Instruction Manual

Unique Single Seat Valve - standard and reverse acting
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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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<tr>
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</tr>
</tbody>
</table>
1 EC Declaration of Conformity

Revision of Declaration of Conformity: 2018-04-01

The Designated Company

Alfa Laval Kolding A/S
Company Name

Albuen 31, DK-6000 Kolding, Denmark
Address

+45 79 32 22 00
Phone No.

hereby declares that

Valve
Designation

Unique SSV PN10
Type

from serial number 1000000 to 70000000000

is in conformity with the following directive with amendments:

- Machinery Directive 2006/42/EC
- Pressure Equipment Directive 2014/68/EU category 1 and subjected to assessment procedure Module A. May only be used for fluids in Group 2

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

Global Product Quality Manager
Title

Kolding
Place

2018-04-01
Date

Lars Kruse Andersen
Name

Signature
2 Safety

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

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.

Different actuator types for the SSV valve
In June 2016 the below change was implemented and the “removable yoke with bolts” version is thereby phased out and replaced by the “yoke without bolts” version.

**NOTE**
It is important to check for warnings marked on the actuator when servicing an actuator - see below table.

<table>
<thead>
<tr>
<th>Actuator type</th>
<th>Non-maintainable actuator</th>
<th>Fully maintainable actuator</th>
<th>Fully maintainable actuator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spring under load and</td>
<td>Spring cage and can be</td>
<td>Spring cage and can be</td>
</tr>
<tr>
<td></td>
<td>CANNOT be opened</td>
<td>opened</td>
<td>opened</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(*) Lock wire opening is</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>locked when warning is</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>marked on actuator</td>
<td></td>
</tr>
<tr>
<td>Yoke type</td>
<td>Non-removable yoke</td>
<td>“Removable yoke with bolts”,</td>
<td>“Yoke without bolts”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If the yoke with bolts is</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>damaged it has to be replaced</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>by the “yoke without bolts”</td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Not possible to service</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>internally (it is not possible to change piston o-rings)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marked with warnings</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Year of production</td>
<td>From 2006</td>
<td>From 2006 to June 2016</td>
<td>From June 2016</td>
</tr>
</tbody>
</table>
2 Safety

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

2.2 Warning signs

General warning

Caustic agents

Danger of injury: (an extra yellow label marked on the actuator from June 2016) Do NOT attempt to cut the actuator open due to spring under load. (The lock wire opening is locked).

Danger of injury (lasermarked on the actuator) Do NOT attempt to disassemble the actuator due to spring under load danger! (The lock wire opening is locked)
2 Safety

All warnings in this manual are summarised on this page. Pay special attention to the instructions below so that severe personal injury and/or damage to the valve are avoided.

2.3 Safety precautions

Actuators

If support air is utilised:

- Shock in the actuator must NEVER occur
- Support air on high pressure actuator versions is NOT allowed

To prevent shock in the actuator and to prevent exceeding 10 bar product pressure, Alfa Laval recommends NOT to exceed 3 bar support air on the spring side in all the Unique SSV actuators.

If support air is connected always use the 3 bar air relief fittings = 9611995903. Using the 3 bar air relief fitting also extends the service life of the actuator piston o-ring.

Pos. no. 5
For actuators, manufactured year 2005-2018, with serial number from 1000000 - 5999999 and from 20000000000 - 59999999999 always use steel adapter (pos 5) = 9614065301
Tighten torque = 30 Nm

Pos. no. 5
For actuators, manufactured year 2019 --> with serial number from 6000000 to 7000000 and from 60000000000 to 70000000000 always use steel adapter (pos 5) = 9615374701
Tighten torque = 15 Nm

Alfa Laval recommends max. 3 bar support air
Always use the "3 bar air relief fittings" on support air.
Alfa Laval article number = 9611995903
2 Safety

All warnings in this manual are summarised on this page.
Pay special attention to the instructions below so that severe personal injury and/or damage to the valve are avoided.

INSTALLATION
Always read the technical data thoroughly (see section 6 Technical data)
Always release compressed air after use
Never touch the valve or the pipelines when processing hot liquids or when sterilising
Never dismantle the valve with valve and pipelines under pressure
Never dismantle the valve when it is hot

Never cut the actuator open, due to spring under load - if marked with this warning

Do NOT attempt to disassemble the actuator due to spring under load danger!

OPERATION
Never dismantle the valve with valve and pipelines under pressure
Never dismantle the valve when it is hot
Always read the technical data thoroughly (see section 6 Technical data)
Always release compressed air after use
Never touch the valve or the pipelines when processing hot liquids or when sterilising
Never touch 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 section 6 Technical data)
Always release compressed air after use
Never service the valve when it is hot
Never service the valve with valve and pipelines under pressure
Never stick your fingers through the valve ports if the actuator is supplied with compressed air
Never touch moving parts if the actuator is supplied with compressed air
Always use Alfa Laval genuine spare parts

Never cut the actuator open, due to spring under load danger - if marked with this warning

Do NOT attempt to disassemble the actuator due to spring under load danger!

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
Always use predesigned lifting points if defined
Always ensure sufficient fixing of the valve during transportation - if specially designed packaging material is available, it must be used
3 Installation

This instruction manual is part of the delivery. Study the instructions carefully.
The items refer to the parts list and service kits section.
The valve is supplied as separate parts as standard (for welding).
The valve is assembled before delivery if it is supplied with fittings.

3.1 Unpacking/delivery

Step 1
CAUTION
Alfa Laval cannot be held responsible for incorrect unpacking.

Step 2
Actuator version can be ordered either “fully maintainable” (no warning marked on actuator) or as “non-maintainable” (warning marked on actuator).

Check the delivery for:
1. Complete valve, shut-off valve (RA) or change-over valve (RA) (see steps 3a, 3b, 3c and 3d).
2. Delivery note.

Step 3

3a Shut-off valve:
1. Complete actuator.
2. Bonnet (20).
3. Clamp (19).
4. Valve plug (23).
5. Valve body (22).

3b Change-over valve:
1. Complete actuator.
2. Bonnet (20).
3. 2 x clamps (19).
4. Valve plug (27).
5. Lower valve body (22).
6. Valve seat (28).
7. Upper valve body (26).
3 Installation

This instruction manual is part of the delivery. Study the instructions carefully.
The items refer to the parts list and service kits section.
The valve is supplied as separate parts as standard (for welding).
The valve is assembled before delivery if it is supplied with fittings.

3c Shut-off Valve - Reverse Acting:
1. Complete actuator.
2. Bonnet (20).
3. 3 x clamps (19).
4. Valve plug (23).
5. 2 x upper valve bodies (26).
6. Valve seat (28).
7. Lower bonnet (33).

3d Change-over Valve - Reverse Acting:
1. Complete actuator.
2. Bonnet (20).
3. 4 x clamps (19).
4. Upper valve plug (34).
5. Lower valve plug (35).
6. 3 x upper valve bodies (26).
7. 2 x valve seats (28).
8. Lower bonnet (33).

Step 4
Remove possible packing material from the valve / valve parts.
Inspect the valve / valve parts for visible transport damage.
Avoid damaging the valve / valve parts.
3 Installation

Study the instructions carefully and pay special attention to the warnings!
The valve has welding ends as standard but can also be supplied with fittings.

3.2 General installation

Step 1

- CAUTION
  - Alfa Laval cannot be held responsible for incorrect installation.
  - Always release compressed air after use.
  - Always read the technical data thoroughly.
  - See section 6 Technical data.

- Do NOT attempt to disassemble the actuator due to spring under load danger!

- If marked with this warning, do NOT attempt to cut the actuator open, due to spring under load danger!

Step 2

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

Step 3

To avoid water hammering, it is recommended to install the valve so that the flow is against the spring closing direction.

Shock in the actuator must never occur.
3 Installation

Study the instructions carefully and pay special attention to the warnings!
The valve has welding ends as standard but can also be supplied with fittings.

Step 4
If support air is used:
Pay special attention to shock in the actuator due to support air.
Shock in the actuator must never occur.

*) Careful if using support air on spring side and a high product pressure above the plug, as this can result in a high “hammer effect” which can damage the actuator.
Use Alfa Laval part no. 9611995903, which ensures max. 3 bar support air pressure.
Alternatively remove the product pressure while activating the plug.

Step 5
Avoid stressing the valve.
Pay special attention to:
- Vibrations.
- Thermal expansion of the pipelines.
- Excessive welding.
- Overloading of the pipelines.

Risk of damage!

Step 6
Make sure that the leak detection hole in the valve body:
1. is visible, when mounting the valve vertically
2. always is downwards due to self-draining, when the valve is mounted horizontally.

* = Leakage detection hole
Study the instructions carefully.
The valve is supplied as separate parts to facilitate welding.
The items refer to the parts list and service kits section.
Check the valve for smooth operation after welding.

3.3 Welding

Step 1
Always install valves with more than one valve body so that the seals between the valve bodies can be replaced. Do not weld more than one valve body into the system. It is recommended to fit sufficient clamps/unions to be able to disassemble the valve for servicing.

<table>
<thead>
<tr>
<th>Valve size</th>
<th>A (mm)</th>
<th>B (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN25/25 mm</td>
<td>*</td>
<td>630</td>
</tr>
<tr>
<td>DN40/38 mm</td>
<td>*</td>
<td>700</td>
</tr>
<tr>
<td>DN50/51 mm</td>
<td>*</td>
<td>750</td>
</tr>
<tr>
<td>DN65/63.5 mm</td>
<td>*</td>
<td>740</td>
</tr>
<tr>
<td>DN80/76 mm</td>
<td>*</td>
<td>800</td>
</tr>
<tr>
<td>DN100/101.6 mm</td>
<td>*</td>
<td>790</td>
</tr>
</tbody>
</table>

A* Depending on body combination and piping solution.

Step 2
Assemble the valve in accordance with the steps on page 26.
Pay special attention to the warnings!

Step 3
Pre-use check:
1. Supply compressed air to the actuator.
2. Open and close the valve several times to ensure that it operates smoothly.
Pay special attention to the warnings!
3 Installation

Study the instructions carefully.
The valve is supplied as separate parts to facilitate welding.
The items refer to the parts list and service kits section.
Check the valve for smooth operation after welding.

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 a licensed waste incineration plant
  - Metal straps should be sent for material recycling

- **Maintenance**
  - During maintenance, oil and wearing parts in the machine are replaced
  - 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
  - Oil and all non-metal wearing parts must be disposed of in accordance with local regulations

- **Scraping**
  - At end of use, the equipment must be recycled in accordance with the relevant local regulations. Besides 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. If the actuator is marked with a danger warning, do not attempt to cut the actuator open.

Do **NOT** attempt to disassemble the actuator due to spring under load danger!

If marked with this warning, do **NOT** attempt to cut the actuator open, due to spring under load danger!
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

- **CAUTION**
  - Alfa Laval cannot be held responsible for incorrect installation.
  - **Always** release compressed air after use.
  - **Always** read the technical data thoroughly.
    See section 6 Technical data.
  - **Always** use Alfa Laval genuine spare parts.
    The warranty of Alfa Laval products is dependent on use of
    Alfa Laval genuine spare parts.

  - **Do NOT** attempt to disassemble the actuator due to
    spring under load danger!

  - If marked with this warning, **do NOT** attempt to cut
    the actuator open, due to spring under load danger!

Step 2

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

Step 3

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

Step 4
**Lubrication of valves:**
1. Ensure smooth movement between lip seal (A) and plug stem (B).
2. Lubricate the lip seal with Klüber Paraliq GTE 703 if necessary (see page 19).

Step 5
**Lubrication of actuator:**
1. Ensure smooth movement of the actuator (the actuator is lubricated before delivery).
2. Lubricate all seals with Molykote Longterm 2 plus if necessary.
4 Operation

Pay attention to possible faults. Study the instructions carefully.
The items refer to the parts list and service kits section.

## 4.2 Troubleshooting

**NOTE!**

Study the maintenance instructions carefully before replacing worn parts - see page 19.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause/result</th>
<th>Repair</th>
</tr>
</thead>
<tbody>
<tr>
<td>External product leakage</td>
<td>Worn or damaged lip seal and/or O-ring</td>
<td>- Replace the seals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Replace with seals of a different rubber grade</td>
</tr>
<tr>
<td>Internal product leakage</td>
<td>- Worn or product affected plug seal</td>
<td>- Replace the seal</td>
</tr>
<tr>
<td></td>
<td>- Product deposits on the seat and/or plug</td>
<td>- Replace with a seal of a different rubber grade</td>
</tr>
<tr>
<td></td>
<td>- Product pressure exceeds actuator specification</td>
<td>- Frequent cleaning</td>
</tr>
<tr>
<td></td>
<td>See section 2.3 Safety precautions</td>
<td></td>
</tr>
<tr>
<td>Water hammer</td>
<td>The flow direction is the same as the closing direction</td>
<td>- The flow direction should be against the closing direction. See section 3.2 General installation, Step 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Throttle air release of solenoid in top unit</td>
</tr>
<tr>
<td>The valve does not open/close</td>
<td>Product pressure exceeds actuator specification</td>
<td>- Replace with a high pressure actuator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reduce product pressure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Use auxiliary air on the spring side (do not exceed 3 bar). Alfa Laval article number = 9611995903. See section 2.3 Safety precautions and section 3.2 General installation, Step 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reduce product pressure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Use auxiliary air on the spring side. Always use the pressure relief fittings (3 bar) on support side. Alfa Laval article number = 9611995903</td>
</tr>
</tbody>
</table>

If marked with a danger warning, do **NOT** attempt to cut the actuator open, due to spring under load.

![Warning](image)

Do **NOT** attempt to disassemble the actuator due to spring under load danger!

![Warning](image)

Do **NOT** attempt to cut the actuator open due to spring under load danger!
4 Operation

The valve is designed for cleaning in place (CIP).
Study the instructions carefully and pay special attention to the warnings!
NaOH = Caustic soda.
HNO₃ = Nitric acid.

4.3 Recommended cleaning

Step 1

Always handle lye and acid with great care.

Step 2

Never touch the valve or the pipelines when sterilising.

Step 3

Clean the plug and the seats correctly.
Pay special attention to the warnings.
Lift and lower valve plug momentarily!

Step 4

Examples of cleaning agents:
Use clean water, free from chlorides.

1. 1% by weight NaOH at 70°C

\[
\begin{align*}
1 \text{ kg} & \quad + \quad 100 \text{ l} \\
\text{NaOH} & \quad \text{water}
\end{align*}
\]

= Cleaning agent.

2. 0.5% by weight HNO₃ at 70°C

\[
\begin{align*}
0.7 \text{ l} & \quad + \quad 100 \text{ l} \\
53\% \text{ HNO}_3 & \quad \text{water}
\end{align*}
\]

= Cleaning agent.

Step 5

1. Avoid excessive concentration of the cleaning agent.
2. Adjust the cleaning flow to the process.
3. Always rinse well with clean water after the cleaning.

NOTE

The cleaning agents must be stored/disposed of in accordance with current regulations/directives.
5 Maintenance

Service the valve regularly.
Study the instructions carefully and pay special attention to the warnings!
Always use Alfa Laval genuine spare parts. Always keep spare rubber seals and lip seals in stock.
Check the valve for smooth operation after servicing.

5.1 General maintenance

Step 1

- **CAUTION**
  - Alfa Laval cannot be held responsible for incorrect installation.
  - *Always* release compressed air after use.
  - *Always* read the technical data thoroughly.
  - See section 6 Technical data.
  - *Always* use Alfa Laval genuine spare parts.
  - The warranty of Alfa Laval products is dependent on use of Alfa Laval genuine spare parts.

  **Do NOT** attempt to disassemble the actuator due to spring under load danger!

  If marked with this warning, do **NOT** attempt to cut the actuator open, due to spring under load danger!

Step 2

Never service the valve when it is hot.
Never service the valve with valve and pipelines under pressure.

Step 3

Never stick your fingers through the valve ports if the actuator is supplied with compressed air.

Never touch the moving parts if the actuator is supplied with compressed air.
5 Maintenance

Service the valve regularly. Study the instructions carefully and pay special attention to the warnings! Always use Alfa Laval genuine spare parts. Always keep spare rubber seals and lip seals in stock. Check the valve for smooth operation after servicing.

Below are some guidelines for maintenance and lubrication intervals. Please note that the guidelines are for normal working conditions in one shift.

<table>
<thead>
<tr>
<th>Preventive maintenance</th>
<th>Product wetted seals</th>
<th>Actuator bushings complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace after 12 months depending on working conditions</td>
<td>Replace after 5 years depending on working conditions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maintenance after leakage (leakage normally starts slowly)</th>
<th>Replace at the end of the day</th>
<th>Replace when possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular inspection for leakage and smooth operation</td>
<td>Regular inspection for leakage and smooth operation</td>
<td></td>
</tr>
<tr>
<td>Keep a record of the valve</td>
<td>Keep a record of the actuator</td>
<td></td>
</tr>
<tr>
<td>Use the statistics for inspection planning</td>
<td>Use the statistics for inspection planning</td>
<td></td>
</tr>
<tr>
<td>Replace after leakage</td>
<td>Replace after leakage</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Planned maintenance</th>
<th>Lubrication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replace after leakage</td>
<td>Before fitting Klüber Paraliq GTE 703 or similar USDA H1 approved oil/grease</td>
</tr>
<tr>
<td>Regular inspection for leakage and smooth operation</td>
<td>Before fitting Molykote Longterm 2 plus</td>
</tr>
<tr>
<td>Keep a record of the valve</td>
<td></td>
</tr>
<tr>
<td>Use the statistics for inspection planning</td>
<td></td>
</tr>
<tr>
<td>Replace after leakage</td>
<td></td>
</tr>
</tbody>
</table>

Pre-use check:

1. Supply compressed air to the actuator.
2. Open and close the valve several times to ensure that it operates smoothly.
   Pay special attention to the warnings!

Recommended spare parts
Service kits (see section 7 Parts list and service kits)
5 Maintenance

Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly.
NC = Normally closed.
NO = Normally open.
A/A = Air/air activated.

5.2 Dismantling the valve

If the actuator is marked with a danger warning, do NOT attempt to cut the actuator open.

Do NOT attempt to disassemble the actuator due to spring under load danger!

Do NOT attempt to cut the actuator open due to spring under load danger!

Step 1

1a Shut-off valve:
1. Supply compressed air to the actuator (only NC).
2. Loosen and remove clamp.
3. Release compressed air (only NC).
4. Lift away the actuator.
5. Unscrew and remove valve plug.
6. Remove O-ring, lip seal and bushing in bonnet.
   (Use bushing tool and rubber mallet.)
   Note! Be careful not to damage the bushing.
   Pay special attention to the warnings!
   Note! For plug seal replacement please see section 5.3 Plug seal replacement.

1b Change-over valve:
1. Supply compressed air to the actuator (only NC).
2. Loosen and remove lower clamp.
3. Release compressed air (only NC).
4. Lift away the actuator and upper valve body.
5. Supply compressed air to the actuator (only NO).
6. Unscrew and remove valve plug.
7. Release compressed air (only NO).
8. Remove seat and O-rings.
9. Loosen and remove upper clamp.
10. Remove upper valve body.
11. Remove O-ring, lip seal and bushing in bonnet.
   (Use bushing tool and rubber mallet.
   See drawing, step 1a.)
   Note! Be careful not to damage the bushing.
   Pay special attention to the warnings!
   Note! For plug seal replacement please see section 5.3 Plug seal replacement.
5 Maintenance

Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly.
NC = Normally closed.
NO = Normally open.
A/A = Air/air activated.

1c Shut-off valve - Reverse Acting:
1. Loosen and remove lower clamp.
2. Remove lower bonnet and O-ring from lower body.
3. Loosen and remove middle clamp.
4. Lift away the actuator and upper valve body.
5. Supply compressed air to the actuator (only NC).
6. Unscrew and remove valve plug.
7. Release compressed air (only NC).
8. Remove seat and O-rings.
9. Loosen and remove upper clamp.
10. Remove upper valve body.
11. Remove O-ring, lip seal and bushing in bonnet.
   (Use bushing tool and rubber mallet. See drawing, step 1a.)
Note! Be careful not to damage the bushing.
Pay special attention to the warnings!

Note! For plug seal replacement please see section 5.3 Plug seal replacement.

1d Change-over valve - Reverse Acting:
1. Loosen and remove lower clamp.
2. Remove lower bonnet and O-ring.
3. Loosen and remove clamp between lower and middle valve body.
4. Lift away the actuator and upper + middle valve body.
5. Supply compressed air to the actuator (only NC).
6. Unscrew and remove lower valve plug.
7. Release compressed air (only NC).
8. Remove lower seat and O-rings.
9. Supply compressed air to the actuator (only NO).
10. Loosen and remove clamp between middle and upper valve body.
11. Remove middle valve body and upper seat with O-rings.
12. Release compressed air (only NO).
13. Loosen and remove upper clamp.
15. Unscrew and remove upper valve plug.
   (Use bushing tool and rubber mallet. See drawing, step 1a.)
Note! Be careful not to damage the bushing.
Pay special attention to the warnings!

Note! For plug seal replacement please see section 5.3 Plug seal replacement.
Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly.

NC = Normally closed.
NO = Normally open.
A/A = Air/air activated.

5.3 Plug seal replacement

Step 1
1. Remove old seal ring using a knife, screwdriver or similar.
   Be careful not to damage the plug surface.
   If using a screwdriver it must be placed underneath the plug groove (see drawing 1).
2. Grease the new seal ring with Paralique GTE 703, which is included in the service kit.
   Only use a very small amount of grease.
3. Fit the seal ring on the plug without pressing it into the groove.
   Be careful not to twist the seal ring.
   Use a screwdriver (two turns) to fit the seal ring properly and to ensure it is not twisted (see drawing 2).
4. The seal ring can now be mounted by hand or with the Alfa Laval plug tool.
5 Maintenance

Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly.
NC = Normally closed.
NO = Normally open.
A/A = Air/air activated.

Step 2
Mounting plug seal ring by hand

1. Check the seal ring is premounted as described in step 1.
   To ensure correct mounting, press with your thumb on the seal ring, which must be done approximately 10 times and always with opposite pressure points, from A to B, to C and D (see drawing 3).
   The rest of the seal ring can now be pressed into the groove so the whole seal ring is mounted. Check that there are NO “bulge” (see drawing 4).
   If there is a little bulge – then use the screwdriver to eliminate the bulge.
   Again press with the thumb on the seal ring and keep the pressure while rotating 360° (see drawing 3).
2. It is important to release compressed air behind the seal ring. This is done with a screwdriver and always underneath the plug as shown.
   It must be done at one or two different points on the circumference.
   Be careful not to make marks on the surface of the plug and seal ring (see drawing 5).
Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly.

NC = Normally closed.
NO = Normally open.
A/A = Air/air activated.

Step 3
Mounting plug seal ring with Alfa Laval plug seal tool

<table>
<thead>
<tr>
<th>Mounting tool for elastomer plug seals</th>
<th>DN40 38 mm</th>
<th>DN50 - DN65 51 mm - 63.5 mm</th>
<th>DN80 - DN100 76.1 mm - 101.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>9613172901</td>
<td>9613172902</td>
<td>9613172903</td>
<td></td>
</tr>
</tbody>
</table>

1. **Part B**
   “Part B” has a small and a large diameter as the tool can be used for two plug sizes – e.g. plug tool = 9613172902 can be used for DN50/ISO51 (small) and DN65/ISO63 (large). “Part B” therefore has to be turned so it matches the plug size diameter.

2. **Part A**
   “Part A” has an upper and lower exhaust hole, as the tool can be used for two plug sizes – e.g. plug tool = 9613172902. The upper exhaust hole is for the small plug size e.g. DN50/ISO51 (small) and the lower exhaust hole is for DN65/ISO63 (large).
   When using a “change-over plug” the ø20 spindle must also be fitted in “part A” and “part B” (see drawing 2).
   When using a “reverse acting plug” the ø20 spindle must only be fitted in “part A” (see drawing 2).
   When using a “standard shut-off plug” the ø20 spindle is only fitted in “part B” (see drawing 1).

3. Fit the plug spindle in “part B” or “part A”.
   Place “part A” onto “part B” and then press “hard” down on top of “part A”.
   Now fit the screwdriver into the exhaust hole and underneath the plug groove meanwhile keeping the pressure on “part A”.
   This should ensure correct removal of air behind the seal ring. Normally the sound “Psst” can be heard one time (see drawing 3).
   A “drill press” can of course also be used on “part A”.

4. It is important to release compressed air behind the seal ring.
   This is done with a screwdriver and always underneath the plug as shown (see drawing 4).
5 Maintenance

Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly. 

**NC** = Normally closed. 
**NO** = Normally open. 
**A/A** = Air/air activated. 

<table>
<thead>
<tr>
<th>Drawing 1</th>
<th>Drawing 2</th>
<th>Drawing 3</th>
<th>Drawing 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Drawing 1" /></td>
<td><img src="image2" alt="Drawing 2" /></td>
<td><img src="image3" alt="Drawing 3" /></td>
<td><img src="image4" alt="Drawing 4" /></td>
</tr>
</tbody>
</table>

It is important to place the screwdriver underneath the plug.

5.4 Valve assembly

Reverse order of 5.2 Dismantling the valve. 
Lubricate O-ring (21) and lip seal (25) with Klüber Paraliq GTE 703.

Remember to tighten spindle and plug (use two 17 mm spanners).  
- Change-over plug tighten torque = **30 Nm**  
- Shut-off plug tighten torque = **20 Nm**

If there are vibrations in the pipeline, Alfa Laval recommends to use Loctite no. 243. 
The clamps’ thread must be lubricated before tightening - max. torque for the clamps is 10-12 Nm.

⚠️ Pay special attention to the warnings.
Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly.
NC = Normally closed.
NO = Normally open.
A/A = Air/air activated.

5.5 Actuator types

Different actuator types for the SSV valve
In June 2016 the below change was implemented and the “removable yoke with bolts” version is thereby phased out and replaced by the “yoke without bolts” version.

NOTE
It is important to check for warnings marked on the actuator when servicing an actuator - see below table.

<table>
<thead>
<tr>
<th>Actuator type</th>
<th>Non-maintainable actuator</th>
<th>Fully maintainable actuator</th>
<th>Fully maintainable actuator</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Spring under load and</td>
<td>Spring cage and can be</td>
<td>Spring cage and can be</td>
</tr>
<tr>
<td></td>
<td>CANNOT be opened</td>
<td>opened</td>
<td>opened</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*) Lock wire opening is locked, when warning is marked on actuator</td>
<td></td>
</tr>
<tr>
<td>Yoke type</td>
<td>Non-removable yoke</td>
<td>“Removable yoke with bolts”.</td>
<td>“Yoke without bolts”</td>
</tr>
<tr>
<td></td>
<td>If the yoke with bolts is</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>damaged it has to be replaced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service</td>
<td>Not possible to service</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>internally (it is not possible to change piston o-rings)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marked with warnings</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Year of production</td>
<td>From 2006</td>
<td>From 2006 to June 2016</td>
<td>From June 2016</td>
</tr>
</tbody>
</table>
5 Maintenance

Study the instructions carefully.
The items refer to the parts list and service kits section. Handle scrap correctly.
A/A = Air/air activated.
Service tool: see spare parts.

5.6 Actuator types

If the actuator is marked with a danger warning, do **NOT** attempt to cut the actuator open.

Do **NOT** attempt to disassemble the actuator due to spring under load danger!

Do **NOT** attempt to cut the actuator open due to spring under load danger!

---

Step 1
Introduction

- The actuator service kit contains two bushings and four o-rings.
- Mount the thick O-ring inside and the thin O-ring outside the bushing.
- Always lubricate the spindle and o-rings thoroughly with “Molykote Longterm 2 Plus” before mounting the new bushings.
Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly. A/A = Air/air activated. Service tool: see spare parts.

**Step 2**
**Introduction - Standard socket wrench**
Use a 27 mm socket wrench to mount the bushings, as the space in the yoke is limited. A socket wrench 24x27 (length = 185 mm) is a standard tool, which can be purchased from all tool shops.

![Diagram of a standard socket wrench](image)

**Example:**
Socket wrench - 24x27 mm
Supplier: Gedore Tool
EAN4010886621264

**Step 3**
**Introduction - Aligning spindle**
The actuator spindle can in some cases be forced off centre by the internal spring, see drawing below. In these cases, the alignment spindle shown below, together with the socket wrench, is a great help and ensures a reliable mounting of the bushing. The spindle can either be purchased from Alfa Laval together with the socket wrench (9614198401) or it can be manufactured locally using the below dimensions.

Spindle forced off centre by spring inside actuator

![Diagram of a spindle forced off centre](image)

**Dimensions:**
- A = 280 mm
- B = 16 mm
- C = Rod ø20 mm
- D = M12 x 1.5
5 Maintenance

Study the instructions carefully.
The items refer to the parts list and service kits section. Handle scrap correctly.
A/A = Air/air activated.
Service tool: see spare parts.

Step 4
The actuator must be carefully fixed in a vice if it is dismounted from the valve. Be careful not to press the yoke flange oval when fixing the actuator in the vice. Only fix carefully on the “yoke leg” as shown below.

Step 5
Remove adapter screw.
(After spindle alignment the adapter screw has to be remounted.)

Step 6
1. Lubricate thoroughly both the actuator spindle and o-rings.
2. Grease with “Molykote Longterm 2 plus”.
3. Fit the bushing on the spindle.
Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly. A/A = Air/air activated. Service tool: see spare parts.

**Step 7**

Fit the aligning spindle to the actuator spindle, and then mount the socket wrench.

![Aligning spindle and Socket wrench](image)

**Step 8**

Now pull the aligning spindle to centre the actuator spindle. In this position rotate the bushing 180° backwards and then begin to fasten the bushing. Make sure that the thread catches evenly! The bushing must only be tightened with a torque of 10 Nm (7 lb-ft) which can be done by turning “hard” by hand.
5 Maintenance

Study the instructions carefully.
The items refer to the parts list and service kits section. Handle scrap correctly.
A/A = Air/air activated.
Service tool: see spare parts.

5.7 Dismantling of fully maintainable actuator (removable yoke with bolts/2006-June 2016)

If the actuator is marked with a danger warning, do NOT attempt to cut the actuator open.
See also section 5.5 Actuator types

\[\begin{align*}
\text{Do NOT attempt to disassemble the actuator due to spring under load danger!} \\
\text{Do NOT attempt to cut the actuator open due to spring under load danger!}
\end{align*}\]

Before dismantling check that the actuator not is marked with a warning.

1. Rotate cylinder.
2. Remove lock wire and pull away cylinder.
3. Unscrew nuts and remove yoke.
4. Top and bottom bushings.
5. Remove piston with O-ring and spring assembly.
6. Remove O-rings and support disc.

\textbf{Note!} The A/A actuator has no spring assembly.
Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly. A/A = Air/air activated. Service tool: see spare parts.

5.8 Dismantling of fully maintainable actuator (yoke without bolts/June 2016 -> )

If the actuator is marked with a danger warning, do **NOT** attempt to cut the actuator open. See also section 5.5 Actuator types

---

**Do NOT** attempt to disassemble the actuator due to spring under load danger! **Do NOT** attempt to cut the actuator open due to spring under load danger!

---

Before dismantling check that the actuator not is marked with a warning.

1. Rotate cylinder.
2. Remove lock wire and pull away cylinder.
3. Remove top and bottom bushings.
4. Remove piston with O-ring and spring assembly.

---

5.9 Mounting of fully maintainable actuator

Depending on type of actuator choose step 1 or step 2.

**Step 1**
Reverse order of 5.7 Dismantling of fully maintainable actuator (removable yoke with bolts/2006-June 2016)
Tighten nuts to a torque of 17 Nm.
Lubricate O-rings (3, 7, 11) with Molykote Longterm 2 plus before fitting.
Tighten bushings with a torque = 10 Nm and be careful not to overtightened. See also 5.6 Actuator types

**Step 2**
Reverse order of 5.8 Dismantling of fully maintainable actuator (yoke without bolts/June 2016 -> )
Lubricate O-rings (3, 7, 11) with Molykote Longterm 2 plus before fitting.
Tighten bushings with a torque = 10 Nm and be careful not to overtightened. See also 5.6 Actuator types
5 Maintenance

Study the instructions carefully.
The items refer to the parts list and service kits section. Handle scrap correctly.
A/A = Air/air activated.
Service tool: see spare parts.

5.10 Changing pneumatic movement on fully maintainable actuator (NC/NO)

If the actuator is marked with a danger warning, do NOT attempt to cut the actuator open.
See also section 5.5 Actuator types.

Do NOT attempt to disassemble the actuator due to spring under load danger!

Do NOT attempt to cut the actuator open due to spring under load danger!

Before dismantling check that the actuator not is marked with a warning.

1. Rotate cylinder.
2. Remove lock wire and pull away cylinder.
3. Reverse piston and spring assembly.
4. Reverse adapter, air fitting and plug to opposite end.
5. Reassemble in reverse order (3 to 1).

A. = Pneumatic movement - upwards (NC)
B. = Pneumatic movement - downwards (NO)
It is important to observe the technical data during installation, operation and maintenance. Inform all personnel about the technical data.

### 6.1 Technical data

The valve is a pneumatic seat valve in a hygienic and modular design for a wide field of duties, e.g. as a shut-off valve with two (2) or three (3) ports or as a change-over valve with three (3) to five (5) ports. The valve is remote-controlled by means of compressed air. It has few and simple moveable parts which results in a very reliable valve and low maintenance cost.

#### Data - valve/actuator

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. product pressure</td>
<td>1000 kPa (10 bar).</td>
</tr>
<tr>
<td>Min. product pressure</td>
<td>Full vacuum (depending on product specifications).</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-10°C to +140°C (standard EPDM seal).</td>
</tr>
<tr>
<td>Air pressure, actuator</td>
<td>500 to 700 kPa (5 to 7 bar).</td>
</tr>
</tbody>
</table>

#### Materials - valve/actuator

<table>
<thead>
<tr>
<th>Part</th>
<th>Material/Sealation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product wetted steel parts</td>
<td>1.4404 (316L) (internal Ra &lt; 0.8 µm).</td>
</tr>
<tr>
<td>Other steel parts</td>
<td>1.4301 (304).</td>
</tr>
<tr>
<td>Plug seal</td>
<td>EPDM / PTFE (TR2).</td>
</tr>
<tr>
<td>Other product wetted seals</td>
<td>EPDM (standard).</td>
</tr>
<tr>
<td>Optional product wetted seals</td>
<td>HNBR and FPM.</td>
</tr>
<tr>
<td>Other seals</td>
<td>NBR.</td>
</tr>
</tbody>
</table>

#### Weight (kg)

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Inch tubes DN/OD</th>
<th>DIN tubes DN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shut-off valve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>3.1</td>
<td>3.2</td>
</tr>
<tr>
<td>38</td>
<td>3.3</td>
<td>3.4</td>
</tr>
<tr>
<td>51</td>
<td>5.5</td>
<td>5.5</td>
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<tr>
<td>63.5</td>
<td>6.5</td>
<td>6.6</td>
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<tr>
<td>76.1</td>
<td>11.3</td>
<td>11.8</td>
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<tr>
<td>101.6</td>
<td>13.6</td>
<td>13.6</td>
</tr>
<tr>
<td>Change-over valve</td>
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<td></td>
</tr>
<tr>
<td>25</td>
<td>3.9</td>
<td>4.1</td>
</tr>
<tr>
<td>40</td>
<td>4.2</td>
<td>4.5</td>
</tr>
<tr>
<td>50</td>
<td>7.1</td>
<td>7.2</td>
</tr>
<tr>
<td>65</td>
<td>8.5</td>
<td>8.8</td>
</tr>
<tr>
<td>80</td>
<td>14</td>
<td>14.9</td>
</tr>
<tr>
<td>100</td>
<td>18</td>
<td>17.9</td>
</tr>
<tr>
<td>Shut-off valve: high pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>4.7</td>
<td>4.8</td>
</tr>
<tr>
<td>40</td>
<td>4.8</td>
<td>4.9</td>
</tr>
<tr>
<td>50</td>
<td>9.5</td>
<td>9.5</td>
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<tr>
<td>65</td>
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<td>10.1</td>
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<tr>
<td>80</td>
<td>9.8</td>
<td>10.2</td>
</tr>
<tr>
<td>100</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>Change-over valve: high pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>4.9</td>
<td>5.1</td>
</tr>
<tr>
<td>40</td>
<td>5.1</td>
<td>5.3</td>
</tr>
<tr>
<td>50</td>
<td>10.1</td>
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<td>10.8</td>
<td>11.1</td>
</tr>
<tr>
<td>80</td>
<td>10.9</td>
<td>11.8</td>
</tr>
<tr>
<td>100</td>
<td>16.5</td>
<td>16.4</td>
</tr>
</tbody>
</table>

#### Noise

One metre away from and 1.6 metres above the exhaust, the noise level of a valve actuator will be approximately 77db (A) without noise damper and approximately 72 db (A) with damper - measured at 7 bar air-pressure.
The drawing shows the Unique Single Seat Valve.
The items refer to the parts lists in the following sections.
Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.1 Drawing

If the actuator is marked with a danger warning, do NOT attempt to cut the actuator open.
See also section 5.5 Actuator types

Do NOT attempt to disassemble the actuator due to spring under load danger!
Do NOT attempt to cut the actuator open due to spring under load danger!

Shut-off valve

Change-over valve
7 Parts list and service kits

The drawing shows the Unique Single Seat Valve - shut-off. The items refer to the parts lists in the following sections. Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.2 Unique Single Seat Valve - shut-off

If the actuator is marked with a danger warning do NOT attempt to cut the actuator open.

Do NOT attempt to disassemble the actuator due to spring under load danger!

Do NOT attempt to cut the actuator open, due to spring under load danger!
The drawing shows the Unique Single Seat Valve - shut-off. The items refer to the parts lists in the following sections. Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

### Parts list

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Qty</th>
<th>Denomination</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1</td>
<td>Adapter</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>Bushing</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>O-ring</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>O-ring</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>Plug</td>
</tr>
<tr>
<td>12</td>
<td>1(2)</td>
<td>Air fitting</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>Clamp</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td>Bonnet</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>O-ring</td>
</tr>
<tr>
<td>22</td>
<td>1</td>
<td>Valve body</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>Plug</td>
</tr>
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<td>23.1</td>
<td></td>
<td>Plug</td>
</tr>
<tr>
<td>23.2</td>
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<td>Plug seal</td>
</tr>
<tr>
<td>24</td>
<td>1</td>
<td>Bushing</td>
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<td>1</td>
<td>Lip seal</td>
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### Service kits

<table>
<thead>
<tr>
<th>Denomination</th>
<th>DN 25</th>
<th>DN 40</th>
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<th>DN 65</th>
<th>DN 80</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>25 mm</td>
<td>38 mm</td>
<td>51 mm</td>
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Parts marked with ☐ are included in the service kits (actuator)
Parts marked with ★ are included in the service kits (product wetted parts)
Tool for bushing (pos. 24) - item no: 9613160901
7 Parts list and service kits

The drawing shows the Unique Single Seat Valve - change-over.
The items refer to the parts lists in the following sections.
Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.3 Unique Single Seat Valve - change-over

If the actuator is marked with a danger warning do NOT attempt to cut the actuator open.

Do NOT attempt to disassemble the actuator due to spring under load danger!

Do NOT attempt to cut the actuator open, due to spring under load danger!
The drawing shows the Unique Single Seat Valve - change-over. The items refer to the parts lists in the following sections. Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

### Parts list

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<tr>
<td>9</td>
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<td>Plug</td>
</tr>
<tr>
<td>12</td>
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<td>Air fitting</td>
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<tr>
<td>24</td>
<td>1</td>
<td>Bushing</td>
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<tr>
<td>25</td>
<td>1</td>
<td>Lip seal</td>
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<td>26</td>
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<td>Plug</td>
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<tr>
<td>27.1</td>
<td>1</td>
<td>Plug</td>
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### Service kits

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</table>

Parts marked with □ are included in the service kits (actuator)
Parts marked with ♦ are included in the service kits (product wetted parts)
Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.4 Drawing

If the actuator is marked with a danger warning, do NOT attempt to cut the actuator open. See also section 5.5 Actuator types

Do NOT attempt to disassemble the actuator due to spring under load danger!

Do NOT attempt to cut the actuator open due to spring under load danger!

Shut-off valve - Reverse Acting

Change-over valve - Reverse Acting
7 Parts list and service kits

The drawing shows the Unique Single Seat Valve - Reverse Acting, shut-off. The items refer to the parts lists in the following sections. Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.5 Unique Single Seat Valve Reverse Acting - shut-off

If the actuator is marked with a danger warning do NOT attempt to cut the actuator open.

Do NOT attempt to disassemble the actuator due to spring under load danger!

Do NOT attempt to cut the actuator open, due to spring under load danger!
The drawing shows the Unique Single Seat Valve - Reverse Acting, shut-off. The items refer to the parts lists in the following sections. Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

### Parts list

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<tr>
<td>8</td>
<td>2</td>
<td>O-ring</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>Plug</td>
</tr>
<tr>
<td>12</td>
<td>1(2)</td>
<td>Air fitting</td>
</tr>
<tr>
<td>19</td>
<td>3</td>
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<td>Plug</td>
</tr>
<tr>
<td>23.1</td>
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<td>Plug</td>
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<tr>
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<tr>
<td>24</td>
<td>1</td>
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<td>1</td>
<td>Lip seal</td>
</tr>
<tr>
<td>26</td>
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<td>Valve body</td>
</tr>
<tr>
<td>28</td>
<td>1</td>
<td>Seat</td>
</tr>
<tr>
<td>33</td>
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### Service kits

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<tr>
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<th>DN 40 (38 mm)</th>
<th>DN 50 (51 mm)</th>
<th>DN 65 (63.5 mm)</th>
<th>DN 80 (76.1 mm)</th>
<th>DN 100 (101.6 mm)</th>
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<tbody>
<tr>
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<td>9611926500</td>
<td>9611926500</td>
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Parts marked with ☑️ are included in the service kits. Recommended spare parts: service kits.

TD 950-350/3
7 Parts list and service kits

The drawing shows the Unique Single Seat Valve - Reverse Acting, change-over. The items refer to the parts lists in the following sections. Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.6 Unique Single Seat Valve Reverse Acting - change-over

If the actuator is marked with a danger warning do NOT attempt to cut the actuator open.

Do NOT attempt to disassemble the actuator due to spring under load danger!

Do NOT attempt to cut the actuator open, due to spring under load danger!
The drawing shows the Unique Single Seat Valve - Reverse Acting, change-over. The items refer to the parts lists in the following sections.
Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

## Parts list

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<th>Pos.</th>
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<td>9</td>
<td>1</td>
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<tr>
<td>12</td>
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<td>4</td>
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## Service kits

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Parts marked with □ are included in the service kits. Recommended spare parts: Service kits.

TD 900-350/3
Always use Alfa Laval genuine spare parts.
The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.7 Maintainable actuator

If the actuator is marked with a danger warning do **NOT** attempt to cut the actuator open.

Do **NOT** attempt to disassemble the actuator due to spring under load danger!

Do **NOT** attempt to cut the actuator open, due to spring under load danger!

*) “Removable yoke with bolts” version, produced from 2006 to June 2016.
   Replaced by “yoke without bolts” (13)
Always use Alfa Laval genuine spare parts.
The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

### Parts list

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### Service kits

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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.