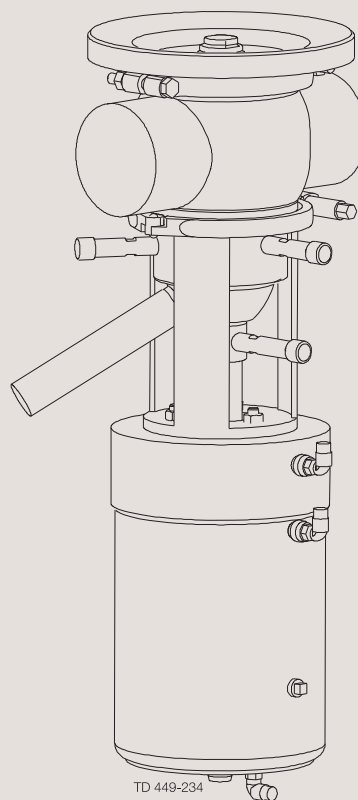
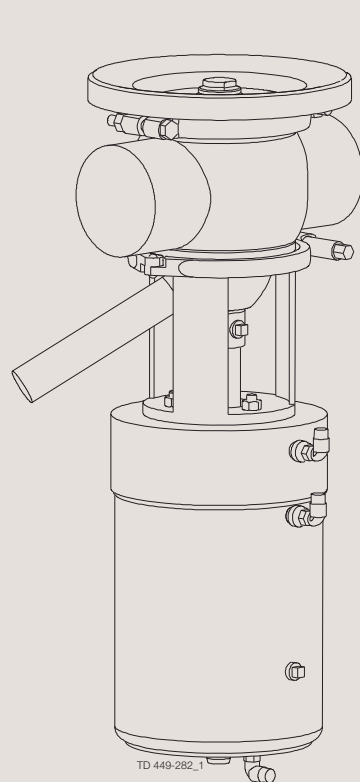




Instruction Manual

Unique-TO Mixproof Tank Outlet Valve



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

| | |
|---|-----------|
| 1. EC Declaration of Conformity | 4 |
| 2. Safety | 5 |
| 2.1. Important information | 5 |
| 2.2. Warning signs | 5 |
| 2.3. Safety precautions | 6 |
| 3. Installation | 7 |
| 3.1. Unpacking/intermediate storage | 7 |
| 3.2. Recycling information | 9 |
| 3.3. General installation | 9 |
| 3.4. Welding | 11 |
| 4. Operation | 14 |
| 4.1. Operation | 14 |
| 4.2. Fault finding and repair | 15 |
| 4.3. Recommended cleaning | 16 |
| 5. Maintenance | 19 |
| 5.1. General maintenance | 19 |
| 5.2. Dismantling of valve | 21 |
| 5.3. Tank plug, replacement of radial seal | 24 |
| 5.4. Balanced plug, replacement of axial seal | 25 |
| 5.5. Assembly of valve | 27 |
| 5.6. Dismantling of actuator | 30 |
| 5.7. Assembly of actuator | 32 |
| 6. Technical data | 34 |
| 6.1. Technical data | 34 |
| 7. Parts list and service kits | 36 |
| 7.1. Actuator | 36 |
| 7.2. Plug setup 6 (tank flange) | 38 |
| 7.3. Plug setup 12 (tank flange) | 40 |
| 7.4. Plug setup 6 (stub flange) | 42 |
| 7.5. Plug setup 12 (stub flange) | 44 |
| 7.6. Valve bodies | 46 |
| 7.7. Installation kit B | 48 |
| 7.8. Installation kit C | 50 |
| 7.9. Installation kit G | 52 |
| 7.10. Installation kit H and H2 | 54 |
| 7.11. Axial installation tool | 56 |
| 7.12. Radial installation tool | 58 |
| 7.13. Mounting tool for lip seal | 60 |

1 EC Declaration of Conformity

Revision of Declaration of Conformity 2009-12-29

The Designated Company

Alfa Laval Kolding A/S

Company Name

Albuen 31, DK-6000 Kolding, Denmark

Address

+45 79 32 22 00

Phone No.

hereby declare that

Valve

Designation

Unique TO

Type

From serial number 1181354 - 9999999

is in conformity with the following directive with amendments:

- Machinery Directive 2006/42/EC
- Regulation (EC) No 1935/2004
- The valve is in compliance with the Pressure Equipment Directive 97/23/EC and was subjected to the following assessment procedure Module A. Diameters \geq DN125 may not be used for fluids group 1.

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

Global Product Quality Manager Pumps, Valves, Fittings and Tank Equipment

Title

Lars Kruse Andersen

Name

Kolding

Place

2013-12-03

Date

Signature



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

2.1 Important information

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:



Cutting danger:



2 Safety

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

2.3 Safety precautions

Installation:

Always read the technical data thoroughly (see chapter 6 Technical data)
Always release compressed air after use
Never touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air (see warning label)
Never stick your fingers through the valve ports if the actuator is supplied with compressed air



Operation:

Always read the technical data thoroughly (see chapter 6 Technical data)
Never touch the clip assembly or the actuator piston rod when the actuator is supplied with compressed air (see warning label)
Never pressurise air connections (AC1, AC3) simultaneously as both valve plugs can be lifted (can cause mixing)
Never touch the valve or the pipelines when processing hot liquids or when sterilizing.
Never throttle the leakage outlet
Never throttle the CIP outlet, if supplied



Always handle lye and acid with great care



Maintenance:

Always read the technical data thoroughly (see chapter 6 Technical data)
Always fit the seals correctly
Always release compressed air after use
Always remove the CIP connections, if supplied, before service
Never service the valve when it is hot
Never pressurise the valve/actuator when the valve is serviced
Never stick your fingers through the valve ports if the actuator is supplied with compressed air
Never touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air (see warning label)
Never service the valve with valve and pipelines under pressure
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 ensure that compressed air are released
Always ensure that all connections is disconnected before attempting to remove the valve from the installation
Always drain liquid out of valves before transportation
Always used predesigned lifting points if defined
Always ensure sufficient fixing of the valve during transportation - if specially designed packaging material is available, it must be used

The instruction manual is part of the delivery.

Study the instructions carefully.

Fit the warning label supplied on the valve after installation so that it is normally visible.

3.1 Unpacking/intermediate storage

Step 1

CAUTION!

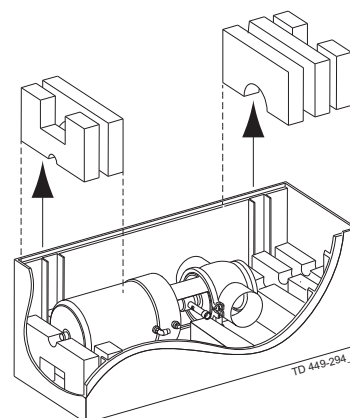
Alfa Laval cannot be held responsible for incorrect unpacking.

Check the delivery for:

1. Complete valve
2. Delivery note
3. Warning label

Step 2

Remove upper support

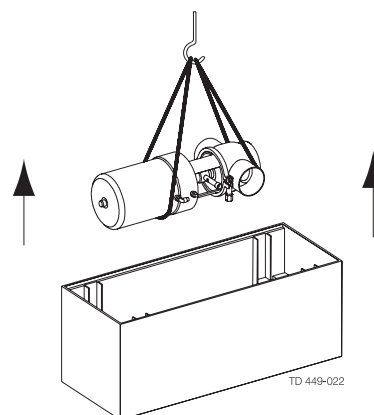


Step 3

Lift out the valve.

NOTE!

Please note weight of valve as printed on box.

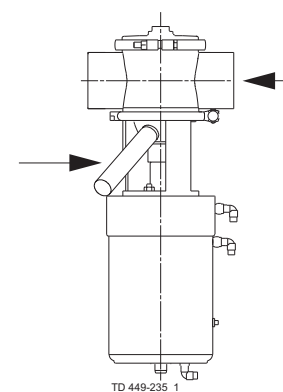


Step 4

Remove possible packing materials from the valve ports.

NOTE!

Remember to fit leakage detection pipe



3 Installation

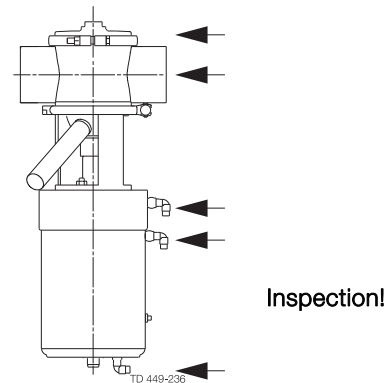
The instruction manual is part of the delivery.

Study the instructions carefully.

Fit the warning label supplied on the valve after installation so that it is normally visible.

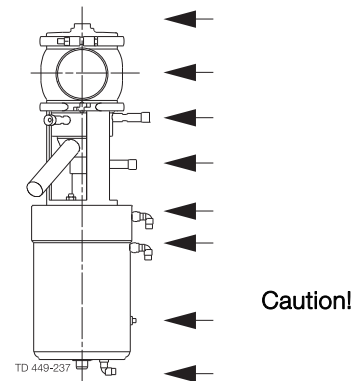
Step 5

Inspect the valve for visible transport damages.



Step 6

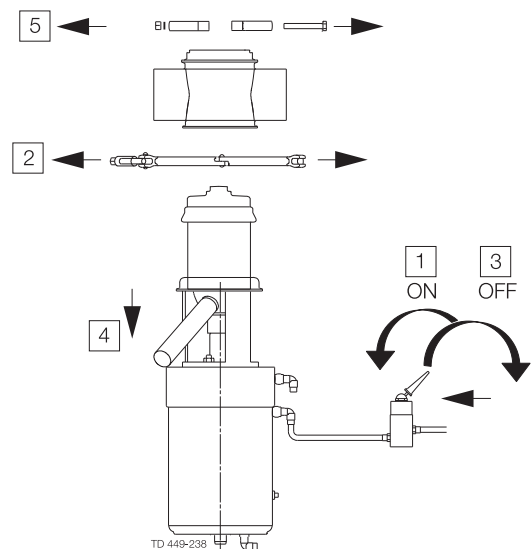
Avoid damaging the air connections, the leakage outlet, the valve ports and the CIP connections, if supplied.



Step 7

Disassemble according to illustrations 1 to 5 (please also see 5.2 Dismantling of valve).

1. Supply compressed air.
2. Remove clamp
3. Release compressed air.
4. Lift out actuator with plugs.
5. Remove clamp.



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

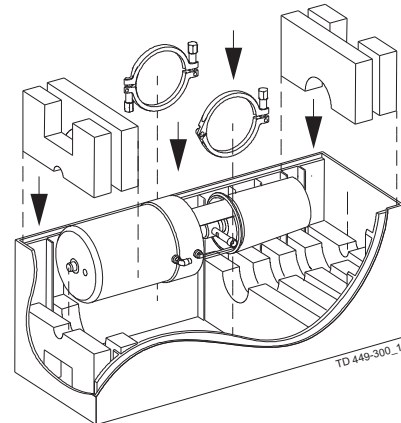
Step 8

While valve body is welded, it is recommended to store the valve safely in the box together with valve parts.

1. Place actuator and valve parts in the box.
2. Add supports.
3. Close, re-tape and store the box.

ADVISE!

Mark the valve body and box with the same number before intermediate storage.



3.2 Recycling information

• Unpacking

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

• Maintenance

- During maintenance, oil and wearing parts in the machine are replaced
- All metal parts should be sent for material recycling
- Worn out or defective electronic parts should be sent to a licensed handler for material recycling
- Oil and all non-metal wear parts must be disposed off in agreement with local regulations

• Scrapping

- At end of use, the equipment must be recycled according to 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

3.3 General installation

Step 1



- Always read the technical data thoroughly (see 6 Technical data).
- Always release compressed air after use.
- Never touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air (see the warning label)

CAUTION!

- Fit the supplied warning label on the valve so that it is normally visible.
- Alfa Laval cannot be held responsible for incorrect installation

NOTE!

- The leakage outlet must be turned downwards!



3 Installation

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

Step 2

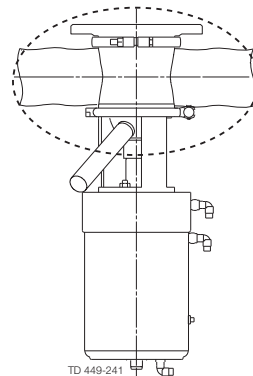
Avoid stressing the valve as this can result in deformation of the sealing area and malfunction of the valve (leakage or faulty indication).

Pay special attention to:

- Vibrations
- Thermal expansion of the tubes (especially at long tube lengths)
- Excessive welding
- Overloading of the pipelines

NOTE!

Please follow Alfa Laval installation guidelines (literature code ESE00040).

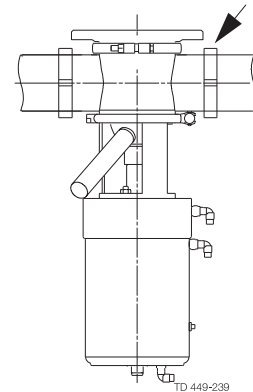


Risk of damage!

Step 3

Fittings:

Ensure that the connections are tight.



Remember seal rings!

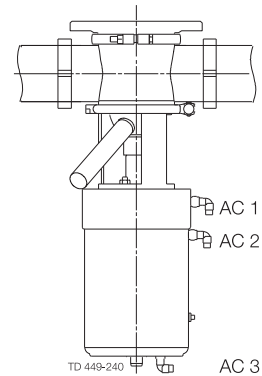
Step 4

Air connection: R 1/8" (BSP).

AC1: Cleaning of balanced plug.

AC2: Open valve.

AC3: Cleaning of tank plug.



Step 5

CIP connection (optional extra):

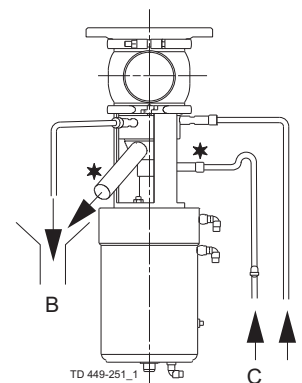
1. See description of cleaning - 4.3 Recommended cleaning.
2. Connect CIP correctly

NOTE!

* = Moving parts

Must be open for inspection!

B = CIP out
C = CIP in



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

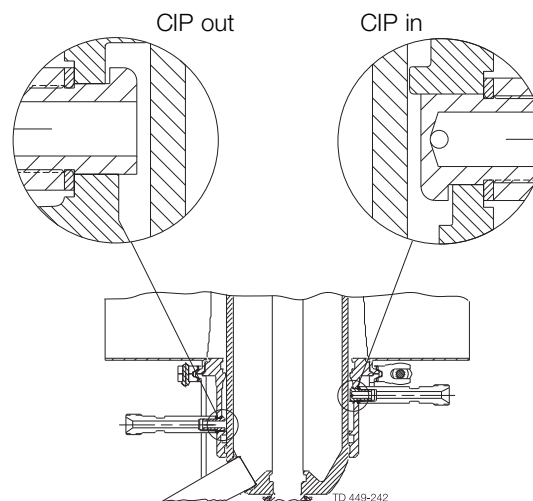
The valve has ends for welding as standard.

Weld carefully/aim at stressless welding to avoid deformation on sealing areas.

Check the valve for smooth operation after welding.

Step 6

It is important to connect CIP inlet to the small inlet nozzle to avoid built-up pressure in the cleaning chamber



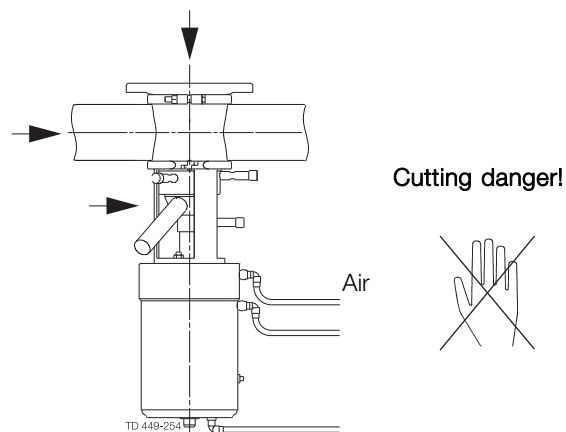
Align nozzle edges with recess in sealing element.

3.4 Welding

Step 1



Never stick your fingers in the operating parts of the valve if the actuator is supplied with compressed air.



Step 2

Dismantle the valve in accordance with step 1, section 5.2 Dismantling of valve

3 Installation

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

The valve has ends for welding as standard.

Weld carefully/aim at stressless welding to avoid deformation on sealing areas.

Check the valve for smooth operation after welding.

Step 3

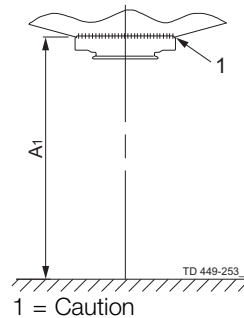


Before welding the flange into the tank please note:

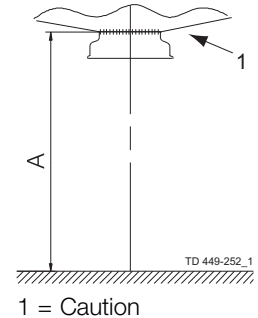
1. Maintain the minimum clearances "A" so that the actuator with the internal valve parts can be removed - please see later this section!

If there is a risk of foot damage, Alfa Laval recommends to leave a distance of 120 mm (4.7") below the valve (look at the specific built-in conditions).

Bottom of tank
Tank flange (standard)



Bottom of tank
Stub flange (option)



Min. dimension Unique TO (all measures in mm) (1mm = 0.0394")

| Size | DN/OD | | | | DN | | | | | | | | Longstroke | | | |
|--|-------|------|------|-------|-----|-----|-----|-----|-----|-----|------|------|------------|-----|----|--|
| | | | | | | | | | | | | | DN/OD | | DN | |
| | 2" | 2½" | 3" | 4" | | | | | | | | | 2½" | 3" | | |
| | 51 | 63.5 | 76.1 | 101.6 | 50 | 65 | 80 | 100 | 125 | 150 | 63.5 | 76.1 | 63 | 80 | | |
| with tank flange (A ₁) | 579 | 646 | 659 | 753 | 577 | 652 | 667 | 755 | 805 | 890 | 700 | 713 | 706 | 721 | | |
| with external cleaning and tank flange (A ₁) | 616 | 686 | 699 | 813 | 614 | 692 | 707 | 815 | 865 | N/A | 740 | 753 | 746 | 761 | | |
| with stub flange (A) | 588 | 655 | 668 | 762 | 586 | 661 | 676 | 764 | 814 | 899 | 709 | 722 | 715 | 730 | | |
| with external cleaning and stub flange (A) | 625 | 695 | 708 | 822 | 623 | 701 | 716 | 824 | 874 | N/A | 749 | 762 | 755 | 770 | | |

If ThinkTop is mounted, add 180 mm (7.1") to dimension

N/A = Not available

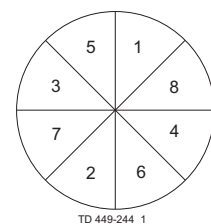
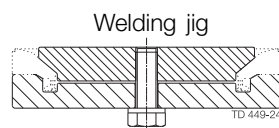
2. **Always** use welding jig (can be ordered separately at Alfa Laval) to ensure precision of flange after welding.

Only use pulsed arc welding and remember no gap between flange and tank plate.

Tack weld **always** on the opposite side (8 segments with filler metal).

Weld root if possible without filler metal. Welding of the final run must be done in 8 segments to avoid crack.

Remember **NOT** to dismount welding jig before flange is cold.



| Item no. | Size | | Welding tool for tank flange |
|---------------|----------|---------------|------------------------------|
| 9613-0999-01 | 2" | DN50 | |
| 9613-0999-02 | 2½" - 3" | DN65 - DN80 | |
| 9613-0999-036 | 4" | DN100 - DN150 | |

3 Installation

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

The valve has ends for welding as standard.

Weld carefully/aim at stressless welding to avoid deformation on sealing areas.

Check the valve for smooth operation after welding.

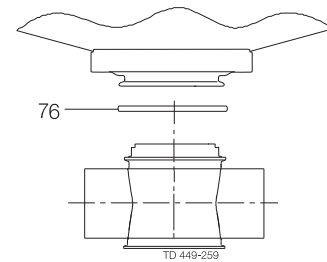
Step 4

Warning!

Make sure to turn the valve body correctly - conical seat downwards before welding.

NOTE!

Always weld the valve body into the pipeline, so that the seal ring (76) can be replaced.



Step 5

Assemble the valve in accordance with 5.5 Assembly of valve after welding.

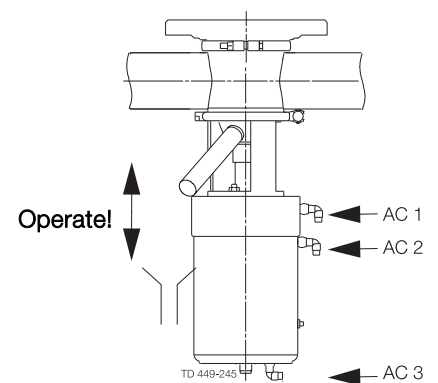
Pay special attention to the warnings and clamp torque (see 5.5 Assembly of valve).

Step 6

Pre-use check:

1. Supply compressed air to AC1, AC2 and AC3 one by one.
2. Operate the valve several times to ensure that it runs smoothly.

Pay special attention to the warnings!



4 Operation

The valve is tested before delivery.

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

Pay attention to possible faults.

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

4.1 Operation

Step 1



- **Always** read the technical data thoroughly (see 6 Technical data).
- **Always** release compressed air after use.
- **Never** touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air (see the warning label).
- **Never** pressurise air connections (AC1, AC3) simultaneously as both valve plugs can be lifted (can cause mixing).

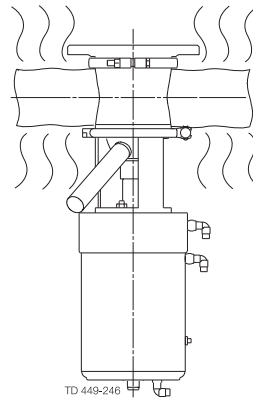
CAUTION!

Alfa Laval cannot be held responsible for incorrect operation.

Step 2



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



Burning danger!



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

4.2 Fault finding and repair

| Problem | Cause/result | Repair |
|--|---|---|
| Leakage at the leakage detection pipe (88) | <ul style="list-style-type: none"> - Particles between valve seats and plug seals (56/74) - Worn/product affected plug seal rings (56/74) - Plug not assembled correctly | <ul style="list-style-type: none"> - Remove the particles - Check the plug seals - Replace the plug seals - Change rubber grade - Assemble plug, see step 3, section 5.5 Assembly of valve |
| Leakage at sealing element (48)/upper plug (94) | Worn/product affected o-rings/lip seal (38/39/46/49) | <ul style="list-style-type: none"> - Replace the o-rings/lip seal - Change rubber grade - Clean and if necessary replace guide ring (45) |
| Leakage at clamp (64) and (65) | <ul style="list-style-type: none"> - Too old/product affected o-rings (76 and 47) valve body - Loose clamp (64) or (65) | <ul style="list-style-type: none"> - Replace the o-rings - Change rubber grade - Tighten the clamp (max. 10 Nm) |
| CIP leakage Leakage at spindle clamp (43) | Worn o-rings (40/67) Damaged o-ring (39) Worn/product affected lip seal (57) | Replace the o-rings <ul style="list-style-type: none"> - Replace the o-ring - Replace the plug seals - Change rubber grade |
| Tank plug not returning to closed position | <ul style="list-style-type: none"> - Wrong rubber grade - Wrongly fitted gasket - Mounted incorrectly (see 3.4 Welding) | <ul style="list-style-type: none"> - Change rubber grade - Fit new gasket correctly - Correct installation |
| Plug returns with uneven movements (slip/stick effect) | <ul style="list-style-type: none"> - Wrong rubber grade - Wrongly fitted gasket - Mounted incorrectly (see 3.4 Welding) | <ul style="list-style-type: none"> - Change rubber grade - Fit new gasket correctly - Correct installation |

4 Operation

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

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

NaOH = Caustic Soda. HNO_3 = Nitric acid.

Internal leakage in the valve is externally visible by means of the leakage outlet.

4.3 Recommended cleaning

Step 1



Always handle lye and acid with great care.

Caustic danger!



Always use
rubber gloves!

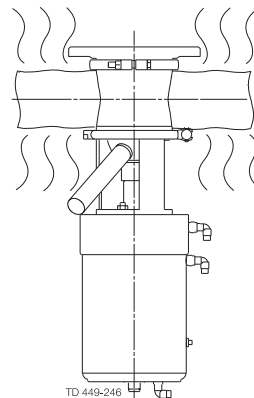


Always use
protective goggles!

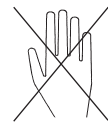
Step 2



Never touch the valve or the pipelines when sterilizing.



Burning danger!



Step 3

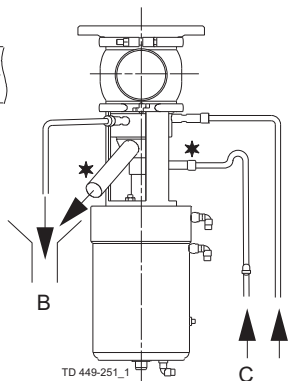
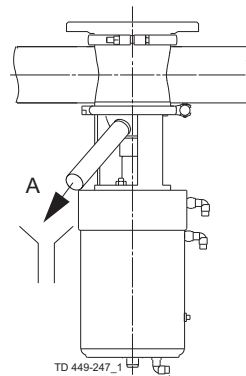


- Never throttle the leakage outlet
- Never throttle the CIP outlet, if supplied.
Risk of mixing due to overpressure).

A. = Leakage/CIP out

B. = CIP out

C. = CIP in



Step 4

Examples of cleaning agents:

Use clean water, free from chlorides.

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

| | | | |
|-----------------------|---|---------------------------|-------------------|
| 1 kg (2.2 lb) NaOH | + | 100 l (26.4 gal) water | = Cleaning agent. |
|-----------------------|---|---------------------------|-------------------|

2. 0.5% by weight HNO_3 at 70° C (158° F)

| | | | |
|-----------------------------|---|---------------------------|-------------------|
| 0.7 l 53% HNO_3 | + | 100 l (26.4 gal) water | = Cleaning agent. |
|-----------------------------|---|---------------------------|-------------------|

| | | | |
|-----------------------------|---|---------------------------|-------------------|
| 2.2 l (0.6 gal) 33% NaOH | + | 100 l (26.4 gal) water | = Cleaning agent. |
|-----------------------------|---|---------------------------|-------------------|

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

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

NaOH = Caustic Soda. HNO₃ = Nitric acid.

Internal leakage in the valve is externally visible by means of the leakage outlet.

Step 5

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!**

Step 6

Advisory seat lift cleaning periods

Cleaning periods of 1-2 seconds per CIP sequence.

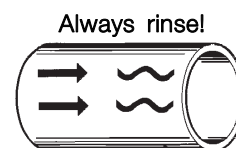
| Product | Periods |
|-----------|---------|
| Milk | 1-2 |
| Yoghurt | 3-5 |
| Beer | 2-5 |
| Cold wort | 5-10 |

Step 7

Always rinse well with clean water after the cleaning.

NOTE!

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



Clean water Cleaning agents

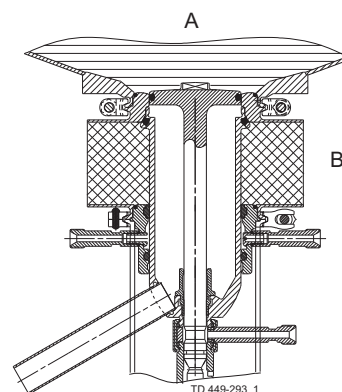
Pay special attention to spillage of hot cleaning fluid/water.

Step 8

1. Closed valve

A = Product

B = CIP



Step 9

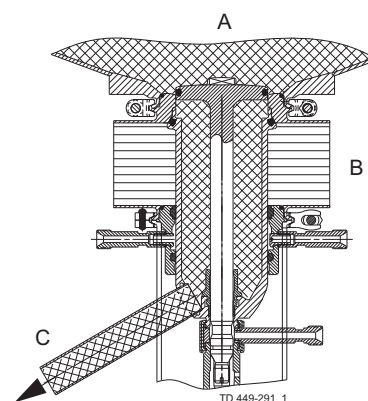
2. Seat lift cleaning with tank plug (optional)

(see step 6 page 19)

A = CIP

B = Product

C = CIP out



4 Operation

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

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

NaOH = Caustic Soda. HNO_3 = Nitric acid.

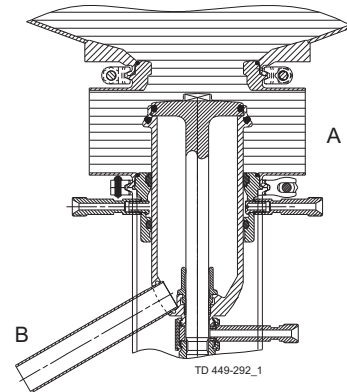
Internal leakage in the valve is externally visible by means of the leakage outlet.

Step 10

3. Open valve

A = Product

B = Leakage detecting



Step 11

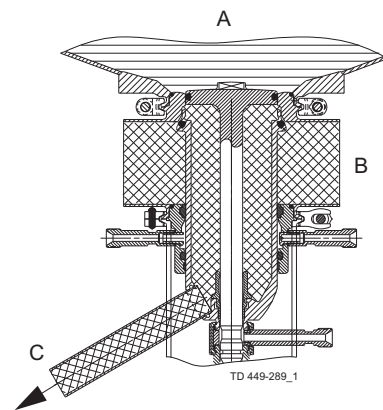
4. Seat lift cleaning with balanced plug

(see Step 6,)

A = Product

B = CIP

C = CIP out



Maintain the valve/actuator regularly.

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

Always use genuine Alfa Laval spare parts, and keep spare rubber seals and guide rings in stock. Store seals in closed bag.
The items refer to the parts list and service kits section.

5.1 General maintenance

Step 1



- **Always** read the technical data thoroughly (see 6 Technical data).
- **Always** fit the seals correctly (risk of mixing).
- **Always** release the compressed air after use.
- **Always** remove the CIP connections, if supplied, before service.

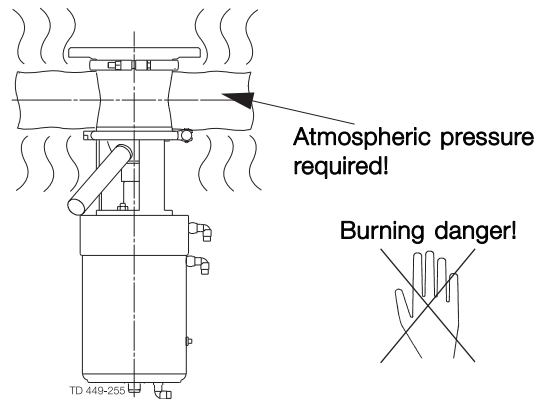
NOTE!

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

Step 2



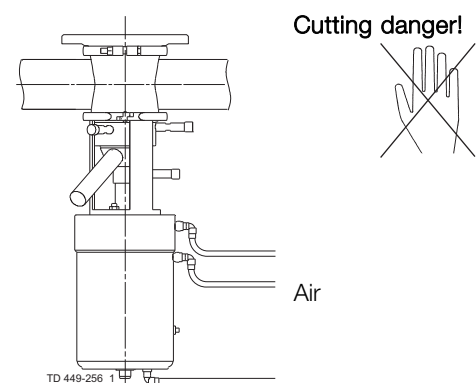
- **Never** service the valve when it is hot.
- **Never** service the valve with valve/actuator under pressure
- **Never** service the valve with fluid in the tank.



Step 3



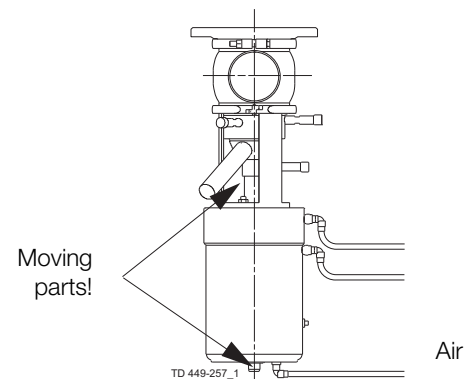
Never stick your fingers in operating parts of the valve if the actuator is supplied with compressed air.



Step 4



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



5 Maintenance

Maintain the valve/actuator regularly.

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

Always use genuine Alfa Laval spare parts, and keep spare rubber seals and guide rings in stock. Store seals in closed bag. The items refer to the parts list and service kits section.

Recommended spare parts: Service kits (see 6 Technical data)

Order service kits from the service kits section (see 6 Technical data)

Ordering spare parts: Contact the Sales Department.

The valve is designed so that internal leakages do not result in the products becoming mixed.

Internal leakage in the valve is externally visible. Study the instructions carefully.

Always keep spare rubber seals and guide rings in stock. Check the valve for smooth operation after service.

| | Valve rubber seals | Valve plug seals | Valve guide rings |
|---|---|---|-----------------------|
| Preventive maintenance | Replace after 12 months(*) | Replace after 12 months(*) | Replace when required |
| Maintenance after leakage (leakage normally starts slowly) | Replace after production cycle | Replace after production cycle | |
| 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 | <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 | Replace when required |
| Lubrication | When assembling Klüber Paraliq GTE 703 or similar USDA H1 approved oil/grease (**) (suitable for EPDM) | When assembling Klüber Paraliq GTE 703 or similar USDA H1 approved oil/grease (**) (suitable for EPDM) | None |

NOTE!

Lubricate thread in valve plug parts with Klüber Paste UH1 84-201 or similar.

(*) Depending on working conditions! Please contact Alfa Laval.

(**) All products wetted seals.

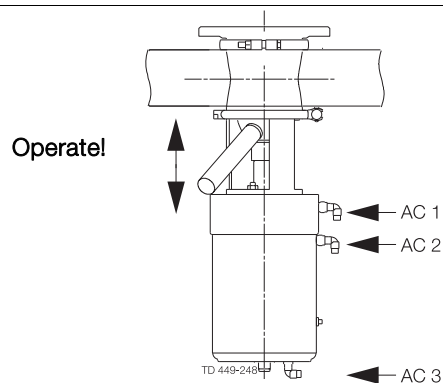
Repairing of actuator:

- The actuator is maintenance-free but repairable.
- If repair is required, replacing all actuator rubber seals is recommended.
- Lubricate seals with Molykote Longterm 2 (black).
- To avoid possible black remains on pos. 1 and 29, Alfa Laval recommends Klüber Paraliq GTE703 (white) for these two positions.

Pre-use check

1. Supply compressed air to AC1, AC2 and AC3 one by one.
2. Operate the valve several times to ensure that it operates smoothly.

Pay special attention to the warnings!



Study the instructions carefully.

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

Handle scrap correctly.

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

5.2 Dismantling of valve

Step 1

Disassemble valve acc. to illustrations (1 to 5).

1. Supply compressed air to AC2.
2. Loosen and remove clamp (64).
3. Release compressed air.
4. Lift out the actuator together with the internal valve parts from valve body (51).
5. Loosen and remove clamp (65) and valve body (51).
6. Pull out tube (88) from balanced plug (94) and remove o-ring (89) from tube.

From February 1st 2017:

Turn out tube (88) from balanced plug (94) and remove o-ring (89) from balanced plug.

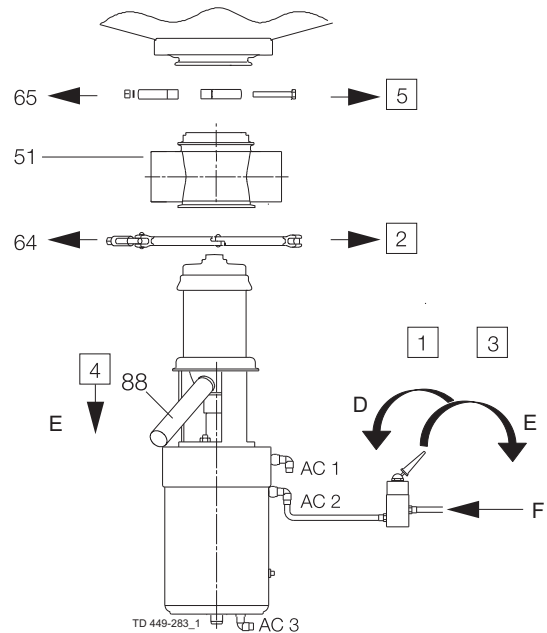
7. When tank flange:
Pull out o-ring (76) from valve body (51).
When stub flange:
Pull out o-ring (91) from stub flange (92).

D = On

E = Off

F = Air

E = **Note!** release compressed air



5 Maintenance

Study the instructions carefully.

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

Handle scrap correctly.

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

Step 2

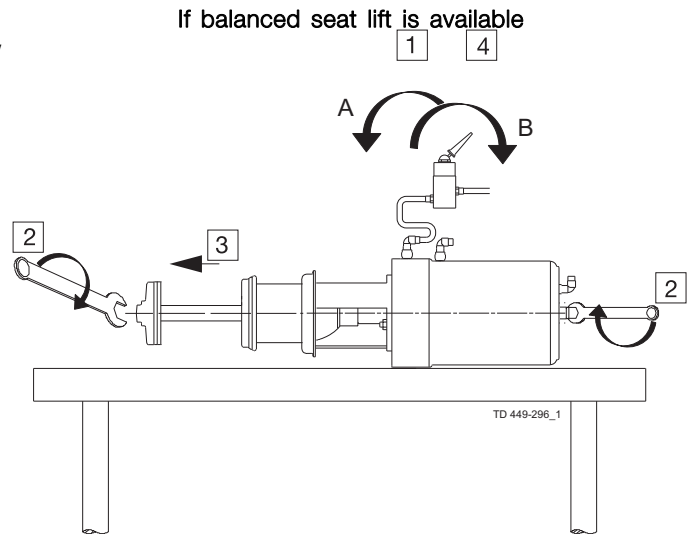
2A:

If air fitting AC1 is present, supply compressed air and follow procedure 2A.

1. Supply compressed air for AC1.
2. Loosen tank plug (93) while counterholding upper stem (1).
3. Remove the tank plug.
4. Release compressed air.
5. Replace o-ring (38).

A = On

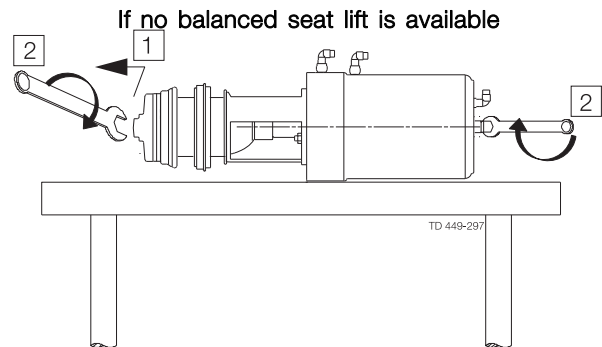
B = Off



2B:

If no air fitting AC1 is present, follow procedure 2B.

1. Push sealing element (48) free of intermediate piece (37).
2. Loosen tank plug while counterholding upper stem.
3. Remove the tank plug (93).
4. Replace o-ring (38).



NOTE!

For replacement of seal ring (74), please see 5.3 Tank plug, replacement of radial seal

Study the instructions carefully.

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

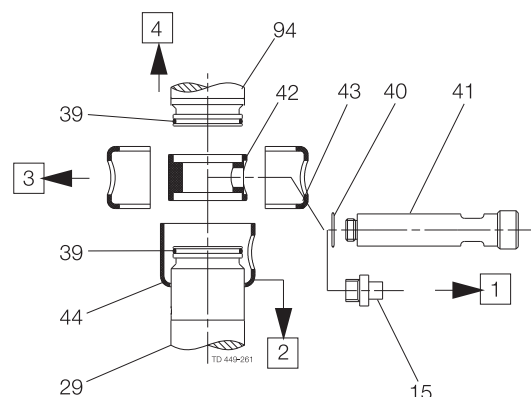
Handle scrap correctly.

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

Step 3

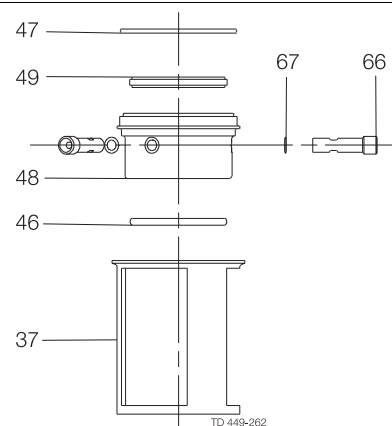
Remove coupling system and balanced plug according to illustrations (1 to 4).

1. Unscrew flushing tube (41) (or plug (15) if no CIP). Remove o-ring (40).
2. Pull down lock (44) over piston rod (29).
3. Pull away clamps (43) from spindle liner (42).
4. Pull out balanced plug (94). Make sure spindle liner is free of both piston rod and balanced plug. If external CIP to leakage chamber: Remove o-rings (39).



Step 4

1. If present, unscrew flushing tubes (66) and remove o-rings (67) and nozzles (68 + 69).
2. Pull out sealing element (48) from intermediate piece (37).
3. Pull out o-ring (47), lip seal (49) and o-ring (46) from sealing element



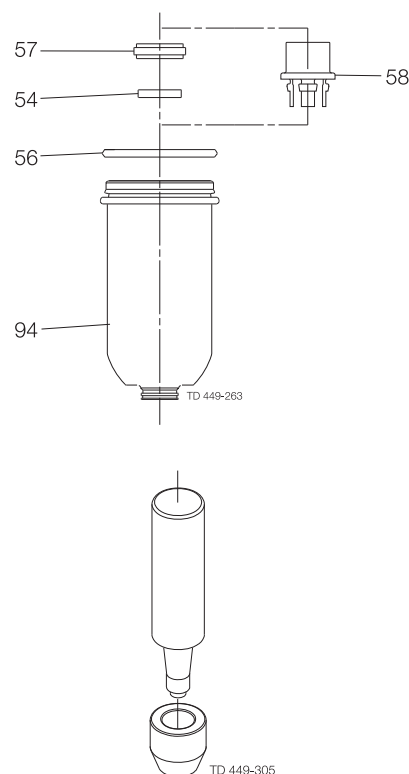
Step 5

Remove lip seal (57) (or spray nozzle (58) if valve is supplied with Spiral-Clean). For removal and replacement of seal ring (56), please see 5.3 Tank plug, replacement of radial seal

NOTE!

For valve size DN/OD51 & DN50:

Lip seal (57) can only be mounted with special tool, please contact Alfa Laval.



Mounting tool for lip seal (Item no. 9613-0040-01)

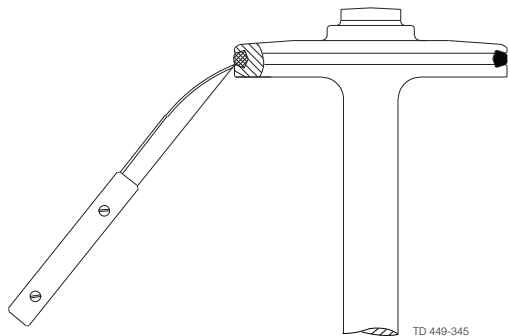
5 Maintenance

*Study the instructions carefully.
The items refer to the parts list and service kits section.
Always use genuine Alfa Laval spare parts.
Handle scrap correctly.*

5.3 Tank plug, replacement of radial seal

Step 1

Cut and remove old seal ring (74) using a knife, screwdriver or similar.
Be careful not to scratch the plug.

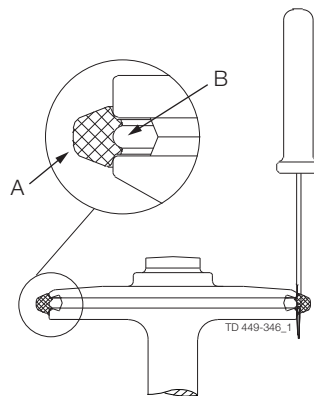


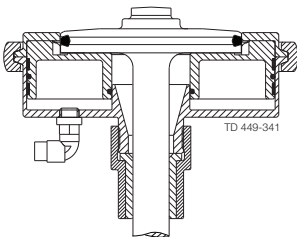
Step 2

Pre-mount seal ring as shown on drawing.

Rotate along circumference to fix gasket as shown in the picture

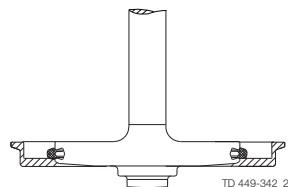
- A. Carefully lubricate sealings with acceptable lubricant, before pre-mounting
- B. Do not lubricate behind the sealing



| Item numbers for radial tool | | | |  |
|------------------------------|--------------|--------------|--------------|---|
| Seat ø53.3 | Seat ø81.3 | Seat ø100.3 | Seat ø115.3 | |
| 9613-4260-01 | 9613-4260-02 | 9613-4260-03 | 9613-4260-04 | |

Step 3

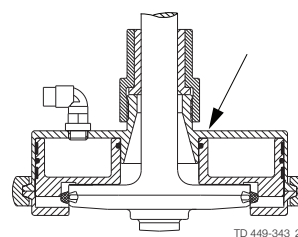
Place lower tool part.



*Study the instructions carefully.
The items refer to the parts list and service kits section.
Always use genuine Alfa Laval spare parts.
Handle scrap correctly.*

Step 4

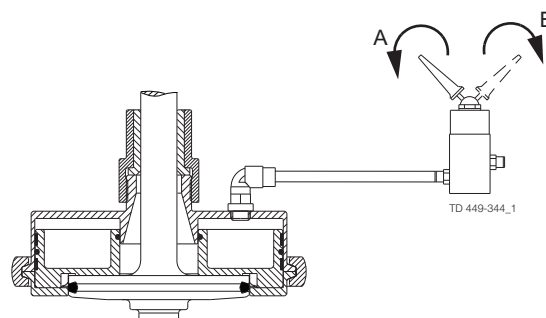
1. Place upper tool part including piston.
2. Clamp the two tool parts together.



Step 5

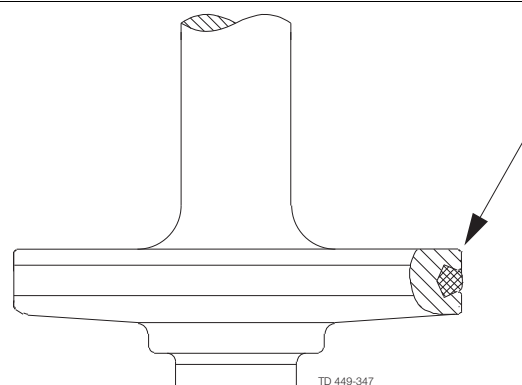
1. Supply compressed air.
2. Release compressed air.
3. Remove tool parts.

A = On
B = Off



Step 6

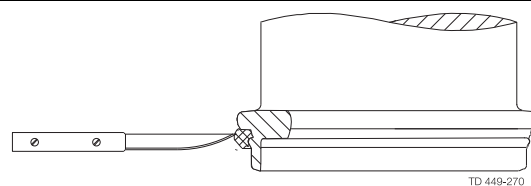
Inspect the seal to ensure it does not twist in the groove, and press in the 4 outsticking points with a screwdriver!



5.4 Balanced plug, replacement of axial seal

Step 1

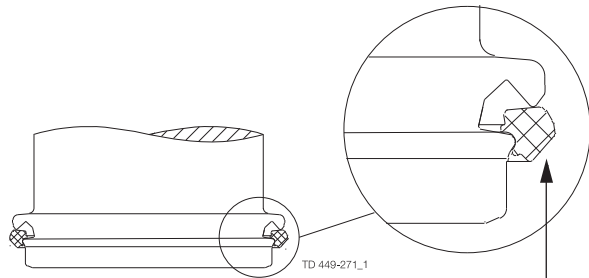
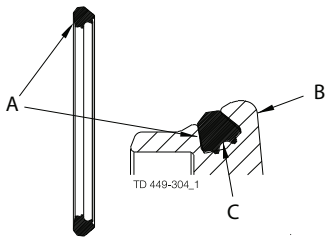
Remove old seal ring (56) using a knife, screwdriver or similar. Be careful not to scratch the plug.



5 Maintenance

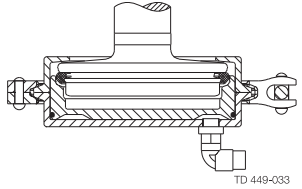
Study the instructions carefully.
The items refer to the parts list and service kits section.
Always use genuine Alfa Laval spare parts.
Handle scrap correctly.

Step 2
Pre-mount seal ring as shown on drawing.

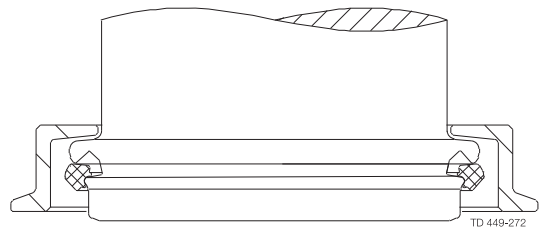


A = Flat side of the sealing
B = Balanced plug
C = Do not lubricate behind the sealing

Carefully lubricate sealings with acceptable lubricant, before pre-mounting.

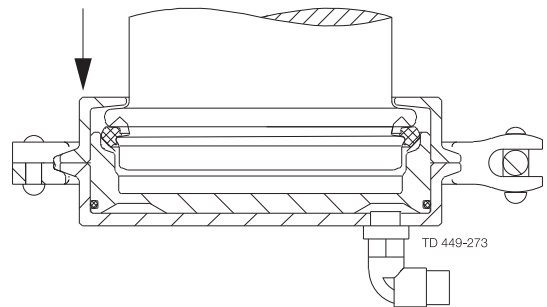
| Item no. for tool for axial sealing, upper plug | | | |  |
|---|--------------|--------------|--------------|--|
| Seat ø53.3 | Seat ø81.3 | Seat ø101.3 | Seat ø115.3 | |
| 9613-0505-01 | 9613-0505-02 | 9613-0505-08 | 9613-0505-03 | |

Step 3
Place tool part 1.

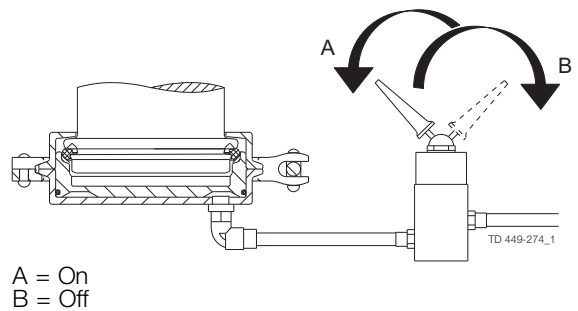


Step 4
1. Place tool part 2 including piston.
2. Clamp the two tool parts together.

Tooling marked with item number



Step 5
1. Supply compressed air.
2. Release compressed air.
3. Rotate the tool 45° with regards to the plug.
4. Supply compressed air.
5. Release compressed air and remove tool.



Study the instructions carefully.

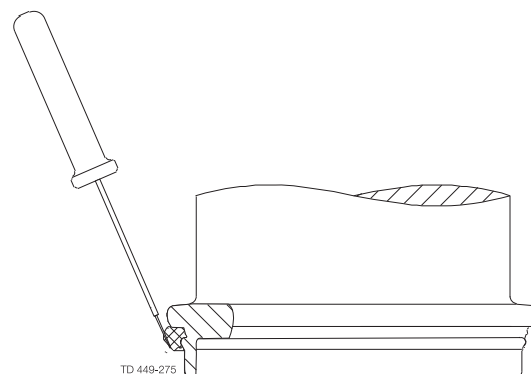
The items refer to the parts list and service kits section.

Handle scrap correctly.

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

Step 6

1. Inspect the seal.
2. Release air at 3 different positions of the circumference.



5.5 Assembly of valve

Step 1

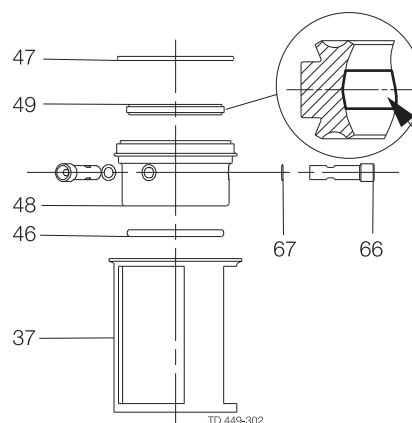
1. Fit o-ring (47) (do not twist), lip seal (49) and o-ring (46) in sealing element (48) (Lubricate with Klüber Paralique GT 703).

NOTE:

The o-ring should be gently pressed into the groove

2. Fit sealing element in intermediate piece (37).
3. Place o-rings (67) and mount flushing tubes (66). Be sure to align nozzles (68 + 69) towards recess.

Lightly lubricate inner groove with Klüber Paralique GT 703



Step 2

1. Place lip seal (57) in upper plug (or spray nozzle if the valve has SpiralClean) and the o-ring (38) in the lower plug.
2. Press tank plug (93) rapidly into balanced plug (94) through the lip seal.

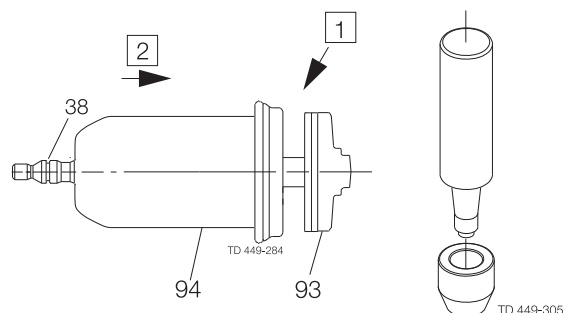
NOTE:

Do not damage the lips when tank plug (93) with o-ring (38) passes the lip seal.

NOTE!

For valve size DN/OD51 & DN50:

Lip seal (57) can only be mounted with special tool, please contact Alfa Laval.



Mounting tool for lip seal (Item no. 9613-0040-01)

5 Maintenance

Study the instructions carefully.

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

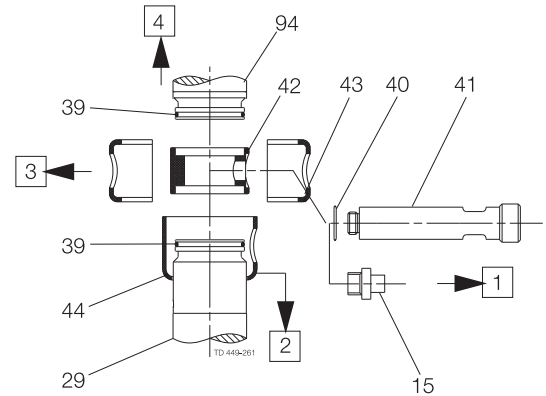
Handle scrap correctly.

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

Step 3

Place coupling system and balanced plug according to illustrations (1 to 4).

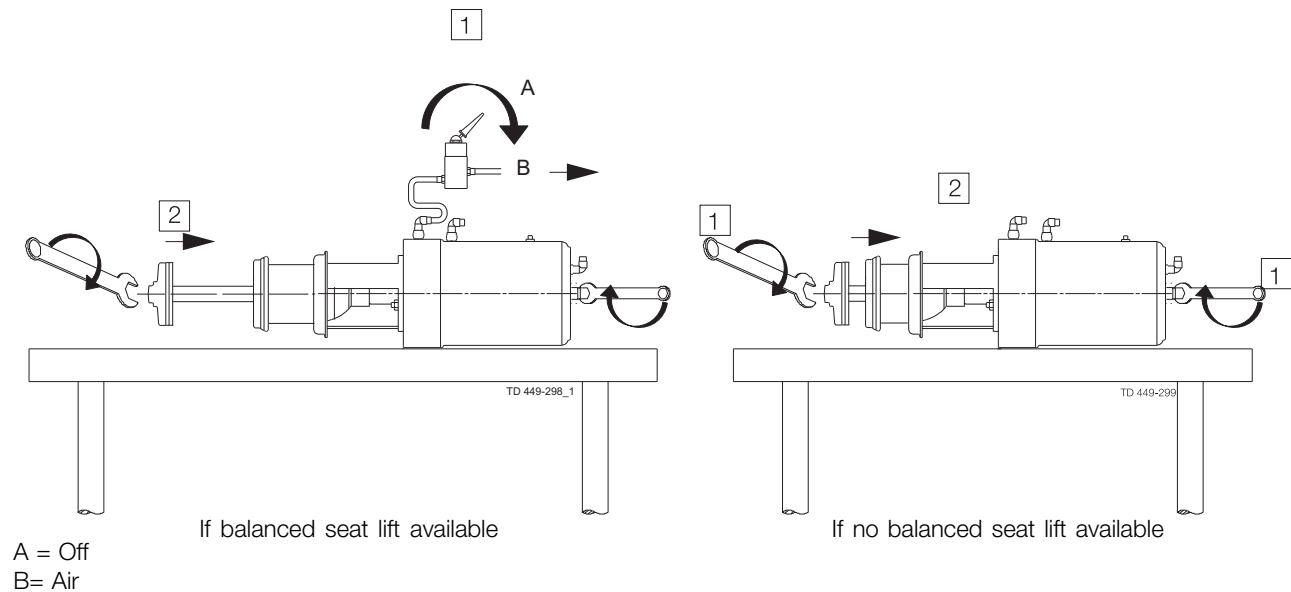
1. Push lock (44) up over piston rod (29).
2. If external CIP to leakage chamber: Place o-rings (39).
3. Place spindle liner (42) on piston rod. Fit balanced plug (94).
4. Mount clamps (43) on spindle liner (42).
5. Fit lock (44).
6. Fit o-ring (40). Fit flushing tube (41) (or plug (15) if no CIP).



Step 4

Recommended torque values for fitting balanced and tank plug parts

| Dimension | Torque (Nm)/(lbf-ft) |
|----------------|----------------------|
| 51 mm/2"/DN 50 | 5/(3.7) |
| All others | 20/(14.8) |



Study the instructions carefully.

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

Handle scrap correctly.

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

Step 5

- **Never** stick your fingers through the valve ports if the actuator is supplied with compressed air.
- **Always** supply compressed air, before demounting the valve.

Reassemble valve according to illustration (1 - 5).

1. If tank flange:

Fit o-ring (76) on valve body (51) and mount valve body in tank flange and tighten clamp (65)

(Maximum torque for clamp bolts: 17 Nm/13 lbf ft).

OR if stub flange

Fit o-ring (91) in stub flange (92) and mount valve body (51) in stub flange and tighten clamp (65).

(Maximum torque for clamp bolts: 17 Nm/13 lbf ft).

2. Supply compressed air and mount the actuator together with the internal valve parts.

3. Fit and tighten clamp (64).

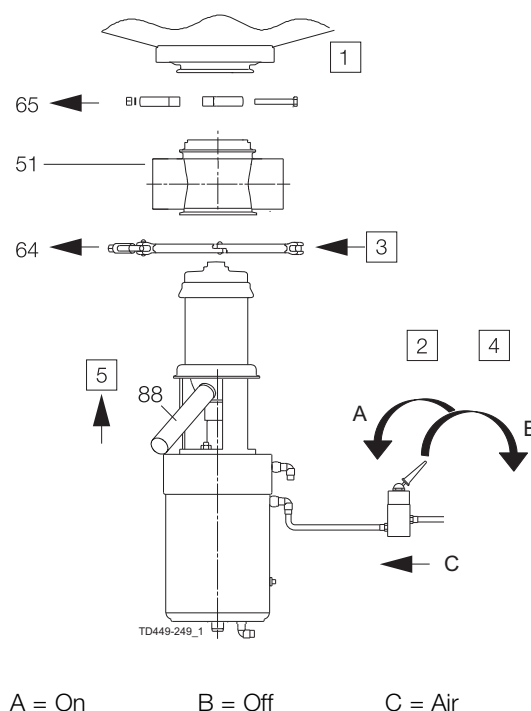
(Maximum torque for clamp nut: 10Nm/7.4 lbf-ft).

4. Release compressed air.

5. Fit o-ring (89) on tube (88) and mount tube (88) in balanced plug (94).

From February 1st 2017:

Fit o-ring (89) in balanced plug (94) and screw tube (88) into balanced plug (94). **Tightend tube with 10Nm/7.4 lbf-ft.**



5 Maintenance

Study the instructions carefully.

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

Handle scrap correctly.

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

5.6 Dismantling of actuator

Step 1

1. Dismantle the valve in accordance with instructions in section 5.2 Dismantling of valve . Pay special attention to the warnings!
 2. The actuator is now ready for service. Please see drawing when dismantling according to steps 2 to 6 on this page.
-

Step 2

1. Remove nuts (36) and washers (35).
 2. Pull out intermediate piece (37) from the actuator.
 3. Remove cover disk (25).
 4. Remove plug (86) with o-rings (85 & 87) from intermediate piece (37).
-

Step 3

1. Remove piston rod (29), bottom (21) and lower piston (30).
 2. Separate the three parts.
 3. Remove o-rings (20, 22 and 23) from bottom, o-rings (33 and 31) and guide ring (32) from lower piston as well as o-ring (28) from piston rod.
 4. Remove spring assembly (14).
-

Step 4

1. Remove inner stem (27), main piston (17) and distance spacer (11) if present. Remove guide ring (18) and o-ring (19).
 2. Remove spring assembly (10).
-

Step 5

NOTE!

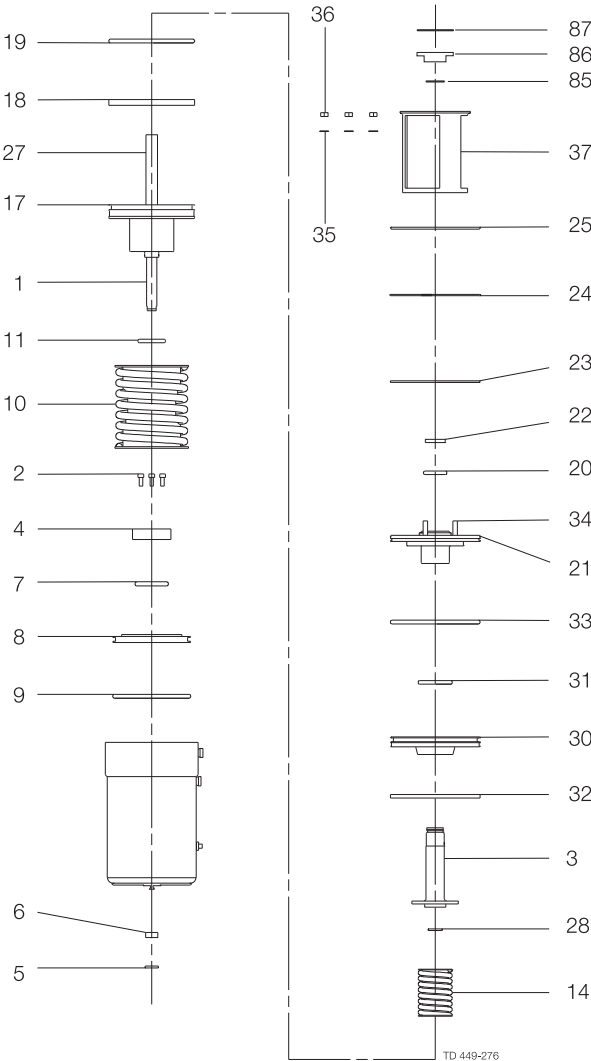
Not on actuator 3.

1. Unscrew screws (2) (are glued!).
 2. Remove stop (4).
 3. Remove upper piston (8). Remove o-rings (7 and 9).
-

Step 6

1. Remove o-ring (5) and guide ring (6).
-

Study the instructions carefully.
The items refer to the parts list and service kits section.
Handle scrap correctly.
Always use genuine Alfa Laval spare parts. Replace seals if necessary.



5 Maintenance

Study the instructions carefully.

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

Always use genuine Alfa Laval spare parts. Replace seals if necessary.

Lubricate the rubber seals before fitting them.

5.7 Assembly of actuator

Step 1

Please see drawing when reassembling according to steps 2 to 5 on this page.

Step 2

1. Fit guide ring (6) and o-ring (5).

NOTE!

Not on actuator 3:

2. Fit o-rings (7 and 9). Place upper piston (8).
 3. Fit stop (4).
 4. Tighten screws (2). (Secure with glue).
-

Step 3

1. Place spring assembly (10).
 2. Fit o-ring (19) and guide ring (18). Mount distance spacer (11), main piston (17) and inner stem (27).
-

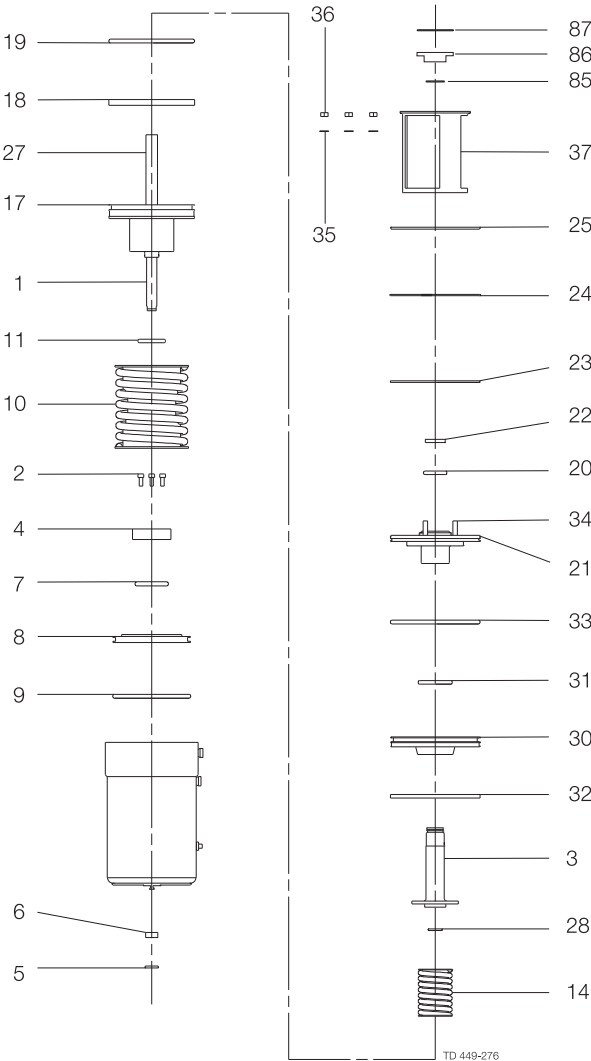
Step 4

1. Fit spring assembly (14).
 2. Fit o-ring (28) in piston rod, fit o-rings (33 and 31) and guide ring (32) in lower piston and fit o-rings (20, 22 and 23) in bottom.
 3. Fit piston rod (29), lower piston (30) and bottom (21).
 4. Mount the three parts.
-

Step 5

1. Fit retaining ring (24).
 2. Fit cover disk (25).
 3. Mount intermediate piece (37) on actuator.
 4. Fit and tighten nuts (36) and washers (35).
 5. Fit o-rings (85 & 87) in plug (86) and fit plug (86) in intermediate piece (37).
-

Study the instructions carefully.
The items refer to the parts list and service kits section.
Always use genuine Alfa Laval spare parts. Replace seals if necessary.
Lubricate the rubber seals before fitting them.



6 Technical data

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

6.1 Technical data

Unique is remote-controlled by means of compressed air. The valve is a normally closed (NC) valve.

The valve has two independent plug seals, forming a leakage chamber. In the leakage chamber there is only atmospheric pressure during every working condition. In case of rare accidental leaking of product, this will flow into the leakage chamber and be discharged through the leakage outlet.

When the valve is open, the leakage chamber is closed. The product can then flow from tank to pipeline.

| Technical data | | |
|---|--------------------------------|---|
| Max. product pressure | | 1000 kPa (10 bar) (145 psi) |
| Min. product pressure | | Full vacuum |
| Recommended min. pressure for SpiralClean | | 2 bar (29 psi) - max. 8 bar (116 psi) |
| Temperature range | | -5°C to +125°C (23°F to 257°F) - NBR only up to 85°C (175°F) |
| Air pressure | | Max. 800 kPa (8 bar) (116 psi) |
| Products acc. to PED 97/23/EC | | Category I, Fluids group 1, DN ≥ 125 only Fluids group 2 |
| Materials | | |
| Product wetted steel parts | Acid resistant steel AISI 316L | |
| Other steel parts | Stainless steel AISI 304 | |
| Product wetted seals | EPDM, HNBR, NBR or FPM | |
| Other seals | CIP seals: EPDM | |
| Actuator seals | NBR | |
| Surface finish | Standard | Internal/external Ra < 1.6 (64 μ") |
| | Optional | Internal bright/external standard Ra < 0.8 (32 μ") |
| | 3A (US standard version) | Internal/external bright (internal polished) Ra < 0.8 (32 μ") |

NOTE! The Ra-values are only for the internal surface.

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 damper - measured at 7 bars air-pressure.

6 Technical data

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

| Size | DN/OD | | | | DN | | | | | | Longstroke | | | |
|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | | | | | | | | | | | DN/OD | | DN | |
| ISO-DIN | 51 | 63.5 | 76.1 | 101.6 | 50 | 65 | 80 | 100 | 125 | 150 | 63.5 | 76.1 | 65 | 80 |
| Air consumption for Balanced Seat-lift Litre = volume at atmosphere pressure Gallons = volume at atmosphere pressure | 0.20 0.05 | 0.40 0.11 | 0.40 0.11 | 0.62 0.16 | 0.20 0.05 | 0.40 0.11 | 0.40 0.11 | 0.62 0.16 | 0.62 0.16 | 0.62 0.16 | 0.40 0.11 | 0.40 0.11 | 0.40 0.11 | 0.40 0.11 |
| Air consumption for Tank Seat-lift Litre = volume at atmosphere pressure Gallons = volume at atmosphere pressure | 1.10 0.29 | 0.13 0.03 | 0.13 0.03 | 0.21 0.06 | 1.10 0.29 | 0.13 0.03 | 0.13 0.03 | 0.21 0.06 | 0.21 0.06 | 0.21 0.06 | 0.13 0.03 | 0.13 0.03 | 0.13 0.03 | 0.13 0.03 |
| Air consumption for Main Movement Litre = volume at atmosphere pressure Gallons = volume at atmosphere pressure | 0.86 0.23 | 1.63 0.43 | 1.63 0.43 | 2.79 0.74 | 0.86 0.23 | 1.62 0.43 | 1.62 0.43 | 2.79 0.74 | 2.79 0.74 | 2.79 0.74 | 1.63 0.43 | 1.63 0.43 | 1.62 0.43 | 1.62 0.43 |
| Kv-value for Balanced CIP Seat-lift [m³/h] CV-value for Balanced CIP Seat-lift [GPM] | 1.50 6.60 | 2.50 11.0 | 2.50 11.0 | 1.90 8.36 | 1.50 6.6 | 2.50 11.0 | 2.50 11.0 | 1.90 8.36 | 3.70 16.3 | 3.70 16.3 | 2.50 11.0 | 2.50 11.0 | 2.50 11.0 | 2.50 11.0 |
| Kv-value for Tank Seat-lift [m³/h] CV-value for Balanced Tank Seat-lift [GPM] | 0.90 3.96 | 1.90 8.36 | 1.90 8.36 | 1.40 6.16 | 0.90 3.96 | 1.90 8.36 | 1.90 8.36 | 1.40 6.16 | 3.10 13.7 | 3.10 13.7 | 1.90 8.36 | 1.90 8.36 | 1.90 8.36 | 1.90 8.36 |
| Kv-value for SpiralClean Spindle CIP [m³/h] CV-value for SpiralClean Spindle CIP [GPM] | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 | 0.12 0.53 |
| Kv-value for SpiralClean External CIP in leakage chamber [m³/h] CV-value for SpiralClean External CIP in leakage chamber [GPM] | 0.25 1.10 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 | 0.25 1.10 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 | 0.29 1.28 |

NOTE!

Formula to estimate CIP flow during seat lift (for liquids with comparable viscosity and density to water):

| | | | | |
|---------|-------------------------------|-------------------|---------|-------------------------------|
| Q = | $C_v \cdot \sqrt{\Delta p}$ | (US measurements) | Q = | $C_v \cdot \sqrt{\Delta p}$ |
| Q = | CIP - flow (m³/h). | | Q = | CIP - flow (gpm) |
| Kv = | Kv value from the above table | | Cv = | Cv value from the above table |
| Δ P = | CIP pressure (bar) | | Δ P = | CIP pressure (psi). |
| Cv = | 1.163 x Kv gpm | | Cv = | 1.163 x Kv gpm |
| 1 bar = | 14.5 psi | | 1 bar = | 14.5 psi |

Weight (kg)

| Size | DN/OD | | | | DN | | | | | | Longstroke | | | |
|---|-------|------|------|-------|------|------|------|-----|-----|-------|------------|------|----|----|
| | | | | | | | | | | | DN/OD | | DN | |
| ISO-DIN | 51 | 63.5 | 76.1 | 101.6 | 50 | 65 | 80 | 100 | 125 | 150 | 63.5 | 76.1 | 65 | 80 |
| Weight (kg)* Unique TO | 12.5 | 22.5 | 22.5 | 33 | 12.5 | 22.5 | 22.5 | 33 | 36 | 38 | 28 | 28 | 28 | 28 |
| Weight (kg)* Unique TO with external cleaning | 13 | 23.5 | 23.5 | 34 | 13 | 23.5 | 23.5 | 34 | 37 | - - - | 29 | 29 | 29 | 29 |

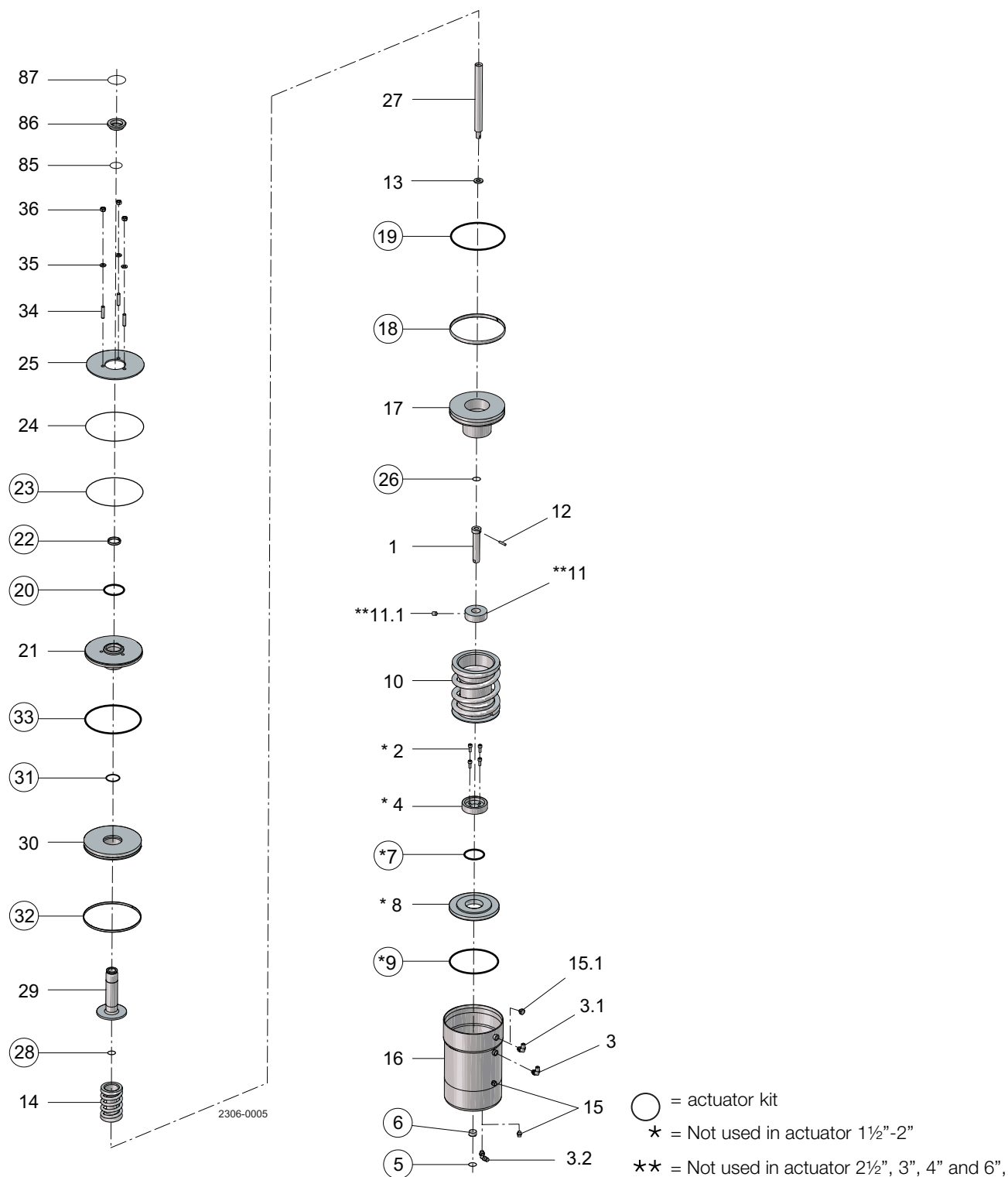
*= without tank flange

7 Parts list and service kits

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 Actuator



7 Parts list and service kits

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 | Upper stem |
| 2 | 4 | Screw |
| 3 | 1 | Air fitting |
| 3.1 | 1 | Air fitting |
| 3.2 | 1 | Air fitting |
| 4 | 1 | Stop for upper piston |
| 5 <input type="checkbox"/> | 1 | O-ring, NBR |
| 6 <input type="checkbox"/> | 1 | Guide ring, Turcite |
| 7 <input type="checkbox"/> | 1 | O-ring, NBR |
| 8 | 1 | Upper piston |
| 9 <input type="checkbox"/> | 1 | O-ring, NBR |
| 10 | 1 | Spring assembly |
| 11 | 1 | Distance spacer |
| 11.1 | 1 | Screw |
| 12 | 1 | Pin |
| 13 | 1 | Washer |
| 14 | 1 | Spring assembly |
| 15 | 1 | Plug |
| 15.1 | 1 | Plug |
| 17 | 1 | Main piston |
| 18 <input type="checkbox"/> | 1 | Guide ring, Turcite |
| 19 <input type="checkbox"/> | 1 | O-ring, NBR |
| 20 <input type="checkbox"/> | 1 | O-ring, NBR |
| 21 | 1 | Bottom |
| 22 <input type="checkbox"/> | 1 | Guide ring, Turcite |
| 23 <input type="checkbox"/> | 1 | O-ring, NBR |
| 24 | 1 | Retaining ring |
| 25 | 1 | Cover disk |
| 26 <input type="checkbox"/> | 1 | O-ring, NBR |
| 27 | 1 | Inner stem |
| 28 <input type="checkbox"/> | 1 | O-ring |
| 29 | 1 | Piston rod |
| 30 | 1 | Lower piston |
| 31 <input type="checkbox"/> | 1 | O-ring, NBR |
| 32 <input type="checkbox"/> | 1 | Guide ring, Turcite |
| 33 <input type="checkbox"/> | 1 | O-ring, NBR |
| 34 | 3 | Bolt |
| 35 | 3 | Washer |
| 36 | 3 | Nut |
| 85 | 1 | O-ring, NBR |
| 86 | 1 | Prop |
| 87 | 1 | O-ring, NBR |

Service kits

| Denomination | DN/OD 51 DN 50 | DN/OD 63.5 DN 65 | DN/OD 76.1 DN 80 | LongStroke DN/OD 63.5 DN 65 DN/OD 76.1 DN 80 | DN/OD 101.6 DN 100 | DN 125 DN 150 |
|---|-------------------|---------------------|---------------------|--|-----------------------|------------------|
| | | | | | | |
| <input type="checkbox"/> Service kits, actuator | 9611926414 | 9611926415 | 9611926416 | 9611926416 | 9611926416 | 9611926416 |

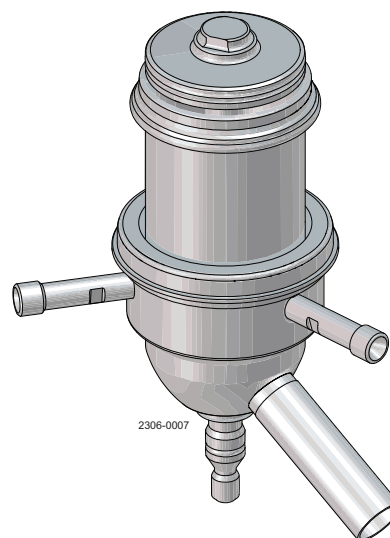
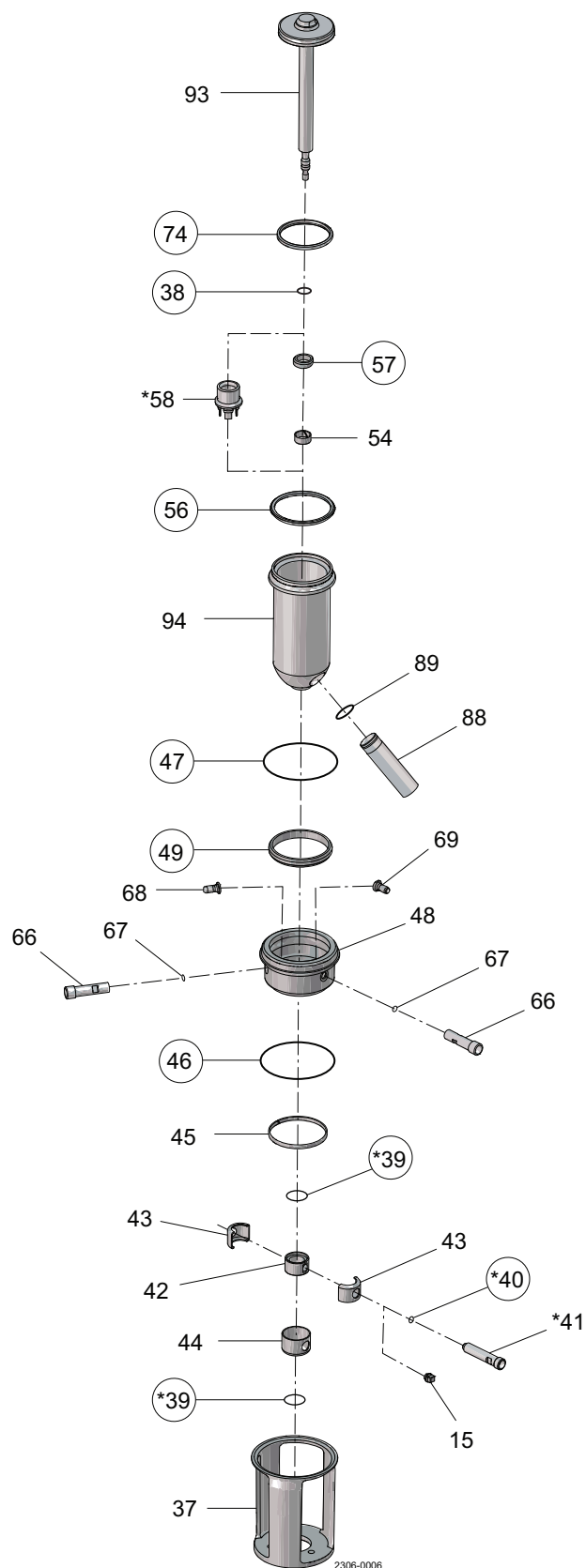
Parts marked with ☐ are included in the service kits.

7 Parts list and service kits

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 Plug setup 6 (tank flange)



○ = wear parts

* = with SpiralClean in leakage chamber

7 Parts list and service kits

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 |
|-------|-----|-----------------------|
| 15 | 1 | Plug |
| 38 • | 1 | O-ring, EPDM |
| 39 | 2 | O-ring, EPDM |
| 40 | 1 | O-ring, EPDM |
| 41 | 1 | Flushing tube |
| 42 | 1 | Spindle liner |
| 43 | 2 | Clamp |
| 44 | 1 | Lock |
| 45 | 1 | Guide ring |
| 46 • | 1 | O-ring, EPDM |
| 47 • | 1 | O-ring |
| 48 | 1 | Sealing element |
| 49 • | 1 | Lip seal |
| 54 | 1 | Guide ring, PTFE |
| 56 • | 1 | Seal ring |
| 57 • | 1 | Lip seal |
| 58 | 1 | Spray nozzle, PVDF |
| 66 | 2 | Flushing tube |
| 67 • | 2 | O-ring, EPDM |
| 68 | 1 | Drain |
| 69 | 1 | Nozzle |
| 74 • | 1 | Seal ring |
| 88 Δ | 1 | Pipe for balance plug |
| 89 Δ• | 1 | O-ring, EPDM |
| 93 | 1 | Tank plug |
| 94 Δ | 1 | Balance plug |

Service kits

| Denomination | LongStroke | | | | |
|---------------------------|------------|------------|------------|------------|-------------|
| | DN/OD 51 | DN/OD 63.5 | DN/OD 63.5 | DN/OD 63.5 | DN/OD 101.6 |
| | DN50 | DN/OD 76.1 | DN/OD 76.1 | DN/OD 76.1 | DN 100 |
| | Seat ø53.3 | DN65/DN80 | DN65/DN80 | DN65/DN80 | Seat ø100.3 |
| | | Seat ø81.3 | Seat ø81.3 | Seat ø81.3 | Seat ø115.3 |
| • Service kit, EPDM | 9611926449 | 9611926453 | 9611926453 | 9611926453 | 9611926457 |
| • Service kit, NBR | 9611926450 | 9611926454 | 9611926454 | 9611926454 | 9611926458 |
| • Service kit, FPM | 9611926451 | 9611926455 | 9611926455 | 9611926455 | 9611926459 |
| • Service kit, HNBR | 9611926452 | 9611926456 | 9611926456 | 9611926456 | 9611926460 |

Parts marked with • are included in the service kits.

Δ = Upgrade kit - please buy pos. 88, 89 and 94.

NOTE!

If SpiralClean in leakage chamber extra O-rings (2x pos. 39 and 1x pos. 40) is required.

All FPM service kits are supplied with EPDM seal ring, pos. 74.

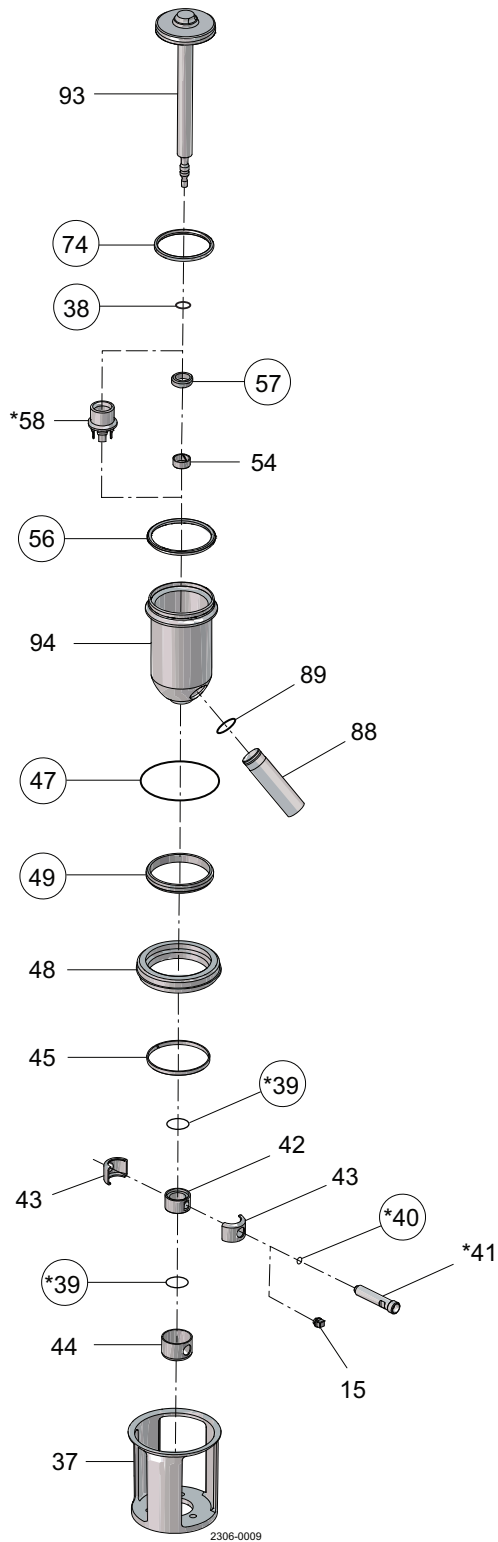
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7 Parts list and service kits

Always use Alfa Laval genuine spare parts.

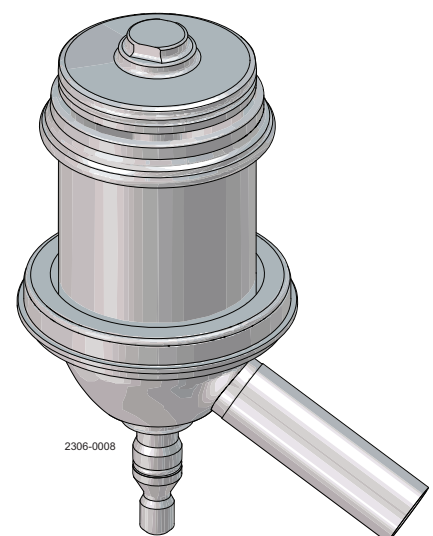
The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.3 Plug setup 12 (tank flange)



○ = wear parts

* = with SpiralClean in leakage chamber



7 Parts list and service kits

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 |
|-------|-----|-----------------------|
| 15 | 1 | Plug |
| 38 • | 1 | O-ring, EPDM |
| 39 | 2 | O-ring, EPDM |
| 40 | 1 | O-ring, EPDM |
| 41 | 1 | Flushing tube |
| 42 | 1 | Spindle liner |
| 43 | 2 | Clamp |
| 44 | 1 | Lock |
| 45 | 1 | Guide ring |
| 47 • | 1 | O-ring |
| 48 | 1 | Sealing element |
| 49 • | 1 | Lip seal |
| 54 | 1 | Guide ring, PTFE |
| 56 • | 1 | Seal ring |
| 57 • | 1 | Lip seal |
| 58 | 1 | Spray nozzle, PVDF |
| 74 • | 1 | Seal ring |
| 88 Δ | 1 | Pipe for balance plug |
| 89 Δ• | 1 | O-ring, EPDM |
| 93 | 1 | Tank plug |
| 94 Δ | 1 | Balance plug |

Service kits

| Denomination | LongStroke | | | | | | |
|---------------------------|--------------------|---------------------------------------|---------------------------------------|---------------------------------------|-----------------------|-------------|-------------|
| | DN/OD 51 | DN/OD 63.5 | DN/OD 63.5 | DN/OD 63.5 | DN/OD 101.6 | DN 125 | DN 150 |
| | DN50 Seat ø53.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN 100 Seat ø100.3 | Seat ø115.3 | Seat ø115.3 |
| • Service kit, EPDM | 9611926433 | 9611926437 | 9611926437 | 9611926437 | 9611926441 | 9611926445 | 9611926445 |
| • Service kit, NBR | 9611926434 | 9611926438 | 9611926438 | 9611926438 | 9611926442 | 9611926446 | 9611926446 |
| • Service kit, FPM | 9611926435 | 9611926439 | 9611926439 | 9611926439 | 9611926443 | 9611926447 | 9611926447 |
| • Service kit, HNBR | 9611926436 | 9611926440 | 9611926440 | 9611926440 | 9611926444 | 9611926448 | 9611926448 |

Parts marked with • are included in the service kits.

Δ = Upgrade kit - please buy pos. 88, 89 and 94.

NOTE!

If SpiralClean in leakage chamber extra O-rings (2x pos. 39 and 1x pos. 40) is required.

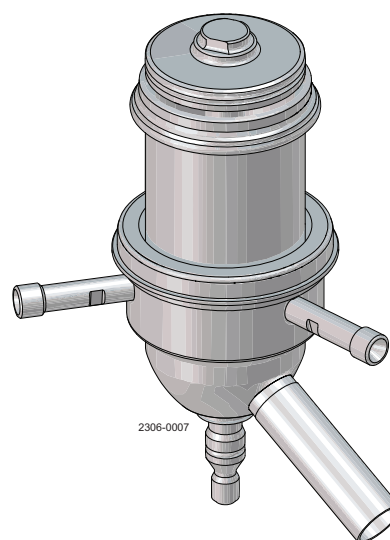
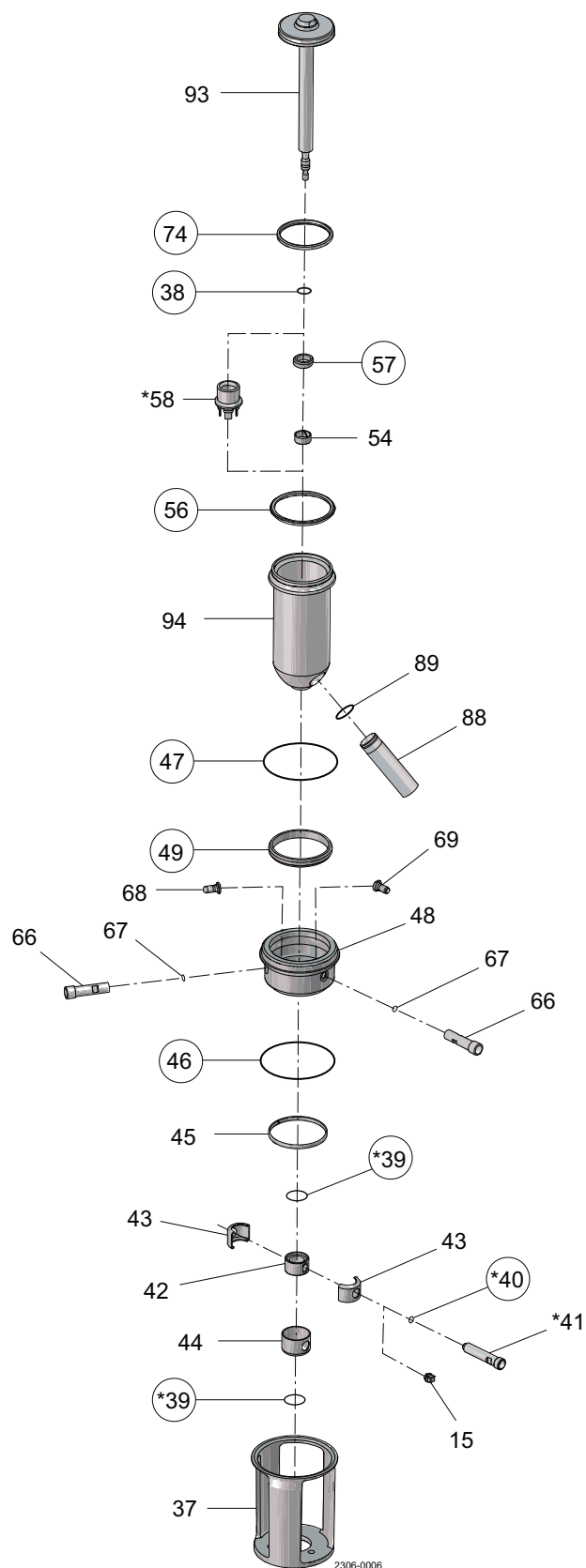
All FPM service kits are supplied with EPDM seal ring, pos. 74.

7 Parts list and service kits

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 Plug setup 6 (stub flange)



○ = wear parts

* = with SpiralClean in leakage chamber

7 Parts list and service kits

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 |
|-------|-----|-----------------------|
| 15 | 1 | Plug |
| 38 • | 1 | O-ring, EPDM |
| 39 | 2 | O-ring, EPDM |
| 40 | 1 | O-ring, EPDM |
| 41 | 1 | Flushing tube |
| 42 | 1 | Spindle liner |
| 43 | 2 | Clamp |
| 44 | 1 | Lock |
| 45 | 1 | Guide ring |
| 46 • | 1 | O-ring, EPDM |
| 47 • | 1 | O-ring |
| 48 | 1 | Sealing element |
| 49 • | 1 | Lip seal |
| 54 | 1 | Guide ring, PTFE |
| 56 • | 1 | Seal ring |
| 57 • | 1 | Lip seal |
| 58 | 1 | Spray nozzle, PVDF |
| 66 | 2 | Flushing tube |
| 67 • | 2 | O-ring, EPDM |
| 68 | 1 | Drain |
| 69 | 1 | Nozzle |
| 74 • | 1 | Seal ring |
| 88 Δ | 1 | Pipe for balance plug |
| 89 Δ• | 1 | O-ring, EPDM |
| 93 | 1 | Tank plug |
| 94 Δ | 1 | Balance plug |

Service kits

| Denomination | LongStroke | | | | |
|---------------------------|--------------------|---------------------------------------|---------------------------------------|-----------------------|-----------------------|
| | DN/OD 51 | DN/OD 63.5 | DN/OD 63.5 | DN/OD 101.6 | DN 125 |
| | DN50 Seat ø53.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN 100 Seat ø100.3 | DN 125 Seat ø115.3 |
| • Service kit, EPDM | 9611926481 | 9611926485 | 9611926485 | 9611926489 | 9611926493 |
| • Service kit, NBR | 9611926482 | 9611926486 | 9611926486 | 9611926490 | 9611926494 |
| • Service kit, FPM | 9611926483 | 9611926487 | 9611926487 | 9611926491 | 9611926495 |
| • Service kit, HNBR | 9611926484 | 9611926488 | 9611926488 | 9611926492 | 9611926496 |

Parts marked with • are included in the service kits.

Δ = Upgrade kit - please buy pos. 88, 89 and 94.

NOTE!

If SpiralClean in leakage chamber extra O-rings (2x pos. 39 and 1x pos. 40) is required.

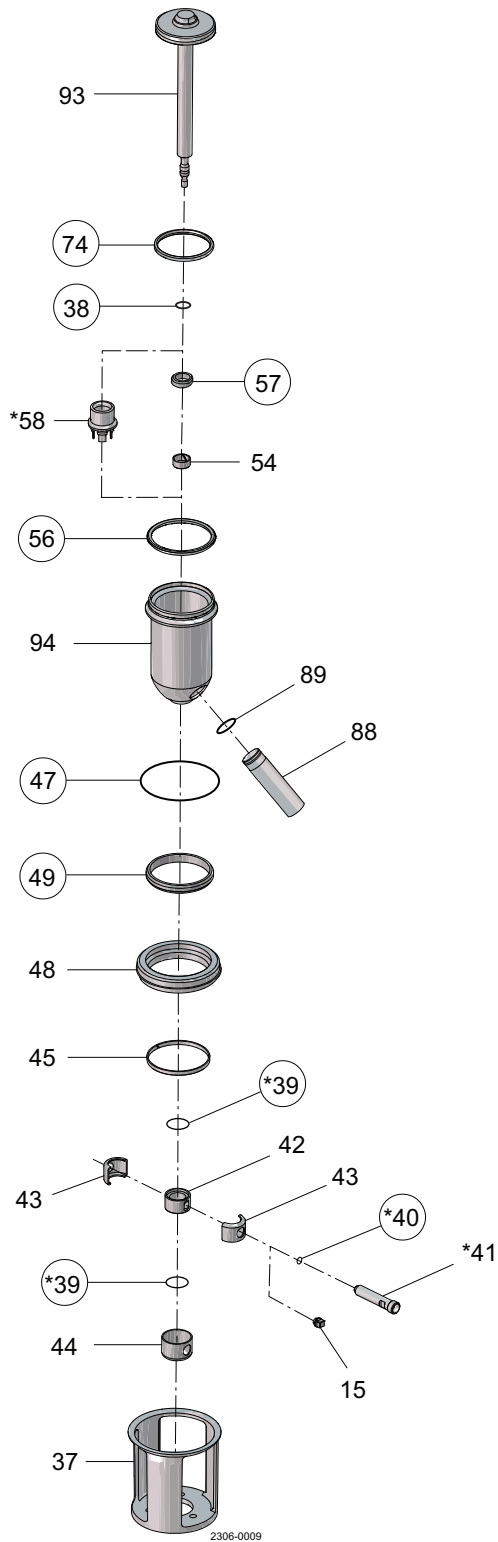
All FPM service kits are supplied with EPDM seal ring, pos. 74.

7 Parts list and service kits

Always use Alfa Laval genuine spare parts.

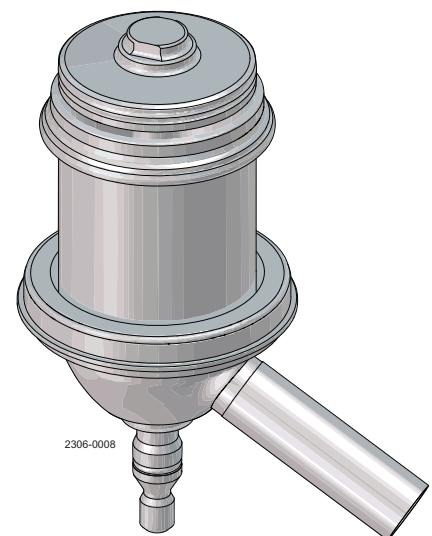
The warranty of Alfa Laval products is dependent on the use of Alfa Laval genuine spare parts.

7.5 Plug setup 12 (stub flange)



○ = wear parts

* = with SpiralClean in leakage chamber



7 Parts list and service kits

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 |
|-------|-----|-----------------------|
| 15 | 1 | Plug |
| 38 • | 1 | O-ring, EPDM |
| 39 | 2 | O-ring, EPDM |
| 40 | 1 | O-ring, EPDM |
| 41 | 1 | Flushing tube |
| 42 | 1 | Spindle liner |
| 43 | 2 | Clamp |
| 44 | 1 | Lock |
| 45 | 1 | Guide ring |
| 46 • | 1 | O-ring, EPDM |
| 47 • | 1 | O-ring |
| 48 | 1 | Sealing element |
| 49 • | 1 | Lip seal |
| 54 | 1 | Guide ring, PTFE |
| 56 • | 1 | Seal ring |
| 57 • | 1 | Lip seal |
| 58 | 1 | Spray nozzle, PVDF |
| 66 | 2 | Flushing tube |
| 67 • | 2 | O-ring, EPDM |
| 68 | 1 | Drain |
| 69 | 1 | Nozzle |
| 74 • | 1 | Seal ring |
| 88 Δ | 1 | Pipe for balance plug |
| 89 Δ• | 1 | O-ring, EPDM |
| 93 | 1 | Tank plug |
| 94 Δ | 1 | Balance plug |

Service kits

| Denomination | LongStroke | | | | | | |
|---------------------------|--------------------|---------------------------------------|---------------------------------------|---------------------------------------|-----------------------|-------------|-------------|
| | DN/OD 51 | DN/OD 63.5 | DN/OD 63.5 | DN/OD 63.5 | DN/OD 101.6 | DN 125 | DN 150 |
| | DN50 Seat ø53.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN/OD 76.1 DN65/DN80 Seat ø81.3 | DN 100 Seat ø100.3 | Seat ø115.3 | Seat ø115.3 |
| • Service kit, EPDM | 9611926449 | 9611926453 | 9611926453 | 9611926453 | 9611926457 | 9611926461 | 9611926461 |
| • Service kit, NBR | 9611926450 | 9611926454 | 9611926454 | 9611926454 | 9611926458 | 9611926462 | 9611926462 |
| • Service kit, FPM | 9611926451 | 9611926455 | 9611926455 | 9611926455 | 9611926459 | 9611926463 | 9611926463 |
| • Service kit, HNBR | 9611926452 | 9611926456 | 9611926456 | 9611926456 | 9611926460 | 9611926464 | 9611926464 |

Parts marked with • are included in the service kits.

Δ = Upgrade kit - please buy pos. 88, 89 and 94.

NOTE!

If SpiralClean in leakage chamber extra O-rings (2x pos. 39 and 1x pos. 40) is required.

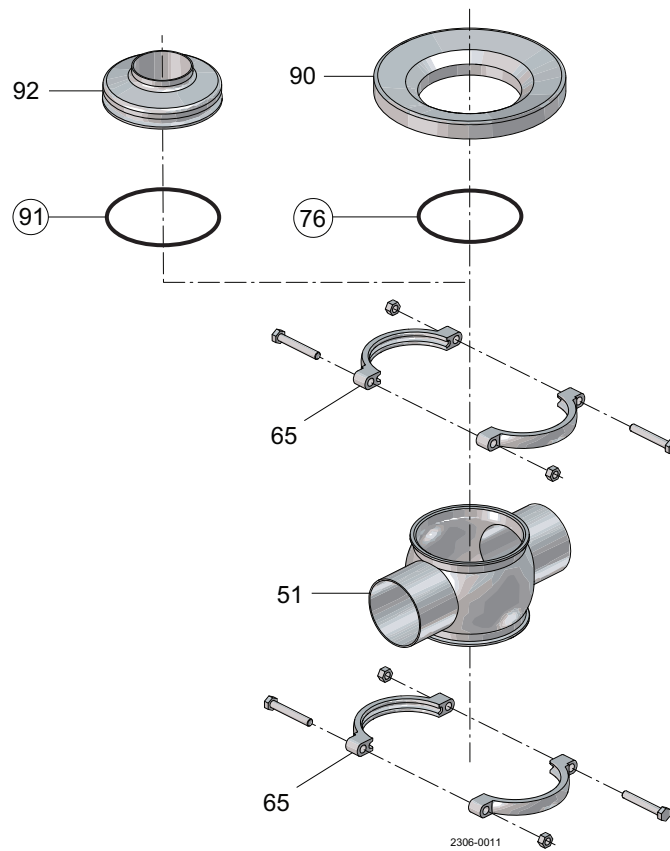
All FPM service kits are supplied with EPDM seal ring, pos. 74.

7 Parts list and service kits

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 Valve bodies



7 Parts list and service kits

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

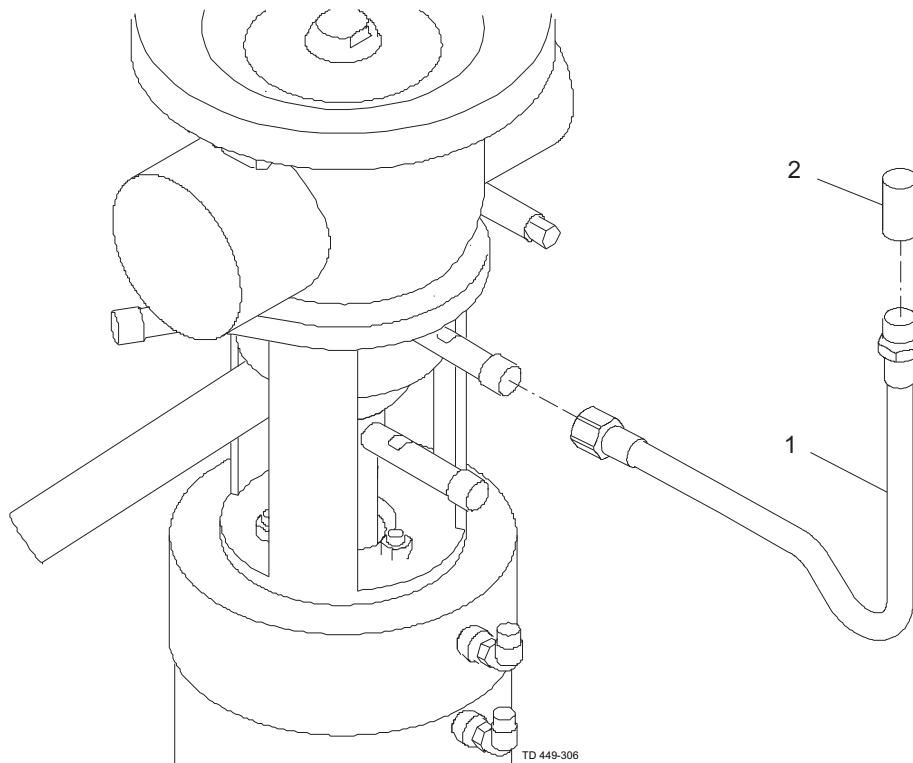
| Pos. | Qty | Denomination |
|------|-----|--------------------|
| 37 | 1 | Intermediate piece |
| 51 | 1 | Valve body, upper |
| 65 | 2 | Clamp with screws |
| 76 | 1 | O-ring |
| 90 | 1 | Tank flange |
| 91 | 1 | O-ring |
| 92 | 1 | Stub flange |

7 Parts list and service kits

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 Installation kit B



7 Parts list and service kits

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

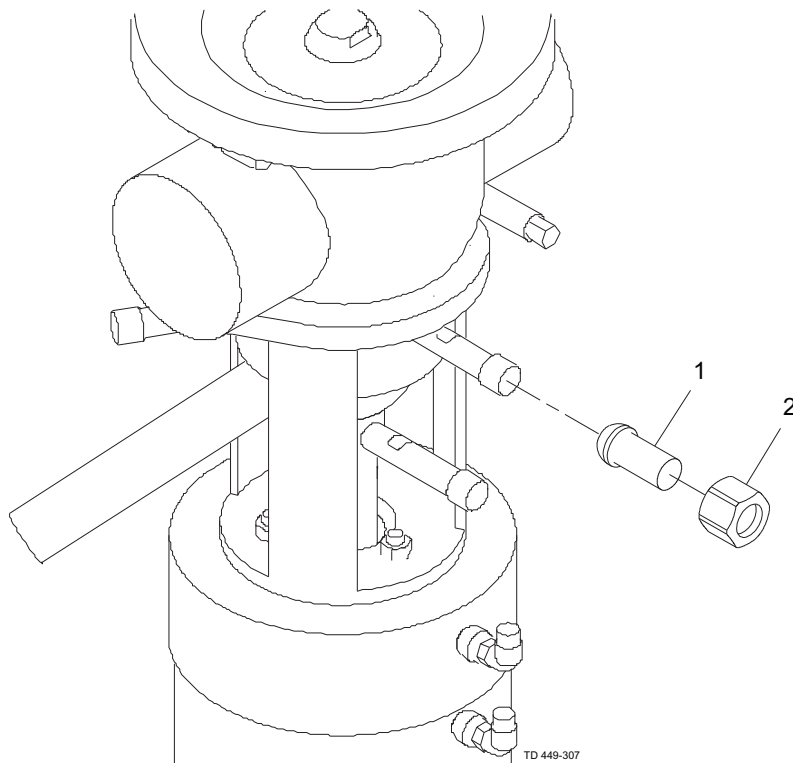
| Pos. | Qty | Denomination |
|------|-----|---|
| 1 | 1 | Hose PTFE with stainless steel weave |
| 2 | 1 | Welding socket |

7 Parts list and service kits

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 Installation kit C



7 Parts list and service kits

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

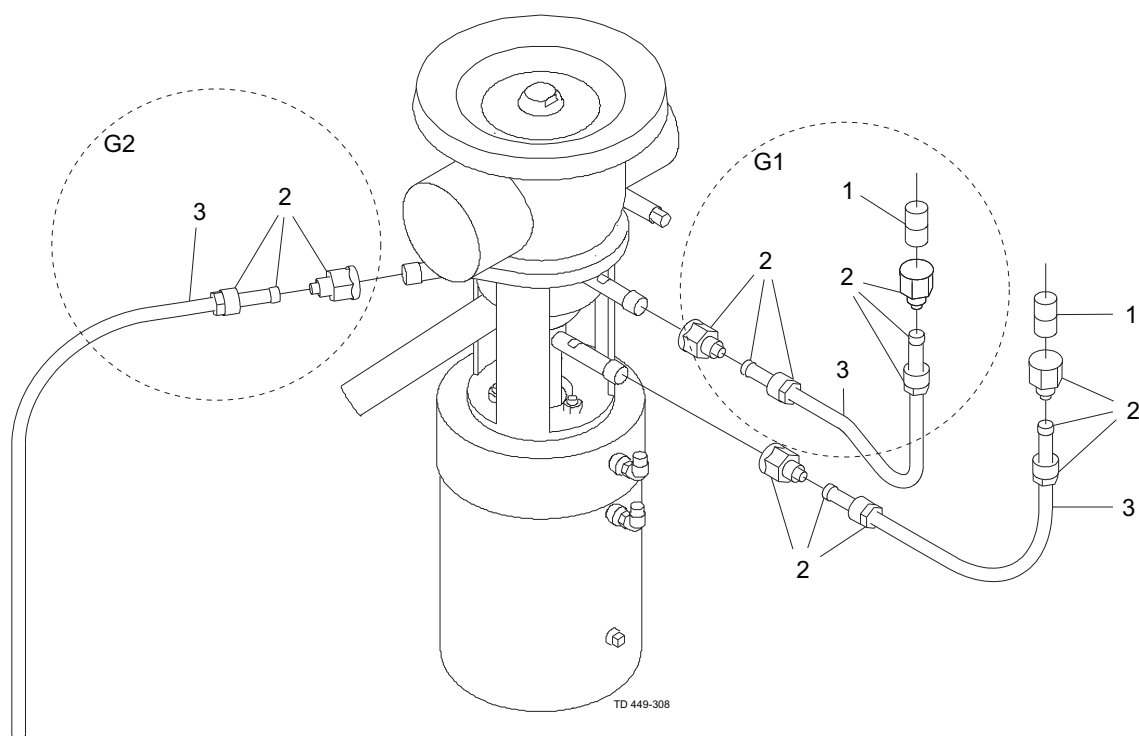
| Pos. | Qty | Denomination |
|------|-----|---------------|
| 1 | 1 | Welding liner |
| 2 | 1 | Nut |

7 Parts list and service kits

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 Installation kit G



7 Parts list and service kits

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

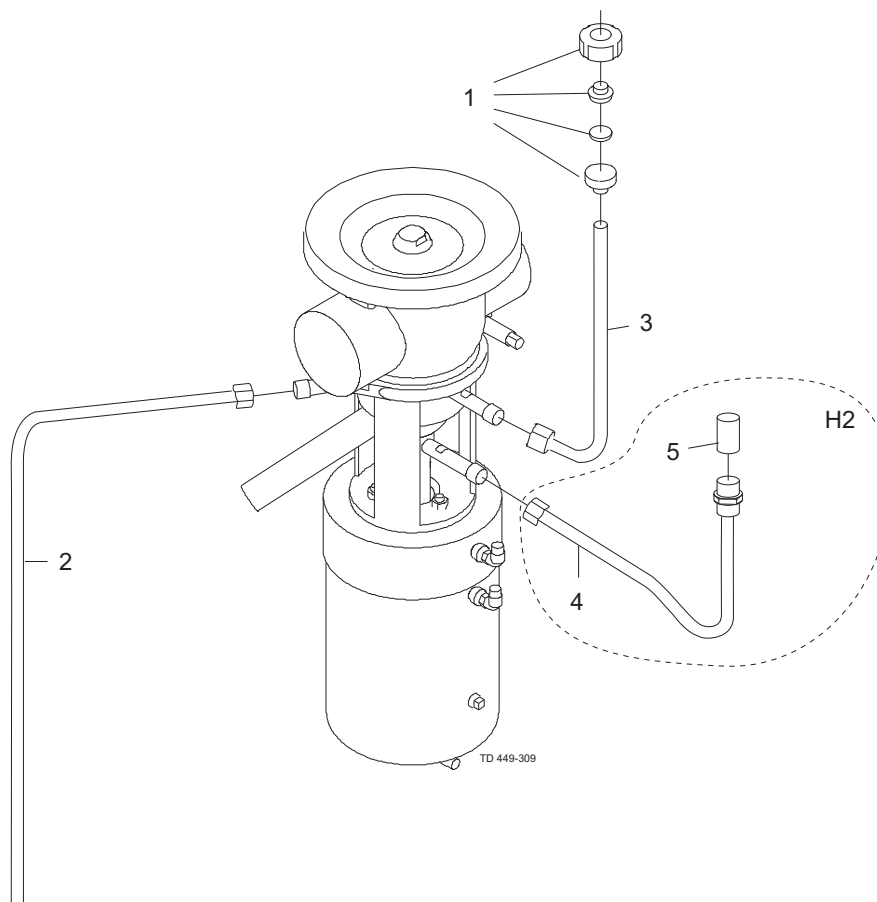
| Pos. | Qty | Denomination |
|------|-----|-----------------------------|
| 1 | 1 | Welding male part, AISI 316 |
| 2 | 2 | 3/8" 10 mm Female PVDF |
| 3 | 1 | 10 mm PVDF hose, 1m |

7 Parts list and service kits

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 Installation kit H and H2



7 Parts list and service kits

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

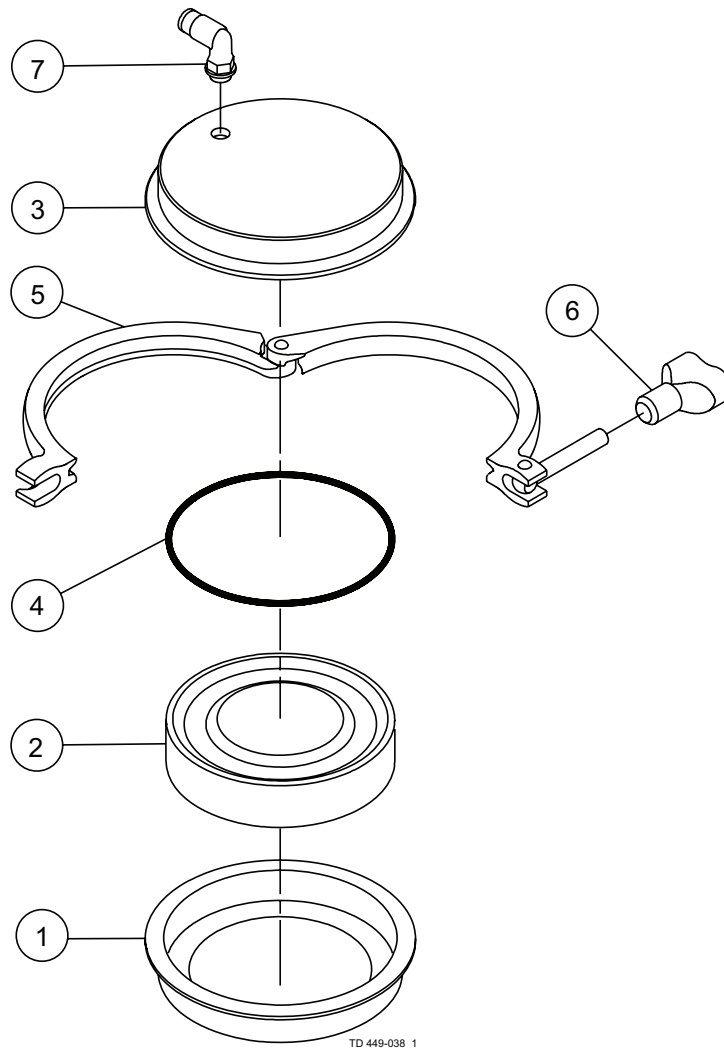
| Pos. | Qty | Denomination |
|------|-----|---|
| 1 | 1 | DIN union DN10 |
| 2 | 1 | 12 mm CIP pipe long |
| 3 | 1 | 12 mm CIP pipe |
| 4 | 1 | Hose PTFE with stainless steel weave |
| 5 | 1 | Welding socket |

7 Parts list and service kits

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 Axial installation tool



7 Parts list and service kits

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

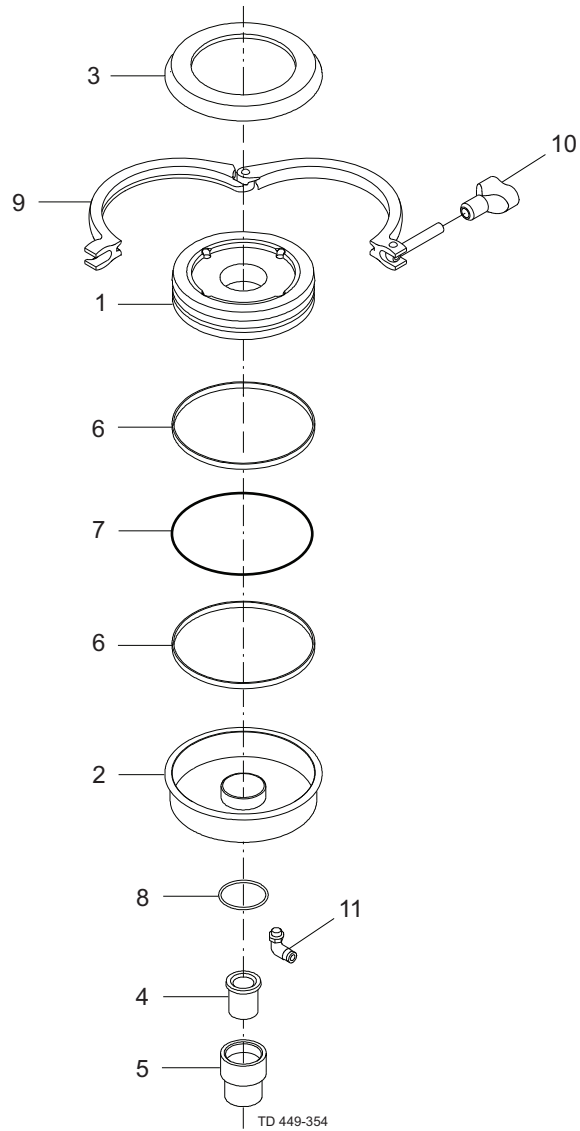
| Pos. | Qty | Denomination |
|------|-----|--------------|
| 1 | 1 | Lower Part |
| 2 | 1 | Piston |
| 3 | 1 | Upper Part |
| 4 | 1 | O-ring, NBR |
| 5 | 1 | Clamp |
| 6 | 1 | Wingnut |
| 7 | 1 | Air fitting |

7 Parts list and service kits

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 Radial installation tool



7 Parts list and service kits

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

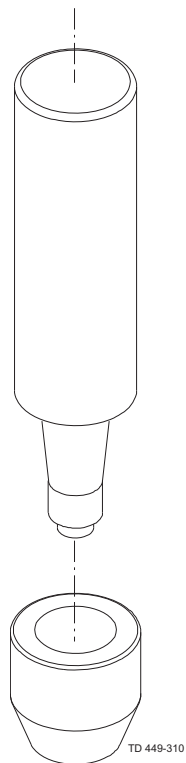
| Pos. | Qty | Denomination |
|------|-----|--------------|
| 1 | 1 | Piston |
| 2 | 1 | Lower Part |
| 3 | 1 | Upper Part |
| 4 | 1 | Bushing |
| 5 | 1 | Guide |
| 6 | 2 | Guide ring |
| 7 | 1 | O-ring, NBR |
| 8 | 1 | O-ring, NBR |
| 9 | 1 | Clamp |
| 10 | 1 | Wingnut |
| 11 | 1 | Air fitting |

7 Parts list and service kits

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 Mounting tool for lip seal



7 Parts list and service kits

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 | Mounting tool for lip seal |

How to contact Alfa Laval

Contact details for all countries are continually updated on our website.

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