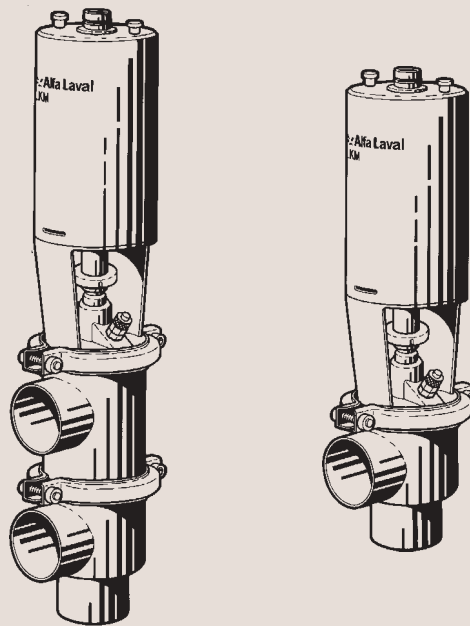




Instruction Manual

ARC-SB Aseptic Remote-Controlled Valve with Steel Bellows



Declaration of Conformity

The designating company

Alfa Laval

Company Name

6000 Kolding

Address

+45 79 32 22 00

Phone No.

hereby declare that

**Aseptic remote-controlled valve
with steel bellows**

Denomination

ARC-SB

Type

Year

Was manufactured in conformity with the provisions in the COUNCIL DIRECTIVE on mutual approximation of the laws of the Member States on the safety of machines (98/37/EC) with special reference to Annex 1 of the directive on essential safety and health requirements in relation to the construction and manufacture of machines.

Bjarne Søndergaard

Name

Vice President, R & D

Title

Alfa Laval

Company

B. Søndergaard

Signature

Designation



This manual is divided into main sections. - See below.

Safety

1. Important information	2
2. Warning signs	2
3. Safety precautions	3

Installation

1. Unpacking/Delivery	4
2. General installation	5
3. Welding	6
4. Fitting of oil damper (optional extra)	7
5. Fitting of indication equipment (optional extra)	8
6. Adjustment of indication equipment (optional extra)	10

Operation

1. Operation	11
2. Fault finding	12
3. Recommended cleaning	13

Maintenance

1. General maintenance	14
2. Dismantling of valve	16
3. Assembly of valve	17
4. Dismantling of actuator	18
5. Assembly of actuator	19

Technical data

1. Technical data	20
-------------------------	----

Drawings/Parts list

1. Parts lists	
- ARC-SB	22+24+26+28
- Oil damper	30+32
- Indication units	34
2. Exploded drawings	
- ARC-SB	23+27
- Oil damper	31
- Indication units	35
3. Drawings	
- ARC-SB	25+29
- Oil damper	33

Safety

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

Warnings are emphasized by means of special signs.

1. Important information

Always read the manual before using the valve!

2

- Warning!** : Indicates that special procedures **must** be followed to avoid severe personal injury.
- Caution!** : Indicates that special procedures **must** be followed to avoid damage to the valve.
- Note!** : Indicates important information to simplify practices or to make them clearer.

2. Warning signs



: General warning.



: Caustic agents.

All warnings in the manual are summarized on this page.

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

3. Safety precautions

Installation:



- : - **Always** read the technical data thoroughly (see page 20).
- **Always** release compressed air after use.



- : **Never** touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air.



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



- : - **Never** pressurise the valve and the pipelines when dismantling the valve.
- **Never** dismantle the valve when it is hot.

Operation:



- : - **Always** read the technical data thoroughly (see page 20).
- **Always** release compressed air after use.



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



- : **Never** touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air.



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

Maintenance:



- : - **Always** read the technical data thoroughly (see page 20).
- **Always** release compressed air after use.



- : - **Never** service the valve when it is hot.
- **Never** pressurise the valve and the pipelines when servicing the valve.



- : **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.



- : **Stop valve type NO (normally open):** Actuator is under spring load. Always relieve spring pressure on cylinder (4) when the actuator is dismantled, by compressing the upper end of the actuator stem, e.g. in a press or lathe. Failure to do so may cause personal injury!

Installation

4

*The instruction manual is part of the delivery.
Study the instructions carefully.
The items refer to the drawings and the parts list on
pages 22-29.*

1. Unpacking/Delivery

1

CAUTION!

We cannot be held responsible for incorrect unpacking.

Check the delivery for:

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

3

Delivery of change-over valve:

1. Complete actuator with bonnet (8).
2. Clip assembly (11).
3. Two clamps (15).
4. Valve stem unit (19).
5. Two valve bodies (18, 20).
6. Two valve body seal rings (21).

5

*The valve is supplied as separate parts as standard
(for welding).*

The valve is assembled before delivery, if it is supplied with fittings.

2

Delivery of stop valve:

1. Complete actuator with bonnet (8).
2. Clip assembly (11).
3. Clamp (15).
4. Valve stem unit (19).
5. Valve body (18).
6. Valve body seal ring (21).

4

Remove possible packing materials from the valve/valve ports.

Inspect the valve/valve ports for visible transport 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 fittings.

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

2. General installation

1



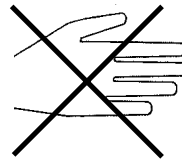
- **Always** read the technical data thoroughly (see page 20).
- **Always** release compressed air after use.

CAUTION!

We cannot be held responsible for incorrect installation.

2

Moving parts!



Never touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air.

3

4

Risk of damage!

It is recommended to install the valve so that:

- The actuator is not turned downwards as the valve will then not be drained.
- The flow is against the closing direction to avoid water hammer.

Avoid stressing the valve.

Pay special attention to:

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

5

6

Fittings:

Ensure that the connections are tight (remember seal rings).

Air connection: R1/8" (BSP)

Connect air correctly:

- NO: Top connection.
- NC: Side connection.
- A/A: Top and side connection.

Drain and optional sterile barrier connection:

The drain hose on the bonnet should always be connected to a tube so that no personal injury can occur in case of a leakage.

If a sterile barrier, i.e. steam or H₂O₂, is used the connections should be made carefully.

Internal steam pressure must not exceed 120° C/ 100 kPa (gauge).

Installation

6

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

The items refer to the drawings and the parts list on pages 22-29.
Check the valve for smooth operation after welding.

3. Welding

1

Always weld the valve so that the valve body seal ring can be replaced (change-over valve).

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

Valve size	A (mm)	B ₁ (mm)	B ₂ (mm)
DN40/38 mm	160	580	760
DN50/51 mm	160	580	760
DN65/63.5 mm	180	550	730

2

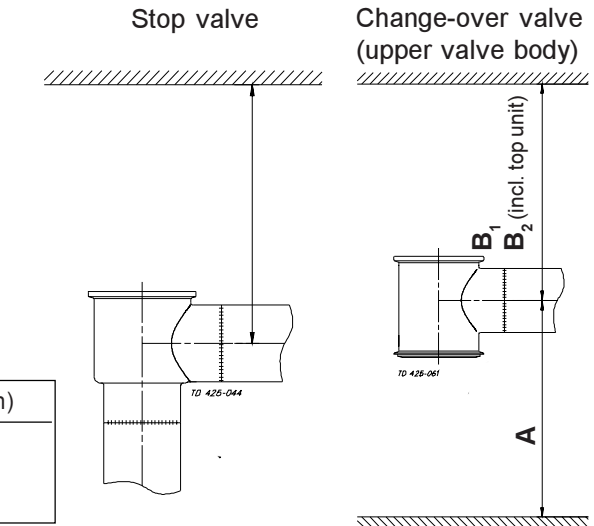
Stop valve:
Assemble the valve in accordance with instructions 1-2, 5-6 on page 17.
Pay special attention to the warnings!

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

Change-over valve:
Assemble the valve in accordance with instructions 3-6 on page 17.
Pay special attention to the warnings!

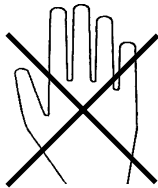
The valve can be fitted with an oil damper if water hammer occurs when the valve closes in the flow direction.

Study the instructions carefully and pay special attention to the warnings!
 NC = normally closed.
 A/A = air/air activated.

4. Fitting of oil damper (optional extra)

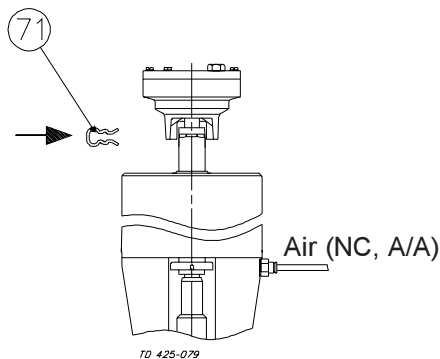
1

Burning danger!



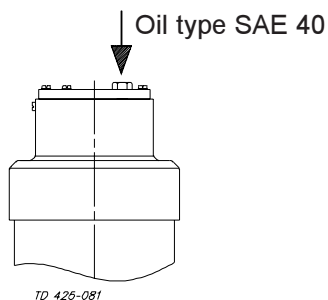
! Never touch the valve or the pipelines when processing hot liquids or when sterilizing.

3



1. Connect the two piston rods by means of clip (71).
2. Release compressed air to the actuator.
Pay special attention to the warnings!

5



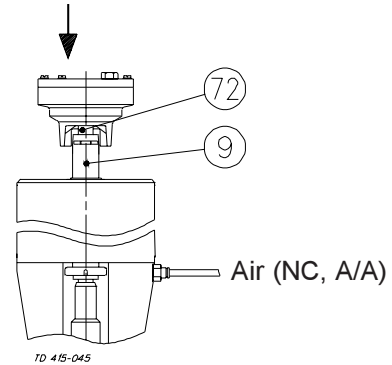
Fill further oil through the plug hole if large air bubbles occur under the plexiglas cover.

NOTE!

There should be a small air bubble which equalizes changes in the pressure because of temperature changes.

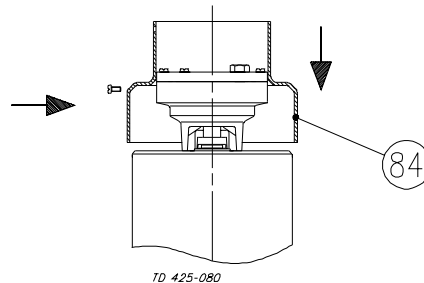
2

Ensure that no other equipment is fitted on the actuator top!



1. Supply compressed air to the actuator.
Pay special attention to the warnings!
2. Fit the damper so that damper piston rod (72) enters actuator piston rod (9).

4



1. Fit protective hood (84).
2. The valve is now ready for operation.

6

Removal/dismantling:

Remove the damper by following the instructions in reverse order.

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!

Installation

The valve can be fitted with the top unit *ThinkTop*®. It can also be fitted with an indication unit.

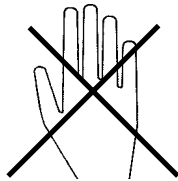
Study the instructions carefully and pay special attention to the warnings!

The items refer to the drawings and the parts list on pages 22-29.

5. Fitting of indication equipment (optional extra)

1

Atmospheric pressure required!

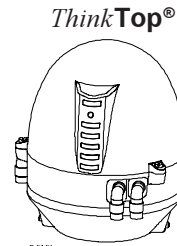


Burning danger!

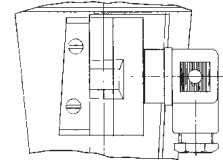


- Never dismantle the valve when it is hot.
- Never pressurise the valve and the pipelines when dismantling the valve.

2



Indication unit



CAUTION!

The indication and control equipment must be electrically installed by authorized personnel.

- *ThinkTop*®:
(see the separate instruction manual)
- Indication unit:
(see the instructions on pages 8-10)

3

Dismantle the valve in accordance with instructions 1-2 on page 16.

Pay special attention to the warnings!

4

1. Fit ring (56) on the plug stem.
2. Assemble the valve in accordance with instructions 5-6 on page 17.

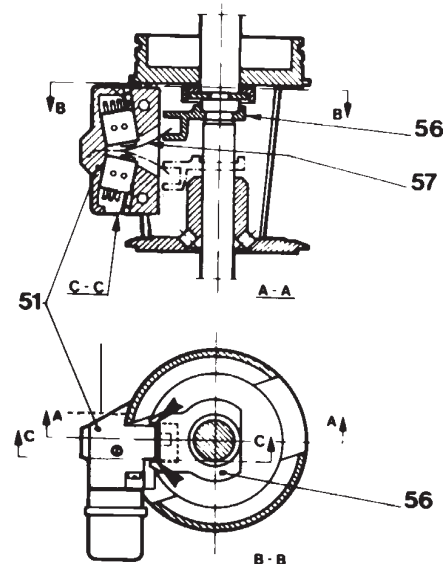
Pay special attention to the warnings!

5

Micro switch unit:

1. Assemble and fit the switch unit.
2. Turn ring (56) so that the edges of holder (51) guide its movements.
3. Ensure that spring (57) enters the recess in the ring.
4. Fix the switch unit by means of screws (58).

6



The indication unit has one or two micro switches or an inductive proximity switch.

Study the instructions carefully.
The items refer to the drawings and the parts list on pages 22-29.

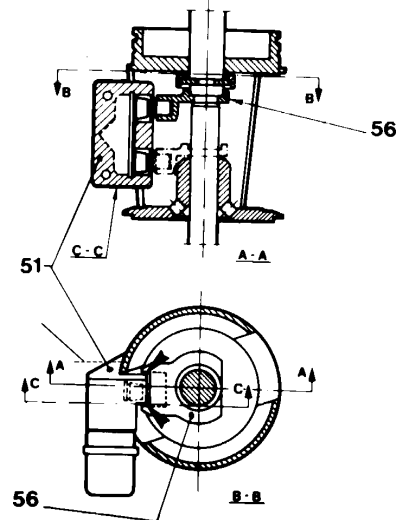
5. Fitting of indication equipment (optional extra)

1

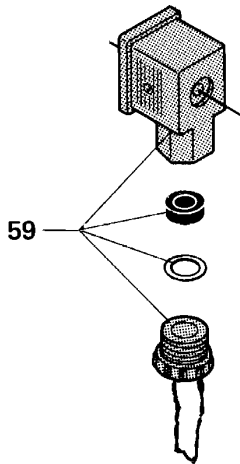
Inductive proximity switch unit:

1. Assemble and fit the switch unit.
2. Turn ring (56) so that the edges of holder (51) guide its movements.
3. Fix the switch unit by means of screws (58).

2

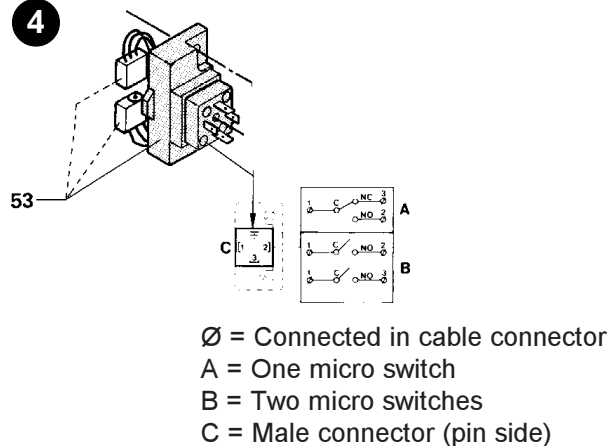


3



Fit the cable through the cable gland and assemble cable socket (59).

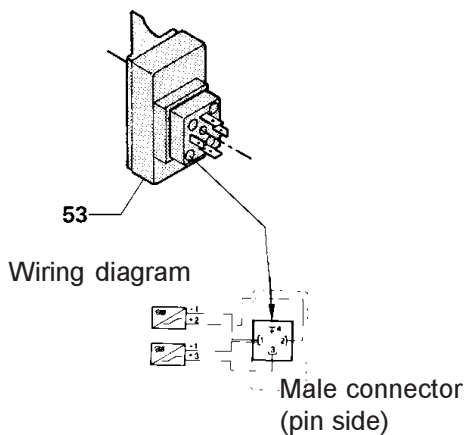
4



Micro switch unit:

Connect the cable to switch unit (53) as shown in the wiring diagram.

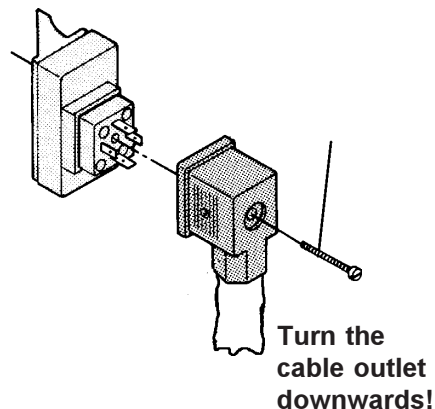
5



Inductive proximity switch unit:

Connect the cable to switch unit (53) as shown in the wiring diagram.

6



Tighten screw (59) firmly.

NOTE!

The cable gland should be sealed with silicone rubber under extreme conditions.

Installation

Adjust the micro switch and inductive proximity switch units after installation.

Study the instructions carefully.
The items refer to the drawings and the parts list on pages 22-29.

6. Adjustment of indication equipment (optional extra)

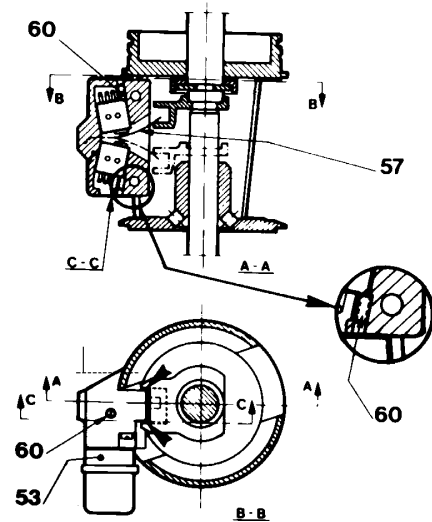
1

10

Micro switch unit:

(Adjustment of contact point between spring (57) and switch unit (53)).

1. Loosen switch unit (53) slightly (screw (58)).
2. Rotate adjustment screw (60) until a signal is obtained.
3. Tighten the switch unit.
4. Check that the signal is correct.
5. Readjust if necessary.



2

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!

Study the instructions carefully and pay special attention to the warnings!
Ensure that the valve operates smoothly.

The items refer to the drawings and the parts list on pages 22-29.

1. Operation

1



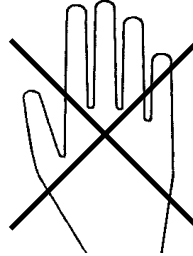
- **Always** read the technical data thoroughly (see page 20).
- **Always** release compressed air after use.

CAUTION!

We cannot be held responsible for incorrect operation.

2

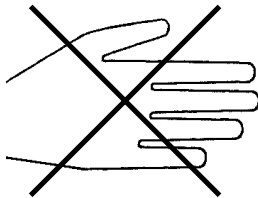
Burning danger!



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

3

Moving parts!



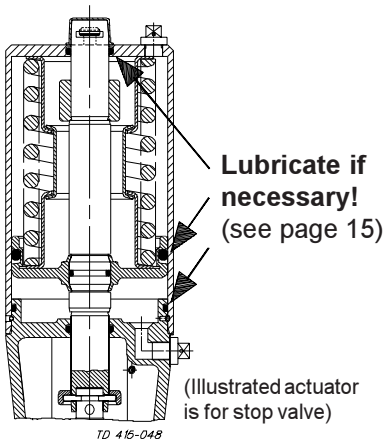
Never touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air.

4

NOTE!

The valve can be used in vacuum applications but there will be no visual leakage indication.

5



Lubrication of actuator:

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

Pay attention to possible faults.

Study the instructions carefully.

The items refer to the drawings and the parts list on pages 22-29.

2. Fault finding

12

NOTE!

Study the maintenance instructions carefully before replacing worn parts. - See page 14!

Problem	Cause/result	Repair
The valve plug jerks	The seals seize	Lubricate: - O-rings (2) - O-ring (8) and the inside of cylinder (4)
Product leakage at drain tube and/or clamp	- Worn/product affected seal ring (16) - Worn valve plug	- Replace the seals - Select a different rubber grade - Replace the valve plug
Product leakage (closed valve)	- Worn/product affected plug seal ring - Loose plug parts (vibrations) - Product deposits on the seat and/or plug	- Replace the seal ring - Select a different rubber grade - Tighten the loose parts - Frequent cleaning
Product leakage (too high pressure or too small actuator)	- Worn actuator O-rings - Too small actuator or actuator spring	- Replace the O-rings - Select a larger actuator - Fit a stronger spring - Use auxiliary air on the spring side (NOT-element)
Water hammer	The flow direction is the same as the closing direction	- The flow direction should be against the closing direction - Fit a damper on the valve (optional extra) - Use auxiliary air on the spring side (NOT-element)
The valve does not open/close	- Faulty clip assembly (15) - The pressure on the plug is too high	- Replace the clip assembly - Reduce the pressure - Fit stronger spring/larger actuator

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

Study the instructions carefully and pay special attention to the warnings!
NaOH = Caustic Soda.
HNO₃ = Nitric acid.

3. Recommended cleaning

1 Caustic danger!



Always use rubber gloves!



Always use protective goggles!



Always handle lye and acid with great care.

3

Clean the plug and the seats correctly.
- Stop valve: Open it.
- Change-over valve: Lift and lower momentarily (flip).

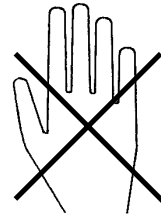
Pay special attention to the warnings!

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.

2

Burning danger!



Never touch the valve or the pipelines when sterilizing.

4

Examples of cleaning agents:

Use clean water, free from chlorides.

1. 1% by weight NaOH at 70° C.

1 kg NaOH	+	100 l water	= Cleaning agent.
--------------	---	----------------	-------------------

2.2 l 33% NaOH	+	100 l water	= Cleaning agent.
-------------------	---	----------------	-------------------

2. 0.5% by weight HNO₃ at 70° C.

0.7 l 53% HNO ₃	+	100 l water	= Cleaning agent.
-------------------------------	---	----------------	-------------------

6

NOTE!

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

Maintenance

14

Maintain the valve regularly.
Study the instructions carefully and pay special attention to the warnings!

Always keep spare rubber seals in stock.

1. General maintenance

1



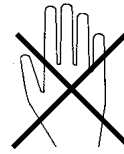
- **Always** read the technical data thoroughly (see page 20).
- **Always** release compressed air after use.

NOTE!

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

2

Burning danger!



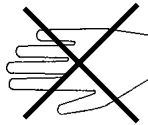
Atmospheric pressure required!



- **Never** service the valve when it is hot.
- **Never** pressurise the valve and the pipelines when servicing the valve.

3

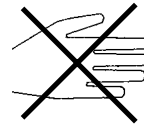
Cutting danger!



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

4

Moving parts!



- **Never** touch the clip assembly or the actuator piston rod if the actuator is supplied with compressed air.

Ordering spare parts

- Contact the Sales Department.
- Order from the Spare Parts List.

Recommended spare parts: Service kits (see Spare Parts List).

Maintain the valve regularly.
Study the instructions carefully.

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

1. General maintenance

	Valve plug unit	Valve rubber seals	Actuator rubber seals
Preventive maintenance		Replace after 12 months (depending on working conditions)	Replace after 5 years
Maintenance after leakage (leakage normally starts slowly)	Replace as soon as possible	Replace at the end of the day	Replace when possible
Planned maintenance	<ul style="list-style-type: none"> - Regular inspection for tightness and smooth operation - Keep a record of the valve - Use the statistics for planning of inspections Replace after leakage	<ul style="list-style-type: none"> - Regular inspection for tightness and smooth operation - Keep a record of actuator - Use the statistics for planning of inspections Replace after leakage	<ul style="list-style-type: none"> - Regular inspection for tightness and smooth operation - Keep a record of the actuator - Use the statistics for planning of inspections Replace after air leakage
Lubrication (USDA H1 approved oil/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!

Maintenance

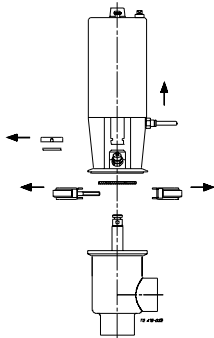
16

Study the instructions carefully.
The items refer to the drawings and the parts list on pages 22-29.

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

2. Dismantling of valve

1

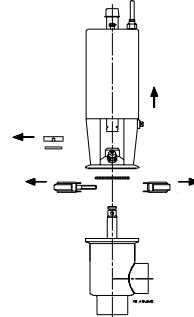


NC version:

1. Remove clip assembly (15).
2. Supply compressed air to the actuator.
3. Loosen and remove clamp (17).
4. Remove the actuator.
5. Release compressed air.

Pay special attention to the warnings!

2

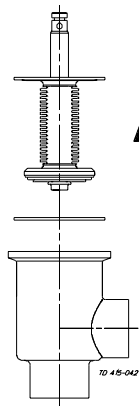


NO version:

1. Loosen and remove clamp (17).
2. Supply compressed air to the actuator.
3. Remove clip assembly (15).
3. Remove the actuator.
5. Release compressed air.

Pay special attention to the warnings!

3

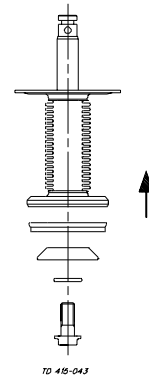


valve body (18).

Stop valve:

1. Remove plug complete (21) from valve body (20). (Be careful not to damage the steel

4



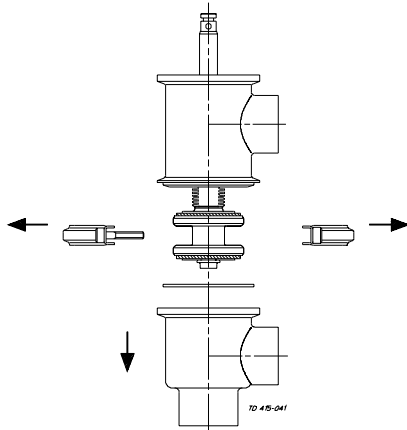
bellows).

2. Pull out packing (16) from the valve body.

Stop valve:

1. Loosen and remove screw (21g).
2. Dismantle plug complete (21) as shown

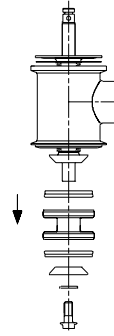
5



Change-over valve:

1. Loosen and remove lower clamp (17).
2. Take away lower valve body (20) from upper

6



above. (Be careful not to damage the steel bellows).

Change-over valve:

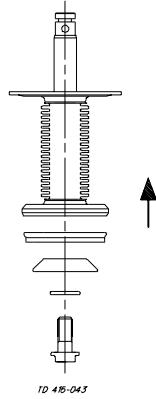
1. Loosen and remove screw (21g).
2. Dismantle plug complete (21) as shown above.
3. Remove stem with bellows (21a) from upper

Study the instructions carefully.
The items refer to the drawings and the parts list on pages 22-29.

Lubricate the rubber seals before fitting them.

3. Reassembly of valve

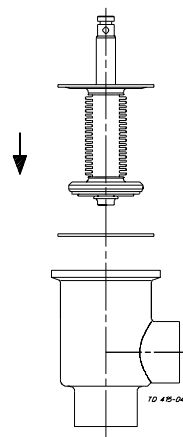
1



Stop valve:

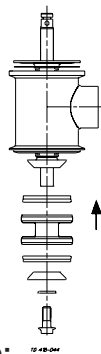
1. Assemble plug complete (21) as shown above. (Be careful not to damage the steel bellows).
2. Fit screw (21g) and tighten.

2



1. Slide packing (16) into valve body (20).
2. Fit plug complete (21) into the valve body. (Be careful not to damage the steel bellows).

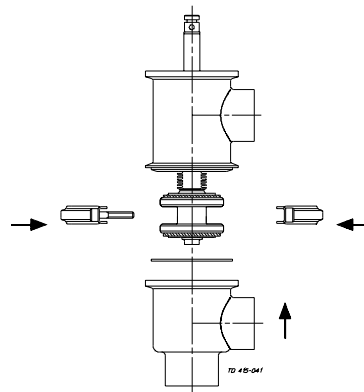
3



Change-over valve:

1. Fit stem with bellows (21a) in upper valve body (18).
2. Assemble plug complete (21) as shown above. (Be careful not to damage the steel bellows).
3. Fit screw (21g) and tighten.

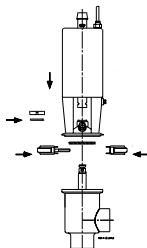
4



Change-over valve:

1. Slide packing (16) into valve body (20).
2. Position lower valve body (20) on upper valve body (18).
3. Fit lower clamp (17) and tighten.

5

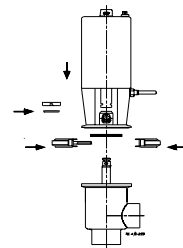


NO version:

1. Fit the plastic ring of clip assembly (15) on the actuator piston rod.
2. Supply compressed air to the actuator.
3. Place the actuator on valve body (18 or 20) so that valve stem (21a) enters into the actuator piston rod.
4. Fit and assemble clip assembly (15).
5. Release compressed air.
6. Fit and tighten upper clamp (17).

Pay special attention to the warnings!

6



NC version:

1. Supply compressed air to the actuator.
2. Fit the plastic ring of clip assembly (15) on the actuator piston rod.
3. Place the actuator on valve body (18 or 20) so that valve stem (21a) enters into the actuator piston rod.
4. Fit and tighten upper clamp (17).
5. Release compressed air.
6. Fit and assemble clip assembly (15).

Pay special attention to the warnings!

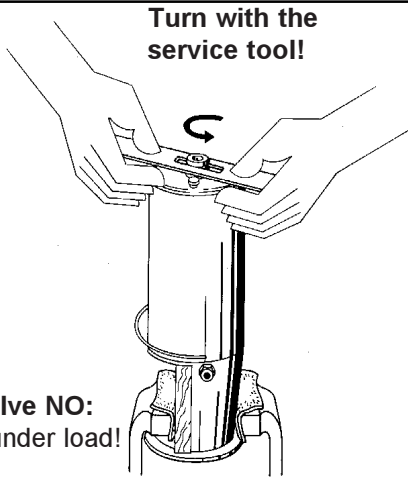
Maintenance

Study the instructions carefully.
The items refer to the drawings and the parts list on pages 22-29.

Handle scrap correctly.
A/A = Air/air activated.

4. Dismantling of actuator

1



Stop valve NO:
Spring under load!

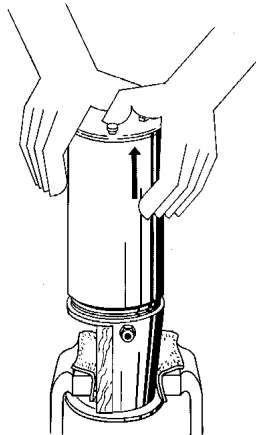
1. Turn cylinder (4) anticlockwise.
2. Unlock and remove lock wire (5).

2

Stop valve type NO (normally open):

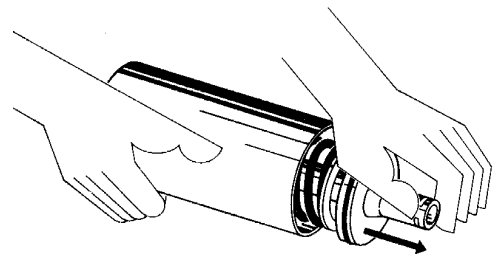
Actuator is under spring load. Always relieve spring pressure on cylinder (4) when the actuator is dismantled, by compressing the upper end of the actuator stem, e.g. in a press or lathe. Failure to do so may cause personal injury!

3



1. Pull off cylinder (4).
2. Remove O-rings (2, 10) from bonnet (12).

4

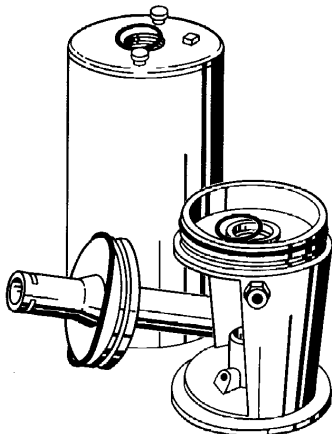


1. Pull out piston (9) and spring assembly (7).
2. Remove O-ring (8) from the piston.
3. Pull off stop ring (6) (only stop valve).
4. Remove O-ring (2) from cylinder (4).

NOTE!

The A/A actuator has no spring assembly.

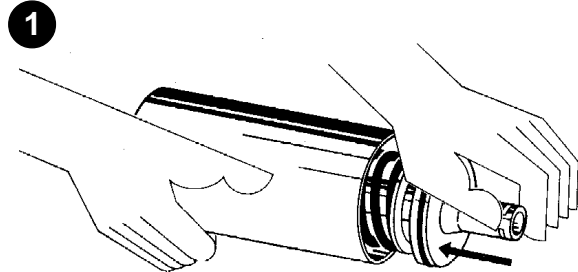
5



Replace the rubber seals.

Study the instructions carefully.
The items refer to the drawings and the parts list on pages 22-29.
Lubricate the rubber seals before fitting them.

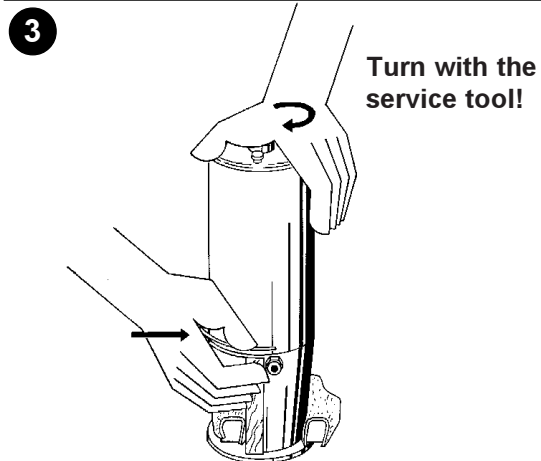
5. Reassembly of actuator



1. Fit O-ring (2) in cylinder (4).
2. Fit O-ring (8) on piston (9).
3. Press stop ring (6) onto the piston rod (only stop valves).
4. Push the piston and spring assembly (7) into the cylinder.

NOTE!

The A/A actuator has no spring assembly.



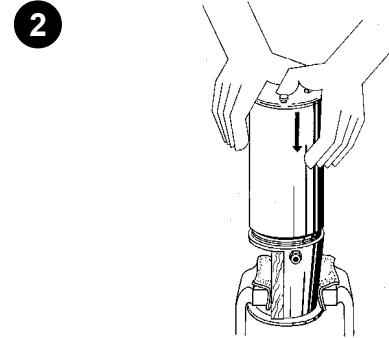
1. Rehook lock wire (5) through the slot in cylinder (4) into the hole in bonnet (12).
2. Turn the cylinder 360° clockwise (see 4).

5

CAUTION!

Do not use stop valve actuator on change-over valve and vice versa as this will damage the valve. Please note marking on the actuator surface.

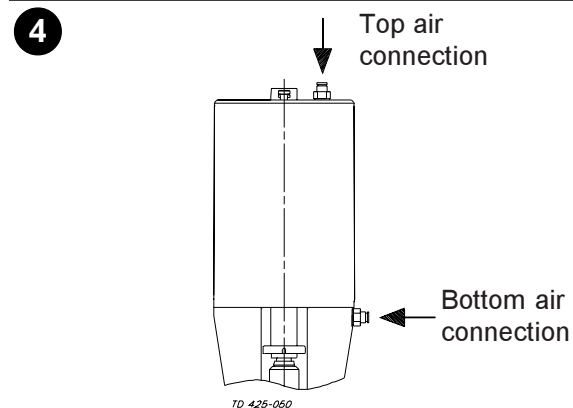
A larger actuator is available.
The spring assembly can be replaced with a stronger one.
A/A = Air/air activated.



1. Fit O-rings (2, 10) in/on bonnet (12).
2. Press cylinder (4) onto the bonnet.

NOTE!

Actuator type NO for stop valves, should be assembled in a hydraulic press or lathe, due to spring under load.



NOTE!

It is recommended to turn cylinder (4) further 180° in relation to bonnet (12) so that the top and bottom air connections are fixed on the same side.

Technical data

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

*Inform the personnel about the technical data.
NO = Normally open.
NC = Normally closed.*

1. Technical data

Data - valve/actuator

Pressure range 0 - 800 kPa (0 -8 bar)
Temperature range -10°C to 140°C (EPDM)
Max. sterilisation temperature (steam – short time) .. 150°C – 380kPa (3,8 bar)
Air pressure 500 – 800 kPa (5-8 bar)
Air consumption (litres free air):
38mm, 51mm, 63,5mm, DN40, DN50, DN65 0,2 x air pressure in bar.

NOTE! Vacuum is not recommended in aseptic applications.

Expected lifetime of steel bellows under normal conditions: (no pressure shocks or cavitation)		
Size\Type	Stop valve activations	Change over valve activations
38mm/DN40	150.000	30.000
51mm/DN50	150.000	30.000
63,5mm/DN65	150.000	30.000

Materials

Product wetted steel parts Acid resistant steel AISI 316L, AISI 316Ti
Other steel parts Stainless steel AISI 304
Finish Semi bright
Product wetted seals EPDM
Other seals NBR, EPDM

Data - Micro switch (optional extra)

Type NO
Signal output On/off, digital
Supply voltage 24-55 VDC/VAC
Supply current Min. 100 mA
Max. 1A

NOTE! As the unit is not earthed, it should not be used for voltages exceeding 55V.

Data - Inductive proximity switch, red coloured (optional extra)

Signal output Analog
Supply voltage 5-24 VDC
Max. current 10 mA
Output, activated, damped < 1 mA
Output, unactivated, undamped > 4 mA

NOTE! Inductive proximity switch (5-24 VDC) analog signal:

The output current changes depending on voltage supply and resistor RL.



Drawing/Parts list

The drawings and the parts list include all items.

NO = Normally open.

NC = Normally closed.

The items are identical with the items in the Spare Parts List.

When ordering spare parts, please use the Spare Parts List!

Parts list ARC-SB Stop valve

22

Item	Qty.	Denomination
1	1	Cap
2Δ	2	O-ring
3	1	Deair screw (plug)
4	1	Cylinder
5Δ	1	Lock wire
6	1	Stop ring
7	1	Spring assembly (standard black)
	1	Spring assembly with strong spring (white)
8Δ	1	O-ring
9	1	Piston for NO and NC
	1	Piston for Air/Air
10Δ	1	O-ring
11	1	Drain tube
12	1	Bonnet
13Δ	1	O-ring
14Δ	1	O-ring
15Δ	1	Clip complete
16○	1	Packing
17	1	Clamp complete (stop valve)
	2	Clamp complete (change-over valve)
18	1	Upper valve body, 1 ports
	1	Upper valve body, 2 ports
20	1	Lower valve body, 2 ports
	1	Lower valve body, 3 ports
21	1	Plug complete
a	1	Stem with bellows
b○	1	Seal ring upper
c	1	Middle piece
d○	1	Seal ring lower
e	1	Washer
f○	1	O-ring
g	1	Screw

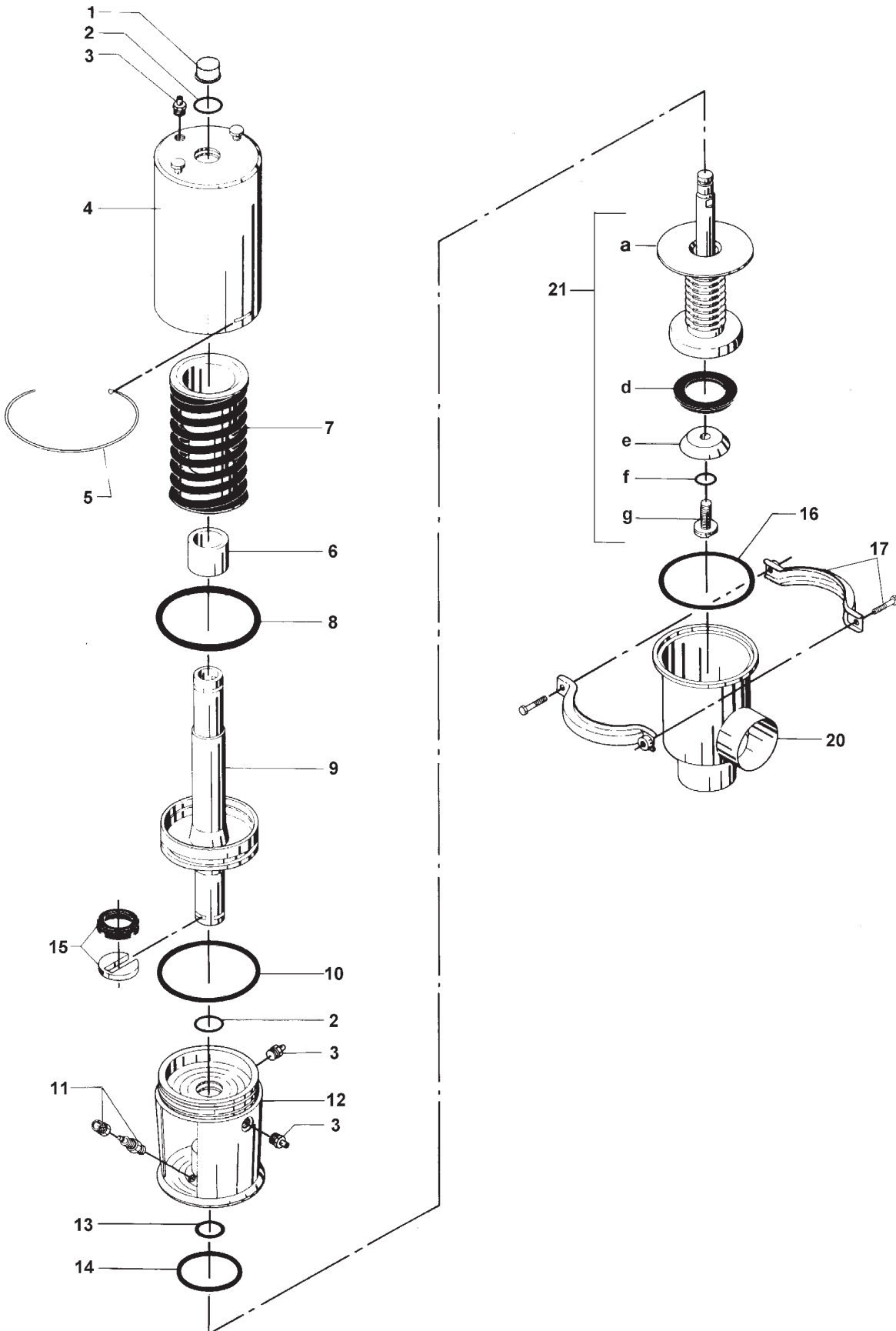
Δ : Service kit for actuator

○ : Service kit - EPDM, NBR, FPM, PTFE

This page shows an exploded drawing of ARC-SB, stop valve.

The drawing includes all items of the valve. They are identical with the items in the Spare Parts List

Exploded drawing



Drawing/Parts list

The drawings and the parts list include all items.

NO = Normally open.

NC = Normally closed.

The items are identical with the items in the Spare Parts List.

When ordering spare parts, please use the Spare Parts List!

Parts list ARC-SB Stop valve

24

Item	Qty.	Denomination
1	1	Cap
2Δ	2	O-ring
3	1	Deair screw (plug)
4	1	Cylinder
5Δ	1	Lock wire
6	1	Stop ring
7	1	Spring assembly (standard black)
	1	Spring assembly with strong spring (white)
8Δ	1	O-ring
9	1	Piston for NO and NC
	1	Piston for Air/Air
10Δ	1	O-ring
11	1	Drain tube
12	1	Bonnet
13Δ	1	O-ring
14Δ	1	O-ring
15Δ	1	Clip complete
16○	1	Packing
17	1	Clamp complete (stop valve)
	2	Clamp complete (change-over valve)
18	1	Upper valve body, 1 ports
	1	Upper valve body, 2 ports
20	1	Lower valve body, 2 ports
	1	Lower valve body, 3 ports
21	1	Plug complete
a	1	Stem with bellows
b○	1	Seal ring upper
c	1	Middle piece
d○	1	Seal ring lower
e	1	Washer
f○	1	O-ring
g	1	Screw

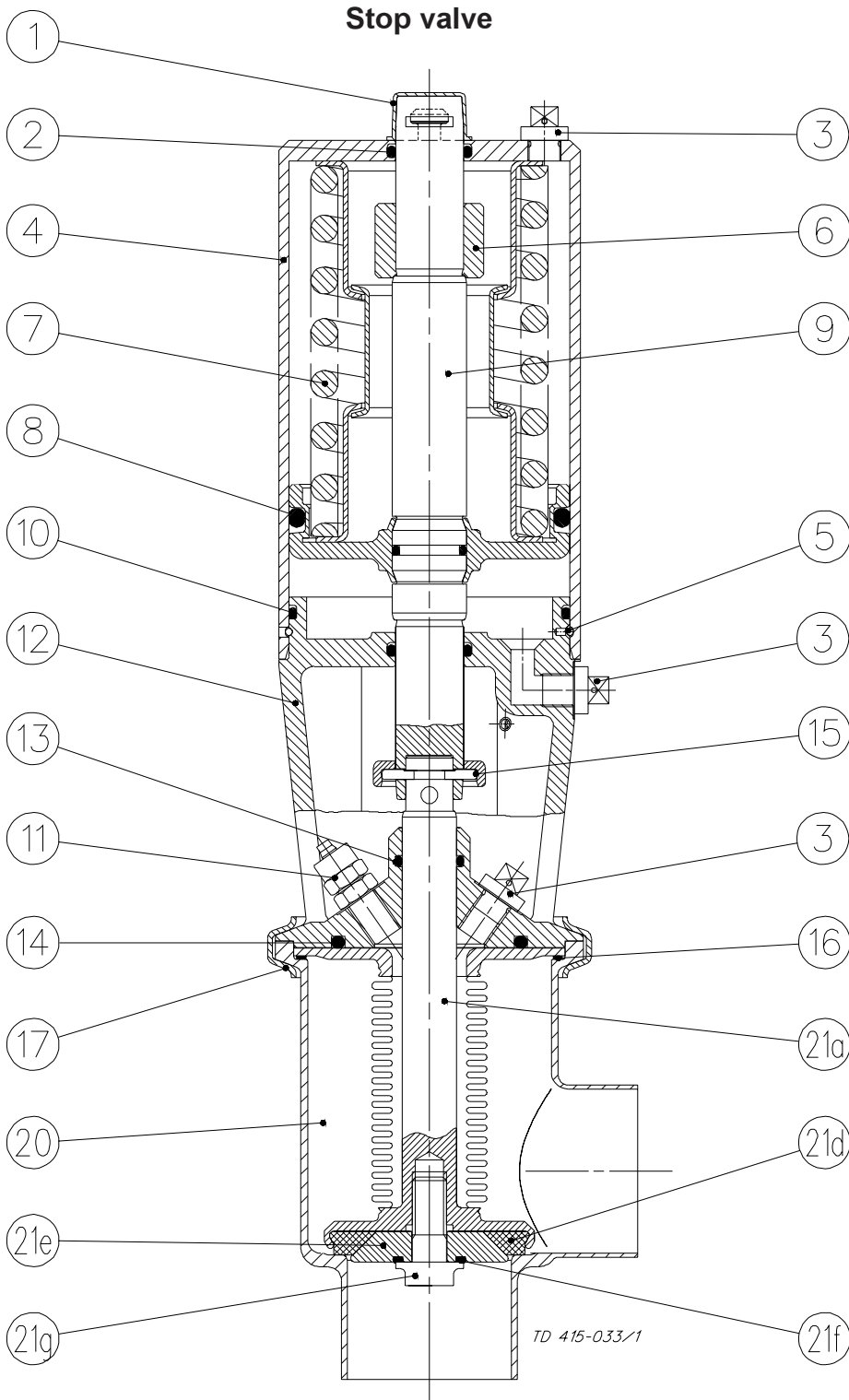
Δ : Service kit for actuator

○ : Service kit - EPDM, NBR, FPM, PTFE

The drawings below show ARC-SB, stop valve.

The items refer to the parts list on the opposite part of the page.

Drawing



Drawing/Parts list

The drawings and the parts list include all items.
 NO = Normally open.
 NC = Normally closed.

The items are identical with the items in the Spare Parts List.
 When ordering spare parts, please use the Spare Parts List!

Parts list ARC-SB Change-over valve

26

Item	Qty.	Denomination
1	1	Cap
2Δ	2	O-ring
3	1	Deair screw (plug)
4	1	Cylinder
5Δ	1	Lock wire
6	1	Stop ring
7	1	Spring assembly (standard black)
	1	Spring assembly with strong spring (white)
8Δ	1	O-ring
9	1	Piston for NO and NC
	1	Piston for Air/Air
10Δ	1	O-ring
11	1	Drain tube
12	1	Bonnet
13Δ	1	O-ring
14Δ	1	O-ring
15Δ	1	Clip complete
16○	1	Packing
17	1	Clamp complete (stop valve)
	2	Clamp complete (change-over valve)
18	1	Upper valve body, 1 ports
	1	Upper valve body, 2 ports
20	1	Lower valve body, 2 ports
	1	Lower valve body, 3 ports
21	1	Plug complete
a	1	Stem with bellows
b○	1	Seal ring upper
c	1	Middle piece
d○	1	Seal ring lower
e	1	Washer
f○	1	O-ring
g	1	Screw

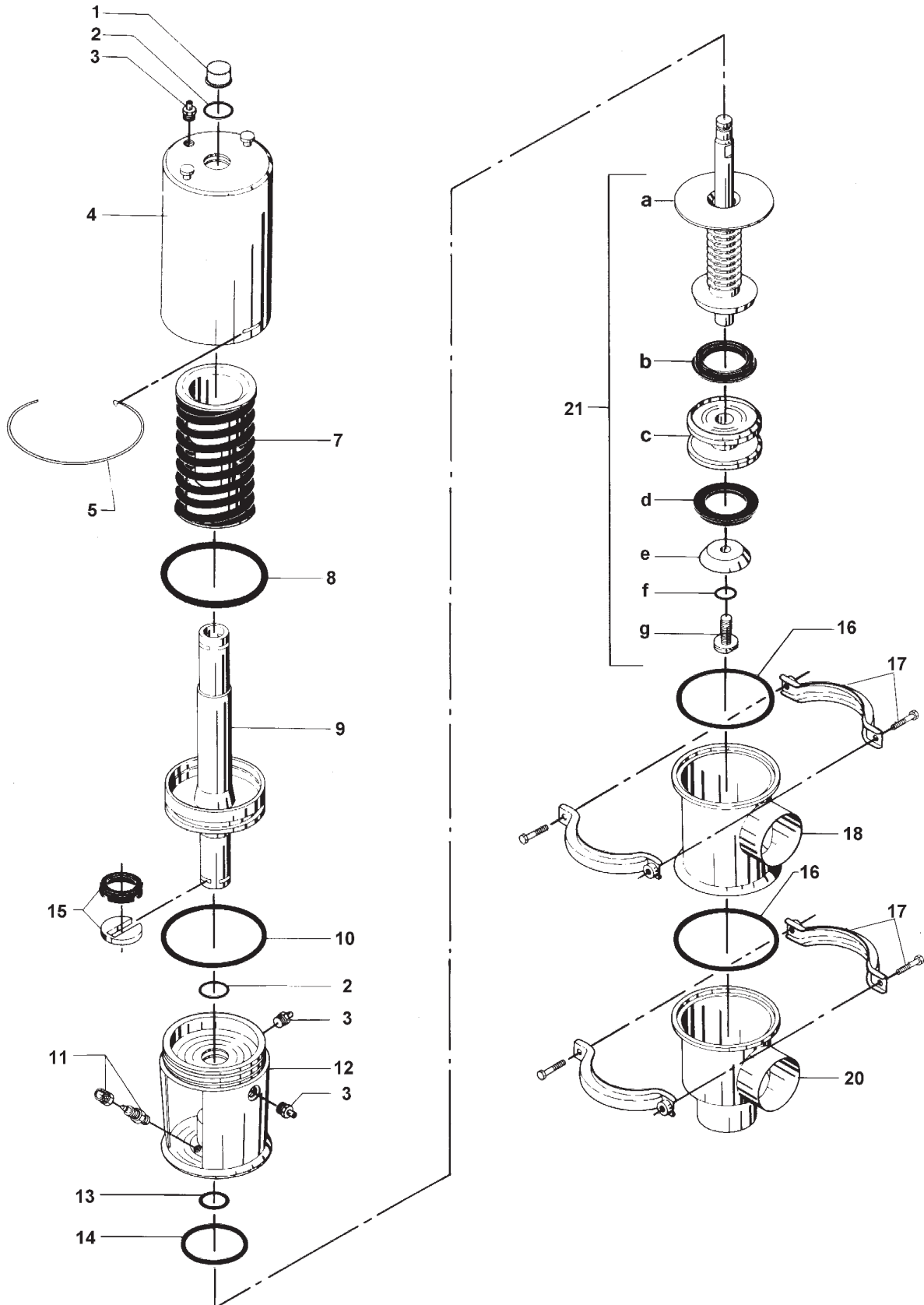
Δ : Service kit for actuator

○ : Service kit - EPDM, NBR, FPM, PTFE

The drawing below shows ARC-SB, change-over valve.

The items refer to the parts list on the opposite part of the page.

Exploded drawing



Drawing/Parts list

The drawings and the parts list include all items.
 NO = Normally open.
 NC = Normally closed.

The items are identical with the items in the Spare Parts List.
 When ordering spare parts, please use the Spare Parts List!

Parts list ARC-SB Change-over valve

28

Item	Qty.	Denomination
1	1	Cap
2Δ	2	O-ring
3	1	Deair screw (plug)
4	1	Cylinder
5Δ	1	Lock wire
6	1	Stop ring
7	1	Spring assembly (standard black)
	1	Spring assembly with strong spring (white)
8Δ	1	O-ring
9	1	Piston for NO and NC
	1	Piston for Air/Air
10Δ	1	O-ring
11	1	Drain tube
12	1	Bonnet
13Δ	1	O-ring
14Δ	1	O-ring
15Δ	1	Clip complete
16○	1	Packing
17	1	Clamp complete (stop valve)
	2	Clamp complete (change-over valve)
18	1	Upper valve body, 1 ports
	1	Upper valve body, 2 ports
20	1	Lower valve body, 2 ports
	1	Lower valve body, 3 ports
21	1	Plug complete
a	1	Stem with bellows
b○	1	Seal ring upper
c	1	Middle piece
d○	1	Seal ring lower
e	1	Washer
f○	1	O-ring
g	1	Screw

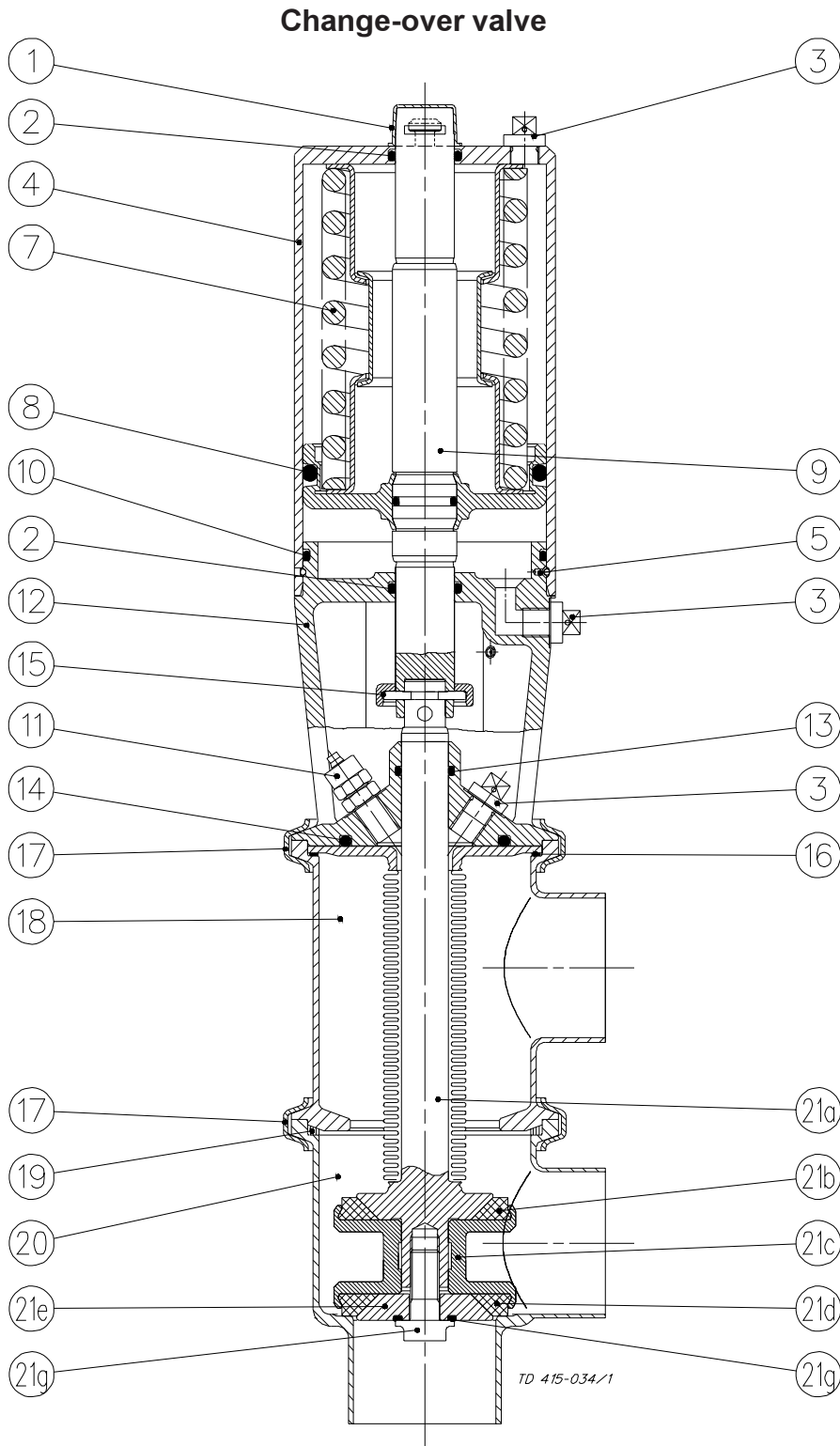
Δ : Service kit for actuator

○ : Service kit - EPDM, NBR, FPM, PTFE

The drawings below show ARC-SB, change-over valve.

The items refer to the parts list on the opposite part of the page.

Drawing



Drawing/Parts list

The drawings and the parts list include all items.

NO = Normally open.

NC = Normally closed.

The items are identical with the items in the Spare Parts List.

When ordering spare parts, please use the Spare Parts List!

Parts list

Oil damper for ARC-SB (optional extra)

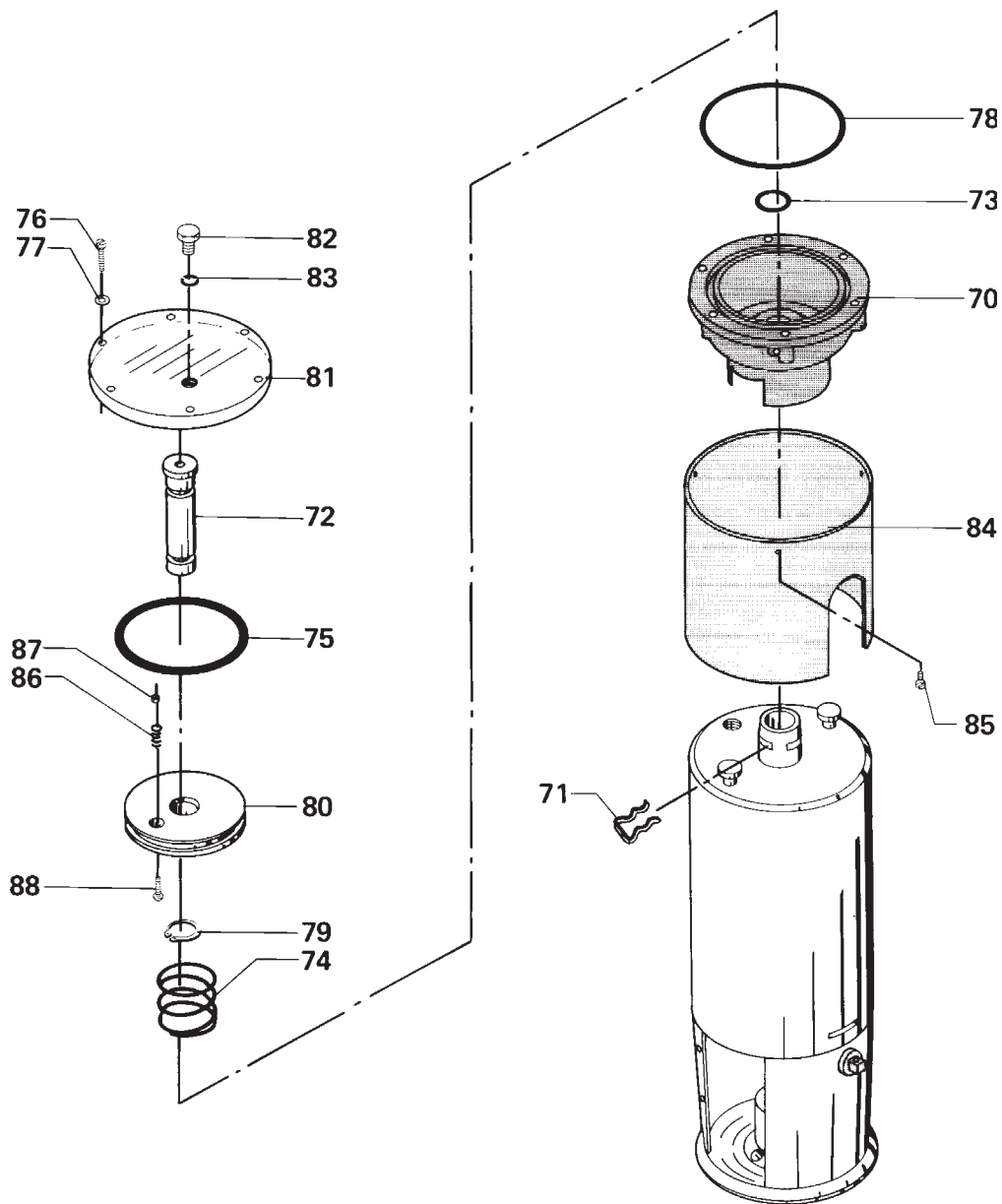
30

Item	Qty.	Denomination
70	1	Housing
71	1	Clip
72	1	Piston rod
73	1	O-ring
74	1	Spring
75	1	O-ring
76	6	Screw
77	6	Washer
78	1	O-ring
79	1	Circlip
80	1	Piston
81	1	Cover
82	1	Plug
83	1	O-ring
84	1	Protective hood
85	3	Screw
86	1	Spring
87	1	Nut
88	1	Screw

This page shows an exploded drawing of the oil damper for ARC-SB.
The damper is an optional extra.

The drawing includes all items of the valve.
They are identical with the items in the Spare Parts List.

Exploded drawing



Drawing/Parts list

The drawings and the parts list include all items.

NO = Normally open.

NC = Normally closed.

The items are identical with the items in the Spare Parts List.

When ordering spare parts, please use the Spare Parts List!

Parts list

Oil damper for ARC-SB (optional extra)

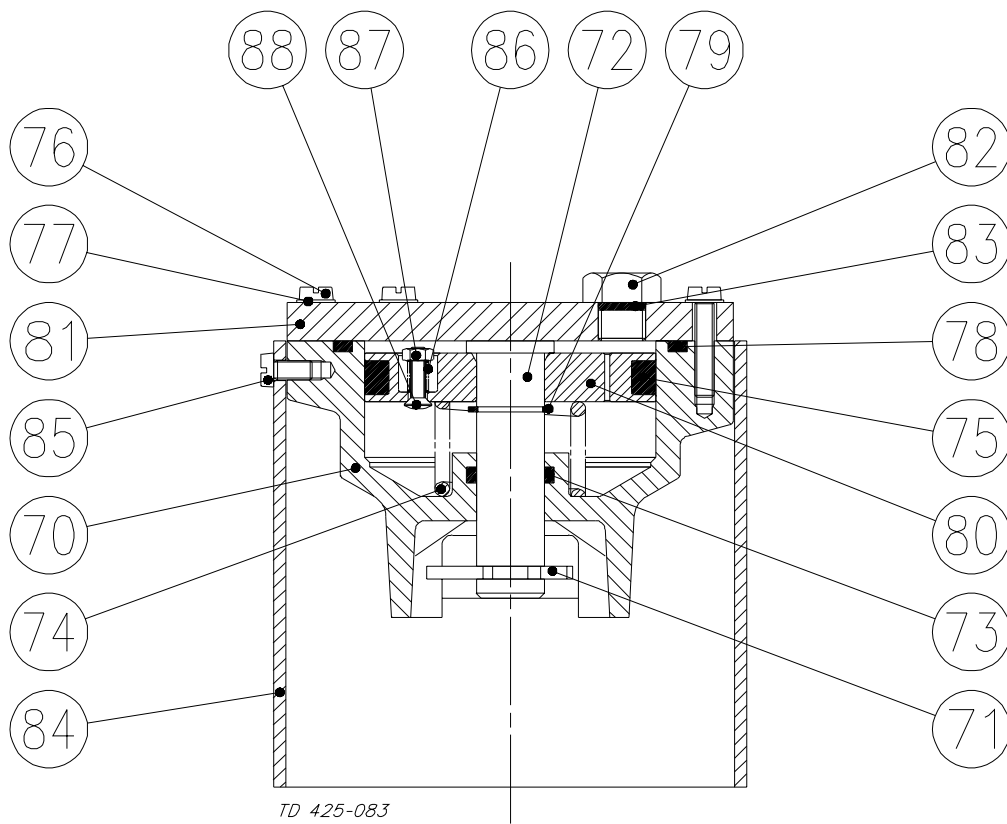
32

Item	Qty.	Denomination
70	1	Housing
71	1	Clip
72	1	Piston rod
73	1	O-ring
74	1	Spring
75	1	O-ring
76	6	Screw
77	6	Washer
78	1	O-ring
79	1	Circlip
80	1	Piston
81	1	Cover
82	1	Plug
83	1	O-ring
84	1	Protective hood
85	3	Screw
86	1	Spring
87	1	Nut
88	1	Screw

The drawings below show the oil damper for ARC-SB.
The damper is an optional extra.

The items refer to the parts list on the opposite part of the page.

Drawing



Drawing/Parts list

The parts list includes all items.

*The items are identical with the items in the Spare Parts List.
When ordering spare parts, please use the Spare Parts List!*

Parts list Indication units for ARC-SB (optional extra)

34

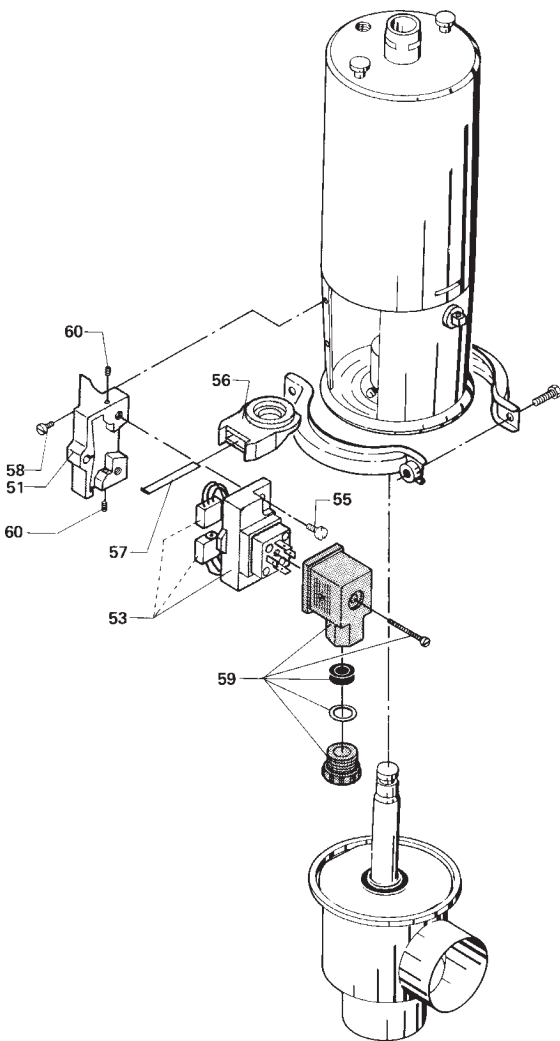
Item	Qty.	Denomination
51	1	Holder
53	1	Switch unit, 1 micro switch
	1	Switch unit, 2 micro switches
53♦	1	Switch unit complete with 2 switches
55	2	Screw
56	1	Ring
56♦	1	Ring (grey), change-over valve
	1	Ring (black), stop valve
57	1	Spring
58	2	Screw
58♦	2	Screw
59	1	Cable connector complete for 4.5-7mm cable
60	2	Adjustment

♦: Inductive proximity switch unit.

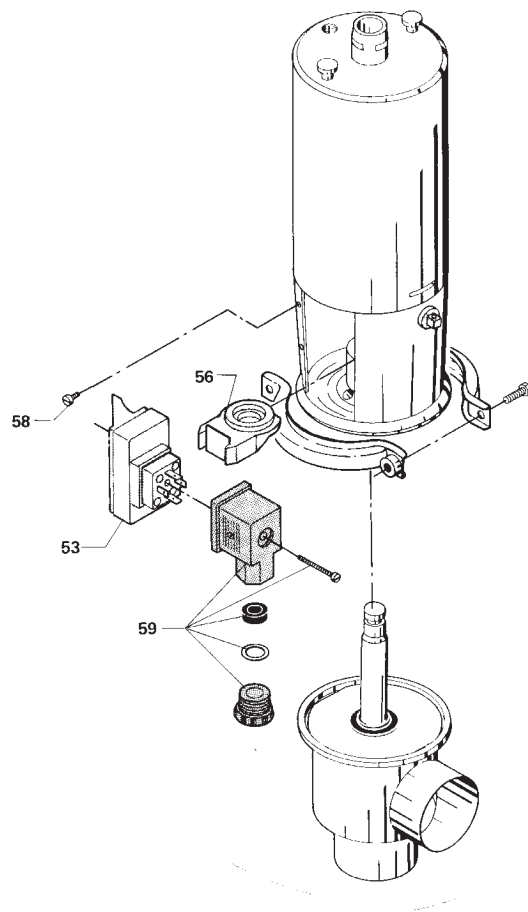
This page shows exploded drawings of the indication unit with micro switch or with inductive proximity switch.

*The indication unit is an optional extra.
The drawings include all items of the valve.
They are identical with the items in the Spare Parts List.*

Exploded drawing



Micro switch unit



Proximity switch unit (◆)

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information direct.