

## BAA S390LS Select

**SVP change-over valve - Longstroke**

**DN 25 – 100, DN 1" – 4"**

Profile gasket – O-ring  
Pneum. operated



Änderung	Datum	Name	Änderung	Datum	Name	Änderung	Datum	Name	Änderung	Datum	Name

erst. am/von 07.01.2009 Graf  
gepr. am/von 07.01.2009 Neumeyer W.



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## 2. Safety instructions



***This symbol indicates a direct and immediate danger to the life and health of persons!***

***Failure to observe these warnings may result in serious damage to health, up to and including life-threatening injuries which may or may not be fatal.***



***This symbol indicates a potentially hazardous situation!***

***Failure to observe these warnings may result in less serious injuries, or damage to material property.***



***This sign draws your attention to important information about the proper use of the SVP change-over valve. It is essential for this information to be observed.***

***Failure to observe these instructions may cause malfunctions in the valve or in its vicinity.***

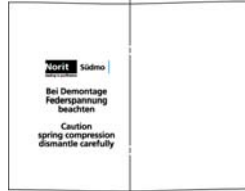
### 2.1. General

- ⇒ SVP change-over valves from Südmo Components GmbH are manufactured in accordance with state-of-the-art standards and the recognized safety rules. However, these SVP change-over valve may constitute a hazard if used by operating personnel improperly or for a purpose other than the intended one. This may result in a risk to life and limb of the user or of third parties, or cause damage to the SVP change-over valve and other material property.
- ⇒ Each person concerned with installation, commissioning, operation and maintenance of this SVP change-over valve must have read and understood the complete operating instructions, and in particular all safety instructions.
- ⇒ In addition to these operating instructions, the following are of course also valid:
  - pertinent accident prevention regulations
  - generally recognized safety rules
  - national regulations of the country of use
  - in-house work and safety regulations.

### 2.2. Maintenance

- ⇒ Our SVP change-over valves should be maintained and commissioned only by qualified personnel. Qualified personnel in the sense of the operating instruction are persons which are familiar with assembly, commissioning and operation of this product and have corresponding qualifications
  - Training or instruction according to the current standards of the security techniques concerning corresponding care and use of the security devices
  - First Aid training
  - Plants with explosion protection:
  - Training, instruction or authorization to effect works on explosive plants (pay attention to ATEX requirements).
- ⇒ Before starting maintenance please make sure that:
  - discharge of the pipeline
  - please effect only when there is no pressure and no product in the pipeline
  - to be informed about possible dangers which can occur due to the product and to take the corresponding measures (security glove, protecting glasses)
  - cool down the components if required.
  - exclude commissioning of the plant by a third party.
  - counteract against cushion pressure which can occur in isolated pipelines.
  - do assembly in accordance with assembly instructions.

- if the closing springs are not preloaded when removing the actuator, there might be danger of injury when the clamping joint is loosened because the drive releases spring tension (see label – sketch A)
- switch off the power supply.
- take the SVP change-over valve out of the pipeline section if possible.



Sketch A

⇒ Any method of working that impairs the safety and function of the SVP change-over valve must be avoided.

### 2.3. Modification of the SVP change-over valve

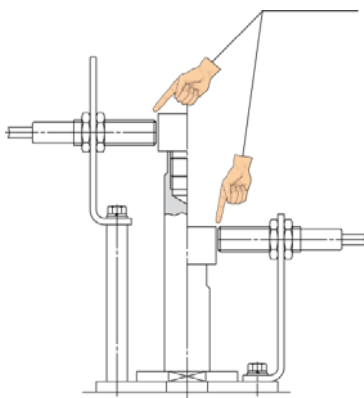
⇒ The user is obligated to ensure that the SVP change-over valve is always operated in accordance with its designated use and only by safety-conscious persons who are fully aware of the risks involved in its operation. Changes to the SVP change-over valve which impair its functioning or safety must be reported immediately. The user is obligated to ensure that the SVP change-over valve is always operated in technically perfect condition.



**Modification of the SVP change-over valve is strictly prohibited**

**Danger**

### 2.4. SVP change-over valves with feedback





**Don't put fingers into check-back signal.**

**⇒ Accident risk.**


**Fingers can be crushed or cut off.**

**Danger**

### 2.5. Storage

- ⇒ Store the valve in a dry place and protect it against external conditions.
- ⇒ Prior to any handling (dismantling of housings / actuators) store valves at least for 24 h in a dry place at a temperature of  $\geq 5^{\circ} \text{C}$ .

### 2.6. Operation



**Danger**

- ⇒ **Never touch the valve or piping system when hot products are in processing or during sterilization.**
- ⇒ **Observe strictly the technical data.**
- ⇒ **We cannot be held liable for an incorrect use of the valve.**

**2.7. Spare parts**



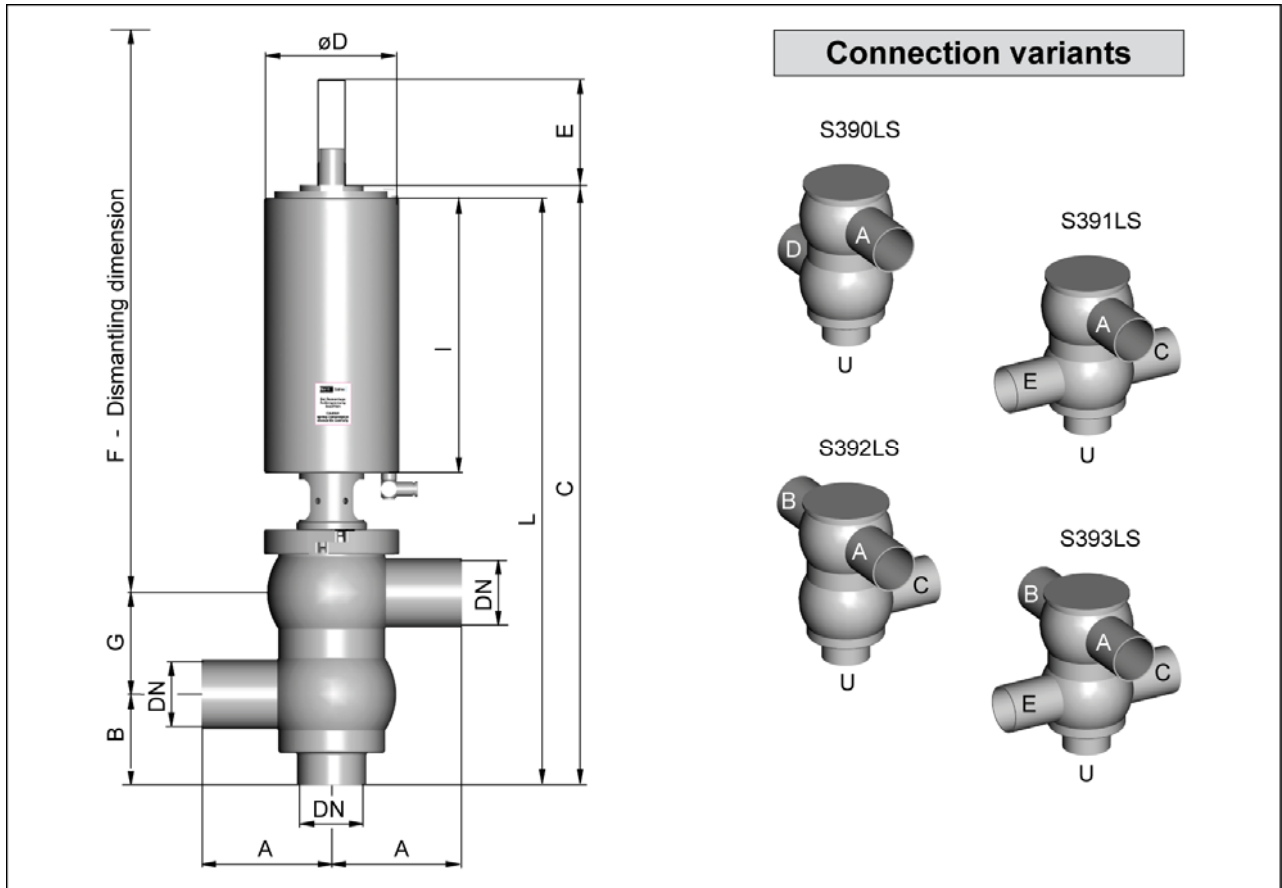
***Please use only original Norit Südmo spare parts***

***⇒ Norit Südmo spare parts see list of spare parts***

***⇒ exclusion of liability by using other spare parts***

**3. Technical datas**

**3.1. Dimensions**



DN	Tube	A	B	C	øD	E	F	G	I	L
Metric										
25	ø29 x 1,5	80	60	470	104	31	475	58	212	412
40	ø41 x 1,5	80	60	470	104	43	485	66	212	424
50	ø53 x 1,5	100	70	490	104	51	510	78	212	452
65	ø70 x 1,5	100	80	625	154	68	650	94	304	578
80	ø85 x 2	120	90	649	154	77	675	109	304	611
100	ø104 x 2	150	100	729	204	94	765	128	339	684
OD-Tube										
1"	ø25,4 x 1,65	80	50	455	104	24	465	50,1	212	390
1 ½"	ø38,1 x 1,65	80	55	468	104	35	485	62,8	212	414
2"	ø50,8 x 1,65	100	65	443	104	89	510	75,5	212	443
2 ½"	ø63,5 x 1,65	100	70	616	154	58	645	88,2	304	559
3"	ø76,1 x 1,65	120	80	636	154	68	665	100,8	304	589
4"	ø101,6 x 2,11	150	90	718	204	91	765	125,4	339	670

**3.2. Valve use**

Application:	change-over valve
For use in:	low-germ processes
Shut-off tightness:	6 bar max.

**3.3. Materials**

**3.3.1. Seal materials**

⇒ EPDM

Temperature for continuous application in air	-40° C to +130° C
Resistant to	Hot water to 100° C
	Steam to 130° C for continuous application, to 150° C for short time
	Wort to 100° C
	Sodium hydroxide to 100° C and concentration to 5 %
	Nitric acid to 60° C and concentration to 3 %
	Peracetic acid to 80° C and concentration to 0,7 %
	Raspberry flavor room temperature
	Cherry flavor room temperature

⇒ VMQ

Temperature for continuous application in air	-50° C to +200° C
Resistant to	Hot water to 100° C
	Sodium hydroxide to 60° C and concentration to 2,5 %
	Nitric acid to 60° C and concentration to 1,2 %
	Peracetic acid to 80° C and concentration to 0,7 %

⇒ HNBR

Temperature for continuous application in air	-25° C to +130° C
Resistant to	Hot water to 100° C
	Steam to 130° C for continuous application, to 150° C for short time
	Sodium hydroxide to 100° C and concentration to 5 %
	Nitric acid to 60° C and concentration to 1,5 %

⇒ FPM

Temperature for continuous application in air	-20° C to +200° C
Resistant to	Hot water to 80° C
	Sodium hydroxide to 60° C and concentration to 2,5 %
	Peracetic acid room temperature and concentration to 0,7 %
	Orange flavor room temperature
	Mandarin flavor room temperature



**The application parameters depend on**

- ⇒ **application duration per day**
- ⇒ **switching intervals**
- ⇒ **kind of product, temperature etc...**
- ⇒ **type of cleaning (CIP / SIP)**

**3.3.2. Stainless steel**

In contact with product	1.4404
Not in contact with product	1.4301

**3.4. CIP-Cleaning**

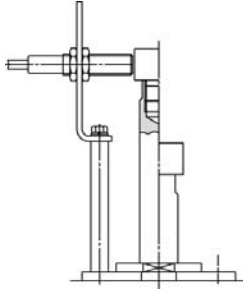


- ⇒ **Valve inner chambers must be cleaned regularly**
- ⇒ **Observe the safety information sheets issued by the detergent manufacturers !**
- ⇒ **Only use detergents which are non-abrasive and non-aggressive towards seals and stainless steel.**

### 3.5. Surfaces

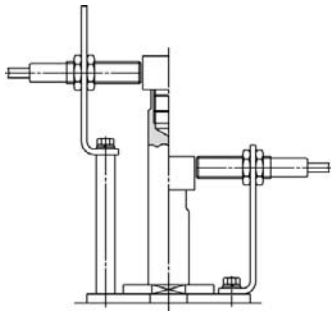
Surfaces in contact with product	$R_a \leq 0,8 \mu\text{m}$
Optional	E-polished
Surfaces not in contact with product	bright-turned, $R_a \leq 1,6 \mu\text{m}$

### 3.6. Control systems



#### 3.6.1. Single feedback

- ⇒ signal: open or closed valve position
- ⇒ inductive feedback - thread M 12 according to customer order
- ⇒ feedback data - refer to the data sheet of the manufacturer of the feedback
- ⇒ mounting set for check-back signal - order number 2125977



#### 3.6.2. Double feedback

- ⇒ signal: open and closed valve position
- ⇒ inductive feedback - thread M 12 according to customer order
- ⇒ feedback data - refer to the data sheet of the manufacturer of the feedback
- ⇒ mounting set for check-back signal - order number 2125977



#### 3.6.3. Process control head IntelliTop® type 8680

<u>Technical data</u>	refer to BA 8680
<u>Pneum. connections</u>	refer to BA 8680
<u>Electrical connections</u>	refer to BA 8680
<u>Maintenance</u>	refer to BA 8680

### 3.7. Electrical and pneumatic connections

#### 3.7.1. Electrical connections

Connect up the electrical and pneumatic systems after installing the valve.



Danger

**Only qualified personnel may do electrical installation**

- ⇒ Observe VDE, IEE, IEC power utility and other locally applicable regulations.
- ⇒ Before connecting it up, check to see whether operating voltage and current match specifications.


**3.7.2. Pneumatic connections**

- ⇒ Angular screw-in-union G 1/8, air hose PE ø 6/4
- ⇒ USA:  
Angular screw-in-union G 1/8, air hose PE ¼" (ø6,35)

**3.7.3. Air hose**

Use always the hose quality according to Norit Südmö order no. 0490227 (6/4 hose) and 0735563 (8/6 hose) or equivalent:

- ⇒ Air hose black
- ⇒ Material: Polyamid 12  
Linear coefficient of expansion:  $15 \times 10^{-5}$   
Version according to DIN73378 soft
- ⇒ Max. operating pressure: AD 6/ ID 4 = 27 bar  
AD 8/ ID 6 = 19 bar  
all pressure indications at 20°C, higher temperatures have a negativ effect on the max. operating pressure



- ⇒ Use only calibrated hose lines with an outside diameter of 6mm or 1/4" or 8 mm or 5/16" (Tolerance +0,05/-0,1).
- ⇒ Cut the hose line only with a special hose cutter otherwise the hoses can be damaged.
- ⇒ During inappropriate cutting, the hose can leak at the cutting point which can cause a pressure loss.
- ⇒ The length of the hose must be calculated in a way that the hose cannot buckle. If the hose is once buckled it is permanently damaged. This can cause a pressure loss or an interruption of the air supply. Please see manufacturer's instruction regarding the minimum bending radius of the hose.
- ⇒ Insert the air hose tangentially into the connector and fix it. Avoid inclined hoist on the connector as the air hose may buckle and leakages can arise. This can cause a pressure loss or an interruption of the air supply.

**3.8. Control air**

**3.8.1. Control air pressure**

SVP actuator DN 25 / 1" – DN 100 / 4" min. 6 bar – max. 8 bar  
Process control head IntelliTop® type 8680 refer to BA 8680



**Only use clean and dry compressed air !**

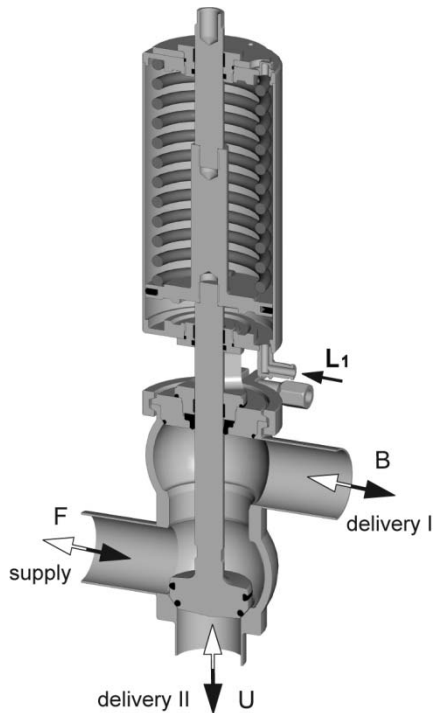
**3.8.2. Control air quality**

acc. to DIN/ISO 8573.1

<u>Solid content</u>	Particle size max. 5 µm Praticle density max. 5 mg/m³ (quality grade 3)
<u>Water content</u>	quality grade 3 Dew point -20° C or at least 10° C at lowest ambient temperatures
<u>Oil content</u>	quality grade 3, preferable oil free, max. 25 mg oil 1 m³ air

**4. Valve function**

**4.1. SVP change-over valve air opened – spring closed**

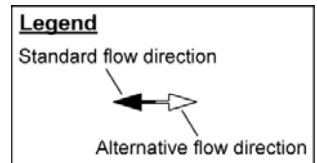


**Product path F ↔ B opened**

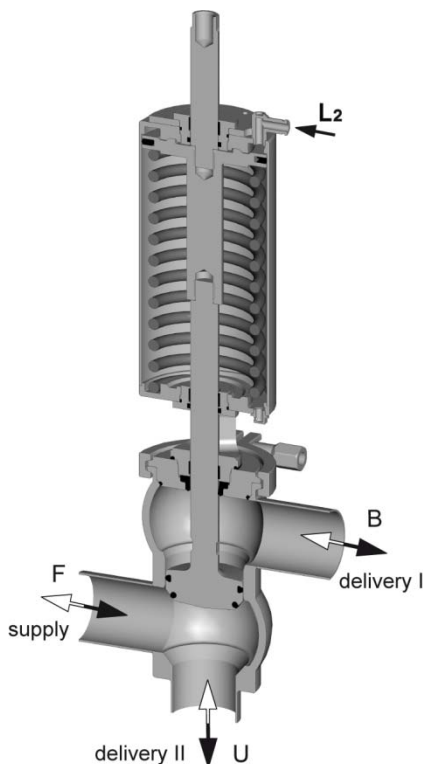
- ⇒ Connection U with elastic force closed
- ⇒ Control air pressure 0 bar on connection L<sub>1</sub>
- ⇒ Safety position
- ⇒ Locking pressure against product pressure 6 bar

**Product path F ↔ U opened**

- ⇒ Connection B closed
- ⇒ Control air pressure 6 bar on air connection L<sub>1</sub>
- ⇒ Locking pressure against product pressure 6 bar



**4.2. SVP change-over valve opened – air spring closed**

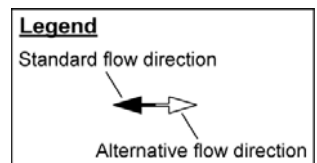


**Product path F ↔ B opened**

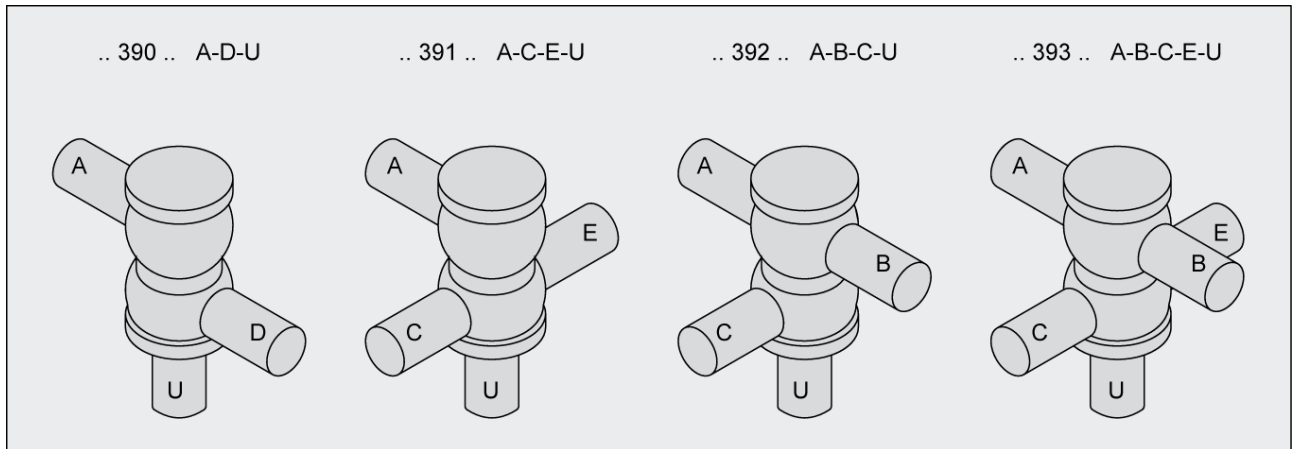
- ⇒ Connection U closed
- ⇒ Control air pressure 6 bar on air connection L<sub>2</sub>
- ⇒ Locking pressure against product pressure 6 bar

**Product path F ↔ U opened**

- ⇒ Connection B with elastic force closed
- ⇒ Control air pressure 0 bar on connection L<sub>2</sub>
- ⇒ Safety position
- ⇒ Locking pressure against product pressure 6 bar



## 5. Valve connection piping



### 5.1. Installation position

Vertical, horizontal

Ensuring that product can drain from valve and piping.

### 5.2. Valve connections

Connection A, B, C, E and U:

- welding end
- union connection
- clamp connection
- small flange connection

Welding instructions see page 13.

### 5.3. Installation instructions

Dismantle valve in accordance with page 15.



- ⇒ **Remove seals before welding.**
- ⇒ **Valve housing must be free from stress and distortions when welded.**
- ⇒ **Welding works have to be effected only by approved qualified personnel (DIN 287-1 W11).**
- ⇒ **Do not allow any foreign bodies to enter the piping.**

## 6. Installation instructions

### 6.1. General remarks

We strongly recommend that the fittings should be installed by specially trained, qualified personnel.



***Welding works have to be effected only by approved qualified personnel (DIN 287-1 W11)***

We cannot be held liable for any loss damage or injury resulting from incorrect installation.

### 6.2. Delivery condition

- ⇒ Factory-tested and adjusted.
- ⇒ Ready for installation or for welding into the piping

### 6.3. Installation instructions

#### 6.3.1. Installation space

Determine and define the connection axes before starting installation work. Observe the installation dimensions specified in the dimensional drawings.

Ensure that there is sufficient space available for both operation and maintenance, which may include removal.

#### 6.3.2. Installation

Make sure that the fittings and piping are not subjected to tensile or compressive stresses.

### 6.4. Welding instructions

#### 6.4.1. Area of application

Welding of fittings into pipes according to DIN 11850 Reihe 1, 2; OD-Tube; DIN EN ISO 1127.

#### 6.4.2. Welding technique

TIG (tungsten inert-gas welding)

#### 6.4.3. Type of welding

- ⇒ Preparation of the welding seam according to DIN 2559 (groove shape I / for I-groove)
- ⇒ Welding seams corresponding to DIN EN ISO 5817 → evaluation group B (high)

### 6.5. Weld preparation

Saw off the pipe ends evenly and at right angles, and debur them (pipe saw M882). Align the welding ends of the valve body and piping radially and axially, ensuring they are fitted flush together (centering device).



**There must be no gap at the flush-fitted welding ends as the corrosion resistance of the welded joint would be impaired by the escaping forming gas.**

### 6.6. Welding

Connect the forming gas. Tack at 3 or 4 points. Type of welding: TIG-manual or orbital (automatic welding).

**6.7. Weld filler materials**

Material allocation

Material of parts to be welded	Suitable weld filler materials		
	1.4430	1.4440	1.4519
1.4404	X		
1.4435	X	X	X
1.4571	X	X	

**6.8. Weld finishing**

**6.8.1. Interior**

Weld finishing not required. Improvement of surface finish by grinding (at accessible points).

**6.8.2. Exterior**

Weld finishing methods

- ⇒ pickling - dispose pickling paste correctly
- ⇒ brushing
- ⇒ grinding
- ⇒ polishing

**6.9. Cleaning**

Clean thoroughly before assembly.

**6.10. Assembly**

Assemble the fittings in accordance with the assembly instructions.

## 7. Dismantling – Assembly

### 7.1. Before disassembly

Do assembly in accordance with assembly instructions.

Please always take the following steps before loosening the valve connections and clamp connection on the valve housing:



**Danger**

- ⇒ *Ensure that there is no work being done in that area when doing service and maintenance work.*
- ⇒ *evacuate all pipeline elements leading to the SVP change-over valve and clean or rinse if necessary.*
- ⇒ *Shut off the control air if not required for disassembly.*
- ⇒ *Preload closing springs with auxiliary assembly air when removing the actuator of spring-closed valves.*
- ⇒ *if the closing springs are not preloaded when removing the actuator, there might be danger of injury when the clamping joint is loosened because the drive releases spring tension*
- ⇒ *switch off the power supply.*
- ⇒ *take the SVP change-over valve out of the pipeline section if possible..*

Before assembly, clean and grease the sliding surfaces and lubricate the sealing elements.

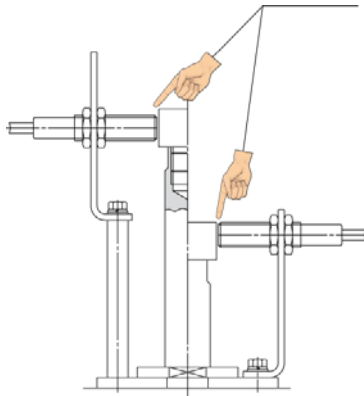
Seal materials	Grease type
EPDM	PARALIQ GTE 703
VMQ	BARRIERTA L 55/3
HNBR	PARALIQ GTE 703
FPM	PARALIQ GTE 703
NBR	RENOLIT SI 410 M



**Caution**

- ⇒ *if a different grease is used  
→ it may attack seals.*
- ⇒ *please do not use mineral or animal greases.*
- ⇒ *Don't use grease based on petroleum.*

**7.2. SVP change-over valves with feedback**



**Danger**

**Don't put fingers into check-back signal.**

⇒ **Accident risk.**

**Fingers can be crushed or cut off.**

**7.3. Spare parts**






**Caution**

**Please use only original Norit Südmo spare parts**

⇒ **Norit Südmo spare parts see list of spare parts**

⇒ **exclusion of liability by using other spare parts**

**7.4. Mounting tools**

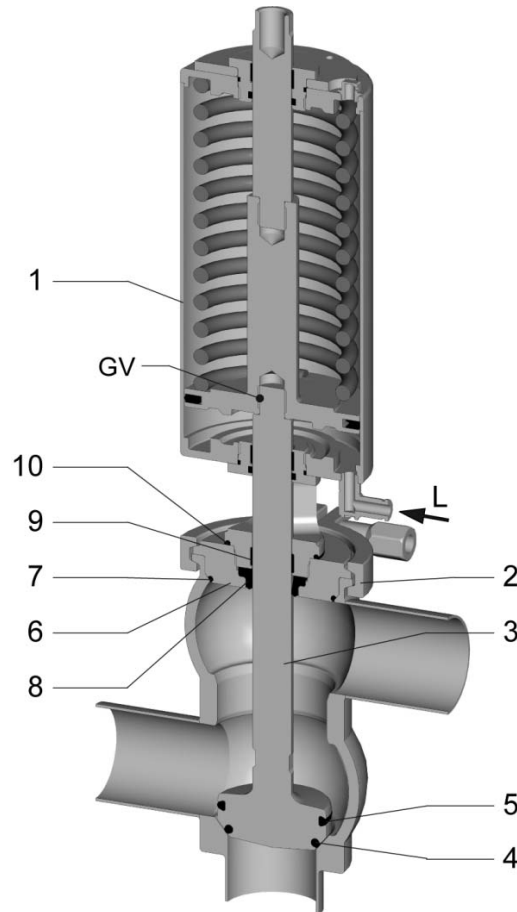
Tool	for	Order no.	Use
forked open jaw wrench SW 17 – 19 	DN 25 – DN 100 DN 1" – DN 4"	0098558	Pneum. SVP change-over valve
open-jawed spanner SW 46 	DN 25 – DN 100 DN 1" – DN 4"	2123662	Pneum. SVP change-over valve
hock wrench with finger 45/50 	DN 25 – DN 100 DN 1" – DN 4"	2153550	Pneum. SVP change-over valve

**7.5. Replacing product-touched seals**

**7.5.1. SVP change-over valve air opened – spring closed**



*Please avoid damage to the metallic valve plate surfaces and valve plate seal.*



Dismantling the valve

- I.1. Disconnect pneum. and electric supply lines.
- I.2. Preload actuator spring



⇒ **Control air pressure min. 5 bar (auxiliary assembly air) on connection L.**

- I.3. Remove clamp (2).
- I.4. Unload actuator spring



⇒ **Control air pressure 0 bar (auxiliary assembly air) on connection L.**


⇒ **The upper part rises out of the housing**

⇒ **Loosen the compressed air line.**

- I.5. Remove valve upper part (1) from valve body.
- I.6. Unscrew valve disc (3) and remove O-ring (4, 5).
- I.7. Dismantle support (6) and remove O-ring (7) and profile gasket (8).
- I.8. Remove O-ring (10) and slide bearing (10).

Replacing seals


- I.9. Replace seals and slide bearings.



**Please use only original Norit Südmo spare parts**  
 ⇒ **Norit Südmo spare parts see list of spare parts**  
 ⇒ **Exclusion of liability by using other spare parts.**

- I.10. Before assembly grease and lubricate the sealing elements.


Seal materials	Grease type
EPDM	PARALIQ GTE 703
VMQ	BARRIERTA L 55/3
HNBR	PARALIQ GTE 703
FPM	PARALIQ GTE 703
NBR	RENOLIT SI 410 M



⇒ **If a different grease is used it may attack seals.**  
 ⇒ **Please do not use mineral or animal greases**  
 ⇒ **Don't use grease based on petroleum.**


Assembly valve

- I.11. Before assembly, clean and grease shafts and sliding surfaces.
- I.12. Mount O-ring (10) and slide bearing (9).
- I.13. Mount O-ring (7) and profile gasket (8) into support (6) and complete support onto actuator (1).
- I.14. O Mount O-ring (4, 5) onto valve disc (3) - see page 20.
- I.15. Mount complete valve disc (3).




**Secure threaded connection with glue (order no. 0630210).**  
**Mounting tools:**  
 - **open-jawed spanner SW 17 – 19.**

- I.16. Preload actuator spring



⇒ **Control air pressure min. 5 bar (auxiliary assembly air) on connection L.**

- I.17. Insert valve upper part (1) into valve body and mount clamp (2).
- I.18. Unload actuator spring



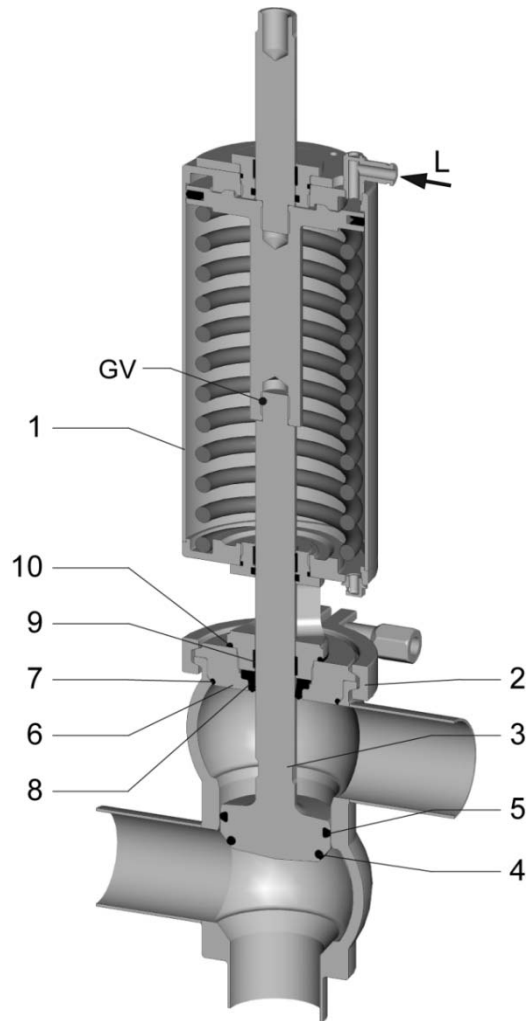
⇒ **Control air pressure 0 bar (auxiliary assembly air) on connection L.**  
 ⇒ **Loosen the compressed air line.**

- I.19. Connect electric und pneumatic supply lines.

**7.5.2. SVP change-over valve spring opened – air closed**



**Please avoid damage to the metallic valve plate surfaces and valve plate seal.**



Dismantling the valve

- II.1. Disconnect pneum. and electric supply lines.
- II.2. Remove clamp (2).
- II.3. Remove valve upper part (1) from valve body.
- II.4. Unscrew valve disc (3) and remove O-ring (4, 5).
- II.5. Remove support (6) and remove O-ring (7) and profile gasket (8).
- II.6. Remove O-ring (10) and slide bearing (9).

Replacing seals

- II.7. Replace seals and slide bearings.



**Please use only original Norit Südmo spare parts**  
 ⇒ **Norit Südmo spare parts see list of spare parts**  
 ⇒ **Exclusion of liability by using other spare parts.**

II.8. Before assembly grease and lubricate the sealing elements.

Seal materials	Grease type
EPDM	PARALIQ GTE 703
VMQ	BARRIERTA L 55/3
HNBR	PARALIQ GTE 703
FPM	PARALIQ GTE 703
NBR	RENOLIT SI 410 M



Caution

- ⇒ **If a different grease is used it may attack seals.**
- ⇒ **Please do not use mineral or animal greases**
- ⇒ **Don't use grease based on petroleum.**

Assembly valve

- II.9. Before assembly, clean and grease shafts and sliding surfaces.
- II.10. Mount slide bearing (9) and O-ring (10).
- II.11. Mount O-ring (7) and profile gasket (8) into support (6) and screw complete support onto actuator (1).
- II.12. Mount O-ring (4, 5) onto valve disc (3) - see page 20.
- II.13. Mount complete valve disc (3).



Caution

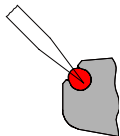
- Secure threaded connection with glue (order no. 0630210).**
- Mounting tools:**
- open-jawed spanner SW 17 – 19.**

- II.14. Insert valve upper part (1) into valve body and mount clamp (2).
- II.15. Connect electric und pneumatic supply lines.

**7.6. Assembly O-ring**

**7.6.1. Removal**

- ⇒ O- O-Ring is installed in positive contact under pretension.
- ⇒ It must be removed as shown in drawing.



Caution

**Don't damage sealing groove (edges of groove).**

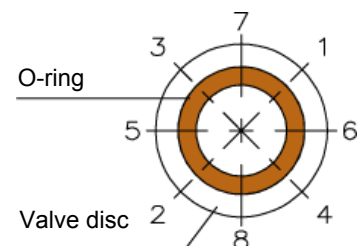
**7.6.2. Installation**

- ⇒ Press O-ring in sequence 1 – 2, 3 – 4 etc. into groove.
- ⇒ Roll O-ring section by section 1 – 6, 5 – 2 etc into groove.
- ⇒ Use round object of plastic or wood for installation.



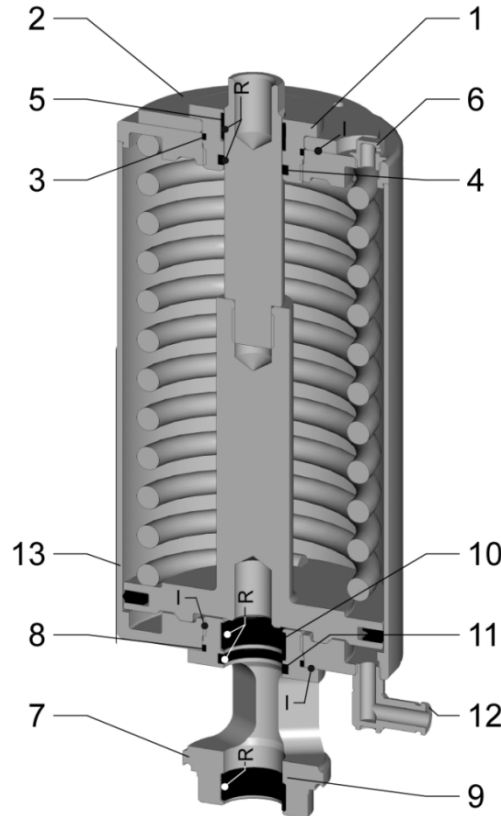
Caution

**Avoid drilling and damging the O-ring by assembly.**



**7.7. Pneum. actuator**

**7.7.1. Function air opened – spring closed**



Dismantling actuator

- III.1. Dismantle centering screw (1) and remove slide bearing (5) and O-rings (3, 4).
- III.2. Remove adapter disc (2).
- III.3. Dismantle threading plug (6).
- III.4. Dismantle snaphead support (7) and remove slide bearings (9, 10) and O-rings (8, 11).

Mounting tools

- forked open jaw wrench SW 17 – 19
- open-jawed spanner SW 46
- hock wrench with finger 45/50

- III.5. Remove air connection (12).

Replacing seals

- III.6. Replace seals and slide bearings.



Caution

**Please use only original Norit Südmo spare parts**  
**⇒ Norit Südmo spare parts see list of spare parts**  
**⇒ Exclusion of liability by using other spare parts.**

- III.7. Before assembly, clean and grease the sliding surfaces and lubricate the sealing elements.

Grease chart

- R = RENOLIT SI 410 M - apply to marked surfaces with a brush
- I = IFB PW 119 - apply thinly to marked surfaces with a brush

Assembly actuator

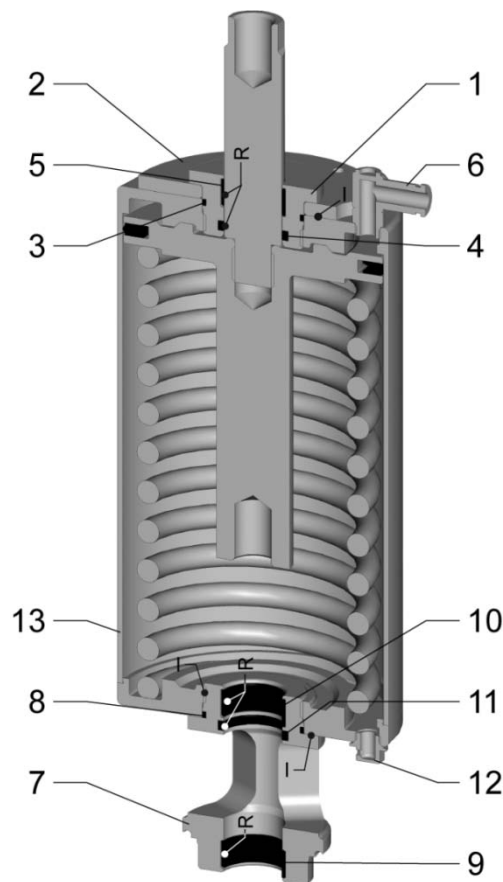
- III.8. Mount air connection (12).
- III.9. Mount slide bearings (9, 10) and O-rings (8, 11) into snaphead support (7).
- III.10. Screw snaphead support (7) onto actuator cylinder (13).

Mounting tools

- forked open jaw wrench SW 17 – 19
- open-jawed spanner SW 46
- hock wrench with finger 45/50

- III.11. Mount threading plug (6).
- III.12. Mount slide bearing (5) and O-rings (3, 4) into centering screw (1).
- III.13. Screw centering screw (1) with adapter disc (2) onto actuator cylinder (13).

**7.7.2. Function spring opened – air closed**



Dismantling actuator

- IV.1. Dismantle centering screw (1) and remove slide bearing (5) and O-rings (3, 4).
- IV.2. Remove adapter disc (2).
- IV.3. Remove air connection (6).
- IV.4. Dismantle snaphead support (7) and remove slide bearings (9, 10) and O-rings (8, 11).


Mounting tools

- forked open jaw wrench SW 17 – 19
- open-jawed spanner SW 46
- hock wrench with finger 45/50

- IV.5. Dismantle threading plug (12).

Replacing seals

IV.6. Replace seals and slide bearings.

 <b>Caution</b>	<p><b>Please use only original Norit Südmo spare parts</b></p> <p>⇒ <b>Norit Südmo spare parts see list of spare parts</b></p> <p>⇒ <b>Exclusion of liability by using other spare parts.</b></p>
-----------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

IV.7. Before assembly, clean and grease the sliding surfaces and lubricate the sealing elements.

Grease chart:

- R = RENOLIT SI 410 M - apply to marked surfaces with a brush
- I = IFB PW 119 - apply thinly to marked surfaces with a brush

Assembly actuator

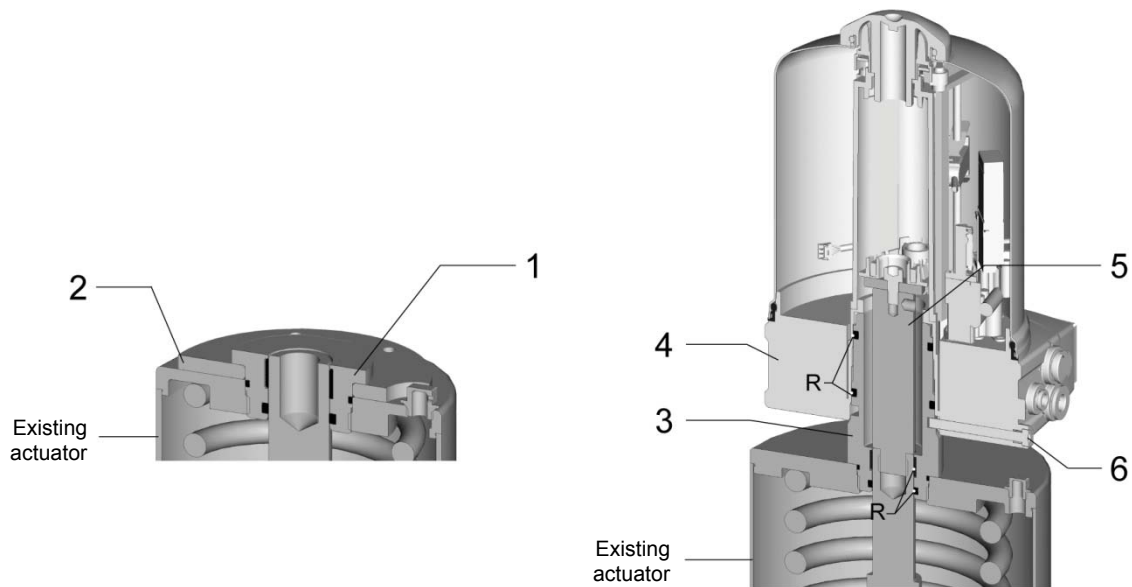
- IV.8. Mount threading plug (12).
- IV.9. Mount slide bearings (9, 10) and O-rings (8, 11) into snaphead support (7).
- IV.10. Screw snaphead support (7) onto actuator cylinder (13).

Mounting tools

- forked open jaw wrench SW 17 – 19
- open-jawed spanner SW 46
- hock wrench with finger 45/50

- IV.11. Mount air connection (6).
- IV.12. Mount slide bearing (5) and O-rings (3, 4) into centering screw (1).
- IV.13. Screw centering screw (1) with adapter disc (2) onto actuator cylinder (13).

**7.8. Assembly process-control head IntelliTop® type 8680**



- V.1. Dismantle centering screw (1) and remove adapter disc (2).
- V.2. Dismantle threading plug (6).
- V.3. Mount adapter (3). Before assembly, clean and grease the sliding surfaces and lubricate the sealing elements.

Grease chart

- R = RENOLIT SI 410 M - apply to marked surfaces with a brush

- V.4. Mount contact head (5).
- V.5. Attach the process control head (4) to the adapter (3).
- V.6. Mount cheese head screw (6).

## 8. Start-up



- ⇒ **Ensure that no foreign objects are present in the piping system.**
- ⇒ **Avoid temperature shock!**  
**Component should be heated up carefully till operating temperature is achieved.**

### 8.1. Functional test

Multiple switching of the valve by means of actuation with compressed air.

System must be cleaned before the first product run.

### 8.2. Leak test

Check visually that all seals are free from leaks.

Defective seals must be replaced.

## 9. Maintenance

### 9.1. Before maintenance



- ⇒ **Depressurize piping system, drain all liquid and shut off control air supply.**
- ⇒ **Preload closing springs with auxiliary assembly air when removing the actuator of spring-closed valves.**
- ⇒ **if the closing springs are not preloaded when removing the actuator, there might be danger of injury when the clamping joint is loosened because the drive releases spring tension.**
- ⇒ **Pay due regard to the electric supply voltage; switch off the power supply if necessary.**
- ⇒ **Maintenance work must be carried out by qualified and trained personnel onl.**

### 9.2. Inspection

Norit Südmo valves do not special maintenance. Between maintenance intervals, however, the seal tightness and correct operation should be verified by means of a periodic visual inspection

### 9.3. Preventive maintenance

Practice-oriented maintenance intervals can only be determined by the respective user/operator as they are dependent on the following application parameters:

- ⇒ Operating frequency
- ⇒ Switching intervals
- ⇒ Type of product
- ⇒ Type of cleaning (CIP / SIP)


We can recommend the following data as guide values:

- ⇒ for liquids with solid particles and temperatures of 80 °C to 100 °C approx. every 3 – 6 months
- ⇒ for liquids with solid particles and temperatures of 60 °C approx. every 12 months
- ⇒ for liquids without solid particles and with temperatures of max. 60 °C approx. every 24 months.

In cleaning systems, intervals of 12 months are recommended.

The intervals stated above are, of course, based on the assumption that the seal materials are sufficiently chemical-resistant.

**10. Disorder - trouble shooting**




⇒ **Never touch the valve or piping system when hot products are in processing or during sterilization.**

⇒ **Observe strictly the technical data.**

⇒ **We cannot be held liable for an incorrect use of the valve.**

**Danger**



⇒ **In the event of disorders immediately deactivate the valve and secure it against inadvertent reactivation.**

⇒ **Defects may only be rectified by qualified personnel observing the safety instructions.**

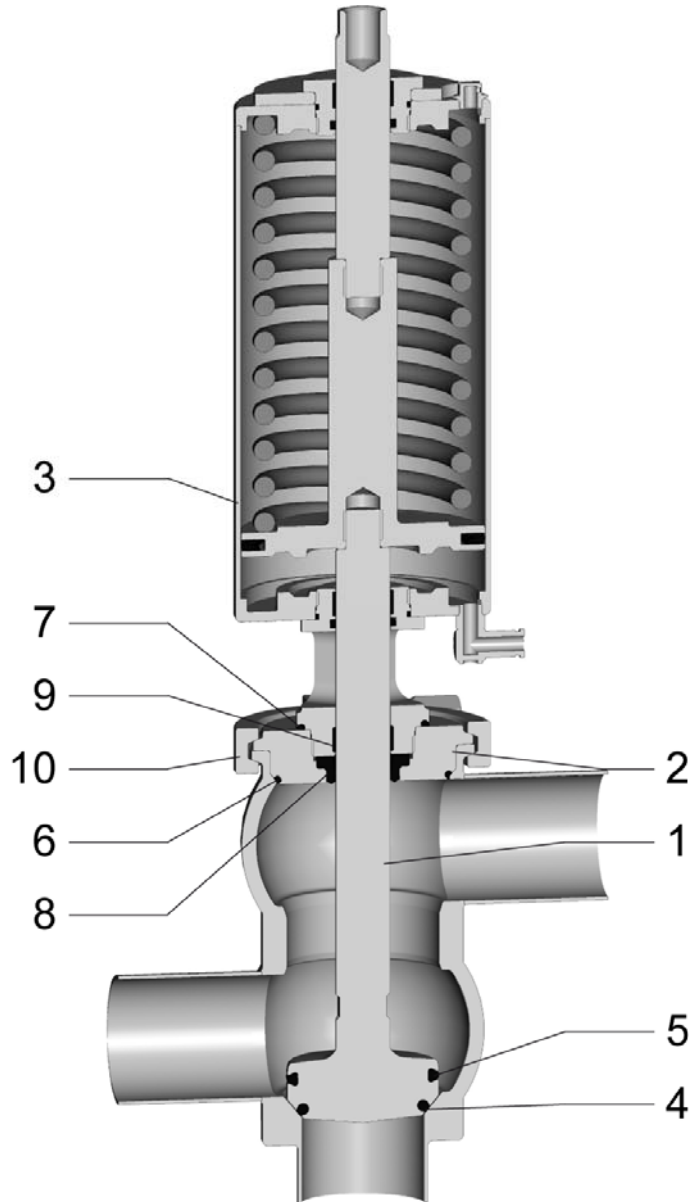
**Caution**

Disorder	Cause	Trouble shooting
Valve does not work	⇒ Error in the control system	⇒ Check the plant configuration
	⇒ no compressed air	⇒ check the air supply
	⇒ air pressure too low	⇒ Check the air hoses for free passage and leaks
	⇒ Error in the electric system	⇒ Check actuation / process control head and routing of electric lines
Discharge of air from the actuator	⇒ Solenoid valve damaged	⇒ Replace the solenoid valve
	⇒ faulty gaskets at the spindle ⇒ faulty gasket in the actuator	⇒ change gaskets ⇒ change actuator cylinder
Valve does not close	⇒ Dirt / foreign materials in the seal area	⇒ Clean valve housing and seal area closing sleeve and valve disc
Valve closes too slow	⇒ Actuator seals dry (friction losses)	⇒ Grease the seals - Note grease plan
Leakage on the support or stem extension	⇒ defective gaskets	⇒ change gaskets
Valve closes jerkily	⇒ Seals dry (friction losses)	⇒ Grease the seals - Note grease plan
		⇒ Replace seals



**12. List of spare parts**

**12.1. SVP change-over valve**



**Operating instructions**

SVP change-over valve - Longstroke, pneum. operated

Profile gasket – O-ring

DN 25 – 100, DN 1” – 4”

Pos.	Pcs.	Denomination	Material		Order no.		Order no.
1	1	Valve disc	1.4404	DN 25 / DN 1"		DN 40 / DN 1 1/2"	
2	1	Support	1.4404				
3	1	Pneum. actuator					
		Air opened – spring closed					
		Spring opened – air closed					
4	1	O-ring *	EPDM				
			VMQ				
			FPM				
			HNBR				
5	1	O-ring *	EPDM				
			VMQ				
			FPM				
			HNBR				
6	1	O-ring *	EPDM				
			VMQ				
			FPM				
			HNBR				
7	1	O-ring *	EPDM				
8	1	Profile gasket *	EPDM				
			VMQ				
			FPM				
			HNBR				
9	1	Slide bearing *	PEEK				
10	1	Clamp	1.4301				
	1	Compl. set of gaskets consist. of: *	EPDM				
			VMQ				
			FPM				
			HNBR				



Pos.	Pcs.	Denomination	Material		Order no.		Order no.	
1	1	Valve disc	1.4404	DN 50 / DN 2"	2158578	DN 65 / DN 2 1/2"	2144010	
2	1	Support	1.4404		2131744		2131964	
3	1	Pneum. actuator						
		Air opened – spring closed			2143728		2156710	
		Spring opened – air closed						
4	1	O-ring *	EPDM					2102723
			VMQ					
			FPM		2128517			
			HNBR					
5	1	O-ring *	EPDM					0988626
			VMQ					
			FPM	2128519				
			HNBR					
6	1	O-ring *	EPDM			0690719		
			VMQ					
			FPM	2108787				
			HNBR					
7	1	O-ring *	EPDM		0962118	0962118		
8	1	Profile gasket *	EPDM			2103016		
			VMQ					
			FPM	2128527				
			HNBR					
9	1	Slide bearing *	PEEK		2131741	2131741		
10	1	Clamp	1.4301		0034587	0036590		
	1	Compl. set of gaskets consist. of: *	EPDM			2154102		
			VMQ					
			FPM	2143634				
			HNBR					

**Operating instructions**

SVP change-over valve - Longstroke, pneum. operated

Profile gasket – O-ring

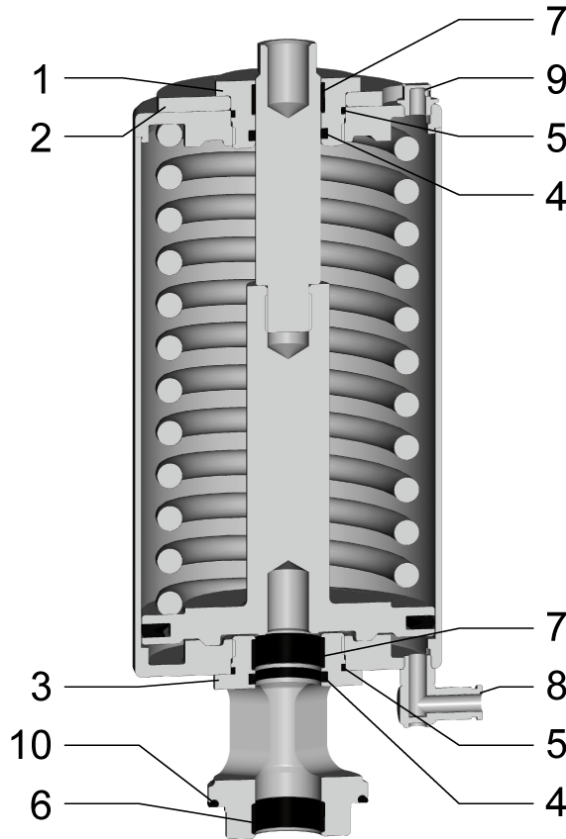
DN 25 – 100, DN 1" – 4"

Pos.	Pcs.	Denomination	Material		Order no.		Order no.		
1	1	Valve disc	1.4404	DN 80 / DN 3"	2156707	DN 100 / DN 4"	2143712		
2	1	Support	1.4404		2131745		2131966		
3	1	Pneum. actuator							
		Air opened – spring closed			2156710		2156386		
		Spring opened – air closed							
4	1	O-ring *	EPDM				2128484		2128485
			VMQ						
			FPM						
			HNBR						
5	1	O-ring *	EPDM				2128484		2128485
			VMQ						
			FPM						
			HNBR						
6	1	O-ring *	EPDM		0770669		0953620		
			VMQ						
			FPM						
			HNBR						
7	1	O-ring *	EPDM		0962118		0962118		
8	1	Profile gasket *	EPDM		2103016		2103016		
			VMQ						
			FPM						
			HNBR						
9	1	Slide bearing *	PEEK		2131741		2131741		
10	1	Clamp	1.4301		0034595		2125807		
	1	Compl. set of gaskets consist. of: *	EPDM		2154103		2154104		
			VMQ						
			FPM						
			HNBR						



**12.2. Pneum. actuator**

**12.2.1. Function air opened – spring closed**



Pos.	Pcs.	Denomination	Material		Order no.		Order no.
	1	Pneum. actuator		DN 25 - 50 / DN 1" - 2"	2143728	DN 65 - 80 / DN 2 1/2" - 3"	2156710
1	1	Fixing screw	1.4305		2131739		2131739
2	1	Adapter disc	1.4301		2128219		2128219
3	1	Snaphead support	1.4301		2131734		2131734
4	1	O-ring *	NBR		0116723		0116723
5	1	O-ring *	NBR		2128764		2128764
6	1	Slide bearing	PEEK		2131741		2131741
7	1	Slide bearing *	Iglidur		2131740		2131740
8	1	Angular screw-in-union			2116513		2116513
9	1	Threaded plug			2128550		2128550
	1	Compl. set of gaskets consist. of: *		0962118	0962118		
				2132039	2132039		

**Operating instructions**

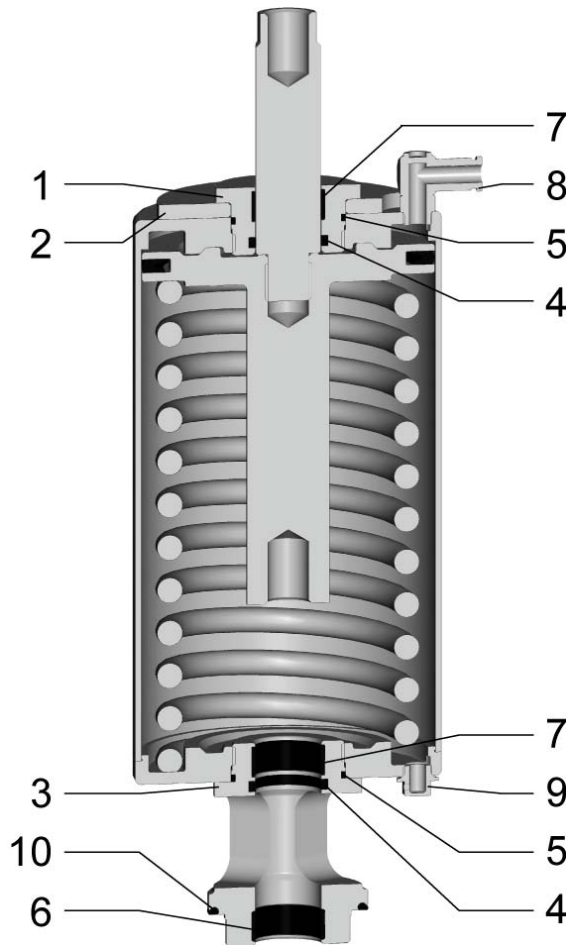
SVP change-over valve - Longstroke, pneum. operated

Profile gasket – O-ring

DN 25 – 100, DN 1” – 4”

Pos.	Pcs.	Denomination	Material		Order no.		Order no.
	1	Pneum. actuator		DN 100 / DN 4"	2156386		
1	1	Fixing screw	1.4305		2131739		
2	1	Adapter disc	1.4301		2128219		
3	1	Snaphead support	1.4301		2131734		
4	1	O-ring *	NBR		0116723		
5	1	O-ring *	NBR		2128764		
6	1	Slide bearing	PEEK		2131741		
7	1	Slide bearing *	Iglidur		2131740		
8	1	Angular screw-in-union			2116845		
9	1	Threaded plug			2127256		
10	1	O-ring *	EPDM		0962118		
	1	Compl. set of gaskets consist. of: *		2132039			

12.2.2. Function spring opened – air closed



Pos.	Pcs.	Denomination	Material		Order no.		Order no.
	1	Pneum. actuator					2158613
1	1	Fixing screw	1.4305	DN 25 - 50 / DN 1" - 2		DN 65 - 80 / DN 2 1/2" - 3"	2131739
2	1	Adapter disc	1.4301		2128219		
3	1	Snaphead support	1.4301		2131734		
4	1	O-ring *	NBR		0116723		
5	1	O-ring *	NBR		2128764		
6	1	Slide bearing	PEEK		213741		
7	1	Slide bearing *	Iglidur		2131740		
8	1	Angular screw-in-union			2116513		
9	1	Threaded plug			2128550		
10	1	O-ring *	EPDM		0962118		
	1	Compl. set of gaskets consist. of: *			2132039		

**Operating instructions**

SVP change-over valve - Longstroke, pneum. operated

Profile gasket – O-ring

DN 25 – 100, DN 1" – 4"

Pos.	Pcs.	Denomination	Material		Order no.		Order no.
	1	Pneum. actuator		DN 100 / DN 4"	2158931		
1	1	Fixing screw	1.4305		2131739		
2	1	Adapter disc	1.4301		2128219		
3	1	Snaphead support	1.4301		2131734		
4	1	O-ring *	NBR		0116723		
5	1	O-ring *	NBR		2128764		
6	1	Slide bearing	PEEK		2131741		
7	1	Slide bearing *	Iglidur		2131740		
8	1	Angular screw-in-union			2116845		
9	1	Threaded plug			2127256		
10	1	O-ring *	EPDM		0962118		
	1	Compl. set of gaskets consist. of: *		2132039			

### 13. EC Manufacturer's Declaration

In accordance with the EC Machinery Directive 98/37/EG, Anhang II B

We hereby declare on our own sole responsibility that the

**SVP change-over valve - Longstroke**

**Type:** S390LS Select

**Catalogue no.:** S390LS Select

S391LS Select

S392LS Select

S393LS Select

and the valve manifolds made up thereof and to which this declaration refers, meet the standard(s) and normative document(s) mentioned below.

**Applied harmonized European standards**

⇒ DIN ISO 12100-1

⇒ DIN ISO 12100-2; EN 60 204-1

**Applied national standards and technical specifications**

UVV 1.2 (VBG 121) Noise

UVV 10.0 (VBG 5) Power-driven work equipment

**Declaration**

The valve or valve manifold may not be commissioned until it has been established that the plant into which this valve or valve manifold is to be installed meets the regulations of all relevant and applicable EC directives.

Riesbürg, 07.01.2009



Directing Manager  
Oliver Rupp

## 14. Declaration of Conformity

according to Annex VII of Directive 97/23/EC

We,

**Südmo Components GmbH**  
**Industriestraße 7**  
**73469 Riesbürg-Pflaumloch**

declare, that the product

**SVP change-over valve - Longstroke**

**Type: S390LS Select**

**Artikel-Nr.: S390LS Select**

**S391LS Select**

**S392LS Select**

**S393LS Select**

to which this declaration is referring to, is in compliance with the directive 97/23/EC and was subjected to the following conformity assessment procedure:

**Module A .**

**Applied harmonized European standards:**

- ⇒ DIN EN 10088-1
- ⇒ DIN EN 10088-2
- ⇒ DIN EN 10088-3
- ⇒ DIN EN 287-1
- ⇒ DIN EN 287-2

**Applied harmonized European standards**

- ⇒ AD-regulations 2000
- ⇒ DIN EN 12266-1

Riesbürg, 07.01.2009



Directing Manager  
Oliver Rupp

## 15. Additions to the declaration of conformity

- ⇒ Diameters of DN 125 and bigger are not suitable for „Products Group 1 – dangerous“ according to the definition in the pressure equipment directive „guidelines 97/23/EC“ especially „product suitability acc. to article 9“  
Already mentioned dangerous products are also defined by the pressure equipment directive „Guideline 97/23/EC“ especially within the data base for dangerous substances.
- ⇒ Diameters of DN 25 and smaller are defined according to the definition of the pressure equipment directive „Guideline 97/23/EC“ article 3 paragraphe 3 – good engineering practice - and are not allowed to be marked CE.
- ⇒ Valve manifold:  
The pressure test for the complete manifold cannot be made in our factory due to production reasons. This test has to be made by the customer during commissioning of the complete installation. The single valves are tested by the manufacturer.

**16. EC manufacturer's declaration for the use in explosion area**

According to the EC guideline 94/9/EG

We,

**Südmo Components GmbH**  
**Industriestraße 7**  
**73469 Riesbürg-Pflaumloch**

declare, that the product

**SVP change-over valve - Longstroke**

**Type: S390LS Select**

**Catalogue no.: S390LS Select**

**S391LS Select**

**S392LS Select**

**S393LS Select**

has no own potential ignition danger acc. to the EC guideline 94/9/EG article 1 considering below mentioned exceptions and supplements and therefore does not come under the EC guideline 94/9/EC.

This is only valid for valves with the following seal version:

⇒ Profile gasket - O-ring

**We would like to point out that the classification** in groups, categories, zones, protections and temperature class as well as the definition of special conditions **must be defined by the operating company itself.** The following restrictions must be considered..

Exceptions and supplements

- ⇒ The use below surface must be excluded.
- ⇒ You have to take care that no loadings take place.
- ⇒ The maximum surface temperature of the component depends on the temperature of the handled substance, but pneumatic activated components can reach a surface temperature up to +80°C with an environment temperature of +40°C due to internal friction. The substances which can be handled in the component are limited by their ignition and glowing temperature.
- ⇒ These valves can be used in the categories 1, 2 and 3 as well as in all groups. The only exception is the combination of category 1 and explosion group IIC.
- ⇒ Furthermore a compensation of potential of the complete plant has to be assured
  - The surface diameter of non-conductive elements is < 80 cm<sup>2</sup>
  - All non-conductive materials are covered by a conductive frame.

**Applied European guidelines and standards as well as other rules**

- ⇒ EN 1127-1
- ⇒ EN 13463-1
- ⇒ DIN EN 50014

**Applied other standards and technical specifications**

- ⇒ EG Richtlinie 94/9/EG
- ⇒ BGR 132

**Parts which are not included in the operating instruction and the material PEEK are excluded from the manufacturing declaration. In particular cases, documents have to be ordered separately.**

Riesbürg, 07.01.2009



Directing Manager  
Oliver Rupp



**17. Service adress**

Südmo Components GmbH

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*D-73469 Riesbürg - Germany*

*T +49 9081 803-0*

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**Kopie der Originalbetriebsanleitung**