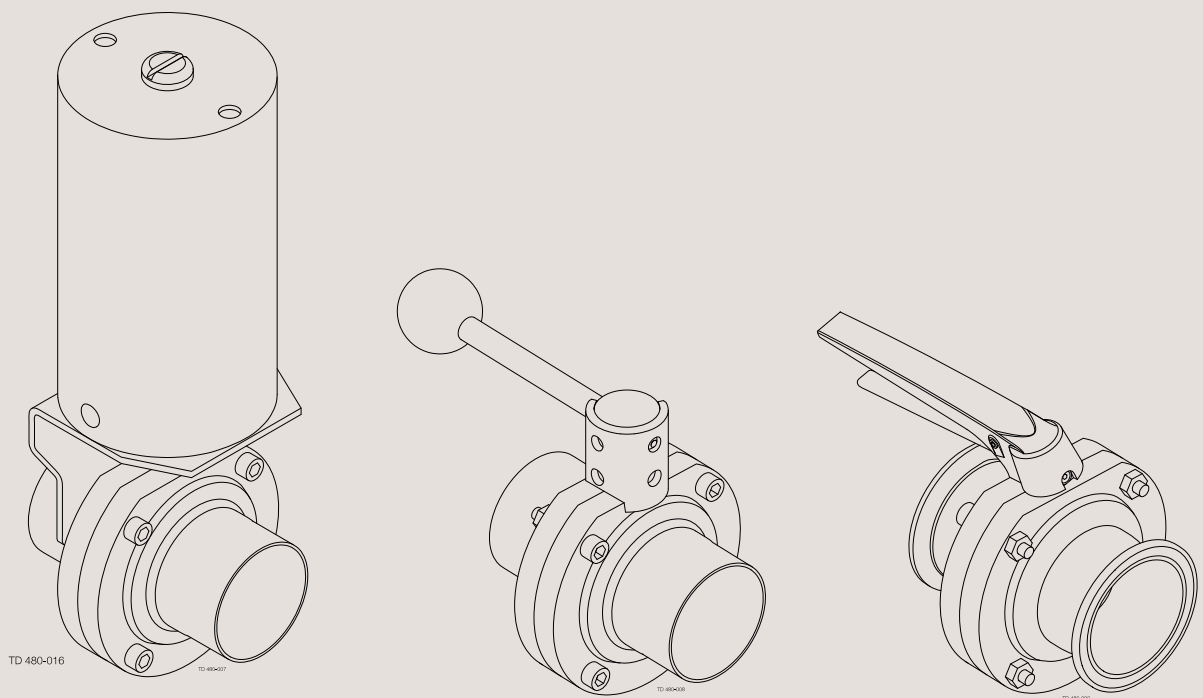




Instruction Manual

LKB UltraPure automatic or manual butterfly valve



ESE01699-EN10 2022-10

Original manual

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

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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 actuator
Designation

LKLA NC, LKLA NO, LKLA A/A, LKLA-T NO, LKLA-T NC, LKLA-T A/A
Type

Serial number from AAB000000001 to AAB999999999
Serial number from 100700000001 to 100799999999

is in conformity with the following directives with amendments:
- Machinery Directive 2006/42/EC

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

| | | |
|--|--|---|
| Global Product Quality Manager <small>Title</small> | Lars Kruse Andersen <small>Name</small> | |
| Kolding, Denmark <small>Place</small> | 2022-10-01 <small>Date (YYYY-MM-DD)</small> |  <small>Signature</small> |

This Declaration of Conformity replaces Declaration of Conformity dated 2020-02-10



1 Declarations of Conformity

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 actuator

Designation

LKLA NC, LKLA NO, LKLA A/A, LKLA-T NO, LKLA-T NC, LKLA-T A/A

Type

Serial number from AAB000000001 to AAB999999999

Serial number from 100700000001 to 1007999999999

is in conformity with the following directives with amendments:

- The Supply of Machinery (Safety) Regulations 2008

Signed on behalf of: Alfa Laval Kolding A/S

Global Product Quality Manager

Title

Lars Kruse Andersen

Name

Kolding, Denmark

Place

2022-10-01

Date (YYYY-MM-DD)



Signature

DoC Revison_01_102022

**UK
CA**



2 Safety

*Unsafe practices and other important information are emphasized in this manual.
Warnings are emphasized 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.

2.2 Warning signs

General warning:



Caustic agents:



All warnings in the manual are summarized on this page.

"Mushrooms" = Fastening connections on the end cap.

Pay special attention to the instructions below so that severe personal injury and/or damage to the valve are avoided.

2.3 Safety precautions

Installation



Always read the technical data thoroughly (See chapter 5 Maintenance).

Always release compressed air after use.

Never touch the coupling between the valve body and the actuator if compressed air is supplied to the actuator.

Operation



Always read the technical data thoroughly (See chapter 5 Maintenance).

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

Never touch the coupling between the valve body and the actuator if compressed air is supplied to the actuator.



Always handle lye and acid with great care.

Maintenance



Always observe the technical data thoroughly (See chapter 5 Maintenance).

Always release compressed air after use.

Never service the valve when it is hot.

The valve/actuator and the pipelines must **never** be pressurised when servicing the valve/actuator.

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

Never touch the coupling between the valve body and the actuator if compressed air is supplied to the actuator.

The actuator springs are not caged (ø85 mm, NC/NO).

Never use compressed air for removing the end caps of the actuator.

Always fit the end cap with the "mushrooms" turned outwards and position it correctly before supplying compressed air to the actuator.

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

Transportation

Always secure that compressed air is released .

Always secure that all connections is disconnected before attempt to remove the valve from the installation.

Always drain liquid out of valves before transportation.

Always used predesigned lifting points if defined.

Always secure sufficient fixing of the valve during transportation - if special designed packaging material is available it must be used.

3 Installation

The instruction manual is part of the delivery. Study the instructions carefully.
 The items refer to parts list and service kits section.
 The valve is preassembled before delivery.

3.1 Unpacking/delivery

Step 1

CAUTION

Alfa Laval cannot be held responsible for incorrect unpacking.

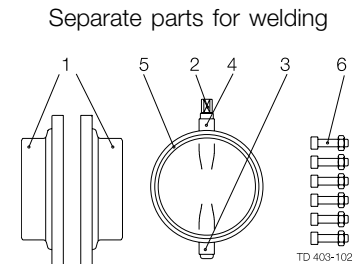
Check the delivery:

1. Complete valve (see Step 2).
2. Complete actuator, if supplied (see Step 3).
3. Bracket for actuator, if supplied (see Step 3).
4. Complete handle, if supplied.
5. Delivery note.
6. Instruction manual.

Step 2

Standard delivery of valve parts:

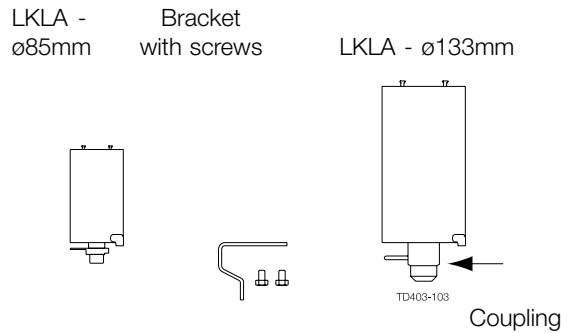
1. Two valve body halves (1).
2. Valve disc (2) fitted in seal ring (5).
3. Two bushes (3, 4) fitted on the disc stem.
4. A set of screws and nuts (6).



Step 3

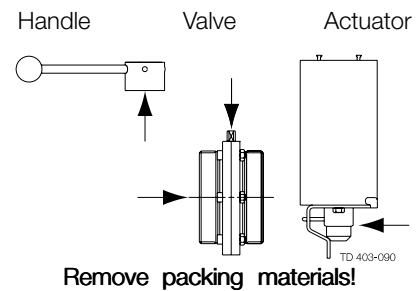
Delivery of actuator and bracket:

1. Complete actuator with coupling and activating ring (ø85 mm) or indication pin (ø133 mm).
2. Bracket with screws for the actuator.
3. Water rejector (if not mounted)



Step 4

1. Clean the valve/valve parts for possible packing materials.
2. Clean the handle or the actuator, if supplied.



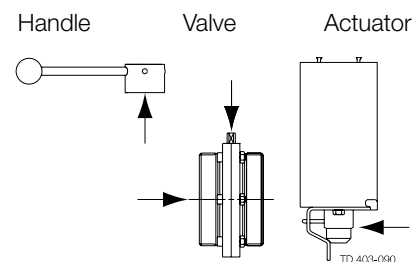
Step 5

Inspection!

1. Inspect the valve/valve parts for visible transport damage.
2. Inspect the handle or the actuator, if supplied.

Caution!

Avoid damaging the valve/valve parts.
 Avoid damaging the handle or the actuator, if supplied.



Study the instructions carefully. The valve has welding ends as standard but can also be supplied with fittings.

NC = Normally closed.

NO = Normally open.

A/A = Air/air activated.

3.2 General installation

Step 1



Always read the technical data carefully.



Always release compressed air after use.

Never touch the coupling between the valve body and the actuator if compressed air is supplied to the actuator.

CAUTION

Alfa Laval cannot be held responsible for incorrect installation.

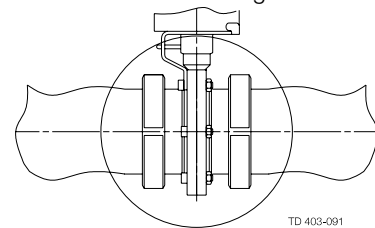
Step 2

Avoid stressing the valve.

Pay special attention to:

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

Risk of damage!



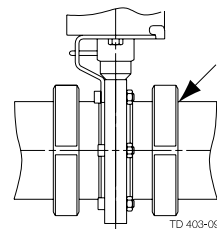
TD 403-091

Step 3

Fittings:

Ensure that the connections are tight.

Remember seal rings!



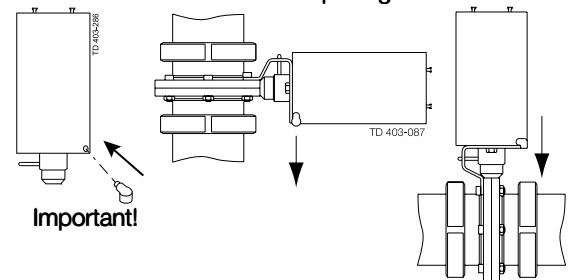
TD 403-092

Step 4

Position of actuator:

Position the water rejector on the actuator correctly. (The actuator can be installed in any position).

Turn the ventilation opening downwards!



Important!

Air connection of actuator:

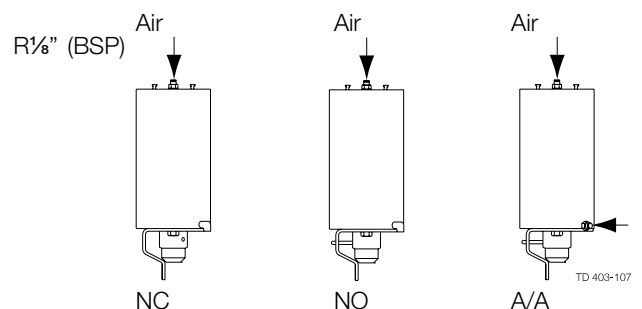
Connect compressed air correctly.

Pay special attention to the warnings!

Pre-use check:

Open and close the valve several times to ensure that the valve disc moves smoothly against the sealing.

Pay special attention to the warnings!



3 Installation

Study the instructions carefully.

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

LKB UltraPure: for ISO, DIN and ASME tubes

3.3 Welding

Step 1

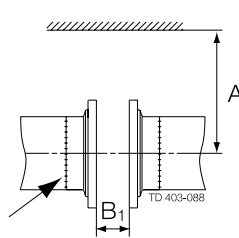
1. Weld the valve body halves into the pipelines.
2. Maintain the minimum clearance (A) so that the actuator can be removed.
3. If welding both valve body halves, ensure that they can be moved axially **B₁ mm**, so that the valve parts can be removed.
4. After welding assemble the valve in accordance with the steps 1-5 in section 5.3 Valve assembly.

Pre-use check

Open and close the valve several times to ensure that the valve disc moves smoothly against the seal ring.

Pay special attention to the warnings!

| Size | A (mm) | | | | B ₁ (mm) |
|-------------|-----------|---------------------------|------|---------------------------|---------------------|
| | Ø85 | | Ø133 | | |
| | LKLA | LKLA-T | LKLA | LKLA-T | |
| 25 mm/1" | 245 | | | | 20 |
| 38 mm/1½" | 245 | | | | 20 |
| 51 mm/2" | 255 | | | | 20 |
| 63.5 mm/2½" | 265 | | | | 24 |
| 76.1 mm/3" | 265 | | | | 24 |
| 101.6 mm/4" | 290 | | 420 | | 37 |
| DN25 | 245 | + 172 (incl. top unit) | | + 172 (incl. top unit) | 20 |
| DN32 | 245 | | | | 20 |
| DN40 | 250 | | | | 20 |
| DN50 | 260 | | | | 20 |
| DN65 | 270 | | | | 24 |
| DN80 | 275 | | | | 23 |
| DN100 | 290 | | 420 | | 37 |



Caution!

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

NC = Normally closed.

NO = Normally open.

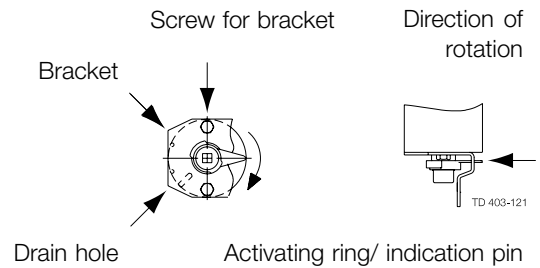
A/A = Air/air activated.

3.4 Fitting actuator/bracket/handle on the valve (optional extras)

Step 1

Bracket/indication:

1. Fit the bracket as shown.
2. Fit and tighten the screws.
3. Fit the activating ring/indication pin as shown.



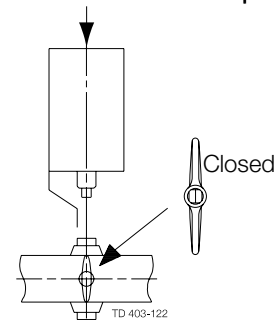
Step 2

Actuator/bracket - NC:

1. Ensure that the valve is closed by checking the position of the groove of the disc stem top.
2. Fit the actuator/bracket in accordance with Step 4 section 5.3 Valve assembly.

NC actuator

No pressure!



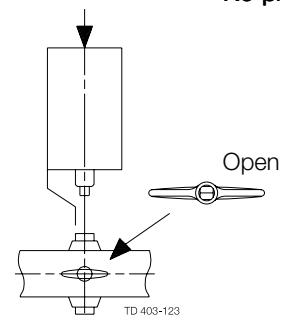
Step 3

Actuator/bracket - NO:

1. Ensure that the valve is open by checking the position of the groove of the disc stem top.
2. Fit the actuator/bracket in accordance with Step 4 section 5.3 Valve assembly.

NC actuator

No pressure!

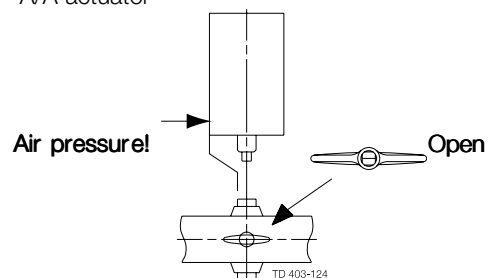


Step 4

Actuator/bracket - A/A:

1. Ensure that the valve is open by checking the position of the groove of the disc stem top.
2. Supply compressed air to the actuator.
3. Fit the actuator/bracket in accordance with Step 4 section 5.3 Valve assembly

A/A actuator



3 Installation

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

NC = Normally closed.

NO = Normally open.

A/A = Air/air activated.

Step 5

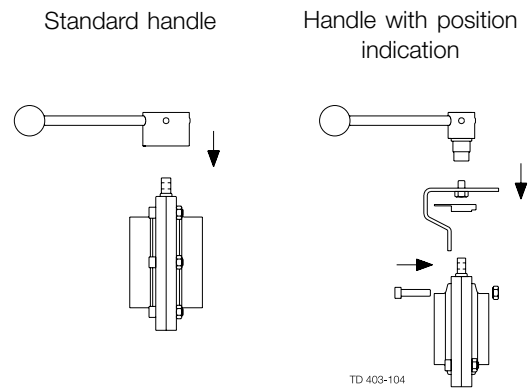
Handle/indication:

1. Fit the standard handle on the valve so that the screw can enter the hole in the disc connection.
2. Fit the handle with position indication as shown and in accordance with the Step 3-Step 4, section 5.3 Valve assembly.

Pre-use check:

Open and close the valve several times to ensure that it operates smoothly.

Pay special attention to the warnings!



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

NC = Normally closed.

NO = Normally open.

A/A = Air/air activated.

3.5 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 wear 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 wear parts must be taken care of in agreement with local regulations

- **Scrapping**

- At end of use, the equipment shall be recycled according to relevant, local regulations. Beside 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 the local Alfa Laval sales company
-

4 Operation

Study the instructions carefully and pay special attention to the warnings!
The valve is automatically or manually operated by means of an actuator or a handle.

4.1 Operation

Step 1



Always read the technical data carefully.

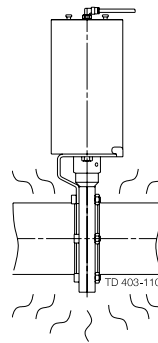
CAUTION

Alfa Laval cannot be held responsible for incorrect operation.

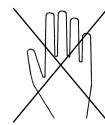
Step 2



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



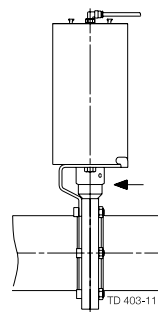
Burning danger



Step 3



Never touch the coupling between the valve body and the actuator if compressed air is supplied to the actuator.



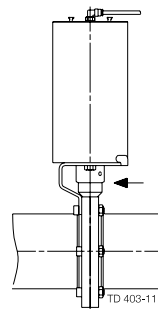
Air

Rotating parts

Step 4

Operation by means of actuator:

Automatic on/off operation by means of compressed air.



Air

Rotating parts

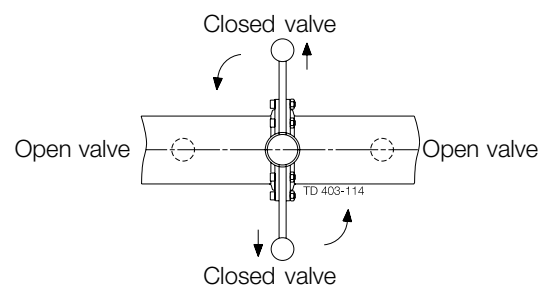
Step 5

Operation by means of standard handle:

1. Manual on/off operation.
2. Pull the handle outwards while rotating it.

NOTE!

This also applies for the Lockable Multiposition Handle.

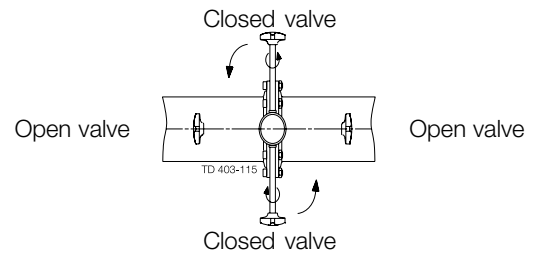


Pay attention to possible break-down. Study the instructions carefully.
 NC = Normally closed. NO = Normally open. A/A = Air/air activated.

Step 6

Operation by means of regulating handle:

1. Manual flow regulation because of infinite locking positions.
2. Loosen the handle, rotate it and tighten again.



4.2 Troubleshooting

Step 1

NOTE!

Study the maintenance instructions carefully before replacing worn parts. - See 5.1 General maintenance

| Problem | Cause/r esult | Repair |
|--|---|--|
| <ul style="list-style-type: none"> - External leakage - Internal leakage by closed valve (normal wear) | <ul style="list-style-type: none"> - Worn seal ring - Worn flange seal ring (LKB-F) | <ul style="list-style-type: none"> - Replace the seal ring and the bushes |
| <ul style="list-style-type: none"> - External leakage - Internal leakage by closed valve (too early) | <ul style="list-style-type: none"> - High pressure - High temperature - Aggressive liquids - Many activations | <ul style="list-style-type: none"> - Change rubber grade - Change the operation conditions |
| <ul style="list-style-type: none"> - Difficult to open/close - Damage of disc connection (high torque) | <ul style="list-style-type: none"> - Incorrect seal ring (swelling) | <ul style="list-style-type: none"> - Replace by a seal ring of a different rubber grade |
| <ul style="list-style-type: none"> - Difficult to open/close | <ul style="list-style-type: none"> - 90° displacement of the actuator - Incorrect actuator function (NC,NO) - Worn actuator bearings - Dirt penetration into the actuator | <ul style="list-style-type: none"> - Fit correctly (see 3.4 Fitting actuator/bracket/handle on the valve (optional extras)) - Change from NC to NO or vice versa - Replace the bearings - Service the actuator |

4 Operation

The valve is designed for cleaning in place (CIP). CIP = Cleaning In Place.
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.

Caustic danger!



Always use
rubber gloves!

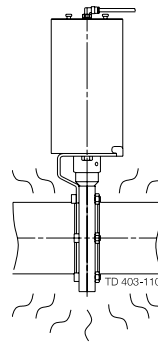


Always use
protective goggles!

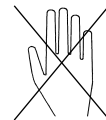
Step 2



Never touch the valve or the pipelines when sterilising.



Burning danger!

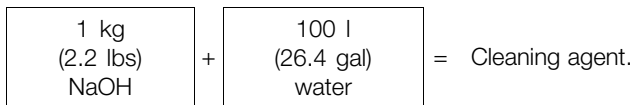


Step 3

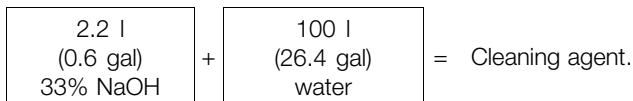
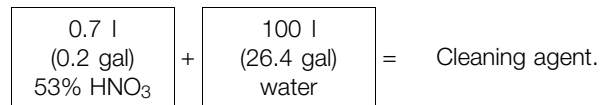
Examples of cleaning agents:

Use clean water, free from chlorides.

1. 1% by weight NaOH at 70° C (158° F)



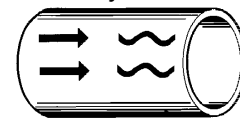
2. 0.5% by weight HNO₃ at 70° C (158° F)



Step 4

1. Avoid excessive concentration of the cleaning agent.
 - Dose gradually.
2. Adjust the cleaning flow to the process.
 - Sterilization of milk/viscous liquids.
 - Increase the cleaning flow.
3. **Always** rinse well with clean water after the cleaning.

Always rinse!



Clean water Cleaning agents

Step 5

NOTE

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

Maintain the valve and the regulator carefully. Study the instructions carefully and pay special attention to the warnings!
 Always keep spare seal rings, rubber seals, bushes and actuator bearings in stock. Always use Alfa Laval genuine spare parts.
 "Mushrooms" = Fastening connections on the end cap.

5.1 General maintenance

Step 1



Always read the technical data carefully.
 See chapter 6 Technical data



Always release compressed air after use.

NOTE

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

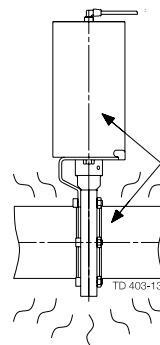
Step 2



Never service the valve when it is hot.

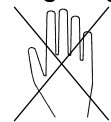


Never service the valve with valve and pipelines under pressure. The valve/actuator and the pipelines must **never** be pressurised when servicing the valve/actuator.



Atmospheric pressure required!

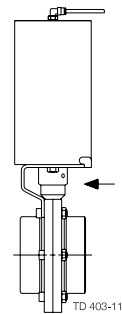
Burning danger!



Step 3



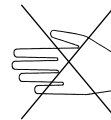
Never stick your fingers through the valve ports if the actuator is supplied with compressed air.



Air

Air

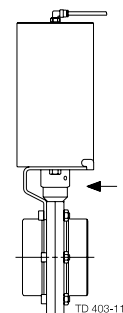
Cutting danger!



Step 4



Never touch the coupling between the valve body and the actuator if compressed air is supplied to the actuator.



Air

Rotating parts

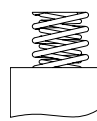
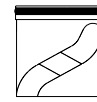
5 Maintenance

Maintain the valve and the regulator carefully. Study the instructions carefully and pay special attention to the warnings!
Always keep spare seal rings, rubber seals, bushes and actuator bearings in stock. Always use Alfa Laval genuine spare parts.
"Mushrooms" = Fastening connections on the end cap.

Step 5



Actuator size $\varnothing 85$ mm (NC/NO):
The actuator springs are **not** caged.



TD 403-118

Springs
Caution!

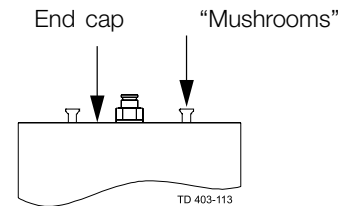
Step 6



End cap of actuator:

- **Never** remove the end cap by using compressed air.
- **Always** fit the end cap with the "mushrooms" turned outwards and position it correctly before supplying compressed air to the actuator.

Caution!



TD 403-113

Recommended spare parts: Service kits (see 7 Parts list and service kits).

Order service kits from the service kits list (see 7 Parts list and service kits)

Ordering spare parts

Contact the Sales Department.

| | Valve seal rings | Valve bushes | Actuator rubber seals | Actuator bearings |
|--|---|---|--|--|
| Preventive maintenance | Replace after 12 months | Replace when replacing the valve seal rings | Replace after 5 years | |
| Maintenance after leakage (leakage normally starts slowly) | Replace by the end of the day | Replace when replacing the valve seal rings | Replace when possible | |
| Planned maintenance | <ul style="list-style-type: none"> - Regular inspection for leakage and smooth operation - Keep a record of the valve - Use the statistics for planning of inspections <p>Replace after leakage</p> | Replace when replacing the valve seal rings | <ul style="list-style-type: none"> - Regular inspection for leakage and smooth operation - Keep a record of the actuator - Use the statistics for planning of inspections <p>Replace after air leakage</p> | Replace when they become worn |
| Lubrication | <p>Before fitting (use USDA-H1 approved)</p> <ul style="list-style-type: none"> - Unisilcon L641(*) - Paraliq(*) GTE 703 - Molycote 111(D) | None | <p>Before fitting</p> <ul style="list-style-type: none"> - Molycote Long term 2 Plus (Δ) - Molycote 1132(Δ) (for aggressive environment) | <p>When replacing actuator rubber seals</p> <ul style="list-style-type: none"> - Molycote Long term 2 Plus (Δ) - Molycote 1132 (Δ) (for aggressive environment) |

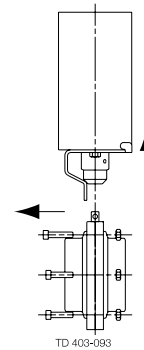
Study the instructions carefully. The items refer to the parts list and service kits section.
 Handle scrap correctly.
 LKB UltraPure: For ISO, DIN and ASME tubes.

5.2 Dismantling the valve

Step 1

Valve with actuator:

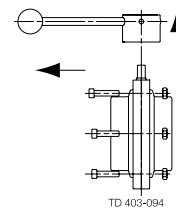
1. Remove screws and nuts (6).
2. Remove the bracket with the actuator.



Step 2

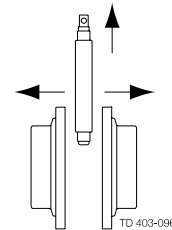
Valve with handle:

1. Remove the complete handle.
2. Remove screws and nuts (6).



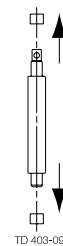
Step 3

Remove seal ring (5) together with valve disc (2).



Step 4

Remove bushes (3, 4) from the disc stems.

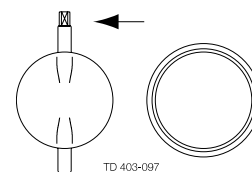


Step 5

Remove valve disc (2) from seal ring (5).

NOTE!

For the valve sizes 25-38 mm and DN25-40 it is recommended to remove the valve disc by using a special service tool (item no. 9611981090)



5 Maintenance

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

LKB UltraPure: For ISO, DIN and ASME tubes.

Lubricate the seal ring before fitting it.

Lubricate the disc stem before fitting the bushes.

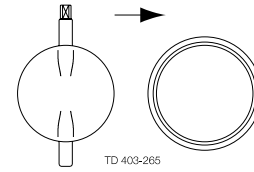
5.3 Valve assembly

Step 1

1. Lubricate the pin holes in seal ring (5), (important for Silicone and Viton).
2. Fit valve disc (2) in the seal ring (5).

NOTE!

For the valve sizes 25-38 mm and DN25-40 it is recommended to fit the valve disc by using a special service tool (item no. 9611981090).

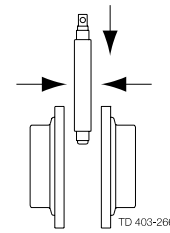


Step 2

1. Fit bushes (3,4) on the disc stem.
2. Fit seal ring (5) together with valve disc (2) between the two valve body halves (1).

CAUTION!

Rotate the valve disc so that the valve is open before tightening screws and nuts (6).



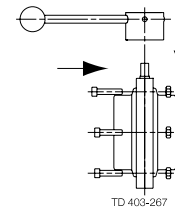
Step 3

Valve with handle:

1. Fit screws and nuts (6) and torque tighten in accordance with the requirements (see Step 5).
2. Fit the complete handle on the disc connection and tighten the screw on the handle.

NOTE!

This also applies for the Lockable Multiposition Handle.



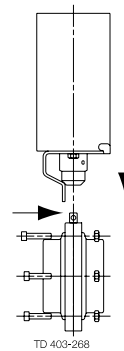
Step 4

Valve with actuator:

1. Fit the actuator with the bracket so that the disc connection enters the coupling (see 3.4 Fitting actuator/bracket/handle on the valve (optional extras)).
2. Fit screws and nuts (6) and torque tighten in accordance with the requirements so that the bracket is fixed to the valve (see Step 5).

Fit correctly!

See 3.4 Fitting actuator/bracket/handle on the valve (optional extras)



Step 5

Pre-use check: Check that the valve disc moves smoothly against the seal ring.

Pay special attention to the warnings!

Tools/torque values for assembly of the valve body halves:

| Valve size | 1" 25 mm DN 25 | DN32 | 1½" 38 mm DN40 | 2" 51 mm DN50 | 2½" 63.5 mm DN65 | 3" 76 mm DN80 | 4" 101.6 mm DN100 |
|-------------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|-------------------------|
| Allen Key | 5 mm (0.2") | 5 mm (0.2") | 5 mm (0.2") | 6 mm (0.24") | 6 mm (0.24") | 6 mm (0.24") | 8 mm (0.3") |
| Recomm. Torque | 18 Nm (13 lbf-ft) | 18 Nm (13 lbf-ft) | 18 Nm (13 lbf-ft) | 20 Nm (15 lbf-ft) | 20 Nm (15 lbf-ft) | 20 Nm (15 lbf-ft) | 38 Nm (38 lbf-ft) |

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

Handle scrap correctly.

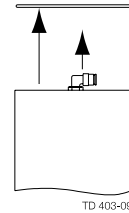
NC = Normally closed. NO = Normally open. A/A = Air/air activated.

5.4 Dismantling of actuator

Step 1

1. Press end cap (5) into air cylinder (1).
2. Remove retaining ring (6).

Use a press or special tool (item no. 9611416791).

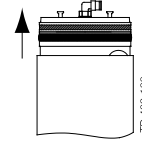


Step 2

NC/NO actuator:

Release the pressure on end cap (5) carefully and remove the end cap.

Pay special attention to the warning!

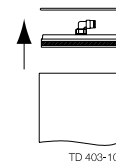


Step 3

A/A actuator:

Remove end cap (5) by hand.

Pay special attention to the warning!

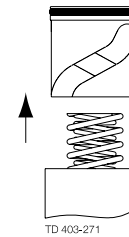


Step 4

Remove piston (3) and the springs.

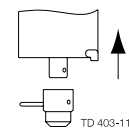
NOTE!

- The actuator size $\varnothing 133$ mm has a caged spring assembly.
- The air/air actuator has no springs.



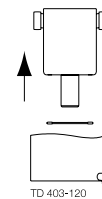
Step 5

Remove connex pin (16) and coupling (17) from rotating cylinder stem (2).



Step 6

Remove rotating cylinder (2) and the remaining internal parts from air cylinder (1).



5 Maintenance

Study the instructions carefully.

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

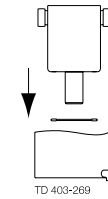
Lubricate the rubber seals before fitting them. Lubricate the bearings.

Clean the piston before assembly.

5.5 Assembly of actuator

Step 1

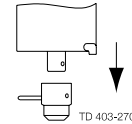
Fit rotating cylinder (2) in air cylinder (1).



Step 2

Fit coupling (17) on rotating cylinder stem (2) and fit connex pin (16).

Fit the connex pin correctly!



Step 3

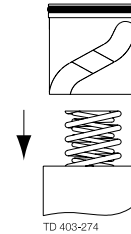
Fit the springs in rotating cylinder (2) and fit piston (3) carefully.

CAUTION!

Fit the piston correctly in relation to the bearings.

NOTE!

The air/air actuator is has no springs.



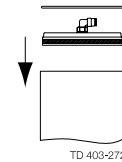
Fit correctly!

Step 4

A/A actuator:

1. Fit end cap (5) sufficiently into air cylinder (1) so that retaining ring (6) can be fitted in the air cylinder.
2. Position the end cap correctly by hand.

Pay special attention to the warning!



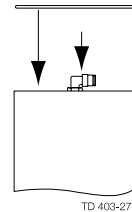
Step 5

1. Fit end cap (5) in air cylinder (1) and press sufficiently down so that retaining ring (6) can be fitted in the air cylinder.
2. Release the pressure on the end cap.

Pay special attention to the warning!

Use a press or special tool (item no. 9611416791).

NC/NO actuator



Step 6

Pre-use check:

1. Supply compressed air to the actuator.
2. Activate the actuator several times to ensure that it operates smoothly.

Pay special attention to the warnings!

*It is important to observe the technical data during installation, operation and maintenance.
Inform the personnel about the technical data.
NC = Normally closed. NO = Normally open. A/A = Air/air activated.*

6.1 Technical data

LKB UltraPure is either remote controlled by means of an air-actuator or manually by means of a handle. The actuator is designed so that an axial movement of a piston is transformed into a 90° rotation of a shaft.

The torque of the actuator is increased when the valve disc contacts the seal of the valve. The air-actuator comes in three standard versions, normally closed (NC), normally open (NO) and air/air activated (A/A).

| Valve - data | |
|-----------------------------------|---|
| Max. product pressure | 1000 kPa (10 bar) (145 psi) |
| Min. product pressure | Full vacuum |
| Temperature range | -10° C to +140° C* (EPDM) However max. 95° C when operating the valve |
| Product acc. to PED 97/23/EC | Fluids group 2 |
| Valve - materials | |
| Product wetted steel parts | AISI 316L/1.4404 |
| ASME BPE weld end | 316L (low sulfur) |
| Other steel parts | AISI 304 |
| Rubber grades | EPDM, Viton (FPM) |
| Bushes for valve disc | PVDF |
| Outside finish | Semi bright, RA 3.2 µm |
| Inside finish (wetted parts) | - ISO/DIN SF1, RA 0.5µm (ASME BPE table SF-3) - ASME BPE SF1, RA 0.5µm (ASME BPE table SF-3) SF4, RA 0.38µm (ASME BPE table SF-3) |
| Actuator - data | |
| Max. air pressure | 600 kPa (6 bar) (87 psi) |
| Min. air pressure, NC or NO | 400 kPa (4 bar) (58 psi) |
| Temperature range | -25° C to +90° C (-13°F to + 194°F) |
| Air consumption (litres free air) | - ø85 mm 0.24 x p (bar) - ø133 mm 0.95 x p (bar) |
| Actuator - materials | |
| Actuator body | AISI 304 |
| Piston | Light alloy, bronze for ø85 mm A/A |
| Seals | Nitrile (NBR) |
| Housing for switches | Noryl (PPO) |
| Finish | Semi bright |

*) SIP (Steam In Place) up to +140° C (284°F) is possible with the following actions:

- Open the valves
- SIP operation

Cool down the valves before closing/operating again.

6 Technical data

It is important to observe the technical data during installation, operation and maintenance.

Inform the personnel about the technical data.

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

Weight (kg)

| Size | 25 mm | 38 mm | 51 mm | 63.5 mm | 76.1 mm | 101.6 mm | DN 25 | DN 32 | DN 40 | DN 50 | DN 65 | DN 80 | DN 100 |
|--------|-------|-------|-------|---------|---------|----------|-------|-------|-------|-------|-------|-------|--------|
| Weight | 1.2 | 1.0 | 1.5 | 2.1 | 3.0 | 4.7 | 1.2 | 1.1 | 1.3 | 1.8 | 3.1 | 3.5 | 5.1 |

Noise

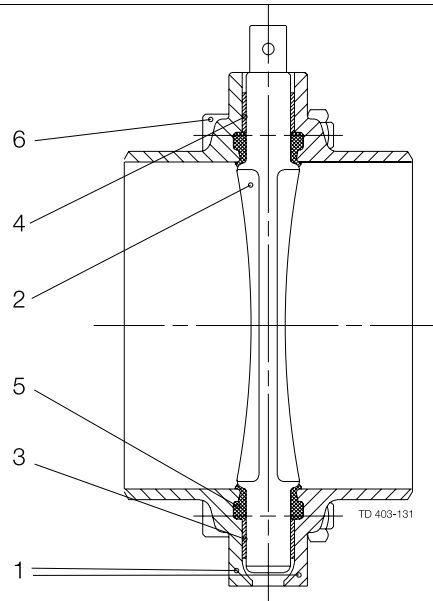
One meter away from - and 1.6 meter above the exhaust the noise level of a valve actuator will be approximately 77dB(A) without noise damper and approximately 72 dB(A) with noise damper - Measured at 7 bars air-pressure.

7 Parts list and service kits

The drawing include all parts of the valves.

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

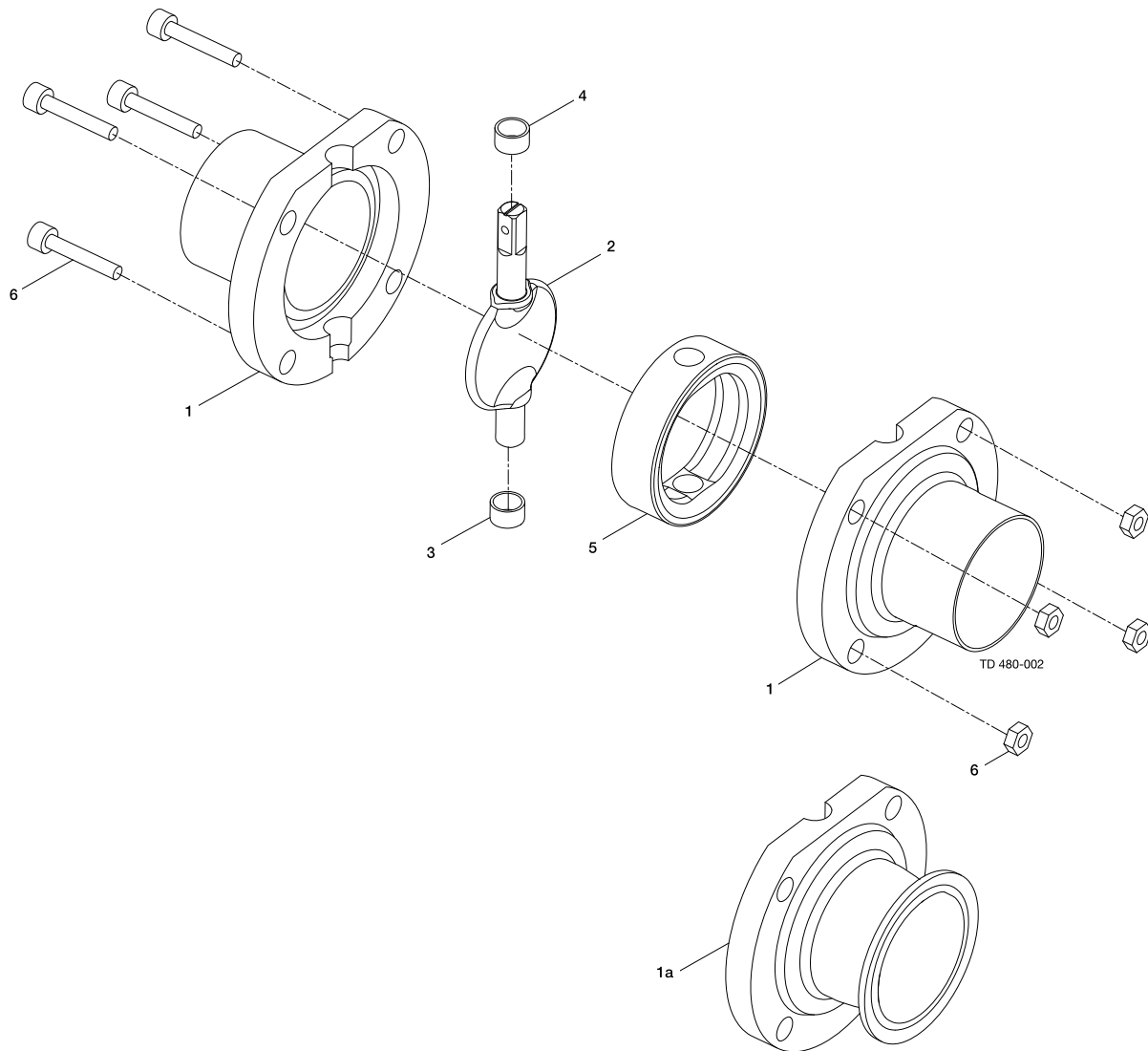


7 Parts list and service kits

The drawing include all parts of the valves.

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 LKB UltraPure Butterfly Valve, ISO



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|--------------------------------|
| ▲ | | Alfa Laval Q-doc service kit |
| 1 | 2 | Valve body half, welding ends |
| 1a | 2 | Valve body half, clamp ferrule |
| 2 | 1 | Disc |
| 3 ▲ | 1 | Bush |
| 4 ▲ | 1 | Bush |
| 5 ▲ | 1 | Seal ring |
| 6 | 1 | Set screw + nut |

Service kits

| Denomination | 25 mm Disc □ 8 | 38 mm Disc □ 8 | 51 mm Disc □ 8 | 63.5 mm Disc □ 8 | 76.1 mm Disc □ 10 | 101.6 mm Disc □ 12 |
|-----------------------------------|-------------------|-------------------|-------------------|---------------------|----------------------|-----------------------|
| Service kits | | | | | | |
| ▲ Service kit, EPDM | 9611923284 | 9611923285 | 9611923286 | 9611923287 | 9611923288 | 9611923289 |
| ▲ Service kit, FPM | 9611923297 | 9611923298 | 9611923299 | 9611923300 | 9611923301 | 9611923302 |
| ▲ Service kit, HNBR | 9611923346 | 9611923347 | 9611923348 | 9611923349 | 9611923350 | 9611923351 |
| ▲ Service kit, Q (silicone) | 9611923352 | 9611923353 | 9611923354 | 9611923355 | 9611923356 | 9611923357 |
| ▲ Service kit, PFA | | 9611923358 | 9611923359 | 9611923360 | 9611923361 | 9611923362 |

Parts marked with ▲ are included in the service kit.

Recommended spare parts: Service kit.

NOTE!!

Lubricate the pin holes in the seal (5) with Klüber Paraliq GTE 703 or similar.

Very important for Q and FPM.

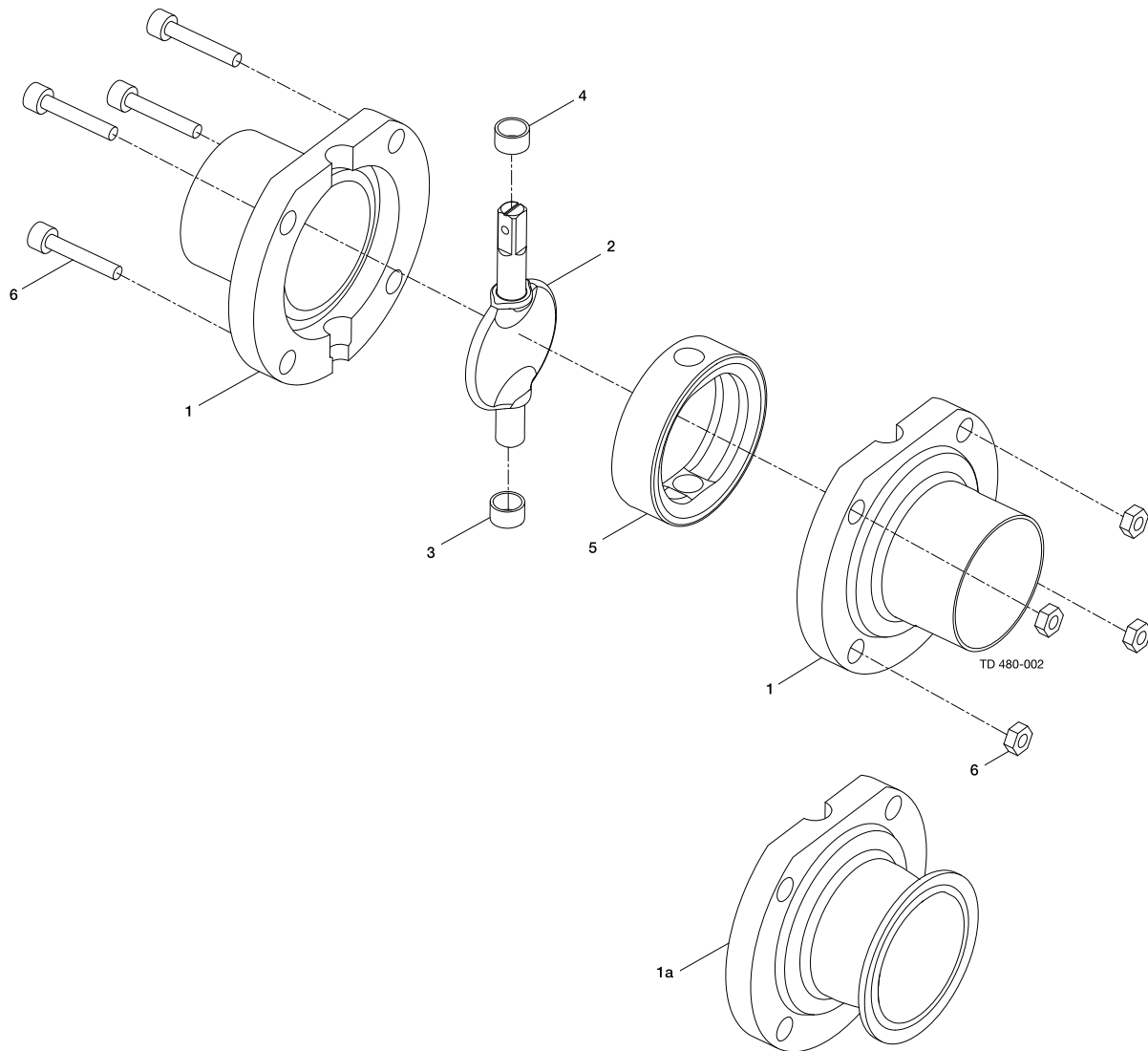
900581/3

7 Parts list and service kits

The drawing include all parts of the valves.

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 LKB UltraPure Butterfly Valve, ASME



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|--------------------------------|
| 1 | 1 | Alfa Laval Q-doc service kit |
| | 2 | Valve body half, welding ends |
| 1a | 2 | Valve body half, clamp ferrule |
| 2 | 1 | Disc |
| 3 ▲ | 1 | Bush |
| 4 ▲ | 1 | Bush |
| 5 ▲ | 1 | Seal ring |

Service kits

| Denomination | 25 mm | 38 mm | 51 mm | 63.5 mm | 76 mm | 101.6 mm |
|-----------------------------------|------------|------------|------------|------------|------------|------------|
| | Disc □ 8 | Disc □ 8 | Disc □ 8 | Disc □ 8 | Disc □ 10 | Disc □ 12 |
| Service kits | | | | | | |
| ▲ Service kit, EPDM | 9611923284 | 9611923285 | 9611923286 | 9611923287 | 9611923288 | 9611923289 |
| ▲ Service kit, FPM | 9611923297 | 9611923298 | 9611923299 | 9611923300 | 9611923301 | 9611923302 |
| ▲ Service kit, HNBR | 9611923346 | 9611923347 | 9611923348 | 9611923349 | 9611923350 | 9611923351 |
| ▲ Service kit, Q (silicone) | 9611923352 | 9611923353 | 9611923354 | 9611923355 | 9611923356 | 9611923357 |
| ▲ Service kit, PFA | | 9611923358 | 9611923359 | 9611923360 | 9611923361 | 9611923362 |

Parts marked with ▲ are included in the service kit.

Recommended spare parts: Service kit.

NOTE!!

Lubricate the pin holes in the seal (5) with Klüber Paraliq GTE 703 or similar.

Very important for Q and FPM.

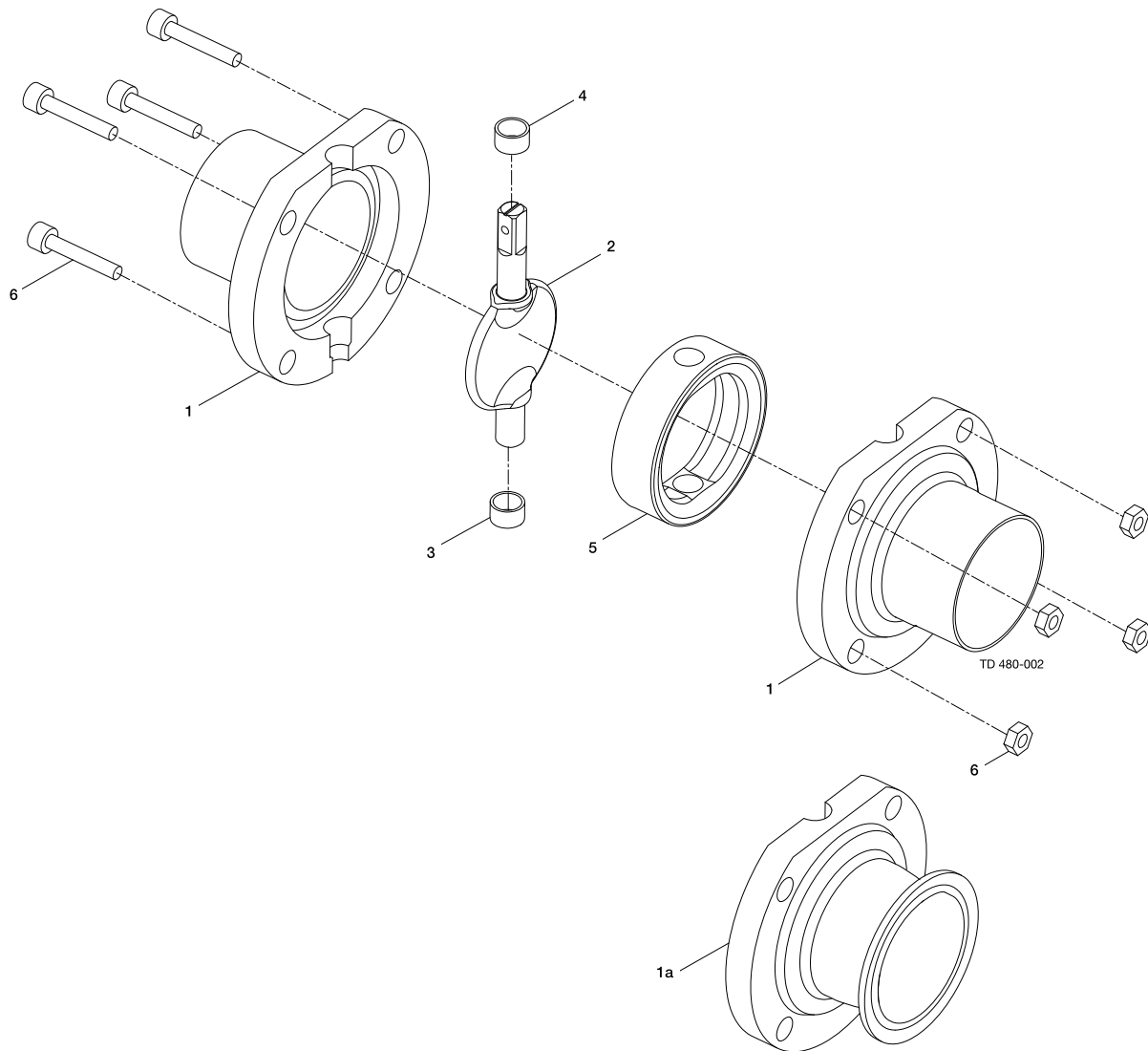
900583/2

7 Parts list and service kits

The drawing include all parts of the valves.

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 LKB UltraPure Butterfly Valve, DIN



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|--------------------------------|
| | 1 | Alfa Laval Q-doc service kit |
| 1a | 2 | Valve body half, clamp ferrule |
| 1 | 2 | Valve body half, welding ends |
| 2 | 1 | Disc |
| 3 ▲ | 1 | Bush |
| 4 ▲ | 1 | Bush |
| 5 ▲ | 1 | Seal ring |
| 6 | 1 | Set screw + nut |

Service kits

| Denomination | DN 25 | DN 32 | DN 40 | DN 50 |
|-----------------------------------|------------|------------|------------|------------|
| | Disc □ 8 | Disc □ 8 | Disc □ 8 | Disc □ 8 |
| Service kits | | | | |
| ▲ Service kit, EPDM | 9611923290 | 9611923291 | 9611923292 | 9611923293 |
| ▲ Service kit, FPM | 9611923303 | 9611923304 | 9611923305 | 9611923306 |
| ▲ Service kit, HNBR | 9611923325 | 9611923326 | 9611923327 | 9611923328 |
| ▲ Service kit, Q (silikone) | 9611923332 | 9611923333 | 9611923334 | 9611923335 |
| ▲ Service kit, PFA | | | 9611923339 | 9611923340 |

Service kits

| Denomination | DN 65 | DN 80 | DN 100 |
|-----------------------------------|------------|------------|------------|
| | Disc □ 10 | Disc □ 10 | Disc □ 12 |
| Service kits | | | |
| ▲ Service kit, EPDM | 9611923294 | 9611923295 | 9611923296 |
| ▲ Service kit, FPM | 9611923307 | 9611923308 | 9611923309 |
| ▲ Service kit, HNBR | 9611923329 | 9611923330 | 9611923331 |
| ▲ Service kit, Q (silikone) | 9611923336 | 9611923337 | 9611923338 |
| ▲ Service kit, PFA | 9611923341 | 9611923342 | 9611923343 |

Parts marked with ▲ are included in the service kit.

Recommended spare parts: Service kit.

NOTE!!

Lubricate the pin holes in the seal (5) with Klüber Paraliq GTE 703 or similar.

Very important for Q and FPM.

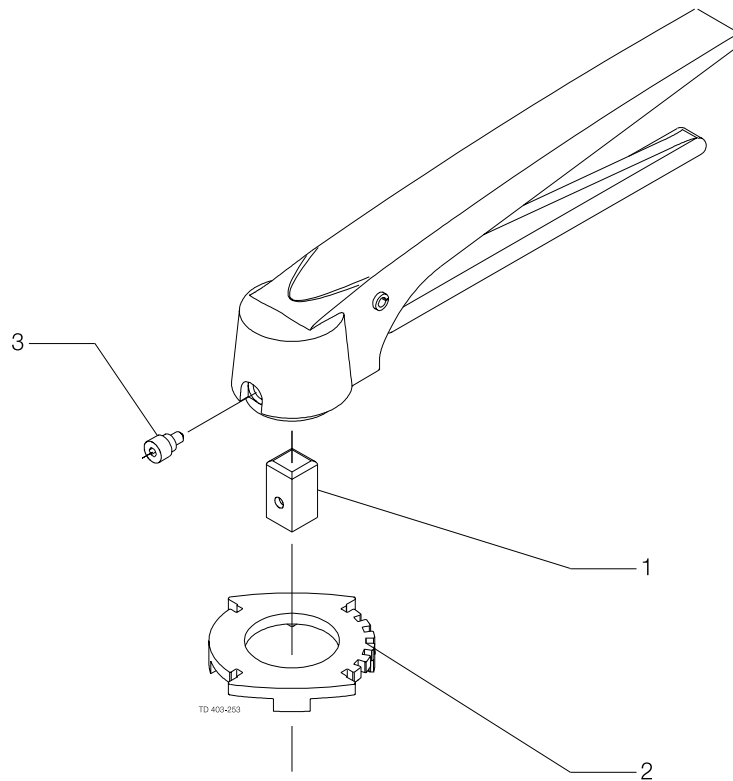
900582/3

7 Parts list and service kits

The drawing include all parts of the valves.

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 LKB lockable multiposition handle for valve



7 Parts list and service kits

The drawing include all parts of the valves.

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

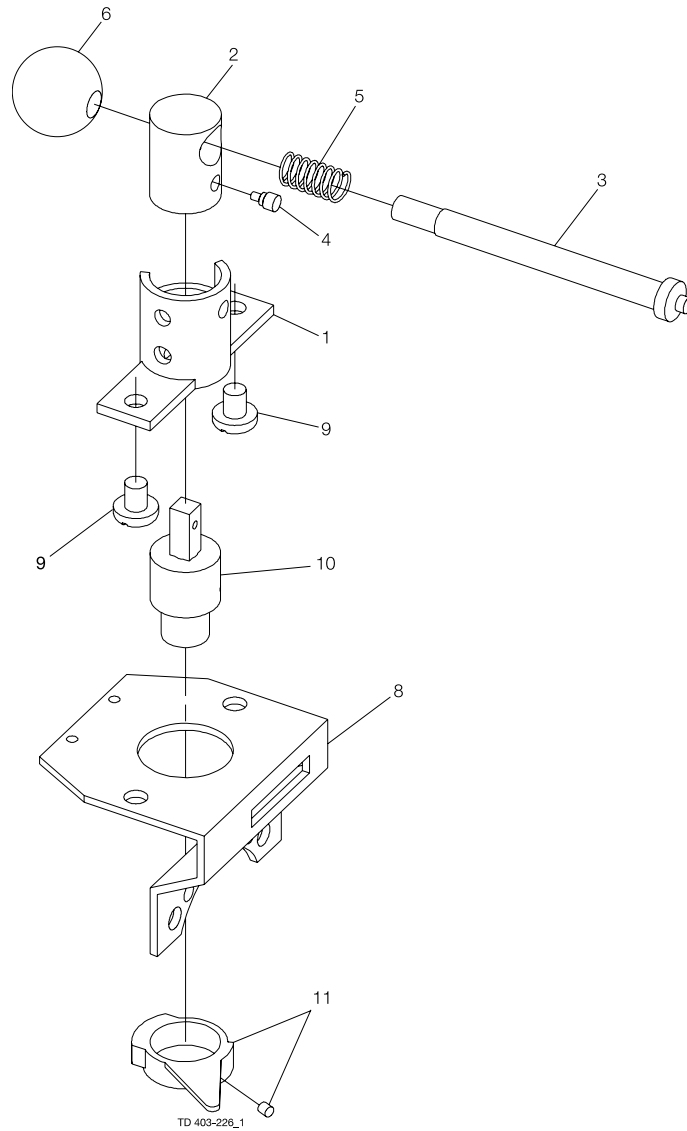
| Pos. | Qty | Denomination |
|------|-----|-----------------|
| 1 | 1 | Insert |
| 2 | 1 | Positioning cap |
| 3 | 1 | Screw |

7 Parts list and service kits

The drawing include all parts of the valves.

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 LKB handle 1.1 for Butterfly Valve



7 Parts list and service kits

The drawing include all parts of the valves.

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

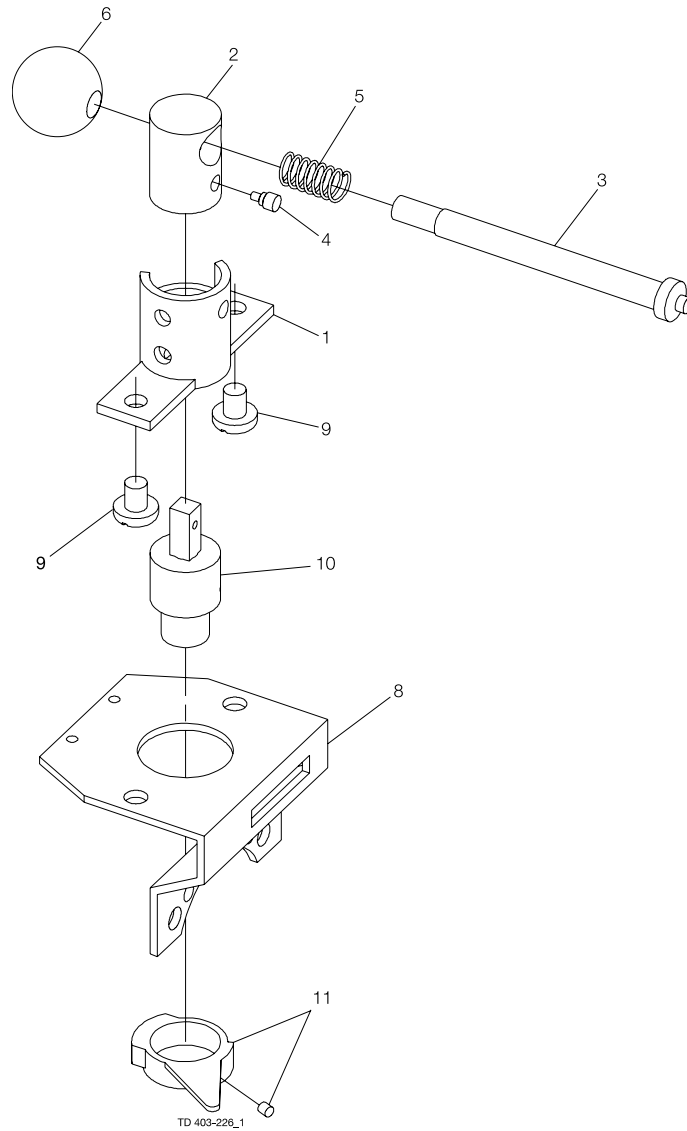
| Pos. | Qty | Denomination |
|------|-----|----------------------------|
| 1 | 1 | Location cap with 2 pos. |
| 2 | 1 | Transfer block |
| 3 | 1 | Handle |
| 4 | 1 | Screw with pin |
| 5 | 1 | Spring |
| 6 | 1 | Ball |
| 8 | 1 | Bracket |
| 9 | 2 | Screw |
| 10 | 1 | Coupling |
| 11 | 1 | Activating ring with screw |

7 Parts list and service kits

The drawing include all parts of the valves.

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 Handle 1.1 for indication unit



7 Parts list and service kits

The drawing include all parts of the valves.

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

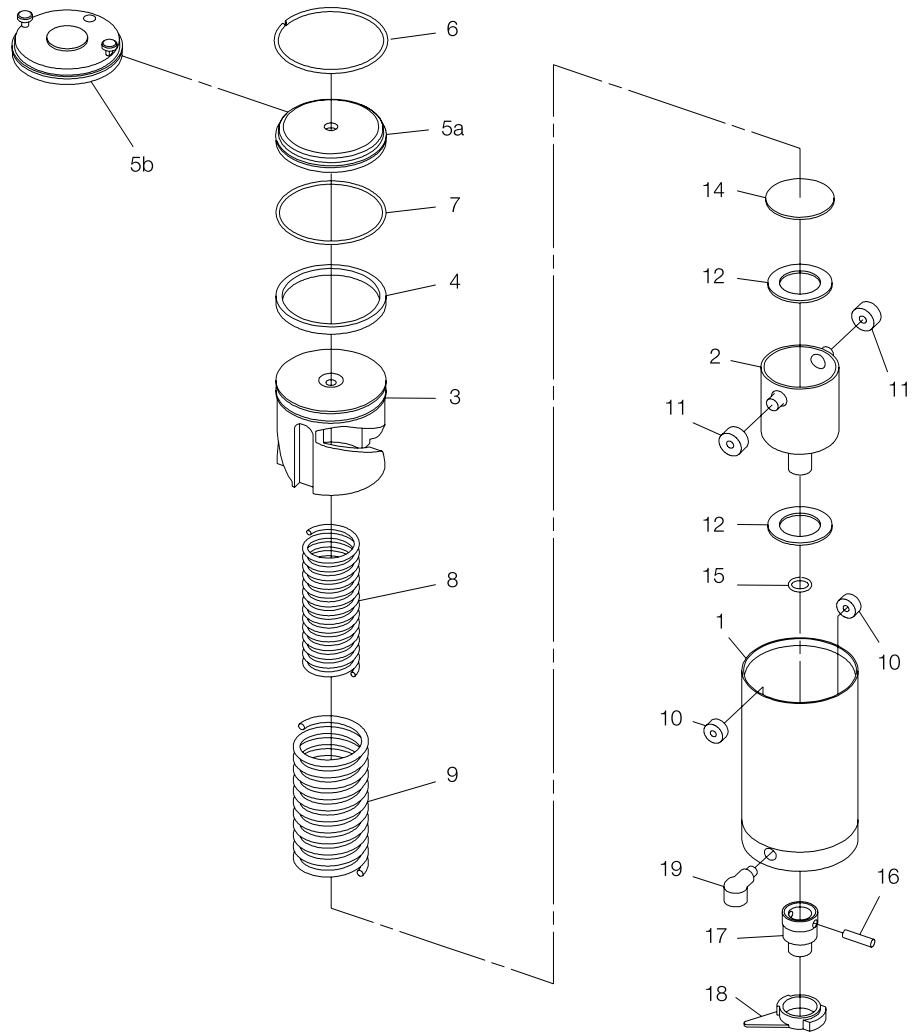
| Pos. | Qty | Denomination |
|------|-----|----------------------------|
| 1 | 1 | Location cap with 2 pos. |
| 2 | 1 | Transfer block |
| 3 | 1 | Handle |
| 4 | 1 | Screw with pin |
| 5 | 1 | Spring |
| 6 | 1 | Ball |
| 8 | 1 | Bracket |
| 9 | 2 | Screw |
| 10 | 1 | Coupling |
| 11 | 1 | Activating ring with screw |

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.8 LKLA actuator air/spring (NC-NO) ø85



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|-----------------------------------|
| 1 | 1 | Air cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 □ | 1 | O-ring |
| 5a | 1 | End cap |
| 5b | 1 | End cap, Mark III |
| 6 | 1 | Retaining ring |
| 7 □ | 1 | O-ring |
| 8 | 1 | Inner spring |
| 9 | 1 | Outer spring |
| 10 □ | 2 | Needle bearing |
| 11 □ | 2 | Needle bearing |
| 12 □ | 2 | Thrust bearing |
| 14 | 1 | Thrust plate |
| 15 □ | 1 | O-ring |
| 16 | 1 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Activating ring, Noryl with screw |
| 19 | 1 | Water rejector (period 8310-) |

Service kits

Service kit for actuator

Service kits, air/spring 9611923010

Note:

Butterfly valve 101.6 mm / DN100 sold before 8906 = □ 10 mm

Butterfly valve DN 65 (ISO) sold before 8910 = □ 8 mm

Please check the square size of the disc when ordering spares.

Parts marked with □▲ are included in the service kit.

Recommended spare parts: Service kit.

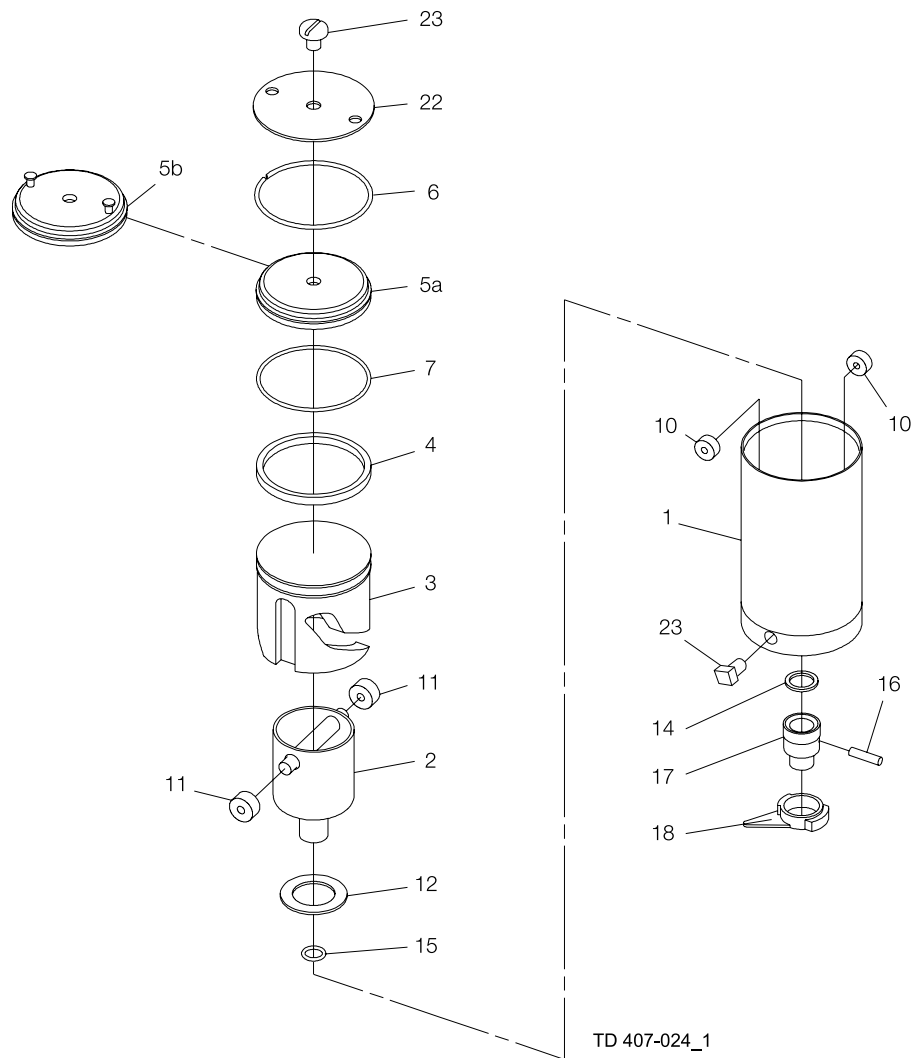
900128/2

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.9 LKLA actuator air/air ø85



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|-------|-----|----------------------------|
| 1 | 1 | Air cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 □ | 1 | O-ring |
| 5a | 1 | End cap |
| 5b | 1 | End cap, Mark III |
| 6 | 1 | Retaining ring |
| 7 □ | 1 | O-ring |
| 10 □ | 2 | Needle bearing |
| 11 □ | 2 | Needle bearing |
| 12 □ | 1 | Thrust bearing |
| 14 | 1 | Thrust plate |
| 15 □ | 1 | O-ring |
| 16 | 1 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Activating ring with screw |
| 22*** | 1 | Retaining plate |
| 23 | 2 | Threaded plug |

Service kits

Service kits, air/air 9611923011

Note:

*** Up to 8910 supplied without holes, not available anymore
 Butterfly valve 101.6 mm / DN100 sold before 8906 = □ 10 mm
 Butterfly valve DN 65 (ISO) sold before 8910 = □ 8 mm
 Please check the square size of the disc when ordering spares.

Parts marked with □▲ are included in the service kit.

Recommended spare parts: Service kit.

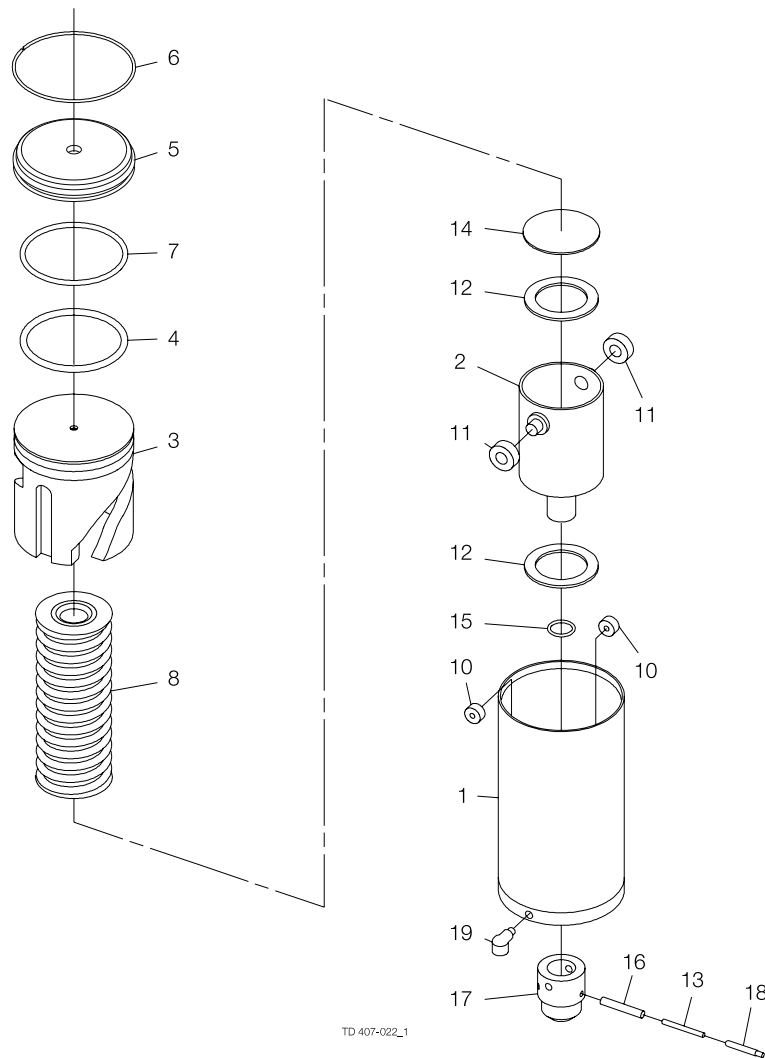
900129/1

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.10 LKLA actuator air/spring (NC-NO) \varnothing 133



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|-------------------|
| 1 | 1 | Air cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 | 1 | O-ring |
| 5 | 1 | End cap |
| 6 | 1 | Retaining ring |
| 7 | 1 | O-ring |
| 8 | 1 | Spring assembly |
| 10 | 2 | Needle bearing |
| 11 | 2 | Needle bearing |
| 12 | 2 | Thrust bearing |
| 13 | 1 | Connex pin |
| 14 | 1 | Thrust plate |
| 15 | 1 | O-ring |
| 16 | 1 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Indication pin |
| 19 | 1 | Water rejector |
| 21 | 1 | Air fitting |

Service kits

Service kits for actuator

Service kits, air/spring 9611923020

Parts marked with ▲ are included in the service kit.

Recommended spare parts: service kit.

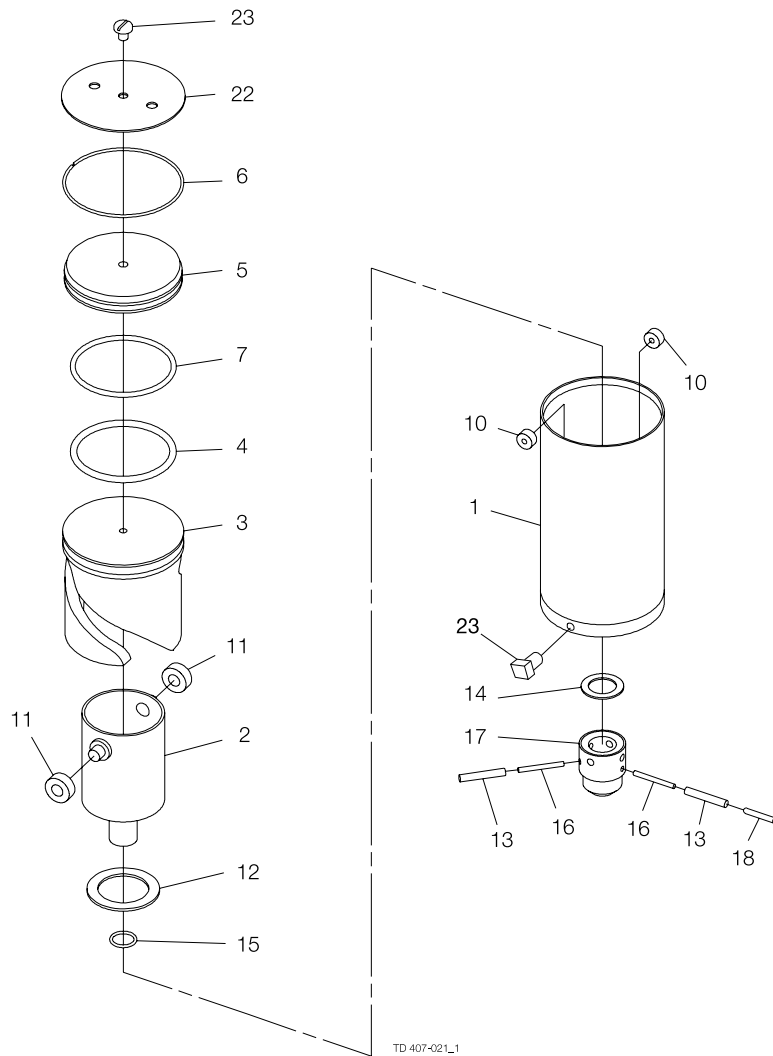
900131/1

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.11 LKLA actuator air/air $\varnothing 133$



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|-------------------|
| 1 | 1 | Air Cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 | 1 | O-ring |
| 5 | 1 | End cap |
| 6 | 1 | Retaining ring |
| 7 | 1 | O-ring |
| 10 | 2 | Needle bearing |
| 11 | 2 | Needle bearing |
| 12 | 1 | Thrust bearing |
| 13 | 2 | Connex pin |
| 14 | 1 | Thrust plate |
| 15 | 1 | O-ring |
| 16 | 2 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Indication pin |
| 22 | 1 | Retaining plate |
| 23 | 1 | Threaded plug |

Service kits

Service kits for actuator

Service kits, air/air 9611923022

Parts marked with ▲ are included in the service kit.

Recommended spare parts: service kit.

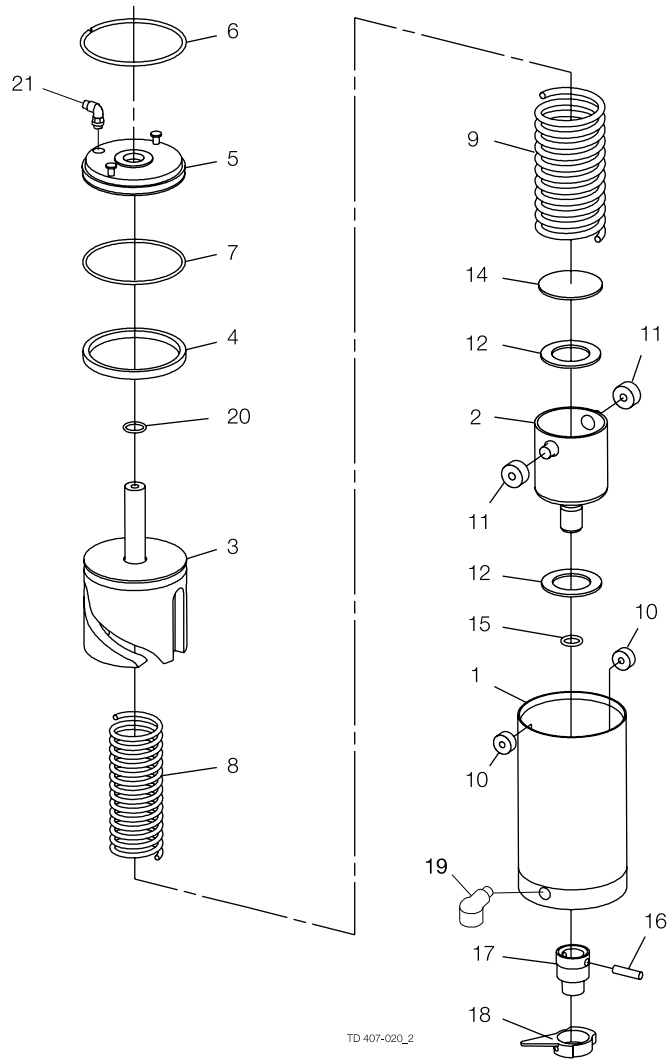
900132/1

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.12 LKLA-T actuator air/spring (NC-NO) ø85



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|--------------------------------|
| 1 | 1 | Air cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 | 1 | O-ring |
| 5 | 1 | End cap |
| 6 | 1 | Retaining ring |
| 7 | 1 | O-ring |
| 8 | 1 | Inner spring |
| 9 | 1 | Outer spring |
| 10 | 2 | Needle bearing |
| 11 | 2 | Needle bearing |
| 12 | 2 | Thrust bearing |
| 14 | 1 | Thrust plate |
| 15 | 1 | O-ring |
| 16 | 1 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Activating ring with screw |
| 19 | 1 | Water rejector (period 8310-) |
| 20 | 1 | O-ring |
| 21 | 1 | Air fitting |

Service kits

Service kits for actuator

Service kits, air/spring 9611923021

Parts marked with ▲ are included in the service kit.

Recommended spare parts: service kit.

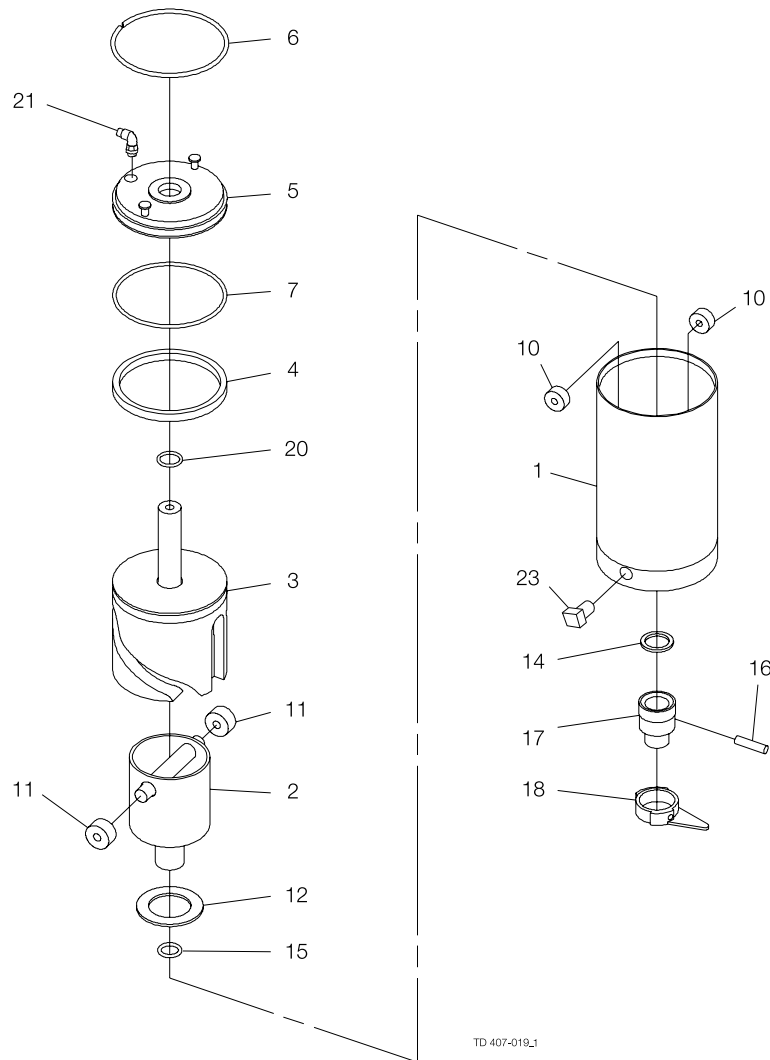
900133/1

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.13 LKLA-T actuator air/air ø85



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|----------------------------|
| 1 | 1 | Air cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 | 1 | O-ring |
| 5 | 1 | End cap |
| 6 | 1 | Retaining ring |
| 7 | 1 | O-ring |
| 10 | 2 | Needle bearing |
| 11 | 2 | Needle bearing |
| 12 | 1 | Thrust bearing |
| 14 | 1 | Thrust plate |
| 15 | 1 | O-ring |
| 16 | 1 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Activating ring with screw |
| 20 | 1 | O-ring |
| 21 | 1 | Air fitting |
| 23 | 1 | Threaded plug |

Service kits

Service kits for actuator

Service kits, air/air 9611923023

Parts marked with ▲ are included in the service kit.

Recommended spare parts: service kit.

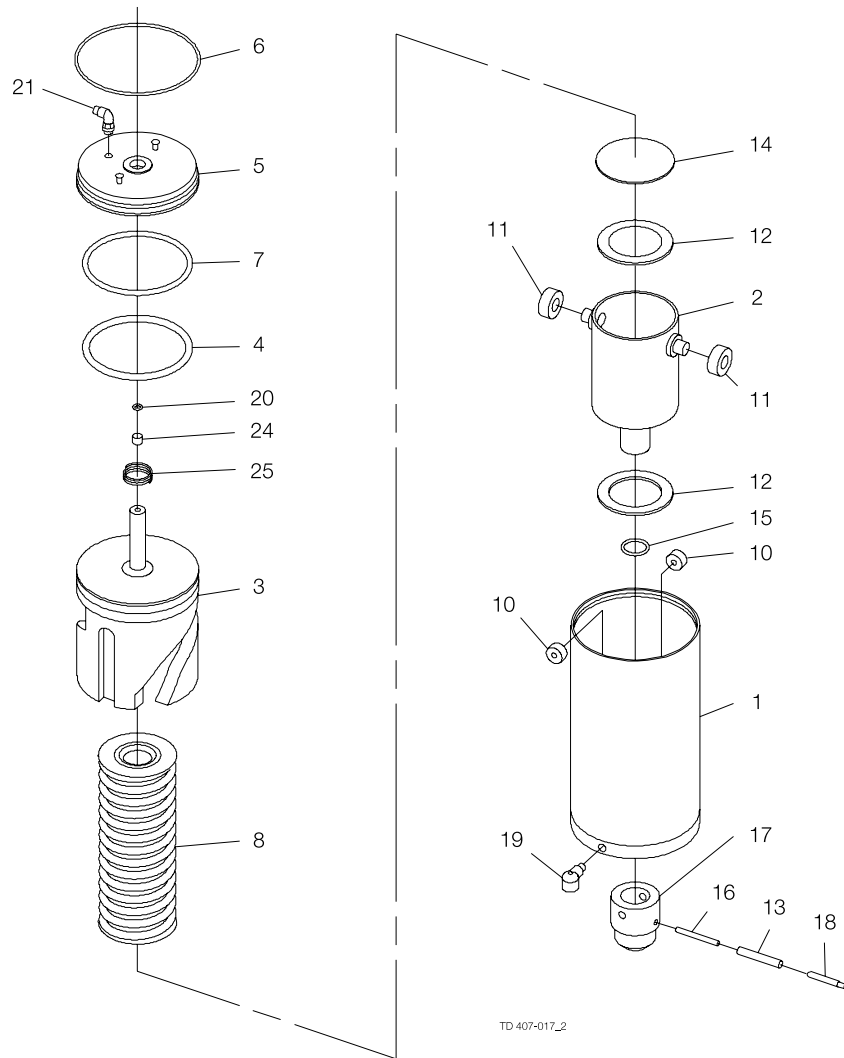
900134/1

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.14 LKLA-T actuator air/spring (NC-NO) $\varnothing 133$



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|--------------------------------|
| 1 | 1 | Air cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 | 1 | O-ring |
| 5 | 1 | End cap |
| 6 | 1 | Retaining ring |
| 7 | 1 | O-ring |
| 8 | 1 | Spring assembly |
| 10 | 2 | Needle bearing |
| 11 | 2 | Needle bearing |
| 12 | 2 | Thrust bearing |
| 13 | 1 | Connex pin |
| 14 | 1 | Thrust plate |
| 15 | 1 | O-ring |
| 16 | 1 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Indication pin |
| 19 | 1 | Water rejector (period 8310-) |
| 20 | 1 | O-ring |
| 21 | 1 | Air fitting |
| 24 | 1 | Guiding ring |
| 25 | 1 | Spring |

Service kits

Service kits for actuator

Service kits, air/spring 9611923056

Parts marked with ▲ are included in the service kit.

Recommended spare parts: service kit.

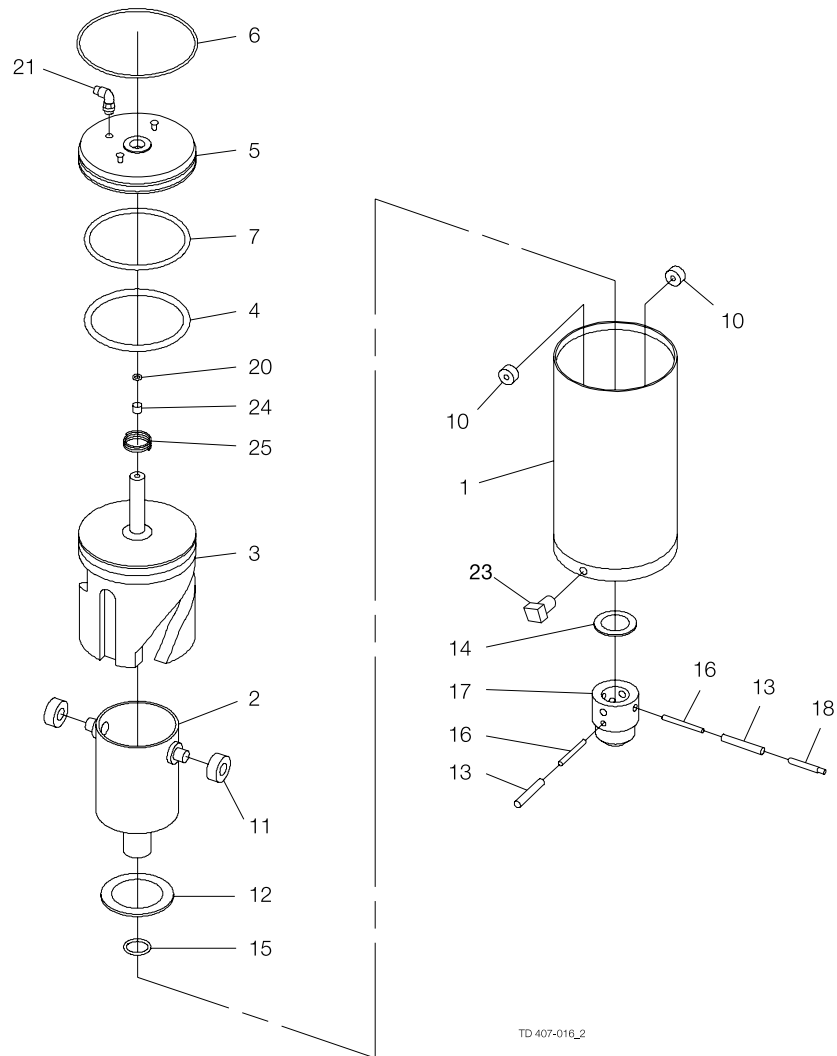
900136

7 Parts list and service kits

The drawing include all parts of the valves.

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

7.15 LKLA-T actuator air/air ø133



7 Parts list and service kits

The drawing include all parts of the valves.

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

| Pos. | Qty | Denomination |
|------|-----|-------------------|
| 1 | 1 | Air cylinder |
| 2 | 1 | Rotating cylinder |
| 3 | 1 | Piston |
| 4 | 1 | O-ring |
| 5 | 1 | End cap |
| 6 | 1 | Retaining ring |
| 7 | 1 | O-ring |
| 10 | 2 | Needle bearing |
| 11 | 2 | Needle bearing |
| 12 | 1 | Thrust bearing |
| 13 | 2 | Connex pin |
| 14 | 1 | Thrust plate |
| 15 | 1 | O-ring |
| 16 | 2 | Connex pin |
| 17 | 1 | Coupling |
| 18 | 1 | Indication pin |
| 20 | 1 | O-ring |
| 21 | 1 | Air fitting |
| 23 | 1 | Threaded plug |
| 24 | 1 | Guiding band |
| 25 | 1 | Spring |

Service kits

Service kits for actuator

Service kits, air/air 9611923057

Parts marked with ▲ are included in the service kit.

Recommended spare parts: service kit.

190137/1

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.

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