Auto Drain Valve

AD402/600 Series

Drain is automatically discharged in a reliable manner, without requiring human operators.

Highly resistant to dust and corrosion, operates reliably, and a bowl guard is provided as standard equipment.

Model/Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>AD402</th>
<th>AD600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proof pressure</td>
<td>1.5 MPa</td>
<td>1.5 MPa</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>1.0 MPa</td>
<td>1.0 MPa</td>
</tr>
<tr>
<td>Operating pressure range</td>
<td>0.1 to 1.0 MPa</td>
<td>0.3 to 1.0 MPa</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>−5 to 60°C (No freezing)</td>
<td>−5 to 60°C (No freezing)</td>
</tr>
<tr>
<td>Port size</td>
<td>⅛, ⅜, ⅝</td>
<td>⅛, ⅜</td>
</tr>
<tr>
<td>Drain port size</td>
<td>⅛</td>
<td>⅛</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>590</td>
<td>1310</td>
</tr>
</tbody>
</table>

Note) 400 L/min (ANR) or more

Specific Product Precautions

Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and pages 6 to 8 for Air Preparation Equipment Precautions.

Warning

Selection

Use the auto drain under the following operating conditions in order to prevent malfunction.
1) Operate the compressor above 3.7 kW (400 L/min (ANR)).
2) Use the AD402 at an operating pressure above 0.1 MPa and AD600 above 0.3 MPa.

Piping

Avoid riser piping.

How to Order

AD402 - 03

Thread type
Nil Fc
N NPT
F G

Option

Port size
Symbol IN OUT
02 ⅛ ⅛
03 ⅜ ⅝
04 ⅝ ⅞

AD600 - 06

Thread type
Nil Fc
N NPT
F G

Option

Port size
Symbol IN OUT
06 ⅜ ⅜
10 ⅜ ⅜

Warning

Piping should be done under the following conditions in order to prevent malfunction.
For drain piping, use a pipe whose I.D. is not less than ø10 and length not more than 5 m. Avoid riser piping.

Specific Product Precautions

Be sure to read this before handling the products.
Refer to back page 50 for Safety Instructions and pages 6 to 8 for Air Preparation Equipment Precautions.

Warning

Selection

Use the auto drain under the following operating conditions in order to prevent malfunction.
1) Operate the compressor above 3.7 kW (400 L/min (ANR)).
2) Use the AD402 at an operating pressure above 0.1 MPa and AD600 above 0.3 MPa.

Piping

Avoid riser piping.

How to Order

AD402 - 03

Thread type
Nil Fc
N NPT
F G

Option

Port size
Symbol IN OUT
02 ⅛ ⅛
03 ⅜ ⅝
04 ⅝ ⅞

AD600 - 06

Thread type
Nil Fc
N NPT
F G

Option

Port size
Symbol IN OUT
06 ⅜ ⅜
10 ⅜ ⅜

Warning

Piping should be done under the following conditions in order to prevent malfunction.
For drain piping, use a pipe whose I.D. is not less than ø10 and length not more than 5 m. Avoid riser piping.
**Construction/Dimensions**

**AD402**

![Image of AD402]

**AD600**

![Image of AD600]

**Component Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>Aluminum die-casted</td>
</tr>
</tbody>
</table>

**Replacement Parts**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Material</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>O-ring</td>
<td>NBR</td>
<td>AD402</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>AD600</td>
</tr>
<tr>
<td>3</td>
<td>Gauze</td>
<td>Stainless steel</td>
<td>AD34PA</td>
</tr>
<tr>
<td></td>
<td>Internal assembly</td>
<td></td>
<td>AD34PA</td>
</tr>
<tr>
<td>8</td>
<td>Piston assembly</td>
<td></td>
<td>AD34PA</td>
</tr>
</tbody>
</table>

Note 1) Internal assembly: Assembly for parts 4 to 11 except 12.
Note 2) Part no. for bowl assembly: AD34
Note 3) Part no. for bowl 10: 201016

**Working Principle (AD402)**

- When no pressure is applied inside the bowl 10, float 5 descends of its own weight and valve 9 closes the chamber 6 hole. Piston 8 is pushed down by spring 11, and drain passes through the chamber's long hole 12 to enter the housing and is discharged.

- When pressure is applied inside the bowl:

  When pressure is 0.1 MPa or more, it overcomes the force of spring 11, allowing the piston 8 to ascend, and comes in contact with O-ring 4. Thus, the inside of the bowl 10 is isolated from the outside.

- When drain has accumulated:

  Float 5 ascends due to flotation and opens the chamber hole 6, allowing the pressure to enter the chamber 6. Piston 8 descends due to internal pressure and the force of spring 11, and the accumulated drain is discharged through drain guide 13.