Manifolds

M-1000 Series

Manifolds are used to connect together two or more cylinders to provide greater storage capacity and therefore greater security of supply. This can be important when the cylinders are located far away from the use point.

The M-1000 series manifolds are 1-wing systems involving no changeover to other cylinders. Their typical use would be in batch applications particularly where the batch requirement would be more than one cylinder. They are frequently used with inert high purity process gases where air/moisture introduced at cylinder changeover can be removed using the process gas itself.
Specifications

Material
Brass or 316L stainless steel

Pressure/Temperature rating
Maximum inlet pressure:
- Brass series: 310 bar.g
- Stainless steel series: 230 bar.g
Temperature range: -40 °C to +74 °C

Connections
- Inlet: cylinder connection + flexible
- Outlet: 1/4 inch NPT female
- Relief valve: 1/4 inch NPT male

Flexibles
- For oxygen service: 1.5 meter, Teflon®/316L stainless steel
- For other services: 1 meter, 316L stainless steel

Flow
- CV = 0.06
  - The flow coefficient expresses the flow capability of the manifold.
  - CV is the flow of air in standard ft³/min for each psi of inlet pressure
- Weight
  - 4.0 kg

Installation dimensions
- WxD : 240 mm x 220 mm x 150 mm

Design features
- Unique “Duobloc” valve design to minimise contamination and maximize system integrity
- High pressure flexibles
- Delivered with operating guidelines for easier use
- Flow diagrams displayed on the equipment for easier use
- Relief valve fitted as standard for protection against over pressurisation
- Individually tested and certified to assure maximum leak-tightness and reliability

Ordering information

Ordering code: M-1 X Y Z

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>Material</th>
<th>Maximum outlet pressure</th>
<th>Design capacity at maximum outlet pressure (*) (Nm³/hr)</th>
<th>Inlet gauge range (**) (bar.g)</th>
<th>Outlet gauge range (bar.g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4 = brass</td>
<td>1</td>
<td>0.7 bar.g</td>
<td>7</td>
<td>0 - 315</td>
<td>-1.0 to +1.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7 = stainless steel</td>
<td>2</td>
<td>1.7 bar.g</td>
<td>18</td>
<td>0 - 315</td>
<td>-1.0 to +3.0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3.5 bar.g</td>
<td>33</td>
<td>0 - 315</td>
<td>-1.0 to +5.0</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>7 bar.g</td>
<td>4</td>
<td>7 bar.g</td>
<td>62</td>
<td>0 - 315</td>
<td>-1.0 to +9.0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>17 bar.g</td>
<td>5</td>
<td>17 bar.g</td>
<td>106</td>
<td>0 - 315</td>
<td>0.0 to +25.0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>35 bar.g</td>
<td>6</td>
<td>35 bar.g</td>
<td>108</td>
<td>0 - 315</td>
<td>0.0 to +40.0</td>
<td></td>
</tr>
</tbody>
</table>

For example: a M-1242 manifold is a brass M1000 manifold equipped with 2 flexibles and suitable for max. 1.7 bar.g outlet pressure applications.

Higher pressure, high flow or customized models also available. Please contact Air Products for details.

(*) design capacity calculated at 300 bar.g inlet pressure
(**) 0 to 415 bar.g for brass series

OPTIONS

- G Cleaning for oxygen service
- D Helium leak rate certification
- F Extra 5 micron inlet filter
- PS Pressure switch only
- P Pressure switch with Alarm Box
- R No relief valve
- C Cylinder clamps and belts on a rail
- O Outlet valve
- E Other flexible lengths

Please contact Air Products and specify on the order.

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Manifolds are used to connect together two or more cylinders to provide greater storage capacity and therefore greater security of supply. This can be important when the cylinders are located far away from the use point.

The M-2000 series manifolds are 2-wing systems permitting manual changeover from one wing to the other. Their typical use would be in non-critical applications where automatic changeover would not be required.
Specifications

Material
Brass or 316L stainless steel

Pressure/Temperature rating
Maximum inlet pressure:
brass series: 310 bar.g
stainless steel series: 230 bar.g
Temperature range: -40 °C to +74 °C

Connections
Inlet: cylinder connection + flexible
Outlet: 1/4 inch NPT female
Relief valve: 1/4 inch NPT male

Flexibles
For oxygen service: 1.5 meter, Teflon®/stainless steel
For other services: 1 meter, 316L stainless steel

Flow
CV=0.06
The flow coefficient expresses the flow capability of the manifold.
CV is the flow of air in standard ft³/min for each psi of inlet pressure

Weight
9.0 kg

Installation dimensions
WxHxD: 450 mm x 280 mm x 200 mm

Design features
• Unique “Duobloc” valve design to minimize contamination and maximize system integrity
• High pressure all stainless steel flexibles
• Delivered with operating guidelines for easier use
• Flow diagrams displayed on the equipment for easier use
• Relief valve fitted as standard for protection against over pressurisation
• Individually tested and certified to assure maximum leak-tightness and reliability

Ordering information
Ordering code: M-2 X Y Z

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cylinders per wing</td>
<td>Material</td>
<td>Maximum outlet pressure</td>
</tr>
<tr>
<td>1</td>
<td>4 = brass</td>
<td>0.7 bar.g</td>
</tr>
<tr>
<td>2</td>
<td>1.7 bar.g</td>
<td>18</td>
</tr>
<tr>
<td>3</td>
<td>3.5 bar.g</td>
<td>33</td>
</tr>
<tr>
<td>4</td>
<td>7 bar.g</td>
<td>62</td>
</tr>
<tr>
<td>5</td>
<td>17 bar.g</td>
<td>106</td>
</tr>
<tr>
<td>6</td>
<td>35 bar.g</td>
<td>108</td>
</tr>
</tbody>
</table>

For example: a M-2242 manifold is a 2-wing manual brass manifold M2000 equipped with 2 flexibles on each wing and designed for max. 1.7 bar.g pressure applications.

Higher pressure, high flow or customized models also available. Please contact Air Products for details.

(*) design capacity calculated at 300 bar.g inlet pressure
(**) 0 to 415 bar.g for brass series

Options

C Cleaning for oxygen service
P Pressure switch only
D Pressure switch with Alarm Box
F Extra 5 micron inlet filter
H Compression fitting on outlet (available in various sizes)
R No relief valve

Cylinder clamps and belts on a rail
Outlet valve
Other flexible lengths

Please contact Air Products and specify on the order.

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Manifolds

M-3000 Series

- Automatic changeover
- Two wings
- Brass or stainless steel

Manifolds are used to connect together two or more cylinders to provide greater storage capacity and therefore greater security of supply. This can be important when the cylinders are located far away from the use point.

The M-3000 series manifolds are 2-wing systems that provide automatic changeover from one wing to the other. Continuous gas supply is maintained when one wing is emptied. Priority is given to the cylinders in service by operating the changeover knob at the time when the empty cylinders are disconnected. These systems are particularly useful when the manifold is located far away from the use point.
Specifications

Material
Brass or 316L stainless steel

Pressure/Temperature rating
Maximum inlet pressure:
- Stainless steel series: 200 bar.g
- Brass series: 300 bar.g
Temperature range: -40 °C to +74 °C

Connections
Inlet: cylinder connection + flexible
Outlet: 1/4 inch NPT female
Relief valve: 1/4 inch NPT male

Flexibles
For oxygen service: 1.5 meter, Teflon®/stainless steel
For other services: 1 meter, 316L stainless steel

Flow
CV=0.06
The flow coefficient expresses the flow capability of the manifold.
CV is the flow of air in standard ft³/min for each psi of inlet pressure

Weight
10 kg

Installation dimensions
WxHxD: 450 mm x 200 mm x 200 mm

Design features

- Unique “Duobloc” valve design to minimise contamination and maximize system integrity
- High pressure flexible
- Delivered with operating guidelines for easier use
- Flow diagrams displayed on the equipment for easier use
- Relief valve fitted as standard for protection against over pressurisation
- Individually tested and certified to assure maximum leak-tightness and reliability

Ordering information

Ordering code: M-3 X Y Z

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>Z</th>
<th>Max. outlet pressure (bar.g) (*)</th>
<th>Nominal Flow (Nm³/hr) (**)</th>
<th>Inlet gauge range (***) (bar.g)</th>
<th>Outlet gauge range (bar.g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>20</td>
<td>0 to 315</td>
<td>0-9</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>2</td>
<td>12</td>
<td>25</td>
<td>0 to 315</td>
<td>0-25</td>
</tr>
<tr>
<td>3</td>
<td>steel</td>
<td>3</td>
<td>17</td>
<td>35</td>
<td>0 to 315</td>
<td>0-25</td>
</tr>
</tbody>
</table>

For example: a M-3243 manifold is a 2-wing automatic brass manifold equipped with 2 flexibles on each wing and designed for max. 17 bar.g pressure applications.

(*) Fixed outlet pressure for the left wing of the manifold. The change over to the right wing occurs automatically when the pressure in the cylinders or packs in service drops of 1 bar.g below that fixed value. The supply is ensured at that reduced pressure from the cylinders connected to the right wing. Priority is given to the cylinders in service by operating the changeover knob at the time when the empty cylinders are disconnected.

(**) Nominal flows calculated at 300 bar.g inlet pressure

(***) 0 to 415 bar.g for brass series

For example: a M-3243 manifold is a 2-wing automatic brass manifold equipped with 2 flexibles on each wing and designed for max. 17 bar.g pressure applications.

(*) Fixed outlet pressure for the left wing of the manifold. The change over to the right wing occurs automatically when the pressure in the cylinders or packs in service drops of 1 bar.g below that fixed value. The supply is ensured at that reduced pressure from the cylinders connected to the right wing. Priority is given to the cylinders in service by operating the changeover knob at the time when the empty cylinders are disconnected.

(**) Nominal flows calculated at 300 bar.g inlet pressure

(***) 0 to 415 bar.g for brass series

OPTIONS

- Cleaning for oxygen service
- Helium leak rate certification
- Extra 5 micron inlet filter
- Compression fitting on outlet (available in various sizes)
- Pressure switch only
- Pressure switch with Alarm Box
- No relief valve
- Cylinder clamps and belts on a rail
- Outlet valve
- Other flexible lengths

Please contact Air Products and specify on the order.