Mist Separator
Series AM

Series AM can separate and remove oil mist in compressed air which is difficult to remove by ordinary air filters and remove solid particles such as rust or carbon of more than 0.3µm. It is the most suitable for air sources that drive pilot, metal seal solenoid valves.

<table>
<thead>
<tr>
<th>Model</th>
<th>AM150</th>
<th>AM250</th>
<th>AM350</th>
<th>AM450</th>
<th>AM550</th>
<th>AM650</th>
<th>AM850</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated flow (l/min (ANR))&lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>300</td>
<td>750</td>
<td>1500</td>
<td>2200</td>
<td>3500</td>
<td>6000</td>
<td>12000</td>
</tr>
<tr>
<td>Port size (Nominal size B)</td>
<td>1/8, 1/4, 3/8</td>
<td>1/4, 3/8, 1/2</td>
<td>1/2, 3/4</td>
<td>1, 1 1/2</td>
<td>1, 1 1/2</td>
<td>1, 1 1/2</td>
<td>1, 1 1/2</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.38</td>
<td>0.55</td>
<td>0.9</td>
<td>1.4</td>
<td>2.1</td>
<td>4.2</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Note 1) Max. flow capacity at a pressure of 0.7MPa. It varies depending on operating pressure. Refer to "Flow Characteristics" (p.4.6-2) and figure of "Max. air flow" (p.4.6-3).

Specifications:
- Fluid: Compressed air
- Max. operating pressure: 1.0MPa
- Min. operating pressure<sup>(1)</sup>: 0.05MPa
- Proof pressure: 1.5MPa
- Ambient and fluid temperature: 5 to 60°C
- Filtration: 0.3µm (95% particle size collection)
- Oil mist removal rate: Max. 1.0mg/m³ (ANR) (<0.8ppm)<sup>(2)</sup>
- Element life: 2 years or when pressure drop reaches 0.1MPa

Note 1) With Auto drain: 0.15MPa
Note 2) At oil mist removal rate blowing compressor is 35mg/m³ (ANR) (ANR)

Accessories (Options):
- Applicable models: AM150, AM250, AM350, AM450, AM550, AM650, AM850
- Bracket assembly: With cap bolt, spring washer
- Drain guide 1/4 B female thread IN → OUT reversal
- Element service indicator
- N.C. auto drain
- N.O. auto drain

How to Order:
- AM 250 03 B J
- Body size: 150, 250, 350, 450, 550, 650, 850
- Thread: Rc(PT), G(PF), N, NPT
- Port size: 1/8, 1/4, 3/8, 1/2, 3/4, 1, 1 1/2, 2

Note) Refer to p.4.7-7 for "How to Order" of case assembly.

Table: Accessory/Option combinations

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Options</th>
<th>Accessory/Option combinations</th>
<th>Available</th>
<th>Not available</th>
<th>Depending on model</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.O. auto drain</td>
<td>C</td>
<td>AM150</td>
<td>01</td>
<td>1/8</td>
<td>06</td>
</tr>
<tr>
<td>N.O. auto drain</td>
<td>D</td>
<td>AM150</td>
<td>02</td>
<td>1/4</td>
<td>10</td>
</tr>
<tr>
<td>Drain guide 1/8</td>
<td>J</td>
<td>AM150</td>
<td>03</td>
<td>3/8</td>
<td>14</td>
</tr>
<tr>
<td>IN→OUT reversal</td>
<td>R</td>
<td>AM150</td>
<td>04</td>
<td>1/2</td>
<td>20</td>
</tr>
</tbody>
</table>

Note) Refer to p.4.7-7 for "How to Order" of case assembly.
Precautions

Be sure to read before handling.
Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalog, and refer to p.4.0-5 to 4.0-7 for more detailed precautions of every series.

Caution

1. Design the layout so that the mist separator is installed in an area that is less susceptible to pulsations. The element could be damaged if the difference in internal and external pressures exceeds 0.1MPa.
2. When using the auto drain, connect the drain piping in the following range:
   - Normally closed (N.C.)
   - Normally open (N.O.)
   Because tube fittings are provided, use a tube with a bore of 10mm, and keep the overall pipe length within 5m.
3. AM850 type (N.O.)
   Use a tube with a bore of 9mm or more, and keep the overall pipe length within 2.8m.
4. If the normally open (N.O.) auto drain is used, because it is designed so that the valve will not open unless the air pressure is 0.15MPa or higher, air could continue to blow out of the drainage discharge area if an air compressor with a small air discharge volume is used. Therefore, when using a compressor that is smaller than 3.7kW, make sure to use the normally closed (N.C.) auto drain.
5. The bracket that is provided with the product is for supporting the product itself. Thus, it cannot support the piping or other items that are connected. If these items need to be supported, provide an additional support.

Mounting

Caution

1. Verify the direction of the flow of the compressed air and the "IN" mark that indicates the inlet of the product before connecting. It cannot be used if connected in the opposite direction.
2. Make sure to install this product on horizontal piping. If it is installed diagonally, laterally, or upside down, the drainage that is separated by the element will splash to the secondary side.
3. When using the type with a drain valve, drain guide, or a ball valve, discard the drainage before the drainage level reaches the center of the sight glass. If the drainage is not discarded properly, it will flow to the secondary side.

Maintenance

Caution

1. For note e, refer to the left.
2. The replacement interval for the element is when the pressure drop reaches 0.1MPa or after 2 years of operation, whichever comes first. A pressure drop can be verified with the type with a clogging checker (-T) or with the type with a pressure differential gauge (Made to Order).
3. When the element has reached its replacement interval, replace it immediately with a new element. Replace the O-ring, the gasket, and the element with new parts. For note e, refer to the left.

Flow Characteristics

Element oil saturation

Note: Compressed air over max. flow line in the table below may not meet the specification of product. It may cause damage to the element.
**Series AM**

**Construction**

- **AM150 to AM550**
- **AM650 to AM850**

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum die cast</td>
<td>Chromate treatment</td>
</tr>
<tr>
<td>2</td>
<td>Housing</td>
<td>Aluminum die cast</td>
<td>Chromate treatment</td>
</tr>
<tr>
<td>3</td>
<td>Sight glass</td>
<td>Tempered glass</td>
<td>Epoxy coating on inner surface</td>
</tr>
</tbody>
</table>

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Element assembly</td>
<td>Glass fiber</td>
<td>AM-EL150 AM-EL250 AM-EL350 AM-EL450 AM-EL550 AM-EL650 AM-EL850</td>
</tr>
</tbody>
</table>

*With gasket and O ring*

**Max. Air Flow**

Max. Flow vs. Inlet Pressure graph.

**How to Select**

1. Select the point of contact A of inlet pressure and max. air flow capacity in the graph.
2. Select the type whose max. air flow capacity is over that point; AM650.

Note: Make sure to select a model that has the maximum flow rate line above the obtained intersecting point. With a model that has the maximum flow rate line below the obtained intersecting point, the flow rate will be exceeded, thus leading to a problem such as being unable to satisfy the specifications.
**Mist Separator Series AM**

Dimensions: AM150 to AM650

**Accessories**

- **D:** With auto drain (N.O.)
- **C:** With auto drain (N.C.)

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size (Nominal size B)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>Dimensions with mounting bracket</th>
<th>Elements service indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM150</td>
<td>15/32, 1/4, 5/32</td>
<td>159</td>
<td>13</td>
<td>100</td>
<td>63</td>
<td>20</td>
<td>63</td>
<td>10</td>
<td>166</td>
<td>66</td>
</tr>
<tr>
<td>AM250</td>
<td>5/32, 3/8</td>
<td>172</td>
<td>13</td>
<td>113</td>
<td>76</td>
<td>20</td>
<td>76</td>
<td>10</td>
<td>187</td>
<td>66</td>
</tr>
<tr>
<td>AM350</td>
<td>3/8, 1/2</td>
<td>204</td>
<td>16</td>
<td>145</td>
<td>90</td>
<td>20</td>
<td>90</td>
<td>10</td>
<td>218</td>
<td>80</td>
</tr>
<tr>
<td>AM450</td>
<td>1/2, 5/8</td>
<td>232</td>
<td>19</td>
<td>173</td>
<td>106</td>
<td>20</td>
<td>106</td>
<td>10</td>
<td>241</td>
<td>90</td>
</tr>
<tr>
<td>AM550</td>
<td>5/8, 1</td>
<td>259</td>
<td>22</td>
<td>200</td>
<td>122</td>
<td>20</td>
<td>122</td>
<td>10</td>
<td>277</td>
<td>100</td>
</tr>
<tr>
<td>AM650</td>
<td>1, 1 1/2</td>
<td>311</td>
<td>32</td>
<td>253</td>
<td>160</td>
<td>20</td>
<td>160</td>
<td>10</td>
<td>334</td>
<td>150</td>
</tr>
</tbody>
</table>

**Options**

- **J:** With drain guide
- **T:** With element service indicator

*N.C. auto drain not available for AM650*

**Related products**

AM150——SAM, #1
AM450——SAM, #4
AM250——SAM, #2
AM550——SAM, #5
AM350——SAM, #3
AM650——SAM, #6
Series AM

Dimensions: AM850

Accessory
D: With auto drain (N.O.) for AMD850

Options
T: With element service indicator

Dimensions: AM850

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size (Nominal size B)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM850</td>
<td>1½, 2</td>
<td>46.5</td>
<td>42</td>
<td>348</td>
<td>220</td>
<td>57.5</td>
<td>220</td>
<td>10</td>
</tr>
</tbody>
</table>

Dimensions with mounting bracket

<table>
<thead>
<tr>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
<th>P</th>
<th>Q</th>
<th>R</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>463.5</td>
<td>180</td>
<td>30</td>
<td>15</td>
<td>24</td>
<td>13</td>
<td>120</td>
<td>184</td>
<td>220</td>
<td>110</td>
<td>18</td>
<td>6.0</td>
</tr>
</tbody>
</table>
**Series AM**

Made to Order Specifications

Please contact SMC for detailed specifications, dimensions, or delivery.

1. **With Pressure Differential Gauge (GD40-2-01)**
   A pressure differential gauge can be installed in the body to check the life of filter element. It allows for easier piping and compact size.

   **Specification**

<table>
<thead>
<tr>
<th>Applicable model</th>
<th>AM150 to AM850</th>
</tr>
</thead>
</table>

   **How to Order**

   - AM X6
   - Options
   - Body size
   - Thread
   - Accessories
   - Port size

2. **With IN-OUT Flange**
   For easier flange piping.

   **Specification**

<table>
<thead>
<tr>
<th>Applicable model</th>
<th>AM450 to AM850</th>
</tr>
</thead>
</table>

   **How to Order**

   - AM X15
   - Options
   - Body size
   - Thread
   - Accessories
   - Port size

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**Precautions/With Differential Pressure Gauge (GD40-20-01)**

Be sure to read before handling. Refer to p.0-26 and 0-27 for Safety Instructions and common precautions on the products mentioned in this catalog, and refer to p.4.0-5 to 4.0-7 for precautions on every series.

Please refer to p.4.0-1 for with pressure differential gauge (GD40-2-01).

---

### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM150</td>
<td>1/4, 1/8, 1/4</td>
<td>259</td>
<td>80</td>
</tr>
<tr>
<td>AM250</td>
<td>1/2</td>
<td>258</td>
<td></td>
</tr>
<tr>
<td>AM350</td>
<td>3/8, 1/2</td>
<td>264</td>
<td>80</td>
</tr>
<tr>
<td>AM450</td>
<td>1/2, 3/4</td>
<td>305</td>
<td>80</td>
</tr>
<tr>
<td>AM550</td>
<td>1</td>
<td>312</td>
<td></td>
</tr>
<tr>
<td>AM650</td>
<td>1 1/2</td>
<td>391</td>
<td>80</td>
</tr>
<tr>
<td>AM850</td>
<td>1 1/2, 2</td>
<td>540.5</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Connection</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM450</td>
<td>3/4B/F/10K</td>
<td>240</td>
<td>256</td>
</tr>
<tr>
<td>AM550</td>
<td>1B/F/10K</td>
<td>260</td>
<td>300</td>
</tr>
<tr>
<td>AM650</td>
<td>1 1/2B/F/10K</td>
<td>300</td>
<td>349</td>
</tr>
<tr>
<td>AM850</td>
<td>2B/F/10K</td>
<td>380</td>
<td>496.5</td>
</tr>
</tbody>
</table>

4.6-6