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The information herein is correct at the time of issue but may be subject to change without prior notice

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</table>
1 EC Declaration of Conformity

The Designated Company

Alfa Laval Kolding A/S

Albuen 31, DK-6000 Kolding, Denmark

+45 79 32 22 00

herby declares that

Valve

SB Pressure Exhaust Valve

is in conformity with the following directives with amendments:

- Machinery Directive 2006/42/EC

The person authorised to compile the technical file is the signer of this document

QHSE Manager, Quality, Health and safety & Environment

Annie Dahl

Kolding 2015-06-02

Signature
2 Safety

Unsafe practices and other important information are emphasised in this manual. Warnings are emphasised by means of special symbols.

2.1 Important information

Always read the manual before using the valve!

WARNING
Indicates that special procedures must be followed to avoid serious personal injury.

CAUTION
Indicates that special procedures must be followed to avoid damage to the valve.

NOTE
Indicates important information to simplify or clarify procedures.

2.2 Warning signs

General warning: 

Caustic agents: 

⚠️ ⚠️
2 Safety

All warnings in the manual are summarised on this page.
Pay special attention to the instructions below to avoid serious personal injury and damage to the valve.

2.3 Safety precautions

Installation:
- **Always** read the technical data thoroughly (see chapter 6 Technical Data.)
- **Always** release compressed air after use.
- **Never** touch the moving parts if the actuator for force opening is supplied with compressed air.
- **Never** touch the valve or the pipelines when processing hot liquids.
- **Never** dismantle the valve or actuator for force opening when under pressure.
- **Never** dismantle the valve when it is hot.

Operation:
- **Never** dismantle the valve with the valve and pipelines under pressure.
- **Never** dismantle the valve when it is hot.
- **Always** read the technical data thoroughly (see chapter 6 Technical Data)
- **Always** release compressed air after use.
- **Never** touch the valve or pipelines when processing hot liquids.
- **Never** touch the moving parts if the actuator is supplied with compressed air.
- **Always** rinse well with clean water after cleaning.
- **Always** handle lye and acid with great care.

Maintenance:
- **Always** read the technical data thoroughly (see chapter 6 Technical Data)
- **Always** release compressed air after use.
- **Never** service the valve when it is hot.
- **Never** service the valve with the valve and pipeline under pressure.
- **Never** touch the moving parts if the actuator for force opening is supplied with compressed air.

Transportation:
- **Always** ensure that compressed air is released.
- **Always** ensure that all connections are disconnected before attempting to remove the valve from the installation.
- **Always** drain liquid out of valves before transportation.
3 Installation

The instruction manual is part of delivery. Study the instructions carefully. The items refer to the Parts List and Service Kits section.

3.1 Unpacking/delivery

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Check the delivery for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAUTION</td>
<td>- Complete valve</td>
</tr>
<tr>
<td>Alfa Laval cannot be held responsible for incorrect unpacking.</td>
<td>- Instruction manual</td>
</tr>
</tbody>
</table>

Step 2
Remove any packing materials from the valve/valve parts.
Inspect the valve/valve parts for visible transport damage.
Avoid damaging the valve/valve parts.

3.2 General installation

<table>
<thead>
<tr>
<th>Step 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚠️ Always read the technical data thoroughly.</td>
</tr>
<tr>
<td>See chapter 6 Technical Data</td>
</tr>
</tbody>
</table>

⚠️ Always release compressed air of actuator for force opening after use.

CAUTION
Alfa Laval cannot be held responsible for incorrect installation.
3 Installation

The instruction manual is part of delivery. Study the instructions carefully.
The items refer to the Parts List and Service Kits section.

3.3 Valve installation

The Pressure Exhaust valve is produced with male part acc. DIN 11851 or weld end acc. ISO 2037.
Connections for control air and force opening are 1/8" BSP, delivered with fittings for O.D 6 x 1 mm nylon hoses.
Cleaning nozzle and closing plug are included.
The cleaning nozzle is equipped with a fitting for O.D 8 x 1 mm stainless steel pipe and should further be equipped with a CIP supply valve if needed.

Pos. 1. Set point pressure
Pos. 2. Leakage indicator hole
Pos. 3. Force opening pressure
Pos. 4. CIP supply valve
Pos. 5. Cleaning nozzle
Pos. 6. Closing plug

Union connection
- The Pressure Exhaust valve should preferably be mounted in a vertical position.
- Ensure the valve nut is tight (pos. 1).
- Ensure the valve air supply connections are tight (pos. 2).
- Ensure the cleaning nozzle or closing plug is tight (pos. 3).
- Ensure that the in and outlet connections are tight (pos. 4).

Weld connection
- Before welding, the valve must be disassembled so the gasket and O-rings are not damaged by the heat.
- For disassembly and assembly procedures, please refer to chapter 5 Maintenance.
- The Pressure Exhaust valve should preferably be mounted in a vertical position.
- Ensure the valve nut is tight (pos. 1).
- Ensure the valve air supply connections are tight (pos. 2).
- Ensure the cleaning nozzle or closing plug is tight (pos. 3).
- Ensure that the in and outlet connections are tight (pos. 4).
3 Installation

The instruction manual is part of delivery. Study the instructions carefully.
The items refer to the Parts List and Service Kits section.

3.4 Recycling information

Unpacking
- Packing material consists of wood, plastics, cardboard boxes and, in some cases, metal straps.
- Wood and cardboard boxes can be reused, recycled or used for energy recovery.
- Plastics should be recycled or burnt at an authorised waste incineration plant.
- Metal straps should be sent for material recycling.

Maintenance
- All metal parts should be sent for material recycling.
- Worn out or defective electronic parts should be sent to a licensed handler for material recycling.

Scraping
- At the end of use, the equipment should be recycled according to relevant local regulations. As well as the equipment itself, any hazardous residues from the process liquid must be considered and dealt with in a proper manner. When in doubt, or in the absence of local regulations, please contact your local Alfa Laval sales company.
# 4 Operation

Study the instructions carefully and pay special attention to the warnings!

Ensure that the valve operates smoothly.

The items refer to the parts list and service kits section.

## 4.1 Operation

### Step 1

⚠️ **Always** read the technical data thoroughly.
See chapter 6 Technical Data

⚠️ **Always** release compressed air after use.

### CAUTION

Alfa Laval cannot be held responsible for incorrect operation.

### Step 2

⚠️ **Never** touch the valve or the pipelines when processing hot liquids or when sterilising.

Burn hazard!

### Step 3

⚠️ **Never** touch the moving parts if the actuator is supplied with compressed air.

Moving parts!

- The Pressure Exhaust valve is operated by means of a set point pressure being applied to the top of the valve.
- The pressure regulation will be identical to the set point pressure.
- When the system pressure exceeds the set point pressure, the valve will open and blow off through the valve side branch for atmospheric discharge or collection.
- To ensure correct working conditions there should be no backpressure after the vent port.
- The set point pressure is adjusted to the required pressure either by means of a manual precision regulator or an IP converter controlled by a PLC.
Study the instructions carefully and pay special attention to the warnings!
Ensure that the valve operates smoothly.
The items refer to the parts list and service kits section.

4.2 Recommended cleaning

Always handle lye and acid with great care.

Caustic hazard!

Always use rubber gloves!
Always use protective goggles!

During CIP, the valve is force opened, letting the liquid run into the tank.
CIP liquid is let into the house through the nozzle on the side of the house.

Step 1
- Force opening pressure is applied 5-10 bar (Pos. 1)
- Cleaning fluid is applied through cleaning nozzle (Pos. 2)
5 Maintenance

Maintain the valve regularly.
Study the instructions carefully and pay special attention to the warnings!
Always keep spare rubber and seal parts in stock.
Check the valve for smooth operation after service.

5.1 General maintenance

Step 1
⚠️ Always read the technical data thoroughly.
See chapter 6 Technical Data.

⚠️ Always release compressed air after use.

Step 2
⚠️ Never service the valve when it is hot.

⚠️ Never service the valve with the valve and pipelines under pressure.

Atmospheric pressure required!
Burn hazard!

Step 3
⚠️ Never touch the moving parts if the actuator is supplied with compressed air.

Moving parts!

A disciplined maintenance programme is essential to minimise breakdowns and maximise equipment life.
It is important that the valve is inspected regularly.
Gaskets and O-rings to be replaced approx. every 2-3 years.
5 Maintenance

Maintain the valve regularly.
Study the instructions carefully and pay special attention to the warnings!
Always keep spare rubber and seal parts in stock.
Check the valve for smooth operation after service.

Step 1
Disassembling the valve
- Disconnect the pneumatic and CIP connections to the Pressure Exhaust Valve.
- Unscrew the connectors for force opener and cleaning nozzle (pos. 1).
- Unscrew valve nut and remove cover (pos. 2).
- Remove upper lining (pos 3.).
- Remove diaphragm (pos. 4).
- Remove intermediate lining (pos. 5).

Step 2
- Using a nylon mallet, carefully knock out rest of the internal assembly (pos. 6).

Step 3
- Unscrew piston for diaphragm (pos. 7).
- Dismantle remaining part
- Replace O-rings, seals rings and veriseal.

Assembly is carried out in the opposite order to disassembly.

Note! Top membrane must be fitted as in illustration. (shown on next page)
5 Maintenance

Maintain the valve regularly.
Study the instructions carefully and pay special attention to the warnings!
Always keep spare rubber and seal parts in stock.
Check the valve for smooth operation after service.
It is important to observe the technical data during installation, operation and maintenance. All personnel should be informed about the technical data.

### 6.1 Technical data

The Pressure Exhaust Valve is to be used in a system for remote control of the working pressure in tanks during a process creating increasing pressure. The Pressure Exhaust Valve can be mounted directly on top of the tank, as part of a tank top system or located elsewhere in the pipework.

#### Valve data

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Working pressure</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>38 mm (1.5&quot;)</td>
<td>1-4 bar (14.5-58.0 psi)</td>
<td>2.7 kg</td>
</tr>
<tr>
<td>51 mm (2&quot;)</td>
<td>0.5-4 bar (7.2-58.0 psi)</td>
<td>5.6 kg</td>
</tr>
</tbody>
</table>

#### Connection

- Unions: DIN 11851
- Weld end acc.: ISO 2037

#### Force opening

- Max. air supply: 20 bar (290 psi)
- Min. air supply: 5 bar (87 psi)
- Noise of actuator: 65 dB(A)

#### Materials

- Product wetted steel parts: EN 1.4404 (AISI 316L)
- Product wetted steel surfaces: Surface roughness Ra<0.8 µm (<32 µ")
- Product wetted O-rings: EPDM
- Product wetted seals: EPDM
- Product wetted polymers: Polypropylene
7 Parts List and Service Kits

It is important to observe the technical data during installation, operation and maintenance. All personnel should be informed about the technical data.

7.1 Pressure Exhaust; 38-51 mm
### Parts List

It is important to observe the technical data during installation, operation and maintenance.
All personnel should be informed about the technical data.

#### Parts List

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Qty</th>
<th>Denomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Screw</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Bushing</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Guide fin</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Disc</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>Gasket, EPDM</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Variseal</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>O-ring, EPDM</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>Diaphragm</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>Support for diaphragm</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>Intermediate lining for diaphragm</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>Upper lining for diaphragm</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>Air inlet</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>Washer</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>Plug</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>CIP nozzle</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>Ferrule set</td>
</tr>
<tr>
<td>22</td>
<td>1</td>
<td>Nut</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>Water rejector</td>
</tr>
</tbody>
</table>

#### Service Kits

Service kits for Pressure Exhaust; 38-51 mm

<table>
<thead>
<tr>
<th>Denomination</th>
<th>38 mm</th>
<th>51 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Kit</td>
<td>9611924318</td>
<td>9611924319</td>
</tr>
</tbody>
</table>

Parts marked with □ are included in the service kits.
7 Parts List and Service Kits

It is important to observe the technical data during installation, operation and maintenance. All personnel should be informed about the technical data.

7.2 Pressure Exhaust; 76.1 mm
It is important to observe the technical data during installation, operation and maintenance. All personnel should be informed about the technical data.

### Parts List

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Qty</th>
<th>Denomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Screw</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Bushing</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Guide fin</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Disc</td>
</tr>
<tr>
<td>5 □</td>
<td>1</td>
<td>Gasket, EPDM</td>
</tr>
<tr>
<td>6 □</td>
<td>1</td>
<td>Variseal</td>
</tr>
<tr>
<td>7 □</td>
<td>1</td>
<td>O-ring, EPDM</td>
</tr>
<tr>
<td>8 □</td>
<td>2</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>9 □</td>
<td>1</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>10 □</td>
<td>1</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>11 □</td>
<td>1</td>
<td>O-ring, NBR</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>Diaphragm</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>Support for diaphragm</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>Intermediate lining for diaphragm</td>
</tr>
<tr>
<td>15</td>
<td>2</td>
<td>Air inlet</td>
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<td>16</td>
<td>1</td>
<td>Washer</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>Plug</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>CIP nozzle</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>Ferrule set</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>Nut</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>Water rejector</td>
</tr>
</tbody>
</table>

### Service Kits

Service kits for Pressure Exhaust, 76.1 mm

<table>
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</thead>
<tbody>
<tr>
<td>Service Kit</td>
<td>9611924320</td>
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</table>

Parts marked with □ are included in the service kits.
How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information directly.