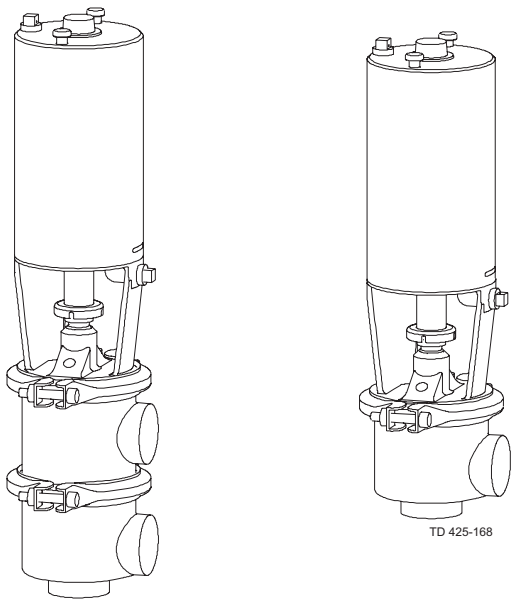
Unique Single Seat Valve Large (DN125-150)

Single seat valves



Lit. Code 200008022-2-EN-GB

Instruction manual

British English

Published by
Alfa Laval Kolding A/S
Albuen 31
DK-6000 Kolding, Denmark
+45 79 32 22 00

The original instructions are in English

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1 Declarations of Conformity

EU Declaration of Conformity

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Valve

Designation

Unique SSV PN10

Type

is in conformity with the following directives with amendments:

- Machinery Directive 2006/42/EC
- Pressure Equipment Directive (PED) 2014/68/EU *category 1 and subjected to assessment procedure Module A*.

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

Vice President Business Unit Hygienic Fluid Handling and Heat Transfer Technologies, Head of Product Management	Mikkel Nordkvist
Title	Name
Kolding, Denmark	2025-11-01
Place	Date (YYYY-MM-DD)



Signature

DoC Revison_ 01_112025 / This Declaration of Conformity replaces Declaration of Conformity dated 2022-10-01

EU Declaration of Conformity

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Valve

Designation

Unique SSV PN10

Type

is in conformity with the following directives with amendments:

- Regulation (EU) 2023/1230 on machinery
- Pressure Equipment Directive (PED) 2014/68/EU *category 1 and subjected to assessment procedure Module A*.

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

Vice President Business Unit Hygienic Fluid Handling and Heat Transfer Technologies, Head of Product Management	Mikkel Nordkvist
Title	Name
Kolding, Denmark	2027-01-20
Place	Date (YYYY-MM-DD)



Signature

DoC Revison_02_012027

UK Declaration of Conformity

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Valve

Designation

Unique SSV PN10

Type

is in conformity with the following directives with amendments:

- The Supply of Machinery (Safety) Regulations 2008
- The Pressure Equipment (Safety) Regulations 2016 *category 1 and subjected to assessment procedure Module A*.

Signed on behalf of: Alfa Laval Kolding A/S.

Vice President Business Unit Hygienic Fluid Handling and Heat Transfer Technologies, Head of Product Management	Mikkel Nordkvist
Title	Name
Kolding, Denmark	2025-11-01
Place	Date (YYYY-MM-DD)



Signature

DoC Revison_02_112025

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2 Safety

Read this first





This Instruction Manual is designed for operators and service engineers working with the supplied Alfa Laval product.

Operators must read and understand the ***Safety, Installation and Operating*** instructions of the supplied Alfa Laval product before carrying out any work or before you put the supplied Alfa Laval product into service!

Not following the instructions can result in serious accidents.

This documentation describes the authorized way to use the supplied Alfa Laval product. Alfa Laval will take no responsibility for injury or damage if the equipment is used in any other way.

This Instruction Manual is designed to provide the user with the information to perform tasks safely for all phases in the lifetime of the supplied Alfa Laval product.

The operator shall always read the chapter ***Safety*** first. Hereafter the operator can skip to the relevant section for the task to be carried out or for the information needed.

Always read the chapter ***Technical Data*** thoroughly.

This is the complete Instruction Manual for the supplied Alfa Laval product.

NOTE

The illustrations and specifications in this Instruction Manual were effective at the date of printing. However, as continuous improvements are our policy, we reserve the right to alter or modify the Instruction Manual without prior notice or any obligation.

The English version of the Instruction Manual is the original manual. Alfa Laval cannot be held responsible for incorrect translations. In case of doubt, the English version applies.

2.1 Safety Signs

Mandatory Action Signs

	General mandatory action sign.
	Refer to instruction manual.
	Use eye protection - safety glasses.
	Use protective hand wear - safety gloves.
	Wear protective equipment - safety helmet.
	Use ear protection in noisy environments - noise protector.
	Wear protective equipment - safety shoes.

Warning Signs

	General warning.
	Transportation with forklift truck or other industrial vehicles if heavy.
	Hot surface and Burn Hazard.
	Cutting danger.
	Corrosive substance.
	Crushing of hands.

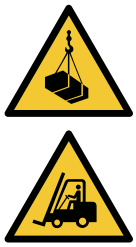
2.2 Safety Precautions

All warnings in the Instruction Manual are summarised on these pages. Pay special attention to the instructions below so that severe personal injury and/or damage to the supplied Alfa Laval product is avoided.

General

	To prevent unexpected start and contact with electrical live and moving parts. **Always** disconnect the power supply and air supply safely: • The power supply disconnecting device and air supply must be disconnected (in off position) and locked.

Transportation and Lifting

	**Never** lift or elevate in any way other than described in this manual. **Always** use the original packaging or similar during transportation. **Always** ensure that personnel must have experience with lifting operations. **Always** ensure that all connections are disconnected before attempting to remove the valve from the installation. **Always** ensure that no leakage of lubricants can occur. **Always** drain liquid out of the valves before transportation. **Always** ensure sufficient fixing of the valve during transportation - if specially designed packaging material is available, it must be used. **Always** ensure that compressed air is released.
	**Always** use designated lifting points if defined. Ensure that the lifting equipment is suitable for the supplied Alfa Laval product. **Always** ensure that the unit is securely fixed during transportation. **Always** ensure the lifting point to be in line with center of gravity. Adjust lifting point if necessary. **Always** use suitable transport device ie. forklift or pallet lifter. **Always** use appropriate lifting equipment for heavy parts when relevant. Use lifting logs when available. **Always** keep an eye on the load and stay clear during the lifting operation.

Installation

	If the local safety regulations prescribe that the installation has to be inspected and approved by responsible authorities before the valve is put into service, consult with such authorities before installing the equipment and have the projected installation approved by them. **Always** release compressed air after use. **Always** assemble the valve completely before startup and make sure everything is in place and correctly tightened.
  	**Always** ensure that the valve and pipelines are depressurized, emptied, and cooled down to ambient temperature before installation, inspection, assembly, or dismantling of the valve.

Operation

	**Never** operate the valve unless a correct installation has been verified. **Never** dismantle the valve during operation or when pressurized.
	**Never** touch the valve or pipelines when hot. **Never** touch the valve or the pipelines when processing hot liquids or when sterilising.
	**Always** rinse well with clean water after cleaning. **Always** handle lye and acid with great care. **Always** follow the instructions in the safety data sheets from the suppliers of cleaning agents, detergents, oils etc.
	**Never** touch moving parts of the valve during operation. **Always** release compressed air after use.

Maintenance



In order to optimise the operation of the supplied Alfa Laval product and to minimize the down time due repair activities, the maintenance includes:

- Inspection and maintenance of the supplied Alfa Laval product: strictly follow the technical documentation
- **Preventive maintenance:** visual inspection of the supplied Alfa Laval product followed by necessary adjustments and planned periodic replacement of wear and tear parts
- **Repairs:** unscheduled break down of a component, often causing the system to stop. Damaged components must be replaced
- **Stock of Alfa Laval genuine spare parts:** Alfa Laval recommend keeping a stock of genuine spare parts facilitating preventive maintenance and reducing downtime in case of unplanned break downs





Always release compressed air after use.

Always ensure that the valve and pipelines are depressurized, emptied, and cooled down to ambient temperature before dismantling the valve.

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

Storage



Alfa Laval recommend:

- Store the supplied Alfa Laval product as supplied in original packaging
- Port opening(s) should be protected against any ingress
- Store in a clean, dry place without direct sunlight or UV light
- Temperature range -5 °C to +40 °C (23 °F - 104 °F)
- Relative humidity less than 60%
- No exposure to corrosive substances (including contained air)

Noise



Under certain operating conditions, the supplied Alfa Laval product and/or the systems in which they are installed can produce high sound pressure levels. Appropriate noise protection measures should be taken when necessary and in accordance with local legislation.

Hazards





Burn Hazard

- Lubrication oil, machine parts and various machine surfaces can be hot and cause burns. Wear protective gloves



Corrosive Hazard

- Always handle cleaning liquids, lye and acid with great care and in accordance with separate instructions for those fluids
- When using chemical cleaning agents and lubricants, make sure you follow the general rules and suppliers recommendation regarding ventilation, personnel protection etc.



Cut Hazard

- Sharp edges, especially on bowl discs and threads, can cause cuts. Wear protective gloves



Crushing Hazard

- Avoid placing hands into valve orifice pinch points

Safety check



A visual inspection of any protective device (shield, guard, cover or other) on the supplied Alfa Laval product shall be carried out at least every 12 months. If the protective device is lost or damaged, especially when this leads to deterioration of safety performance, it shall be replaced. The fixing of the protective device should only be replaced with fixings of the same or an equivalent type.

Inspection acceptance criteria:

- It should not be possible to reach moving parts originally protected by a protective device
- The protective device must be securely mounted
- Ensure that screws for the protective device are securely tightened

Procedure in case of non-acceptance:

- Fix and/or replace the protective device

2.3 Warning Signs in Text

Pay attention to the safety instructions in this Instruction Manual.

Below are definitions of the four grades of warning signs used in the text where there is a risk for injury to personnel or damage to the supplied Alfa Laval product.

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate damage to the supplied Alfa Laval product.

NOTE

Indicates important information to simplify or clarify procedures.

2.4 Requirements of personnel

Operators

The operators shall read and understand this Instruction Manual.

Maintenance personnel

The maintenance personnel shall read and understand this Instruction Manual. The maintenance personnel or technicians shall be skilled within the field required to carry out the maintenance work safely.

Trainees

Trainees can perform tasks under the supervision of an experienced employee.

People in general

The public shall not have access to the supplied Alfa Laval product.

In some cases, specially skilled personnel may need to be hired (i.e. electricians, welders). In some cases the personnel has to be certified according to local regulations with experience of similar types of work.

2.5 Recycling information

Unpacking

Packing material may consist 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 (if used) and wear parts in the supplied Alfa Laval product should be replaced.

- Oil and all non-metal wear parts must be disposed of in accordance with local regulations
- Rubber and plastics should be burnt at a licensed waste incineration plant. If not available they should be disposed of in accordance with local regulations
- Bearings and other metal parts should be sent to a licensed handler for material recycling
- Seal rings and friction linings should be disposed of to a licensed land fill site. Check your local regulations
- All metal parts should be sent for material recycling
- Worn out or defected electronic parts should be sent to a licensed handler for material recycling

Scrapping

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.

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.

3 Introduction

The Alfa Laval Unique SSV DN125 and DN150 Valves are versatile and reliable pneumatic single seat valves with a single contact surface between the plug and the seat to minimizes the risk of contamination.

With a modular, hygienic design, the single seat valve meets the highest process demands in terms of hygiene and safety. Few moving parts ensure high reliability and low maintenance costs. A wide range of optional features enables customization to specific process requirements.

3.1 General information

Standard Design The Unique Single Seat DN125 and DN150 Valves come in a one or two body configuration. The actuator is connected to the valve body by means of clamp rings.

This page is intentionally left blank.

4 Installation

4.1 Unpacking/delivery/general installation

NOTE

The instruction manual is part of the delivery.

Study the instructions thoroughly.

The valve is supplied as separate parts as standard (for welding).

The valve is assembled before delivery, if it is supplied with fittings.

CAUTION

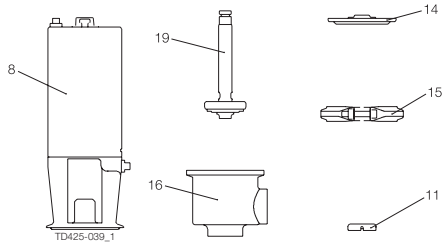
Alfa Laval cannot be held responsible for incorrect unpacking.

Check the delivery for:

1. Complete valve, shut-off valve or change-over valve (see below)
2. Delivery note
3. Instruction Manual

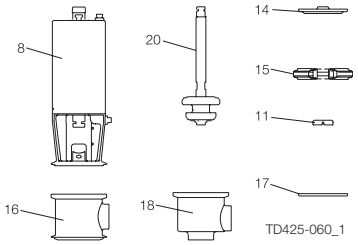
Shut-off valve:

8. Complete actuator with bonnet
11. Clip assembly
14. Lip seal
15. Clamp
16. Valve body
19. Valve plug

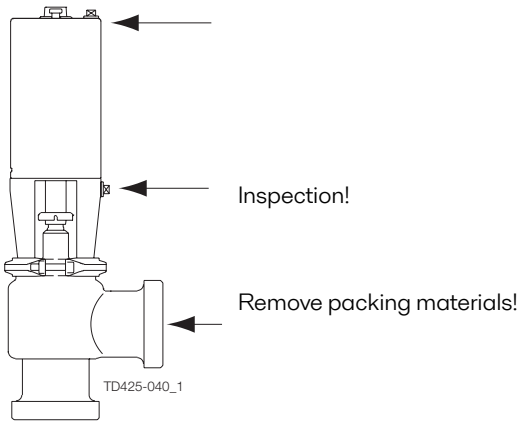


Change-over valve:

8. Complete actuator with bonnet
11. Clip assembly
14. Lip seal
15. Two clamps
16, 18. Two valve bodies
17. Valve body seal ring
20. Valve plug



- Remove possible packing materials from the valve/valve parts
- Inspect the valve/valve parts for visible transport damages
- Avoid damaging the valve/valve parts



4.2 Recommended auxiliary equipment

NOTE

The valve sizes DN125-150 are very heavy.

Therefore Alfa Laval recommends manufacturing and usage of auxiliary equipment. A proposal is given below.

Please note that the auxiliary equipment cannot be supplied by Alfa Laval.

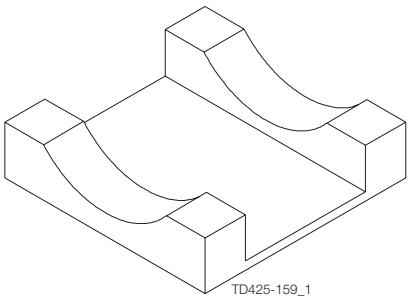
The items refer to *Parts lists and exploded views* on page 49.

For lifting the valve

Screw an eye bolt (6 mm) (1/4") into top pin (23). Using a small hook crane or similar, lift the valve by the eye bolt.

Trestle:

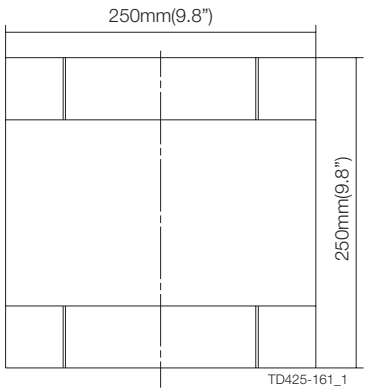
- The purpose of the trestle is to support the valve during dismantling and reassembly.
- The trestle is made of a base plate, two support plates, two rubber linings and four bolts.
- The rubber linings are attached to the support plates so that the valve/actuator will rest on these.
- To prevent the valve from turning during dismantling and assembly the trestle must be made with the correct measurements (see below). All measurements are in mm.



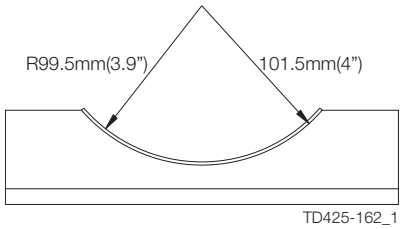
Trestle



Side view

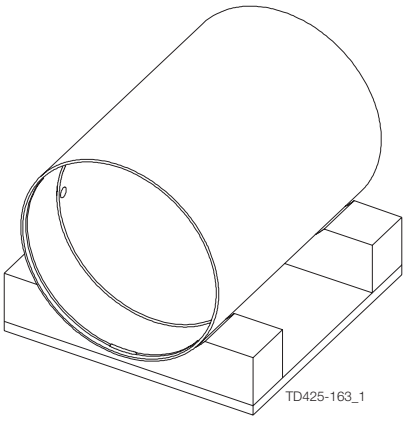


Top view



End view

1. Place the valve in the trestle.
2. Make sure that the actuator rests on the rubber linings on the trestle support plates.
3. Dismantle/assemble the valve.



4.3 General installation

NOTE

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

Always read *Technical Data* on page 45 thoroughly.

The valve has welding ends as standard but can also be supplied with fittings.

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

WARNING

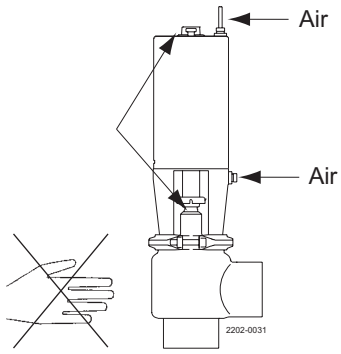
Always release compressed air after use.

CAUTION

Alfa Laval cannot be held responsible for incorrect installation.

WARNING **Moving parts!**

Never touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air (see the warning label).

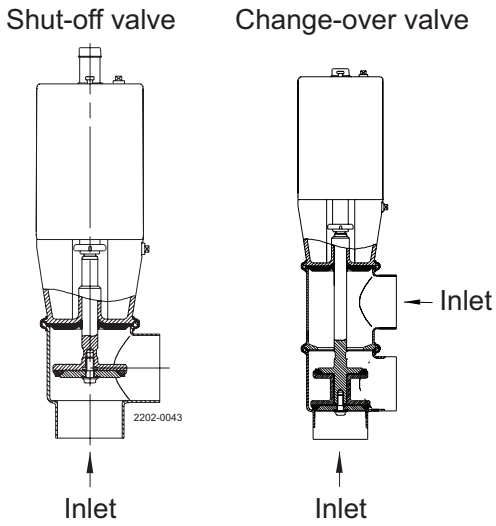


1

It is recommended to install the valve so that:

- The actuator is not turned downwards as the valve will then not be drained.
- The flow is against the closing direction to avoid water hammering

Avoid water hammer!

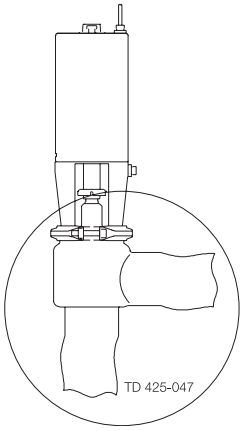


2 Avoid stressing the valve.

Pay special attention to:

- Vibrations
- Thermal expansion of the tubes
- Excessive welding
- Overloading of the pipelines

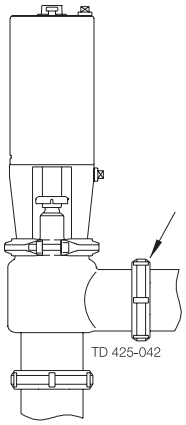
Risk of damage!



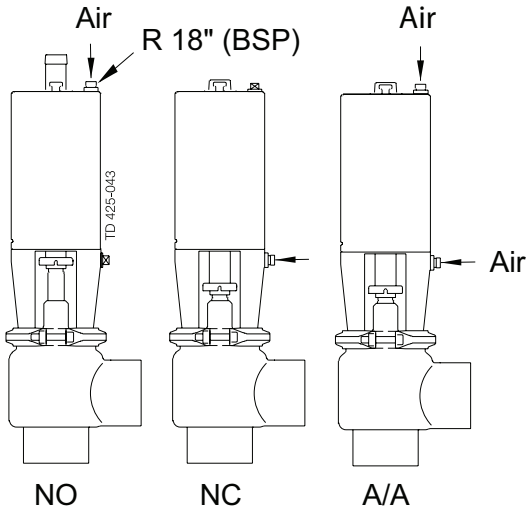
3 Fittings:

Ensure that the connections are tight.

Remember seal rings!



4 Air connection:



4.4 Welding

NOTE

Study the instructions carefully.

The valve is supplied as separate parts to facilitate the welding.

The items refer to *Parts lists and exploded views* on page 49.

Check the valve for smooth operation after welding.

NO = Normally open.

NC = Normally closed.

A/A = Air/air activated.

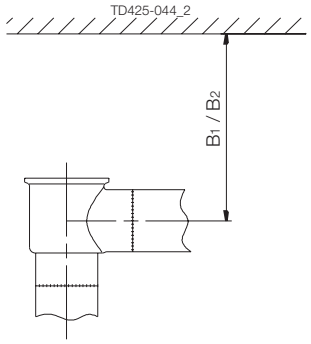
Always install valves with more than one valve body so that the seals between the valve bodies can be replaced.

Do not weld more than one valve body into the system.

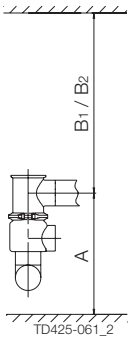
It is recommended to fit sufficient clamps/unions to be able to disassemble the valve for servicing.

Valve size	A (mm) (inch)	B_1 (mm) (inch)	B_2 (mm) (inch)
DN125	580 (22.8)	730 (28.7)	920 (36.2)
DN150	640 (25.1)	730 (28.7)	920 (36.2)

Shut-off valve



Change-over valve(upper valve body)

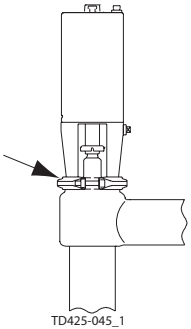


Shut-off valve

Assemble the valve in accordance with *Valve assembly* on page 39.

Pay special attention to the warnings!

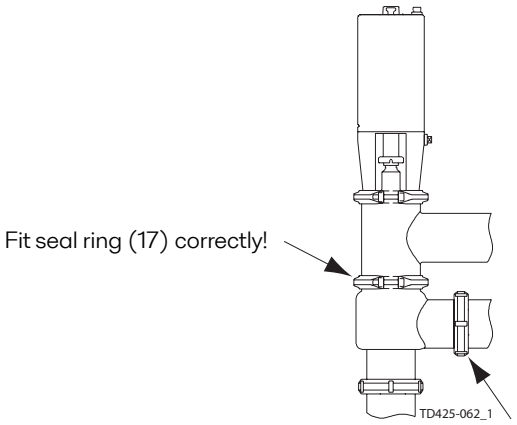
Fit seal ring (17) correctly!



Change-over valve

Assemble the valve in accordance with *Valve assembly* on page 39.

Pay special attention to the warnings!

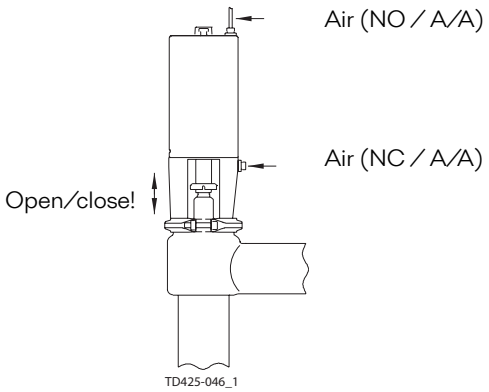


Remember seal rings!

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!



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5 Operation

5.1 Operation

NOTE

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

Always read *Technical Data* on page 45 thoroughly.

The items refer to *Parts lists and exploded views* on page 49.

Ensure that the valve operates smoothly.

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

WARNING

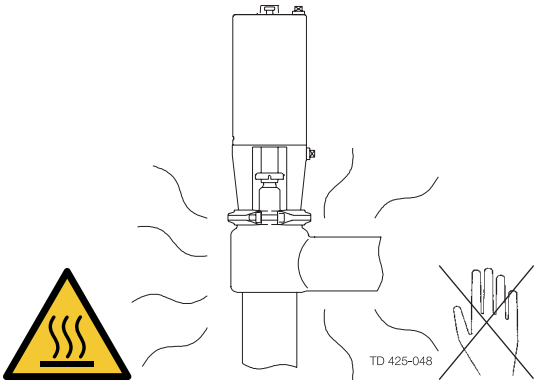
Always release compressed air after use.

CAUTION

Alfa Laval cannot be held responsible for incorrect operation.

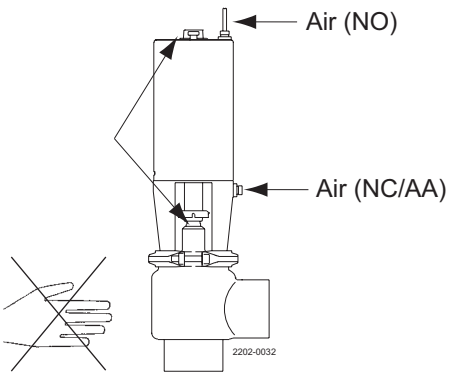
WARNING

Never touch the valve or the pipelines when processing hot liquids or when sterilizing.



WARNING **Moving parts!**

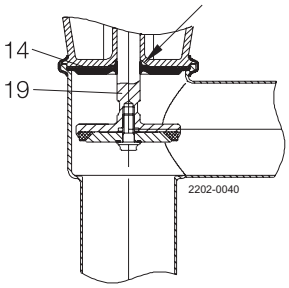
Never touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air.



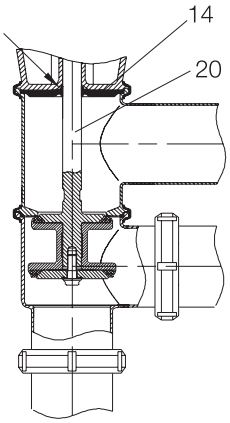
Lubrication of valve:

1. Ensure smooth movement between lip seal (14) and plug stem (19, 20)
2. Lubricate the lip seal with silicone oil/grease if necessary

Shut-off valve



Change-over valve

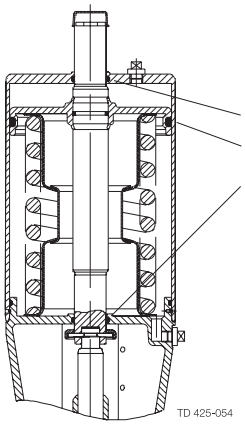


Lubricate if necessary!

(see *General maintenance* on page 35)

Lubrication of actuator

1. Ensure smooth movement of the actuator (the actuator is lubricated before delivery)
2. Lubricate all seals with oil/grease if necessary



Lubricate if necessary!

(see *General maintenance* on page 35)

5.2 Fault finding

> **NOTE**
>
> Pay attention to possible faults.
>
> Study the instructions thoroughly.
>
> The items refer to *Parts lists and exploded views* on page 49.

Problem	Cause/result	Repair
The valve plug jerks	The sealings seize	Lubricate: • O-rings (2) • O-ring (5) and the inside of cylinder (3) • Lip seal (14)
Product leakage at stem and/or clamp	• Worn/product affected lip seal (14) and/or seal ring (17)	• Replace the seal • Replace with a seal of a different rubber grade
Product leakage (closed valve)	• Worn/product affected • Loose plug parts (vibrations) • Product deposits on the seat and/or plug	• Replace the seal ring • Replace with a seal of a different rubber grade • Tighten the loose parts • Frequent cleaning
Product leakage (too high pressure or too small actuator)	• Worn actuator O-rings • Too small actuator or actuator spring	• Replace the O-rings • Replace with a larger actuator (for valve sizes DN/OD38-63.5 mm/ DN40-65) • Fit a stronger spring (for valve sizesDN/OD38-63.5 mm/ DN40-65) • Use auxiliary air on the spring side (NOT-element)
Water hammer	The flow direction is the same as the closing direction	• The flow direction should be against the closing direction • Fit a damper on the valve (optional extra) • Use auxiliary air on the spring side (NOT-element)
The valve does not open/close	• Faulty clip assembly (11) • The pressure on the plug is too high	• Replace the clip assembly • Reduce the pressure plug is too high • Fit stronger spring/larger actuator (for valve sizes DN/OD38-63.5 mm/ DN40-65)

5.3 Recommended Cleaning

WARNING **Risk of burns!**

Never touch the supplied product or the pipelines when sterilizing.



CAUTION

Always handle lye and acid with great care.



NOTE

The supplied product is designed for cleaning in place (CIP).

NaOH = Caustic soda.

HNO_3 = Nitric acid.

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

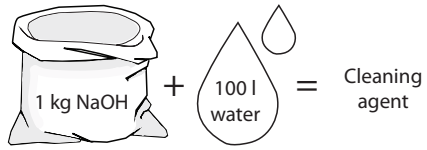
Examples of cleaning agents

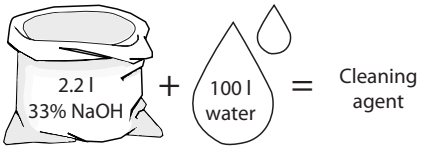
NOTE

Use clean water free from chlorides.

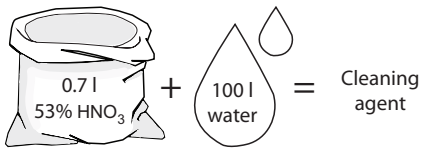
Metric System

1. 1% by weight NaOH at 70°C



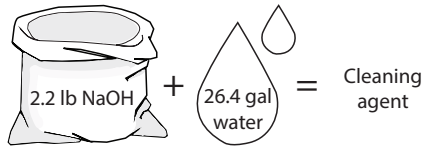


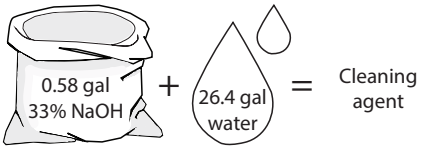
2. 0.5% by weight HNO_3 at 70°C



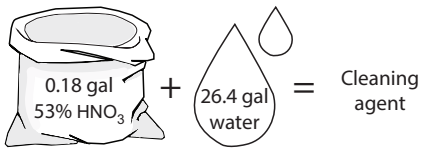
Imperial System

1. 1% by weight NaOH at 158°F

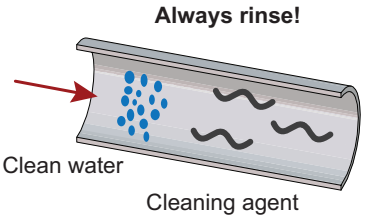




2. 0.5% by weight HNO_3 at 158°F



1. Avoid excessive concentration of the cleaning agent ⇒ **Dose gradually!**
2. Adjust the cleaning flow to the process
   Milk sterilization/viscous liquids ⇒ Increase the cleaning flow!



CAUTION

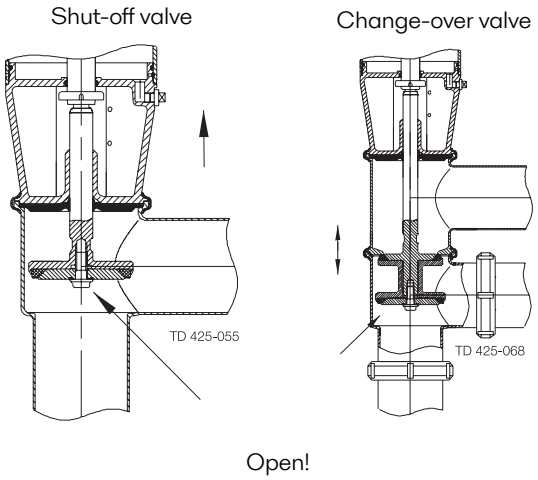
Always rinse well with clean water after the cleaning.

5.3.1 Cleaning

Clean the plug and the seats correctly.

Pay special attention to the warnings!

Lift and lower valve plug momentarily!



This page is intentionally left blank.

6 Maintenance

6.1 General maintenance

NOTE

Maintain the valve regularly.

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

Always keep spare rubber seals and lip seals in stock.

Always read *Technical Data* on page 45 thoroughly.

WARNING

Always release compressed air after use.

CAUTION

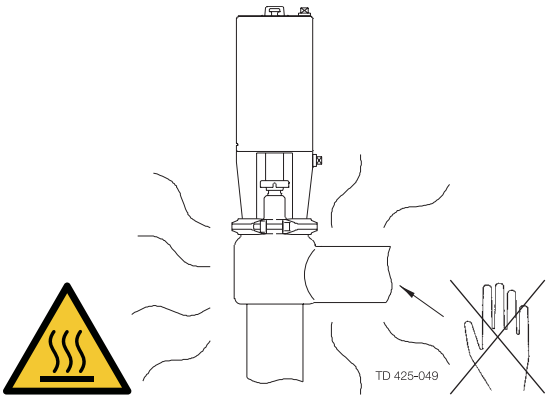
All scrap must be stored/discharged in accordance with current rules/directives.

WARNING

Never service the valve when it is hot.

Never service the valve with valve and pipelines under pressure.

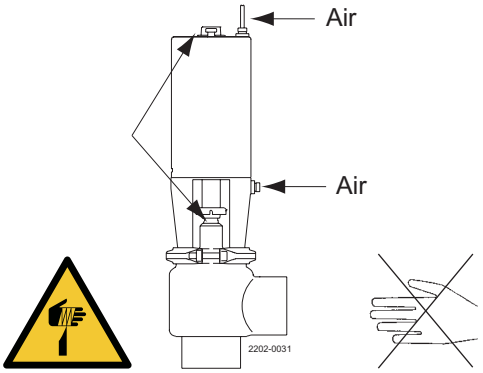
Atmospheric pressure required!



WARNING **Moving parts!**

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.

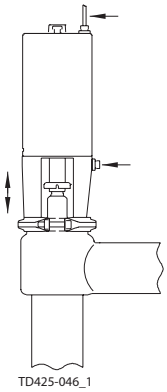


	Product rubber seals	Valve lip seal	Actuator rubber seals
Preventive maintenance	**Replace after 12 months depending on working conditions**	Replace when replacing the rubber seals	**Replace after 5 years**
Maintenance after leakage (leakage normally starts slowly)	**Replace at the end of the day**	Replace when replacing the rubber seals	**Replace when possible**
Planned maintenance	• Regular inspection for leakage and smooth operation • Keep a record of the actuator • Use the statistics for planning of inspections **Replace after leakage**		• Regular inspection for leakage and smooth operation • Keep a record of the actuator • Use the statistics for planning of inspections **Replace after leakage**
Lubrication (USDA H1 approved oil/grease)	**Before fitting** Silicone oil or silicone grease	Before fitting Silicone oil or silicone grease	**Before fitting** Oil or grease

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!

Open/close!



Ordering spare parts

See *Spare parts* on page 47

6.2 Dismantling of valve

NOTE

Study the instructions thoroughly.

The items refer to *Parts lists and exploded views* on page 49.

Handle scrap correctly.

NC = Normally closed.

NO = Normally open.

A/A = Air/air activated.

1 Change-over valve:

a) Supply compressed air to the actuator (only NC)

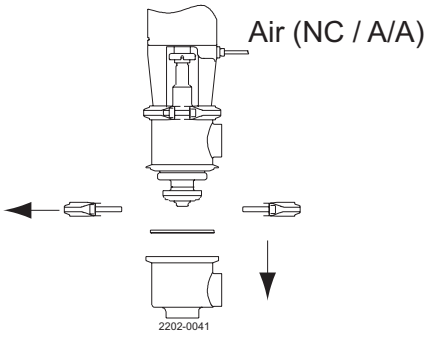
b) Loosen and remove lower clamp (15)

c) Release compressed air (18)

d) Pull out seal ring (17)

e) Release compressed air

Pay special attention to the warnings!



2 Shut-off valve:

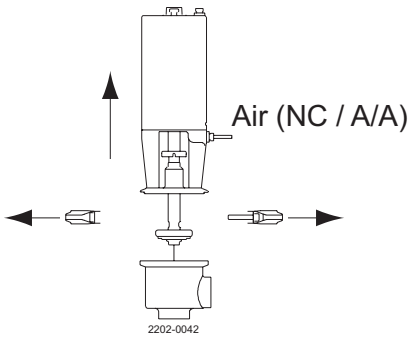
a) Supply compressed air to the actuator (only NC)

b) Loosen and remove clamp (15)

c) Lift out the actuator

d) Release compressed air

Pay special attention to the warnings!



3 Shut-off valve:

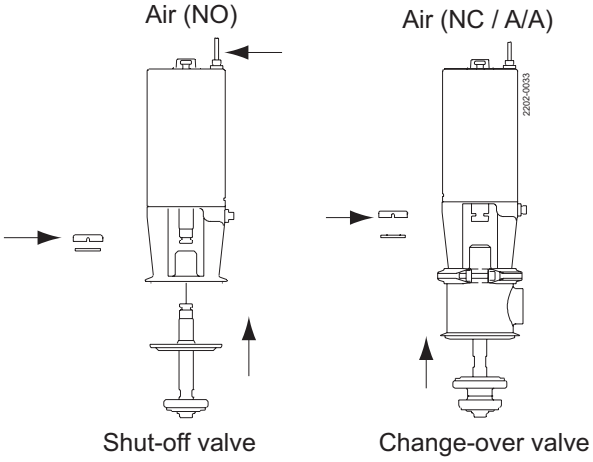
a) Supply compressed air to the actuator (only NC)

b) Remove clip assembly (11) by using plugs (For sizes Dn125-150: Unscrew valve plug(19, 20))

c) Remove valve plug (19, 20)

d) Release compressed air

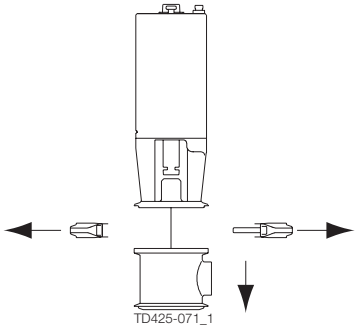
Pay special attention to the warnings!



4 **Change-over valve:**

a) Remove upper clamp (15)

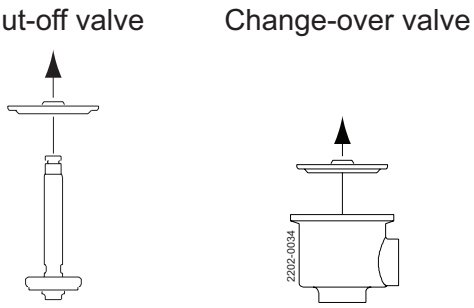
b) Remove upper valve body (16)



5 **Shut-off valve:**

Remove lip seal (14).

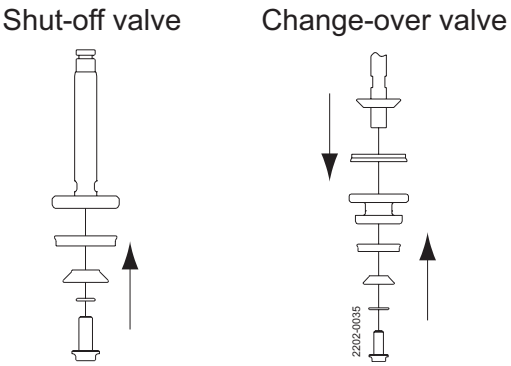
(For sizes DN125-150: Remove lip seal (14) and guide ring (27))



6 **Shut-off valve:**

a) Remove screw (19h, 20h)

b) Dismantle the complete valve plug



6.3 Valve assembly

NOTE

Study the instructions thoroughly.

The items refer to *Parts lists and exploded views* on page 49.

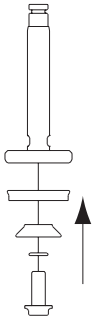
Lubricate the rubber seals and the lip seal before fitting them.

1

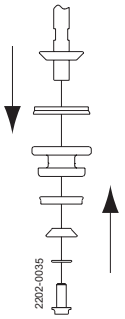
a) Assemble the complete valve plug

b) Fix screw (19h, 20h) by using Loctite or something similar

Shut-off valve



Change-over valve

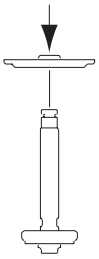


2

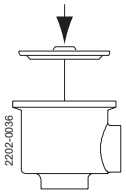
Fit lip seal (14)

(For sizes DN125-150: Fit guide ring (27) and lip seal (14))

Shut-off valve



Change-over valve

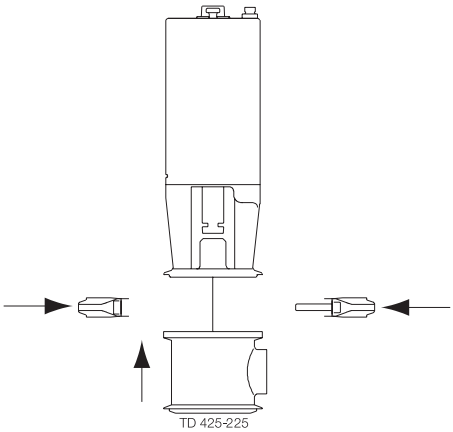


3

Change-over valve:

a) Assemble upper valve body (16) and the actuator

b) Fit and tighten upper clamp (15)



4

a) Fit the plastic ring of clip assembly (11) on the actuator piston rod

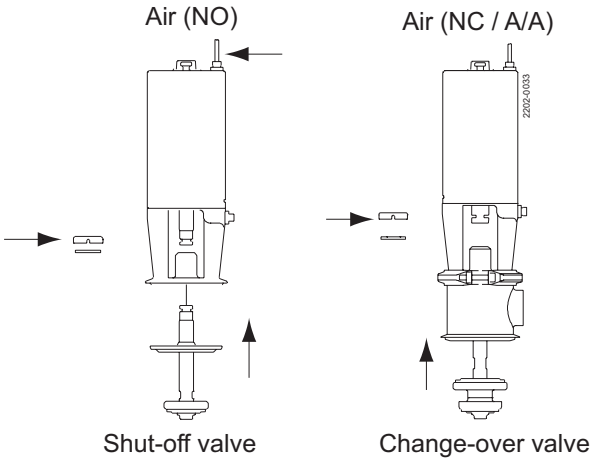
b) Supply compressed air to the actuator (Only NO)

c) Fit valve plug (19, 20)

d) Fit and assemble clip assembly (11) by using pliers. (For sizes DN125-150: Screw together valve plug (20) and piston (6). Fix thread by using Loctite or something similar))

e) Release compressed air

Pay special attention to the warnings!



5

Shut-off valve

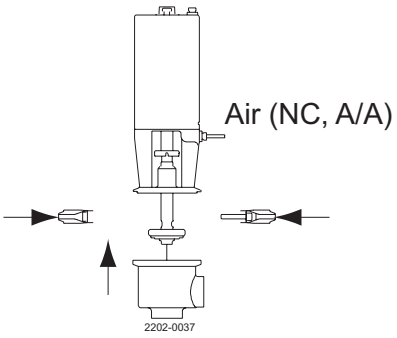
a) Supply compressed air to the actuator (only NC)

b) Fit the actuator

c) Fit and tighten clamp (15)

d) Release compressed air

Pay special attention to the warnings!



6

Change-over valve:

a) Fit seal ring (17) correctly in lower valve body (18)

b) Supply compressed air to the actuator (only NC)

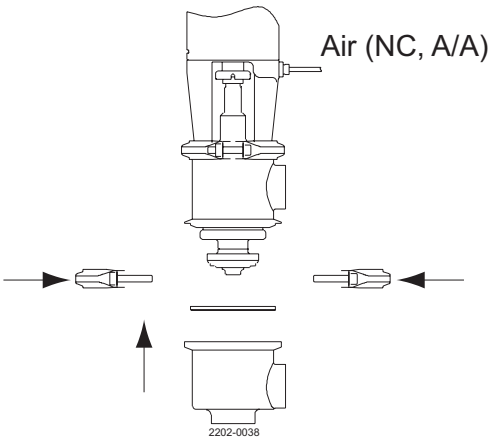
c) Assemble lower and upper valve bodies (16, 18)

d) Fit and tighten lower clamp (15)

e) Release compressed air

Pay special attention to the warnings!

Turn the diagonal surface of seal ring (17) upwards!



6.4 Dismantling of actuator

NOTE

Study the instructions carefully.

The items refer to *Parts lists and exploded views* on page 49.

Handle scrap correctly.

NO = Normally open.

NC = Normally closed.

A/A = Air/air activated.

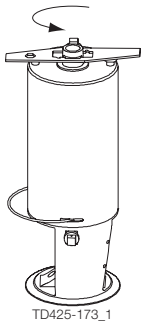
Service tool: See Spare Parts.

1

a) Rotate cylinder (3)

b) Remove lock wire (4)

Rotate with the service tool!



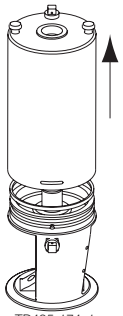
TD425-173_1

2

a) Remove cylinder (3)

b) Remove O-rings (2, 7) from bonnet (8) and cylinder (3)

(For sizes DN125-150 also remove O-ring (24) and guide rings (21, 25))



TD425-174_1

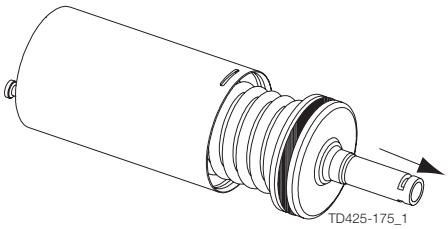
3

a) Remove piston (6) and spring assembly (10)

b) Remove O-ring (5) from the piston. (For sizes DN125-150 also remove guide ring (22) and top pin (23))

NOTE

The A/A actuator has no spring assembly.



TD425-175_1

6.5 Assembly of actuator

NOTE

Study the instructions thoroughly.

The items refer to *Parts lists and exploded views* on page 49.

Lubricate the rubber seals before fitting them.

A larger actuator is available for valve sizes DN/OD38-63.5 mm.

The spring assembly can be replaced by a stronger one.

A/A = Air/air activated.

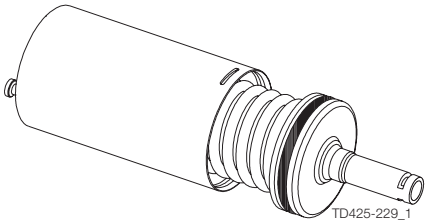
1

a) Remove piston (6) and spring assembly (10)

b) Remove O-ring (5) from the piston. (also remove guide ring (22) and top pin (23))

NOTE

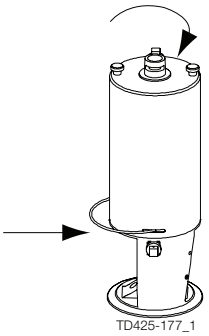
The A/A actuator has no spring assembly.



2

a) Fit O-rings (2, 7) in bonnet (8) and cylinder (3). (also fit O-ring (24) and guide rings (21, 25))

b) Fit the cylinder

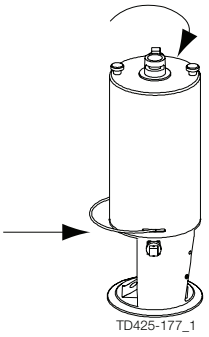


3

a) Fit lock wire (4) through the slot in cylinder (3) into the hole in bonnet (8)

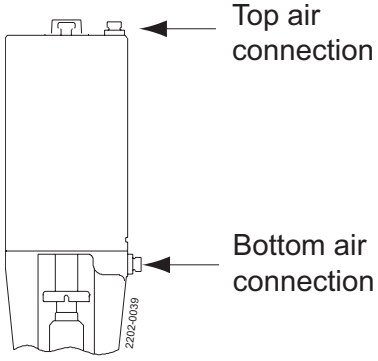
b) Rotate the cylinder 360° (see step 4)

Rotate by hand or with the service tool!



4

It is recommended to rotate cylinder (3) further 180° in relation to bonnet (8) so that the top and bottom air connections are fixed on the same side.



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7 Technical Data

> **NOTE**
>
> Technical data must be observed during installation, operation and maintenance.
>
> All personnel should be informed about the technical data.

7.1 Technical Data

Temperature	
Temperature range:	-10 °C to +140 °C / 14 °F to 284 °F (EPDM)

Pressure	
Max. product pressure:	1000 kPa (10 bar) / 145 psi
Min. product pressure:	Full vacuum
Air pressure, actuator - Sizes DN125-150	600 to 800 kPa (6 to 8 bar) / 87 to 116 psi

7.2 Physical Data

Materials	
Product wetted steel parts:	1.4401 (316L)
Finish	Semi bright
Other steel parts:	1.4301 (304)
Plug stem sizes DN125-150:	1.4401 (316L) with hard chrome plated stem surface
Product wetted seals:	EPDM (standard)
Other seals:	NBR
Alternative product wetted seals	NBR and Fluorinated rubber (FPM), PTFE/FEP

Weight (kg)

Nominal Size	**DIN/DN**			
	125NC	**125NO**	**150NC**	**150NO**
Weight (kg) - Shut-off valve	40.3	40.3	40.9	40.9
Weight (kg) - Change-over valve	50	50	51.3	51.3

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8 Spare parts

For every delivered Alfa Laval Product, a spare part list is available.

This spare part list contains a range of the most common wear parts for the machinery. If any component not mentioned is required, please contact your local Alfa Laval representative for availability.

You can find our spare part catalogue at *https://hygienicfluidhandling-catalogue.alfalaval.com*.

Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on use of Alfa Laval genuine spare parts.

8.1 Ordering spare parts

When ordering spare parts, please always state:

1. Serial number (if available)
2. Item number/spare part number (if available)
3. Capacity or other relevant identification

8.2 Alfa Laval service

Alfa Laval is represented in all larger countries of the world.

Do not hesitate to contact your local Alfa Laval representative, with any questions or requirement of spare parts for Alfa Laval equipment.

8.3 Warranty - Definition

WARNING

The rules of Intended use are absolute. Use of the supplied Alfa Laval product is allowed only when in compliance with the technical data supplied with the Intended use.

Differing utilisation, other than agreed with Alfa Laval Kolding A/S, exclude any liability and warranty.

No modification or alteration of the supplied Alfa Laval product is allowed, unless explicit permission is granted by Alfa Laval Kolding A/S.



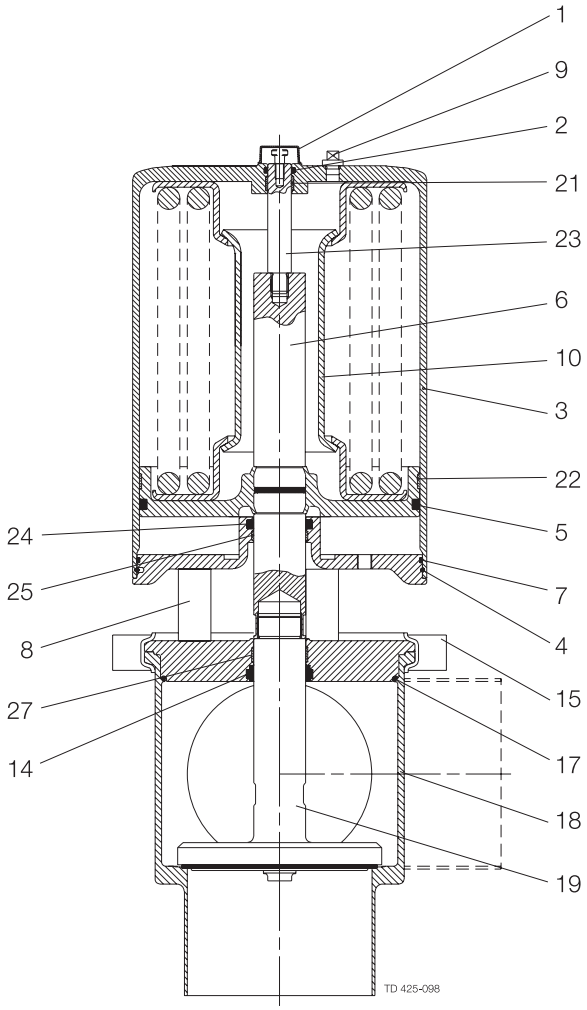
Liability and warranty are excluded:

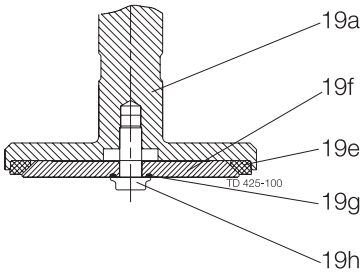
- If advice and instruction of operating instructions are ignored
- For incorrect operation or for insufficient maintenance of the supplied Alfa Laval product
- For any kind of change of function of the supplied Alfa Laval product without prior written agreement by Alfa Laval Kolding A/S
- If supplied Alfa Laval product is modified by non-authorised persons
- If using the supplied Alfa Laval product without attention of appropriate safety regulations, (see *Safety* on page 9)
- If protection equipment is not used and vessel process / ancillary equipment is not brought to a standstill
- If the supplied Alfa Laval product and ancillary parts are not properly maintained (to be executed in intervals and including fitting of prescribed replacement parts)

When exchanging parts, only original replacement parts, released from the manufacturer, must be used.

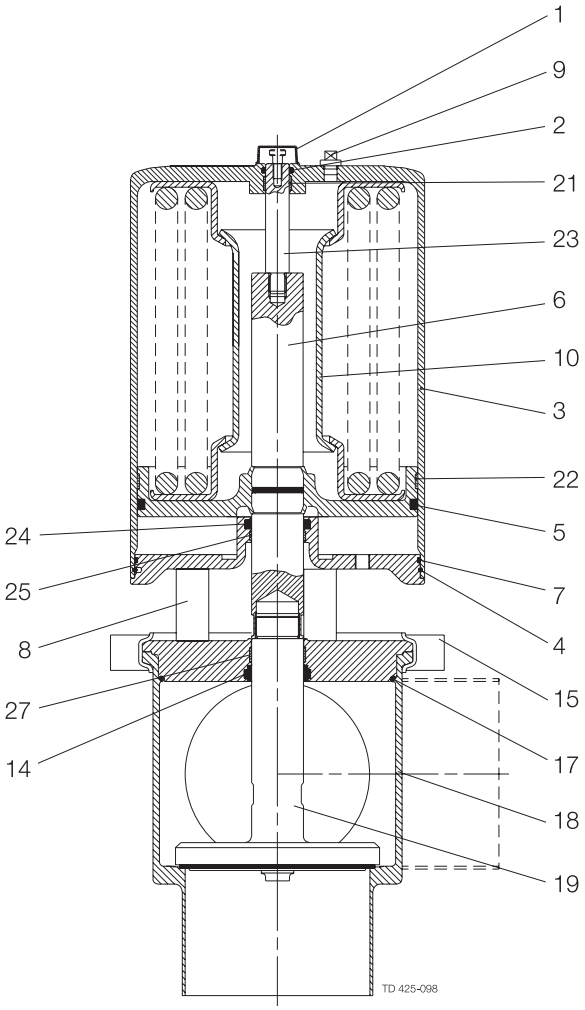
9 Parts lists and exploded views

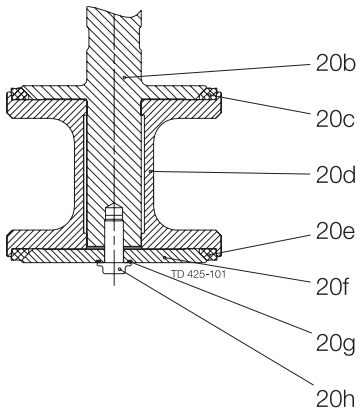
9.1 Drawings





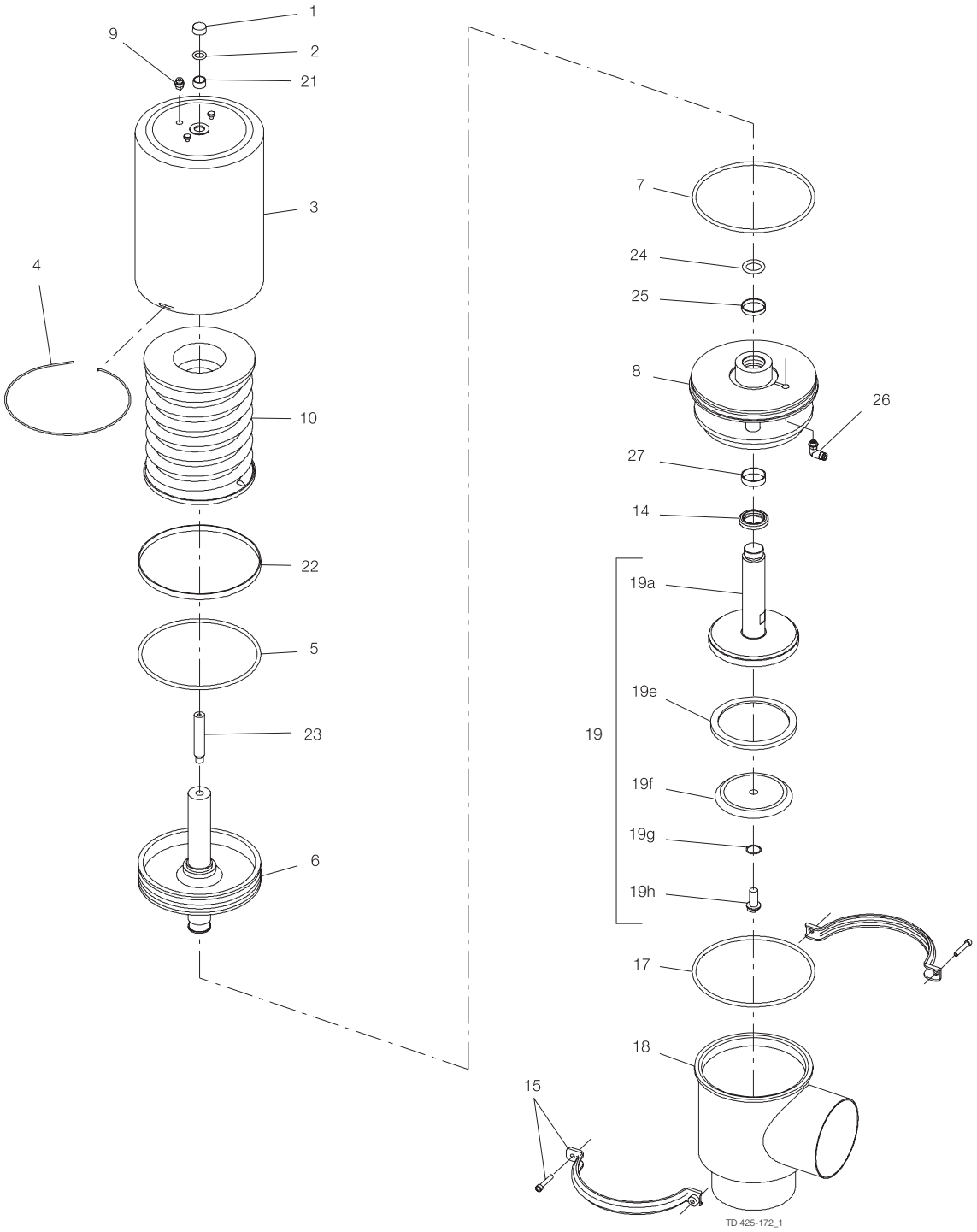
DN125-150 shut-off valve





DN125-150 change-over valve

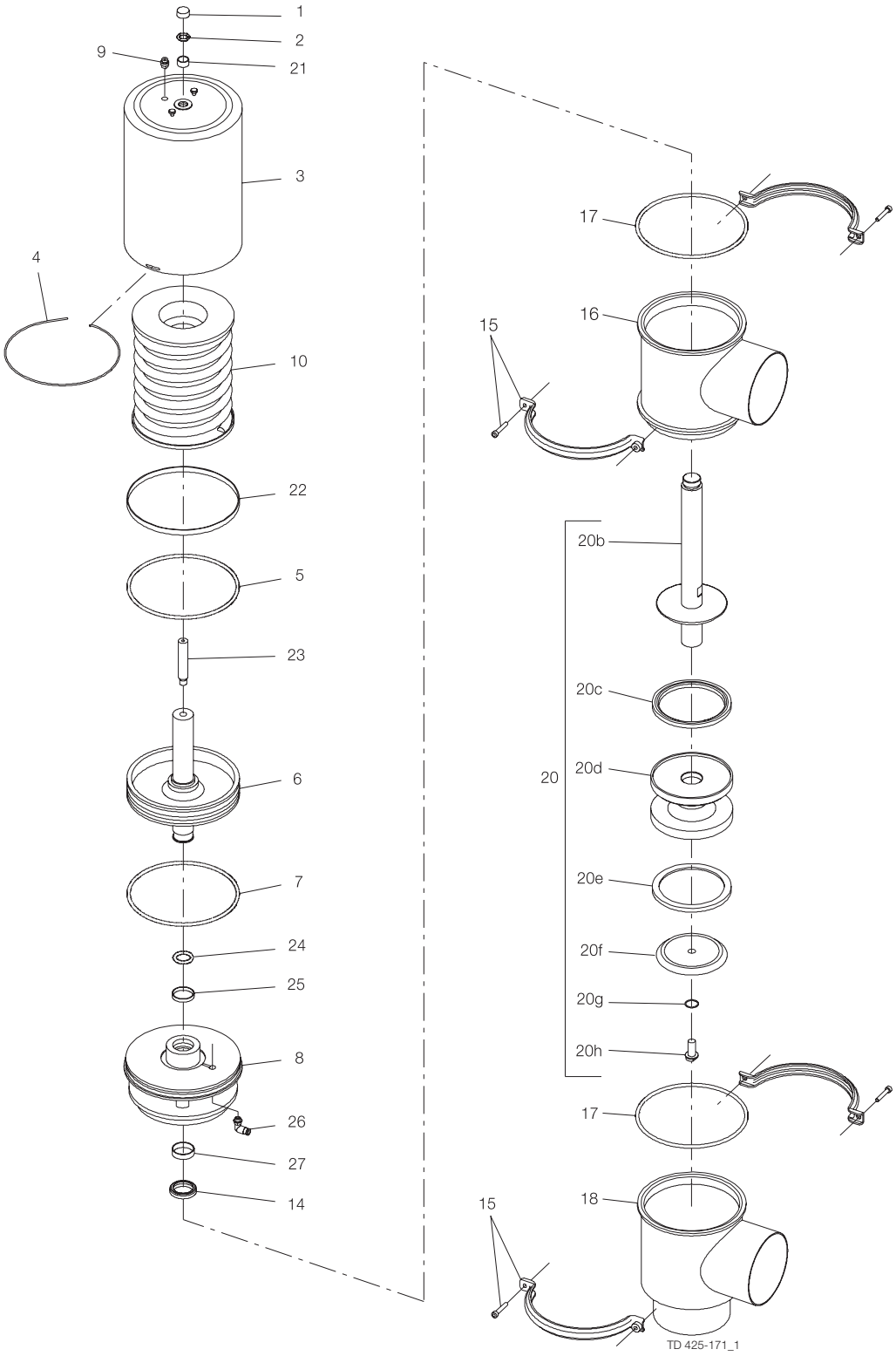
9.2 Shut-off valve



Pos.	Qty.	Denomination
		Actuator, complete
1	1	Cap
2	1	O-ring
3	1	Cylinder
4	1	Lock wire
5	1	O-ring
6	1	Piston
7	1	O-ring
8	1	Bonnet
9	1	Plug
10	1	Spring packet
14	1	Lip seal
15	1	Clamp complete
17	1	Seal ring
18	1	Valve body
19	1	Plug

Pos.	Qty.	Denomination
19a	1	Stem
	1	Stem
19e	1	Plug seal
19f	1	Washer
	1	Washer
19g	1	O-ring
19h	1	Screw
	1	Screw
21	1	Guide ring
22	1	Guide ring
23	1	Top pin
24	1	O-ring
25	1	Guide ring
26	1	Air fitting
27	1	Guide ring

9.3 Change-over valve



Pos.	Qty.	Denomination
		Actuator, complete
1	1	Cap
2	1	O-ring
3	1	Cylinder
4	1	Lock wire
5	1	O-ring
6	1	Piston
7	1	O-ring
8	1	Bonnet
9	1	Plug
10	1	Spring packet
14	1	Lip seal
15	2	Clamp complete
16	1	Valve body
17	2	Seal ring
18	1	Valve body

Pos.	Qty.	Denomination
20	1	Plug
20b	1	Stem
20c	1	Plug seal
20d	1	Middle piece
20e	1	Plug seal
20f	1	Washer
20g	1	O-ring
20h	1	Screw
21	1	Guide ring
22	1	Guide ring
23	1	Top pin
24	1	O-ring
25	1	Guide ring
26	1	Air fitting
27	1	Guide ring