IP2M, IP2AM and IP2DM
Monnier
International Compressed Air Filter/Regulators

Description
The IP_M range of Monnier international compressed air filter/regulated provide high quality compressed air with accurate pressure control for general purpose pneumatic systems.

Principal features:
- Internal and external black anodised finish.
- Compact combined filter/regulator.
- Shrouded whirl disc for efficient separation.
- Option of sight level on metal bowled units.
- 5 micron large surface area element.
- Good flow and regulation characteristics.
- For line, bracket or panel mounting.
- Easy fit stainless steel bowl guard available.

Available types:
- **IP2AM** Having a pilot operated automatic drain.
- **IP2DM** Having a semi-auto dump valve.
- **IP2M** Having a manual drain (metal bowl only).

**Note:** The IP2_M Monnier range are supplied self-relieving as standard (the non-relieving version is available on request).

Optional extras
For further technical information regarding the following options see page 2:
- Tamper-proof cap.
- Type 21 mounting bracket.
- Pressure gauges.
- Discharge tube adaptor - IP2AM only.
- Metal bowl.
- Bowl guard.

Sizes and pipe connections
¼", ⅜" and ½" screwed BSP (BS 21-Rp).

Spring range (operating pressure range)
All regulators can be adjusted to zero pressure, or above the figures shown. The operating range is marked on the unit.

**Standard spring** 0.5 - 10 bar g
**Optional spring** 0.2 - 3.5 bar g

**Note:** The IP2_M Monnier range will be supplied with the standard spring unless an alternative option has been specified when placing an order.

Operating limits

<table>
<thead>
<tr>
<th>Maximum working pressure</th>
<th>Polycarbonate bowl</th>
<th>10 bar g</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Metal bowl</td>
<td>17 bar g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum working temperature</th>
<th>Polycarbonate bowl</th>
<th>50°C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Metal bowl</td>
<td>80°C</td>
</tr>
<tr>
<td></td>
<td>Metal bowl with sight level</td>
<td>70°C</td>
</tr>
</tbody>
</table>

Materials

<table>
<thead>
<tr>
<th>No.</th>
<th>Part</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Machined aluminium (anodised)</td>
</tr>
<tr>
<td>2</td>
<td>Valve</td>
<td>Brass rubber faced</td>
</tr>
<tr>
<td>3</td>
<td>Bowl</td>
<td>Polycarbonate or aluminium (anodised)</td>
</tr>
<tr>
<td>4</td>
<td>Element (5 µm)</td>
<td>Melamine impregnated cellulose</td>
</tr>
<tr>
<td>5</td>
<td>Diaphragm</td>
<td>Reinforced nitrile rubber</td>
</tr>
</tbody>
</table>
Optional extras

Tamper-proof cap
An aluminium tamper-proof cap can be fitted to prevent unauthorised pressure adjustment.

Dimensions (approximate) in mm

![Tamper-proof cap diagram]

Type 21 mounting bracket
A plated mild steel bracket which can be attached to the filter/regulator by the plastic mounting ring supplied.

Note: An aluminium mounting ring can be supplied at extra cost, and must be specified, if required, on order placement.

Dimensions (approximate) in mm

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td>19</td>
<td>32</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

If the regulator is to be panel mounted a hole is required in the panel 48 mm diameter, and the panel thickness must not exceed 8 mm.

Pressure gauges for panel mounting
With chromium plated bezel available in two ranges, the face being marked in bar and psi as follows:

<table>
<thead>
<tr>
<th>Pressure ranges</th>
<th>0 to 2 bar</th>
<th>0 to 30 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (approximate) in mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>53</td>
<td>56</td>
<td>48</td>
</tr>
</tbody>
</table>

Discharge tube adaptor IP2AM only
An adaptor can be supplied for the auto-drain on the IP2AM models, to accept 8 mm O/D copper or plastic tube.

Metal bowl with sight level
In the interest of safety Spirax Sarco recommend that a bowl guard should be fitted to polycarbonate bowls - see the 'Warning' under 'Safety information, installation and maintenance' page 5.

Pressure gauge
Available in two sizes, with 4 pressure ranges. The face is marked in both bar and psi. Please state, size and pressure range when placing an order.

<table>
<thead>
<tr>
<th>Pressure ranges</th>
<th>0 to 2 bar</th>
<th>0 to 30 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (approximate) in mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>1½&quot;</td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td>2&quot;</td>
<td>49</td>
<td>45</td>
</tr>
</tbody>
</table>

Bowl guard
In the interest of safety Spirax Sarco recommend that a bowl guard should be fitted to polycarbonate bowls - see the 'Warning' under 'Safety information, installation and maintenance' page 5.
Dimensions/weights (approximate) in mm and kg

**Polycarbonate bowl**

<table>
<thead>
<tr>
<th>Unit</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>E1</th>
<th>IP_M</th>
<th>IP_M + bowl guard</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP2AM</td>
<td>95</td>
<td>165</td>
<td>64</td>
<td>39</td>
<td>82</td>
<td>0.730</td>
<td>0.808</td>
</tr>
<tr>
<td>IP2DM</td>
<td>95</td>
<td>165</td>
<td>64</td>
<td>39</td>
<td>79</td>
<td>0.730</td>
<td>0.808</td>
</tr>
</tbody>
</table>

**Metal bowl**

<table>
<thead>
<tr>
<th>Unit</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP2M</td>
<td>82</td>
<td>143</td>
<td>76</td>
<td>39</td>
<td>0.913</td>
</tr>
<tr>
<td>IP2AM</td>
<td>82</td>
<td>152</td>
<td>76</td>
<td>39</td>
<td>0.913</td>
</tr>
<tr>
<td>IP2DM</td>
<td>82</td>
<td>145</td>
<td>76</td>
<td>39</td>
<td>0.913</td>
</tr>
</tbody>
</table>
Capacities
With primary pressure 10 bar and 5 μm element

1/4"

- 1.6 bar g (23 psi g)
- 2.5 bar g (36 psi g)
- 4.0 bar g (58 psi g)
- 6.3 bar g (91 psi g)
- 8.0 bar g (116 psi g)

3/8"

- 1.6 bar g (23 psi g)
- 2.5 bar g (36 psi g)
- 4.0 bar g (58 psi g)
- 6.3 bar g (91 psi g)
- 8.0 bar g (116 psi g)

1/2"

- 1.6 bar g (23 psi g)
- 2.5 bar g (36 psi g)
- 4.0 bar g (58 psi g)
- 6.3 bar g (91 psi g)
- 8.0 bar g (116 psi g)
Principle of operation
With system pressure on, the regulator poppet valve assembly is in the closed position when the adjusting knob is turned fully counter clockwise (no spring load). By turning the adjusting knob clockwise, the diaphragm/piston moves downward allowing filtered air to flow in through the orifice created between the poppet assembly and seat.

Auto-drain - IP2AM
The Monnier internal auto-drain is a pilot operated unit. As the water level in the bowl rises, the float (13) lifts, allowing line pressure to act on a piston, which opens the main discharge valve. As the liquid level falls, the float closes and line pressure shuts the main valve. Under zero pressure conditions, the automatic drain will be in the open position, allowing any liquid to drain away.

Automatic dump valve - IP2DM
This is a spring loaded valve which will allow the filter/ regulator to automatically drain when the pressure in the bowl drops below 0.06 bar (i.e. when air to the plant is shut off). The units can also be drained manually by pushing the protruding valve stem sideways or upwards.

Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-P504-18) supplied with the product.

Warning:
Polycarbonate bowls and sight levels on metal bowls can be attacked by phosphate ester fluids, solvents, paint thinners and carbon tetrachloride. These and similar substances should never be allowed to come into contact with the bowl. Certain compressor lubricating oils also contain additives harmful to polycarbonate and where there is any doubt we recommend, in the interests of safety that a metal bowl or bowl guard should be fitted.

Installation note:
Fit into a horizontal pipeline, with the bowl vertically downwards, as close as possible to the equipment it is serving. Connect the unit so that the air flow is in the direction shown by the arrow cast on the body. A pressure gauge fitted to one of the ports is recommended (to show the secondary pressure). The port(s) not in use should be blanked off with the plugs supplied (P).

How to order
Example: 1 off IP2AM Monnier international compressed air filter/ regulator having a female ½" screwed BSP (BS 21 - Rp) connection.
Note 1: Unless otherwise instructed, the filter/ regulator will be supplied with a polycarbonate bowl, 0.5 to 10 bar control spring, 5 μm element and polycarbonate bowl as standard. If a metal bowl is required (with or without sight level) it must be clearly specified on the order. The IP2M manual drain is available with metal bowl only.
Note 2: If any optional extras are required, they must be clearly specified on the order.
Spare parts
The spare parts available are detailed below. No other parts are supplied as spares.

Available spares
Pressure control spring set - State pressure range
Valve and diaphragm assembly
Polycarbonate bowl assembly including appropriate drain
Metal bowl (with or without sight level)
Element set (packet of 3 of each)
Auto-drain (IP2AM only)

How to order spares
Always order spares by using the description given in the column headed ‘Available spares’ and state the size and type of unit.

Example: 1 off Pressure control spring set (0.5 - 10 bar) for a ½” IP2M Monnier international compressed air filter/regulator.