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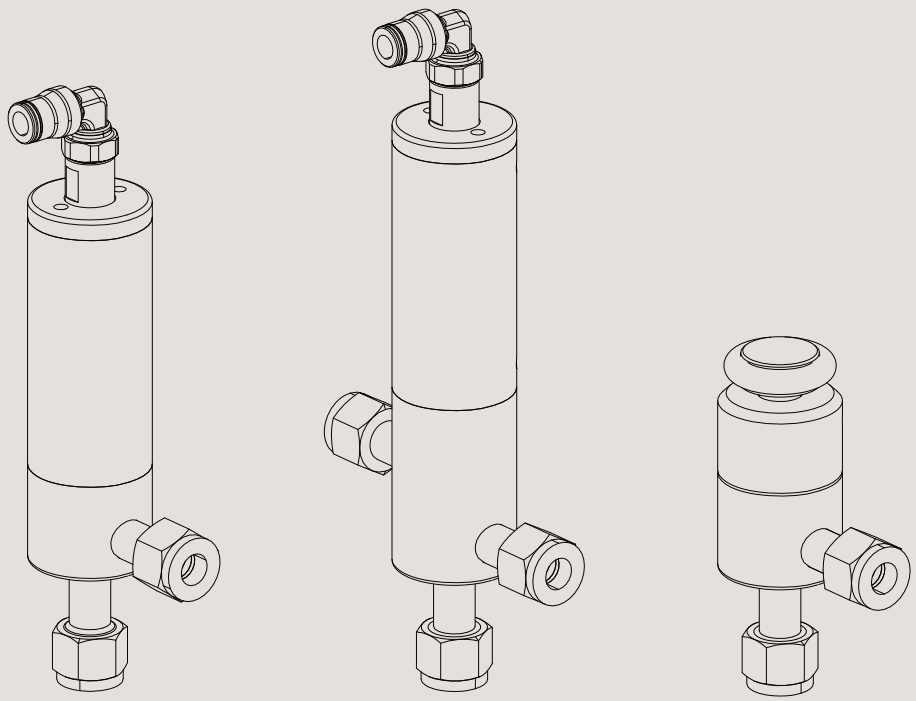
Instruction Manual

Alfa Laval SB Mini Flow Valve



ESE02962-EN1 2015-10

Original manual

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

1 EC Declaration of Conformity

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

SB Mini Flow Valve
Type

is in conformity with the following directives with amendments:

- Machinery Directive 2006/42/EC
- Regulation (EC) No. 1935/2004

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

Global Product Quality Manager Pumps, Valves, Fittings and Tank Equipment		Lars Kruse Andersen
Title		Name
Kolding	2015-06-02	
Place	Date	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 is supplied with compressed air.
Never touch the valve or the pipelines when processing hot liquids.
Never dismantle the valve with the valve and pipelines 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 pipelines under pressure.
Never touch the moving parts if the actuator 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.

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

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

Check the delivery for:
- Complete valve
- Instruction manual

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

Step 1

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

Always release compressed air from the actuator for force opening after use.

CAUTION
Alfa Laval cannot be held responsible for incorrect installation.

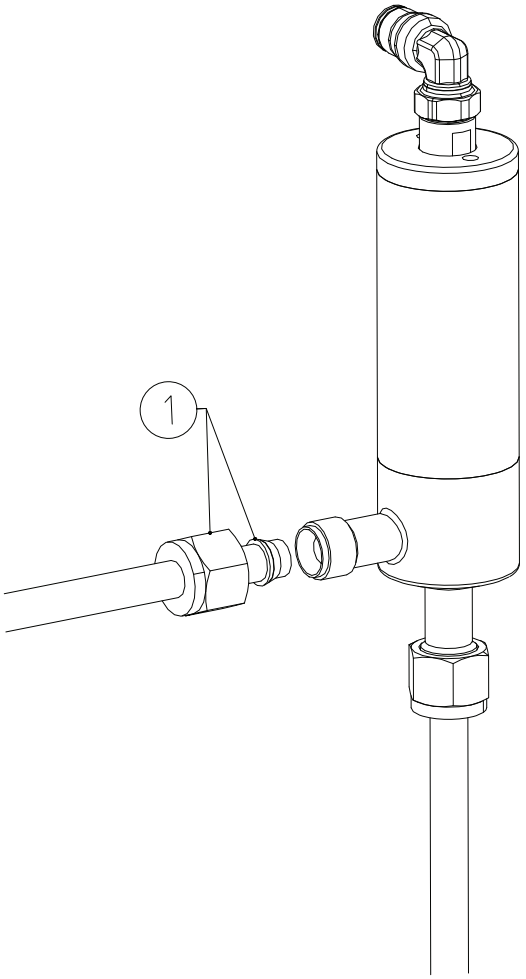
3 Installation

The valve can be mounted in any position. However, care must be taken to facilitate complete drainage from the valve.

3.3 Valve installation

Pipe connection

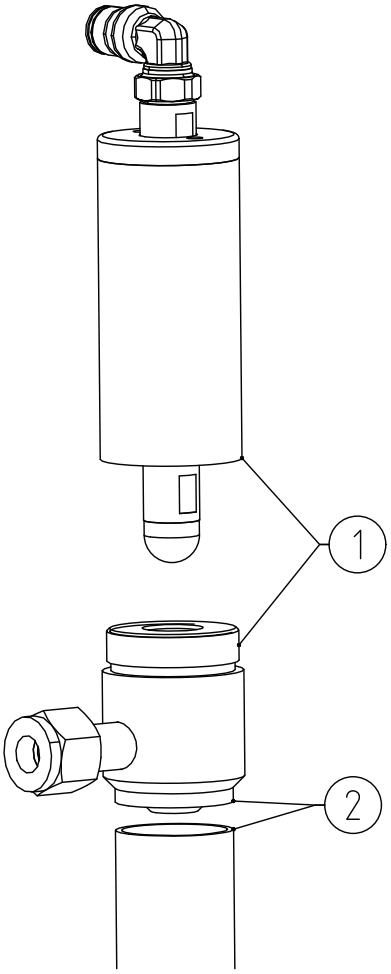
1. Place ferrule and nut onto pipe. (pos 1).
2. Ensure that the connections are tight.
3. Connect air supply by O.D 6 x 1 mm nylon hose.



The valve can be mounted in any position. However, care must be taken to facilitate complete drainage from the valve.

Weld connection

1. The valve must be disassembled so the gasket and O-rings are not damaged by the heat.
2. Unscrew cylinder (pos. 1).
3. Weld valve head and pipe (pos. 2).
4. It is important that the valve seat is not damaged by grinding or excessive heat.
5. Connect air supply by O.D 6 x 1 mm nylon hose.

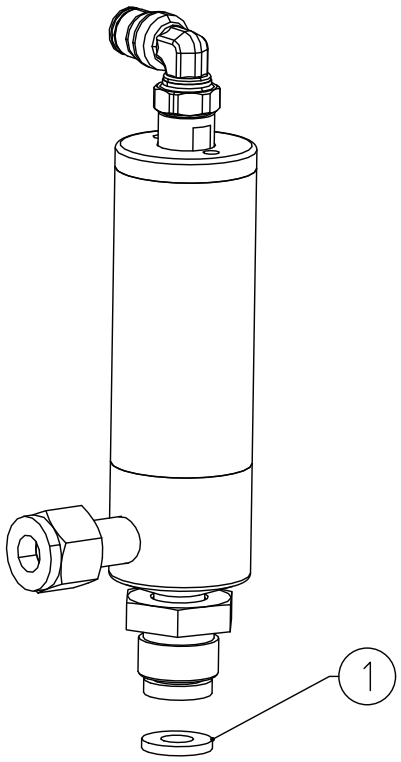


3 Installation

The valve can be mounted in any position. However, care must be taken to facilitate complete drainage from the valve.

Threaded connection

1. 3/8” BSP male nut.
2. Make sure to use supplied gasket (pos. 1).
3. Ensure that the connections are tight.
4. Connect air suply by O.D 6 x 1 mm nylon hose.



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.

Scrapping

- 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.

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

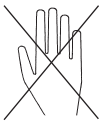
Always release compressed air after use.

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.

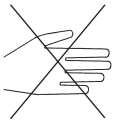
Burn hazard!



Step 3

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

Moving parts!



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.

All scrap must be stored/disposed of in accordance with current regulations.

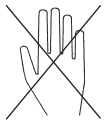
Step 2

Never service the valve when it is hot.

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

Atmospheric pressure required!

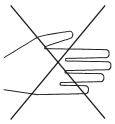
Burn hazard!



Step 3

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

Moving parts!

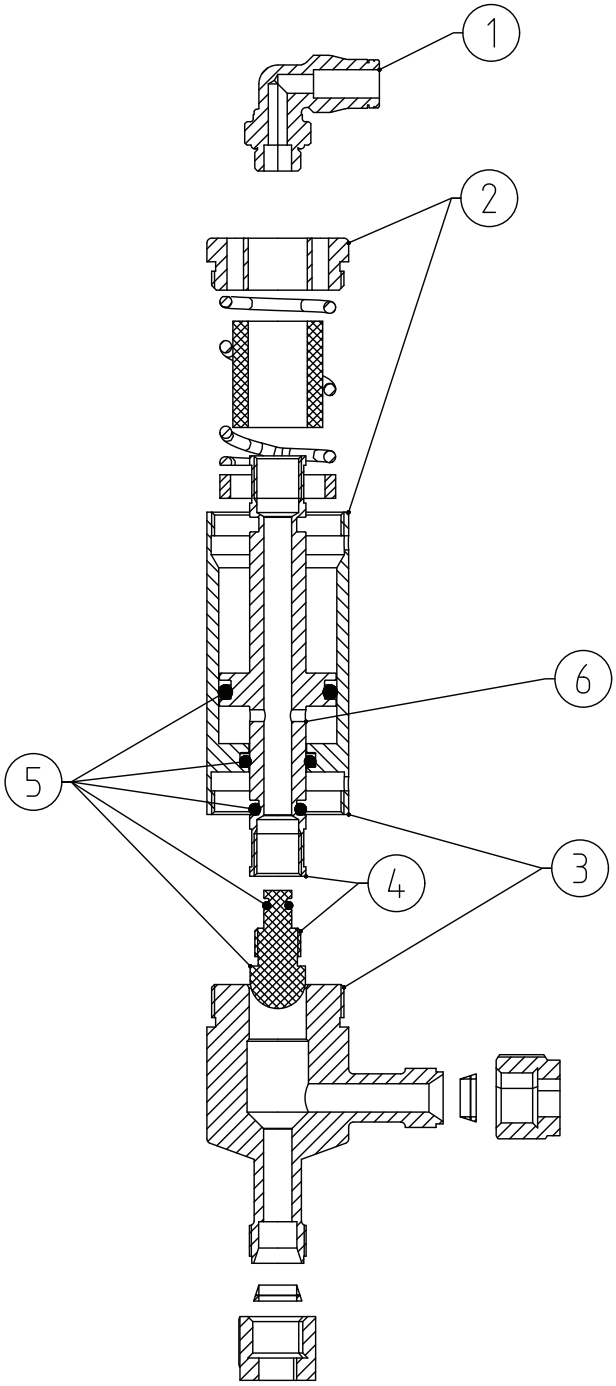


A disciplined maintenance programme is essential to minimise breakdowns and maximise equipment life.
It is important that the valve is inspected regularly.
Gaskets and O-rings to be replaced approx. every 2-3 years.

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.

Angle valve - normally closed

1. Unscrew the air fitting (pos. 1)
2. Unscrew cylinder cover (pos. 2)
3. Unscrew valve head (pos. 3)
4. Unscrew valve tip (pos. 4)
5. Replace O-rings and valve tip (pos. 5)
6. Make sure the vent hole in the piston is positioned as in the illustration (pos 6.)

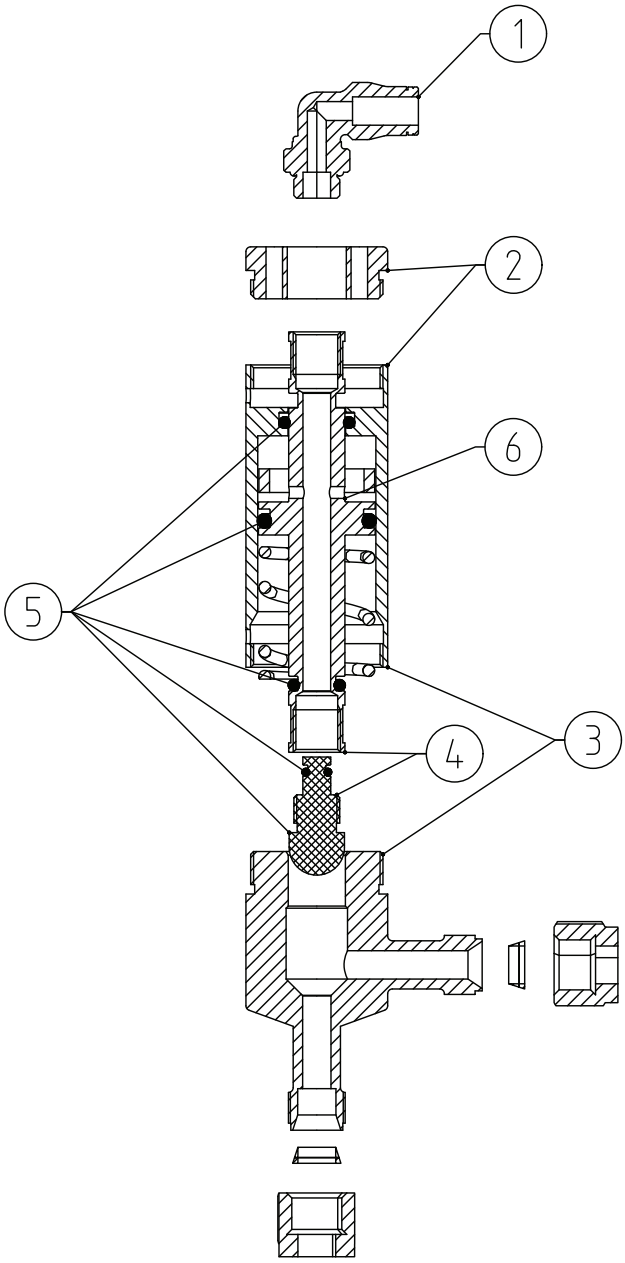


5 Maintenance

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.

Angle valve - normally open

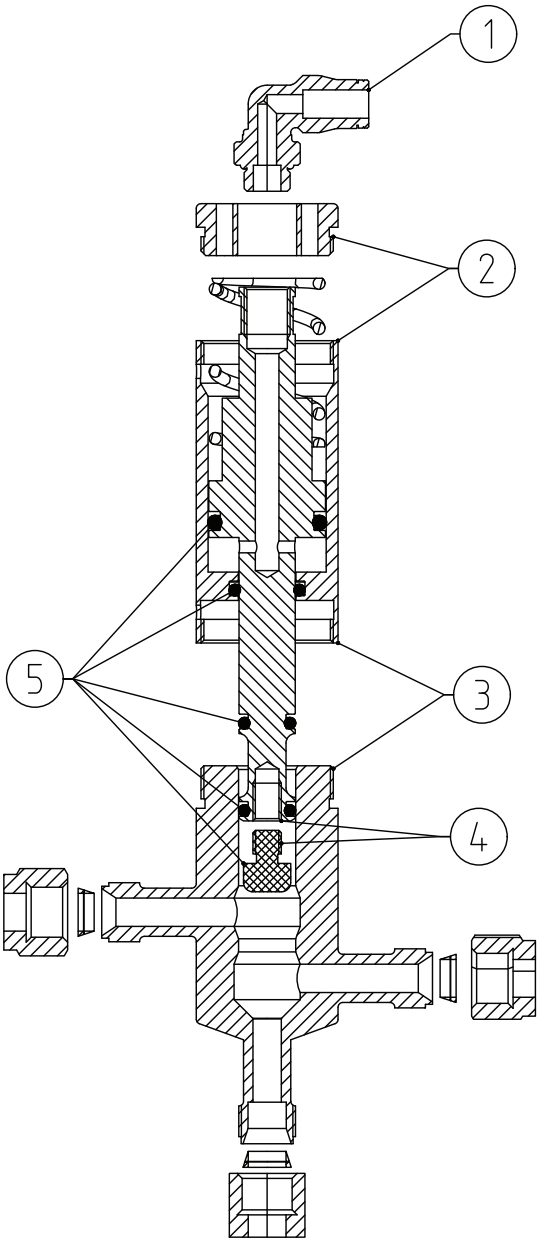
1. Unscrew the air fitting (pos. 1)
2. Unscrew cylinder cover (pos. 2)
3. Unscrew valve head (pos. 3)
4. Unscrew valve tip (pos. 4)
5. Replace O-rings and valve tip (pos. 5)
6. Make sure the vent hole in the piston is positioned as in the illustration (pos 6.)



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.

Change-over valve - normally closed

1. Unscrew the air fitting (pos. 1)
2. Unscrew cylinder cover (pos. 2)
3. Unscrew valve head (pos. 3)
4. Unscrew valve tip (pos. 4)
5. Replace O-rings and valve tip (pos. 5)

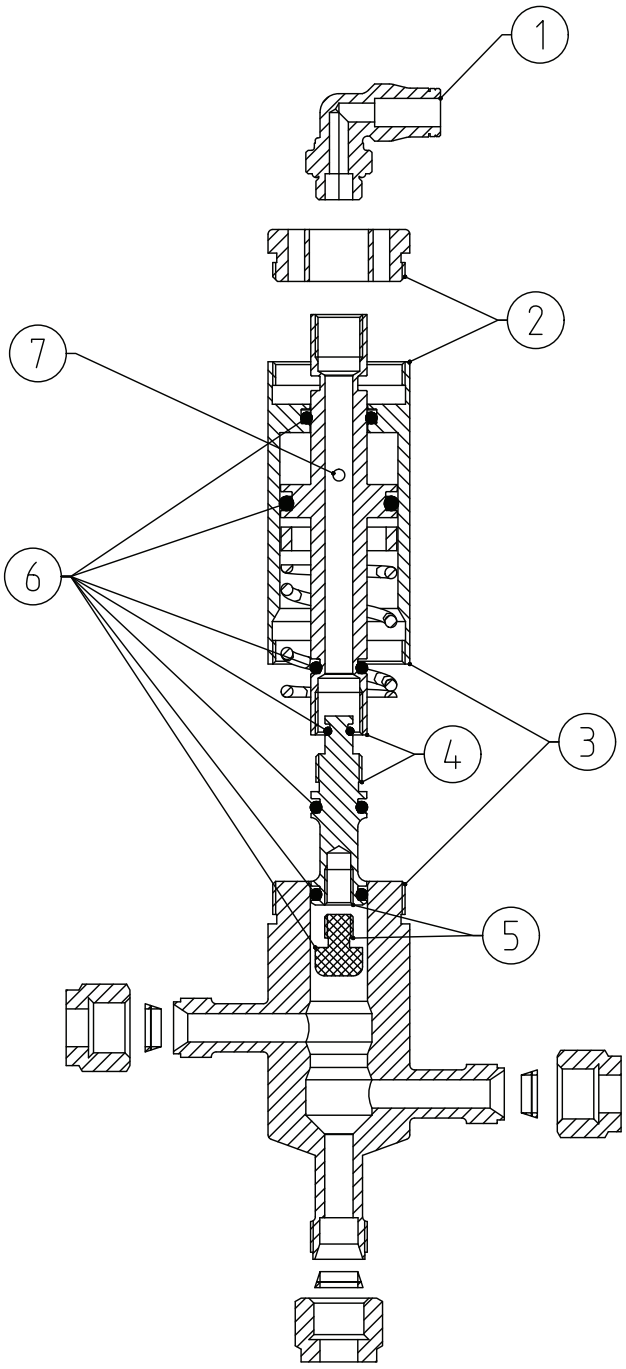


5 Maintenance

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.

Change-over valve - normally open

1. Unscrew the air fitting (pos. 1)
2. Unscrew cylinder cover (pos. 2)
3. Unscrew valve head (pos. 3)
4. Unscrew valve tip (pos. 4)
5. Replace O-rings and valve tip (pos. 5)
6. Make sure the vent hole in the piston is positioned as in the illustration (pos 6.)

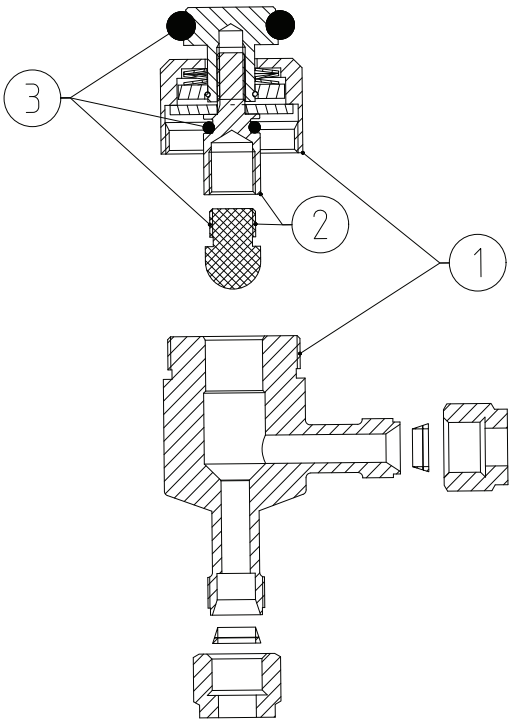


5 Maintenance

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.

Manual valve

1. Unscrew valve head (pos. 1)
2. Unscrew valve tip (pos. 2)
3. Replace O-rings and valve tip (pos. 3)



6 Technical Data

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 valve programme, which consists of angle and change over valves, is designed for working in a gas and liquid environment, where shut off and change-over functions are required under sanitary conditions.
The valves are in pneumatic or manual execution.

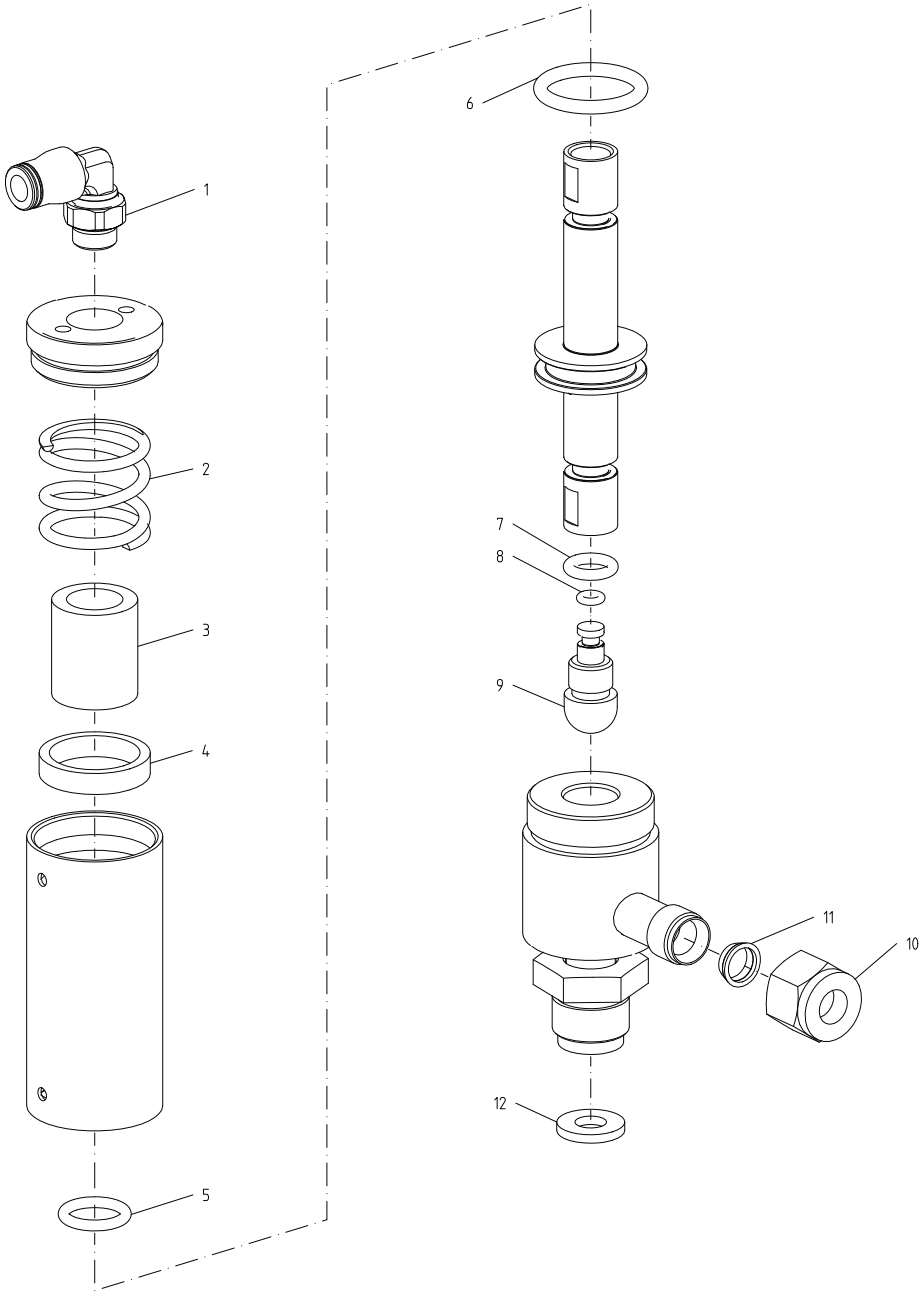
Valve data

Valve data	
Nominal size	6 mm
Max. product pressure	6 bar (87 psi)
Air supply pressure	6-8 bar (87-116 psi)
Noise	70 dB(A)
Temperature range	1°C - 100°C (33°F - 212°F)
Pipe connection	O.D 8x1 mm
Fluids	Liquid/gas
Weight	0.5 kg
Materials	
Product wetted steel parts	EN 1.4404 (AISI 316L)
Product wetted steel surfaces	Surface roughness Ra<1.6 µm
Product wetted O-rings	EPDM

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 Mini Flow Valve, pneumatic angle valve



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.

Parts list

Pos.		Qty	Denomination
1		1	Air fitting
2		1	Spring
3		1	Distance bushing
4		1	Distance bushing
5	□	1	O-ring, NBR
6	□	1	O-ring, NBR
7	□	1	O-ring, EPDM
8	□	1	O-ring, NBR
9	□	1	Tip, PTFE
10		1	Nut
11		1	Ferrule set
12		1	Gasket

Service kits

Service kits: Mini Flow Valve, pneumatic angle valve NO / NC

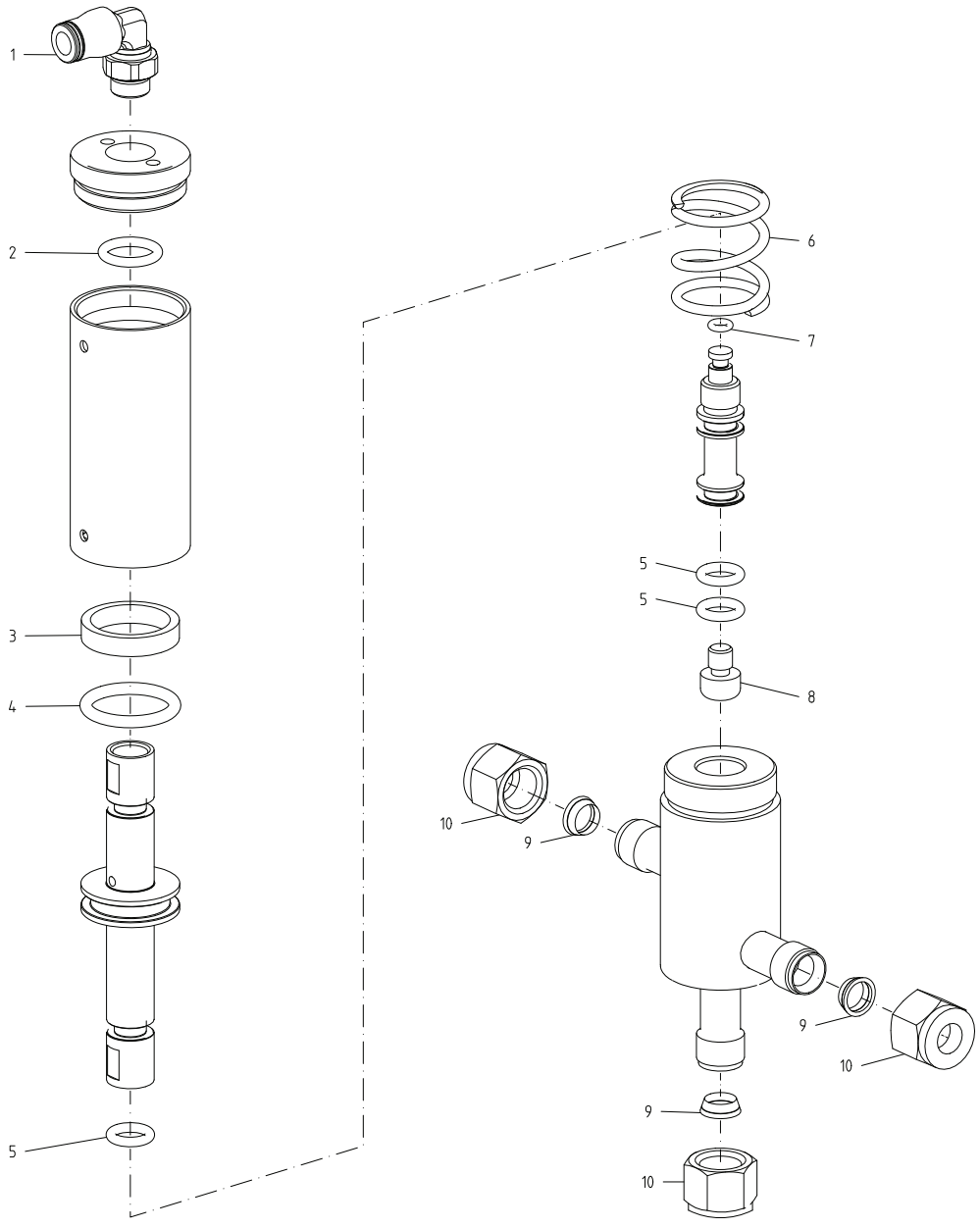
□ **Service Kit** **9615146001**

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 Mini Flow Valve, pneumatic change-over valve



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.

Parts list

Pos.		Qty	Denomination
1		1	Air fitting
2	□	1	O-ring, NBR
3		1	Distance bushing
4	□	1	O-ring, NBR
5	□	3	O-ring, EPDM
6		1	Spring
7	□	1	O-ring, NBR
8	□	1	Tip, PTFE
9		3	Ferrule set
10		3	Nut

Service kits

Service kits: Mini Flow Valve, pneumatic change-over valve NO / NC

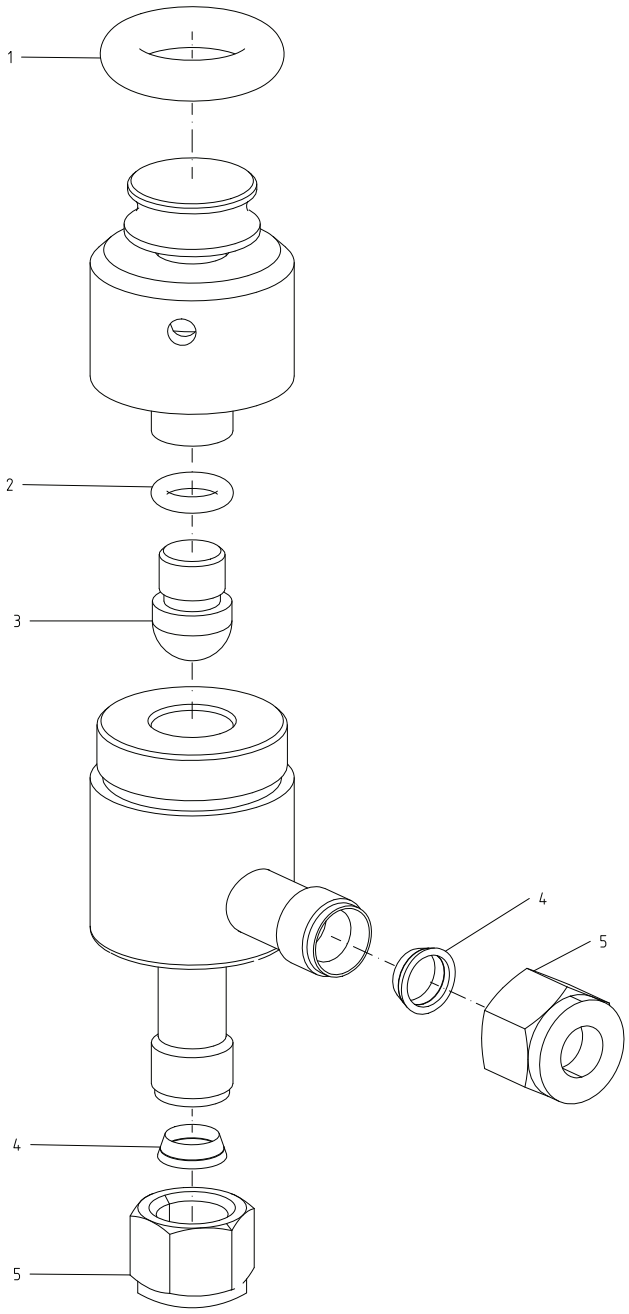
□ **Service Kit** **9615146002**

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.

7.3 Mini Flow Valve, manual valve



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.

Parts list

Pos.		Qty	Denomination
1	□	1	O-ring, NBR
2	□	1	O-ring, EPDM
3	□	1	Tip, PTFE
4		2	Nut
5		2	Ferrule set

Service kits

Service kits: Mini Flow Valve, manual

□ **Service Kit** **9615146003**

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.