1 Safety instructions

1.1 Proper use

Any improper use, intervention in the design and deviation from the design data automatically lead to termination of the warranty. The automatic vent valve is designed for the discharge of air and gases from liquid carrying systems. Any other usage is not permitted. The manufacturer is not liable for damage resulting from any other usage. The user or operator bears the risk in this case. This also applies analogously to incorrect assembly, start-up, use and maintenance.

1.2 Warnings and symbols

- Personal risk due to escaping operating medium because of pressure, temperature and weight. Failure to comply with these warnings results in the risk of accidents.
- Follow the instructions in this operating manual.
- The operator must ensure that this operating manual and, if necessary, other relevant documents are available on site.
- Only trained or instructed personnel may be assigned to handling this equipment.
- Any mode of operation that may impair safety must be avoided.

2 General description and usage

2.1 Design of the automatic vent valve

![Diagram of the automatic vent valve]

1 Housing
2 Housing gasket
3 Cover
4 Screw plug
5 Gasket
6 Screw plug
7 Gasket
8 Control screw
9 Gasket
10 Control unit

Picture 1: Model 8170-8171
2.2 Operation limits of housing material (Design)

<table>
<thead>
<tr>
<th></th>
<th>For Model 8170-8171:</th>
</tr>
</thead>
<tbody>
<tr>
<td>max. operating pressure (bar g)</td>
<td>25</td>
</tr>
<tr>
<td>max. operating temperature (°C)</td>
<td>100</td>
</tr>
</tbody>
</table>

2.3 Function limit of control unit

<table>
<thead>
<tr>
<th>Cross section</th>
<th>Max. line pressure in bar g</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>14</td>
</tr>
<tr>
<td>Ils</td>
<td>17</td>
</tr>
</tbody>
</table>

2.4 Discharge capacity

The performance diagram applies to venting into atmosphere, i.e. without back pressure. The performance values apply to normal air expansion. The performance value of air being under pressure is determined by dividing the value of the diagram by operating pressure in bar.

2.5 Function

■ The float control assembly discharges air and gases from all liquid carrying systems without time delay, independent of pressure and temperature variations. With the float in the lower position the outlet cross-section is open. Air and gases escape through the upturned immersion tube. Rising of the liquid level lifts the float and closes the outlet.

3 Assembly

The vent valve has to be screwed into a pipeline between flanges.

■ Remove transport caps from inlet and outlet.

■ Fitting direction: The RiFOair Automatic Vent Valve must be installed to the highest position of the plant (or pipe system) through a short rising pipe, in which a stop valve (or preferably a ball valve) should be installed.

■ Because it is a metallic valve port, small drops of leakage are unavoidable. If necessary and depending on the hazard of the operation media, the pipe to receiver from outlet should be installed.

■ Supporting brackets: The supporting brackets are not necessary if the pipeline is adequately supported before and after the vent valve.

4 Start-Up

The pressure build-up and heating-up of the housing should not take place abruptly. If leakage is detected after the first inspection, the screws (4 / 6 / 8 / and Housing screws) can be fixed under consideration of the given torque moments, as given in Section 6.5. The screws can only be tightened on when the housing is unpressurized and at room temperature.
5 Observation and control

The function's failure can be observed as condensate leakage in huge quantity. Check the installation position according to Picture 1. The function limit of the control unit (Sec. 2.3) must not be exceeded. Inspect the air venting valve according to Section 6. If necessary, consult with RIFOX.

6 Maintenance / Inspection

6.1 Opening the vent valve and dismantling the float control

- The Automatic Vent Valve must be depressurized. Shut off the system before and after the Automatic Vent Valve.
- Release any remaining pressure by loosening the control screw (8) by only a quarter turn.
- Dismantle the steam trap from the pipeline system.
- Loosen the housing screw evenly crosswise and take off housing cover (3).
- Screw in the install bolt for ca. 3 turns. (Picture 3)
- With a few light strokes using plastic hammer on the front side of the install bolt to loosen the float control assembly (10) from its conic housing seat. (Picture 3)
- Screw out the install bolt completely. Remove the float control assembly (10). (Picture 3)

6.2 Disassembling, cleaning and assembling the float control (Picture 4)

- After removing the cotter pin (p), the rotary valve (v) can be simply pulled out to the side.
- Clean the parts using, for example, benzine.
- Check the rotary valve (v) for wear along the sealing edge. If wear is detected, the support body (b) together with the rotary valve (v) must be replaced. The thorough leakage test must be carried out by RIFOX.
- During assembly ensure that the notch in the rotary valve (v) points to the punch mark on the support body (b) and the cotter pin (p) is inserted and secured again carefully.
- It must be possible to move the float up and down easily by hand.

6.3 Installation of the float control unit and assemble the vent valve (Picture 5)

- The float control assembly (10) is inserted into the conical housing seat with the supporting body. It must be ensured that the immersion tube is positioned vertically downwards.
- Screw in the install bolt with the washer but NOT tighten it.
- Check and reposition the float, until the float is in the middle of the housing (while the housing stands vertical).
- Tighten the install bolt with a standard ring wrench. Float control unit will be drawn into its conical seat. (tightening torque = 80Nm)
- Screw out the install bolt. Check again whether the float is in the middle of the cover opening.
- Check the housing gasket (2) and replace it if it is damaged.
- Tighten the housing screw evenly crosswise. Tightening torque according to Section 6.5.
6.4 Care and maintenance

■ In the case of a great risk of dirt accumulation, the housing, when it is depressurized, should be rinsed thoroughly from time to time. If necessary, the float control assembly (10) should also be checked according to Section 6.2.
■ The dirt, which has been accumulated in the housing, can be removed away by screwing off the screw plug (6+4).
■ For special applications, it is advisable to install a separate upstream strainer.
■ The float control assembly (10) usually does not to be special maintained. The maintenance depends primarily on the wear resistance of the valve gasket. See Section 6.1 and 6.2.

6.5 Tightening torque

<table>
<thead>
<tr>
<th>Position</th>
<th>Part Name</th>
<th>Tightening torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Gasket of PTFE</td>
</tr>
<tr>
<td>4</td>
<td>Control screw</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Screw plug</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Screw plug</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Housing screw</td>
<td>5</td>
</tr>
</tbody>
</table>

6.6 Spare parts

Only original spare parts can be used.

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Part Name</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Housing</td>
<td>EN-JS 1049</td>
</tr>
<tr>
<td>2</td>
<td>Housing gasket</td>
<td>Novaphit</td>
</tr>
<tr>
<td>3</td>
<td>Housing cover</td>
<td>EN-JS 1049</td>
</tr>
<tr>
<td>4</td>
<td>Screw plug</td>
<td>1.4104</td>
</tr>
<tr>
<td>5</td>
<td>Gasket</td>
<td>Weicheisen</td>
</tr>
<tr>
<td>6</td>
<td>Screw plug</td>
<td>DIN 910 - 5.8 - G 1/2&quot; (BSP)</td>
</tr>
<tr>
<td>7</td>
<td>Gasket</td>
<td>Weicheisen</td>
</tr>
<tr>
<td>8</td>
<td>Control screw</td>
<td>DIN 910 - 5.8 - G 1/2&quot; (BSP)</td>
</tr>
<tr>
<td>9</td>
<td>Gasket</td>
<td>Weicheisen</td>
</tr>
<tr>
<td>10</td>
<td>Float control assembly</td>
<td>1.4057, 1.4301, 1.4104, 1.4112 or komplete 1.4571*</td>
</tr>
</tbody>
</table>

7 Conformity assessment

The pressure equipment described is a pressure-keeping component in accordance with the Pressure Vessel Directive 2014/68/EU.

DN15; G1/2": according to Art. 4, Subs. 3, no CE-Mark.

A detailed declaration of conformity assessment according to PED is available as separate document. Please request if necessary, if not attached.