Sheet Making

Custom Color Painting
Powder-Coating

CAMERA

Wi-Fi ACCESS POINT

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CUSTOMIZATION

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AWN SERIES

IP67 HEAT-SINK ALUMINIUM ENCLOSURE

- IP67 and heat dissipation enclosure design. Selectable in both Normal or EMC Shielded type.
- The extruded aluminium frame and diecast aluminium panels makes it extremely suitable to be used in harsh environments where waterproofing and heat dissipation is essential.
- PCB or chassis can be mounted by sliding it horizontally into inner-grooved body frame.
- Suitable for measuring instruments, industrial control box, and industrial camera housing, among others.

Normal N type Components

<table>
<thead>
<tr>
<th>No.</th>
<th>Part name</th>
<th>Pcs</th>
<th>Material</th>
<th>Color / Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>End panel</td>
<td>2</td>
<td>Diecast aluminium ADC12</td>
<td>Metallic gray • Black / Powder coated</td>
</tr>
<tr>
<td>2</td>
<td>Body frame</td>
<td>1</td>
<td>Extruded aluminium A6063S-T5</td>
<td>Silver • Black / Anodized</td>
</tr>
<tr>
<td>3</td>
<td>Gasket</td>
<td>2</td>
<td>Silicone</td>
<td>Black</td>
</tr>
<tr>
<td>4</td>
<td>Screw</td>
<td>8</td>
<td>Stainless steel</td>
<td>Unfinished</td>
</tr>
<tr>
<td>5</td>
<td>Rubber feet</td>
<td>4</td>
<td>Polyurethane</td>
<td>Black</td>
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EMC Shielded E type Components

<table>
<thead>
<tr>
<th>No.</th>
<th>Part name</th>
<th>Pcs</th>
<th>Material</th>
<th>Color / Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Flanged end panel</td>
<td>2</td>
<td>Diecast aluminium ADC12</td>
<td>Silver • Black / Painted (unfinished inside)</td>
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<tr>
<td>2</td>
<td>Body frame</td>
<td>1</td>
<td>Extruded aluminium A6063S-T5</td>
<td>Silver • Black / Anodized</td>
</tr>
<tr>
<td>3</td>
<td>Conductive gasket</td>
<td>2</td>
<td>Conductive silicone</td>
<td>Black</td>
</tr>
<tr>
<td>4</td>
<td>Screw</td>
<td>8</td>
<td>Stainless steel</td>
<td>Unfinished</td>
</tr>
<tr>
<td>5</td>
<td>Rubber</td>
<td>4</td>
<td>Polyurethane</td>
<td>Black</td>
</tr>
</tbody>
</table>

Technical Data

- Protection class: IP67
- Operating temperature: -40°C ~ +105°C
- Recommended torque: 1.0N • m (10kgf • cm)
### Product no. / Dimensions

<table>
<thead>
<tr>
<th>Product no.</th>
<th>W</th>
<th>H</th>
<th>D</th>
<th>Thermal resistance (°C/W)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWN 5-4-7</td>
<td>54.6</td>
<td>34.6</td>
<td>65</td>
<td>11.2</td>
<td>118.5</td>
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<td>AWN 5-4-11</td>
<td>54.6</td>
<td>34.6</td>
<td>85</td>
<td>9.18</td>
<td>139</td>
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<td>AWN 5-4-14</td>
<td>54.6</td>
<td>34.6</td>
<td>110</td>
<td>7.64</td>
<td>165</td>
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<td>AWN 7-7-8</td>
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<td>65.8</td>
<td>80</td>
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<tr>
<td>AWN 7-7-11</td>
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<td>65.8</td>
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<td>495</td>
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<tr>
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<td>250</td>
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<td>50</td>
<td>5.97</td>
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<td>AWN 8-5-12</td>
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<td>45.8</td>
<td>115</td>
<td>5.01</td>
<td>300.5</td>
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<td>AWN 8-5-14</td>
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<td>45.8</td>
<td>140</td>
<td>4.37</td>
<td>342</td>
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<td>AWN 8-5-18</td>
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<td>45.8</td>
<td>175</td>
<td>3.76</td>
<td>389.5</td>
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<td>86.3</td>
<td>100</td>
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<td>521.5</td>
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<tr>
<td>AWN 8-9-14</td>
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<td>594.5</td>
</tr>
<tr>
<td>AWN 8-9-17</td>
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<td>725.5</td>
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<tr>
<td>AWN 8-9-22</td>
<td>86.3</td>
<td>86.3</td>
<td>220</td>
<td>1.79</td>
<td>871.5</td>
</tr>
<tr>
<td>AWN 8-9-27</td>
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<td>86.3</td>
<td>275</td>
<td>1.54</td>
<td>1,032</td>
</tr>
<tr>
<td>AWN 11-6-11</td>
<td>106.3</td>
<td>56.3</td>
<td>110</td>
<td>4.52</td>
<td>479.5</td>
</tr>
<tr>
<td>AWN 11-6-15</td>
<td>106.3</td>
<td>56.3</td>
<td>150</td>
<td>3.62</td>
<td>578</td>
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<tr>
<td>AWN 11-6-19</td>
<td>106.3</td>
<td>56.3</td>
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<tr>
<td>AWN 11-6-24</td>
<td>106.3</td>
<td>56.3</td>
<td>240</td>
<td>2.84</td>
<td>800</td>
</tr>
<tr>
<td>AWN 12-8-11</td>
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<td>3.6</td>
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</tr>
<tr>
<td>AWN 12-8-14</td>
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<td>AWN 12-8-17</td>
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<td>AWN 11-6-24</td>
<td>120</td>
<td>71.3</td>
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<td>2.18</td>
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</tr>
<tr>
<td>AWN 16-9-14</td>
<td>156.3</td>
<td>81.3</td>
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<td>2.64</td>
<td>871.5</td>
</tr>
<tr>
<td>AWN 16-9-18</td>
<td>156.3</td>
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<td>AWN 16-9-27</td>
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<td>AWN 21-9-25</td>
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<td>AWN 21-9-30</td>
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<td>310</td>
<td>1.54</td>
<td>1,857.5</td>
</tr>
</tbody>
</table>

- Dimensions on page 167 ~ 170

**Normal / EMC Shielded • Color Code**

**Normal - N type**

<table>
<thead>
<tr>
<th>Metallic gray / Silver</th>
<th>Black / Silver</th>
<th>Black / Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGS</td>
<td>NBS</td>
<td>NBB</td>
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</tbody>
</table>

**EMC Shielded - E type**

<table>
<thead>
<tr>
<th>Silver / Silver</th>
<th>Black / Silver</th>
<th>Black / Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESS</td>
<td>EBS</td>
<td>EBB</td>
</tr>
</tbody>
</table>

- 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.

- Please suffix color code at the end of the product number.
AWN • AWP dimensions

AWN5-4-

Product no. W H D
AWN5-4- 7 54.6 34.6 65
AWN5-4- 9 54.6 34.6 85
AWN5-4-11 54.6 34.6 110
AWN5-4-14 54.6 34.6 135

Body frame length = D - 15.8

AWN / AWP7-

Product no. W H D
AWN / AWP7- 8 65.8 65.8 80 (104)
AWN / AWP7-11 65.8 65.8 110 (134)
AWN / AWP7-15 65.8 65.8 150 (174)
AWN / AWP7-20 65.8 65.8 200 (224)
AWN / AWP7-25 65.8 65.8 250 (274)

( ) value = enclosure dimensions with silicone cover.
Body frame length = D - 16

Rubber feet

DXF/DWG/PDF drawings available on our website.

Dimensions for AWP series

Dimensions for AWP series

Dimensions for AWP series
AWN / AWP8-5-

Dimensions for AWP series

Dimensions for AWP series

Product no. | W  | H  | D  |
------------|----|----|----|
AWN / AWP 8-5-9 | 80.8 | 45.8 | 90 (114) |
AWN / AWP 8-5-12 | 80.8 | 45.8 | 115 (139) |
AWN / AWP 8-5-14 | 80.8 | 45.8 | 140 (164) |
AWN / AWP 8-5-18 | 80.8 | 45.8 | 175 (199) |

■ ( ) value = enclosure length with silicone cover.
■ Body frame length = D - 16

AWN / AWP9-9-

Dimensions for AWP series

Dimensions for AWP series

Product no. | W  | H  | D  |
------------|----|----|----|
AWN / AWP 9-9-10 | 86.3 | 86.3 | 100 (130) |
AWN / AWP 9-9-13 | 86.3 | 86.3 | 125 (155) |
AWN / AWP 9-9-17 | 86.3 | 86.3 | 170 (200) |
AWN / AWP 9-9-22 | 86.3 | 86.3 | 220 (250) |
AWN / AWP 9-9-28 | 86.3 | 86.3 | 275 (305) |

■ ( ) value = enclosure length with silicone cover.
■ Body frame length = D - 19
AWN • AWP dimensions

### Dimensions for AWP series

**AWN / AWP11-6-**

- Dimensions for AWP series
- **D**: 19.5
- **W**: 13.5
- **H**: 13.5
- **D-19.4**: 3

**AWN / AWP12-8-**

- Dimensions for AWP series
- **D**: 19.5
- **W**: 13.5
- **H**: 13.5
- **D-19.4**: 3

---

#### Product Details

<table>
<thead>
<tr>
<th>Product no.</th>
<th>W</th>
<th>H</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWP / AWP11-6-11</td>
<td>106.3</td>
<td>56.3</td>
<td>110 (140)</td>
</tr>
<tr>
<td>AWP / AWP11-6-15</td>
<td>106.3</td>
<td>56.3</td>
<td>150 (180)</td>
</tr>
<tr>
<td>AWP / AWP11-6-19</td>
<td>106.3</td>
<td>56.3</td>
<td>190 (220)</td>
</tr>
<tr>
<td>AWP / AWP11-6-24</td>
<td>106.3</td>
<td>56.3</td>
<td>240 (270)</td>
</tr>
</tbody>
</table>

- ( ) value = enclosure length with silicone cover.
- Body frame length = D - 19.4

---

DXF/DWG/PDF drawings available on our website.

**AWN • AWP dimensions**
### AWP series

#### Dimensions for AWP series

- **W:** 156.3
- **H:** 81.3
- **D:** 135 (165)

- **W:** 156.3
- **H:** 81.3
- **D:** 175 (205)

- **W:** 156.3
- **H:** 81.3
- **D:** 225 (255)

- **W:** 156.3
- **H:** 81.3
- **D:** 275 (305)

- **■** ( ) value = enclosure length with silicone cover.
- **■** Body frame length = D - 19.4

---

#### Product no. | W | H | D
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AWP / AWP16-9-14</td>
<td>156.3</td>
<td>81.3</td>
<td>135 (165)</td>
</tr>
<tr>
<td>AWP / AWP16-9-18</td>
<td>156.3</td>
<td>81.3</td>
<td>175 (205)</td>
</tr>
<tr>
<td>AWP / AWP16-9-23</td>
<td>156.3</td>
<td>81.3</td>
<td>225 (255)</td>
</tr>
<tr>
<td>AWP / AWP16-9-28</td>
<td>156.3</td>
<td>81.3</td>
<td>275 (305)</td>
</tr>
</tbody>
</table>

---

#### AWP21 series

#### Dimensions for AWP series

- **W:** 206.3
- **H:** 81.3
- **D:** 170 (202)

- **W:** 206.3
- **H:** 81.3
- **D:** 210 (242)

- **W:** 206.3
- **H:** 81.3
- **D:** 260 (292)

- **W:** 206.3
- **H:** 81.3
- **D:** 310 (342)

- **■** ( ) value = enclosure length with silicone cover.
- **■** Body frame length = D - 22.2

---

#### Product no. | W | H | D
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AWP / AWP21-9-17</td>
<td>206.3</td>
<td>81.3</td>
<td>170 (202)</td>
</tr>
<tr>
<td>AWP / AWP21-9-21</td>
<td>206.3</td>
<td>81.3</td>
<td>210 (242)</td>
</tr>
<tr>
<td>AWP / AWP21-9-26</td>
<td>206.3</td>
<td>81.3</td>
<td>260 (292)</td>
</tr>
<tr>
<td>AWP / AWP21-9-31</td>
<td>206.3</td>
<td>81.3</td>
<td>310 (342)</td>
</tr>
</tbody>
</table>

---

**English 2016_137_234.indd** 178 16/10/20 12:54
AWSP SERIES SILICONE PROTECTOR

Color Type

<table>
<thead>
<tr>
<th>Code</th>
<th>Color</th>
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</thead>
<tbody>
<tr>
<td>B</td>
<td>Black</td>
</tr>
<tr>
<td>G</td>
<td>Gray</td>
</tr>
<tr>
<td>N</td>
<td>Navy</td>
</tr>
<tr>
<td>Y</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

■ Silicone protector for AWN series.
■ Protect switches and/or connectors on end panels from impact when dropped, etc.

AWSP dimensions

Components

<table>
<thead>
<tr>
<th>No.</th>
<th>Part name</th>
<th>Pcs</th>
<th>Material</th>
<th>Color / Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Protector</td>
<td>2</td>
<td>Silicone</td>
<td>Black • Gray • Navy • Yellow</td>
</tr>
<tr>
<td>2</td>
<td>Blind cap</td>
<td>8</td>
<td>Silicone</td>
<td>Black • Gray • Navy • Yellow</td>
</tr>
<tr>
<td>3</td>
<td>Spacer</td>
<td>8</td>
<td>Brass</td>
<td>Nickel plated</td>
</tr>
<tr>
<td>4</td>
<td>Screw</td>
<td>8</td>
<td>Stainless steel</td>
<td>Unfinished</td>
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</table>

Product no. / Dimensions

<table>
<thead>
<tr>
<th>Product no.</th>
<th>W</th>
<th>H</th>
<th>D</th>
<th>a</th>
<th>b</th>
<th>Screw size</th>
<th>Suitable enclosure</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWSP 7-7</td>
<td>72.4</td>
<td>73.6</td>
<td>31</td>
<td>58.4</td>
<td>56.6</td>
<td>M3</td>
<td>AWN 7-7</td>
<td>99</td>
</tr>
<tr>
<td>AWSP 8-5</td>
<td>87.4</td>
<td>53.6</td>
<td>31</td>
<td>73.4</td>
<td>36.6</td>
<td>M3</td>
<td>AWN 8-5</td>
<td>100.5</td>
</tr>
<tr>
<td>AWSP 9-9</td>
<td>93.9</td>
<td>95.1</td>
<td>35.5</td>
<td>76.9</td>
<td>75.1</td>
<td>M4</td>
<td>AWN 9-9</td>
<td>184.5</td>
</tr>
<tr>
<td>AWSP11-8</td>
<td>113.9</td>
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<td>35.5</td>
<td>96.9</td>
<td>45.1</td>
<td>M4</td>
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<td>186</td>
</tr>
<tr>
<td>AWSP12-8</td>
<td>127.6</td>
<td>80.1</td>
<td>35.5</td>
<td>110.6</td>
<td>60.1</td>
<td>M4</td>
<td>AWN12-8</td>
<td>201</td>
</tr>
<tr>
<td>AWSP16-9</td>
<td>163.9</td>
<td>90.1</td>
<td>35.5</td>
<td>145.9</td>
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<tr>
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<td>39.5</td>
<td>192.9</td>
<td>66.1</td>
<td>M5</td>
<td>AWN21-9</td>
<td>333</td>
</tr>
</tbody>
</table>

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

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

Product no. / Dimensions

<table>
<thead>
<tr>
<th>Product no.</th>
<th>W</th>
<th>D</th>
<th>Suitable enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>AWC 5-7</td>
<td>38.9</td>
<td>49.2</td>
<td>AW • AWN 5-4-7</td>
</tr>
<tr>
<td>AWC 5-9</td>
<td>38.9</td>
<td>66.2</td>
<td>AW • AWN 5-4-9</td>
</tr>
<tr>
<td>AWC 5-11</td>
<td>38.9</td>
<td>94.2</td>
<td>AW • AWN 5-4-11</td>
</tr>
<tr>
<td>AWC 5-14</td>
<td>38.9</td>
<td>119.2</td>
<td>AW • AWN 5-4-14</td>
</tr>
<tr>
<td>AWC 7-8</td>
<td>47</td>
<td>64</td>
<td>AW • AWN • AWP 7-7-8</td>
</tr>
<tr>
<td>AWC 7-11</td>
<td>47</td>
<td>94</td>
<td>AW • AWN • AWP 7-7-11</td>
</tr>
<tr>
<td>AWC 7-15</td>
<td>47</td>
<td>134</td>
<td>AW • AWN • AWP 7-7-15</td>
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<td>AWC 7-20</td>
<td>47</td>
<td>184</td>
<td>AW • AWN • AWP 7-7-20</td>
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<tr>
<td>AWC 7-25</td>
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<td>234</td>
<td>AW • AWN • AWP 7-7-25</td>
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<tr>
<td>AWC 8-9</td>
<td>61.8</td>
<td>74</td>
<td>AW • AWN • AWP 8-5-9</td>
</tr>
<tr>
<td>AWC 8-12</td>
<td>61.8</td>
<td>99</td>
<td>AW • AWN • AWP 8-5-12</td>
</tr>
<tr>
<td>AWC 8-14</td>
<td>61.8</td>
<td>124</td>
<td>AW • AWN • AWP 8-5-14</td>
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<tr>
<td>AWC 8-18</td>
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<td>159</td>
<td>AW • AWN • AWP 8-5-18</td>
</tr>
<tr>
<td>AWC 9-10</td>
<td>66.5</td>
<td>81</td>
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</tr>
<tr>
<td>AWC 9-13</td>
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<td>106</td>
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<tr>
<td>AWC 9-17</td>
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<td>AWC 9-22</td>
<td>66.5</td>
<td>201</td>
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<tr>
<td>AWC 9-28</td>
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<td>90.6</td>
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<td>AWC12-17</td>
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<td>160.1</td>
<td>AW • AWN • AWP12-8-17</td>
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<td>AWC12-22</td>
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<td>195.6</td>
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<td>AWC16-14</td>
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<td>115.6</td>
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<tr>
<td>AWC16-18</td>
<td>136.3</td>
<td>155.6</td>
<td>AW • AWN • AWP16-9-18</td>
</tr>
<tr>
<td>AWC16-23</td>
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<td>205.6</td>
<td>AW • AWN • AWP16-9-23</td>
</tr>
<tr>
<td>AWC16-28</td>
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<td>255.6</td>
<td>AW • AWN • AWP16-9-28</td>
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<tr>
<td>AWC21-17</td>
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<td>AWC21-31</td>
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<td>AW • AWN • AWP21-9-31</td>
</tr>
</tbody>
</table>

DXF/DWG/PDF drawings available on our website.

HCS SERIES

- 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

<table>
<thead>
<tr>
<th>Product no.</th>
<th>M</th>
<th>L</th>
<th>S</th>
<th>Material</th>
<th>Pack of</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCS3-12S</td>
<td>3</td>
<td>12</td>
<td>2.5</td>
<td>Stainless steel</td>
<td>8</td>
</tr>
<tr>
<td>HCS4-12S</td>
<td>4</td>
<td>12</td>
<td>3</td>
<td>Stainless steel</td>
<td>8</td>
</tr>
<tr>
<td>HCS5-12S</td>
<td>5</td>
<td>12</td>
<td>4</td>
<td>Stainless steel</td>
<td>8</td>
</tr>
</tbody>
</table>
PMF-12M STAINLESS STEEL PROTECTIVE VENT

- 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**

**Installation drawings**

**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. / Dimensions**

<table>
<thead>
<tr>
<th>Product no.</th>
<th>Material</th>
<th>Thread size</th>
<th>Mount hole</th>
<th>Nut SW</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMF-12M</td>
<td>Stainless steel</td>
<td>M12 x 1.5</td>
<td>Φ12.2</td>
<td>15</td>
</tr>
</tbody>
</table>

**Accessories (Optional Parts)**
Small and screw-in protective vent suitable for compact, and hand-held type devices.

- IP68 protection class (water depth 2 meters / 60 mins) and -40°C ~ +150°C operating temperature range allows it to be used in various environments.
- Suitable for enclosures with capacities of 2.0 litres or under.
- For outdoor use, installation on the side of the enclosure unit is recommended.

### Technical Data

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Airflow</strong></td>
<td>300ml / min (dp = 7 kPa)</td>
</tr>
<tr>
<td><strong>Recommended Torque</strong></td>
<td>0.2 ~ 0.4 N • m</td>
</tr>
<tr>
<td><strong>Certifications</strong></td>
<td><a href="#">IEC60529</a> (Protection class test) : IP66 • IP67 • IP68</td>
</tr>
<tr>
<td></td>
<td><a href="#">IEC60068-2-1, 2, 14</a> (Heat resistance test) : -40°C ~ +150°C</td>
</tr>
<tr>
<td></td>
<td><a href="#">IEC60068-2-78</a> (Humidity test) : 85°C • 85% humidity • 1000 hours</td>
</tr>
<tr>
<td></td>
<td><a href="#">IEC60068-2-64</a> (Vibration test)</td>
</tr>
<tr>
<td></td>
<td><a href="#">UL94V-0</a> (Flame-resistant) • <a href="#">UL746C f1</a></td>
</tr>
</tbody>
</table>

### Product no. / Dimensions

<table>
<thead>
<tr>
<th>Product no.</th>
<th>Material</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMF-6B</td>
<td>PA6 (Body) • PA66 (Cap)</td>
<td>M6 x 0.75</td>
</tr>
</tbody>
</table>

---

*NOTE: The table and diagrams are not fully visible in the image.*
PMF-12 SERIES PROTECTIVE VENT

- Protective vents prevent the ingestion of a variety of contaminants, such as water, dust, and other particles while allowing water vapor molecules to diffuse through the microporous membrane.
- Equalize pressure and reduce condensation by allowing airflow into and out of sealed enclosures.
- With an IP68 protection class (water depth 2 meters / 60 mins) and -40°C ~ +125°C operating temperature range, it can be used in harsh environmental conditions.
- For outdoor use, installation on the side of the enclosure unit is recommended.

PMF-12 dimensions

Hole milling drawings

Installation drawings

Technical Data

<table>
<thead>
<tr>
<th>Product no.</th>
<th>PMF-12</th>
<th>PMF-12HA</th>
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</thead>
<tbody>
<tr>
<td>Airflow</td>
<td>450ml/min (dp = 70 mbar)</td>
<td>2000ml/min (dp = 70 mbar)</td>
</tr>
<tr>
<td>Water pressure</td>
<td>0.6 bar / 30 sec</td>
<td>0.3 bar / 30 sec</td>
</tr>
<tr>
<td>Recommended torque</td>
<td>0.6 ~ 0.8 N • m</td>
<td></td>
</tr>
<tr>
<td>Certifications (without nut)</td>
<td>IEC529, 2nd (Protection class test): IP66 • IP67 • IP68 • IP69K IEC60008-2-1, 2, 14 (Heat resistance test): - 40°C ~ +125°C IEC600-2-78 (Humidity test): 85°C • 85% humidity • 1000 hours UL94-V0 f1 (Flame-resistant)</td>
<td></td>
</tr>
</tbody>
</table>

Product no. / Dimensions

<table>
<thead>
<tr>
<th>Product no.</th>
<th>Material</th>
<th>G</th>
<th>Nut SW</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMF-12S</td>
<td>PA6 GF10% UL94V-0</td>
<td>PTFE</td>
<td>Silicone</td>
</tr>
<tr>
<td>PMF-12B</td>
<td>PA6 GF10% UL94V-0</td>
<td>PTFE</td>
<td>Silicone</td>
</tr>
</tbody>
</table>

Accessories (Optional parts)