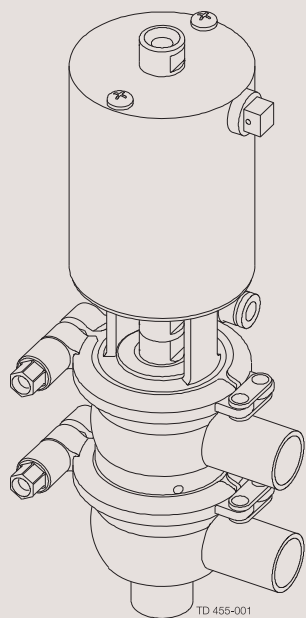


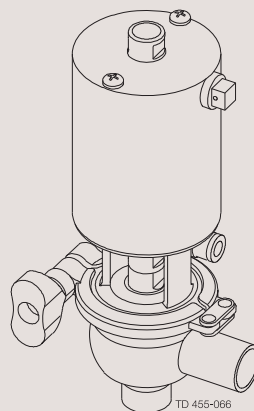


Instruction Manual

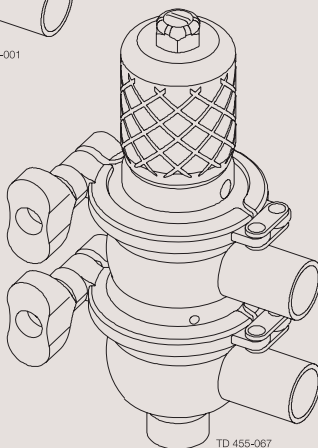
Unique Small Single Seat Valve



TD 455-001

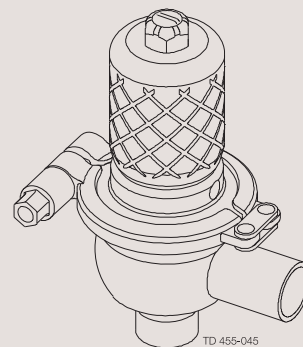


TD 455-066



TD 455-110

TD 455-067



TD 455-045

ESE02232-EN4

2015-04

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 EC Declaration of Conformity

Revision of Declaration of Conformity 2009-12-29

The Designated Company

Alfa Laval Kolding A/S

Company Name

Albuen 31, DK-6000 Kolding, Denmark

Address

+45 79 32 22 00

Phone No.

hereby declare that

Valve

Designation

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

Type

is in conformity with the following directive with amendments:

- Machinery Directive 2006/42/EC
- Regulation (EC) No 1935/2004
- Pressure Equipment Directive 97/23/EC category 1 and subjected to assessment procedure Module A.

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

QHSE Manager, Quality, Health and safety & Environment

Title

Annie Dahl

Name

Kolding

Place

2013-09-01

Date



Signature



*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:



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.

2.3 Safety precautions

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

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.

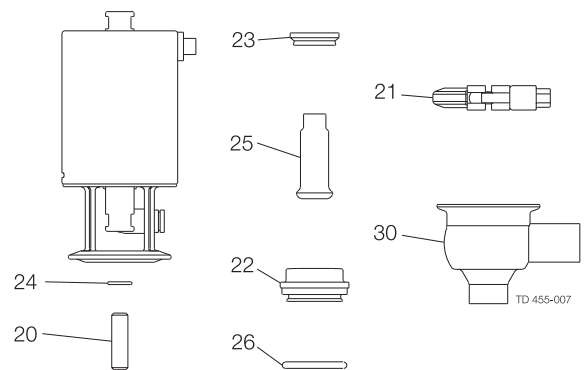
Check the delivery for:

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

Step 2

Stop valve

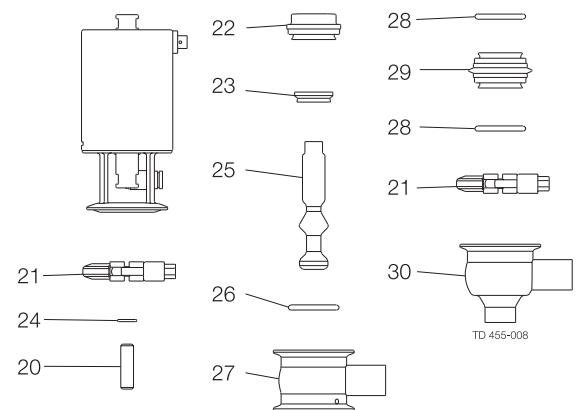
1. Complete actuator with bonnet
2. Lip seal (23)
3. Clamp (21)
4. Stop plug (25)
5. Lower valve body (30)
6. O-ring (26)
7. Threaded pin (20)
8. Sealing element (22)
9. O-ring (24)



Step 3

Change-over valve

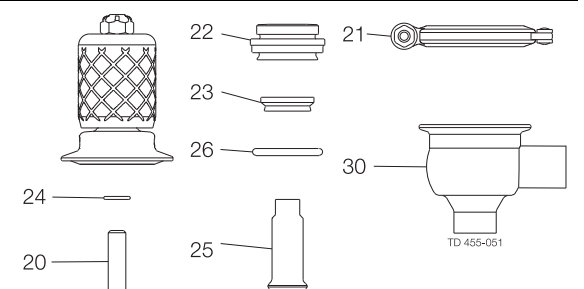
1. Complete actuator with bonnet
2. Lip seal (23)
3. Two clamps (21)
4. Change-over plug (25)
5. Upper valve body (27)
6. Valve seat (29)
7. O-ring (26)
8. Threaded pin (20)
9. Sealing element (22)
10. O-ring (24)
11. Two o-rings (28)
12. Lower valve body (30)



Step 4

Manual stop 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. Stop plug (25)



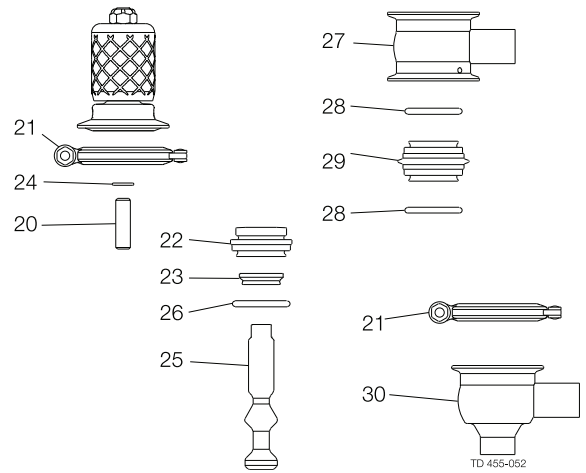
3 Installation

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.

Step 5

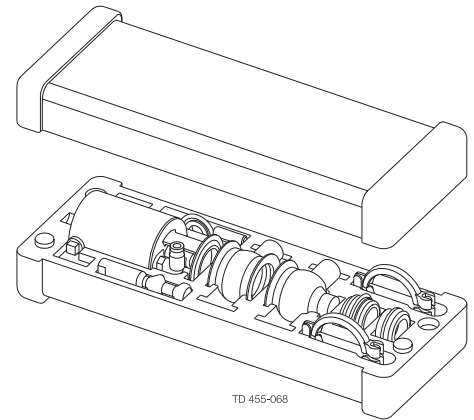
Manual change-over valve

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

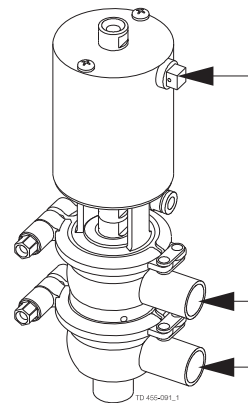
Remove any possible packing materials from the valve/ valve parts.



Remove packing materials!

Step 7

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



Inspection!

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.

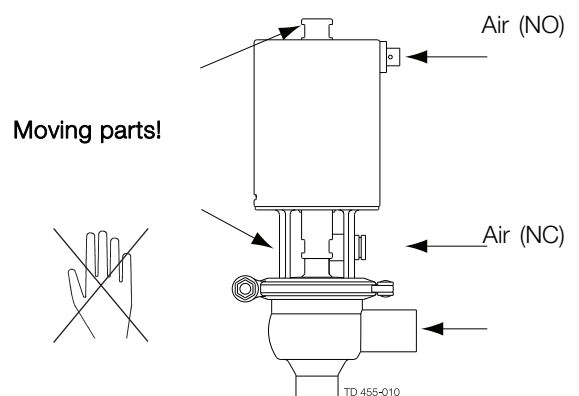
CAUTION!

Alfa Laval cannot be held responsible for incorrect installation.

Step 2

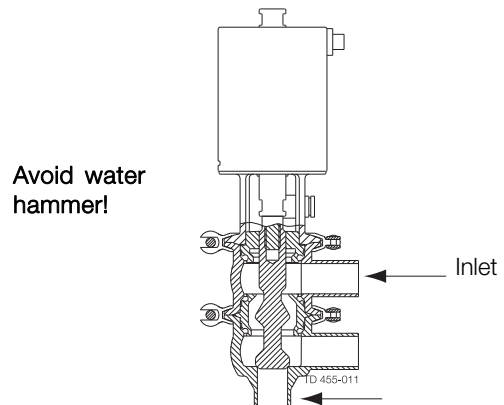


Never touch the moving parts if the actuator is supplied with compressed air.



Step 3

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

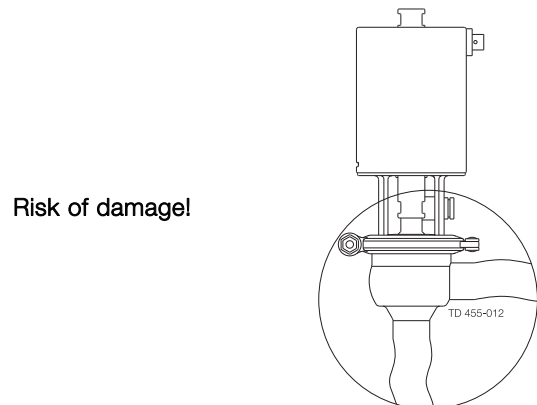


Step 4

Avoid stressing the valve.

Pay special attention to

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



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.

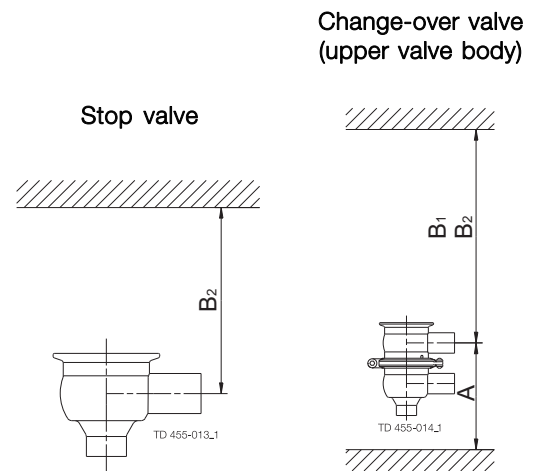
3.3 Welding

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 ₁	B ₂ (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)



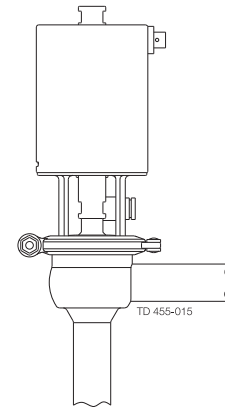
Step 2

Stop valve/manual stop valve:

Assemble the valve in accordance with the steps in section 5.3

Assembly of valve.

Pay special attention to the warnings!



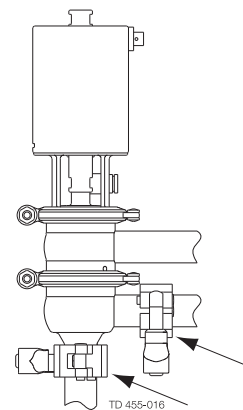
Step 3

Change-over valve/manual change-over valve:

Assemble the valve in accordance with the steps in section 5.3

Assembly of valve.

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.

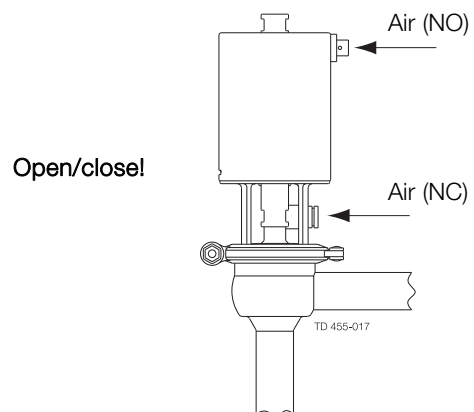
NO = Normally open. NC = Normally closed.

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.

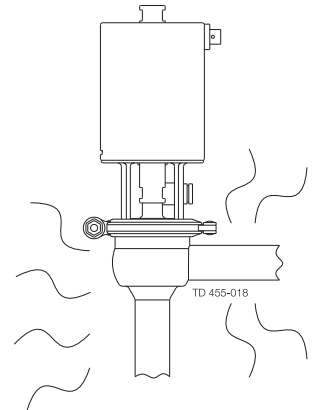
CAUTION!

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.

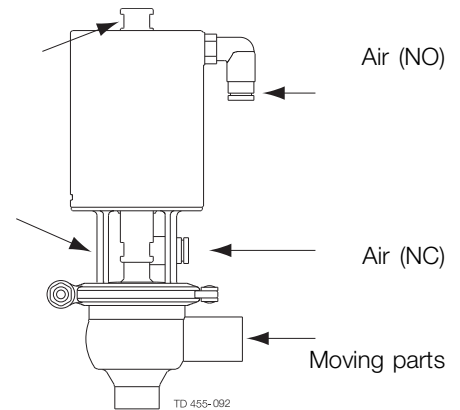
Danger of burns



Step 3

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

Moving parts



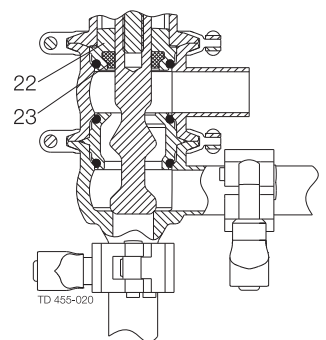
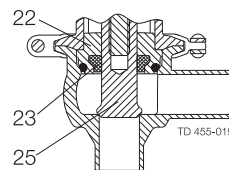
Step 4

Lubrication of valves

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

Change-over valve

Stop valve



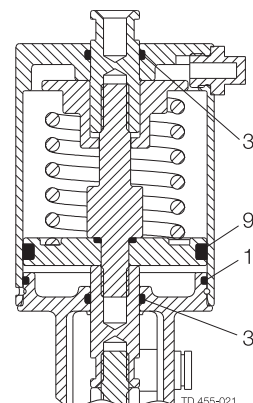
Lubricate if necessary!
(see section 5.1 General maintenance)

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 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.

HNO₃ = Nitric acid.

4.3 Recommended cleaning

Step 1



Always handle lye and acid with great care.

Caustic danger!



Always use
rubber gloves!

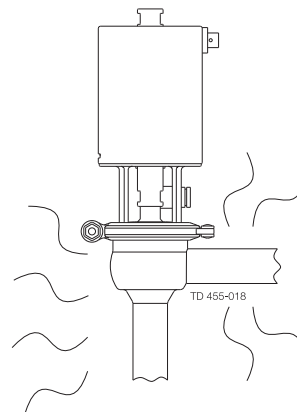


Always use
protective goggles!

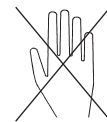
Step 2



Never touch the valve or the pipelines when sterilising.



Danger of burns!



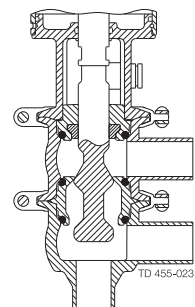
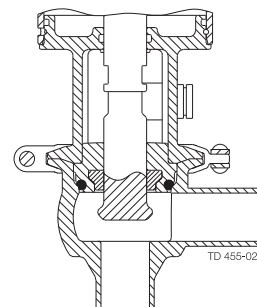
Step 3

Clean the plug and the seats correctly.

Pay special attention to the warnings

Stop 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.
-----------------------	---	---------------------------	---	-----------------

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

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

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

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

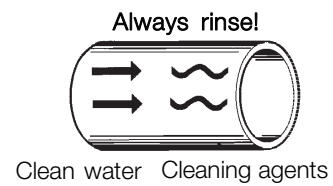
Study the instructions carefully and pay special attention to the warnings!

NaOH = Caustic Soda.

HNO₃ = Nitric acid.

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.



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.

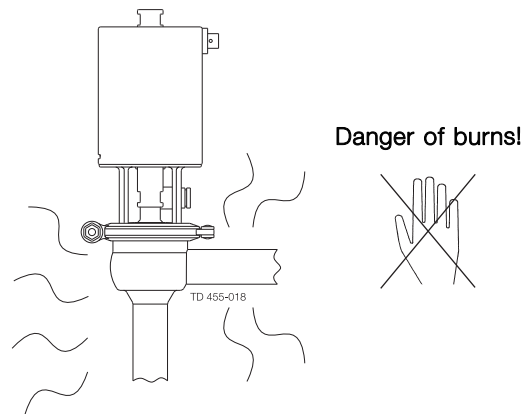
NOTE!

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

Step 2



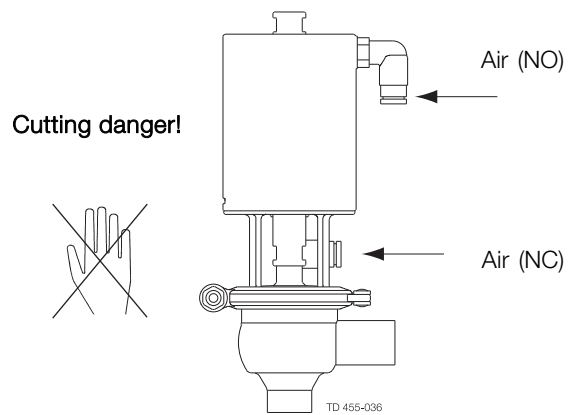
- **Never** service the valve when it is hot.
- **Never** service the valve with valve/actuator under pressure



Step 3



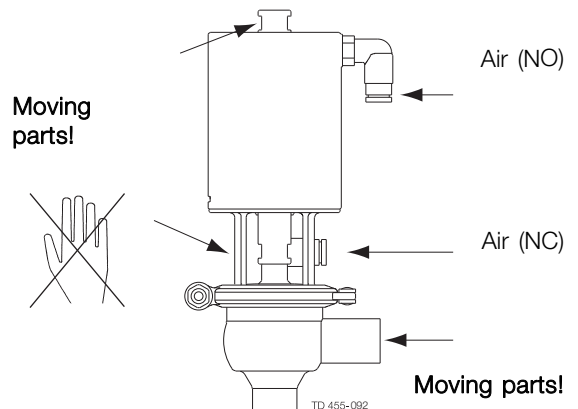
Never stick your fingers through the valve ports if the actuator is supplied with compressed air.



Step 4



Never touch the the moving parts 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	Replace after 12 months	Replace when replacing the rubber seals	Replace after 5 years
Maintenance after leakage (leakage normally starts slowly)	Replace at the end of the day	Replace when replacing the rubber seals	Replace when possible
Planned maintenance	<ul style="list-style-type: none"> - Regular inspection for leakage and smooth operation - Keep a record of the valve - Use the statistics for planning of inspections <p>Replace after leakage</p>	Replace when replacing the rubber seals	<ul style="list-style-type: none"> - Regular inspection for leakage and smooth operation - Keep a record of the actuator - Use the statistics for planning of inspections <p>Replace after leakage</p>
Lubrication (USDA H1 approved oil/grease)	Before fitting Silicone oil or silicone grease	Before fitting Silicone oil or silicone grease	Before fitting Oil or grease

Pre-use check:

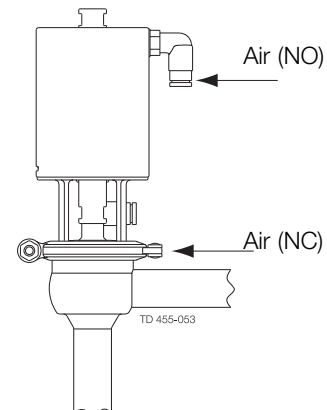
1. Supply compressed air to the actuator.
2. Open and close the valve several times to ensure that it operates smoothly.

Pay special attention to the warnings!

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.

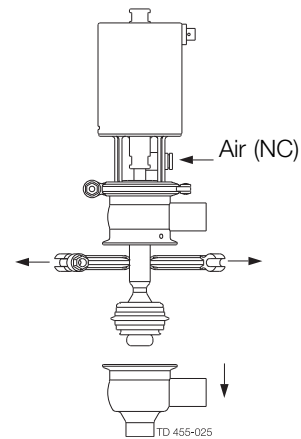
5.2 Dismantling of valve

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.

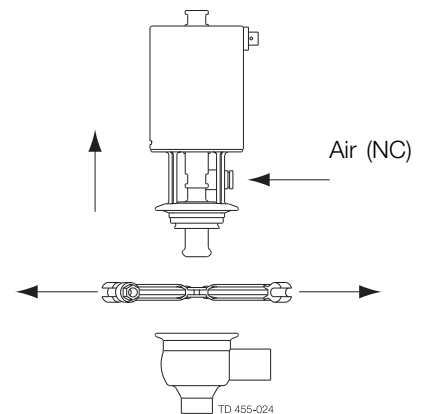
Pay special attention to the warnings!



1B - Stop 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.

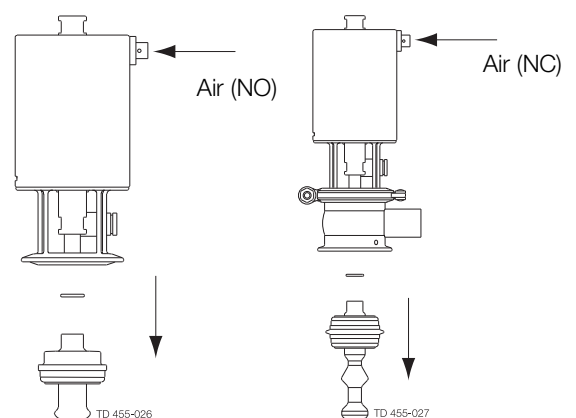
Pay special attention to the warnings!



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!



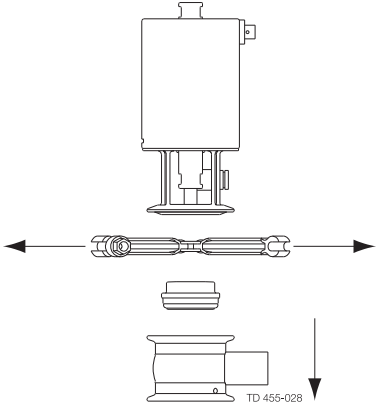
Stop valve

Change-over valve

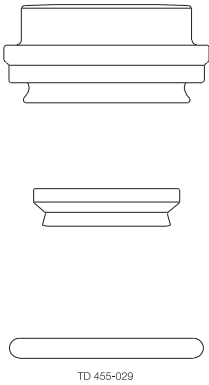
Study the instructions carefully.
The items refer to the parts list and service kits section.
Lubricate the rubber seals and the lip seal before fitting them.

Step 3
Change-over valve

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

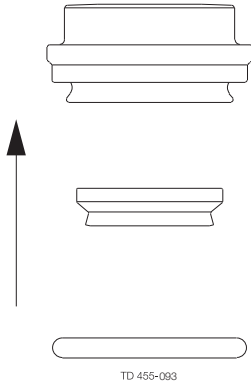


Step 4
Remove lip seal (23) and o-ring (26) from sealing element (22).



5.3 Assembly of valve

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.

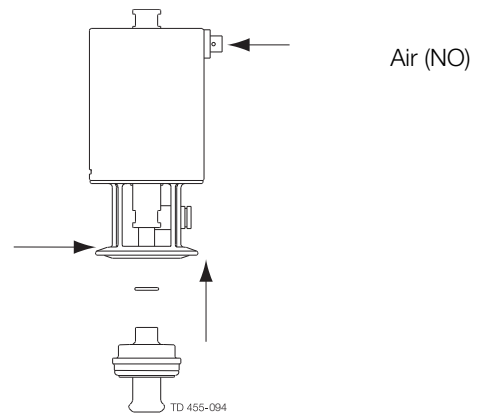
Lubricate the rubber seals and the lip seal before fitting them.

Step 2

Stop 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!

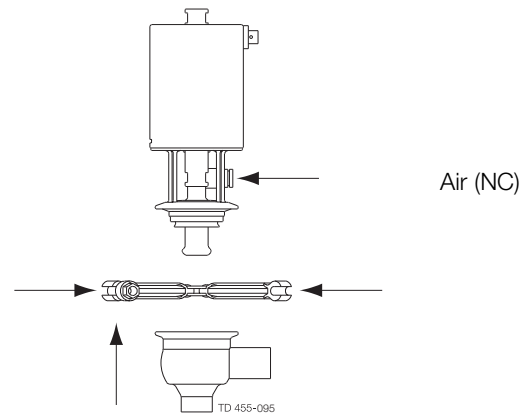


Step 3

Stop valve

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

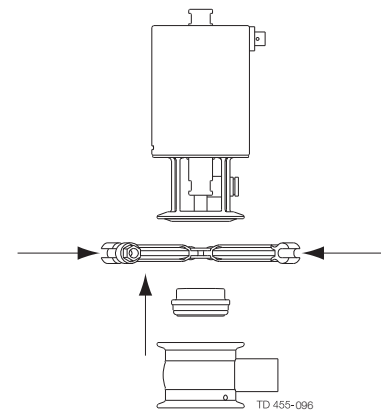
Pay special attention to the warnings!



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).

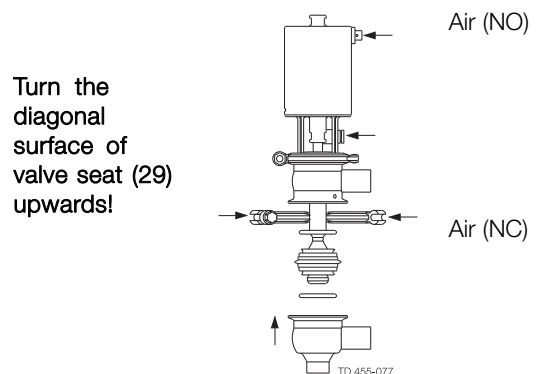


Step 5

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!



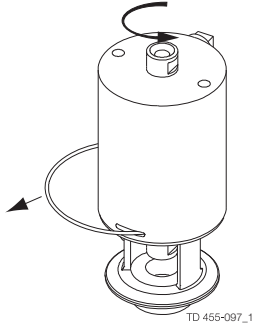
Study the instructions carefully.
The items refer to the parts list and service kits section. Handle scrap correctly

5.4 Dismantling of actuator

Step 1

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

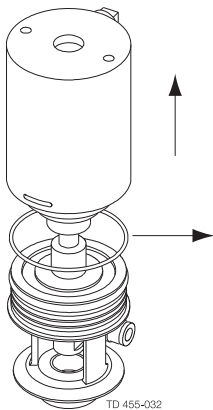
Rotate by hand or with filter strap!



TD 455-097_1

Step 2

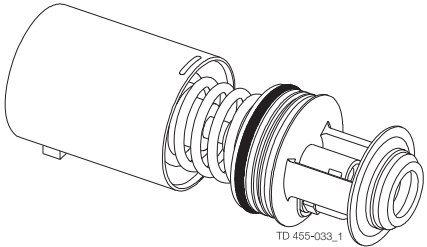
- 1. Remove cylinder (1).
- 2. Remove o-rings (3, 11) from bonnet (13) and o-ring (3) from cylinder (1).



TD 455-032

Step 3

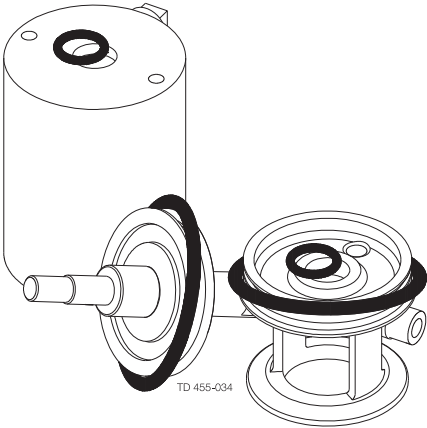
- 1. Remove piston/spring package.
- 2. Remove o-ring (9) from the piston (10).



TD 455-033_1

Step 4

Replace the rubber seals



TD 455-034

5 Maintenance

Study the instructions carefully.

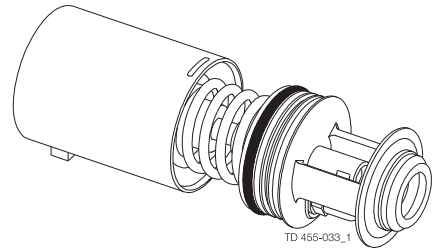
The items refer to the parts list and service kits section.

Lubricate the rubber seals before fitting them.

5.5 Assembly of actuator

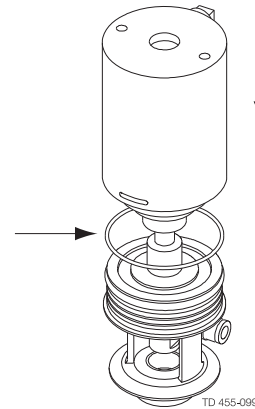
Step 1

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



Step 2

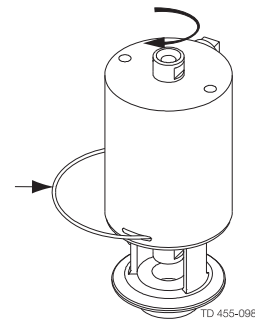
1. Fit o-rings (3, 11) in bonnet (13) and o-ring (3) on cylinder (1).
2. Fit the cylinder.



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).

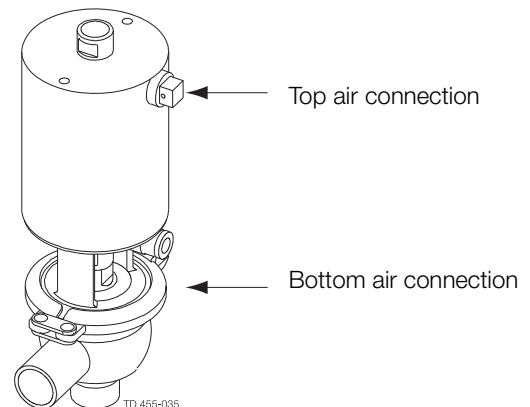
Rotate by hand or with filter strap!



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.

Technical data - valve/actuator	
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)
Materials - valve/actuator	
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) - Stop 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.

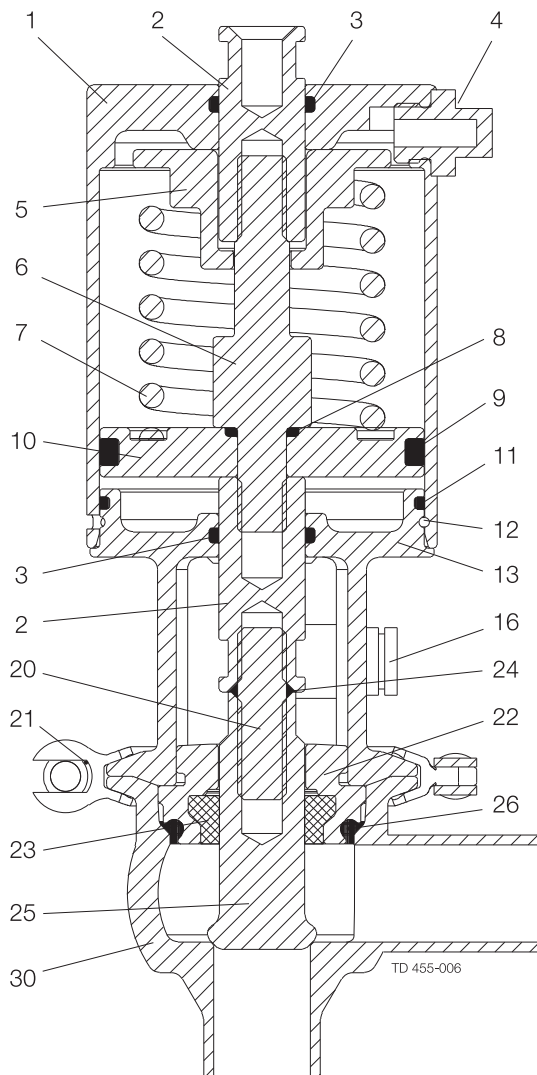
7 Parts list and service kits

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

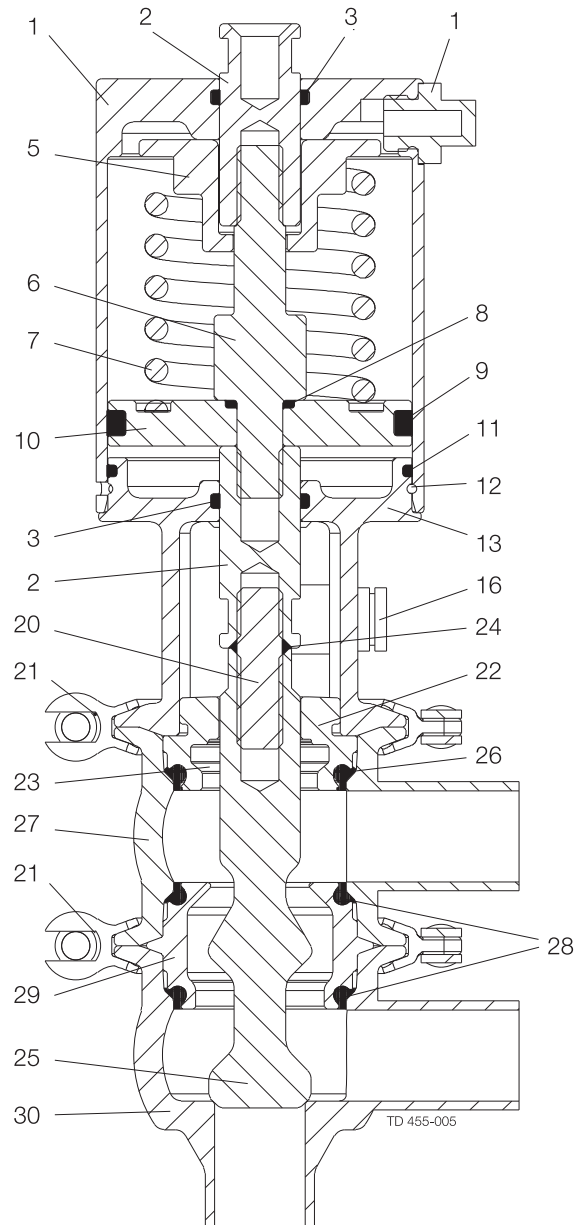
7.1 Drawings

See parts list in section 7.2 Small Single Seat Valve - Stop 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
Stop Valve DN/OD12.7-19mm**

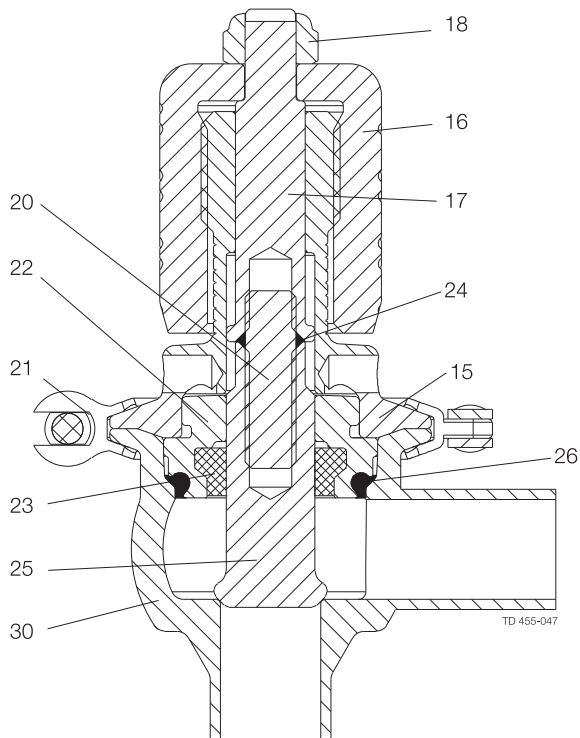


**Small Single Seat Valve
Change-Over Valve DN/OD12.7-19mm**

7 Parts list and service kits

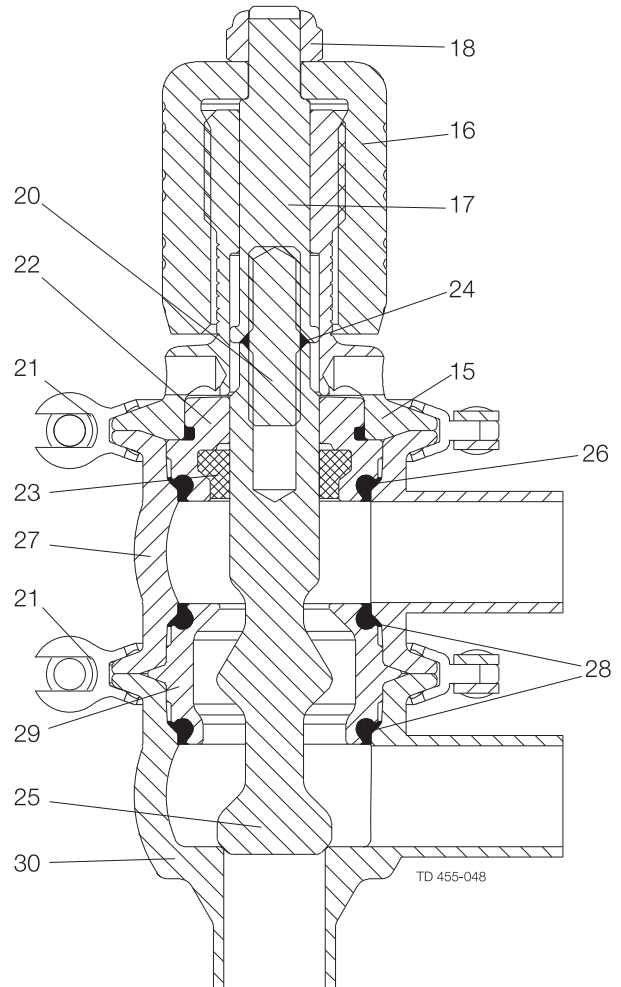
*It is important to observe the technical data during installation, operation and maintenance.
Inform the personnel about the technical data.*

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



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

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

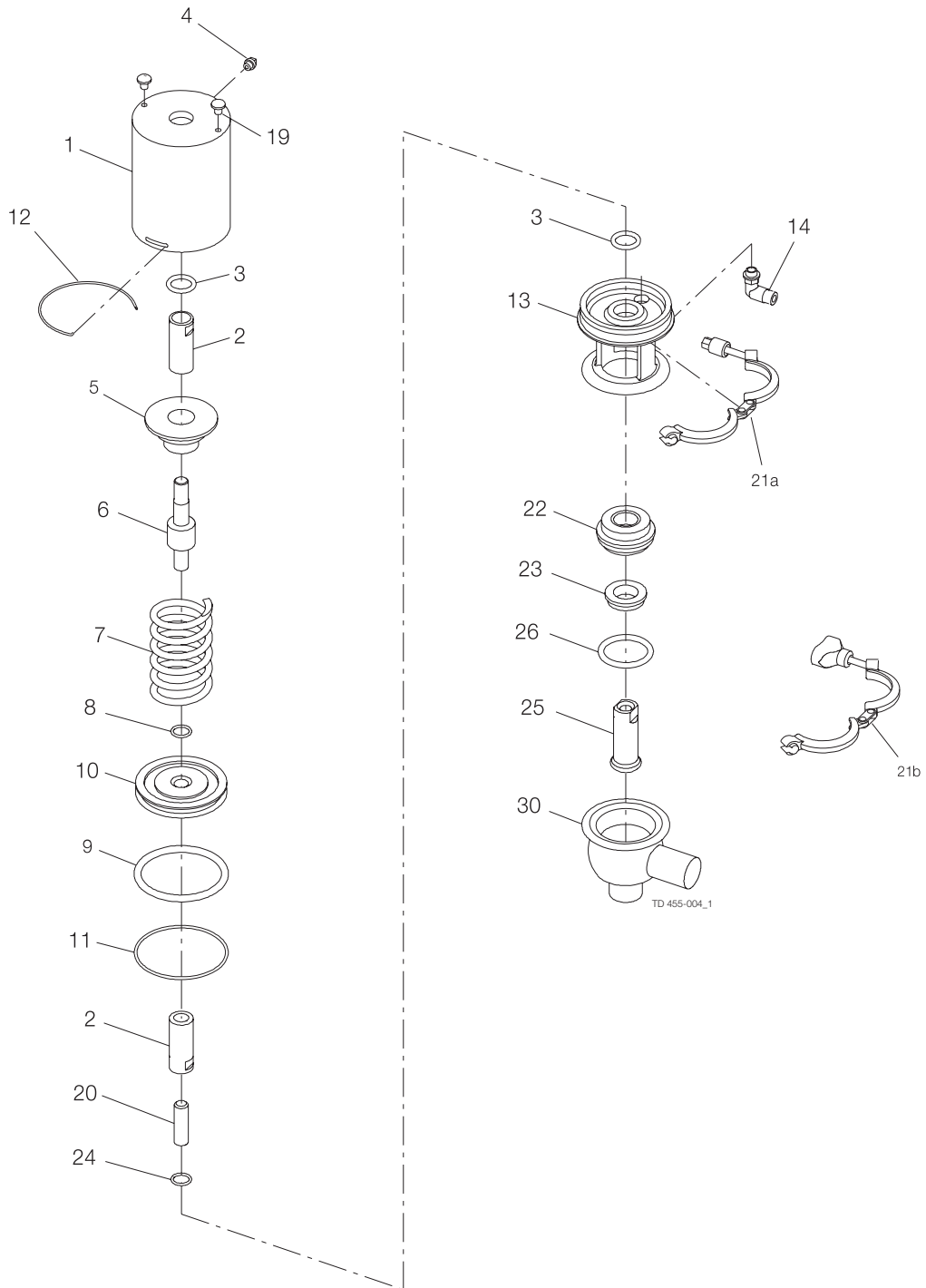


**Small Single Seat Valve
Manual Change-Over Valve DN/OD12.7-19mm**

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 - Stop 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
Service kit for Actuator		
□ Service kit, NBR	9611926323	9611926323
Service kits for Product wetted parts, standard		
♦ Service kits, EPDM	9611926319	9611926330
♦ Service kits, HNBR	9611926317	9611926328
♦ Service kits, FPM	9611926318	9611926329

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

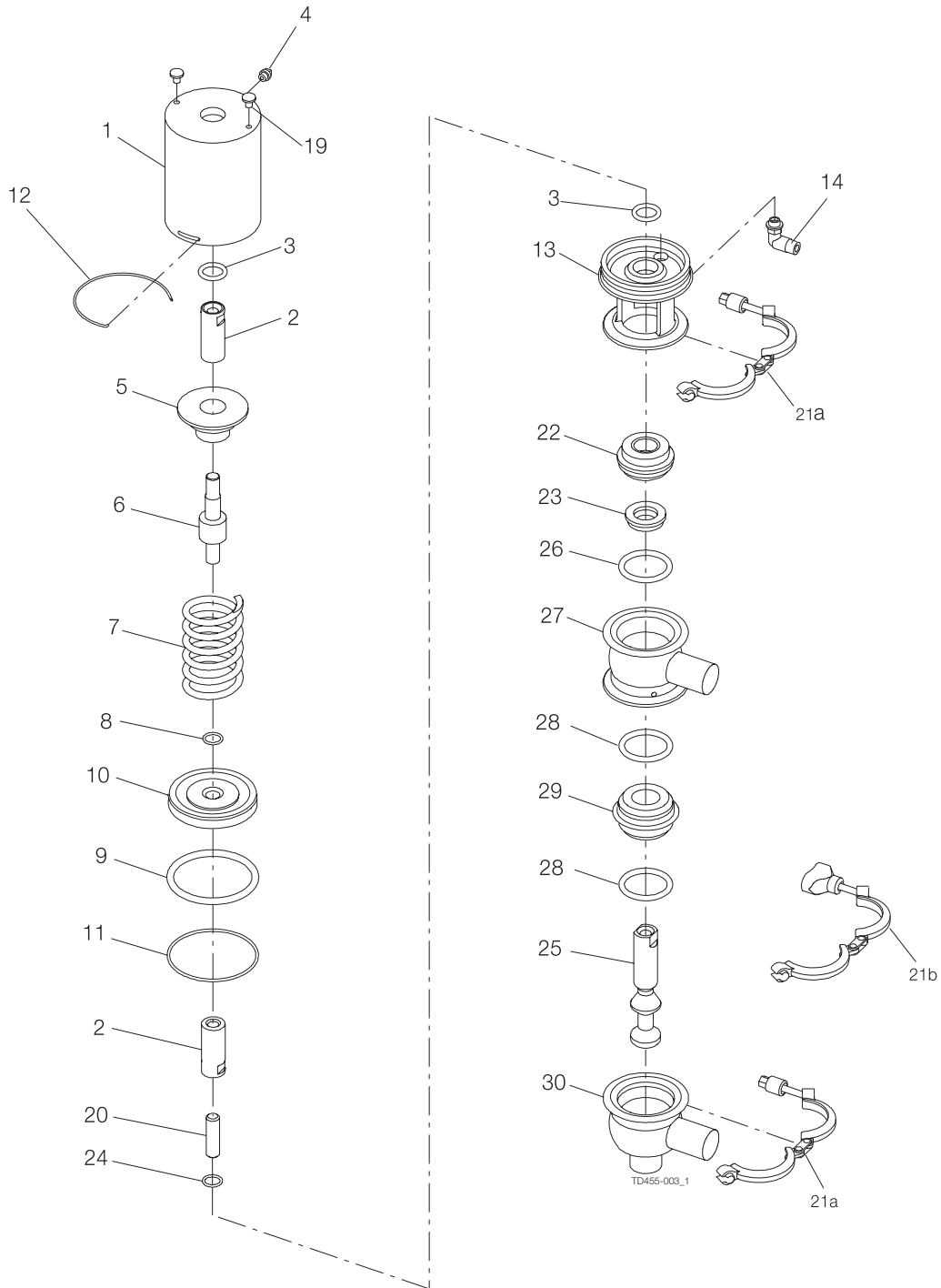
Recommended spare parts: Service kits.

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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
Service kits for Actuator		
□ Service kit, NBR	9611926323	9611926323
Service kits for Product wetted parts, standard		
♦ Service kits, EPDM	9611926322	9611926333
♦ Service kits, HNBR	9611926320	9611926331
♦ Service kits, FPM	9611926321	9611926332

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

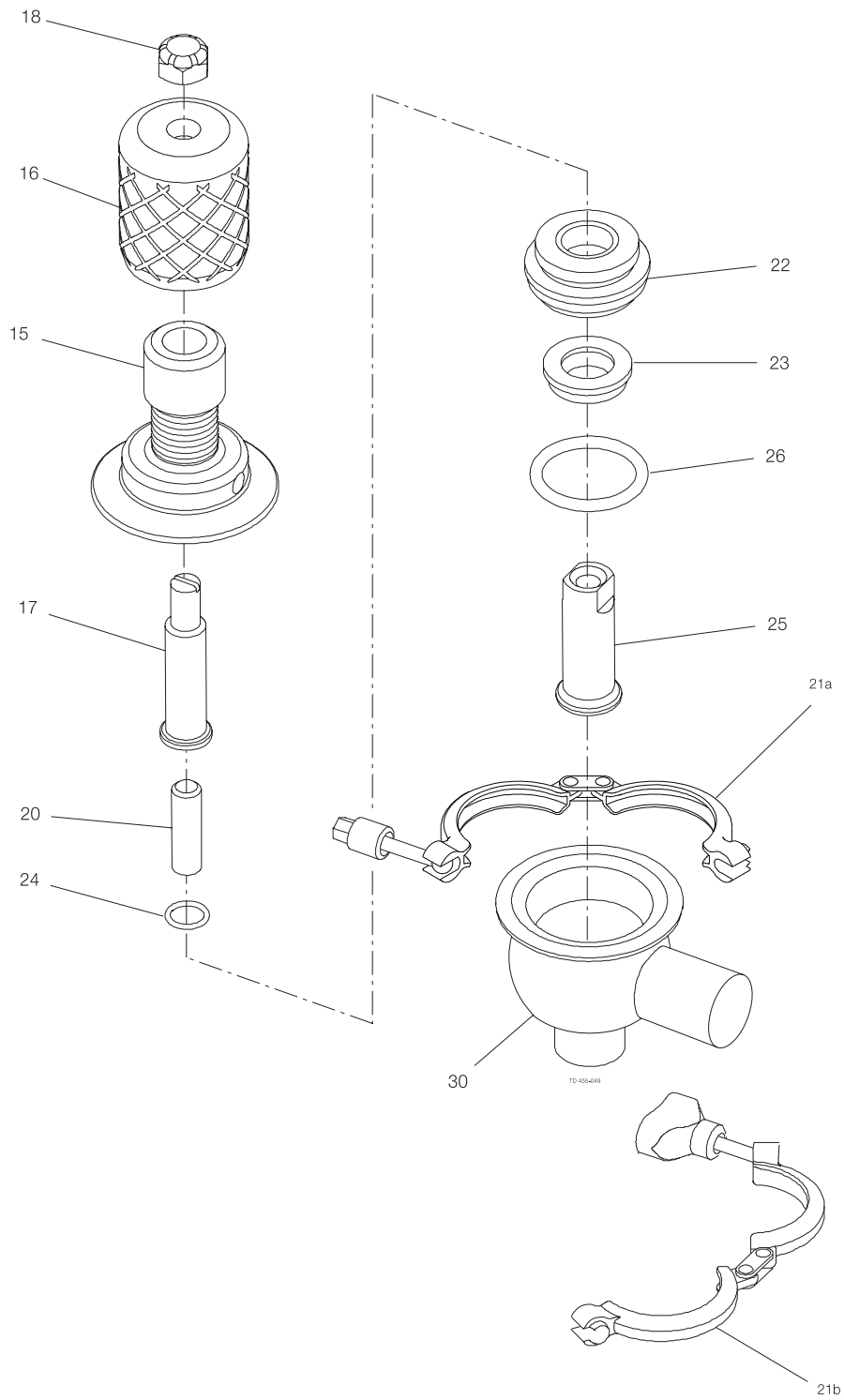
Recommended spare parts: Service kits.

TD 900-219

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 - Stop 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
Service kits for Actuator		
□ Service kit, NBR	9611926323	9611926323
Service kits for Product wetted parts, standard		
♦ Service kits, EPDM	9611926319	9611926330
♦ Service kits, HNBR	9611926317	9611926328
♦ Service kits, FPM	9611926318	9611926329

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

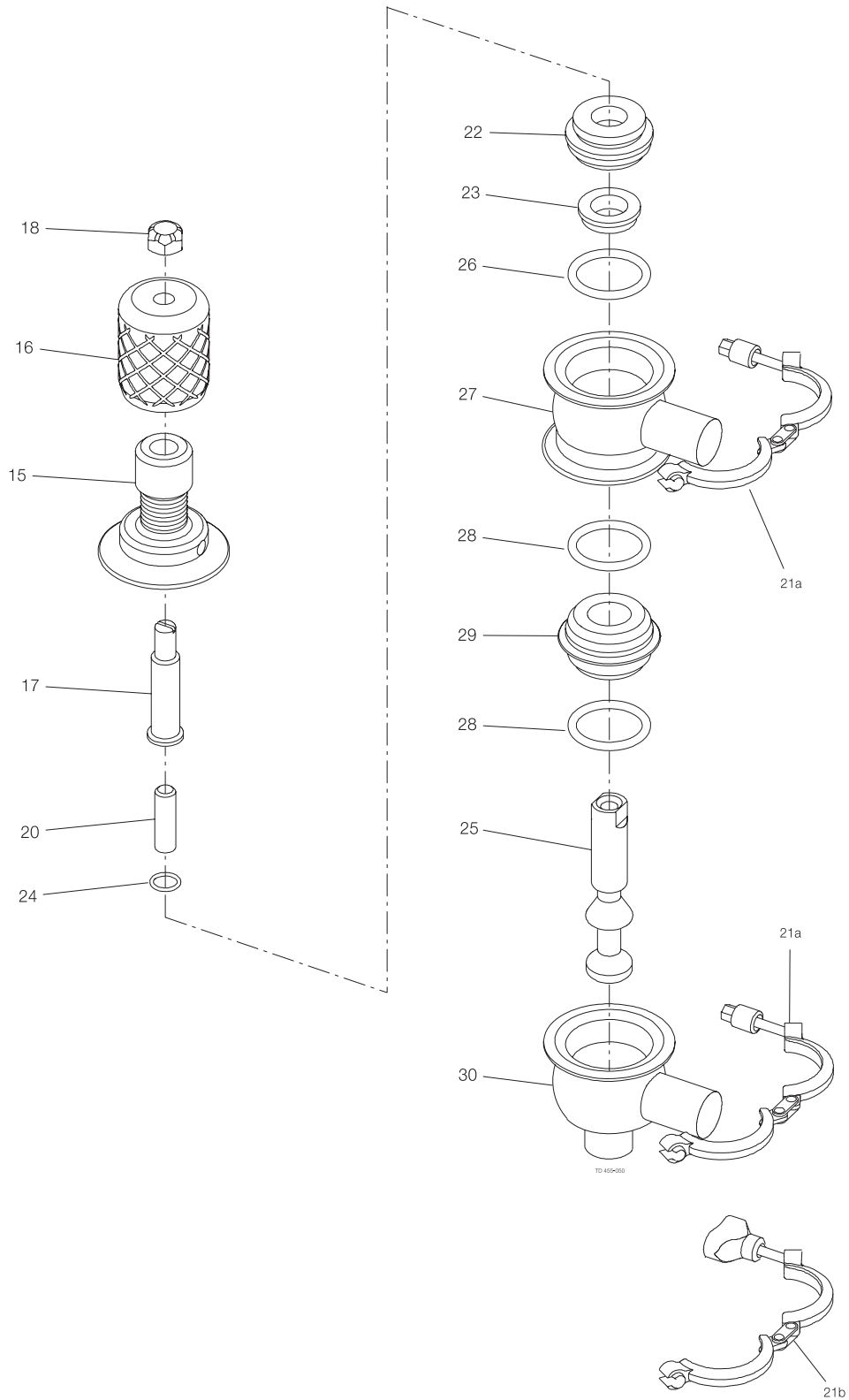
Recommended spare parts: Service kits.

TD 900-220

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
Service kits for Actuator		
□ Service kit, NBR	9611926323	9611926323
Service kits for Product wetted parts, standard		
♦ 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 900-221

How to contact Alfa Laval

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