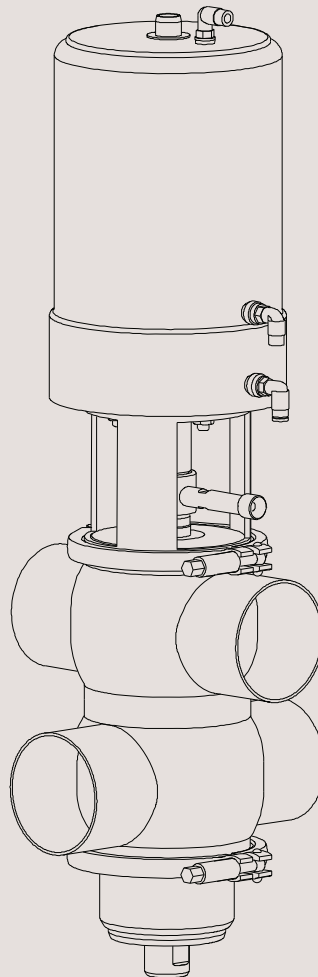




# Instruction Manual

## Unique Sanitary Mixproof Valve (including US version)



TD 449-006\_1

ESE00923-EN8

2016-06

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 Declaration of Conformity

Revision of Declaration of Conformity 2013-12-03

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 std.

Type

From serial number 1181354 - 9999999

is in conformity with the following directive with amendments:

- Machinery Directive 2006/42/EC
- The valve is in compliance with the Pressure Equipment Directive 2014/68/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

2016-07-01

Date



Signature



## 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:



Cutting danger:



All warnings in the manual are summarized on this page.

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

### 2.3 Safety precautions

#### Installation:

**Always** read the technical data thoroughly (see chapter 6.1 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 6.1 Technical data)

**Never** touch the valve or the pipelines when processing hot liquids or when sterilizing. (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 6.1 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)



#### 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

### 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.

---

#### 3.1 Unpacking/intermediate storage

---

##### Step 1

##### CAUTION

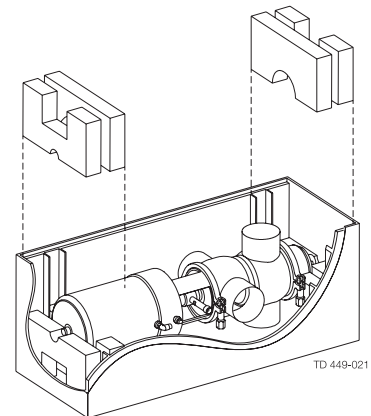
Alfa Laval cannot be held responsible for incorrect unpacking.

##### Check the delivery for:

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

##### Step 2

Remove upper support.

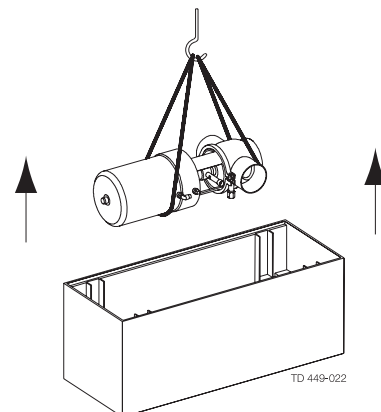


##### Step 3

Lift out the valve.

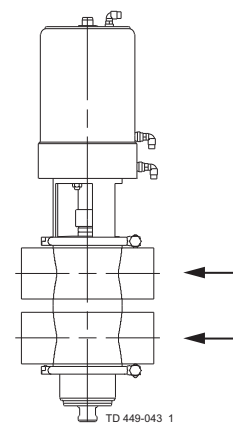
##### NOTE!

Please note weight of valve as printed on box.



##### Step 4

Remove possible packing materials from the valve ports.



### 3 Installation

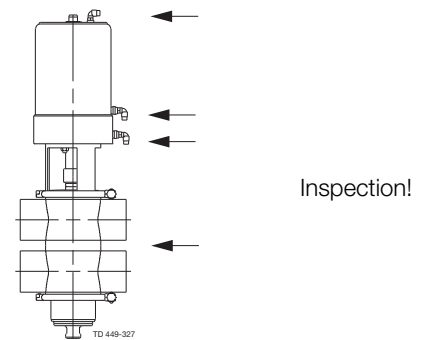
The instruction manual is part of the delivery.

Study the instructions carefully.

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

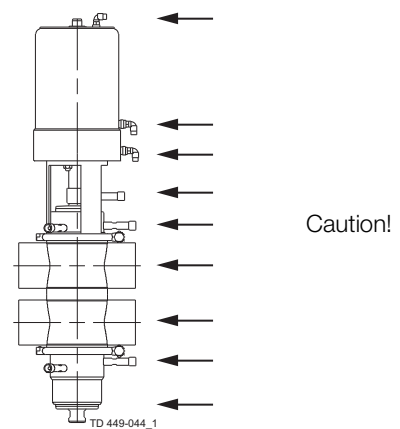
#### Step 5

Inspect the valve for visible transport damages.



#### Step 6

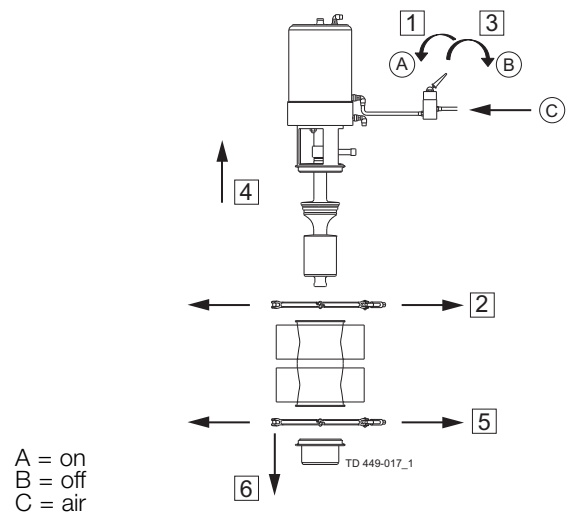
Avoid damaging the air connections, the leakage outlet, the valve ports and the CIP connections, if supplied.



#### Step 7

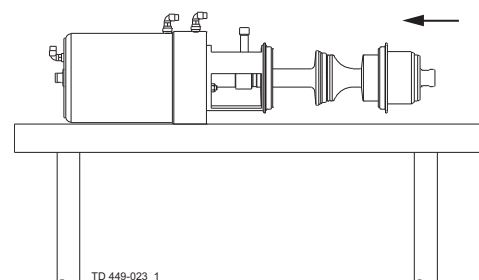
Disassemble according to illustrations 1 to 6 (please also see section 5.2 Dismantling the valve).

1. Supply compressed air.
2. Remove upper clamp.
3. Release compressed air.
4. Lift out actuator with plugs.
5. Remove lower clamp.
6. Take away lower sealing element.



#### Step 8

Mount sealing element on valve.



### 3 Installation

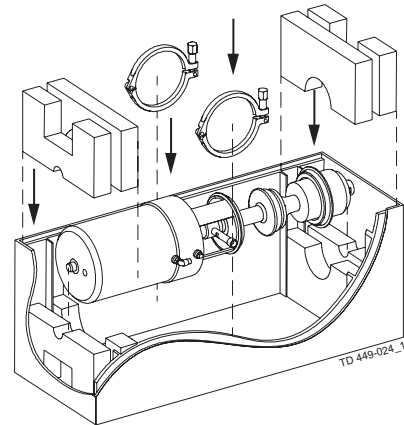
Study the instructions carefully and pay special attention to the warnings!  
The valve has ends for welding as standard but can also be supplied with fittings.

#### Step 9

1. Place actuator part in the box.
2. Add supports.
3. Close box and store.

#### Advise!

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



### 3.2 General information

#### Step 1



**Always** read the technical data carefully.  
See section 6.1 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

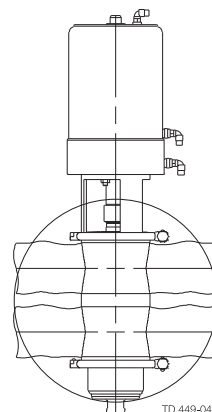
**Always** install the valve vertically.  
The leakage outlet must be turned downwards!

#### 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.
- Excessive welding.
- Overloading of the pipelines.



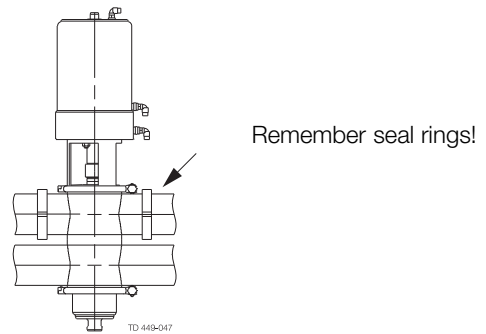
Risk of damage!

### 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.

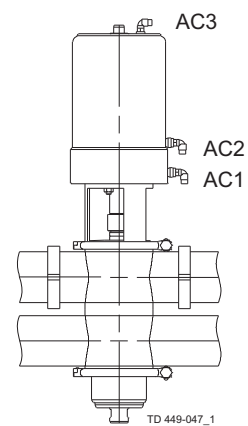
#### Step 3

Fittings: Ensure that the connections are tight.



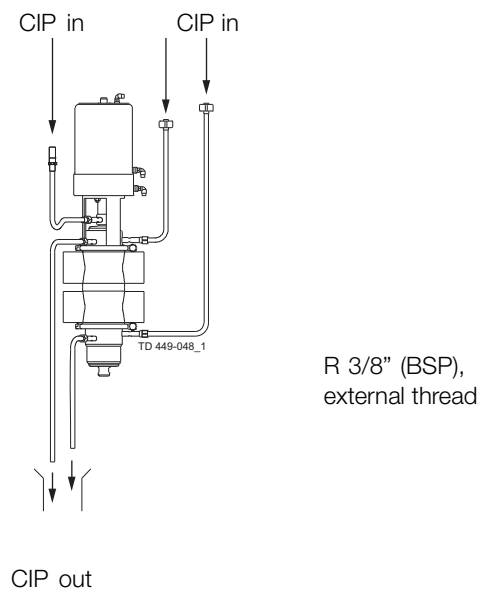
#### Step 4

Air connection: R 1/8" (BSP).  
AC1: Cleaning of upper seat.  
AC2: Open valve.  
AC3: Cleaning of lower seat.



#### Step 5

CIP connection (optional extra):  
1. See description of cleaning in section 4.3 Recommended cleaning.  
2. Connect CIP correctly.



### 3 Installation

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

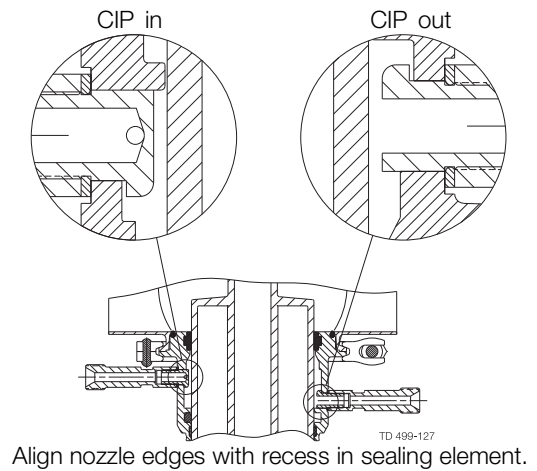
The valve has ends for welding as standard.

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

**Check the valve for smooth operation after welding.**

#### Step 6

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

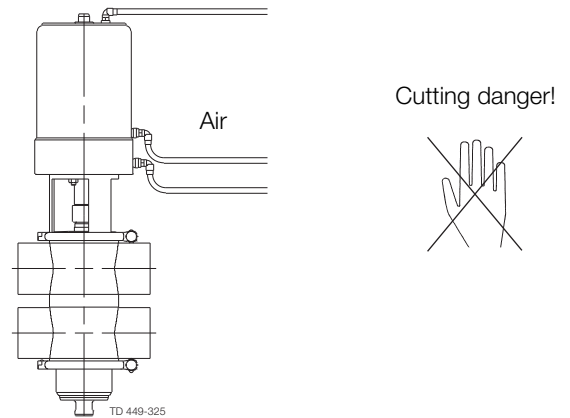


### 3.3 Welding

#### Step 1



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



#### Step 2

Dismantle the valve in accordance with Step 1 in section 5.2 Dismantling the valve.

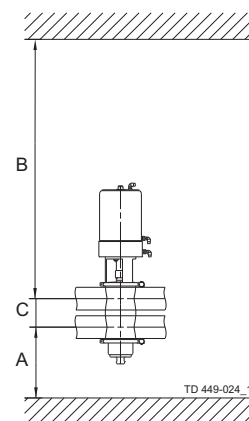
#### Step 3

##### NOTE

Maintain the minimum clearances 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).





### 3 Installation

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

The valve has ends for welding as standard.

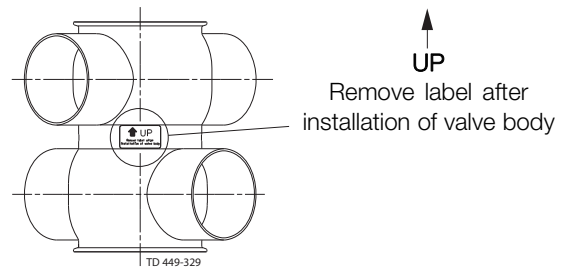
**Weld carefully/aim at stressless welding to avoid deformation on sealing areas.**

**Check the valve for smooth operation after welding.**

#### Step 4

##### WARNING

Make sure to turn the valve body correctly - conical valve seat upwards.



#### Step 5

Assemble the valve in accordance with section 5.5 Valve assembly after welding.

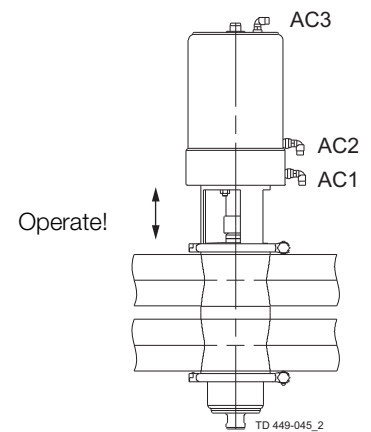
**Pay special attention to the warnings!**

#### 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!**



### 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.**

**NOTE!**

If ThinkTop® is mounted, add 180 mm (7,1") to B measure.

**Table 1 and 2**

1. Lower sealing element can be removed without taking out actuator and internal valve parts.
2. Actuator and internal valve parts can be lifted out of the valve body.

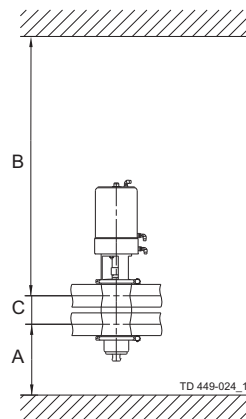


Table 1. (All measures in mm) (1 mm = 0.0394")

Size	ISO					DIN						
	DN/OD 38	DN/OD 51	DN/OD 63.5	DN/OD 76.1	DN/OD 101.6	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
<b>A</b> Basic/SeatClean PMO	160	200 195	250 225	250 245	290 279	160	200	240	220	280	320	305
<b>A</b> HighClean/UltraClean PMO	200	265 265	300 300	300 320	360 349	200	265	290	270	350	390	375
<b>*C</b>	60.8	73.8	86.3	98.9	123.6	64	76	92	107	126	151	176
<b>B</b> Basic	700	760	909	909	1148	700	760	909	909	1148	1350	1370
SeatClean PMO	700	760 765	880 885	880 900	1050 1050	700	760	880	880	1050	1250	1270
<b>B</b> HighClean/UltraClean PMO	810	870 877	1020 1047	1020 1060	1250 1250	810	870	1020	1020	1250	1400	1420

\* The measure C can always be calculated by the formula  $C = \frac{1}{2} ID \text{ upper} + \frac{1}{2} ID \text{ lower} + 26 \text{ mm (1")}$ .

Table 2. (All measures in mm) (1 mm = 0.0394")

Size	Sch. 5				
	Sch. 5 2"	Sch. 5 3"	Sch. 5 4"	Sch. 5 5"	Sch. 5 6"
<b>A</b> Basic/SeatClean	190	210	265	315	300
<b>A</b> HighClean/UltraClean	230	260	340	385	370
<b>*C</b>	83	110.7	136.1	161.8	188.8
<b>B</b> Basic	760	909	1148	1350	1370
SeatClean	760	880	1050	1250	1270
<b>B</b> HighClean/UltraClean	870	1020	1250	1420	1420

\* The measure C can always be calculated by the formula  $C = \frac{1}{2} ID \text{ upper} + \frac{1}{2} ID \text{ lower} + 26 \text{ mm (1")}$ .

### 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.

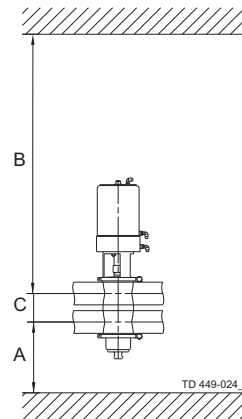
Check the valve for smooth operation after welding.

**NOTE!**

If ThinkTop® is mounted, add 180 mm (7,1") to B measure.

**Table 3 and 4**

1. Lower sealing element can only be dismantled if actuator and internal parts are removed.



**Table 3.**

Size	ISO					DIN						
	DN/OD 38	DN/OD 51	DN/OD 63.5	DN/OD 76.1	DN/OD 101.6	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
<b>A</b>												
Basic/Seat Clean	120	140	170	170	200	120	140	170	160	200	250	235
PMO		135	145	165	189							
<b>A</b>												
HighClean/UltraClean	170	190	220	220	270	170	190	220	210	270	320	305
PMO		190	220	240	259							

**Table 4.**

Size	Sch. 5				
	Sch. 5 2"	Sch. 5 3"	Sch. 5 4"	Sch. 5 5"	Sch. 5 6"
<b>A</b>					
Basic/Seat Clean	140	160	190	245	230
<b>A</b>					
HighClean/UltraClean	180	210	270	315	

## 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.*

---

### 3.4 Recycling information

---

- **Unpacking**

- Packing material consists of wood, plastics, cardboard boxes and in some cases metal straps
- Wood and cardboard boxes can be 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
-

*The valve is adjusted and 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 carefully.  
See section 6.1 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).

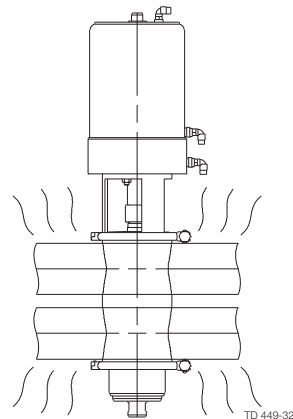
#### CAUTION

Alfa Laval cannot be held responsible for incorrect operation.

#### Step 2



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



Burning danger!



TD 449-326

## 4 Operation

*The valve is adjusted and 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.*

### 4.2 Fault finding and repair

#### NOTE

Study the maintenance instructions carefully before replacing worn parts.

Problem	Cause/result	Repair
Leakage between sealing element (79) and lower plug (75)	Worn/product affected o-rings/ lip seal (76/77/78)	<ul style="list-style-type: none"> <li>- Replace the o-rings/lip seal</li> <li>- Change rubber grade</li> <li>- Lubricate correctly</li> </ul>
Leakage at the leakage outlet	<ul style="list-style-type: none"> <li>- Particles between valve seats and plug seals (56/74)</li> <li>- Worn/product affected plug seal rings (56/74)</li> <li>- Plug not assembled correctly</li> </ul>	<ul style="list-style-type: none"> <li>- Remove the particles</li> <li>- Check the plug seals</li> <li>- Replace the plug seals</li> <li>- Change rubber grade</li> <li>- Assemble plug, see step 3 section 5.5 Valve assembly</li> </ul>
Leakage at sealing element (48)/upper plug (55)	Worn/product affected o-rings/lip seal (sizes 38/39/46/49)	<ul style="list-style-type: none"> <li>- Replace the o-rings/lip seal</li> <li>- Change rubber grade</li> <li>- Clean and if necessary replace guide ring (45)</li> </ul>
Leakage at clamp (64)	<ul style="list-style-type: none"> <li>- Too old/product affected o-rings (76 and 47) (and 52 if clamped valve body)</li> <li>- Loose clamp (64)</li> </ul>	<ul style="list-style-type: none"> <li>- Replace the o-rings</li> <li>- Change rubber grade</li> <li>- Tighten the clamp</li> </ul>
CIP leakage	Worn o-rings (40/67/71)	Replace the o-rings
Leakage at spindle clamp (43)	Damaged o-ring (39) W orn/product affected lip seal (57) or spray nozzle (58)	<ul style="list-style-type: none"> <li>- Replace the o-ring</li> <li>- Replace the plug seals</li> <li>- Change rubber grade</li> </ul>
Lower plug not returning to closed position	<ul style="list-style-type: none"> <li>- Wrong rubber grade</li> <li>- Wrongly fitted gasket</li> <li>- Mounted incorrectly (see section 2.3)</li> </ul>	<ul style="list-style-type: none"> <li>- Change rubber grade</li> <li>- Fit new gasket correctly</li> <li>- Correct installation</li> </ul>
Plug returns with uneven movements (slip/stick effect)	<ul style="list-style-type: none"> <li>- Wrong rubber grade</li> <li>- Wrongly fitted gasket</li> <li>- Mounted incorrectly (see section 2.3)</li> </ul>	<ul style="list-style-type: none"> <li>- Change rubber grade</li> <li>- Fit new gasket correctly</li> <li>- Correct installation</li> </ul>

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. HNO<sub>3</sub> = Nitric acid.  
 Internal leakage in the valve is externally visible by means of the leakage outlet.

### 4.3 Recommended cleaning

#### Step 1



**Never** touch the valve or the pipelines when sterilising.

**Caustic danger!**



**Always** use rubber gloves!

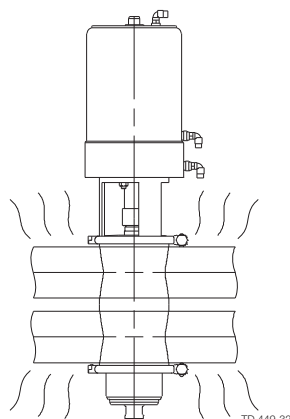


**Always** use protective goggles!

#### Step 2



**Never** touch the valve or the pipelines when sterilising.



**Burning danger!**



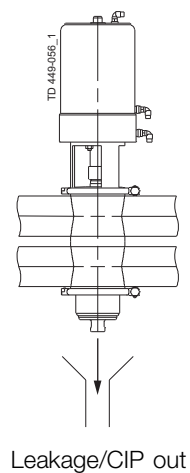
#### Step 3



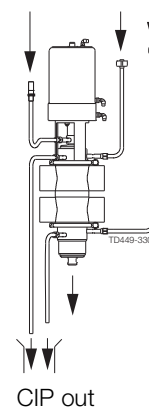
**Never** throttle the leakage outlet.



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



CIP in CIP in



## 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. HNO<sub>3</sub> = Nitric acid.

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

### Step 4

#### 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 HNO<sub>3</sub> at 70° C (158°F).

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

0.7 l (0.2 gal) 53% HNO <sub>3</sub>	+	100 l (26.4 gal) water	=	Cleaning agent.
---	---	---------------------------	---	-----------------

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

### 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 3-6 seconds per CIP sequence.

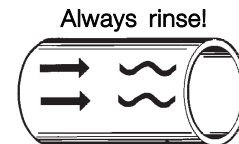
Product	Periods
Milk	1-2
Yoghurt	3-5
Beer	2-5
Cold wort	5-10

### Step 7

**Always** rinse well with clean water after the cleaning.

#### NOTE

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

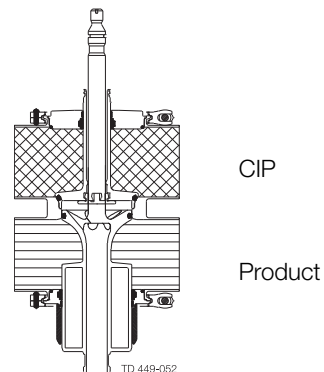


Clean water    Cleaning agents

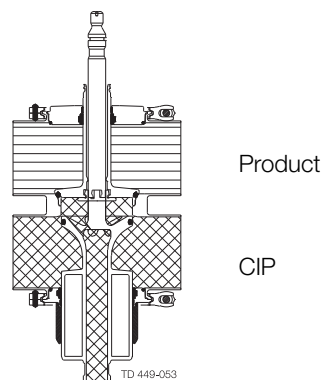


The valve is designed for cleaning in place (CIP). CIP = Cleaning In Place.  
 Study the instructions carefully and pay special attention to the warnings!  
 NaOH = Caustic Soda. HNO<sub>3</sub> = Nitric acid.  
 Internal leakage in the valve is externally visible by means of the leakage outlet.

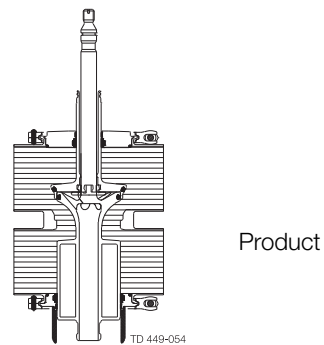
**Seat-cleaning cycles:**  
 Pay special attention to the warnings!  
 1. Closed valve



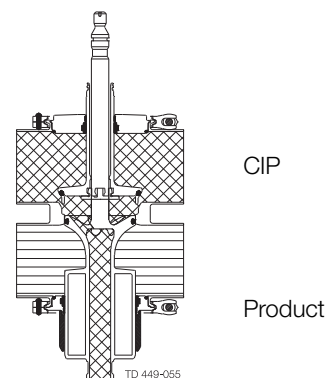
2. Cleaning through lower line



3. Open valve



4. Cleaning through upper line



## 5 Maintenance

Maintain the valve/actuator regularly. Study the instructions carefully and pay special attention to the warnings!  
Always keep spare rubber seals and guide rings in stock. The items refer to the parts list and service kits section.  
The valve is designed so that internal leakages do not result in the products becoming mixed.  
Internal leakage in the valve is externally visible. Check the valve for smooth operation after service.

### 5.1 General maintenance

#### Step 1



**Always** read the technical data carefully.  
See section 6.1 Technical data



**Always** fit the seals correctly (risk of mixing).



**Always** release compressed air after use.



**Always** remove the CIP connections, if supplied, before service.

#### NOTE

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

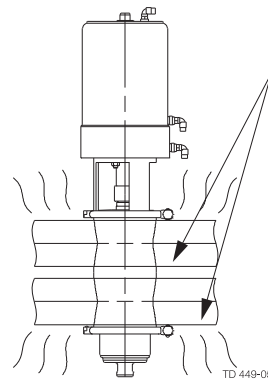
#### Step 2



**Never** service the valve when it is hot.



**Never** service the valve with valve/actuator under pressure.



Atmospheric pressure required!

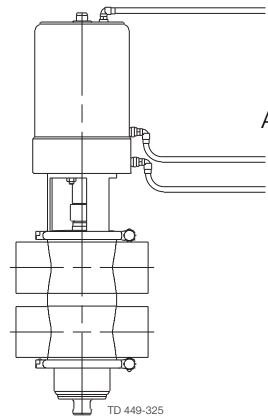
Burning danger!



#### Step 3



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



Air

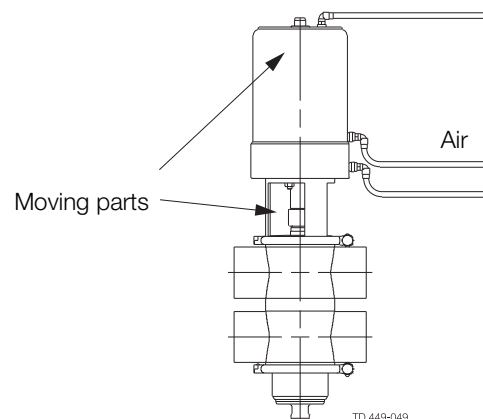
Cutting danger!



#### Step 4



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



Air

Moving parts

TD 449-049

## 5 Maintenance

Maintain the valve/actuator regularly. Study the instructions carefully and pay special attention to the warnings!  
 Always keep spare rubber seals and guide rings in stock. The items refer to the parts list and service kits section.  
 The valve is designed so that internal leakages do not result in the products becoming mixed.  
 Internal leakage in the valve is externally visible. Check the valve for smooth operation after service.

### Recommended spare parts: Service kits

Order service kits from the service kits section - see section 7 Parts list and service kits

**Ordering spare parts:** Contact the Sales Department.

	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"> <li>- Regular inspection for leakage and smooth operation</li> <li>- Keep a record of the valve</li> <li>- Use the statistics for planning of inspections</li> </ul>	<ul style="list-style-type: none"> <li>- Regular inspection for leakage and smooth operation</li> <li>- Keep a record of the valve</li> <li>- Use the statistics for planning of inspections</li> </ul>	Replace when required
Lubrication	<b>When assembling</b> Klüber Paraliq GTE 703 or similar USDA H1 approved oil/grease (**) (suitable for EPDM)	<b>When assembling</b> 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.

## 5 Maintenance

Study the instructions carefully.

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

Handle scrap correctly.

Replace seals if necessary.

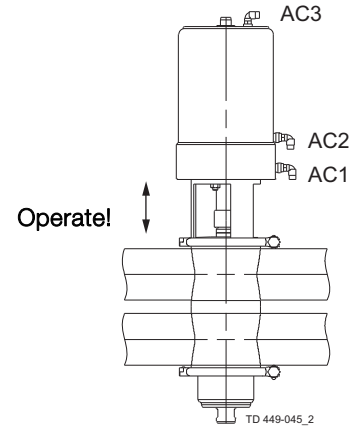
### Repairing of actuator:

- The actuator is maintenance-free but repairable.
- If repair is required, replacing all actuator rubber seals is recommended.
- Lubricate seals with Klüberplex BE31.
- 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!



## 5.2 Dismantling the valve

### Step 1

Disassemble valve acc. to illustrations ( 1 to 6 ).

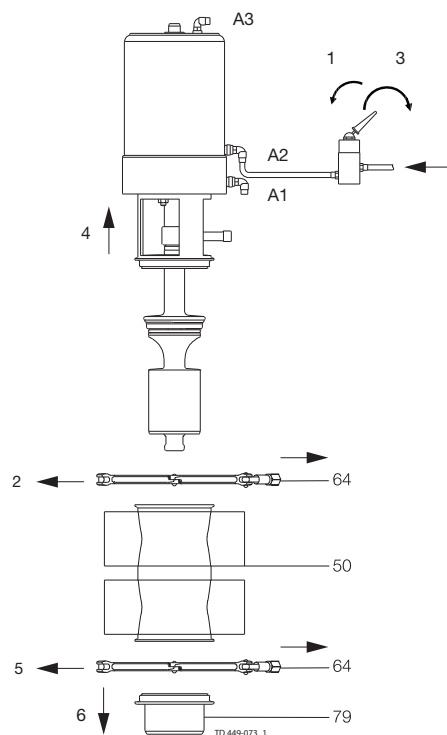
1. Supply compressed air to AC2.
2. Loosen and remove upper clamp (64).
3. Release compressed air.
4. Lift out the actuator together with the internal valve parts from valve body (50).
5. Loosen and remove lower clamp (64).
6. Take away lower sealing element (79).

### OPTION:

If clamped valve body: Loosen and remove clamp and pull upper (51) and lower (53) valve bodies apart. Pull out o-ring (52).

### NOTE

Release compressed air.



Study the instructions carefully.

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

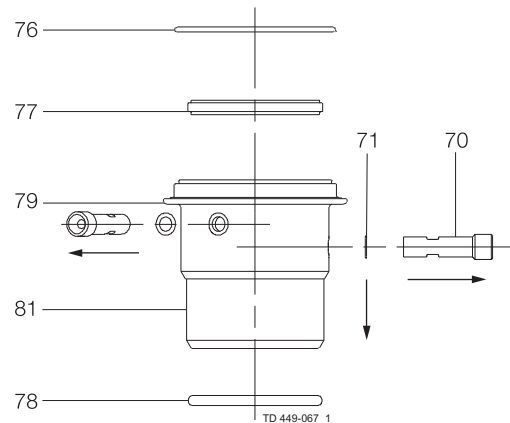
Handle scrap correctly.

Replace seals if necessary.

### Step 2

Dismantling of lower sealing element:

1. Pull out o-ring (76) and lip seal (77).
2. Remove o-ring (78).
3. Screw out flushing tubes (70).
4. Remove o-rings (71) and nozzles (72 + 73).



### Step 3

3A:

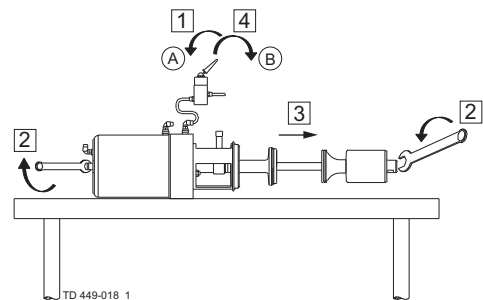
If air fitting AC1 is present, supply compressed air and follow procedure 3A.

1. Supply compressed air for AC1.
2. Loosen lower plug (75) while counterholding upper stem (1).
3. Remove the plug.
4. Release compressed air.

A. On

B. Off

If upper seat lift available



3B:

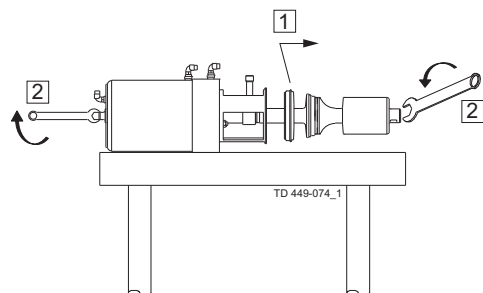
If no air fitting AC1 is present, follow procedure 3B.

1. Push upper sealing element (48) free of intermediate piece (37).
2. Loosen lower plug while counterholding upper stem.
3. Remove the plug (75).

Replace o-ring (38).

**Note:** For replacement of seal ring (74), please see section 5.3 Lower plug, replacement of radial seal.

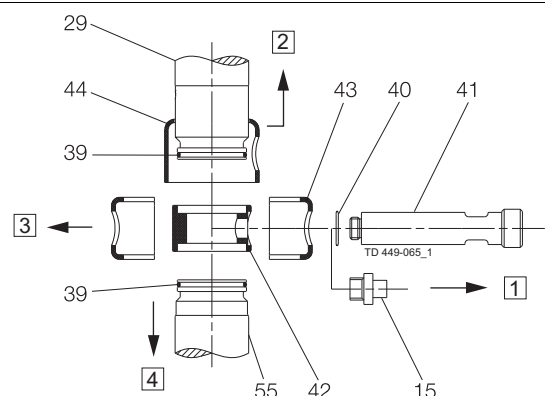
If no upper seat lift available



### Step 4

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

1. Unscrew flushing tube (41) (or plug (15) if no CIP). Remove o-ring (40).
2. Pull up lock (44) over piston rod (29).
3. Pull away clamps (43) from spindle liner (42).
4. Pull out upper plug (55). Make sure spindle liner is free of both piston rod and upper plug. If external CIP to leakage chamber: Remove o-rings (39).



## 5 Maintenance

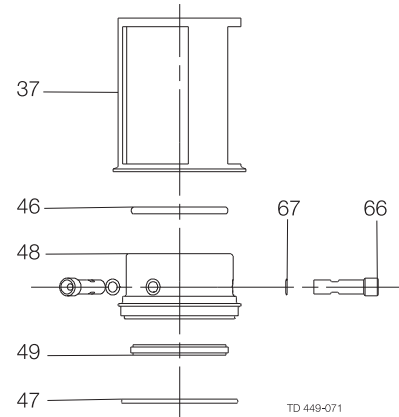
Study the instructions carefully.

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

Handle scrap correctly.

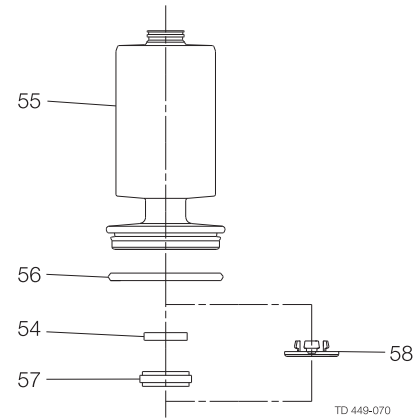
### Step 5

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



### Step 6

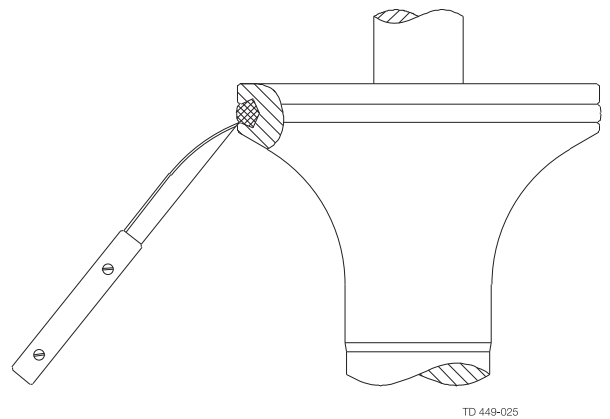
Remove lip seal (57) (or spray nozzle (58) if valve is supplied with Spiral-Clean). For removal and replacement of seal ring (56), please see section 5.3 Lower plug, replacement of radial seal.



## 5.3 Lower plug, replacement of radial seal

### Step 1

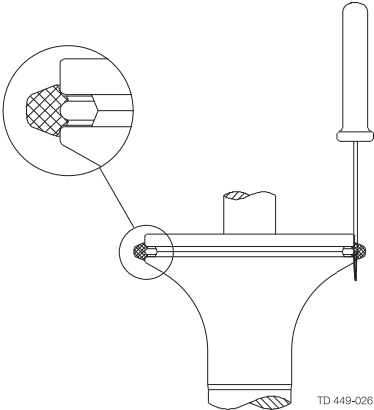
Cut and remove old seal ring (74) using a knife, screwdriver or similar. Be careful not to scratch the plug.



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

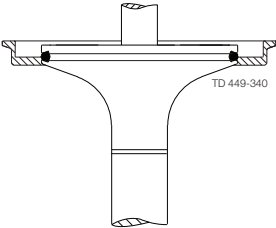
**Step 2**

Pre-mount seal ring as shown on drawing.  
 Rotate along circumference to fix gasket as shown in the picture.  
 Carefully lubricate sealings with acceptable soap or lubricant,  
 before pre-mounting.



**Step 3**

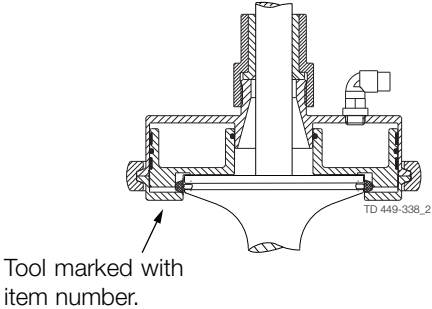
Place lower tool part.



Item no.				Tool for radial sealing, lower plug
Seat ø53	Seat ø81	Seat ø110	Seat ø115	
9613-4260-01	9613-4260-02	9613-4260-03	9613-4260-04	

**Step 4**

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



## 5 Maintenance

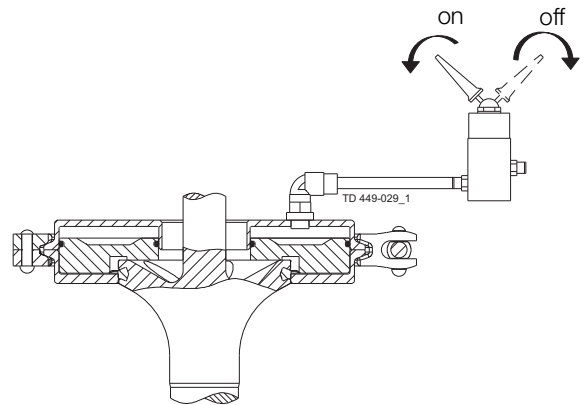
Study the instructions carefully.

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

Handle scrap correctly

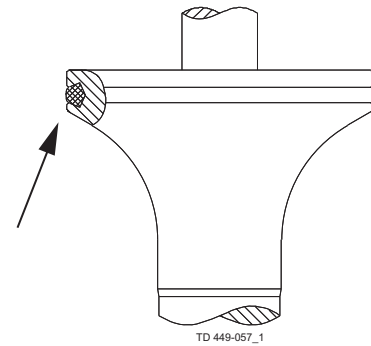
### Step 5

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



### Step 6

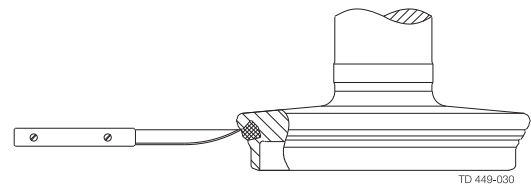
Inspect the seal to ensure it does not twist in the groove, and press in the 4 outsticking points with a screwdriver!



## 5.4 Upper plug, replacement of axial seal

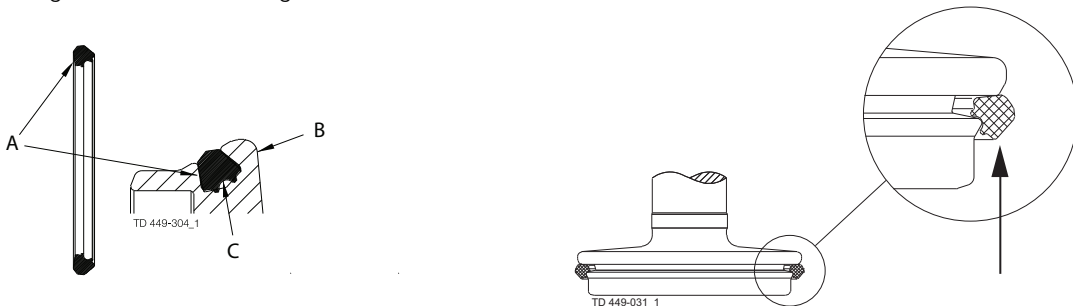
### Step 1

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



### Step 2

Pre-mount seal ring as shown on drawing.



A = Flat side of sealing

B = Balanced plug

C = Do not lubricate behind the sealing

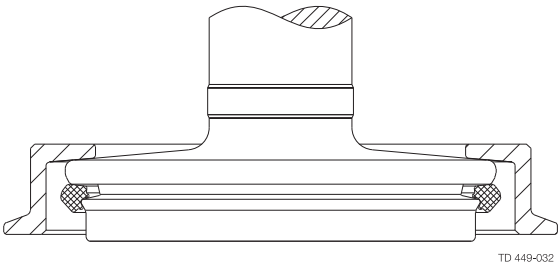
Carefully lubricate sealings with acceptable soap or lubricant, before pre-mounting.



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

**Step 3**

Place tool part 1.



TD 449-032

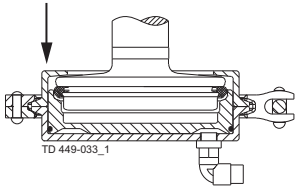
Item no.				Tool for axial sealing, upper plug
Seat ø53	Seat ø81	Seat ø110	Seat ø115	
9613050501	9613050502	9613050508	9613050503	

TD 449-033

**Step 4**

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

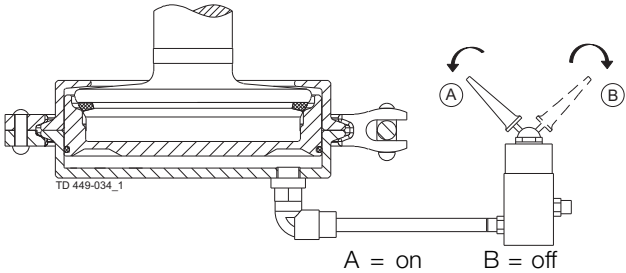
Tooling marked with item number



TD 449-033\_1

**Step 5**

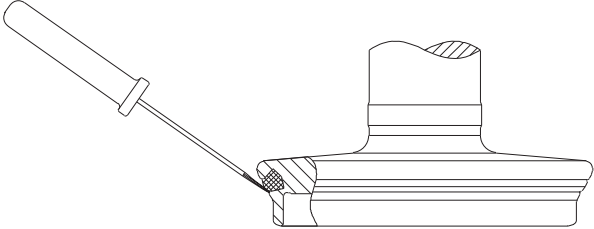
1. Supply compressed air.
2. Release compressed air.
3. Rotate the tool 45° with regards to the plug.
4. Supply compressed air.
5. Release compressed air and remove tool.



TD 449-034\_1

**Step 6**

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



TD 449-042

## 5 Maintenance

Study the instructions carefully.

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

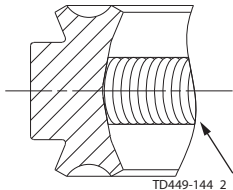
Handle scrap correctly.

Replace seals if necessary.

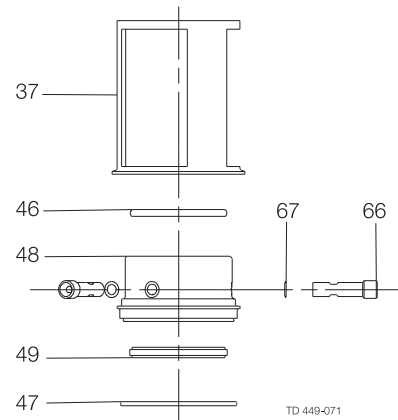
### 5.5 Valve assembly

#### Step 1

1. Fit o-ring (47) (do not twist), lip seal (49) and o-ring (46) in upper sealing element (48) (Lubricate with Klüber Paralique GT 703).
- NOTE:** The o-ring should be gently pressed into the groove
2. Fit upper 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.

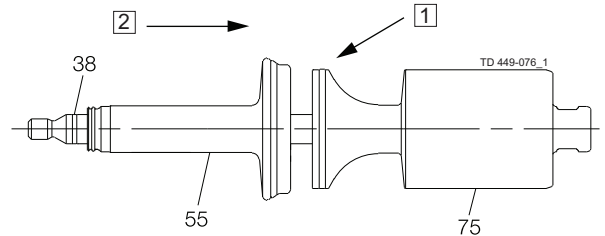


Lubricate with Klüber Paralique GT 703



#### Step 2

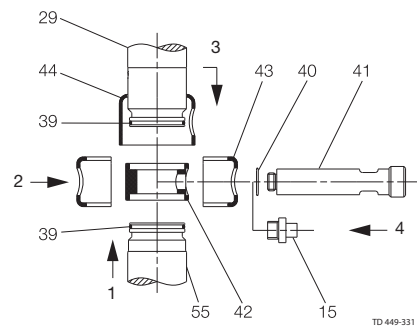
1. Place lip seal (57) in upper plug (or spray nozzle if the valve has SpiralClean) and the o-ring (38) in the lower plug.
  2. Press lower plug (75) rapidly into upper plug (55) through the lip seal.
- Note:** Do not damage the lips when lower plug (75) with o-ring (38) passes the lip seal.



#### Step 3

Place coupling system and upper 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 upper plug (55).
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).

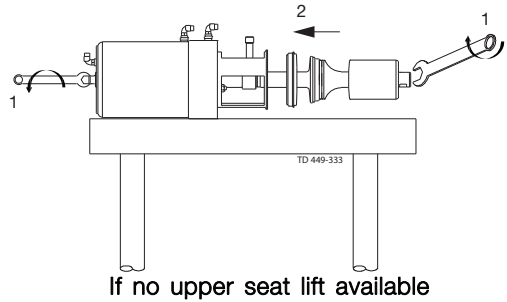
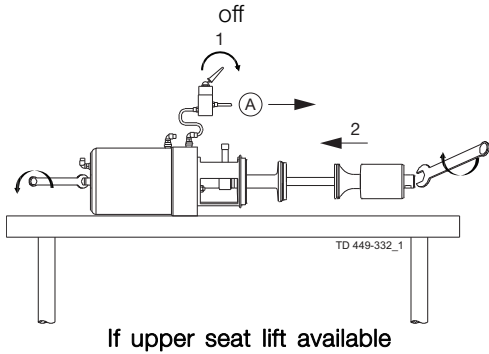


Study the instructions carefully.  
 The items refer to the parts list and service kits section.  
 Handle scrap correctly.  
 Replace seals if necessary.

**Step 4**

Recommended torque values for fitting upper and lower plug parts

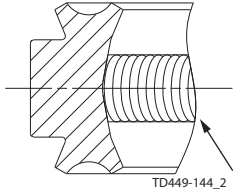
Dimension	Torque (Nm)/(lbf-ft)
38 mm/DN 40	5/(3.7)
51 mm/DN 50	
Sch. 5 2"	
All others	20/(14.8)



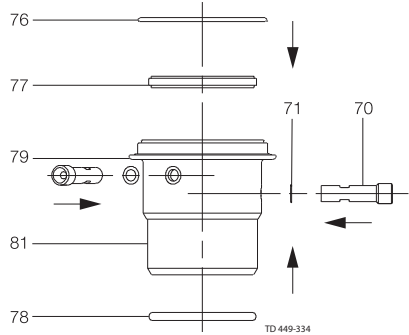
A = air

**Step 5**

- Place o-rings (71) and fit nozzles (72 + 73) and flushing tubes (70), if present.
- Place o-ring (78) and fit lip seal (77) and o-ring (76) (do not twist the o-ring) and press it gently into the groove (lubricate with Klüber Paralique GT703)



Lubricate with Klüber Paralique GT 703



## 5 Maintenance

Study the instructions carefully.

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

Handle scrap correctly.

Replace seals if necessary.

### Step 6

- **Never** stick your fingers through the valve ports if the actuator is supplied with compressed air.
  - **Always** supply compressed air, before demounting the valve.
- If clamped valve body: First place o-ring (52) and fit upper (51) and lower (53) valve bodies. Fit and tighten clamp (64).

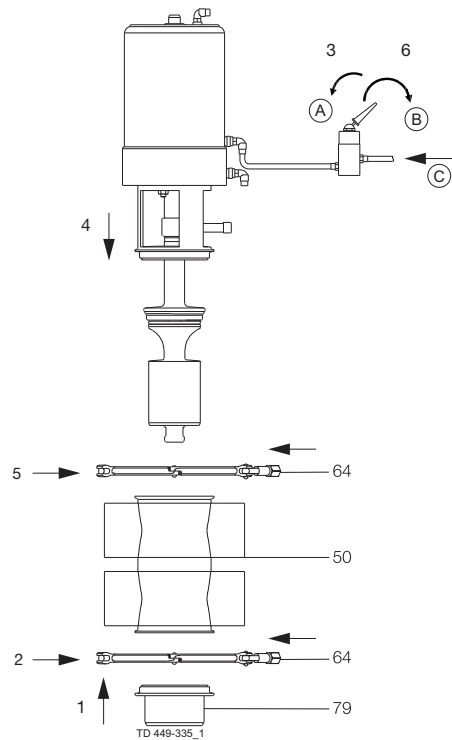
Reassemble valve according to illustrations ( 1 - 6 ).

1. Fit lower sealing element (79).
2. Fit and tighten lower clamp (64).
3. Supply compressed air and mount the actuator together with the internal valve parts from valve body (50).
4. Fit and tighten upper clamp (64). Greasing of clamp and clamp nut recommended!  
**(Maximum torque for clamp nut: 10Nm/7.4 lbf-ft)**
5. Release compressed air.

### NOTE

Supply compressed air before demounting the valve.

- A = on  
B = off  
C = air



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

## 5.6 Dismantling of actuator

### Step 1

1. Dismantle the valve in accordance with instructions in section 5.2 Dismantling the 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.

**Note!** The actuator is maintenance free but repairable.

### 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 retaining ring (24).

### Step 3

1. Remove piston rod (29), bottom (21) and lower piston (30). 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).

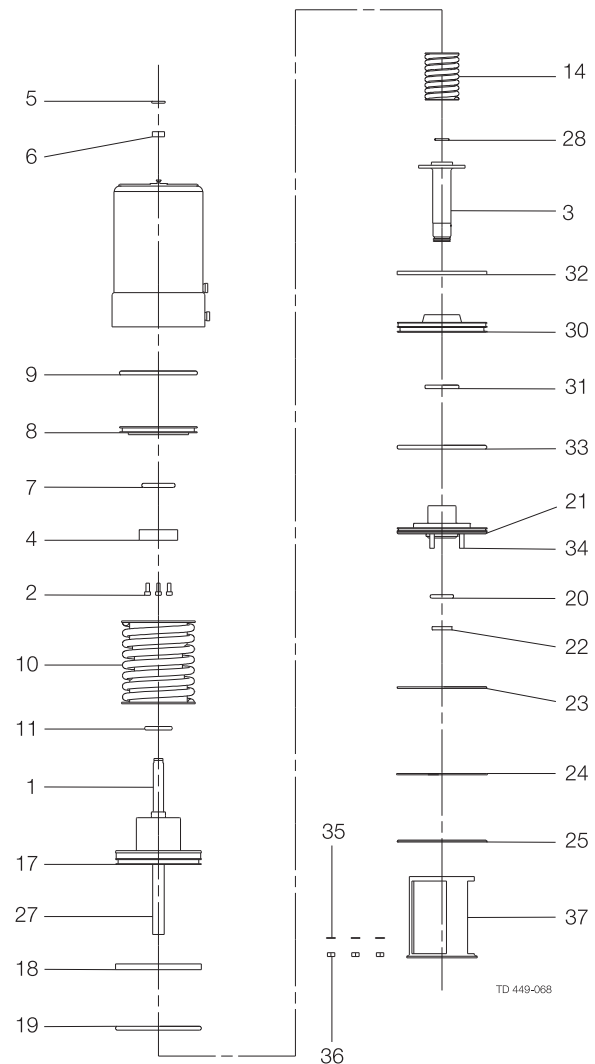
### Step 5

**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

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



## 5 Maintenance

Study the instructions carefully.

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

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.

**Note!** The actuator is maintenance free but repairable.

#### 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

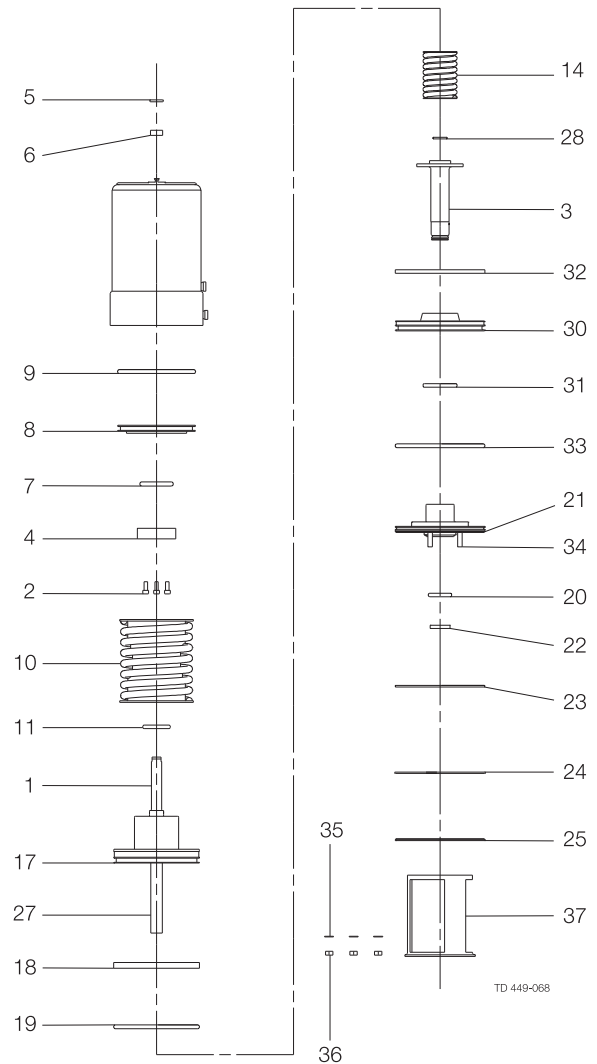
1. Place spring assembly (10).
2. Fit o-ring (19) and guide ring (18). Mount distance spacer (11), main piston (17) and inner stem (27).

#### 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).



*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 between them under 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.

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

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

#### Weight (kg)

Size	DN/OD					DN						
	38	51	63.5	76.1	101.6	40	50	65	80	100	125	150
Weight (kg) - Basic	13.5	15	24	24	34	13.5	15	24	24	34	44	45
Weight (kg) - SeatClean	13.5	15	24	24	34	13.5	15	24	24	34	47	48
Weight (kg) - High-/UltraClean	14.5	16	27	27	38	14.5	16	27	27	38	51	52

#### Noise

One metre away from - and 1.6 metre 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.*

Below table values for the Unique PMO version please refer to PD sheet PD66352.

Size ISO/DIN/Sch.5	DN/OD					DN							Sch. 5				
	38	51	63.5	76.1	101.6	40	50	65	80	100	125	150	2"	3"	4"	5"	6"
Kv-value																	
Upper Seat-lift [m <sup>3</sup> /h]	1.5	1.5	2.5	2.5	3.1	1.5	1.5	2.5	2.5	3.1	3.7	3.7	1.5	2.5	3.1	3.7	3.7
Kv-value																	
Lower Seat-lift [m <sup>3</sup> /h]	0.9	0.9	1.9	1.9	2.5	0.9	0.9	1.9	1.9	2.5	3.1	3.1	0.9	1.9	2.5	3.1	3.1
Air consumption																	
Upper Seat-lift *[n litre]	0.2	0.2	0.4	0.4	0.62	0.2	0.2	0.4	0.4	0.62	0.62	0.62	0.2	0.4	0.62	0.62	0.62
Air consumption																	
Lower Seat-lift *[n litre]	1.1	1.1	0.13	0.13	0.21	1.1	1.1	0.13	0.13	0.21	0.21	0.21	1.1	0.13	0.21	0.21	0.21
Air consumption																	
Main Movement *[n litre]	0.86	0.86	1.63	1.63	2.79	0.86	0.86	1.62	1.62	2.79	2.79	2.79	0.86	1.63	2.79	2.79	2.79
Kv-value SpiralClean																	
Spindle CIP [m <sup>3</sup> /h]	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Kv-value SpiralClean																	
External CIP of leakage chamber [m <sup>3</sup> /h]	0.25	0.25	0.29	0.29	0.29	0.25	0.25	0.29	0.29	0.29	0.29	0.29	0.25	0.29	0.29	0.29	0.29

### Note:

\* [n litre] = volume at atmospheric pressure.

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

$$Q = K_v \cdot \sqrt{\Delta p}$$

Q = CIP - flow (m<sup>3</sup>/h).

K<sub>v</sub> = K<sub>v</sub> value from the above table.

Δ p = CIP pressure (bar).

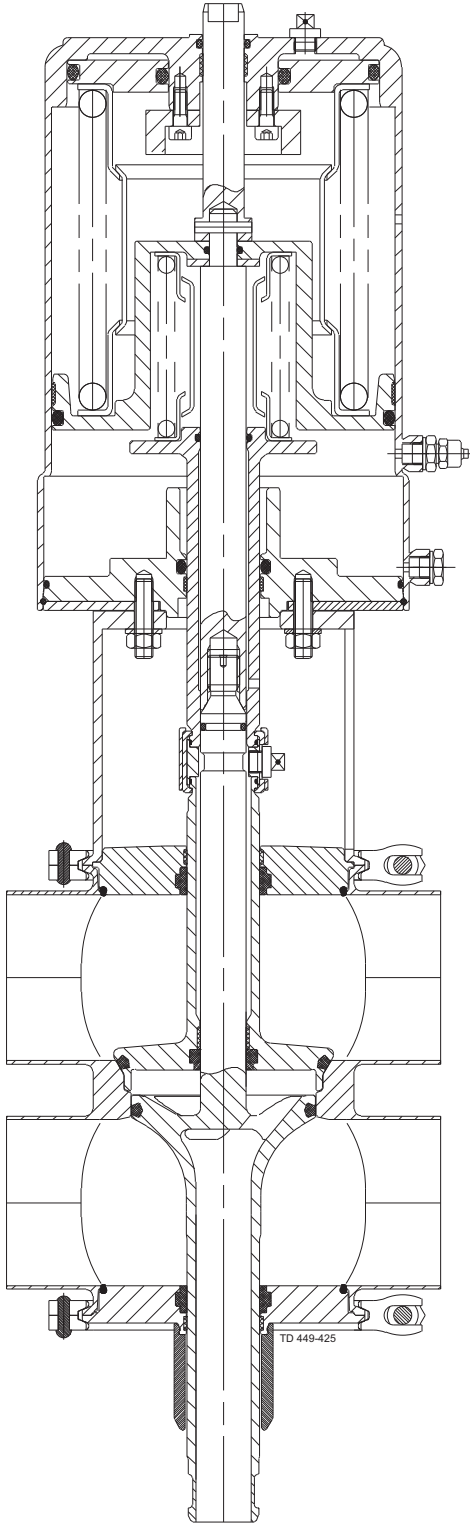
$$C_v = 1.163 \times K_v \text{ gpm}$$

1 bar = 14.5 psi

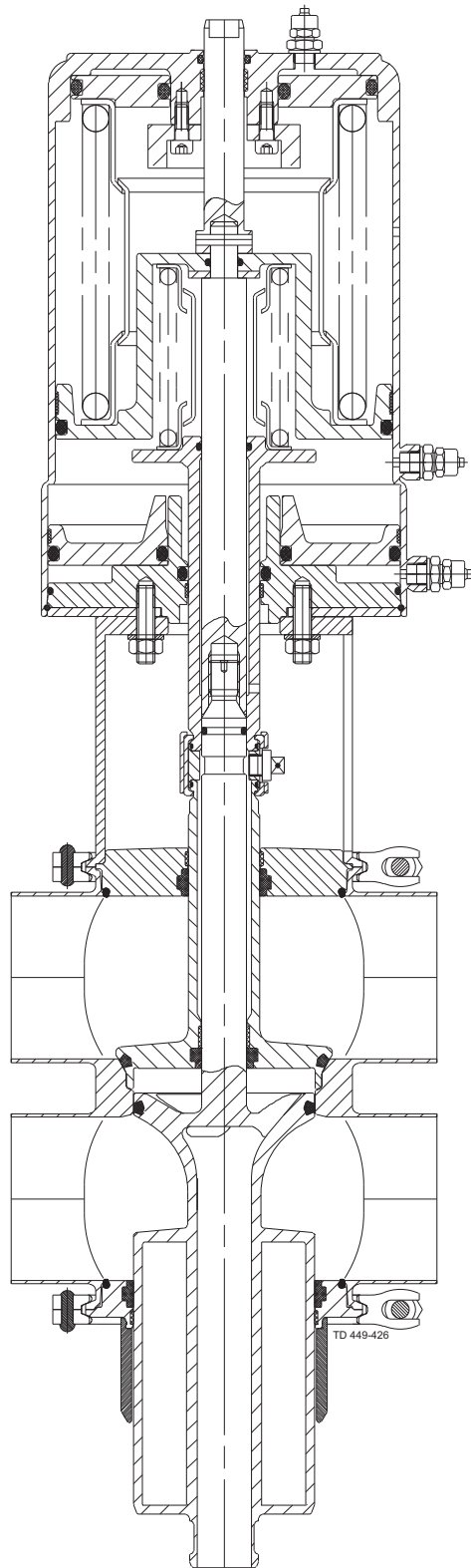


*It is important to observe the technical data during installation, operation and maintenance.  
Inform the personnel about the technical data.*

### 7.1 Four configurations examples



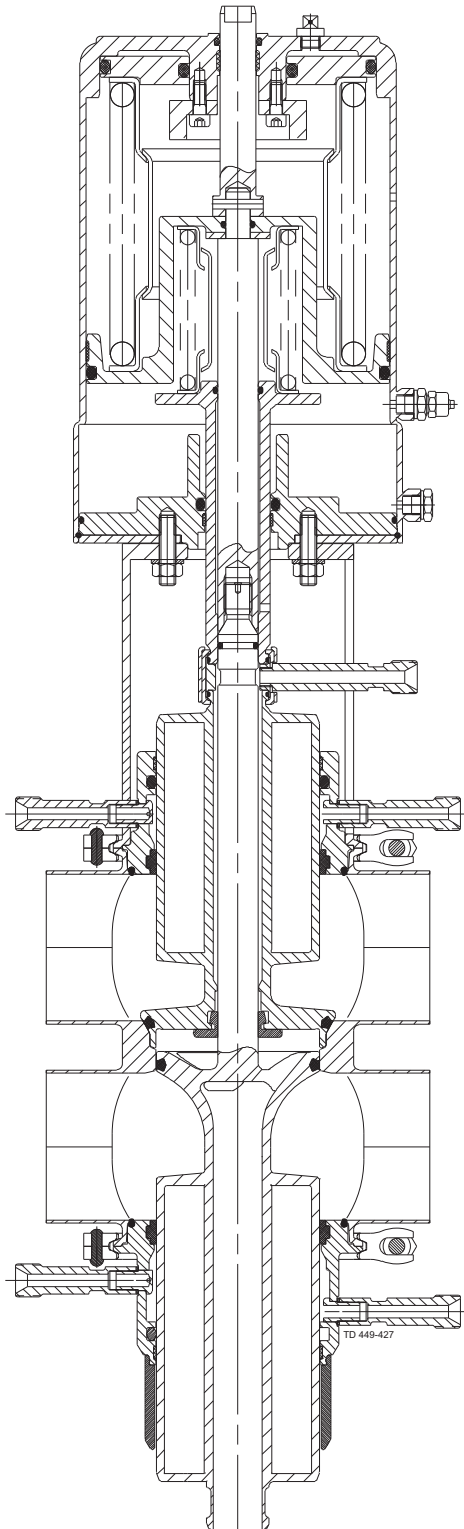
Basic



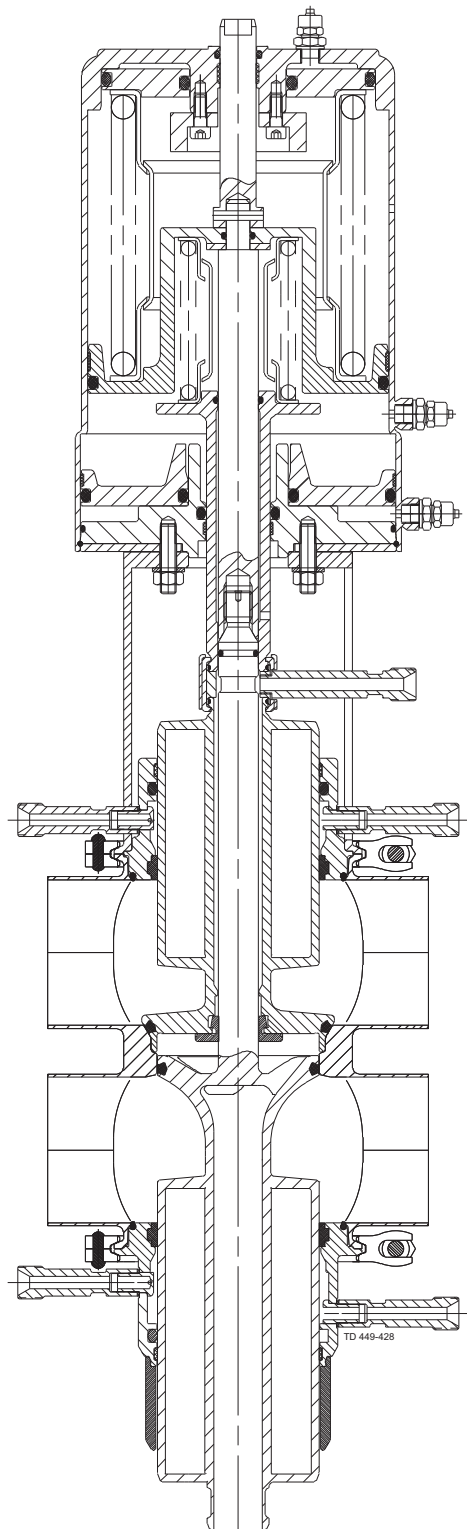
SeatClean

## 7 Parts list and service kits

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



HighClean

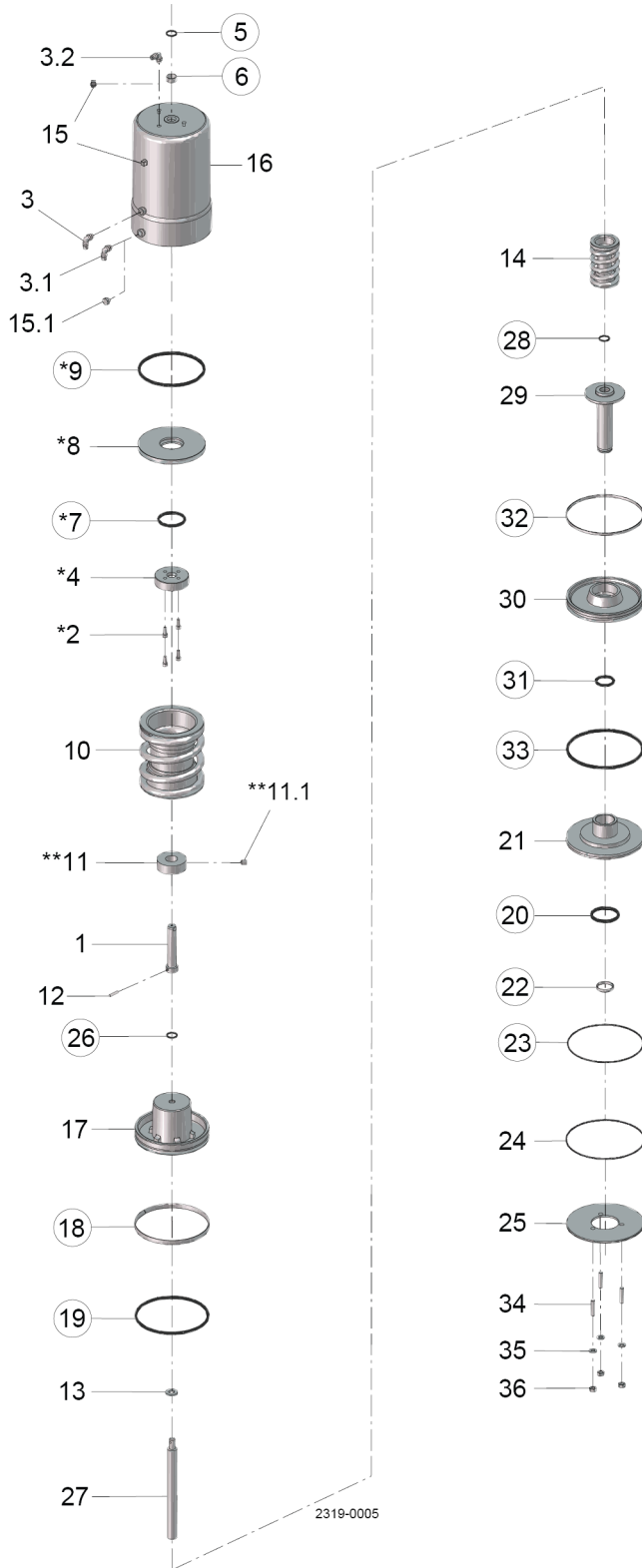


UltraClean

## 7 Parts list and service kits

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

### 7.2 Actuator



## 7 Parts list and service kits

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

### Parts list

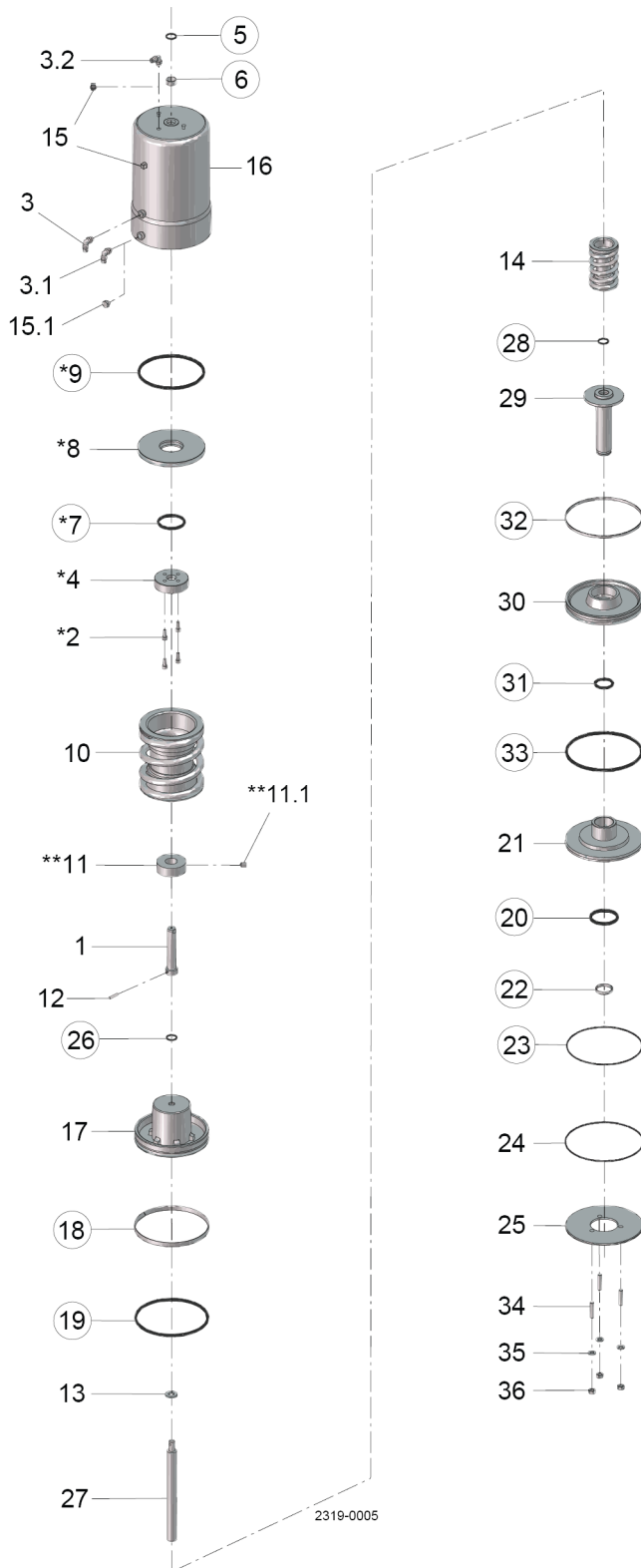
Pos.	Qty	Denomination
1	1	Upper stem
2	4	Screw
3	1	Air fitting
3.1	1	Air fitting
3.2	1	Air fitting
4	1	Stop for upper piston
5 □	1	O-ring, NBR
6 □	1	Guide ring, Turcite
7 □	1	O-ring, NBR
8	1	Upper piston
9 □	1	O-ring, NBR
10	1	Spring assembly
11	1	Distance spacer
11.1	1	Screw
12	1	Pin
13	1	Washer
14	1	Spring assembly
15	1	Plug
15.1	1	Plug
17	1	Main piston
18 □	1	Guide ring, Turcite
19 □	1	O-ring, NBR
20 □	1	O-ring, NBR
21	1	Bottom
22 □	1	Guide ring, Turcite
23 □	1	O-ring, NBR
24	1	Retaining ring
25	1	Cover disk
26 □	1	O-ring, NBR
27	1	Inner stem
28 □	1	O-ring
29	1	Piston rod
30	1	Lower piston
31 □	1	O-ring, NBR
32 □	1	Guide ring, Turcite
33 □	1	O-ring, NBR
34	3	Bolt
35	3	Washer
36	3	Nut
41	1	Flushing tube
42	1	Spindle liner
43	2	Clamp
44	1	Lock

### Service kits

Denomination	DN/OD 38 DN40 Seat ø63.3	DN/OD 51 DN 50 Seat ø63.3	DN/OD 63.5 DN 65 DN/OD 76.1 DN 80 Seat ø81.3 (Unbalanced lower plug)	DN/OD 63.5
				DN/OD 76.1 DN 80 Seat ø81.3 (Unbalanced lower plug)
□ Actuator service kit .....	9611926414	9611926414	9611926415	9611926416

## 7 Parts list and service kits

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



## 7 Parts list and service kits

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

### 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 □	1	O-ring, NBR
6	1	Guide ring, Turcite
7 □	1	O-ring, NBR
8	1	Upper piston
9 □	1	O-ring, NBR
10	1	Spring assembly
11	1	Distance spacer
12	1	Pin
13	1	Washer
14	1	Spring assembly
15	1	Plug
15.1	1	Plug
17	1	Main piston
18	1	Guide ring, Turcite
19 □	1	O-ring, NBR
20 □	1	O-ring, NBR
21	1	Bottom
22	1	Guide ring, Turcite
23 □	1	O-ring, NBR
24	1	Retaining ring
25	1	Cover disk
26 □	1	O-ring, NBR
27	1	Inner stem
28 □	1	O-ring
29	1	Piston rod
30	1	Lower piston
31 □	1	O-ring, NBR
32	1	Guide ring, Turcite
33 □	1	O-ring, NBR
34	3	Bolt
35	3	Washer
36	3	Nut
41	1	Flushing tube
42	1	Spindle liner
43	2	Clamp
44	1	Lock

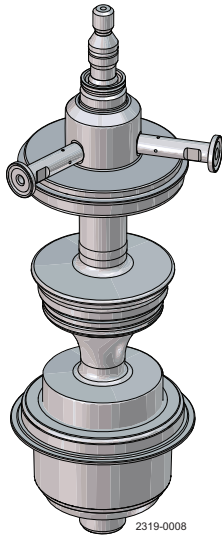
### Service kits

Denomination	#2		#1			
	DN/OD 101.6	Seat ø100.3	DN/OD 101.6	Seat ø115.3	DN 125	Seat ø115.3
	DN 100	unbalanced	DN 100	unbalanced	DN 150	unbalanced
	Seat ø100.3	lower plug	Seat ø115.3	lower plug	Seat ø115.3	lower plug
□ Actuator service kits .....	9611926416	9611926416	9611926416	9611926416	9611926416	9611926416

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

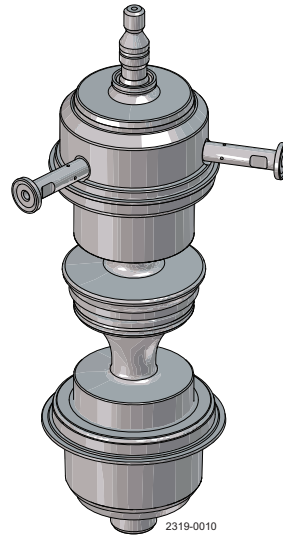
### 7.3 Plug setup overview

#### Plug setup 3



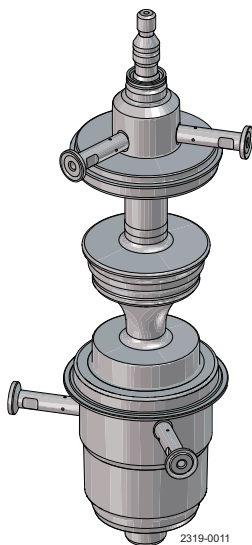
Upper: Unbalanced with SpiralClean OD spindle  
Lower: Balanced (blue bottom)  
See page

#### Plug setup 4



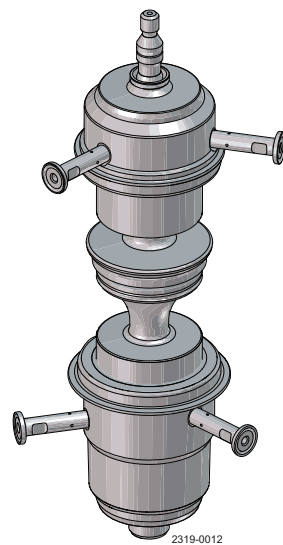
Upper: Balanced with SpiralClean OD balancer  
Lower: Balanced (blue bottom)  
See page

#### Plug setup 5



Upper: Unbalanced with SpiralClean OD spindle  
Lower: Balanced with SpiralClean OD balancer (blue bottom)  
See page

#### Plug setup 6

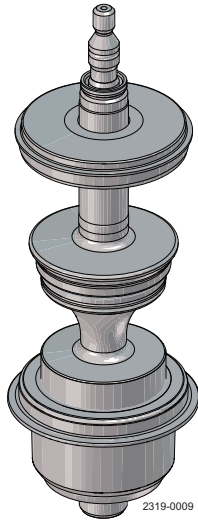


Upper: Balanced with SpiralClean OD balancer  
Lower: Balanced with SpiralClean OD balancer (blue bottom)  
See page

## 7 Parts list and service kits

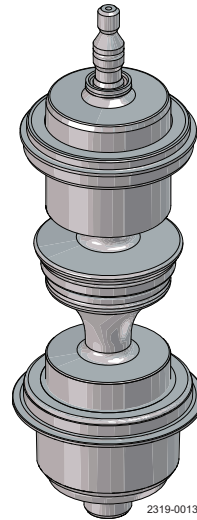
*It is important to observe the technical data during installation, operation and maintenance.  
Inform the personnel about the technical data.*

### Plug setup 11



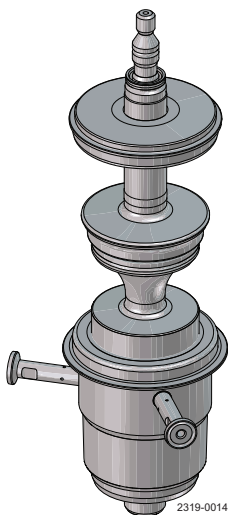
Upper: Unbalanced  
Lower: Balanced (blue bottom)  
See page

### Plug setup 12



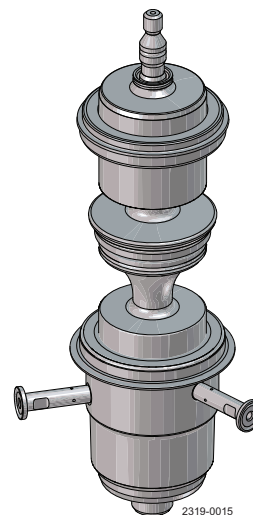
Upper: Balanced  
Lower: Balanced (blue bottom)  
See page

### Plug setup 13



Upper: Unbalanced  
Lower: Balanced with SpiralClean OD balancer (blue bottom)  
See page

### Plug setup 14



Upper: Balanced  
Lower: Balanced with SpiralClean OD balancer (blue bottom)  
See page

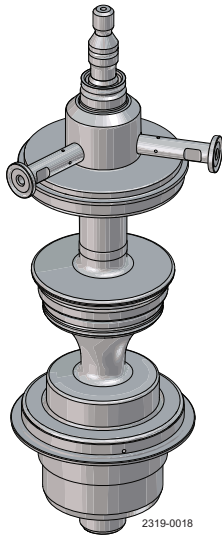




## 7 Parts list and service kits

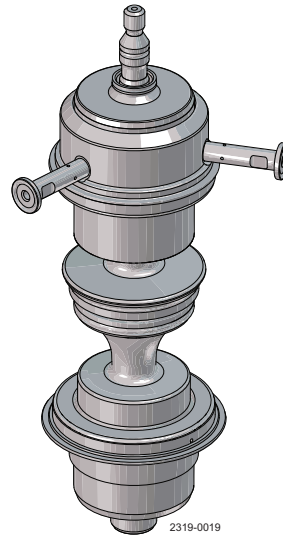
*It is important to observe the technical data during installation, operation and maintenance.  
Inform the personnel about the technical data.*

### Plug setup 17



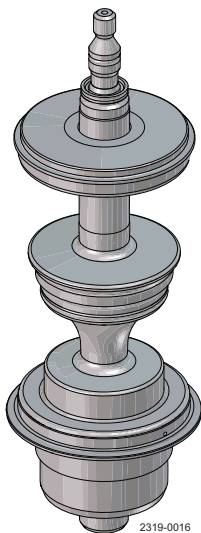
Upper: Unbalanced with SpiralClean OD spindle  
Lower: Flush OD Balancer (steel bottom)  
See page

### Plug setup 18



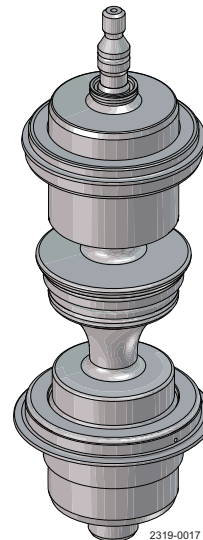
Upper: Balanced with SpiralClean OD balancer  
Lower: Flush OD Balancer (steel bottom)  
See page

### Plug setup 19



Upper: Unbalanced  
Lower: Flush OD Balancer (steel bottom)  
See page

### Plug setup 20

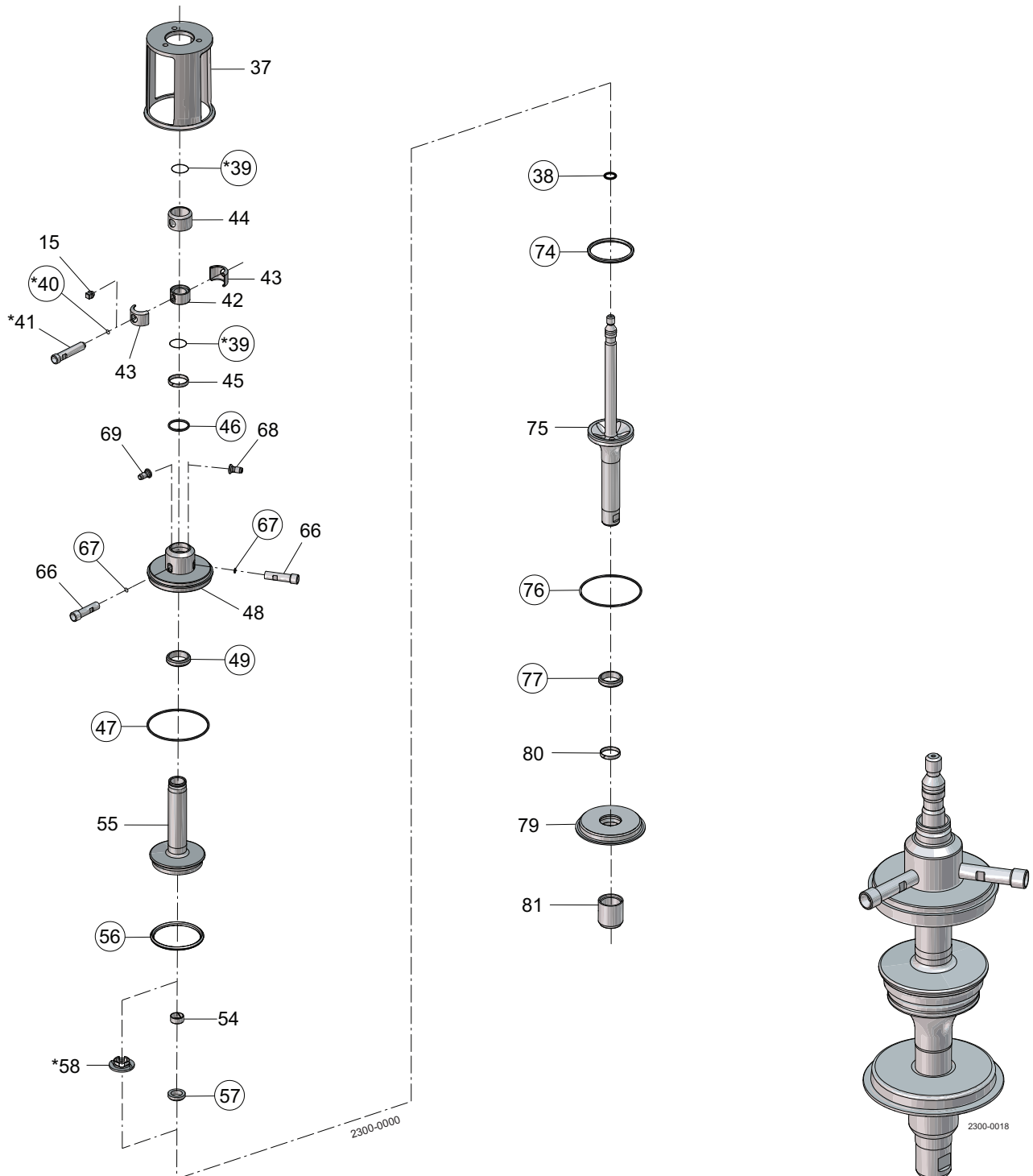


Upper: Balanced  
Lower: Flush OD Balancer (steel bottom)  
See page

## 7 Parts list and service kits

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

### 7.4 Plug setup 1



## 7 Parts list and service kits

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

### 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, PTFE
46 ♦	1	O-ring, EPDM
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921550	9611921552	9611926334	9611921554	9611996025
♦ Service kit, NBR .....	9611921556	9611921558	9611926335	9611921560	9611926026
♦ Service kit, FPM .....	9611921562	9611921564	9611926336	9611921566	9611926027
♦ Service kit, HNBR .....	9611921568	9611921570	9611926337	9611921572	9611926028

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926105	9611926169	9611926374	9611926233
♦ Service kit, NBR .....	9611926106	9611926170	9611926375	9611926234
♦ Service kit, FPM .....	9611926107	9611926171	9611926376	9611926235
♦ Service kit, HNBR .....	9611926108	9611926172	9611926236	9611923236

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

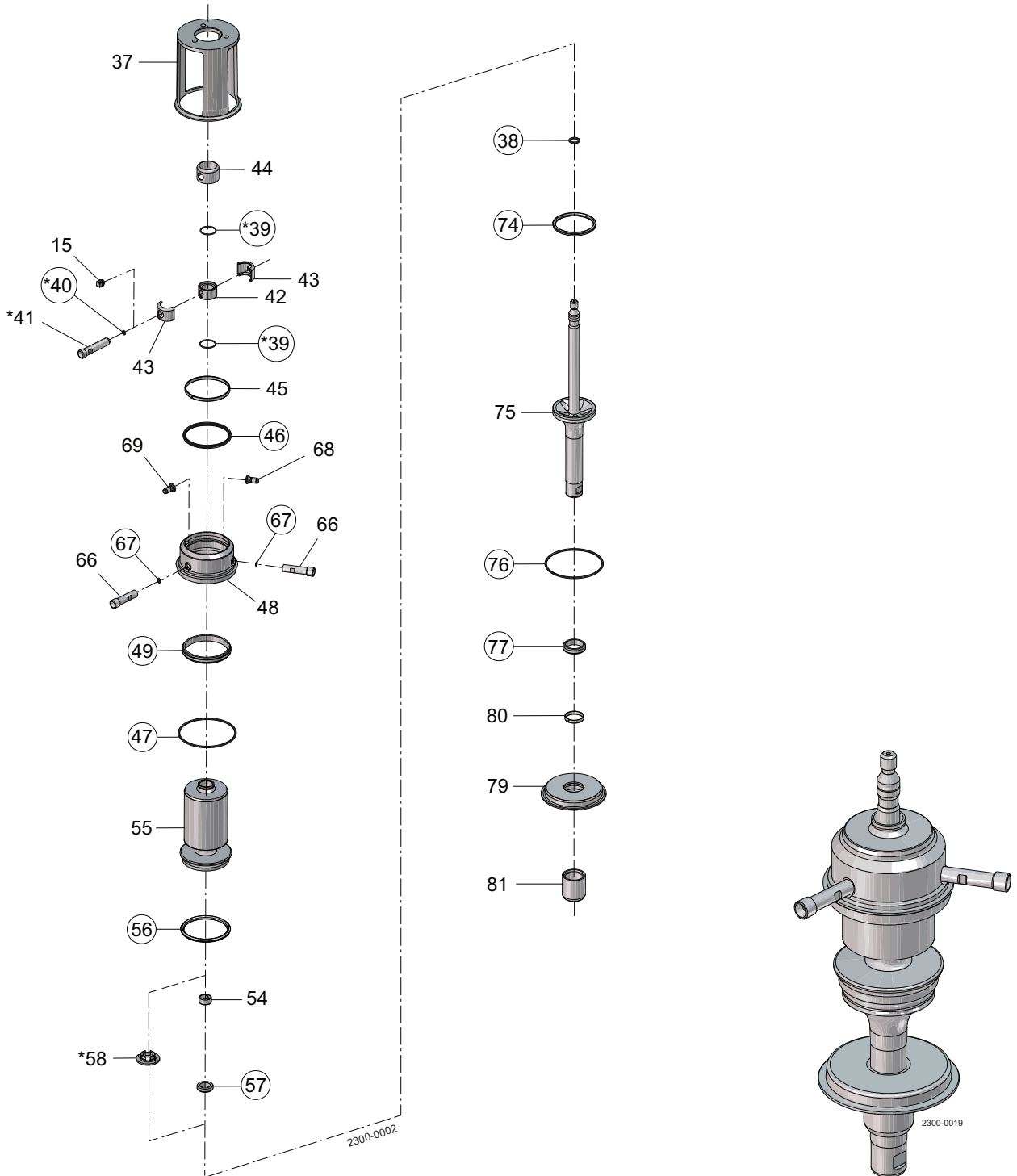
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.5 Plug setup 2



○ = wear parts

★ = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
46 ♦	1	O-ring, EPDM
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921574	9611921576	9611926338	9611921578	9611926029
♦ Service kit, NBR .....	9611921580	9611921582	9611926339	9611921584	9611926030
♦ Service kit, FPM .....	9611921586	9611921588	9611926340	9611921590	9611926031
♦ Service kit, HNBR .....	9611921592	9611921594	9611926341	9611921596	9611926032

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926109	9611926173	9611926378	9611926237
♦ Service kit, NBR .....	9611926110	9611926174	9611926379	9611926238
♦ Service kit, FPM .....	9611926111	9611926175	9611926380	9611926239
♦ Service kit, HNBR .....	9611926112	9611926176	9611926381	9611926240

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

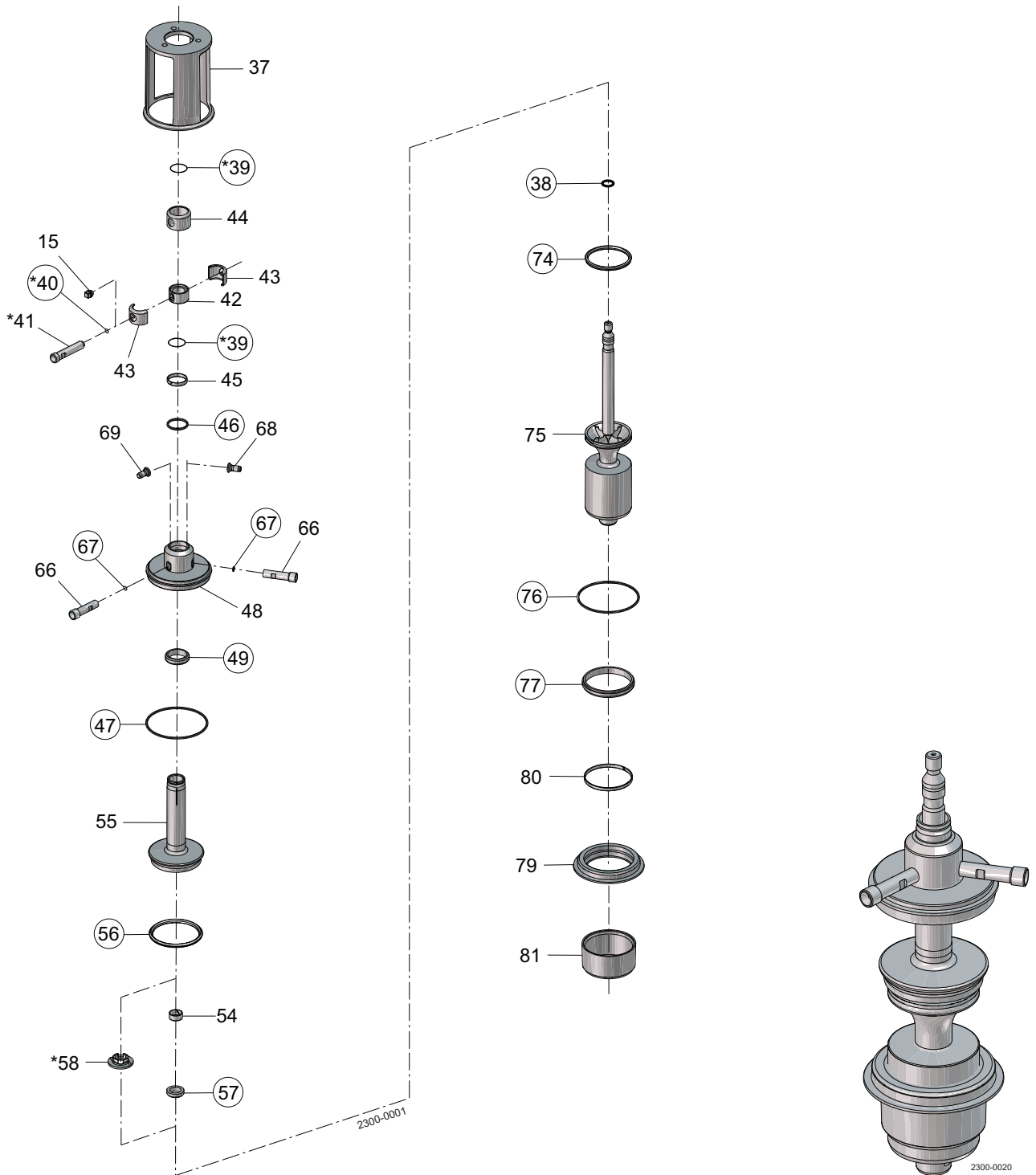
#### NOTE!

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



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

## 7.6 Plug setup 3



○ = wear parts

\* = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
46 ♦	1	O-ring, EPDM
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921598	9611921599	9611926342	9611921602	9611926033
♦ Service kit, NBR .....	9611921605	9611921606	9611926343	9611921608	9611926034
♦ Service kit, FPM .....	9611921611	9611921612	9611926344	9611921614	9611926035
♦ Service kit, HNBR .....	9611921617	9611921618	9611926345	9611921620	9611926036

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926113	9611926177	9611926382	9611926241
♦ Service kit, EPDM .....	9611926114	9611926178	9611926383	9611926242
♦ Service kit, EPDM .....	9611926115	9611926179	9611926384	9611926243
♦ Service kit, EPDM .....	9611926116	9611926180	9611926385	9611926244

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

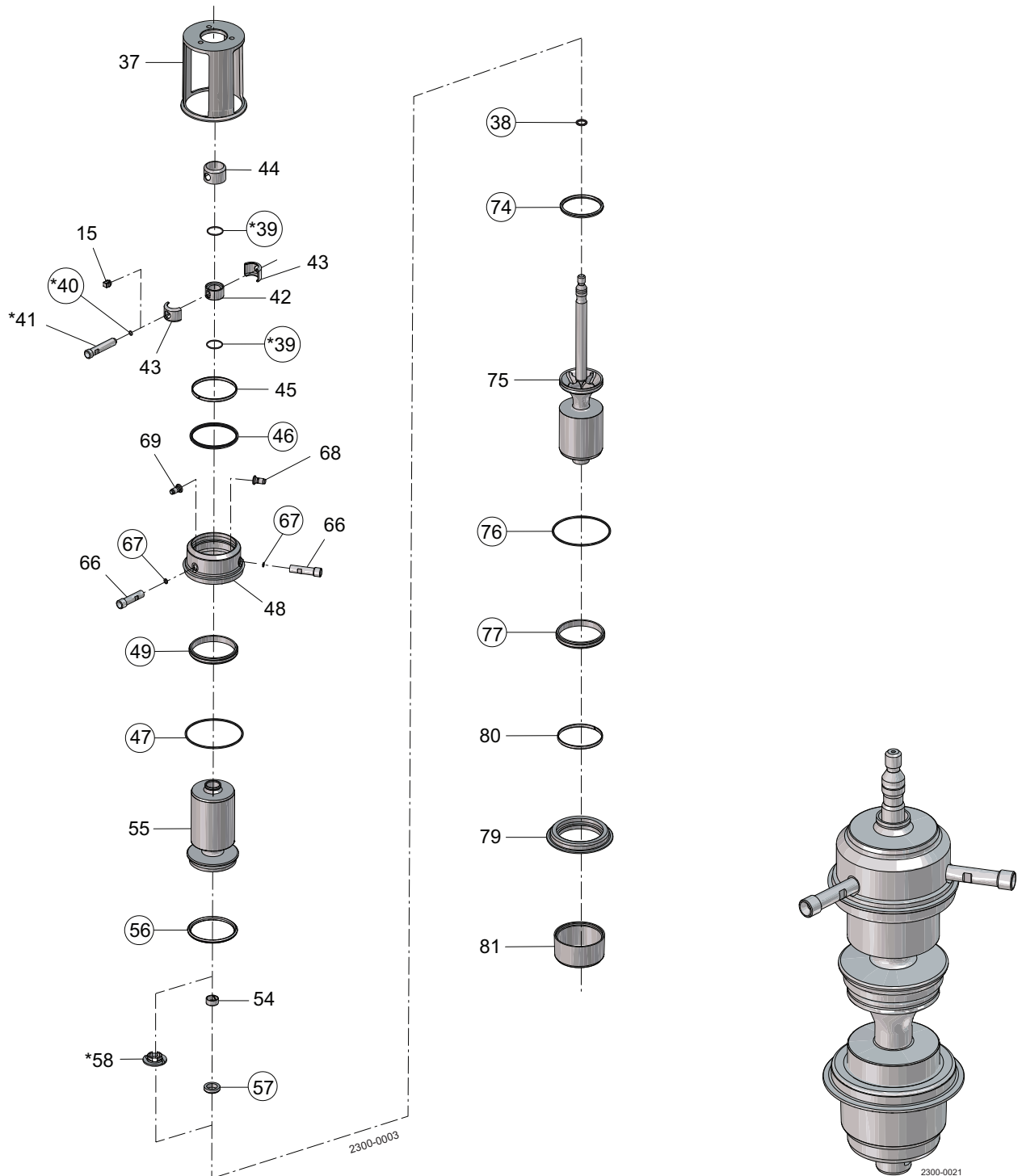
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.7 Plug setup 4



## 7 Parts list and service kits

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

### 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	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 38	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 40 Seat ø53.3	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921622	9611921623	9611921624	9611926346	9611921626	9611926037
♦ Service kit, NBR .....	9611921628	9611921629	9611921630	9611926347	9611921632	9611926038
♦ Service kit, FPM .....	9611921634	9611921635	9611921636	9611926348	9611921638	9611926039
♦ Service kit, HNBR .....	9611921640	9611921641	9611921642	9611926349	9611921644	9611926040

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926089	9611926117	9611926181	9611926386	9611926245
♦ Service kit, NBR .....	9611926090	9611926118	9611926182	9611926387	9611926246
♦ Service kit, FPM .....	9611926091	9611926119	9611926183	9611926388	9611926247
♦ Service kit, HNBR .....	9611926092	9611926120	9611926184	9611926389	9611926248

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

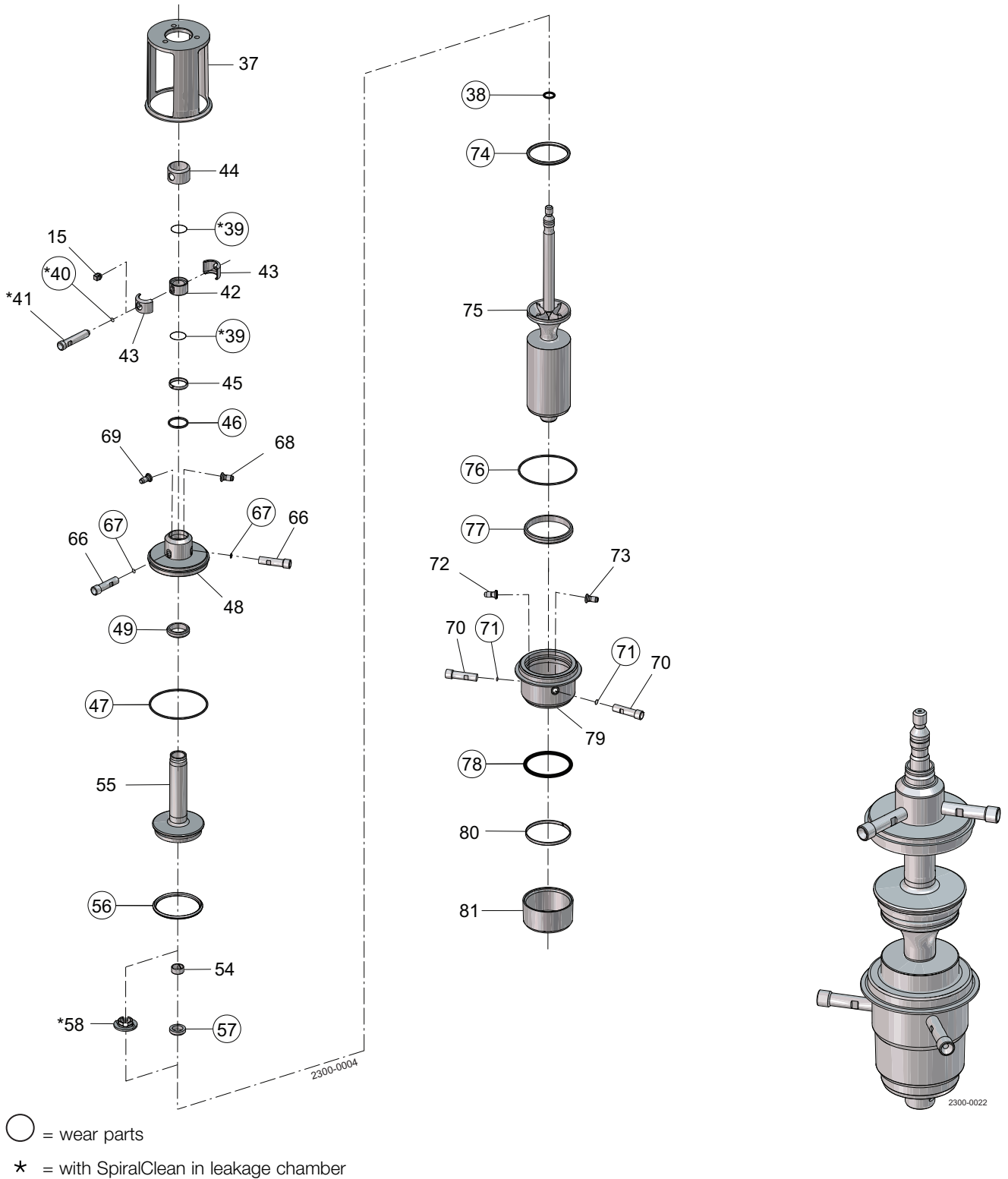
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.8 Plug setup 5



## 7 Parts list and service kits

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

### 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	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
70	2	Flushing tube
71 ♦	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
78 ♦	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover



## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921647	9611921648	9611926350	9611921650	9611926041
♦ Service kit, NBR .....	9611921653	9611921654	9611926351	9611921656	9611926042
♦ Service kit, FPM .....	9611921659	9611921660	9611926352	9611921662	9611926043
♦ Service kit, HNBR .....	9611921665	9611921666	9611926353	9611921668	9611926044

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926121	9611926185	9611926390	9611926249
♦ Service kit, NBR .....	9611926122	9611926186	9611926391	9611926250
♦ Service kit, FPM .....	9611926123	9611926187	9611926392	9611926251
♦ Service kit, HNBR .....	9611926124	9611926188	9611926393	9611926252

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

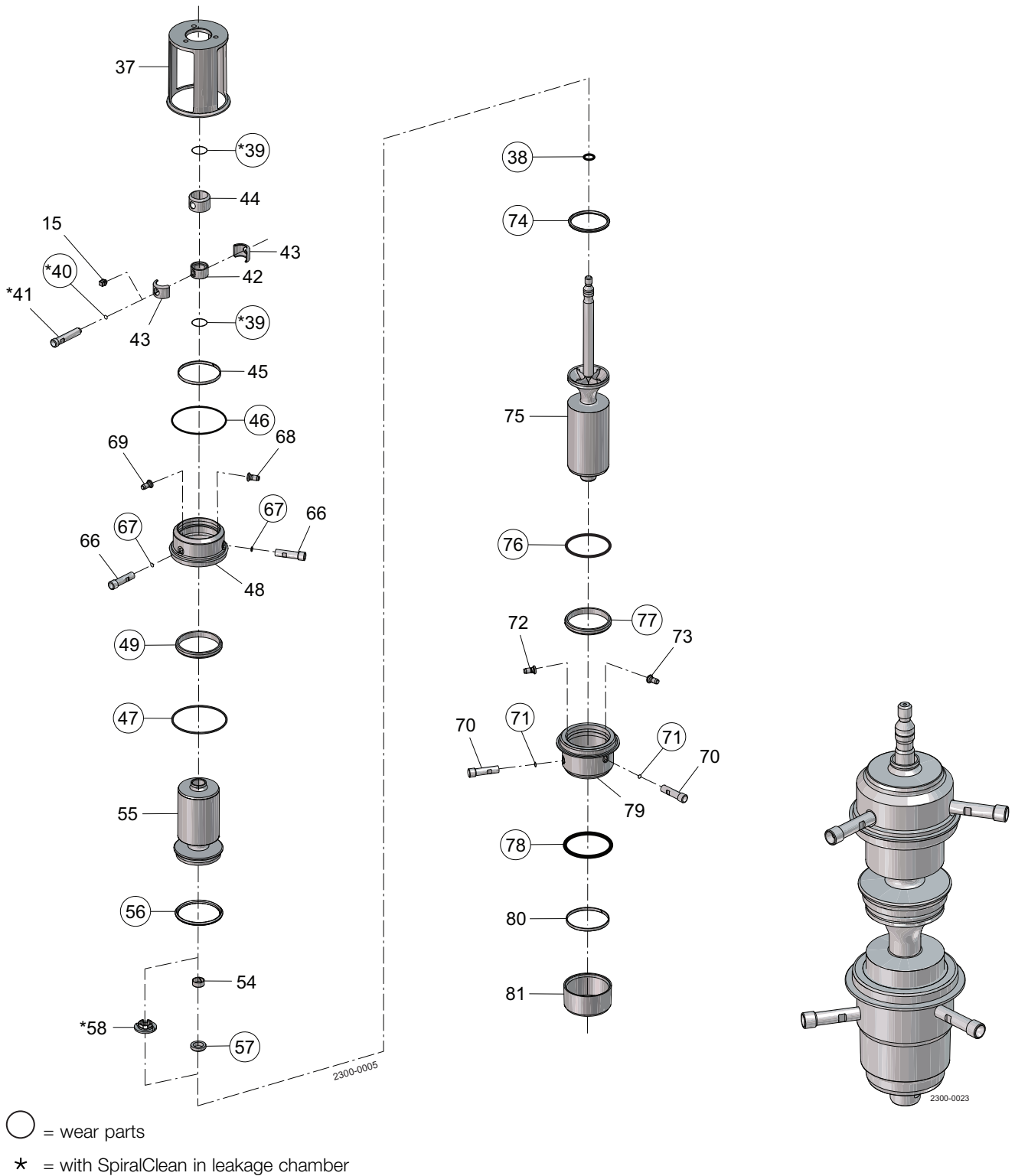
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.9 Plug setup 6



## 7 Parts list and service kits

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

### 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	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
70	2	Flushing tube
71 ♦	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76	1	O-ring
77 ♦	1	Lip seal
78 ♦	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 38	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 40 Seat ø53.3	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921670	9611921671	9611921672	9611926354	9611921674	9611926045
♦ Service kit, NBR .....	9611921676	9611921677	9611921678	9611926355	9611921680	9611926046
♦ Service kit, FPM .....	9611921682	9611921683	9611921684	9611926356	9611921686	9611926047
♦ Service kit, HNBR .....	9611921688	9611921689	9611921690	9611926357	9611921692	9611926048

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926093	9611926125	9611926189	9611926394	9611926253
♦ Service kit, NBR .....	9611926094	9611926126	9611926190	9611926395	9611926254
♦ Service kit, FPM .....	9611926095	9611926127	9611926191	9611926396	9611926255
♦ Service kit, HNBR .....	9611926096	9611926128	9611926192	9611926397	9611926256

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

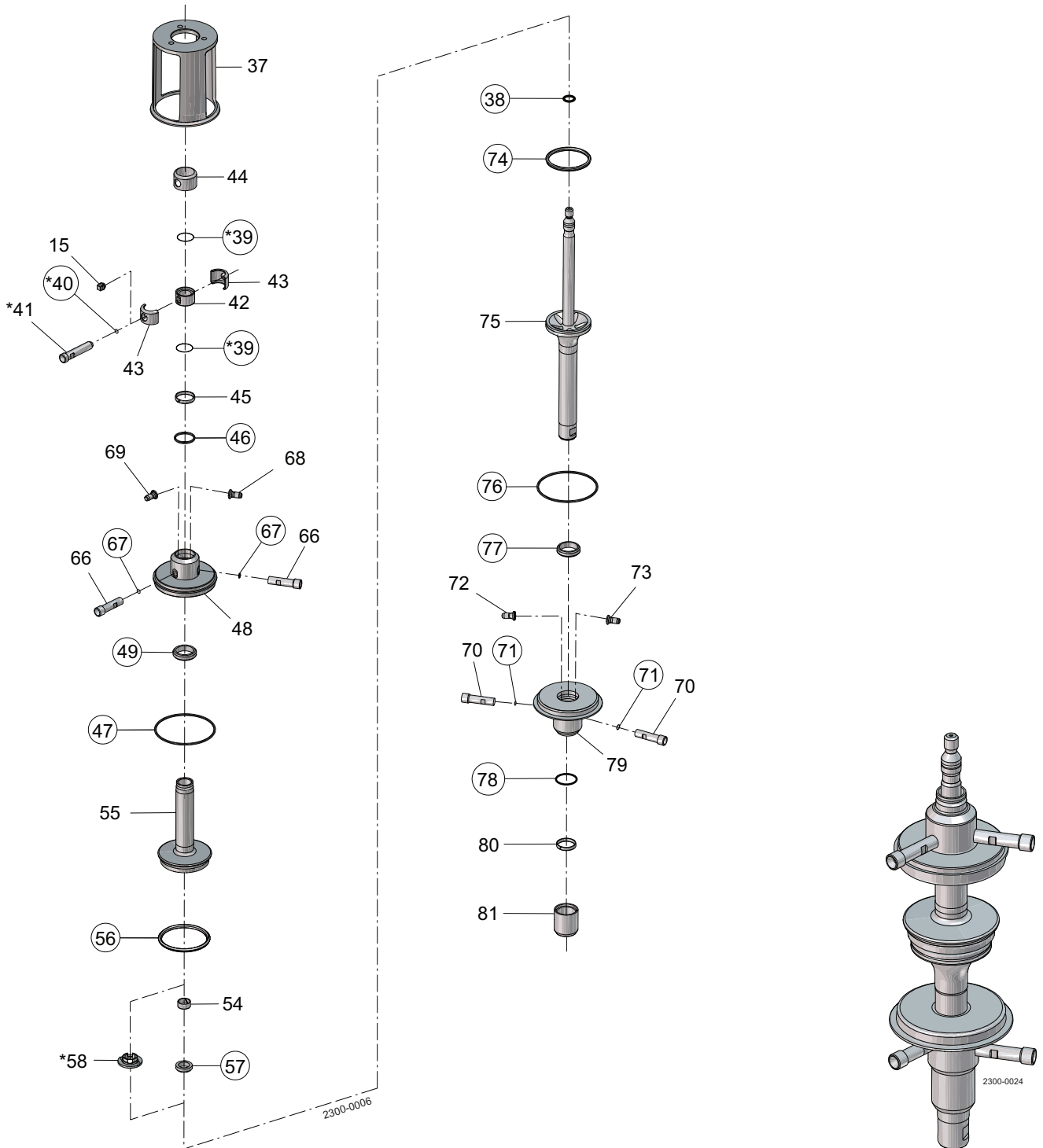
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.10 Plug setup 7



○ = wear parts

\* = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
46 ♦	1	O-ring, EPDM
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
70	2	Flushing tube
71 ♦	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
78 ♦	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921695	9611921697	9611926358	9611921699	9611926049
♦ Service kit, NBR .....	9611921701	9611921703	9611926359	9611921705	9611926050
♦ Service kit, FPM .....	9611921707	9611921709	9611926360	9611921711	9611926051
♦ Service kit, HNBR .....	9611921713	9611921715	9611926361	9611921717	9611926052

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926129	9611926193	9611926398	9611926257
♦ Service kit, NBR .....	9611926130	9611926194	9611926399	9611926258
♦ Service kit, FPM .....	9611926131	9611926195	9611926400	9611926259
♦ Service kit, HNBR .....	9611926132	9611926196	9611926401	9611926260

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

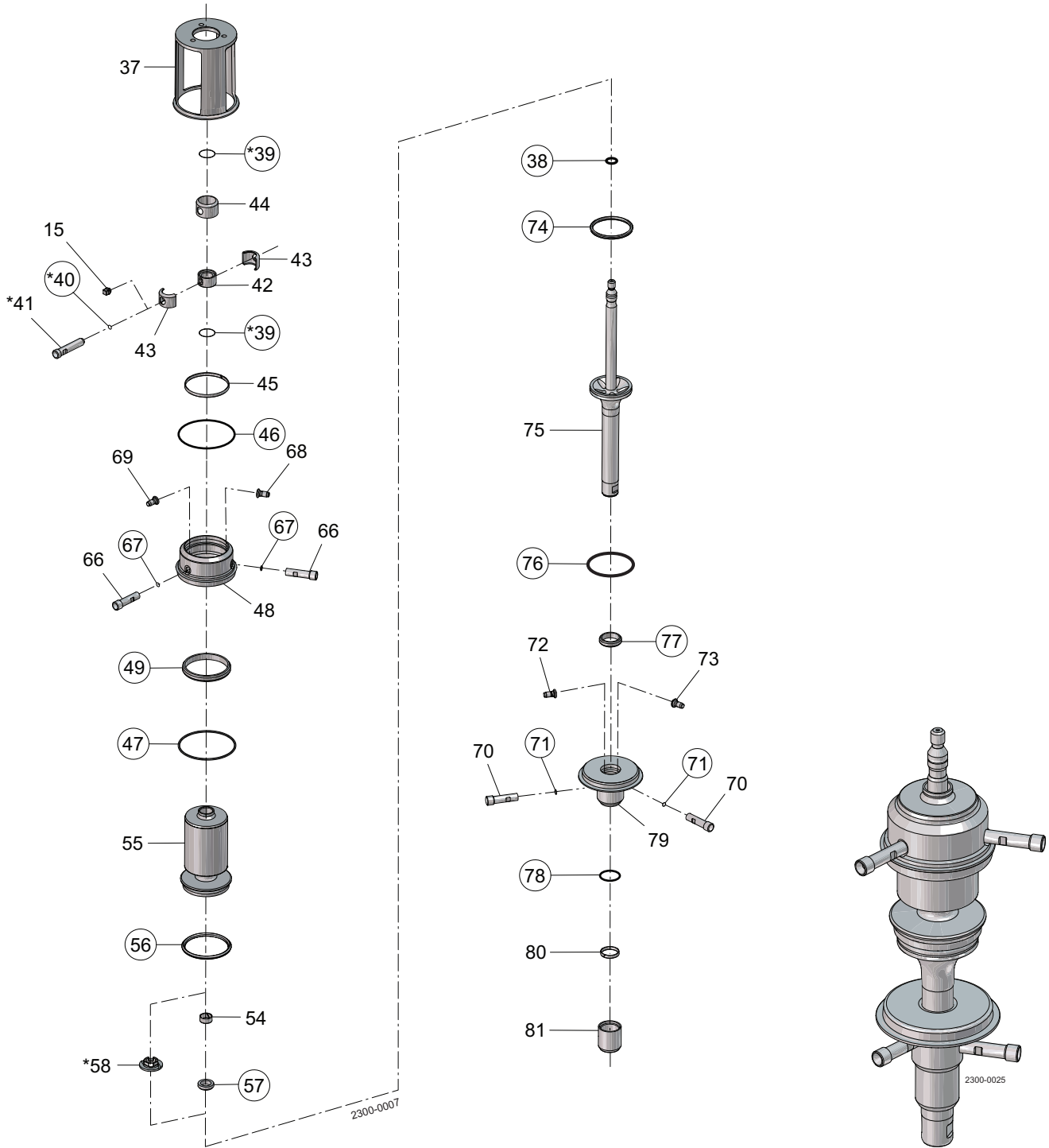
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.11 Plug setup 8



○ = wear parts

\* = with SpiralClean in leakage chamber



## 7 Parts list and service kits

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

### 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, PTFE
46 ♦	1	O-ring, EPDM
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
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
70	2	Flushing tube
71 ♦	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76	1	O-ring
77 ♦	1	Lip seal
78 ♦	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921647	9611921648	9611926350	9611921650	9611926041
♦ Service kit, NBR .....	9611921653	9611921654	9611926351	9611921656	9611926042
♦ Service kit, FPM .....	9611921659	9611921660	9611926352	9611921662	9611926043
♦ Service kit, HNBR .....	9611921665	9911921666	9611926353	9611921668	9611926044

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926121	9611926185	9611926390	9611926249
♦ Service kit, NBR .....	9611926122	9611926186	9611926391	9611926250
♦ Service kit, FPM .....	9611926123	9611926187	9611926392	9611926251
♦ Service kit, HNBR .....	9611926124	9611926188	9611926393	9611926252

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

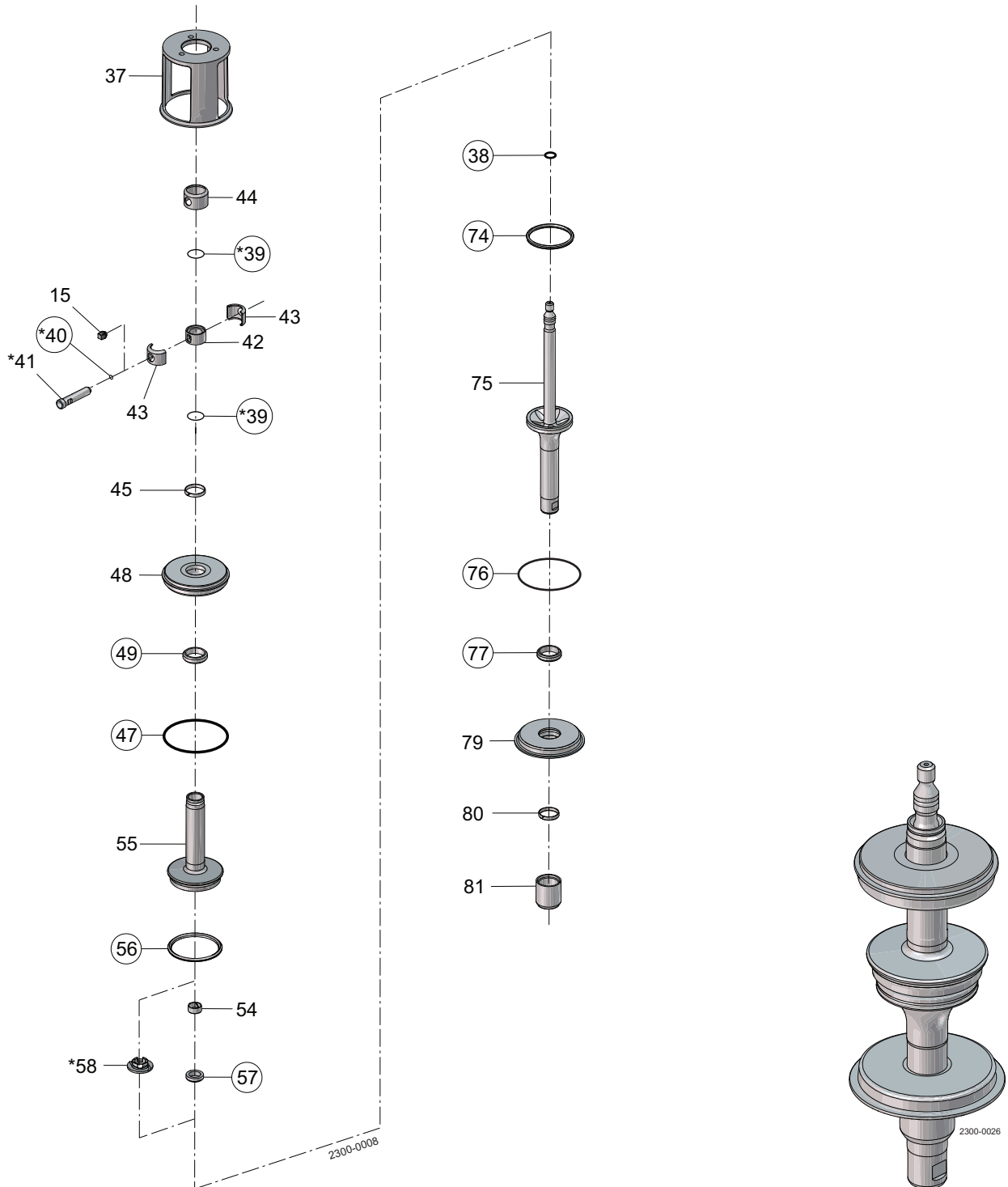
#2 = Serial no. above 1030000 - manufactured after October 1st 2003

#### NOTE!

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

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

## 7.12 Plug setup 9



○ = wear parts

\* = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56 ♦	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921743	9611921745	9611926362	9611921747	9611926057
♦ Service kit, NBR .....	9611921749	9611921751	9611926363	9611921753	9611926058
♦ Service kit, FPM .....	9611921755	9611921757	9611926364	9611921759	9611926059
♦ Service kit, HNBR .....	9611921761	9611921763	9611926365	9611921765	9611926060

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926137	9611926201	9611926202	9611926265
♦ Service kit, NBR .....	9611926138	9611926202	9611926203	9611926266
♦ Service kit, FPM .....	9611926139	9611926203	9611926404	9611926267
♦ Service kit, HNBR .....	9611926140	9611926204	9611926405	9611926268

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

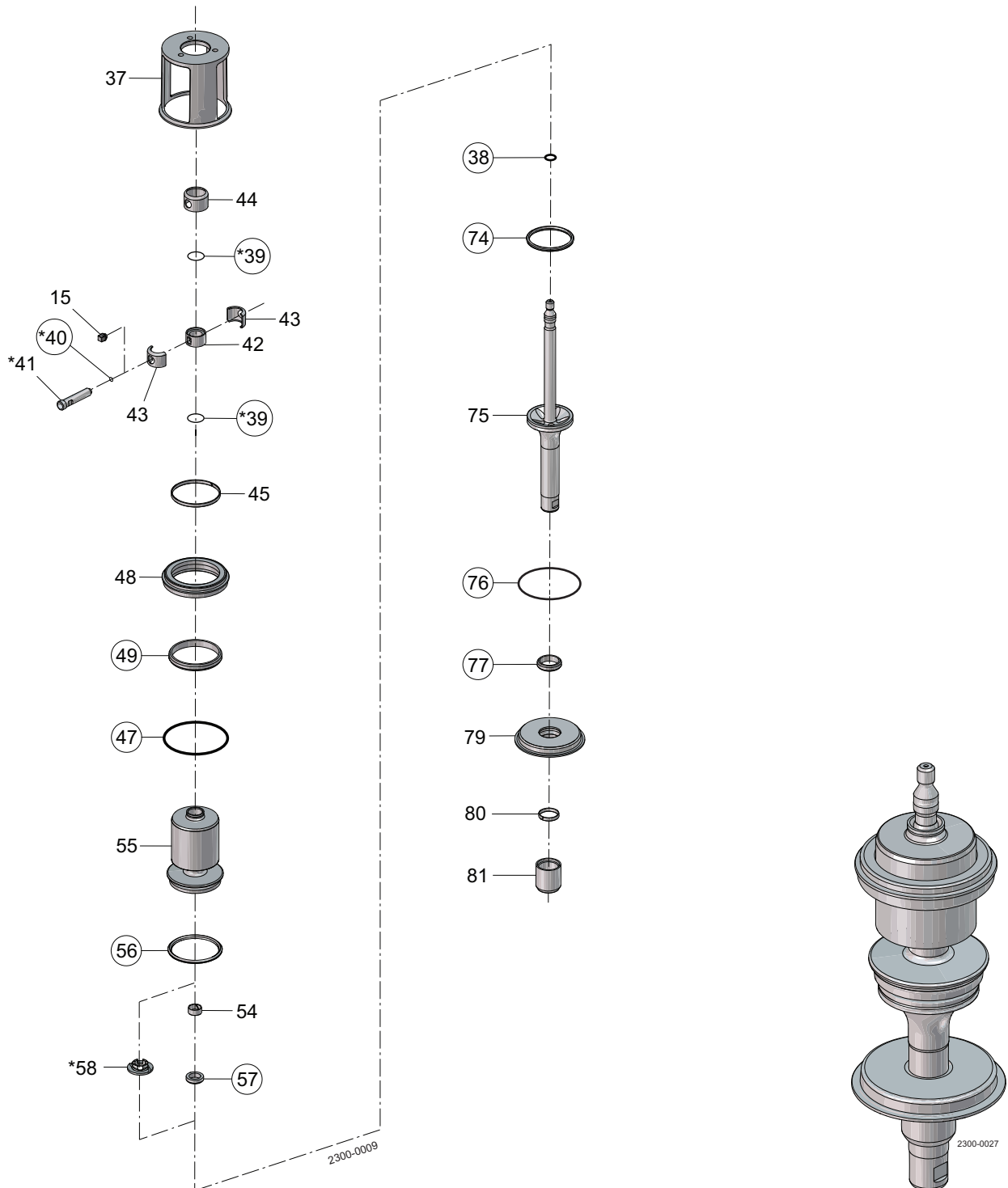
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.13 Plug setup 10



○ = wear parts

\* = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56 ♦	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 seat ø53.3	DN/OD 76.1 DN 65/ DN 80seat ø81.3	DN/OD 101.6 DN 100 seat ø100.3	DN/OD 101.6 DN 100 seat ø115.3	DN 150 seat ø115.3
Service kit, EPDM .....	9611921767	9611921769	9611926366	9611921771	9611926061
Service kit, NBR .....	9611921773	9611921775	9611926367	9611921777	9611926062
Service kit, FPM .....	9611921779	9611921781	9611926368	9611921783	9611926063
Service kit, HNBR .....	9611921785	9611921787	9611926369	9611921789	9611926064

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

Service kit, EPDM .....	9611926141	9611926205	9611926406	9611926269
Service kit, NBR .....	9611926142	9611926206	9611926407	9611926270
Service kit, FPM .....	9611926143	9611926207	9611926408	9611926271
Service kit, HNBR .....	9611926144	9611926208	9611926409	9611926272

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

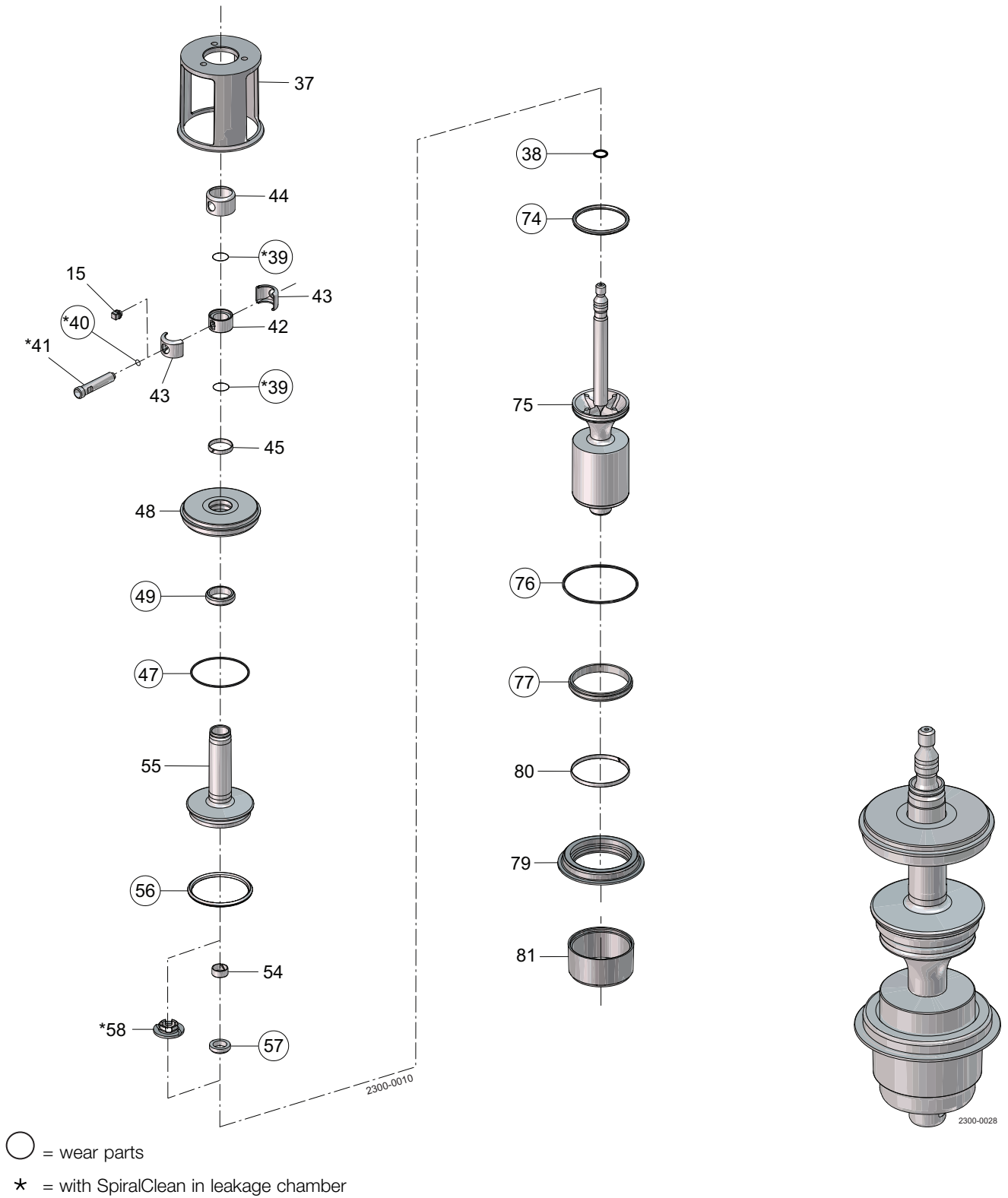
#### NOTE!

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



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

### 7.14 Plug setup 11



## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56 ♦	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 125 DN 150 Seat ø115.3
Service kit, EPDM .....	9611921767	9611921769	9611926366	9611921771	9611926061
Service kit, NBR .....	9611921773	9611921775	9611926367	9611921777	9611926062
Service kit, FPM .....	9611921779	9611921781	9611926368	9611921783	9611926063
Service kit, HNBR .....	9611921785	9611921787	9611926369	9611921789	9611926064

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

Service kit, EPDM .....	9611926141	9611926205	9611926406	9611926269
Service kit, NBR .....	9611926142	9611926206	9611926407	9611926270
Service kit, FPM .....	9611926143	9611926207	9611926408	9611926271
Service kit, HNBR .....	9611926144	9611926208	9611926409	9611926272

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

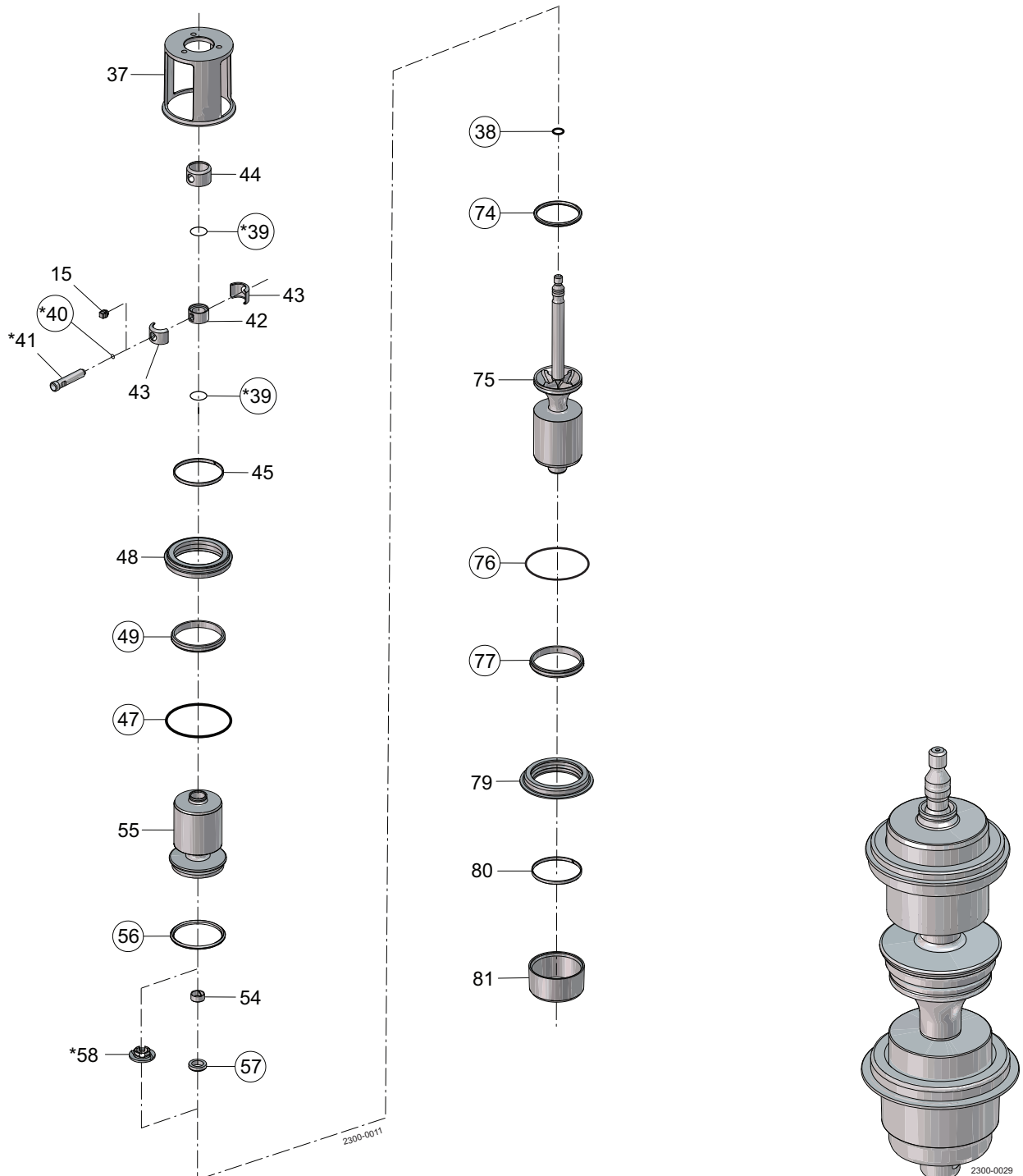
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.15 Plug setup 12



○ = wear parts

\* = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56 ♦	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 38	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 40 Seat ø53.3	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921814	9611921815	9611921816	9611926370	9611921818	9611926069
♦ Service kit, NBR .....	9611921820	9611921821	9611921822	9611926371	9611921824	9611926070
♦ Service kit, FPM .....	9611921826	9611921827	9611921828	9611926372	9611921830	9611926071
♦ Service kit, HNBR .....	9611921832	9611921833	9611921834	9611926373	9611921836	9611926072

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926097	9611926149	9611926213	9611926410	9611926277
♦ Service kit, NBR .....	9611926098	9611926150	9611926214	9611926411	9611926278
♦ Service kit, FPM .....	9611926099	9611926151	9611926215	9611926412	9611926279
♦ Service kit, HNBR .....	9611926100	9611926152	9611926216	9611926413	9611926280

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

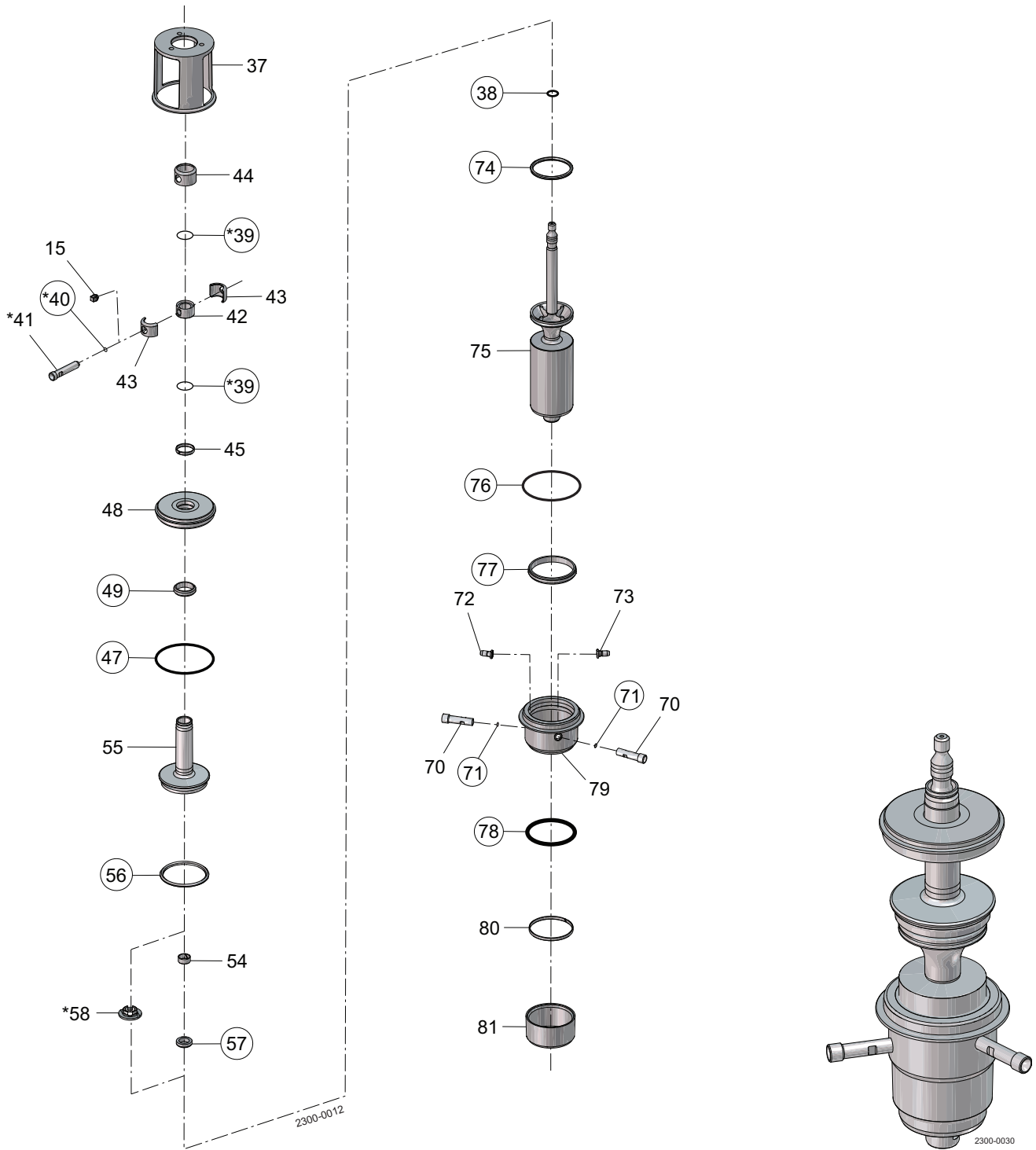
#2 = Serial no. above 1030000 - manufactured after October 1st 2003

#### NOTE!

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

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

### 7.16 Plug setup 13



○ = wear parts

\* = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56 ♦	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
70	2	Flushing tube
71	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
78 ♦	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover



## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921574	9611921576	9611926338	9611921578	9611926029
♦ Service kit, NBR .....	9611921580	9611921582	9611926339	9611921584	9611926030
♦ Service kit, FPM .....	9611921586	9611921588	9611926340	9611921590	9611926031
♦ Service kit, HNBR .....	9611921592	9611921594	9611926341	9611921596	9611926032

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926109	9611926173	9611926378	9611926237
♦ Service kit, NBR .....	9611926110	9611926174	9611926379	9611926238
♦ Service kit, FPM .....	9611926111	9611926175	9611926380	9611926239
♦ Service kit, HNBR .....	9611926112	9611926176	9611926381	9611926240

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

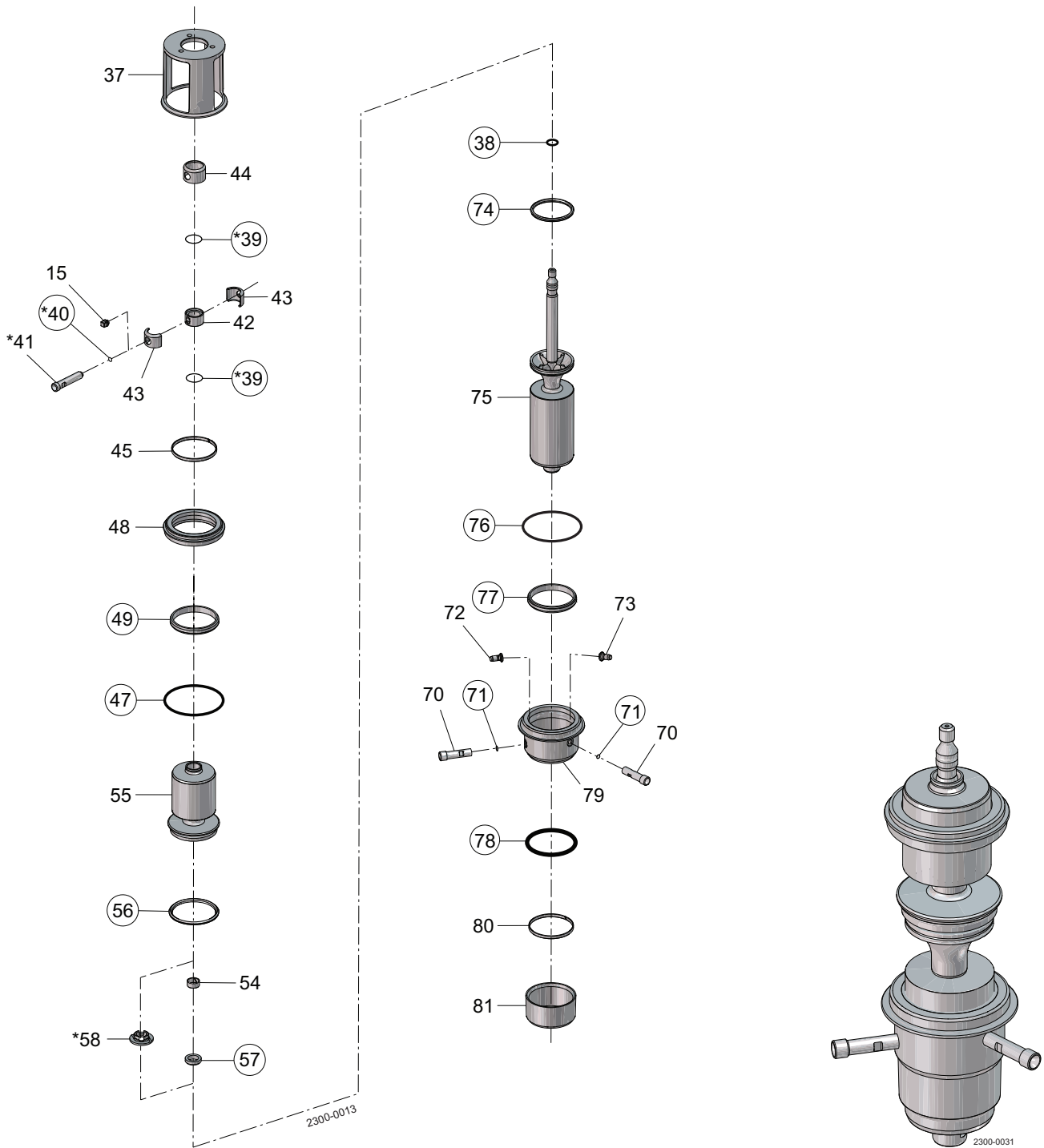
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.17 Plug setup 14



○ = wear parts

★ = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56 ♦	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
70	2	Flushing tube
71 ♦	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
78 ♦	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 38	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 40 Seat ø53.3	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921622	9611921623	9611921624	9611926346	9611921626	9611926037
♦ Service kit, NBR .....	9611921628	9611921629	9611921630	9611926347	9611921632	9611926038
♦ Service kit, FPM .....	9611921634	9611921635	9611921636	9611926348	9611921638	9611926039
♦ Service kit, HNBR .....	9611921640	9611921641	9611921642	9611926349	9611921644	9611926040

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926089	9611926117	9611926181	9611926386	9611926245
♦ Service kit, NBR .....	9611926090	9611926118	9611926182	9611926387	9611926246
♦ Service kit, FPM .....	9611926091	9611926119	9611926183	9611926388	9611926247
♦ Service kit, HNBR .....	9611926092	9611926120	9611926184	9611926389	9611926248

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

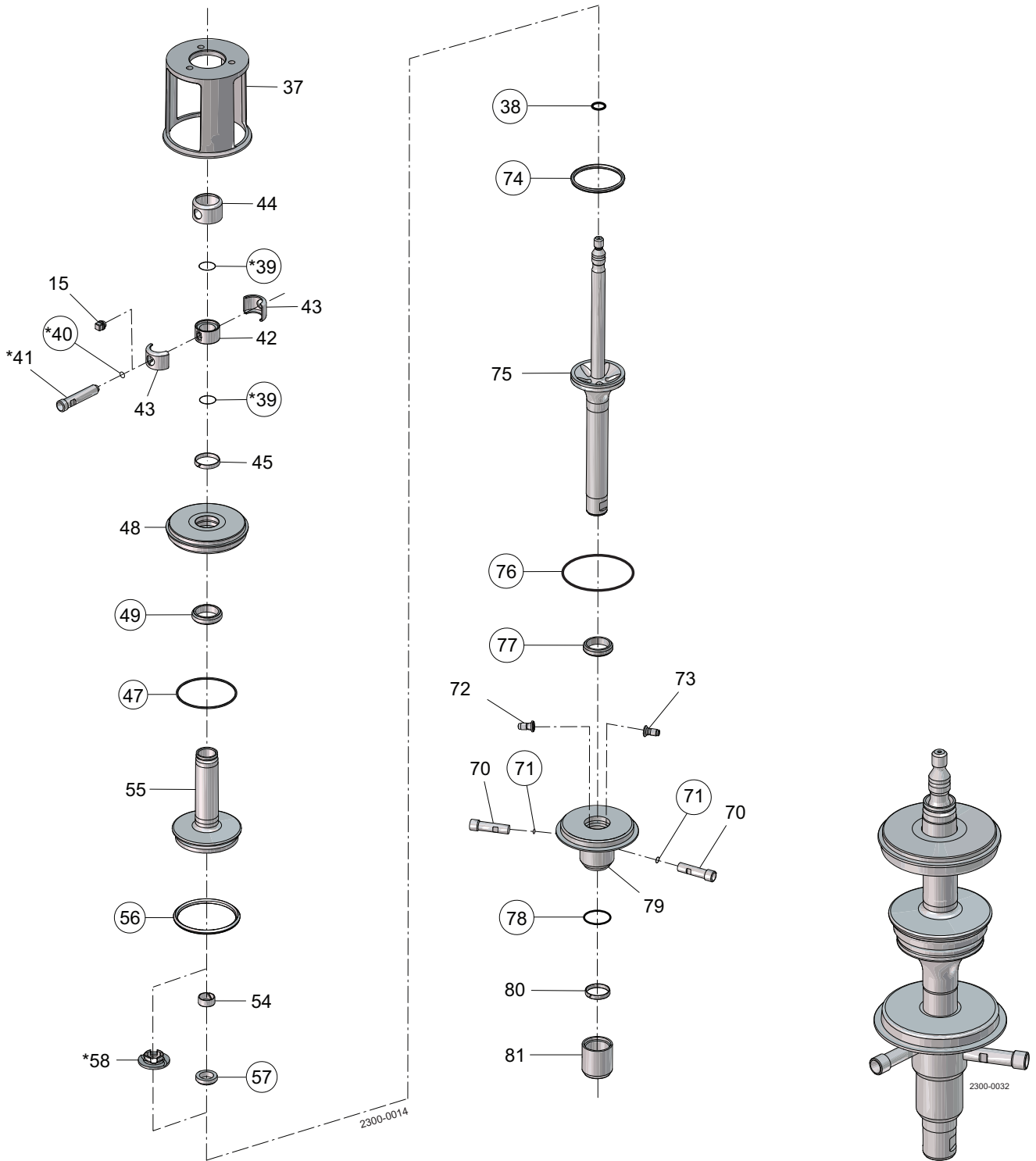
#2 = Serial no. above 1030000 - manufactured after October 1st 2003

#### NOTE!

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

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

## 7.18 Plug setup 15



○ = wear parts

\* = with SpiralClean in leakage chamber

## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56 ♦	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
70	2	Flushing tube
71 ♦	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal, EPDM
78 ♦	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921550	9611921552	9611926334	9611921554	9611926025
♦ Service kit, NBR .....	9611921556	9611921558	9611926335	9611921560	9611926026
♦ Service kit, FPM .....	9611921562	9611921564	9611926336	9611921566	9611926027
♦ Service kit, HNBR .....	9611921568	9611921570	9611926337	9611921572	9611926028

For mixed size housings, the service kit is determined by the smallest size connection on the valve.

One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926105	9611926169	9611926374	9611926233
♦ Service kit, NBR .....	9611926106	9611926170	9611926375	9611926234
♦ Service kit, FPM .....	9611926107	9611926171	9611926376	9611926235
♦ Service kit, HNBR .....	9611926108	9611926172	9611926377	9611926236

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

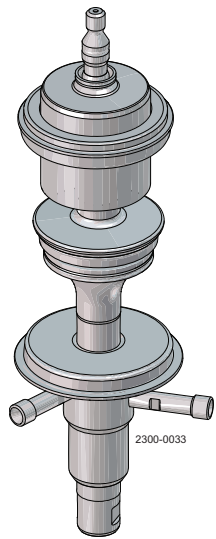
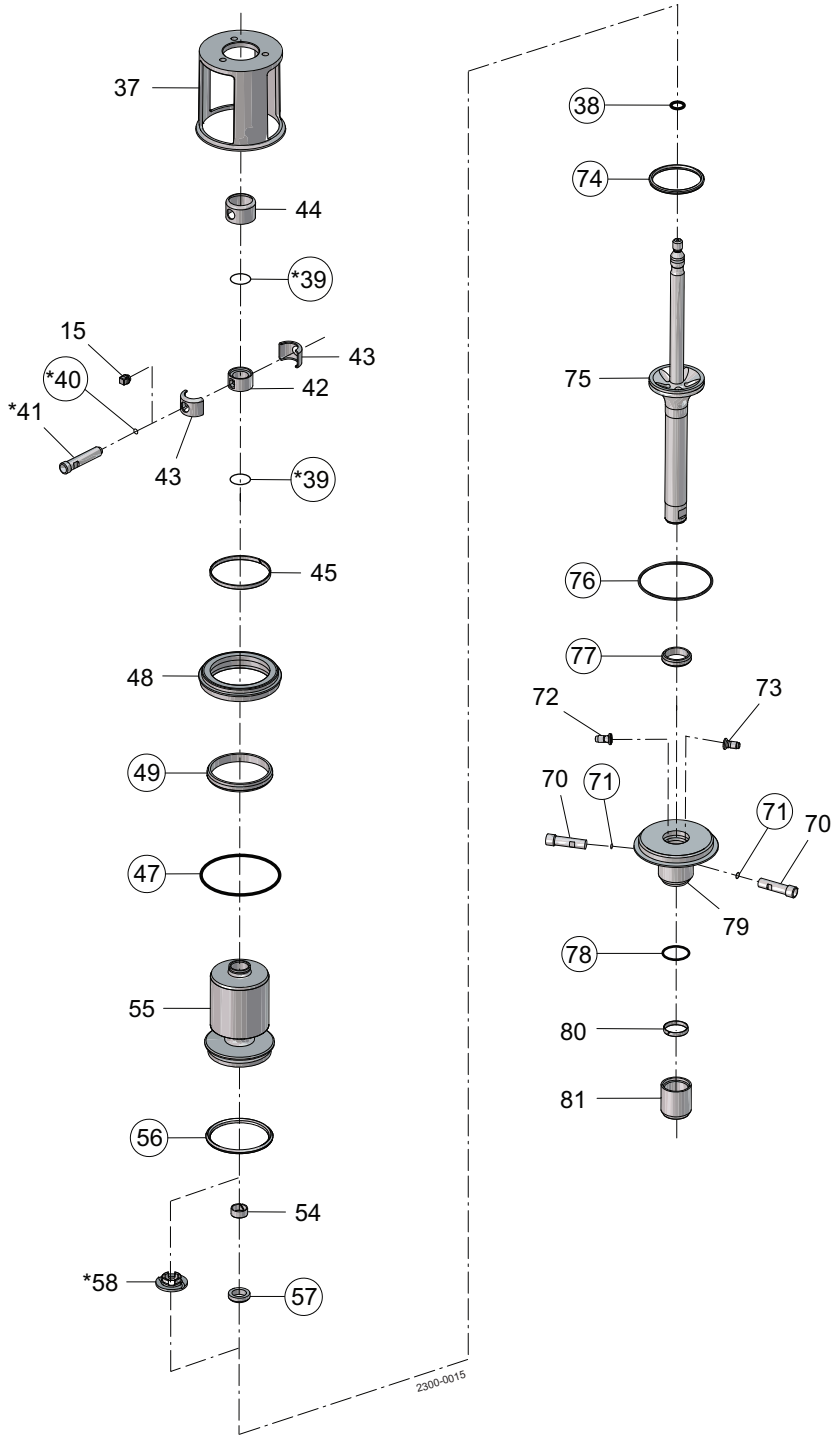
#### NOTE!

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

## 7 Parts list and service kits

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

### 7.19 Plug setup 16



○ = wear parts

\* = with SpiralClean in leakage chamber



## 7 Parts list and service kits

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

### 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, PTFE
47 ♦	1	O-ring
48	1	Upper sealing element
49 ♦	1	Lip seal
52	1	O-ring
54	1	Guide ring, PTFE
55	1	Upper plug
56	1	Seal ring
57 ♦	1	Lip seal
58	1	Spray nozzle, PVDF
70	2	Flushing tube
71 ♦	2	O-ring, EPDM
72	1	Drain
73	1	Nozzle
74 ♦	1	Seal ring
75	1	Lower plug
76 ♦	1	O-ring
77 ♦	1	Lip seal
78	1	O-ring, EPDM
79	1	Lower sealing element
80	1	Guide ring, PTFE
81	1	Cover

## 7 Parts list and service kits

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

### Service kits

Denomination	DN/OD 51	DN/OD 63.5	#2	#1	DN 125
	DN 50 Seat ø53.3	DN/OD 76.1 DN 65/DN 80 Seat ø81.3	DN/OD 101.6 DN 100 Seat ø100.3	DN/OD 101.6 DN 100 Seat ø115.3	DN 150 Seat ø115.3
♦ Service kit, EPDM .....	9611921598	9611921599	9611926342	9611921602	9611926033
♦ Service kit, NBR .....	9611921605	9611921606	9611926343	9611921608	9611926034
♦ Service kit, FPM .....	9611921611	9611921612	9611926344	9611921614	9611926035
♦ Service kit, HNBR .....	9611921617	9611921618	9611926345	9611921620	9611926036

For mixed size housings, the service kit is determined by the smallest size connection on the valve.  
One exception is any housing with 6" connections will always refer to the 6" service kits listed below:

♦ Service kit, EPDM .....	9611926113	9611926177	9611926382	9611926241
♦ Service kit, NBR .....	9611926114	9611926178	9611926383	9611926242
♦ Service kit, FPM .....	9611926115	9611926179	9611926384	9611926243
♦ Service kit, HNBR .....	9611926116	9611926180	9611926385	9611926244

#### NOTE!

If different connection size on upper and lower body, except for size 6", it is always the smallest body that determines the service kit.

If clamped valve body an extra O-ring (pos. 52) is required.

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

Spare parts for mix size please refer to Configurator in AL Anytime

#1 = Serial no. below 1030000 - manufactured before October 1st 2003

#2 = Serial no. above 1030000 - manufactured after October 1st 2003

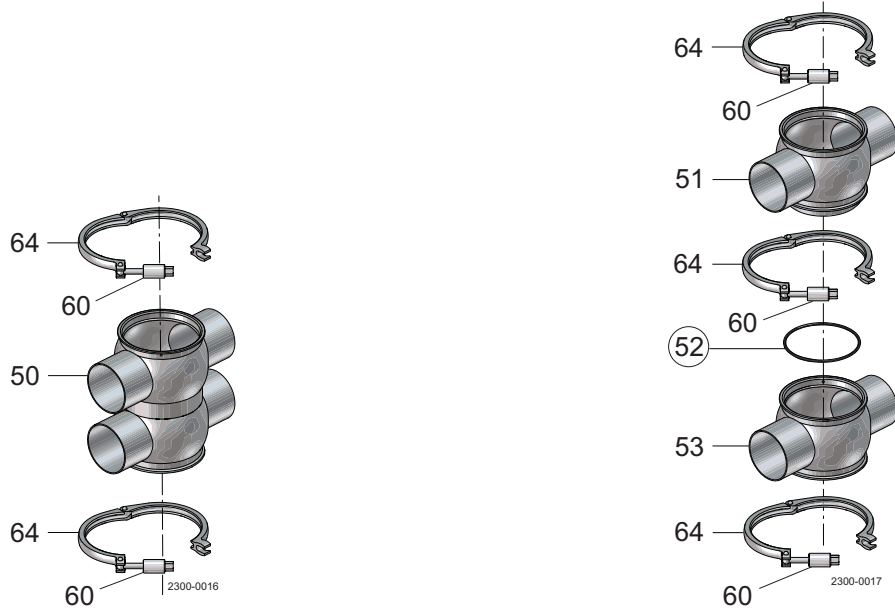
#### NOTE!

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

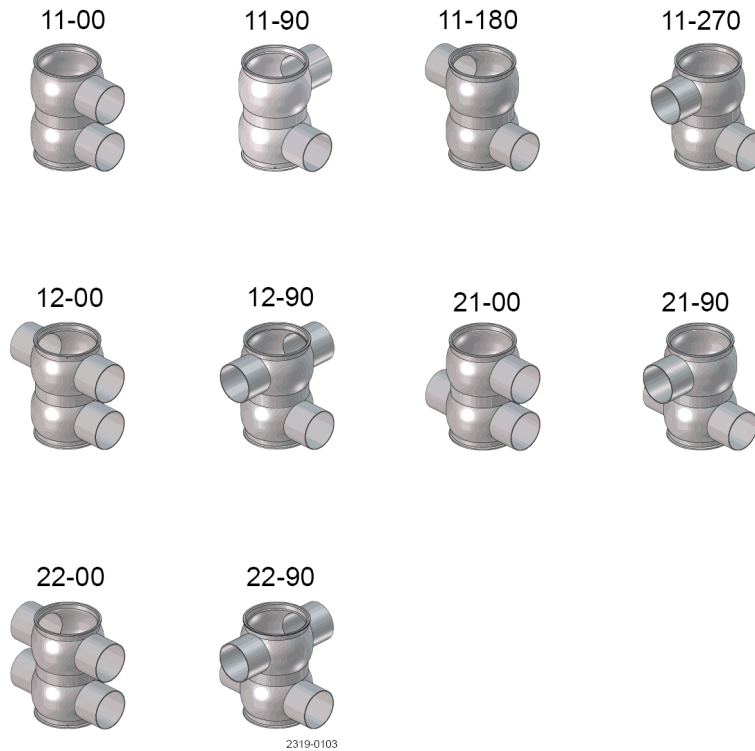
## 7 Parts list and service kits

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

### 7.20 Valve body



#### Body combination - welded bodies



## 7 Parts list and service kits

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

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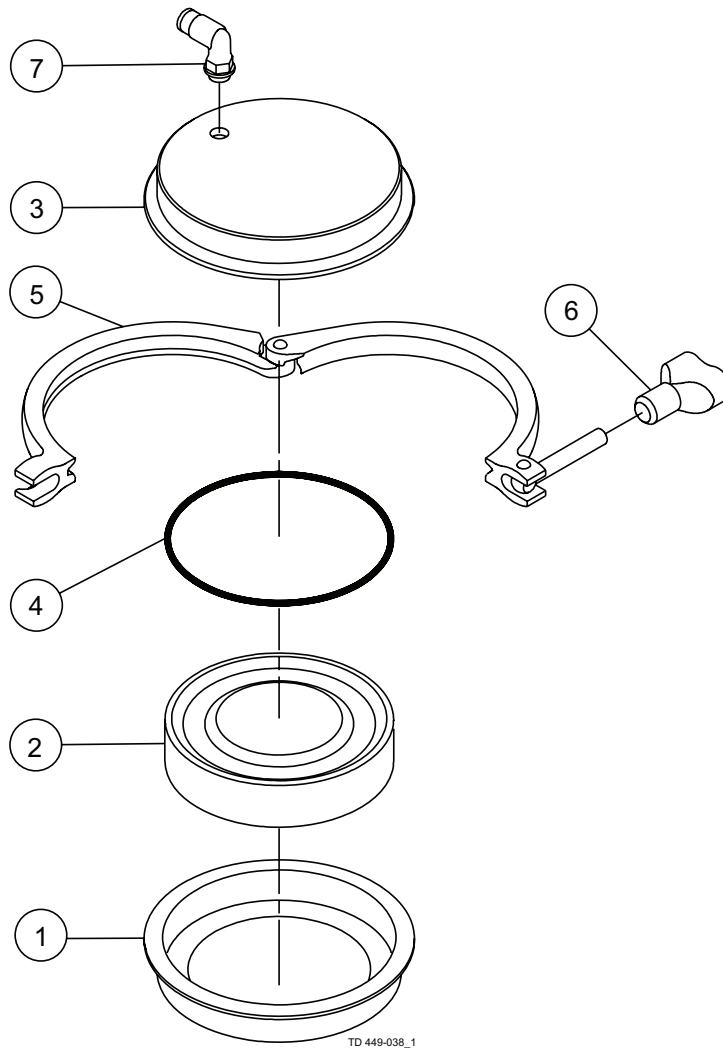
### Parts list

Pos.	Qty	Denomination
37	1	Intermediate piece
50	1	Valve body
51	1	Valve body, upper
52	1	O-ring
53	1	Valve body, lower
60	2	Hexnut
	1	Hexnut
64	2	Clamp without nut
	1	Clamp without nut

---

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

### 7.21 Axial installation tool



## 7 Parts list and service kits

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

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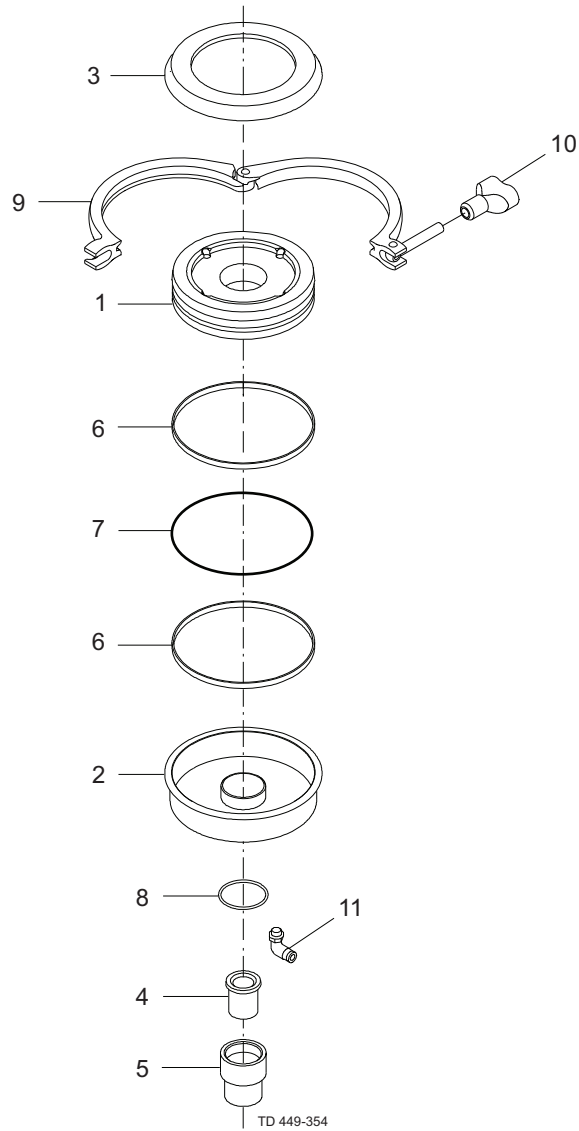
### Parts list

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

---

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

### 7.22 Radial installation tool



## 7 Parts list and service kits

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

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### 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

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**How to contact Alfa Laval**

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