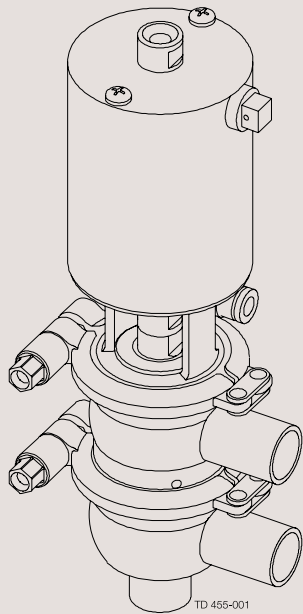


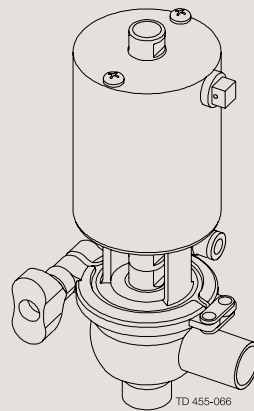


# Instruction Manual

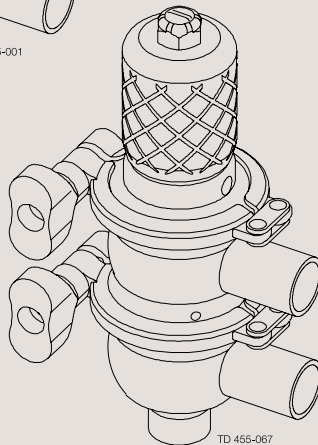
## Unique Small Single Seat Valve



TD 455-001

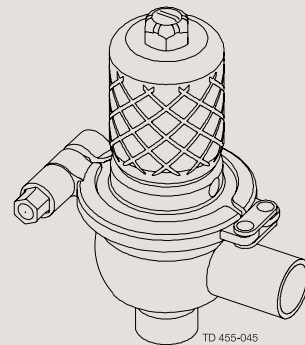


TD 455-066



TD 455-110

TD 455-067



TD 455-045



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

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# 1 Declarations of Conformity

## EU Declaration of Conformity

The Designated Company

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

Company name, address and phone number

Hereby declare that

Valve

Designation

Size: 12,7mm PN10, Size: 19mm PN10

Type

is in conformity with the following directives with amendments:

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

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

Global Product Quality Manager

Title

Lars Kruse Andersen

Name

Kolding, Denmark

Place

2022-10-01

Date (YYYY-MM-DD)



Signature

This Declaration of Conformity replaces Declaration of Conformity dated 2016-06-01



# 1 Declarations of Conformity

## UK Declaration of Conformity

The Designated Company

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

Company name, address and phone number

Hereby declare that

Valve

Designation

Size: 12,7mm PN10, Size: 19mm PN10

Type

is in conformity with the following directives with amendments:

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

Signed on behalf of: Alfa Laval Kolding A/S

Global Product Quality Manager

Title

Lars Kruse Andersen

Name

Kolding, Denmark

Place

2022-10-01

Date (YYYY-MM-DD)

Signature

DoC Revison\_01\_102022

**UK  
CA**



## 2 Safety

---

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

---

### 2.1 Important information

---

**Always read the manual before using the valve!**

**WARNING**

Indicates that special procedures **must** be followed to avoid serious personal injury.

**CAUTION**

Indicates that special procedures **must** be followed to avoid damage to the valve.

**NOTE**

Indicates important information to simplify or clarify procedures.

---

### 2.2 Warning signs

---

General warning:



Caustic agents:



All warnings in this manual are summarised on this page.

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

### 2.3 Safety precautions

#### Actuators

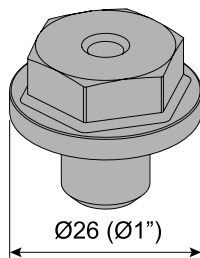
If support air is utilised:



- Shock in the actuator must **NEVER** occur
- Support air on high pressure actuator versions is **NOT** allowed

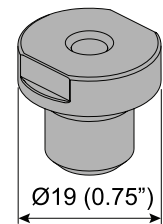
To prevent shock in the actuator and to prevent exceeding 10 bar/145 PSI product pressure, Alfa Laval recommends **NOT** to exceed 3 bar/43.5 PSI support air on the spring side in all the Unique SSV actuators.

If support air is connected always use the 3 bar/43.5 PSI air relief fittings = 9611995903. Using the air relief fitting also extends the service life of the actuator piston o-ring.



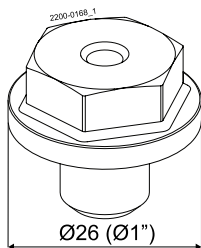
##### Pos. no. 5

For actuators, manufactured year 2005-2018, with serial number from 1000000 - 5999999 and from 20000000000 - 59999999999 always use steel adapter (pos 5) = 9614065301  
Tighten torque = 30 Nm



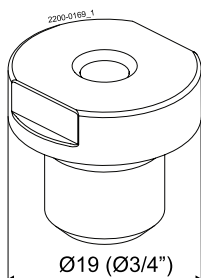
##### Pos. no. 5

For actuators, manufactured year 2019 --> with serial number from 6000000 to 7000000 and from 60000000000 to 70000000000 always use steel adapter (pos 5) = 9615374701  
Tighten torque = 15 Nm



##### Pos. no. 5

For actuators, manufactured year 2005-2018, with serial number from 1000000 - 5999999 and from 20000000000 - 59999999999 always use steel adapter (pos 5) = 9614065301  
Tighten torque = 30 Nm



##### Pos. no. 5

For actuators, manufactured year 2019 --> with serial number from 6000000 to 7000000 and from 60000000000 to 70000000000 always use steel adapter (pos 5) = 9615374701  
Tighten torque = 15 Nm

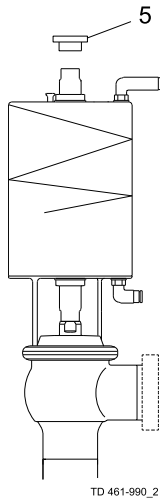
## 2 Safety

---

*All warnings in this manual are summarised on this page.*

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

---



Alfa Laval recommends max. 3 bar support air  
Always use the "3 bar air relief fittings" on support air.  
Alfa Laval article number = 9611995903

TD 461-990\_2

---



All warnings in this manual are summarised on this page.

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

---

### Installation:

**Always** read the technical data thoroughly (see chapter 6 Technical data)  
**Always** release compressed air after use  
**Never** touch moving parts if the actuator is supplied with compressed air  
**Never** touch the valve or the pipelines when processing hot liquids or when sterilising  
**Never** dismantle the valve with valve and pipelines under pressure  
**Never** dismantle the valve when it is hot



---

### Operation:

**Never** dismantle the valve with valve and pipelines under pressure  
**Never** dismantle the valve when it is hot  
**Always** read the technical data thoroughly (see chapter 6 Technical data)  
**Always** release compressed air after use  
**Never** touch the valve or the pipelines when processing hot liquids or when sterilising  
**Never** touch moving parts if the actuator is supplied with compressed air



**Always** handle lye and acid with great care



---

### Maintenance:

**Always** read the technical data thoroughly (see chapter 6 Technical data)  
**Always** release compressed air after use  
**Never** service the valve when it is hot  
**Never** service the valve with valve and pipelines under pressure  
**Never** stick your fingers through the valve ports if the actuator is supplied with compressed air  
**Never** touch moving parts if the actuator is supplied with compressed air



---

### Transportation:

**Always** ensure that compressed air is released  
**Always** ensure that all connections are disconnected before attempting to remove the valve from the installation  
**Always** drain liquid out of valves before transportation  
**Always** use 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.  
 The items refer to parts list and service kits section.  
 The valve is supplied as separate parts as standard (for welding).  
 The valve is assembled before delivery, if it is supplied with fittings.

#### 3.1 Unpacking/Delivery

##### Step 1

##### CAUTION!

Alfa Laval cannot be held responsible for incorrect unpacking.

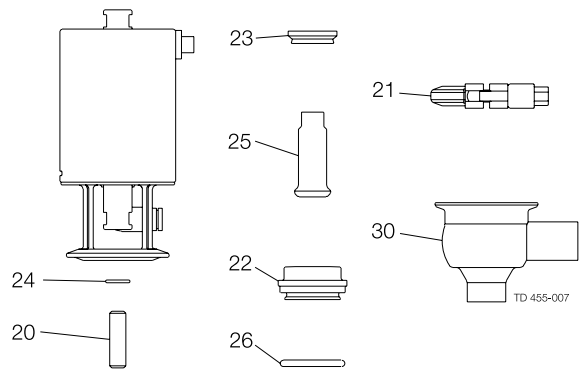
Check the delivery for:

1. Complete valve, shut-off valve, change-over valve, manual shut-off valve or manual change-over valve (see steps 2, 3, 4 and 5).
2. Delivery note
3. Instruction Manual.

##### Step 2

##### Shut-off valve

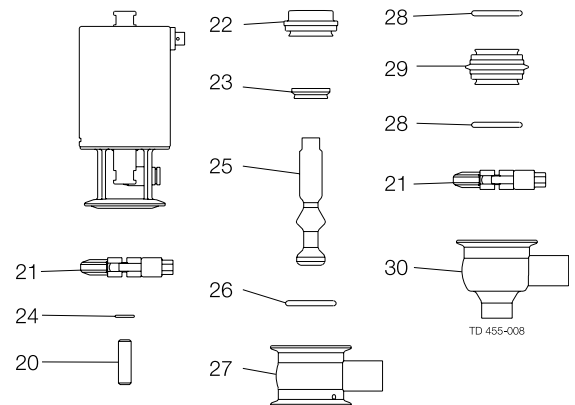
1. Complete actuator with bonnet
2. Lip seal (23)
3. Clamp (21)
4. Shut-off plug (25)
5. Lower valve body (30)
6. O-ring (26)
7. Threaded pin (20)
8. Sealing element (22)
9. O-ring (24)



##### Step 3

##### Change-over valve

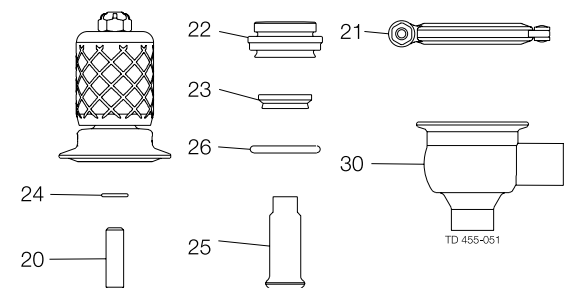
1. Complete actuator with bonnet
2. Lip seal (23)
3. Two clamps (21)
4. Change-over plug (25)
5. Upper valve body (27)
6. Valve seat (29)
7. O-ring (26)
8. Threaded pin (20)
9. Sealing element (22)
10. O-ring (24)
11. Two o-rings (28)
12. Lower valve body (30)



##### Step 4

##### Manual Shut-off valve

1. Complete bonnet with handle, plug extension and lock hexnut
2. Clamp (21)
3. Lower valve body (30)
4. O-ring (26)
5. Lip seal (23)
6. Sealing element (22)
7. O-ring (24)
8. Threaded pin (20)
9. Shut-off plug (25)

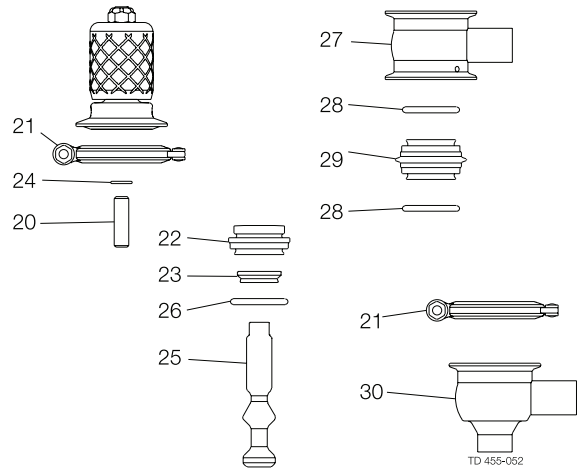


The instruction manual is part of the delivery. Study the instructions carefully.  
 The items refer to parts list and service kits section.  
 The valve is supplied as separate parts as standard (for welding).  
 The valve is assembled before delivery, if it is supplied with fittings.

#### Step 5

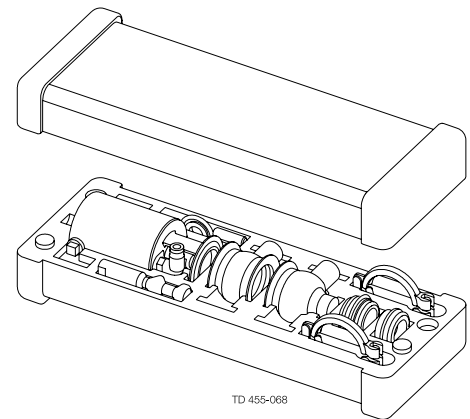
##### Manual change-over valve

1. Complete bonnet with handle, plug extension and lock hexnut
2. Change-over plug (25).
3. Two clamps (21).
4. Upper valve body (27).
5. O-ring (26).
6. Lip seal (23).
7. Sealing element (22).
8. Valve seat (29)
9. O-ring (24)
10. Threaded pin (20)
11. Two o-rings (28)
12. Lower valve body (30)



#### Step 6

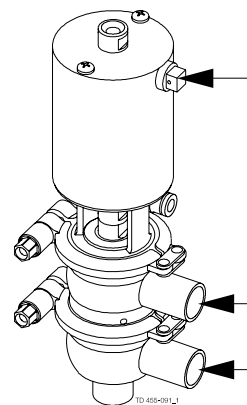
Remove any possible packing materials from the valve/ valve parts.



**Remove packing materials!**

#### Step 7

Inspect the valve/valve parts for visible transport damages.  
 Avoid damaging the valve/valve parts.



**Inspection!**

### 3 Installation

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

#### 3.2 General installation

##### Step 1



**Always** read the technical data thoroughly.  
See section 6 Technical data



**Always** release compressed air after use.

##### CAUTION!

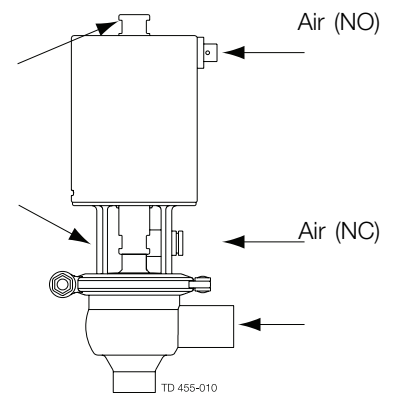
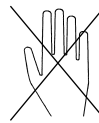
Alfa Laval cannot be held responsible for incorrect installation.

##### Step 2



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

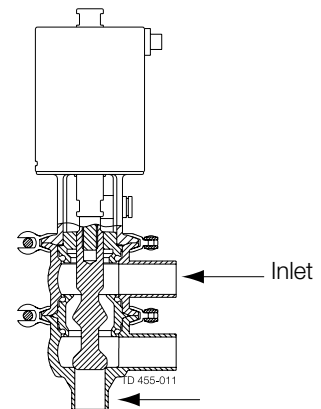
Moving parts!



##### Step 3

It is recommended to install the valve so that the flow is against the closing direction to avoid water hammering.

Avoid water hammering!



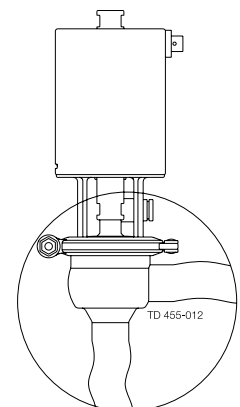
##### Step 4

Avoid stressing the valve.

**Pay special attention to**

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

Risk of damage!



---

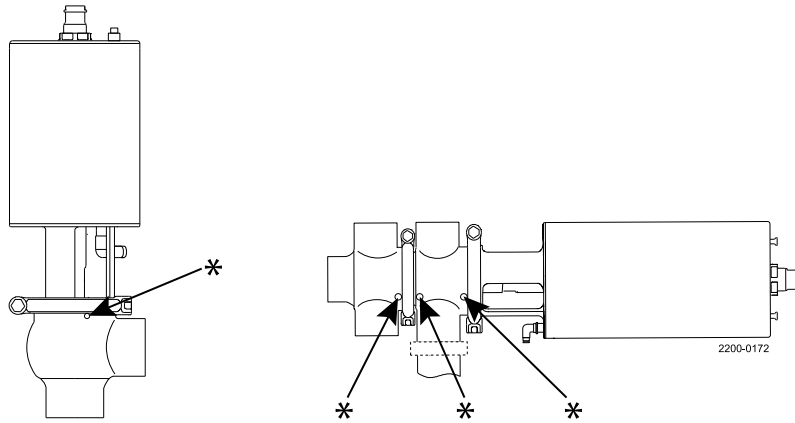
*Study the instructions carefully and pay special attention to the warnings!*  
*The valve has welding ends as standard but can also be supplied with clamp fittings.*

---

### Step 5

Make sure that the leak detection hole in the valve body:

1. is visible, when mounting the valve vertically
2. always is downwards due to self-draining, when the valve is mounted horizontally.



\* = Leakage detection hole

---

### 3 Installation

Study the instructions carefully.

The valve is supplied as separate parts to facilitate the welding. The items refer to the parts list and service kits section.

Check the valve for smooth operation after welding.

NO = Normally open. NC = Normally closed.

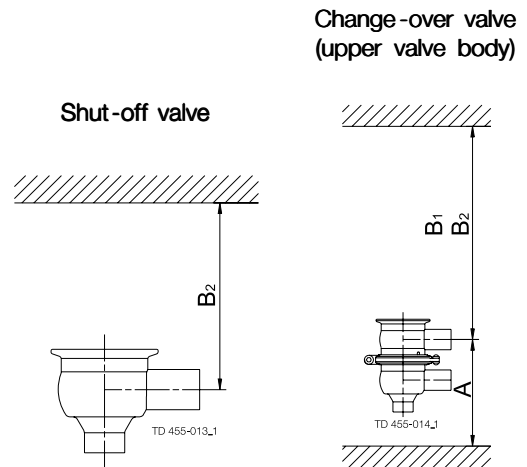
#### 3.3 Welding

##### Step 1

**Always** weld the valve so that the seals between the valve bodies can be replaced.

Maintain the minimum clearances (A and B) so that the lower valve body and plug (change-over valve) and the actuator with the internal parts can be removed.

Valve size DN/OD	Measurements in mm (inch)		
	A	B <sub>1</sub>	B <sub>2</sub> (incl. top unit)
12.7 mm	160 (6.3)	175 (6.9)	245 (9.7)
19 mm	175 (6.9)	180 (7.1)	250 (9.8)

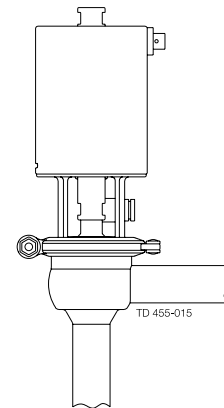


##### Step 2

**Shut-off valve/manual Shut-off valve:**

Assemble the valve in accordance with the steps in section 5.3 Valve assembly.

**Pay special attention to the warnings!**

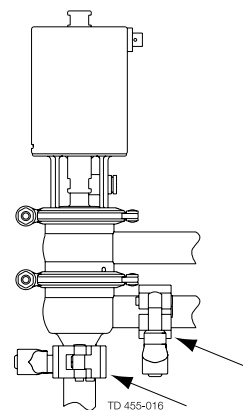


##### Step 3

**Change-over valve/manual change-over valve:**

Assemble the valve in accordance with the steps in section 5.3 Valve assembly.

**Pay special attention to the warnings!**



Remember seal rings!

Study the instructions carefully.

The valve is supplied as separate parts to facilitate the welding. The items refer to the parts list and service kits section.

Check the valve for smooth operation after welding.

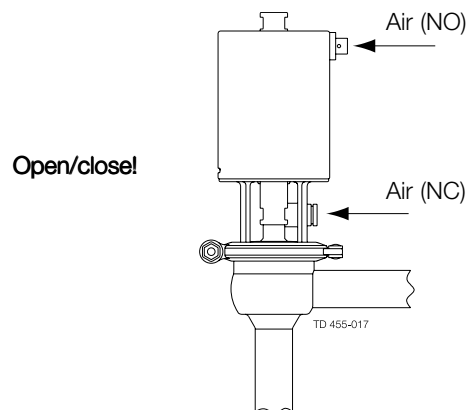
NO = Normally open. NC = Normally closed.

### Step 4

#### Pre-use check

1. Supply compressed air to the actuator.
2. Open and close the valve several times to ensure that it operates smoothly.

**Pay special attention to the warnings!**



## 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

## 4 Operation

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

Ensure that the valve operates smoothly.

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

NO = Normally open. NC = Normally closed.

### 4.1 Operation

#### Step 1

Always read the technical data thoroughly (see chapter 5)

Always release compressed air after use.

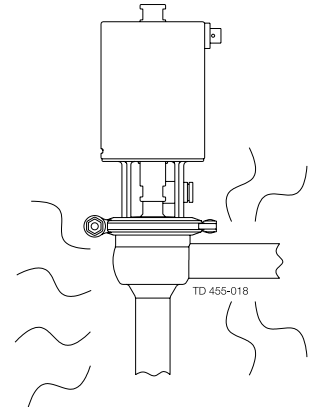
#### CAUTION!

Alfa Laval cannot be held responsible for incorrect operation.

#### Step 2

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

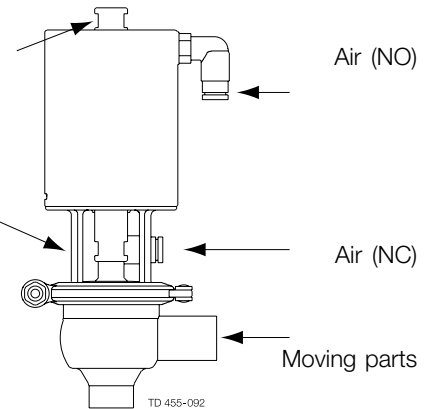
Burn hazard!



#### Step 3

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

Moving parts



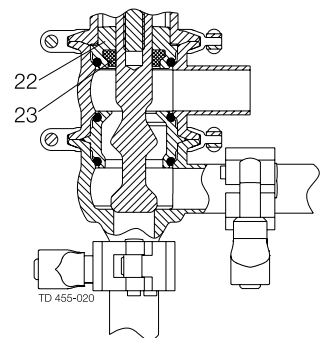
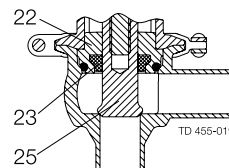
#### Step 4

##### Lubrication of valves

1. Ensure smooth movement between sealing element (22), lip seal (23) and plug (25).
2. Lubricate the lip seal with silicone oil/grease if necessary.

##### Change-over valve

Shut-off valve



**Lubricate if necessary!**  
(see section 5.1 General maintenance)

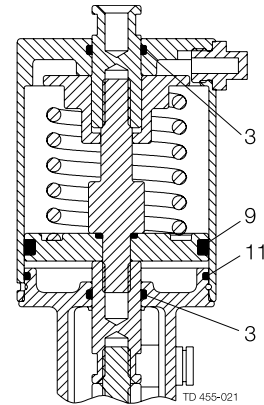


Pay attention to possible faults. Study the instructions carefully.  
The items refer to the parts list and service kits section.

### Step 5

#### Lubrication of actuator

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



## 4.2 Trouble shooting

### NOTE!

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

Problem	Cause/result	Repair
The valve plug jerks	The sealings seize	Lubricate: - O-rings (3) - O-ring (9) and the inside of cylinder (1) - Lip seal (23)
Product leakage at stem and/or clamp	Worn/product affected lip seal (23) and/or o-ring (26/28)	- Replace the seals - Replace with seals of a different rubber grade
Product leakage (closed valve)	- Worn/product affected - Loose plug parts (vibrations) - Product deposits on the seat and/or plug	- Replace the plug - Tighten the loose parts - Frequent cleaning
Product leakage (too high pressure)	- Worn actuator o-rings - Too weak spring	- Replace the o-rings - Fit a stronger spring
Water hammer	The flow direction is the same as the closing direction	- The flow direction should be against the closing direction
The valve does not open/close	- Faulty plug/piston rod assembly - The pressure on the plug is too high	- Replace o-ring (24) between plug and piston rod - Reduce the pressure

## 4 Operation

The valve is designed for *Cleaning In Place (= CIP)*.  
 Study the instructions carefully and pay special attention to the warnings!  
 NaOH = Caustic Soda.  
 HNO<sub>3</sub> = Nitric acid.

### 4.3 Recommended cleaning

#### Step 1



**Always** handle lye and acid with great care.

**Caustic danger!**



**Always** use  
rubber gloves!

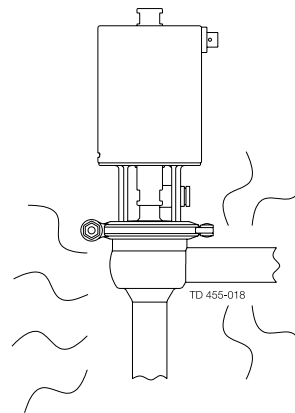


**Always** use  
protective goggles!

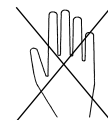
#### Step 2



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



**Burn hazard!**

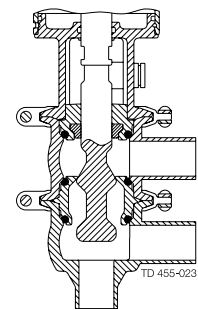
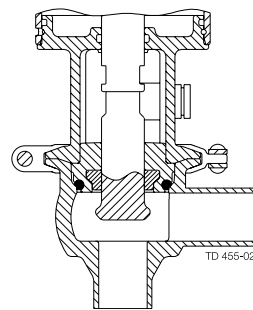


#### Step 3

Clean the plug and the seats correctly.  
**Pay special attention to the warnings**

**Shut-off valve**

**Change-over valve**



**Open!**

**Lift and lower momentarily (flip)!**

#### Step 4

**Examples of cleaning agents:**

Use clean water, free from chlorides.

1. 1% by weight NaOH at 70° C (158°F)

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

2. 0.5% by weight HNO<sub>3</sub> at 70° C (158°F)

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.
-----------------------------	---	---------------------------	---	-----------------

*The valve is designed for Cleaning In Place (= CIP).*

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

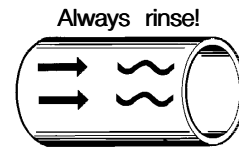
*NaOH = Caustic Soda.*

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

---

### 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!**
3. **Always** rinse well with clean water after the cleaning.



Clean water    Cleaning agents

---

### Step 6

#### NOTE

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

---

## 5 Maintenance

Maintain the valve regularly.

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

Always keep spare rubber seals and lip seals in stock.

### 5.1 General maintenance

#### Step 1



- **Always** read the technical data thoroughly (see 6 Technical data).
- **Always** release the compressed air after use.

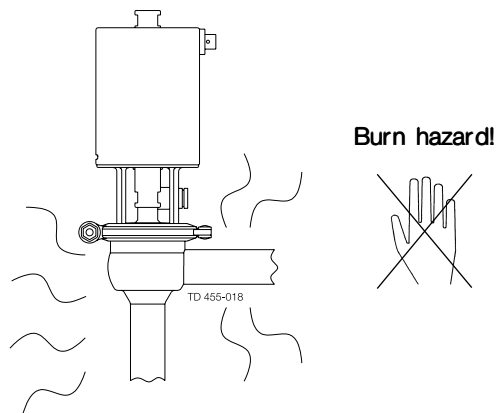
#### NOTE!

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

#### Step 2



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



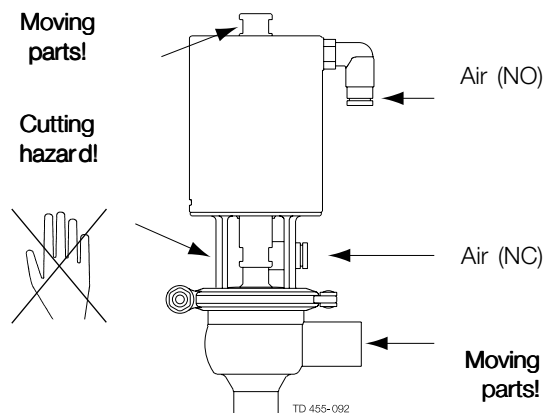
#### Step 3



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



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



Maintain the valve regularly.  
Study the instructions carefully and pay special attention to the warnings!  
Always keep spare rubber seals and lip seals in stock.

Below are some guidelines for maintenance and lubrication intervals.  
Please note that the guidelines are for normal working conditions.

	Valve rubber seals	Valve lip seal	Actuator rubber seals
Preventive maintenance	<b>Replace after 12 months</b>	Replace when replacing the rubber seals	<b>Replace after 5 years</b>
Maintenance after leakage (leakage normally starts slowly)	<b>Replace at the end of the day</b>	Replace when replacing the rubber seals	<b>Replace when possible</b>
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> <p><b>Replace after leakage</b></p>	Replace when replacing the rubber seals	<ul style="list-style-type: none"> <li>- Regular inspection for leakage and smooth operation</li> <li>- Keep a record of the actuator</li> <li>- Use the statistics for planning of inspections</li> </ul> <p><b>Replace after leakage</b></p>
Lubrication (USDA H1 approved oil/grease)	<b>Before fitting</b> Silicone oil or silicone grease	<b>Before fitting</b> Silicone oil or silicone grease	<b>Before fitting</b> Oil or grease

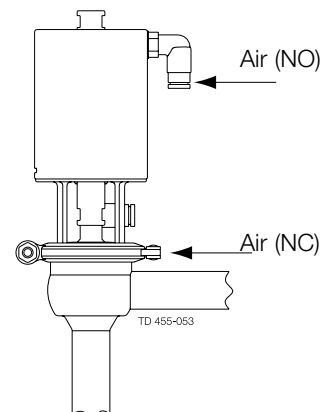
#### Pre-use check:

1. Supply compressed air to the actuator.
2. Open and close the valve several times to ensure that it operates smoothly.

#### Pay special attention to the warnings!

#### Recommended spare parts

Service kits (see chapter 6).  
Order service kits from the service kits list (see chapter 7 Parts list and service kits).



## 5 Maintenance

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

Handle scrap correctly.

NC = Normally closed. NO = Normally open.

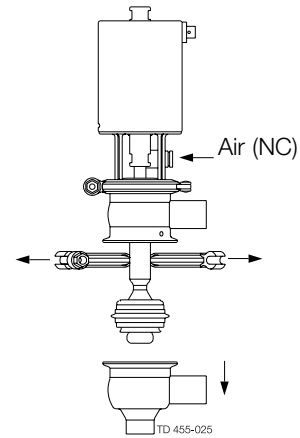
### 5.2 Dismantling of valve

#### Step 1

##### 1A - Change-over valve

1. Supply compressed air to the actuator (only NC).
2. Loosen and remove lower clamp (21).
3. Remove lower valve body (30).
4. Release compressed air.

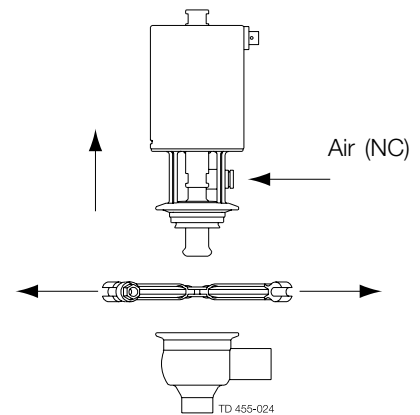
**Pay special attention to the warnings!**



##### 1B - Shut-off valve

1. Supply compressed air to the actuator (only NC).
2. Loosen and remove clamp (21).
3. Lift out the actuator.
4. Release compressed air.

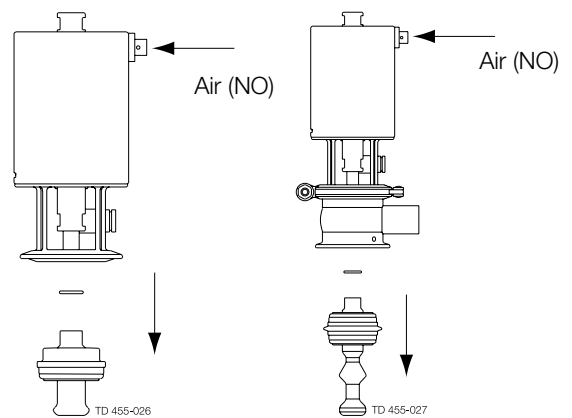
**Pay special attention to the warnings!**



#### Step 2

1. Supply compressed air to the actuator (only NO).
2. Remove plug (25) and o-ring (24). Use 11mm spanner and counterhold on actuator shaft.
3. Release compressed air.
4. Remove o-rings (28) from seat (only change-over).

**Pay special attention to the warnings!**



Shut-off valve

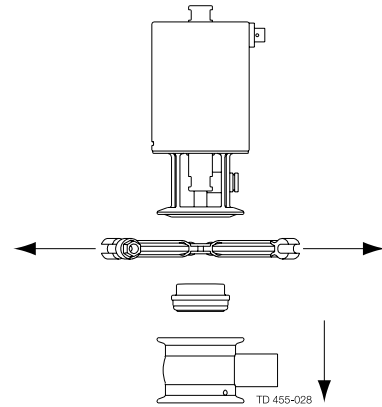
Change-over valve

Study the instructions carefully.  
 The items refer to the parts list and service kits section.  
 Lubricate the rubber seals and the lip seal before fitting them.

### Step 3

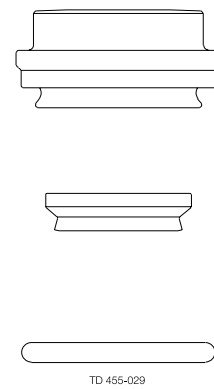
#### Change-over valve

1. Remove upper clamp (21).
2. Remove upper valve body (27).



### Step 4

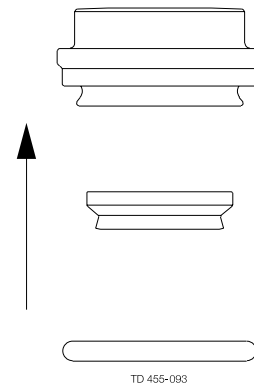
Remove lip seal (23) and o-ring (26) from sealing element (22).



## 5.3 Valve assembly

### Step 1

Fit lip seal (23) and o-ring (26) on sealing element (22).



## 5 Maintenance

Study the instructions carefully.

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

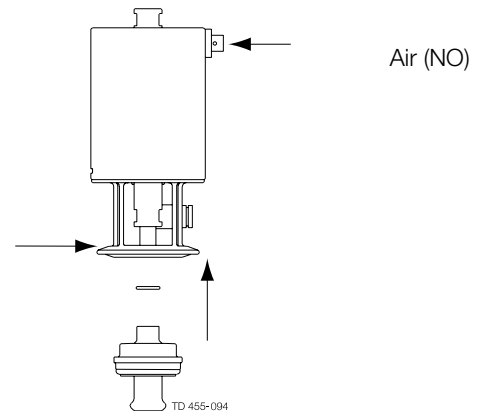
Lubricate the rubber seals and the lip seal before fitting them.

### Step 2

#### Shut-off valve

1. Supply compressed air to the actuator (only NO).
2. Fit threaded pin (20) using Loctite 326 or similar glue.
3. Fit sealing element (22), plug (25) and o-ring (24).
4. Release compressed air.

Pay special attention to the warnings!

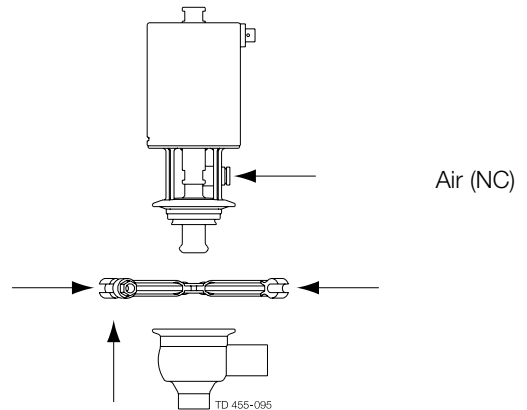


### Step 3

#### Shut-off valve

1. Supply compressed air to the actuator (only NC).
2. Fit the actuator.
3. Fit and tighten clamp (21).
4. Release compressed air.

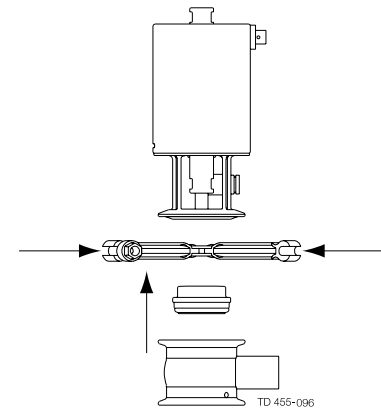
Pay special attention to the warnings!



### Step 4

#### Change-over valve

1. Fit threaded pin (20) using Loctite 326 or similar glue.
2. Assemble upper valve body (27), sealing element (22) and the actuator.
3. Fit and tighten upper clamp (21).



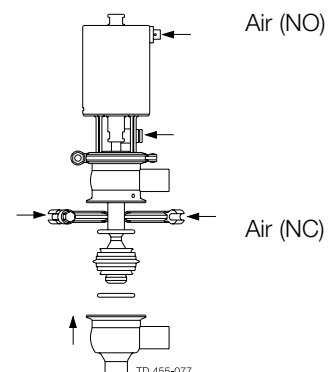
### Step 5

#### Change-over valve

1. Supply compressed air to the actuator (only NO).
2. Fit o-rings (28) on valve seat (29).
3. Fit valve seat (29), o-ring (24) and plug (25). Use 11 mm spanner to counterhold actuator stem.
4. Gently release compressed air (NO).
5. Supply compressed air (only NC).
6. Assemble lower and upper valve bodies (27 and 30).
7. Fit and tighten lower clamp (21).
8. Release compressed air (NC).

Pay special attention to the warnings!

Turn the diagonal surface of valve seat (29) upwards!





Study the instructions carefully.

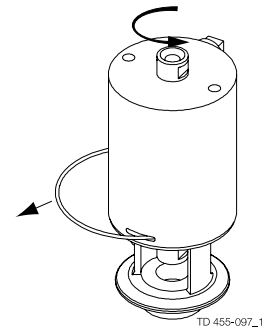
The items refer to the parts list and service kits section. Handle scrap correctly

### 5.4 Dismantling of actuator

#### Step 1

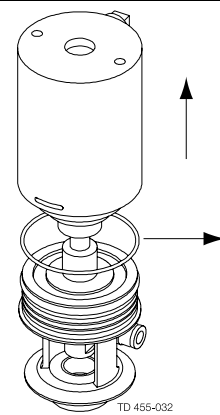
1. Remove cylinder (1).
2. Remove lock wire (12).

Rotate by hand or with filter strap!



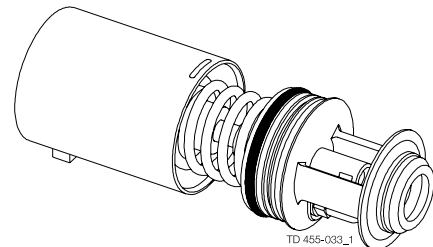
#### Step 2

1. Remove cylinder (1).
2. Remove o-rings (3, 11) from bonnet (13) and o-ring (3) from cylinder (1).



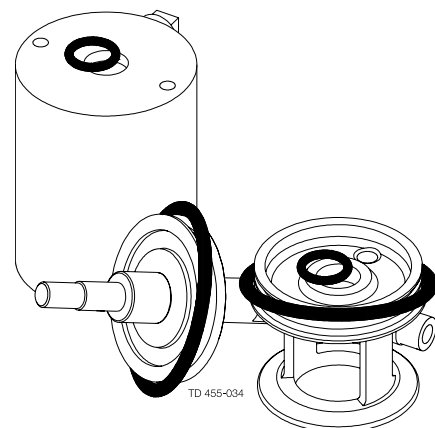
#### Step 3

1. Remove piston/spring package.
2. Remove o-ring (9) from the piston (10).



#### Step 4

Replace the rubber seals



## 5 Maintenance

---

Study the instructions carefully.

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

Lubricate the rubber seals before fitting them.

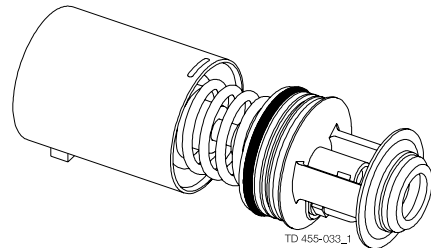
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### 5.5 Assembly of actuator

---

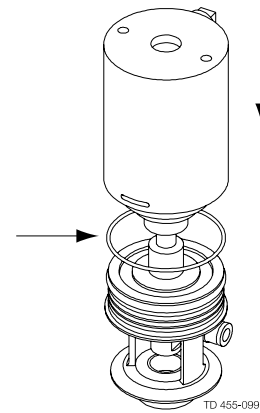
#### Step 1

1. Fit o-ring (9) on piston (10).
2. Fit the piston/spring package.



#### Step 2

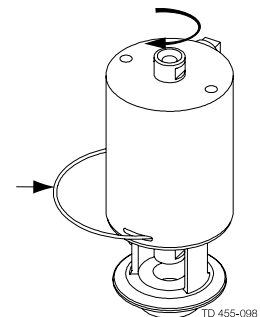
1. Fit o-rings (3, 11) in bonnet (13) and o-ring (3) on cylinder (1).
2. Fit the cylinder.



#### Step 3

1. Fit lock wire (12) through the slot in cylinder (1) into the hole in bonnet (13).
2. Rotate the cylinder 360° (see step 4).

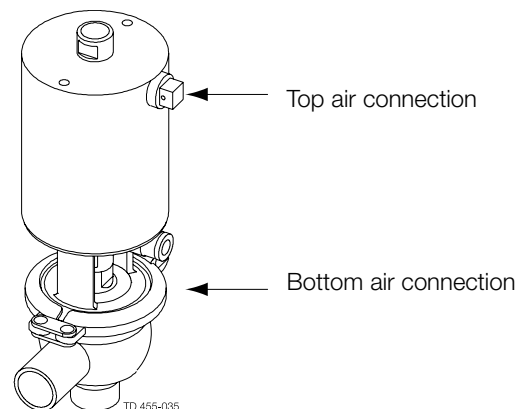
Rotate by hand or with filter strap!



#### Step 4

##### NOTE!

It is recommended to rotate cylinder (1) further 180° in relation to bonnet (13) so that the top and bottom air connections are fixed on the same side.



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

### 6.1 Technical data

The valve is remote-controlled by means of compressed air or manually operated. The small single seat valve is very reliable due to its simple design and few moving parts.

Standard Design The Small Single Seat Valve comes as a pneumatic or manual operated in either a one or two body configuration.

The plug is a PVDF plug. All components are assembled by means of clamp rings, whereas the piston and valve plug have a threaded connection.

<b>Technical data - valve/actuator</b>	
Max. product pressure	1000 kPa (10 bar) (145 psi)
Min. product pressure	Full vacuum
Temperature range	-10°C to + 140°C (14°F to 284°F) (EPDM)
Air pressure, actuator	100 to 700 kPa (1 to 7 bar) (14.5 to 101.5 psi)
<b>Materials - valve/actuator</b>	
Product wetted steel parts	Acid-resistant steel 1.4404 (AISI 316L)
Finish, outside	Semi bright
Finish, inside	Ra ≤ 0.5µm
Other steel parts	Stainless steel 1.4307 (AISI 304L)
Plug	PVDF
Product wetted seals	EPDM
Actuator seals	Nitrile (NBR)
Alternative product wetted seals	HNBR and FPM

#### Weight (kg)

Nominal Size	Remote-controlled		Manually operated	
	DN/OD		DN/OD	
	12.7mm	19mm	12.7mm	19mm
Weight (kg) - Shut-off valve	1.07	1.10	0.5	0.53
Weight (kg) - Change-over valve	1.36	1.41	0.8	0.85

#### Noise

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

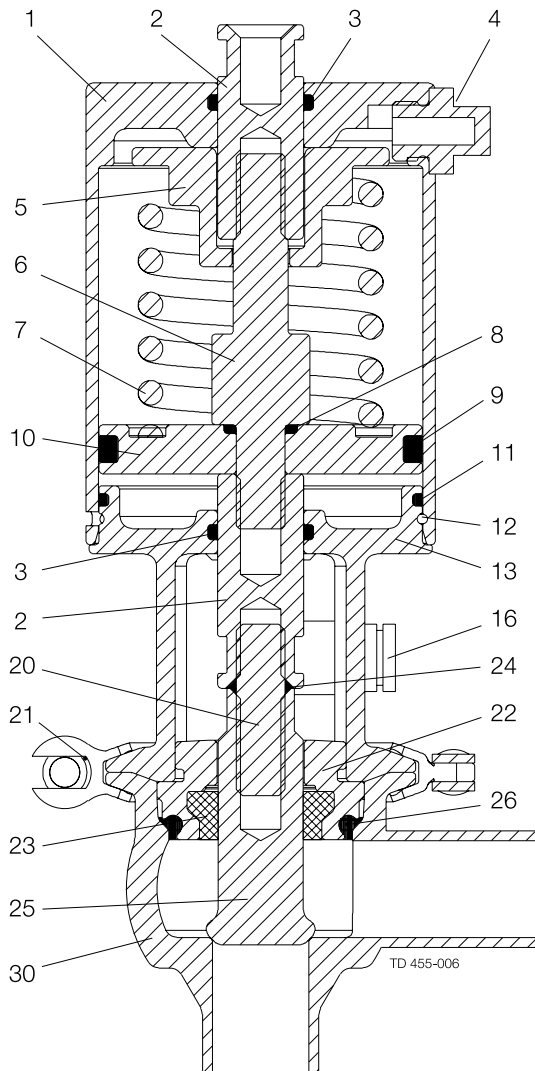
# 7 Parts list and service kits

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

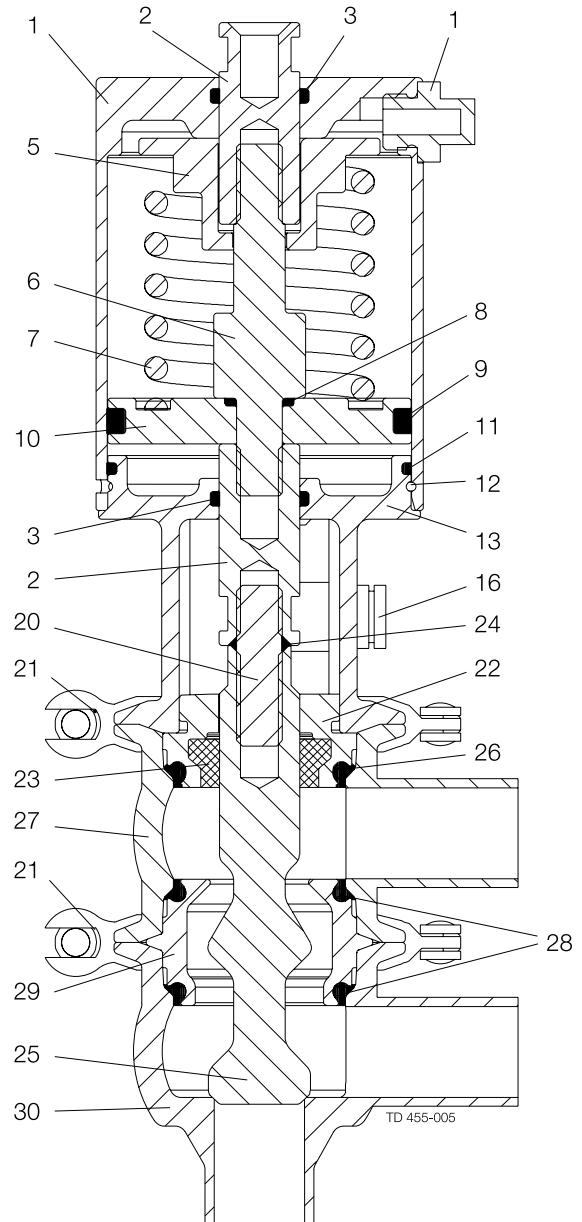
## 7.1 Drawings

See parts list in section 7.2 Small Single Seat Valve - Shut-off Valve 12.7-19mm

See parts list in section 7.3 Small Single Seat Valve - Change-over Valve 12.7-19 mm



**Small Single Seat Valve  
Shut-off Valve DN/OD12.7 -19mm**



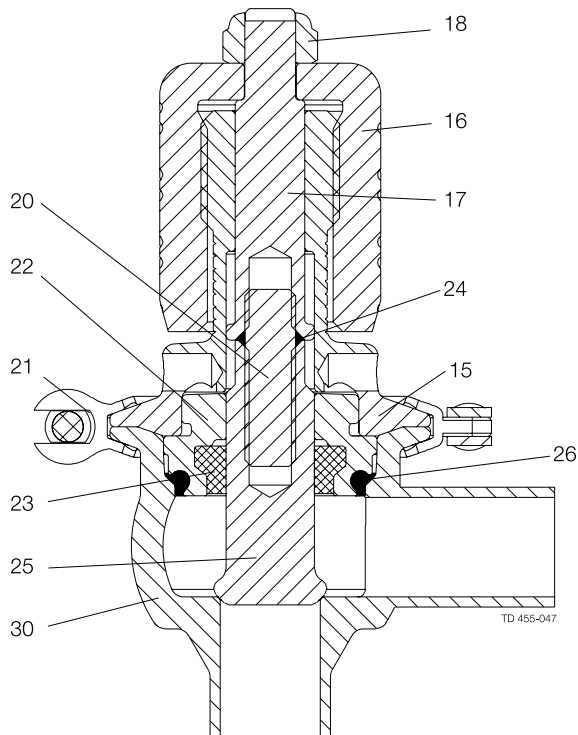
**Small Single Seat Valve  
Change-over Valve DN/OD12.7 -19mm**

## 7 Parts list and service kits

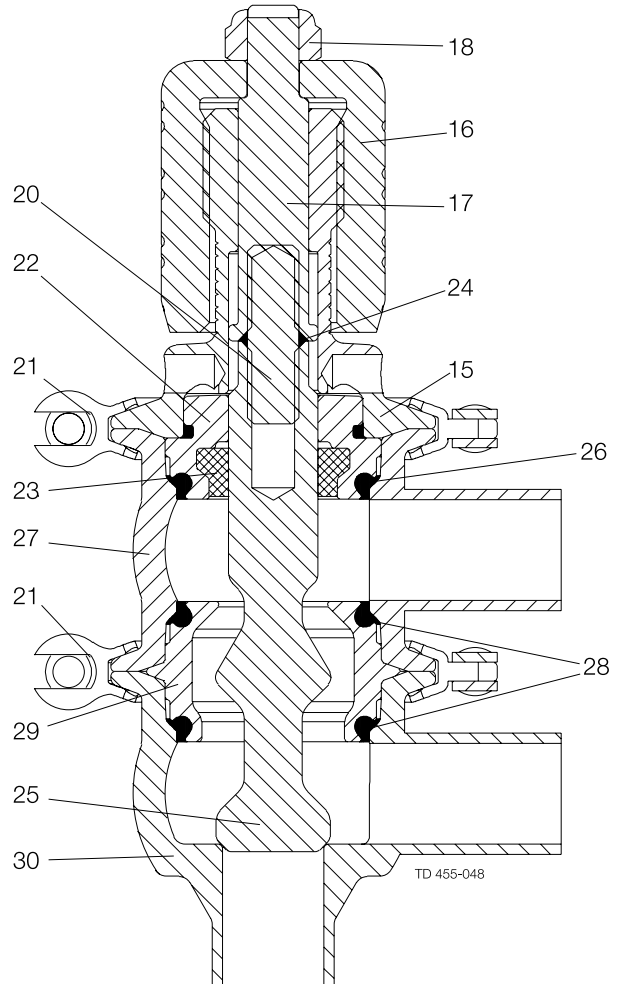
*It is important to observe the technical data during installation, operation and maintenance.  
Inform the personnel about the technical data.*

See parts list in section 7.4 Small Single Seat Valve - Shut-off Valve Manual 12.7-19 mm

See parts list in section 7.5 Small Single Seat Valve - Change-over Valve Manual 12.7-19 mm



**Small Single Seat Valve  
Manual Shut-off Valve DN/OD12.7 -19mm**

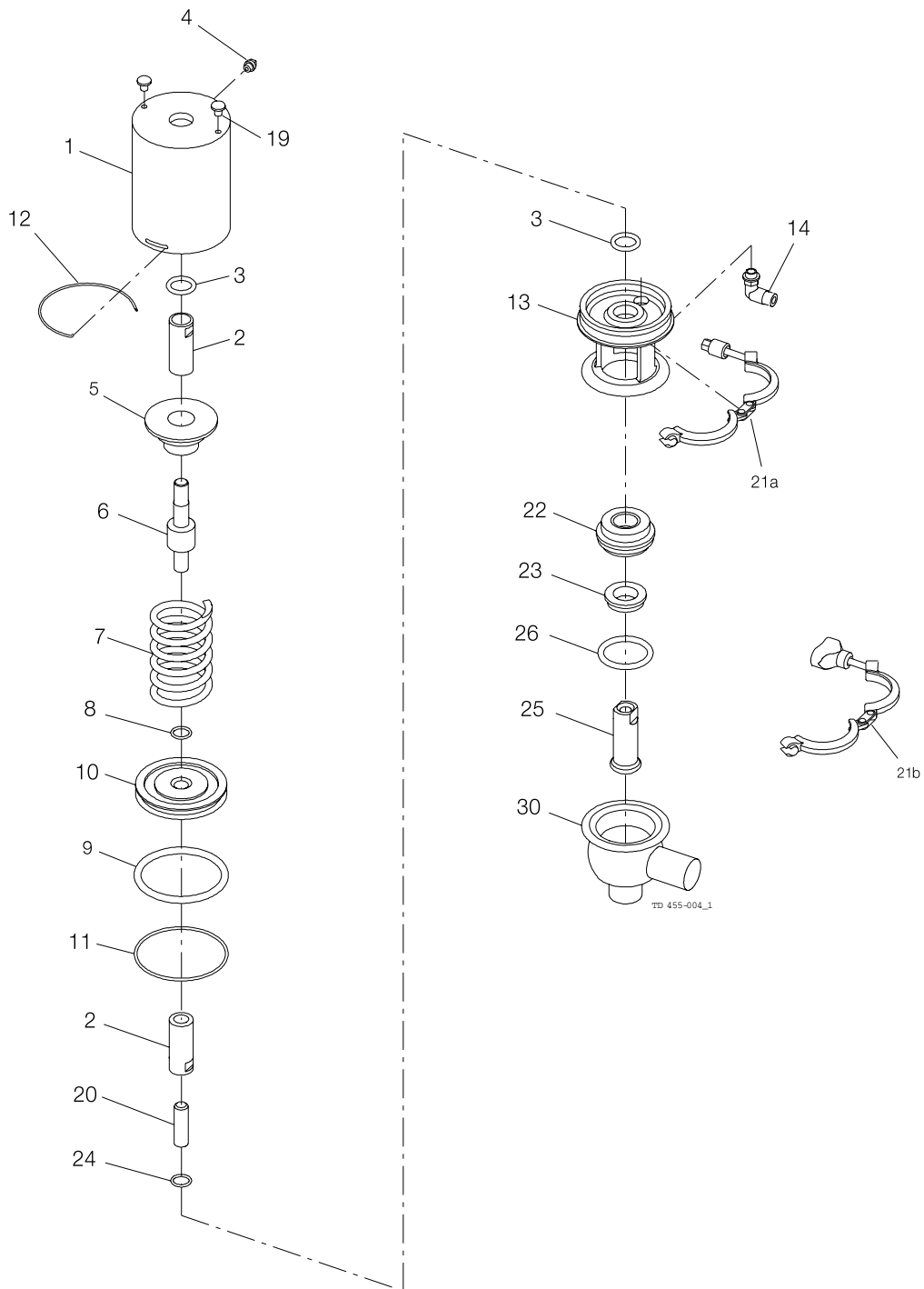


**Small Single Seat Valve  
Manual Change-Over Valve DN/OD12.7 -19mm**

## 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 Small Single Seat Valve – Shut-off Valve 12.7–19mm



## 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	Cylinder
2	2	Middle piece
3 □	2	O-ring
4	1	Plug
5	1	Guide pin
6	1	Piston rod
7	1	Spring
8	1	O-ring
9 □	1	O-ring
10	1	Piston
11 □	1	O-ring
12	1	Lock wire
13	1	Bonnet
14	1	Air fitting
19	2	Screw
20	1	Threaded pin
21a	1	Clamp with hexnut
21b	1	Clamp with wingnut
22	1	Sealing element
23 ♦	1	Lip seal
24 ♦	1	O-ring
25 ♦	1	Stop plug
26 ♦	1	O-ring
30	1	Lower valve body

### Service kits

Denomination	12.7 mm	19 mm
<b>Service kit for actuator</b>		
□ Service kit, NBR .....	9611926323	9611926323
<b>Service kits for product wetted parts, standard</b>		
♦ Service kits, EPDM .....	9611926319	9611926330
♦ Service kits, HNBR .....	9611926317	9611926328
♦ Service kits, FPM .....	9611926318	9611926329

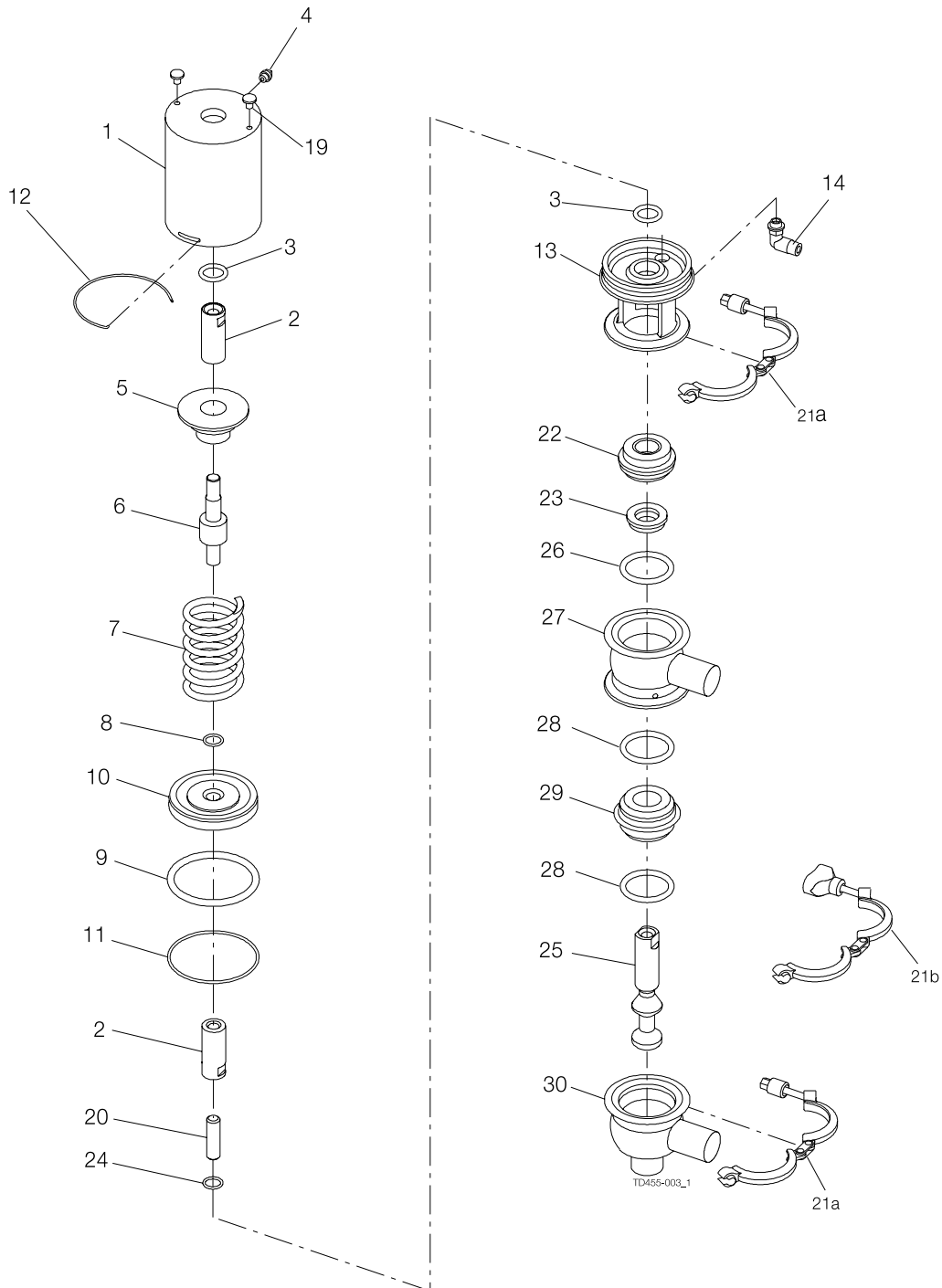
Parts marked with □♦ are included in the service kit.  
Recommended spare parts: service kits.

TD 900218/1

## 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.*

### 7.3 Small Single Seat Valve - Change-over Valve 12.7-19 mm





## 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	Cylinder
2	2	Middle piece
3 □	2	O-ring
4	1	Plug
5	1	Guide pin
6	1	Piston rod
7	1	Spring
8	1	O-ring
9 □	1	O-ring
10	1	Piston
11 □	1	O-ring
12	1	Lock wire
13	1	Bonnet
14	1	Air fitting
19	2	Screw
20	1	Threaded pin
21a	2	Clamp with hexnut
21b	2	Clamp with wingnut
22	1	Sealing element
23 ♦	1	Lip seal
24 ♦	1	O-ring
25 ♦	1	Change-over plug
26 ♦	1	O-ring
27	1	Upper valve body
28 ♦	2	O-ring
29	1	Valve seat
30	1	Lower valve body

### Service kits

Denomination	12.7 mm	19 mm
<b>Service kits for actuator</b>		
□ Service kit, NBR .....	9611926323	9611926323
<b>Service kits for product wetted parts, standard</b>		
♦ Service kits, EPDM .....	9611926322	9611926333
♦ Service kits, HNBR .....	9611926320	9611926331
♦ Service kits, FPM .....	9611926321	9611926332

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

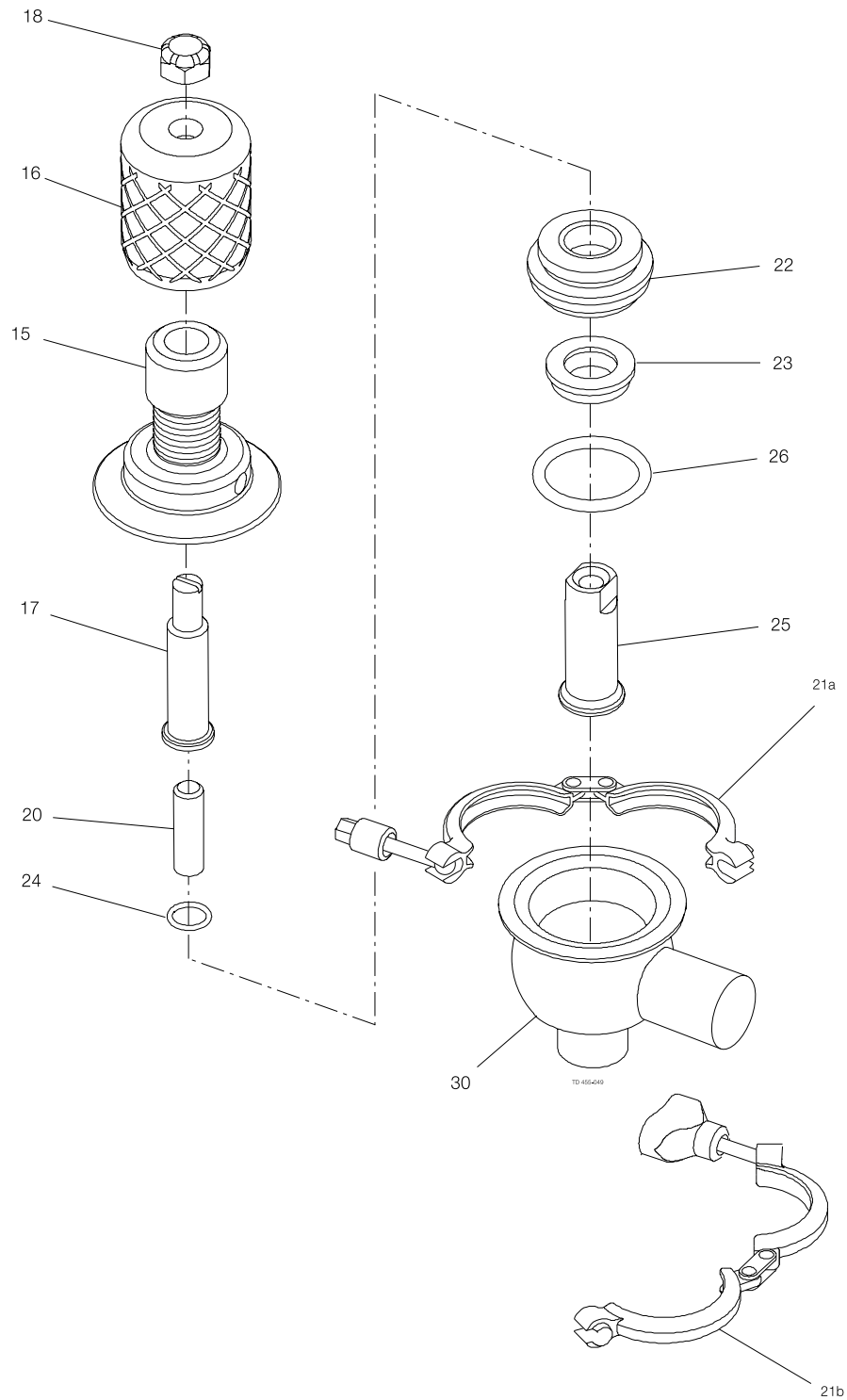
Recommended spare parts: service kits.

TD 900219/1

## 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.*

### 7.4 Small Single Seat Valve – Shut-off Valve Manual 12.7–19 mm



## 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	Manual bonnet
16	1	Handle
17	1	Stem extension
18	1	Lock nut
20	1	Threaded pin
21a	1	Clamp with hexnut
21b	1	Clamp with wingnut
22	1	Sealing element
23 ♦	1	Lip seal
24 ♦	1	O-ring
25 ♦	1	Stop plug
26 ♦	1	O-ring
30	1	Lower valve body

### Service kits

Denomination	12.7 mm	19 mm
<b>Service kits for actuator</b>		
□ Service kit, NBR .....	9611926323	9611926323
<b>Service kits for product wetted parts, standard</b>		
♦ Service kits, EPDM .....	9611926319	9611926330
♦ Service kits, HNBR .....	9611926317	9611926328
♦ Service kits, FPM .....	9611926318	9611926329

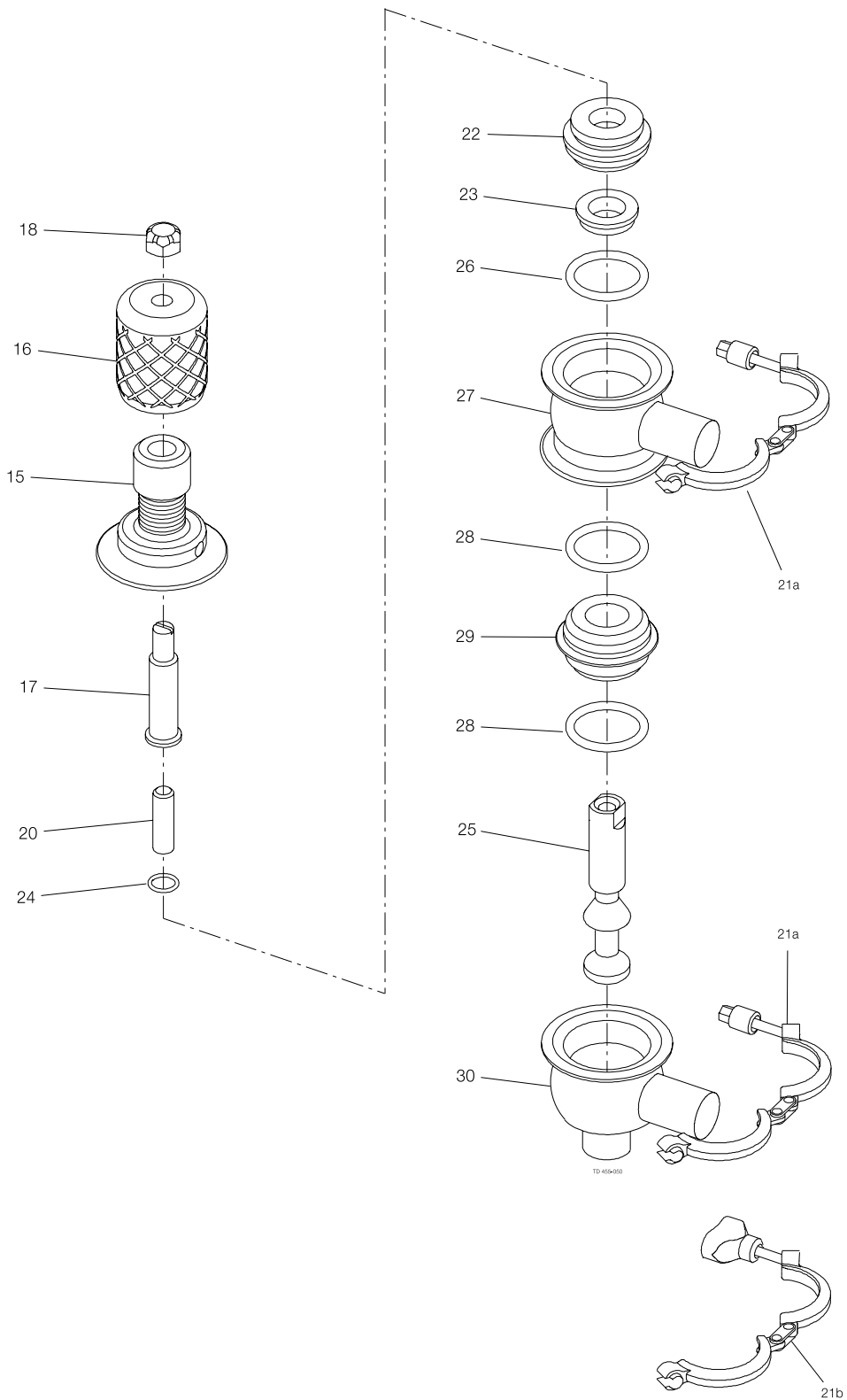
Parts marked with □♦ are included in the service kit.  
Recommended spare parts: service kits.

TD 900220/1

## 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.*

### 7.5 Small Single Seat Valve – Change-over Valve Manual 12.7–19 mm



## 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	Manual bonnet
16	1	Handle
17	1	Stem extension
18	1	Lock nut
20	1	Threaded pin
21a	2	Clamp with hexnut
21b	2	Clamp with wingnut
22	1	Sealing element
23 ♦	1	Lip seal
24 ♦	1	O-ring
25 ♦	1	Change-over plug
26 ♦	1	O-ring
27	1	Upper valve body
28 ♦	2	O-ring
29	1	Valve seat
30	1	Lower valve body

### Service kits

Denomination	12.7 mm	19 mm
<b>Service kits for actuator</b>		
□ Service kit, NBR .....	9611926323	9611926323
<b>Service kits for product wetted parts, standard</b>		
♦ Service kits, EPDM .....	9611926322	9611926333
♦ Service kits, HNBR .....	9611926320	9611926331
♦ Service kits, FPM .....	9611926321	9611926332

Parts marked with □♦ are included in the service kit.  
Recommended spare parts: service kits.

TD 900221/1

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