SPXFLOW

INSTRUCTION MANUAL

APV DELTA SWmini4

SINGLE SEAT VALVE DN 10, 15, 20

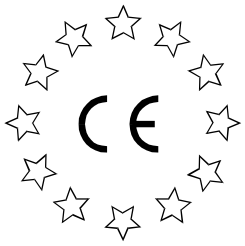
FORM NO.: 207909 REVISION: UK-1

READ AND UNDERSTAND THIS MANUAL PRIOR TO OPERATING OR SERVICING THIS PRODUCT.

APV®

UK

SPXFLOW



Declaration of Conformity
for Valves and Valve Manifolds

SPX FLOW Technology Rosista GmbH, Gottlieb-Daimler-Str. 13, D-59439 Holzwickede
herewith declares that the

APV double seal and double seat valves of the series
SD4, SDT4, SDU4, SDMS4, SDMSU4, SDTMS4, SWcip4, DSV,
DA3, DA3SLD, DE3, DEU3, DET3, DKR2, DKRT2, DKRH2
in the nominal diameters DN 25 - 150, ISO 1“ – 6“ and 1 Sh5 - 6 Sh5

APV butterfly valves of the series SV1 and SVS1F, SVL and SVSL
in the nominal diameters DN 25 - 100, DN 125 - 250 and ISO 1“ – 4“

APV ball valves of the series KHI, KHV
in the nominal diameters DN 15 - 100

APV single seat, diaphragm and spring loaded valves of the series
S2, SW4, SWhp4, SW4DPF, SWmini4, SWT4, SWS4, MF4, MS4, MSP4, AP/T1, CPV,
RG4, RG4DPF, RGMS4, RGE4, RGE4DPF, RGEMS4, PR2, PRD2, SI2, UF/R3, VRA/H
in the nominal diameters DN 10 - 150, ISO 1/2“ – 4“ and 1 Sh5 - 6 Sh5

and the valve manifolds installed thereof

meet the requirements of the Directives 2006/42/EC (superseding 89/392/EEC
and 98/37/EC) and ProdSG (superseding GPSG - 9.GPSGV).

For official inspections, SPX FLOW Technology Rosista GmbH presents
a technical documentation according to Appendix VII of the Machinery Directive,
this documentation consisting of documents of the development and construction,
description of measures taken to meet the conformity and to correspond with
the basic requirements on safety and health, incl. an analysis of the risks,
as well as an operating manual with safety instructions.

The conformity of the valves and valve manifolds is guaranteed.

Authorised person for the documentation:
SPX FLOW Technology Rosista GmbH, Frank Baumbach,
Gottlieb-Daimler-Str. 13, D-59439 Holzwickede

January 2017

ppa. Baumbach

Manager Research and Development

APV®

Table of Content

1. General Terms

This instruction manual has to be read carefully and observed by the competent operating and maintenance personnel.

We have to point out that we will not accept any liability for damage or malfunctions resulting from the non-compliance with this instruction manual.

Descriptions and data given herein are subject to technical changes.

2. Safety Instructions

The valve must only be assembled, disassembled and reassembled by persons who have been trained in APV valves or by SPX FLOW service team members. If necessary, contact your local SPX FLOW representative.

DANGER!

- The technical safety symbol draws your attention to important directions for operating safety. You will find it wherever the activities described are bearing risks of personal injury, for individuals and material assets.

- ***Do not reach into the open valve.***
  Risk of injury by sudden valve operation. In dismantled state there is the risk of bruising at movable parts of the valve.

- **Attention!**
  Valve design NC (normally closed / air-to-raise, spring-to-lower): Before releasing the housing screws, the valve insert must be relieved by controlling the actuator.

- **Attention!**
  Valve design with steam chamber: Risk of injury through burn.

- Regular maintenance intervals including the replacement of all seals must be scheduled in order to prevent leakages.

- Before any maintenance of the valve, the line and cleaning system must be depressurized and discharged if possible!

- Separate electric and pneumatic connections.

- Observe service instructions to ensure safe maintenance of the valve.

2. Safety Instructions

- **DANGER!**
  Welded actuators are preloaded by spring force.

Opening of the actuators is strictly forbidden.
Danger to life!

Actuators which are no longer used and / or defective must be disposed in professional manner.

Defective actuators must be returned to your SPX FLOW contact for their professional disposal and free of charge for you.

Please address to your local SPX FLOW representative.

3. Intended Use

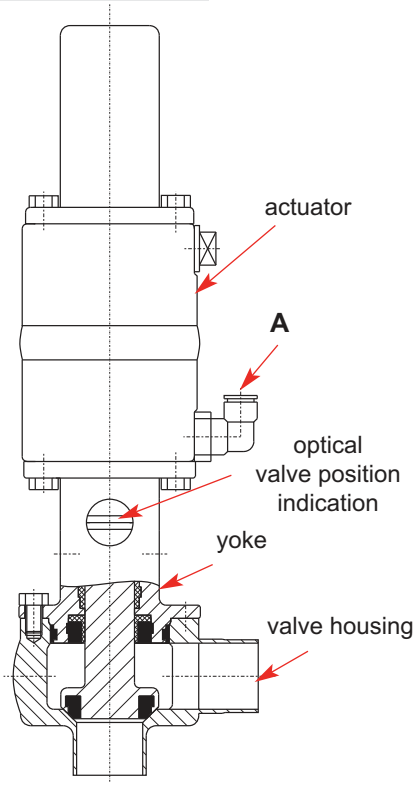
The application of the DELTA SWmini4 single seat valve is the shut-off and change-over of line sections.

Arbitrary structural changes at the valve will affect the safety and the intended functionality of the valve and are **not** permissible.

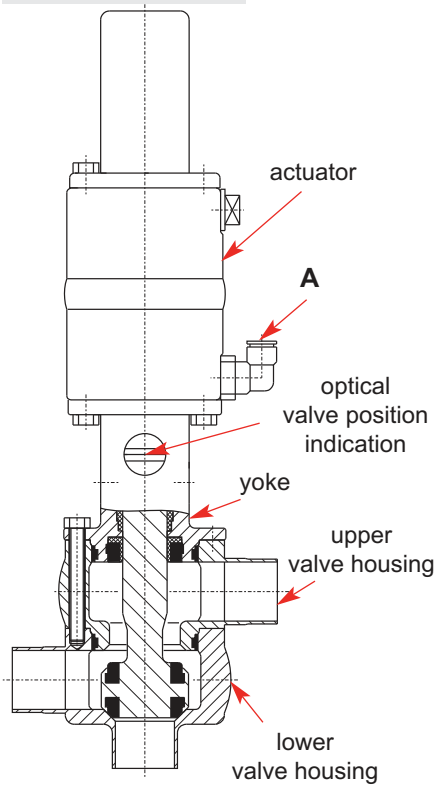
Approvals and External Evaluations:
3-A Sanitary Standards, Inc.

4. Mode of Operation

Shut-off valve



Change-over valve



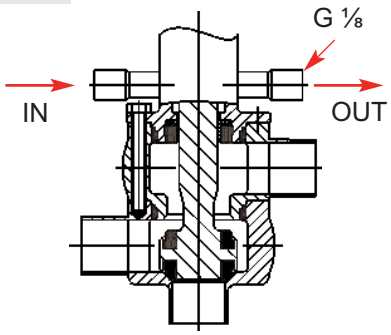
4.1. General terms

The Shut-Off and Change-Over Valves DELTA SWmini4 (DN10, 15, 20) have been developed for the use in the brewing and beverage industries, in dairy and food applications as well as for the chemical and pharmaceutical industries.

The valves are designed for universal applications and stand out for their increased mechanical reliability and absolute ease of handling.

- Operation by pneumatic actuator with air connection at **(A)**, reset by spring force.
- By different assembly of the actuator, the following designs are possible:
  NC (**FS**): actuator normally closed (air-to-raise, spring-to-lower)
  NO (**FH**): actuator normally open (air-to-lower, spring-to-raise)
  (illustrations show NC design)
- The inner parts of the actuator are maitenance-free.
- The standard valves are manufactured without support for proximity switches.
- The valve position is indicated optically in the yoke area. Indication in the upper yoke bore:
  Valve position closed NC (FS).
- A valve design with steam chamber **(fig. 4.2.)** is available. During the process, the steam chamber is made subject to creeping steam. Abduction of germs into the product-wetted area is prevented by this means.

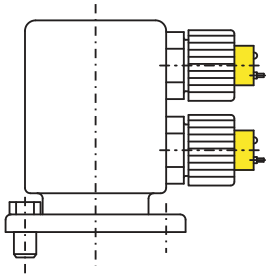
fig. 4.2.



5. Auxiliary Equipment

5.1. Valve position indication

fig. 5.1.



- A proximity switch holder for the limit position **NC** or **NO** of the valve shaft can be installed directly on the actutor.

- We recommend to use our APV standard types: operating distance: 4 mm / diameter: 11 mm.

  If the operator decides to use valve position indicators other than APV type, we cannot take over any guarantee for a faultless function.

5.2. Control Unit (fig. 4.2)

Units with feedback switch and solenoid valve for the pneumatic control of the valve to be installed at the actuator are available in fieldbus technology.

For the start-up, assembly and disassembly of the different designs, please refer to the different operating manuals.

The following different designs are available:

fig. 5.2.

Control Unit CU4

Control Unit CU3

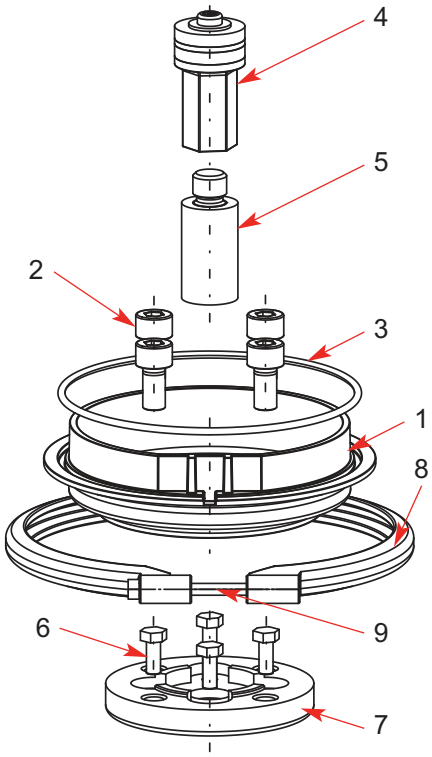
CU4 - Direct Connect ref.-No.; ID-No.	CU41 - S - Direct Connect 08-45-100/93; H320460
CU4 - AS-interface 62 Slaves ref.-No.; ID-No.	CU41 - S - AS-i extended 08-45-110/93; H320467
CU4 - AS-interface 31 Slaves ref.-No.; ID-No.	CU41 - S - AS-i standard 08-45-250/93; H324674
CU3 - Profibus ref.-No.; ID-No.	CU31-Profibus 08-45-001/93; H315495
CU3 - Device Net ref.-No.; ID-No.	CU31 Device Net 16-31-240/93; H209422

5.3. Adapter for Control Unit

- For the assembly of the Control Unit on the SWmin 4 valve, two adapters are required.

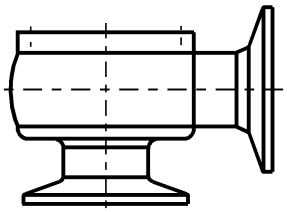
Adapter	
Designation ref.-No.; ID-No.	CU4-Smini - adapter complete 000 08-48-613/93; H321989
Designation ref.-No.; ID-No.	CU3 adapter complete 000 08-48-415/93; H209430
Designation ref.-No.; ID-No.	CU3 adapter SWmini4 000 08-48-355/93; H207570

5. Auxiliary Equipment



5.4.	Single parts CU4-Smini - adapter	
Pos.	**Designation**	**ref.-No. ID-No.**
1	CU4 S-adapter	000 08-46-570/93 H319874
2	Cylinder screw M8X16 ISO 4762 with hexagon socket	000-65-05-120/13 H79012
3	O-ring 101,27-2,62	000-58-06-493/83 H148389
4	CU4-solenoid cam complete	000 08-60-900/93 H320479
5	Guide rod prolongation CU SWmini4 10-20	000 15-26-070/93 H208096
6	Hexagon screw M5x12	000 65-01-033/15 H78737
7	CU3 adapter SWmini4	000 08-48-355/93 H207570
8	CU4 clamp halves complete	000 08-46-569/93 H319873
9	Cylinder screw ISO 4762 M4x40 hexagon socket	000 65-05-040/13 H320360

valve housing
with clamp connection



5.5. Housing connections:
clamp connections acc. to ISO 2852
The valves can be supplied complete with clamp connections.
The combination of weld ends and clamp connections is possible.

6. Cleaning

6.1. Cleaning recommendation

The valve passage is cleaned by the cleaning liquid during the cleaning of the connected pipeline.

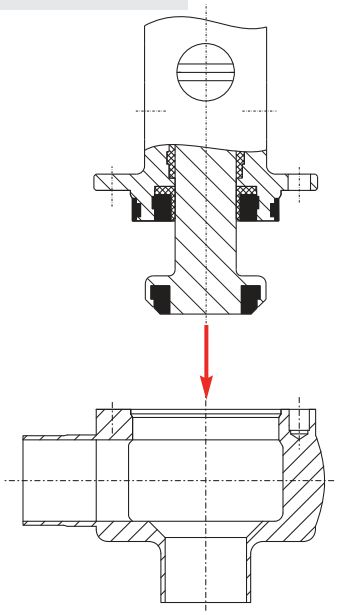
The valve design with actuator is especially suited for CIP-cleaning (Cleaning-In-Place). Optimum cleaning is guaranteed if, during the cleaning process, the valve seat is driven through the actuator into the open position or opened in intervals.

Cleaning liquids, times and processes are to be adjusted for the individual application depending on the degree and constituents of soiling.

The compatibility of the individually selected cleaning process and liquid with the respectively used seals must be verified.

7. Installation

Shut-off valve



7.1. General terms

- Installation has to be done in such a way that fluids can drain off the valve housing and is preferably to be realized in vertical position.

7.2. Shut-off valve SWmini41 / 42:

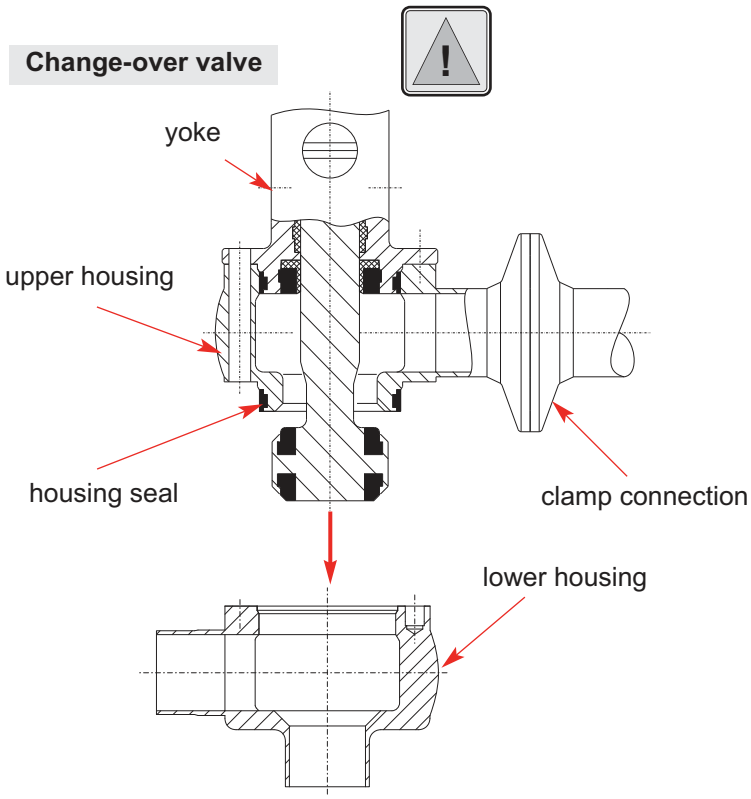
The valve housings can be welded direct into the pipeline (completely dismantable valve insert with actuator).

7.3. Change-over valve SWmini 43 / 44:

One or two detachable connections e.g. (clamps, etc.) must be assembled to the ports of the upper housing to provide for disassembly (e.g. for seal replacement).

- The position of the medium and upper housing ports to each other can be mounted staggered by 90° through the screw connection.

Change-over valve



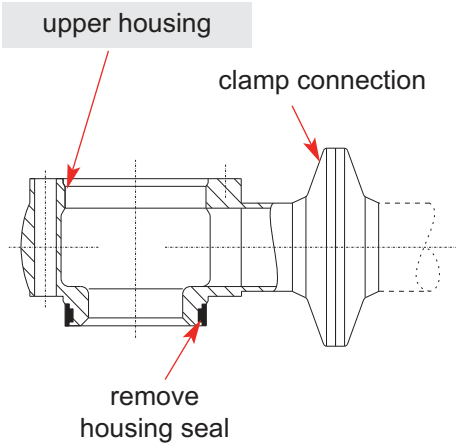
Attention: Observe Welding Instructions!

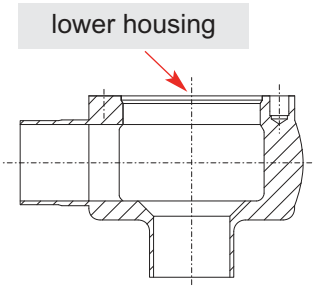
7. Installation

7.4. Welding Instructions

7.4.1. Shut-off valve SWmini41 / 42

- Before welding of the valves, remove the valve insert from the housing (see chapter 12.1. 3. - 4.).
  See to a careful handling of the parts to avoid damage.





7.4.2. Change-over valve SW mini 43 / 44

- The lower housing part **(1)**, only, can be welded direct into the pipe system.
  Before welding of the lower housing, partly dismantle the valve (see chapters 13.1. 4. - 5. and 13.2. 1. - 4.).
  Remove the lower housing seal from the upper housing.
  Provide the upper housing and the upper pipeline with detachable connections (flange, clamps, etc.).

  See to a careful handling to avoid damage to the parts.

- Welding may only be carried out by certified welders (DIN EN ISO 9606-1). (Seam quality DIN EN ISO 5817).

- The welding of the valve housings must be undertaken in such a way that deformation strain cannot be transfered from the outside to the valve body.

- The preparation of the weld must be carried out in butt manner as a square butt joint without air.
  (Consider shrinkage!)

- TIG orbital welding is best!

- After welding of the valve housings or of the mating flanges and after work at the pipelines, the corresponding parts of the installation or pipelines must be cleaned from welding residues and soiling. If these cleaning instructions are not observed, welding residues and dirt particles can settle in the valve and cause damage.

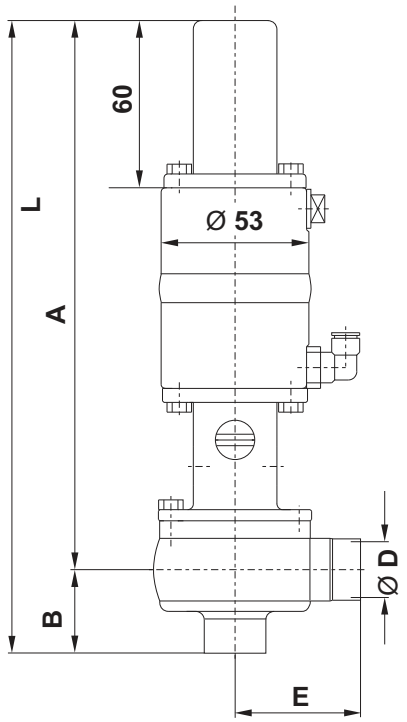
- Any damage resulting from the nonobservance of these welding instructions is not subject to our guarantee.

- Welding directives for aseptic applications shall be drawn from the AWS/ANSI Directives and EHEDG Guidelines.

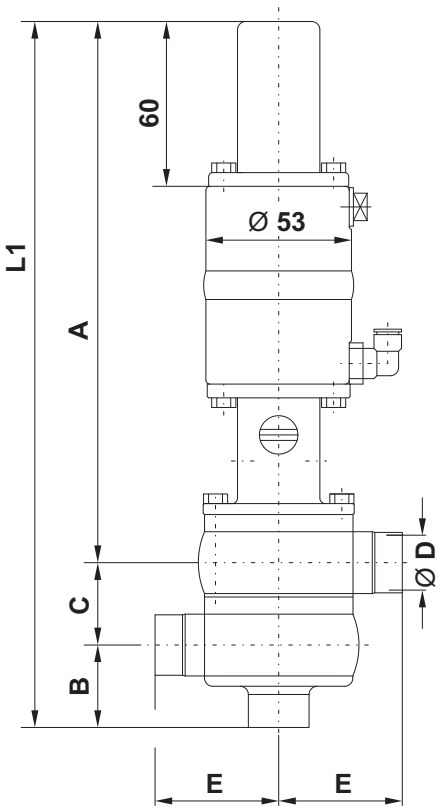
8. Dimensions / Weights

8.1. SWmini4

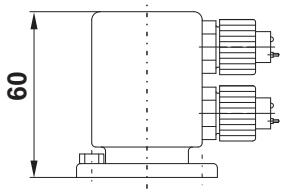
Shut-off valve SWmini 41, 42



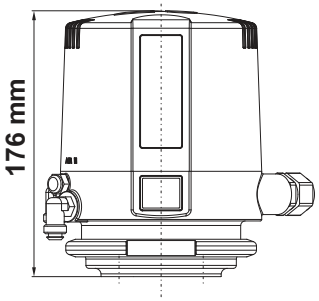
Change-over valve SWmini 43, 44



Proximity switch holder

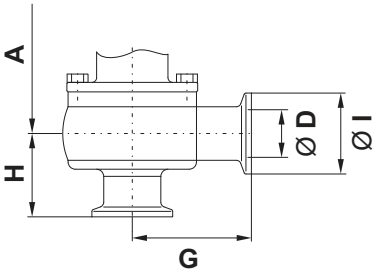


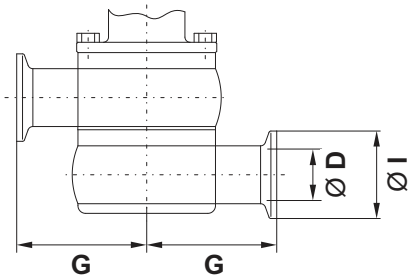
Control Unit CU 4

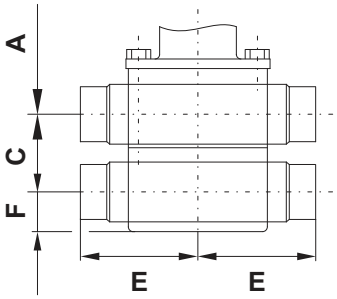


SWEmini4 design

SWmini with clamp port







Dimensions in mm											
DN	**A**	**B**	**C**	**Ø D**	**E**	**F**	**G**	**H**	**Ø I**	**L**	**L 1**
10	192	25	20	10	45	10	50	30	34	217	237
15	195	28	26	16	45	13	50	33	34	223	249
20	197	30	30	20	45	15	50	35	34	227	257
Inch											
1/2”	192	25	20	9,4	45	10	50	30	25	217	237
3/4”	195	28	26	15,75	45	13	50	33	25	223	249
1”	197	30	30	22,6	45	15	50	35	50,5	227	257

8. Dimensions / Weights

Weights in kg					
DN	SWmini 41, 42 with weld end	SWmini 43, 44 with weld end		SWmini 41, 42 with clamp port	SWmini 43, 44 with clamp port
10	1,55	1,8		1,6	1,9
15	1,6	1,9		1,65	2,0
20	2,1	2,1		1,8	2,3

8.2. Housing variants

SWmini 41

SWmini 42

SWmini 43

SWmini 44

SWEmini 41

SWEmini 42

SWEmini 43

SWEmini 44

9. Technical Data

9.1. General data

- max. line pressure : **5 bar**
- max. operating temperature : **135° C EPDM, HNBR * VMQ, * FPM**
- short-term load : **140° C EPDM, HNBR * VMQ, * FPM * (no steam)**
- Actuator
  min. pneumatic pressure : **6 bar**
  max. pneumatic pressure : **10 bar**
- Air connection (for hose) : **6 x 1mm standard ¼“ option**
- Steam connection : **G1/8**

9.2. Compressed air quality: Quality class acc. to DIN ISO 8573-1

content of solid particles: quality class 3
max. size of solid particles per m³
10000 of 0,5µm <d<1,0µm
500 of 1,0µm <d<5,0µm

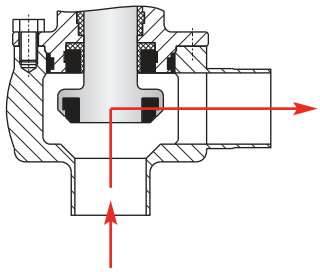
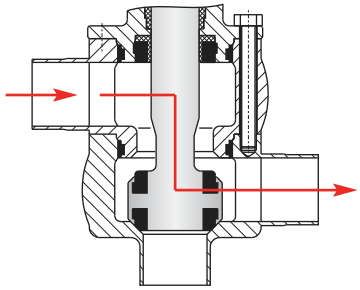
content of water: quality class 4
max. dew point temperature + 3°C
For installations at lower temperatures or at higher altitudes, additional measures must be considered to reduce the pressure dew point accordingly.

content of oil: quality class 1
max. 0,01mg/m³

The oil applied must be compatible with Polyurethane elastomer materials.

9.3.	Valve stroke and Closing pressure			
	Shut-off valve SWmini 41, 42		Change-over valve SWmini 43, 44	
DN	stroke in mm	closing pressure in bar	stroke in mm	closing pressure in bar
10	4	8	5	8
15	7	8	7	8
20	7	6,5	7	6,5

9. Technical Data

9.4.	Flow rates kvs in m^3/h	
	Shut-off valve	**Change-over valve**
		
DN		
10	2,7 m^3/h	2,5 m^3/h
15	7,0 m^3/h	5,0 m^3/h
20	9,0 m^3/h	7,5 m^3/h

10. Materials

Product-wetted parts

- housing, upper housing, yoke
  valve shaft: **1.4404 (DIN EN 10088)**

Other parts

- actuator, actuator screw, centering washer
  screws, guide rod, nuts: **1.4301 (DIN EN 10088)**
- cover, lid,
  proximity switch holder: **PA 12 black**

Seals

- housing seals: **EPDM**
  option: **FPM, VMQ, HNBR**

- shaft seal: **EPDM / PTFE**
  option: **VMQ / PTFE**
  FPM / PTFE
  HNBR / PTFE

- Actuator seal: **quadring NBR**
  o-ring NBR

- Guide bush: **PTFE**

11. Maintenance

- The **maintenance intervals** depend on the corresponding application and are to be determined by the operator himself carrying out **temporary checks**.

- Required tools:
- 1x spanner SW 8
- 1x spanner SW 13
- 1x spanner SW 17
- 1x spanner SW 19

- For the valve service complete seal kits are supplied (see pare parts lists).
  The appropriate grease is included in the scope of supply of a complete seal kit.

- Exchange of seals is done according to service instructions.

- Assembly of the valve and change of valve design **NC (FS)** or **NO (FH)**, see service instructions.

- Installation of actuator, see service instructions.

- The inner parts of the actuator are maintenance-free.

- **Slightly grease all seals before their installation.**
  Attention! Use only those greases being suited for the respective seal material !

  Recommendation:
  APV assembly grease for EPDM, FPM, HNBR and NBR
  (0,75 kg/ tin - ref.-No. 000 70-01-019/93)
  (60 g/ tube - ref.-No. 000 70-01-018/93)
  or
  APV assembly grease for VMQ (Silicone)
  (0,6 kg/ tin - ref.-No. 000 70-01-017/93)
  (60 g/ tube - ref.-No. 000 70-01-016/93)

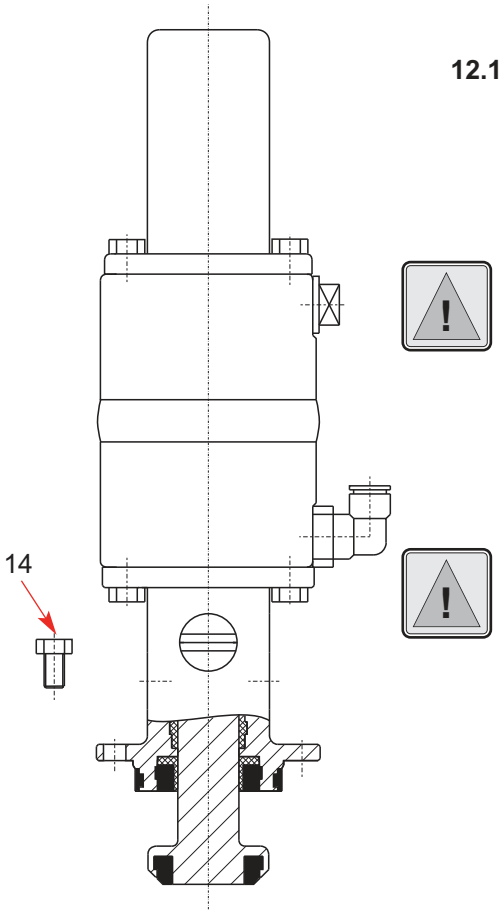
!!! Do not use grease containing mineral oil for EPDM seals !!!
!!! Do not use Silicone-based grease for VMQ seals !!!

Assembly tool for seat seal
To simplify the installation of the seat seal in the valve shaft, the following assembly tools are available.

Assembly tool for SWmini 41 / 42 / 43 / 44	
DN	reference No., ID-No.
10, 15	000 51-13-052/17; H314147
20	000 51-13-050/17; H207967

12. Service Instructions - Shut-off valve

Shut-off valve DELTA SWmini4



The item numbers refer to the corresponding spare parts lists
SWmini 41-44, SWEmini41- 44 FS/FH - VSM, CU
RN 01.054.815 / RN 01.054.816

12.1. Dismantling from the line system

1. Shut off line pressure and discharge lines if possible.

2. **Valve design with steam chamber:**
- **Shut off steam supply. Separate connection only afterwards.**

Attention:
Risk of injury by hot components.

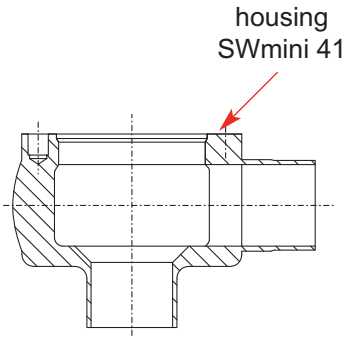
3. Detach electric connections.
- Proximity switches at the proximity switch holder.
- Control Unit, see operating manual.

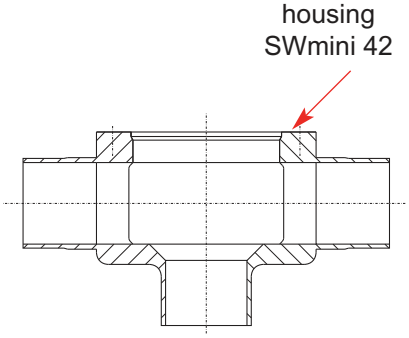
4. **Valve design NC : Control actuator with air.**

Do not touch movable parts!
Risk of injury by sudden valve operation.

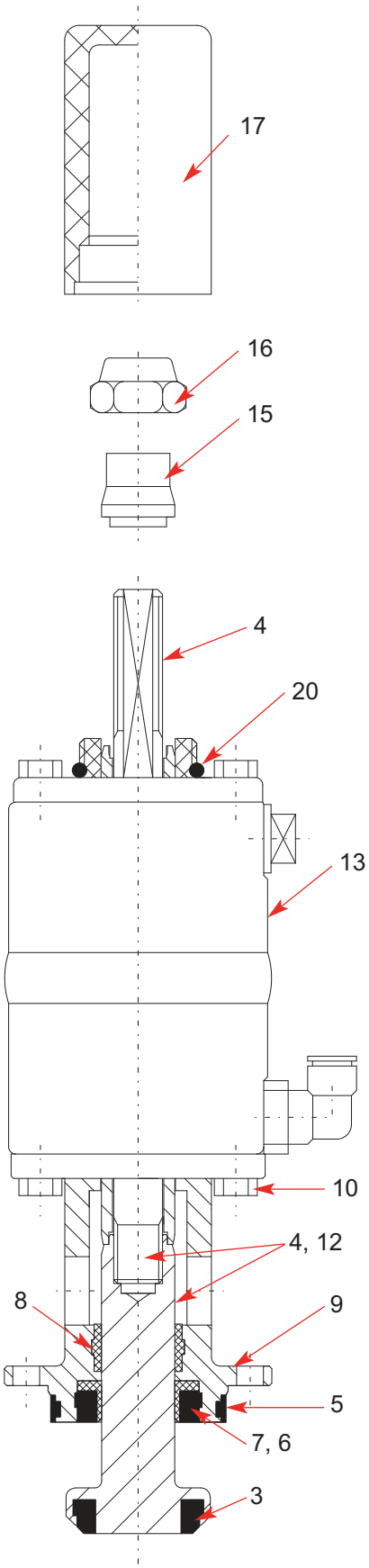
5. Remove screws **(14) M5x12.**
Withdraw the insert from the housing .

6. Cut off compressed air and remove compressed air supply.





12. Service Instructions - Shut-off valve



12.2. Dismantling of wear parts

1. Remove the covering cap **(17)**.
- **Valve design with proximity switch holder:**
  Remove proximity switch holder **(18)** and actuator screw **(19)**.
- **Valve design with control unit:**
  Remove cover, actuator screw and guide rod extension **(24)**.
  Remove the control unit.

2. Unscrew the safety nut **(16)** while holding up the centering washer **(15)**, take off centering washer.

3. Withdraw the valve shaft **(4)** with guide rod **(12)** to the bottom.

4. Separate the yoke **(9)** from the actuator **(13)** by releasing the hex. screws **(10)**.
   Remove the washer **(11)** from the yoke.

5. Remove the o-ring **(20)**.

6. Take off the seat seal **(3)** by means of a pointed object from the valve shaft.

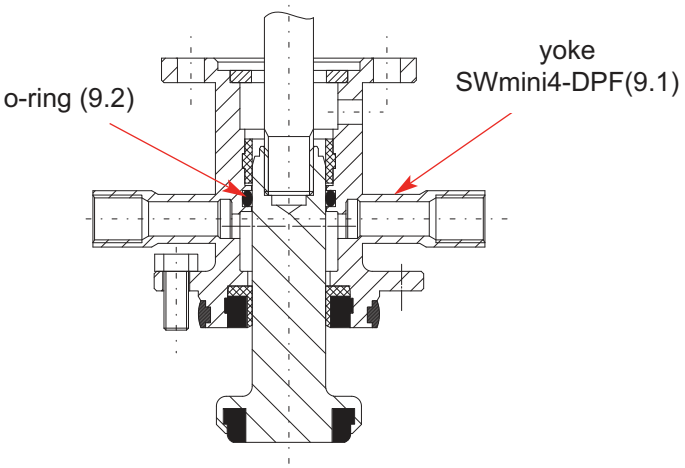
7. Remove the housing seal **(5)**.

8. Dismantle guide bush **(8)**, seat seal **(7)** and shaft seal **(6)** from the yoke.

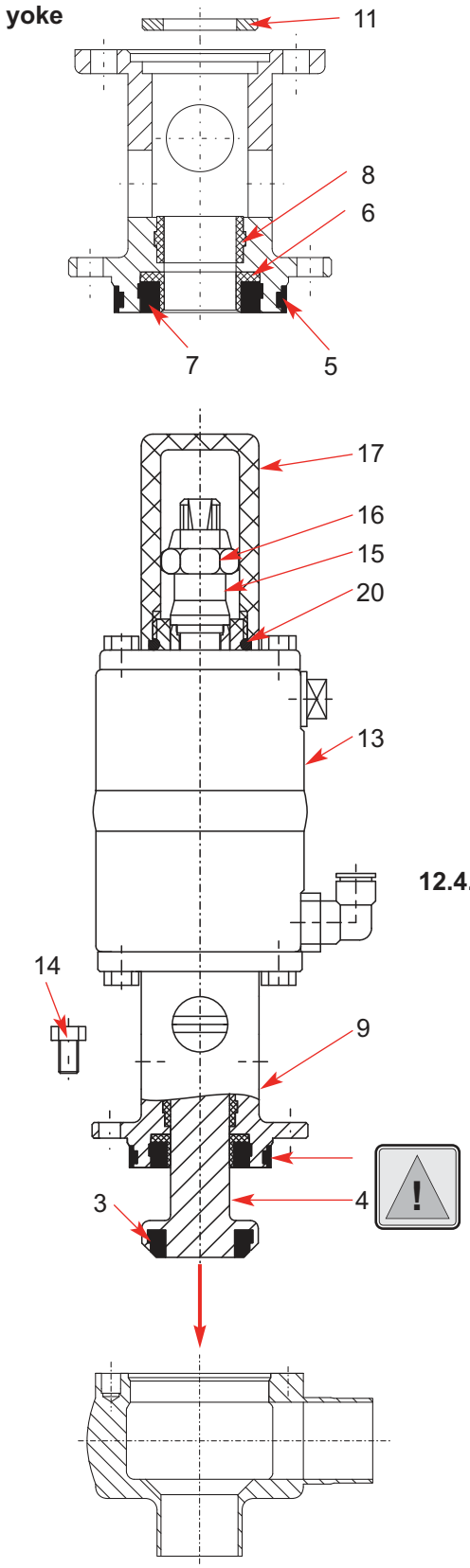
! Replacement of actuator seals, see **chapter 14**. Service Instructions - Actuator.

9. In the design with steam chamber, the standard yoke is replaced by the yoke **(9.1)** with steam connections.
   Additionally, one o-ring **(9.2)** is required.

Illustration SWmini4-DPF(steam)



12. Service Instructions - Shut-off valve



12.3. Installation of wear parts

1. Insert the guide bush **(8)** into the yoke **(9)**.
   Insert the shaft seal **(6)** and press in the slightly greased seat seal **(7)**.
   See to the correct mounting direction.

2. Slightly grease the housing seal **(5)** and insert it into the groove of the yoke.

3. Install the seat seal **(3)** by means of the assembly tool **(see item 15.)** in the valve shaft **(4)**.

4. Place the washer **(11)** in the yoke **(9)**.
   Mount the yoke at the actuator **(13)**.

5. Slide the valve shaft **(4)** through the yoke **(9)** and the actuator **(13)**, place the centering washer **(15)** and tighten it with the safety nut **(16)**. Hold up the centering washer during this process.

6. Insert the o-ring **(20)** in the actuator cover.

7. Fasten the covering cap **(17)**.
- **Valve design with proximity switch holder:**
  Fasten actuator screw **(19)** and proximity switch holder **(18)**.
- **Valve design with control unit:**
  Fasten control unit (without cover).
  Fasten guide rod extension **(24)** and actuator screw.
  Tighten the cover.

12.4. Assembly of valve

1. Carefully place the valve insert in the housing and slightly screw the hex. screws **(14) M5x12** in the threaded bore (do not tighten).
   The housing seal **(5)** must not be damaged during this process.

2. Connect compressed air supply.

3. **Valve design NC:** **control actuator with air.**

   Do not reach for movable valve parts!
   Risk of injury by sudden valve actuation.

4. Tighten the hex. screws **(14)**.

5. Disconnect pneumatic air.

6. Connect electric connections.
- Plug proximity switches in their holders and fasten them.

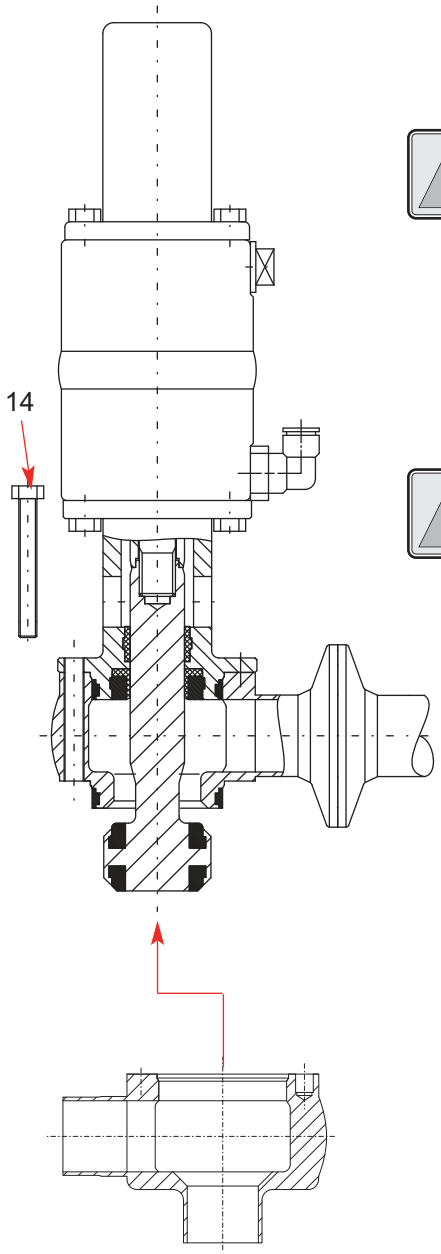
7. Valve design with steam chamber:
   Produce connections.

13. Service Instructions - Change-over valve

The item numbers refer to the corresponding spare parts lists
SWmini 41-44, SWEmini41- 44 FS/FH - VSM, CU
RN 01.054.815 / RN 01.054.816

change-over valve DELTA SWmini4

13.1. Disassembly from line system



1. Shut off line pressure and discharge lines if possible.

2. **Valve design with steam chamber:**
- **Shut off steam supply. Separate connection only afterwards.**

Attention:
Risk of injury by hot components.

3. Release clamp and flange connection at the upper housing.

4. Detach electric connections.
- Proximity switch from holder.
- Control Unit, see operating manual.

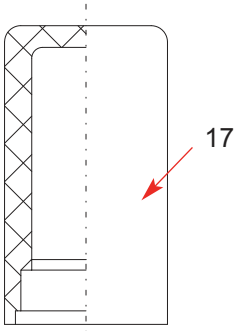
5. **Valve design NC: control actuator with air.**

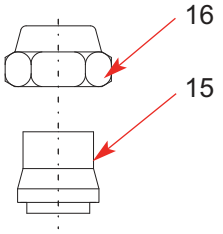
Do not reach for movable parts!
Risk of injury by sudden valve actuation.

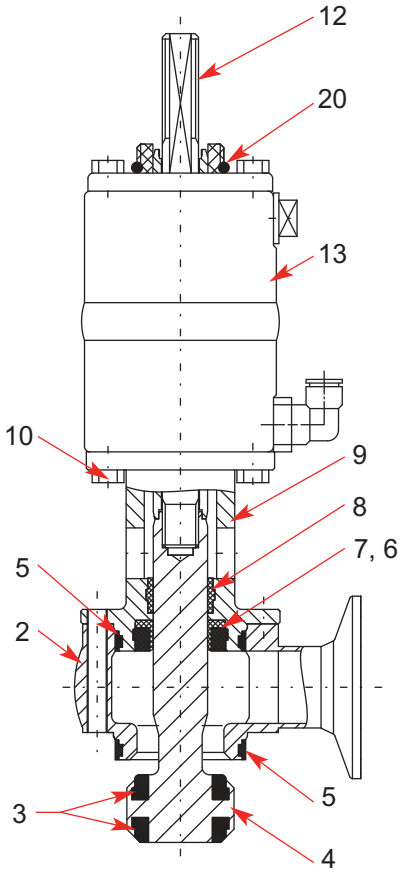
6. Remove the hex. screws **(14) M5x40**.
Withdraw the valve insert with the upper housing from the lower housing.

7. Cut off compressed air and remove compressed air supply.

13. Service Instructions - Change-over valve







13.2. Dismantling of wear parts

1. Remove the covering cap **(17)**.
- **Valve design with proximity switch holder:**
  Remove proximity switch holder **(18)** and actuator screw **(19)**.
- **Valve design with control unit:**
  Remove cover, actuator screw and guide rod extension **(24)**.
  Remove the control unit.

2. Unscrew the safety nut **(16)** while holding up the centering washer **(15)**, take off centering washer.

3. Withdraw the valve shaft **(4)** with guide rod **(12)** to the bottom.

4. Withdraw upper housing **(2**) and remove the housing seal **(5)**.

5. Separate the yoke **(9)** from the actuator **(13)** by releasing the hex. screws **(10)**.
   Remove the washer **(11)** from the yoke.

6. Remove the o-ring **(20)**.

7. Take off the seat seal **(3)** by means of a pointed object from the valve shaft **(4)**.

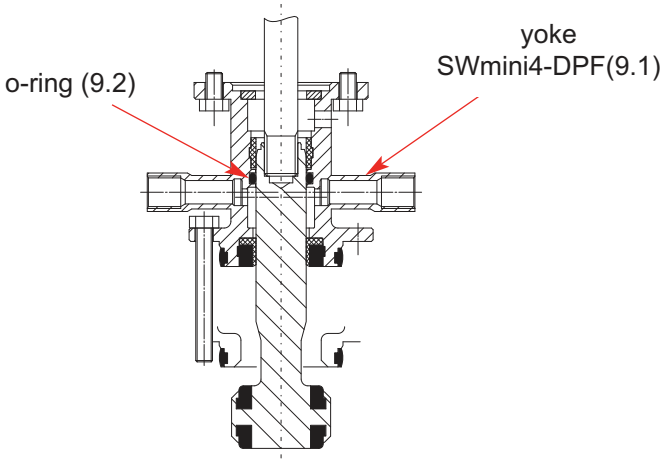
8. Remove the housing seal **(5)** from the yoke **(9)**.

9. Dismantle the guide bush **(8)**, seat seal **(7)** and shaft seal **(6)** from the yoke.

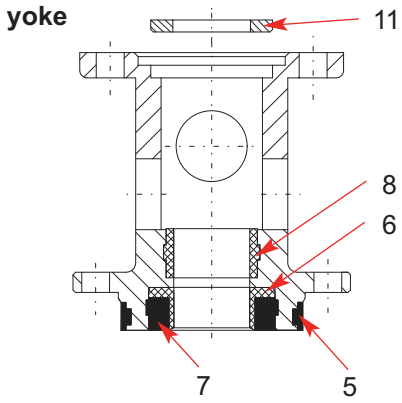
! Replacement of actuator seals, see **chapter 14.** Montageanweisung Steuerkopf.

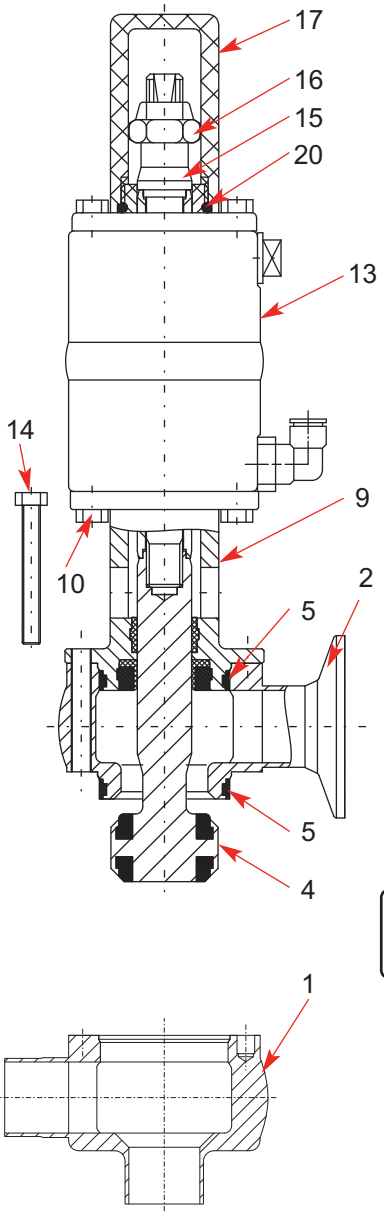
10. In the design with steam chamber, the standard yoke is replaced by the yoke **(9.1)** with steam connections.
    Additionally, one o-ring **(9.2)** is required.

Illustration SWmini4-DPF (steam)



13. Service Instructions - Change-over valve





13.3. Installation of wear parts

1. Insert the guide bush **(8)** into the yoke **(9)**.
   Insert the shaft seal **(6)** and press in the slightly greased seat seal **(7)**.
   See to the correct mounting direction.

2. Slightly grease the housing seals **(5)** and insert them into the groove of the yoke **(9)** and of the upper housing **(2)**.

3. Install the seat seal **(3)** by means of the assembly tool **(see chapter 15.)** in the valve shaft **(4)**.

4. Place the washer **(11)** in the yoke **(9)**.
   Mount the yoke to the actuator **(13)**.

5. Press the yoke with actuator in the upper housing **(2)**.
   Attention: Do not damage the housing seal **(5)**.
   Observe bore positions of housing and yoke.

6. Slide the valve shaft **(4)** through the housing **(2)**, yoke **(9)** and actuator **(13)**, place the centering washer **(15)** and tighten it with the safety nut **(16)**. Hold up the centering washer during this process.

7. Insert the o-ring **(20)** in the actuator cover.

8. Fasten the covering cap **(17)**.
- **Valve design with proximity switch holder:**
  Fasten actuator screw **(19)** and proximity switch holder **(18)**.
- **Valve design with control unit:**
  Fasten control unit (without cover).
  Fasten guide rod extension **(24)** and actuator screw.
  Tighten the cover.

13.4. Assembly of valve

1. Carefully place the valve insert in the housing **(1)**. Check the correct fit of the seal of the clamp or flange connection at the upper housing during this process.
   Attention: The housing seal **(5)** must not be damaged during this process.

2. Slightly screw the hex. screws **(14) M5x40** in the threaded bores (do not tighten).

3. Connect compressed air supply.

4. **Valve design NC: control actuator with air.**
   Do not reach for movable valve parts!
   Risk of injury by sudden valve operation.

5. Tighten the hex. screws **(14)**.

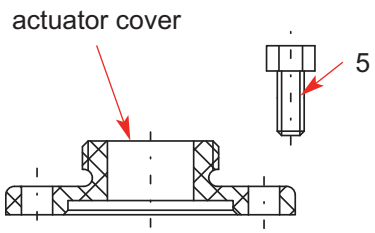
6. Disconnect pneumatic air.

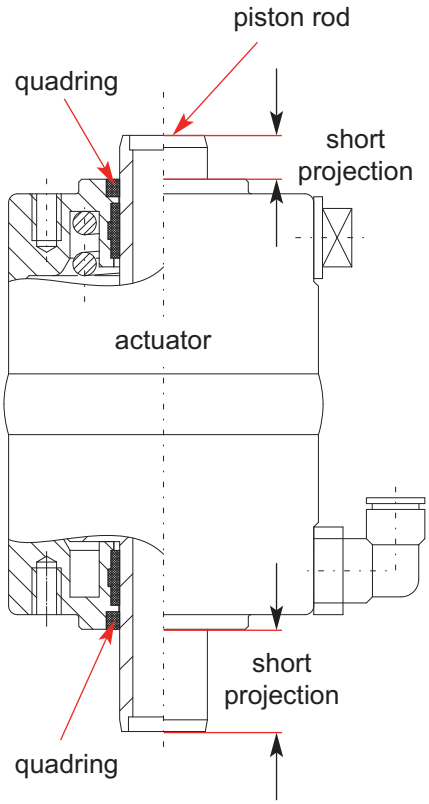
7. Firmly tighten clamp and flange connections.

8. Connect electric connections.
- Plug proximity switches in their holders and fasten them.

9. Valve design with steam chamber: Produce connections.

14. Service Instructions - Actuator





14. Actuator

The item numbers refer to the corresponding spare parts lists
Actuator: **RN 01.054.88**

14.1. Disassembly

Attention:
Before starting the disassembly, see to the valve design NC or NO.

1. Release hex. screws **(5)** and remove actuator cover **(2)** or adapter SWmini4 **(21)** from actuator **(13)**.

2. Remove quadrings **(6)** from the grooves.

14.2. Assembly

1. Provide quadrings **(6)** with a thin grease layer and press them in the seal grooves.

2. Fasten actuator cover or SWmini4 adapter on the actuator by means of the hex. screws **(5)**.

Attention: **Observe valve design NC or NO.**

- **short projection of piston rod = design NC**
- **long projection of piston rod = design NO**

14.3. Change of valve position NC/NO

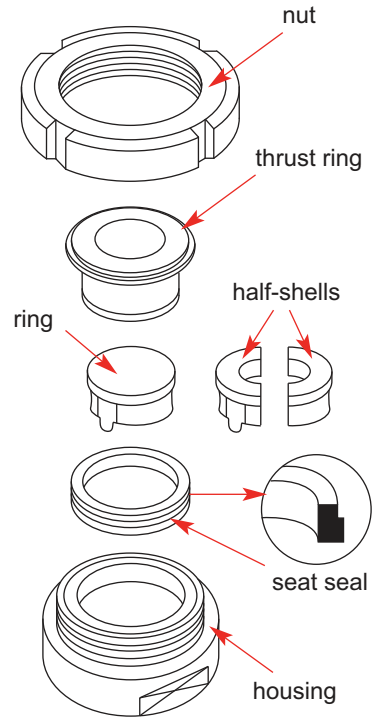
By turning the actuator by 180° the required design NC or NO can be determined.

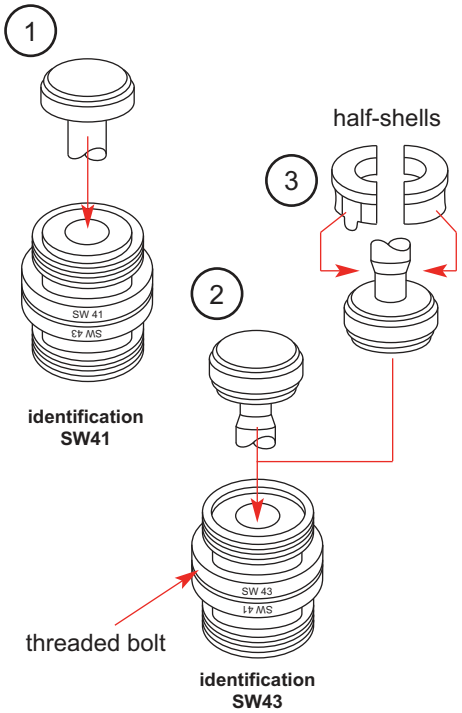
NC (FS) = normally closed (air-to-raise, spring-to-lower)
NO (FH) = normally open (air-to-lower, spring-to-raise)

Crucial for the reconstruction is the assembly of the actuator cover.
Assembly of actuator cover:

- **short projection of piston rod = design NC (FS)**
- **long projection of piston rod = design NO (FH)**

15. Assembly Tool - Seat seal





The assembly tool consists of:

- nut
- thrust ring
- ring with venting nose
  (to be used for the installation of the seat seal in position (1) + (2) see illustration).
- two half-shells, one with venting nose
  (to be used for the installation of the seat seal in position (3) see illustration).
- housing
- threaded bolt

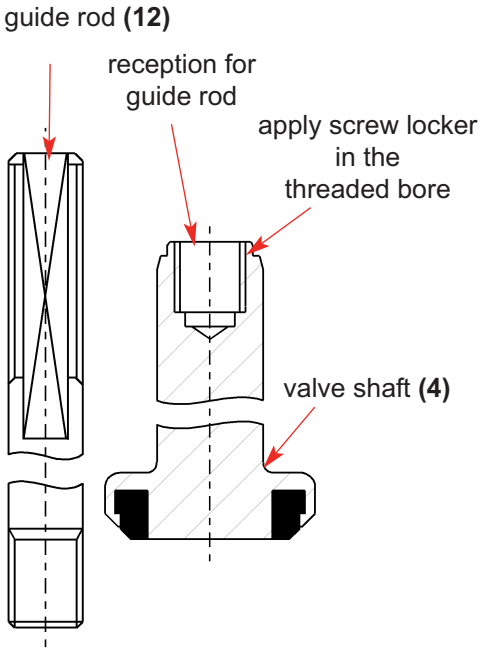
Installation of seat seal in valve shaft

1. Insert the valve shaft in the housing in such a way that the seal groove is in the housing.
2. Clamp the shaft in the housing by means of the threaded bolt (observe the corresponding design SW41 or SW43). Clamp the housing in a vice.
3. **Installation (1) + (2)**
   Provide the seat seal with a thin layer of APV assembly grease. Place the seal on the ring with venting nose until it stops. Introduce the ring with the installed seat seal in the housing and press it down to a sensible stop.
4. **Installation (3)**
   Provide the seat seal with a thin layer of APV food-grade grease. Place the two half-shells around the reduced shaft and slide the seat seal over the shaft and over the half-shells.
5. Slide the thrust ring on the seat seal. Screw on the groove nut and tighten it with a hook spanner until it stops.
6. Release the groove nut. Take thrust ring and ring (half-shells) off the housing.
7. Take housing out of the vice.
8. Unscrew threaded bolts. Take valve shaft from the housing.

Check the even fit of the seat seal.

Assembly tool for SWmini 41 / 42 / 43 / 44	
DN	reference No., ID-No.
10, 15	000 51-13-052/17; H314147
20	000 51-13-050/17; H207967

16. Instructions for replacement of guide rod



sketch 1

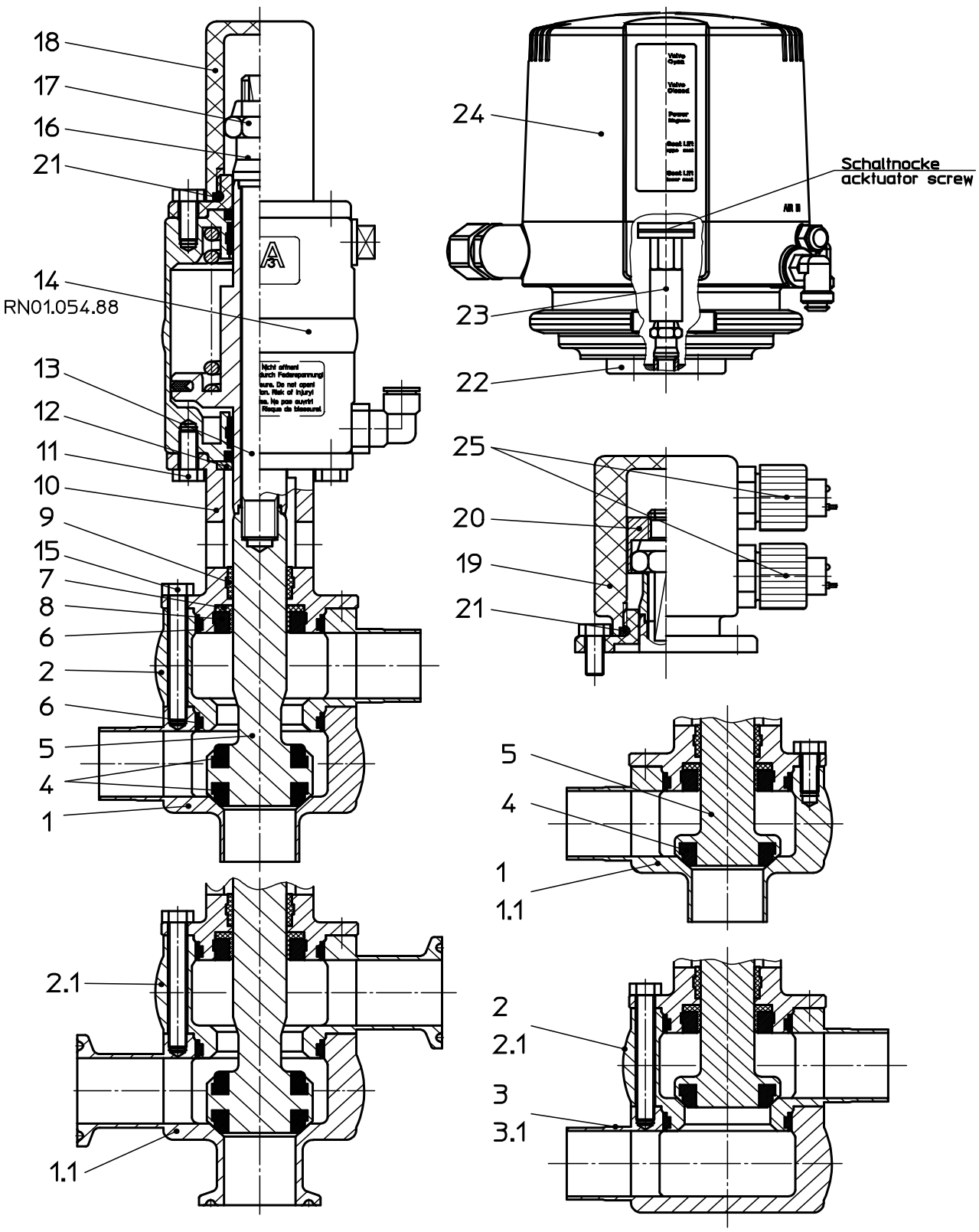
1. Unscrew the guide rod **(12)** from the lower valve shaft **(4)**.
2. Clean the valve shaft (remove grease and impurities).
3. Apply a drop of a screw locker (e.g. type: Loctite-semi-solid) in the area of the threaded bore of the lower valve shaft **(see sketch 1)**.
4. Clamp the valve shaft in a vice.
   Attention! **Use protective cover!**
5. Screw in guide rod and tighten it.

17. Trouble Shooting

Trouble	*Remedy*
Leakage between yoke and housing	Replace upper housing seal (5).
Leakage between upper and lower housing	Replace lower housing seal (5).
Leakage out of the lower yoke bore	Replace guide bush (8), shaft seal (6) and seat seal (7). ! Check surface of valve shaft, replace valve shaft if damaged (see instructions for replacement of guide rod).
Actuator	
Air escapes permanently at the upper und lower piston rod	Replace quadring (6).
Air escapes permanently from the venting plug	Replace complete actuator (13).
Design with steam chamber	
Steam comes out of the lower yoke bore	Replace guide bush (8) and o-ring (9.2).
Leakage in the steam line	Replace guide bush (8), shaft seal (6) seat seal (7) and o-ring (9.2).

18. Spare Parts Lists

(see annex)



Datum:	30.10.13	14.10.14								
Name:	Trytko	Trytko								
Geprüft:										

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 FS-CU und VSM / and PSH
DN 10,15,20 Schweißenden und Klemmverbindung / weld end and clamp connection
1/2", 3/4", 1" zoll -Klemmverbindung / inch -clamp connection

APV

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

Blatt 1 von 6

RN 01.054.815

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 FS-CU und VSM / and PSH

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connecion

Datum:	30.10.13	14.10.14		
Name:	Trytko	Trytko		
Geprüft:				

Datum:				
Name:				
Geprüft:				

APV
SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

RN 01.054.815

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
1	1	Gehäuse SWmini41 12S Housing	1.4404	3A0 15-60-193/43 H311874	3A0 15-60-194/43 H310384	3A0 15-60-195/43 H207011	3A0 15-60-193/43 H311874	3A0 15-60-194/43 H310384	
	1	Gehäuse SWmini42 123S Housing	1.4404	3A0 15-61-193/43 H311875	3A0 15-61-194/43 H310383	3A0 15-61-195/43 H208117	3A0 15-61-193/43 H311875	3A0 15-61-194/43 H310383	
1.1	1	Gehäuse SWmini41 12CL Housing	1.4404	3A0 15-60-189/43 H311876	3A0 15-60-190/43 H310492	3A0 15-60-191/43 H207886	3A0 15-60-239/43 H325653	3A0 15-60-240/43 H326796	3A0 15-60-241/43 H207730
	1	Gehäuse SWmini42 123CL Housing	1.4404	3A0 15-61-189/43 H311877	3A0 15-61-190/43 H310489	3A0 15-61-191/43 H208116	3A0 15-61-239/43 H325893	3A0 15-61-240/43 H330857	3A0 15-61-241/43 H208118
2	1	Gehäuse Oberteil SWmini43 1S Housing upper part	1.4404	3A0 15-62-182/43 H311878	3A0 15-62-183/43 H310382	3A0 15-62-185/43 H207010	3A0 15-62-182/43 H311878	3A0 15-62-183/43 H310382	
	1	Gehäuse Oberteil SWmin44 12S Housing upper part	1.4404	3A0 15-63-181/43 H311879	3A0 15-63-183/43 H310381	3A0 15-63-185/43 H208120	3A0 15-63-181/43 H311879	3A0 15-63-183/43 H310381	
2.1	1	Gehäuse Oberteil SWmini43 1CL Housing upper part	1.4404	3A0 15-62-193/43 H311880	3A0 15-62-194/43 H310490	3A0 15-62-195/43 H207887	3A0 15-62-196/43 H325652	3A0 15-62-197/43 H326797	3A0 15-62-184/43 H207731
	1	Gehäuse Oberteil SWmini44 12CL Housing upper part	1.4404	3A0 15-63-180/43 H311881	3A0 15-63-182/43 H310491	3A0 15-63-187/43 H208121	3A0 15-63-196/43 H325890	3A0 15-63-197/43	3A0 15-63-184/43 H208119
3		Gehäuse Unterteil SWEmini41,42 1S Housing lower part	1.4404	3A0 15-64-036/43 H331749	3A0 15-64-038/43 H331751	3A0 15-64-040/43 H209463	3A0 15-64-043/43 H331753	3A0 15-64-045/43 H331755	
		Gehäuse Unterteil SWEmini43,44 12S Housing lower part	1.4404	3A0 15-66-036/43 H331758	3A0 15-66-038/43 H331760	3A0 15-66-040/43 H209465	3A0 15-66-043/43 H331762	3A0 15-66-045/43 H331764	
3.1		Gehäuse Unterteil SWEmini41,42 1CL Housing lower part	1.4404	3A0 15-64-037/43 H331750	3A0 15-64-039/43 H331752	3A0 15-64-041/43 H209464	3A0 15-64-044/43 H331754	3A0 15-64-046/43 H331756	3A0 15-64-048/43 H331757
		Gehäuse Unterteil SWEmini43,44 12CL Housing lower part	1.4404	3A0 15-66-037/43 H331759	3A0 15-66-039/43 H331761	3A0 15-66-041/43 H209466	3A0 15-66-044/43 H331763	3A0 15-66-046/43 H331765	3A0 15-66-048/43 H331766
4	1	Tellerdichtung Schaft SWmini41, 42 SWEmini41-44 Seat seal for valve shaft	EPDM FDA-konform	58-33-168/93 H208440		58-33-243/93 H136203	58-33-168/93 H208440		58-33-243/93 H136203
	1	Tellerdichtung Schaft SWmini41, 42 SWEmini41-44 Seat seal for valve shaft	HNBR FDA-konform	58-33-168/33 H312726		58-33-243/33 H170179	58-33-168/33 H312726		58-33-243/33 H170179
	1	Tellerdichtung Schaft SWmini41, 42 SWEmini41-44 Seat seal for valve shaft	FPM FDA-konform	58-33-168/73 H312401		58-33-243/73 H136204	58-33-168/73 H312401		58-33-243/73 H136204
	1	Tellerdichtung Schaft SWmini41, 42 SWEmini41-44 Seat seal for valve shaft	VMQ FDA-konform	58-33-168/13 H312727		58-33-243/13 H136202	58-33-168/13 H312727		58-33-243/13 H136202

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 FS-CU und VSM / and PSH

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connecion

Datum:	30.10.13	14.10.14		
Name:	Trytko	Trytko		
Geprüft:				

Datum:				
Name:				
Geprüft:				

APV
SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

RN 01.054.815

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
4	2	Tellerdichtung Schaft Seat seal for valve shaft SWmini43, 44	EPDM FDA-konform	58-33-168/93 H208440		58-33-243/93 H136203	58-33-168/93 H208440		58-33-243/93 H136203
	2	Tellerdichtung Schaft Seat seal for valve shaft SWmini43, 44	HNBR FDA-konform	58-33-168/33 H312726		58-33-243/33 H170179	58-33-168/33 H312726		58-33-243/33 H170179
	2	Tellerdichtung Schaft Seat seal for valve shaft SWmini43, 44	FPM FDA-konform	58-33-168/73 H312401		58-33-243/73 H136204	58-33-168/73 H312401		58-33-243/73 H136204
	2	Tellerdichtung Schaft Seat seal for valve shaft SWmini43, 44	VMQ FDA-konform	58-33-168/13 H312727		58-33-243/13 H136202	58-33-168/13 H312727		58-33-243/13 H136202
5	1	Schaft Valve shaft SWmini41, 42 SWEmini41-44	1.4404	15-22-302/42 H311882	15-22-303/42 H310386	15-22-304/42 H207340	15-22-302/42 H311882	15-22-303/42 H310386	15-22-304/42 H207340
	1	Schaft Valve shaft SWmini43, 44	1.4404	15-22-307/42 H311883	15-22-306/42 H310385	15-22-305/42 H207009	15-22-307/42 H311883	15-22-306/42 H310385	15-22-305/42 H207009
6	1	Gehäusedichtung Housing seal SWmini41, 42	EPDM FDA-konform	58-33-267/93 H136432					
	1	Gehäusedichtung Housing seal SWmini41, 42	HNBR FDA-konform	58-33-267/33 H172124					
	1	Gehäusedichtung Housing seal SWmini41, 42	FPM FDA-konform	58-33-267/73 H136431					
	2	Gehäusedichtung Housing seal SWmini43, 44 SWEmini41-44	EPDM FDA-konform	58-33-267/93 H136432					
	2	Gehäusedichtung Housing seal SWmini43, 44 SWEmini41-44	HNBR FDA-konform	58-33-267/33 H172124					
	2	Gehäusedichtung Housing seal SWmini43, 44 SWEmini41-44	FPM FDA-konform	58-33-267/73 H136431					
7	1	Schaftdichtung Shaft seal	PTFE	3A0 58-33-147/23 H176677					
8	1	Tellerdichtung Seat seal	EPDM FDA-konform	58-33-243/93 H136203					
	1	Tellerdichtung Seat seal	HNBR FDA-konform	58-33-243/33 H170179					
	1	Tellerdichtung Seat seal	FPM FDA-konform	58-33-243/73 H136204					

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 FS-CU und VSM / and PSH

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connecion

Datum:	30.10.13	14.10.14		
Name:	Trytko	Trytko		
Geprüft:				

Datum:				
Name:				
Geprüft:				

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

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RN 01.054.815

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
8	1	Tellerdichtung Seat seal	VMQ FDA-konform	58-33-243/13 H136202					
9	1	Führungsbuchse Bushing	PTFE+ 25% Kohle	08-01-177/23 H162714					
10	1	Laterne Yoke	1.4404	3A0 15-40-281/43 H207491					
11	4	Skt. Schraube Hex. screw DIN EN 24014-A2-70	1.4301	65-01-033/15 M5x12 H78737					
12	1	Scheibe für Laterne Washer for yoke	1.4301	67-01-032/12 H208122					
13	1	Zugstange Guide rod	1.4305	15-23-849/12 H207339					
14	1	Steuerkopf Actuator	1.4301	3A0 15-32-079/13 H207492			3A0 15-32-080/13 H208025		
15	4	Skt. Schraube Hex. screw SWmini41, 42 DIN EN 24014-A2-70	1.4301	65-01-033/15 M5x12 H78737					
	4	Skt. Schraube Hex. screw SWmini43, 44 DIN EN 24014-A2-70	1.4301	65-01-038/15 M5x32 H78741	65-01-030/15 M5x35 H202330	65-01-029/15 M5x40 H207018	65-01-038/15 M5x32 H78741	65-01-030/15 M5x35 H202330	65-01-029/15 M5x40 H207018
16	1	Zentrierscheibe Centering washer	1.4301	15-28-941/12 H207336					
17	1	Skt. Mutter selbstsichernd Self-locking nut DIN EN ISO 10511 M10-A2-70	1.4301	65-50-091/15 H112373					
18	1	Abdeckhaube Cover	PA6 schwarz	15-02-172/93 H207638					
19	1	Initiator-Halterung Support for proximity switch	PA6 schwarz	15-33-936/93 H208065					
20	1	Schaltnocke Actuator screw	1.4523	08-52-288/12 H317669	08-52-289/12 H207012		08-52-288/12 H317669	08-52-289/12 H207012	
21	1	O-Ring O-ring 20,2x3	NBR	58-06-078/83 H76943					
22	1	CU4-Smini-Adapter CU4-Smini-adapter	PA6.6 GF30 schwarz	08-48-613/93 H321989					

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 FS-CU und VSM / and PSH

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connecion

Datum:	30.10.13	14.10.14		
Name:	Trytko	Trytko		
Geprüft:				

Datum:				
Name:				
Geprüft:				

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

RN 01.054.815

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
23	1	Zugstangenverlängerung Extension of guide rod	PA6 schwarz	15-26-070/93 H208096					
24	1	Control-Unit CU Control-Unit CU	PA6.6 GF30 schwarz	siehe Betriebsanleitung CU see manual CU					
25	1	Initiatorhalter ø11 Proximity switch holder	PA6.6 GF30 schwarz	15-33-918/93 H154913					
		Dichtungssatz / seal kit SWmini41 + 42 Pos. 4, 6, 7, 8, 9, 21 nur im kompletten Dichtungssatz erhältlich / item 4, 6, 7, 8, 9, 21 available as complete seal kits only							
	1	Dichtungssatz Seat kit	FPM	58-34-858/00 H319090	58-34-859/00 H328081	58-34-860/00 H325394	58-34-861/00 H311972	58-34-862/00 H311973	58-34-863/00 H325060
	1	Dichtungssatz Seat kit	EPDM	58-34-858/01 H208066	58-34-859/01 H208067	58-34-860/01 H208068	58-34-861/01 H208069	5834-862/01 H208070	58-34-863/01 H208071
	1	Dichtungssatz Seat kit	VMQ	58-34-858/02 H327211	58-34-859/02 H327212	58-34-860/02 H314144	58-34-861/02	58-34-862/02	58-34-863/02
	1	Dichtungssatz Seat kit	HNBR	58-34-858/06 H325243	58-34-859/06	58-34-860/06	58-34-861/06 H319100	58-34-862/06 H319101	58-34-863/06 H329475
		Dichtungssatz / seal kit SWmini43 + 44 Pos. 4, 6, 7, 8, 9, 21 nur im kompletten Dichtungssatz erhältlich / item 4, 6, 7, 8, 9, 21 available as complete seal kits only							
	1	Dichtungssatz Seat kit	FPM	58-34-864/00 H322972	58-34-865/00 H323669	58-34-866/00	58-34-867/00 H311974	58-34-868/00 H311975	58-34-869/00
	1	Dichtungssatz Seat kit	EPDM	58-34-864/01 H208141	58-34-865/01 H208142	58-34-866/01 H208143	58-34-867/01 H208144	58-34-868/01 H208145	58-34-869/01 H208146
	1	Dichtungssatz Seat kit	VMQ	58-34-864/02	58-34-865/02	58-34-866/02	58-34-867/02	58-34-868/02	58-34-869/02
	1	Dichtungssatz Seat kit	HNBR	58-34-864/06 H327743	58-34-865/06 H325751	58-34-866 H327060	58-34-867/06 H329476	58-34-868/06 H345523	58-34-869/06

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 FS-CU und VSM / and PSH

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connecion

Datum:	30.10.13	14.10.14		
Name:	Trytko	Trytko		
Geprüft:				

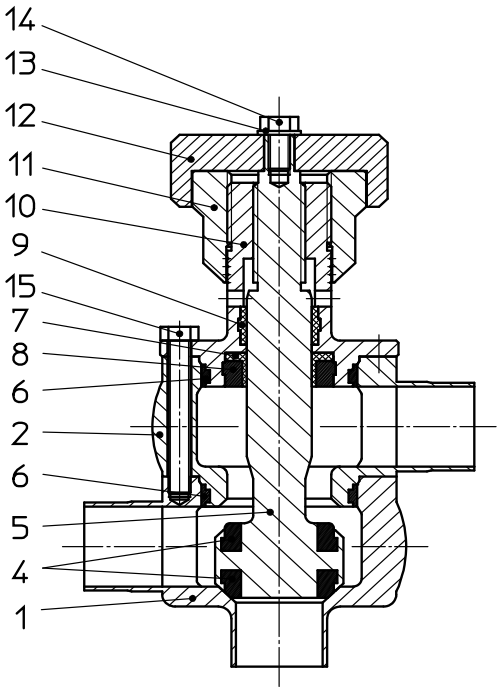
Datum:				
Name:				
Geprüft:				

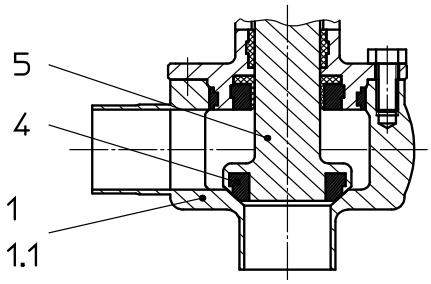
APV
SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

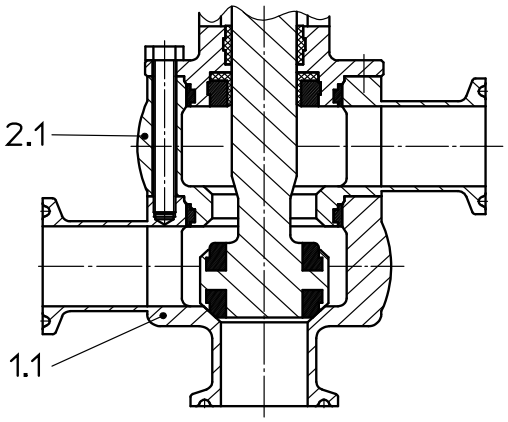
Blatt 6 von 6

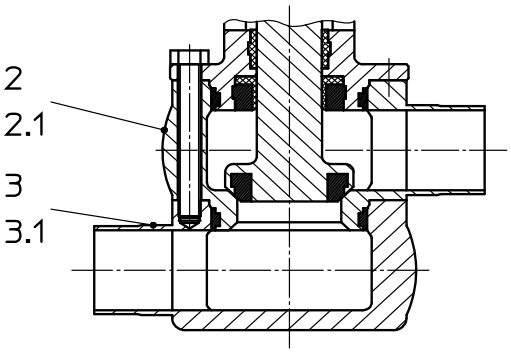
RN 01.054.815

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
		Dichtungssatz / seal kit SWEmini41 - 44 Pos. 4, 6, 7, 8, 9, 21 nur im kompletten Dichtungssatz erhältlich / item 4, 6, 7, 8, 9, 21 available as complete seal kits only							
	1	Dichtungssatz Seat kit	FPM	58-36-960/00	58-36-961/00	58-36-962/00	58-36-9630/00	58-36-964/00	58-36-965/00
	1	Dichtungssatz Seat kit	EPDM	58-36-960/01	58-36-961/01	58-36-962/01	58-36-963/01	58-36-964/01	58-36-965/01
	1	Dichtungssatz Seat kit	VMQ	58-36-960/02	58-36-961/02	58-36-962/02	58-36-963/02	58-36-964/02	58-36-965/02
	1	Dichtungssatz Seat kit	HNBR	58-36-960/06	58-36-961/06	58-36-962/06	58-36-963/06	58-36-964/06	58-36-965/06









Datum:	13.10.14									
Name:	Trytko									
Geprüft:										

Ersatzteilliste: spare parts list

SWmini41-44, SWEmini41-44 mit Handbetätigung / with manual actuation
DN 10,15,20 Schweißenden und Klemmverbindung / weld end and clamp connection
1/2", 3/4", 1" zoll -Klemmverbindung / inch -clamp connection

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

RN 01.054.815-1

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 mit Handbetätigung / with manual actuation

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connection

Datum:	13.10.14			
Name:	Trytko			
Geprüft:				
Datum:				
Name:				
Geprüft:				

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

RN 01.054.815-1

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
1	1	Gehäuse Housing SWmini41 12S	1.4404	3A0 15-60-193/43 H311874	3A0 15-60-194/43 H310384	3A0 15-60-195/43 H207011	3A0 15-60-193/43 H311874	3A0 15-60-194/43 H310384	
	1	Gehäuse Housing SWmini42 123S	1.4404	3A0 15-61-193/43 H311875	3A0 15-61-194/43 H310383	3A0 15-61-195/43 H208117	3A0 15-61-193/43 H311875	3A0 15-61-194/43 H310383	
1.1	1	Gehäuse Housing SWmini41 12CL	1.4404	3A0 15-60-189/43 H311876	3A0 15-60-190/43 H310492	3A0 15-60-191/43 H207886	3A0 15-60-239/43 H325653	3A0 15-60-240/43 H326796	3A0 15-60-241/43 H207730
	1	Gehäuse Housing SWmini42 123CL	1.4404	3A0 15-61-189/43 H311877	3A0 15-61-190/43 H310489	3A0 15-61-191/43 H208116	3A0 15-61-239/43 H325893	3A0 15-61-240/43 H330857	3A0 15-61-241/43 H208118
2	1	Gehäuse Oberteil Housing upper part SWmini43 1S	1.4404	3A0 15-62-182/43 H311878	3A0 15-62-183/43 H310382	3A0 15-62-185/43 H207010	3A0 15-62-182/43 H311878	3A0 15-62-183/43 H310382	
	1	Gehäuse Oberteil Housing upper part SWmin44 12S	1.4404	3A0 15-63-181/43 H311879	3A0 15-63-183/43 H310381	3A0 15-63-185/43 H208120	3A0 15-63-181/43 H311879	3A0 15-63-183/43 H310381	
2.1	1	Gehäuse Oberteil Housing upper part SWmini43 1CL	1.4404	3A0 15-62-193/43 H311880	3A0 15-62-194/43 H310490	3A0 15-62-195/43 H207887	3A0 15-62-196/43 H325652	3A0 15-62-197/43 H326797	3A0 15-62-184/43 H207731
	1	Gehäuse Oberteil Housing upper part SWmini44 12CL	1.4404	3A0 15-63-180/43 H311881	3A0 15-63-182/43 H310491	3A0 15-63-187/43 H208121	3A0 15-63-196/43 H325890	3A0 15-63-197/43	3A0 15-63-184/43 H208119
3		Gehäuse Unterteil Housing lower part SWEmini41,42 1S	1.4404	3A0 15-64-036/43 H331749	3A0 15-64-038/43 H331751	3A0 15-64-040/43 H209463	3A0 15-64-043/43 H331753	3A0 15-64-045/43 H331755	
		Gehäuse Unterteil Housing lower part SWEmini43,44 12S	1.4404	3A0 15-66-036/43 H331758	3A0 15-66-038/43 H331760	3A0 15-66-040/43 H209465	3A0 15-66-043/43 H331762	3A0 15-66-045/43 H331764	
3.1		Gehäuse Unterteil Housing lower part SWEmini41,42 1CL	1.4404	3A0 15-64-037/43 H331750	3A0 15-64-039/43 H331752	3A0 15-64-041/43 H209464	3A0 15-64-044/43 H331754	3A0 15-64-046/43 H331756	3A0 15-64-048/43 H331757
		Gehäuse Unterteil Housing lower part SWEmini43,44 12CL	1.4404	3A0 15-66-037/43 H331759	3A0 15-66-039/43 H331761	3A0 15-66-041/43 H209466	3A0 15-66-044/43 H331763	3A0 15-66-046/43 H331765	3A0 15-66-048/43 H331766
4	1	Tellerdichtung Schaft Seat seal for valve shaft SWmini41, 42 SWEmini41-44	EPDM FDA-konform	58-33-168/93 H208440		58-33-243/93 H136203	58-33-168/93 H208440		58-33-243/93 H136203
	1	Tellerdichtung Schaft Seat seal for valve shaft SWmini41, 42 SWEmini41-44	HNBR FDA-konform	58-33-168/33 H312726		58-33-243/33 H170179	58-33-168/33 H312726		58-33-243/33 H170179
	1	Tellerdichtung Schaft Seat seal for valve shaft SWmini41, 42 SWEmini41-44	FPM FDA-konform	58-33-168/73 H312401		58-33-243/73 H136204	58-33-168/73 H312401		58-33-243/73 H136204
	1	Tellerdichtung Schaft Seat seal for valve shaft SWmini41, 42 SWEmini41-44	VMQ FDA-konform	58-33-168/13 H312727		58-33-243/13 H136202	58-33-168/13 H312727		58-33-243/13 H136202

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 mit Handbetätigung / with manual actuation

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connection

Datum:	13.10.14			
Name:	Trytko			
Geprüft:				
Datum:				
Name:				
Geprüft:				

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

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RN 01.054.815-1

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
4	2	Tellerdichtung Schaft SWmini43, 44 Seat seal for valve shaft	EPDM FDA-konform	58-33-168/93 H208440		58-33-243/93 H136203	58-33-168/93 H208440		58-33-243/93 H136203
	2	Tellerdichtung Schaft SWmini43, 44 Seat seal for valve shaft	HNBR FDA-konform	58-33-168/33 H312726		58-33-243/33 H170179	58-33-168/33 H312726		58-33-243/33 H170179
	2	Tellerdichtung Schaft SWmini43, 44 Seat seal for valve shaft	FPM FDA-konform	58-33-168/73 H312401		58-33-243/73 H136204	58-33-168/73 H312401		58-33-243/73 H136204
	2	Tellerdichtung Schaft SWmini43, 44 Seat seal for valve shaft	VMQ FDA-konform	58-33-168/13 H312727		58-33-243/13 H136202	58-33-168/13 H312727		58-33-243/13 H136202
5	1	Schaft SWmini41, 42 Valve shaft SWEmini41-44	1.4404	15-22-212/42 H330082	15-22-213/42 H330083	15-22-214/42			
	1	Schaft SWmini43, 44 Valve shaft	1.4404						
6	1	Gehäusedichtung SWmini41, 42 Housing seal	EPDM FDA-konform	58-33-267/93 H136432					
	1	Gehäusedichtung SWmini41, 42 Housing seal	HNBR FDA-konform	58-33-267/33 H172124					
	1	Gehäusedichtung SWmini41, 42 Housing seal	FPM FDA-konform	58-33-267/73 H136431					
	2	Gehäusedichtung SWmini43, 44 Housing seal SWEmini41-44	EPDM FDA-konform	58-33-267/93 H136432					
	2	Gehäusedichtung SWmini43, 44 Housing seal SWEmini41-44	HNBR FDA-konform	58-33-267/33 H172124					
	2	Gehäusedichtung SWmini43, 44 Housing seal SWEmini41-44	FPM FDA-konform	58-33-267/73 H136431					
7	1	Schaftdichtung Shaft seal	PTFE	3A0 58-33-147/23 H176677					
8	1	Tellerdichtung Seat seal	EPDM FDA-konform	58-33-243/93 H136203					
	1	Tellerdichtung Seat seal	HNBR FDA-konform	58-33-243/33 H170179					
	1	Tellerdichtung Seat seal	FPM FDA-konform	58-33-243/73 H136204					

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 mit Handbetätigung / with manual actuation

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connection

Datum:	13.10.14			
Name:	Trytko			
Geprüft:				
Datum:				
Name:				
Geprüft:				

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

RN 01.054.815-1

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
8	1	Tellerdichtung Seat seal	VMQ FDA-konform	58-33-243/13 H136202					
9	1	Führungsbuchse Bushing	KETRON PEEK	08-01-177/23 H162714					
10	1	Laterne Handbetätigung Yoke manual actuation	1.4404	3A0 15-40-188/43 H325559					
11	1	Konterrad Handbetätigung Counter wheel manual actuation	1.4301	15-28-257/17 H325563					
12	1	Stellrad Handbetätigung Wheel manual actuation	1.4301	15-28-258/17 H325562					
13	1	Scheibe Washer I=5,3	1.4301	67-01-014/13 H79587					
14	1	Skt. Schraube Hex. screw DIN EN 24014-A2-70	1.4301	65-01-031/13 M5x10 H78734					
15	4	Skt. Schraube Hex. screw SWmini41, 42 DIN EN 24014-A2-70	1.4301	65-01-033/15 M5x12 H78737					
	4	Skt. Schraube Hex. screw SWmini43, 44 DIN EN 24014-A2-70	1.4301	65-01-038/15 M5x32 H78741	65-01-030/15 M5x35 H202330	65-01-029/15 M5x40 H207018	65-01-038/15 M5x32 H78741	65-01-030/15 M5x35 H202330	65-01-029/15 M5x40 H207018
		Dichtungssatz / seal kit SWmini41 + 42 Pos. 4, 6, 7, 8, 9 nur im kompletten Dichtungssatz erhältlich / item 4, 6, 7, 8, 9 available as complete seal kits only							
	1	Dichtungssatz Seat kit	FPM	58-36-886/00	58-36-887/00	58-36-888/00	58-36-886/00	58-36-887/00	58-36-888/00
	1	Dichtungssatz Seat kit	EPDM	58-36-886/01	58-36-887/01	58-36-888/01	58-36-886/01	58-36-887/01	58-36-888/01
	1	Dichtungssatz Seat kit	VMQ	58-36-886/02	58-36-887/02	58-36-887/02	58-36-886/02	58-36-887/02	58-36-887/02
	1	Dichtungssatz Seat kit	HNBR	58-36-886/06	58-36-887/06	58-36-888/06	58-36-886/06	58-36-887/06	58-36-888/06

Ersatzteilliste: spare parts list

SWmini41 - 44, SWEmini41 - 44 mit Handbetätigung / with manual actuation

DN 10, 15, 20 Schweißenden und Klemmverbindung / weld end and clamp connection

1/2", 3/4", 1" zoll- Klemmverbindung / inch- clamp connection

Datum:	13.10.14				
Name:	Trytko				
Geprüft:					
Datum:					
Name:					
Geprüft:					

APV
SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

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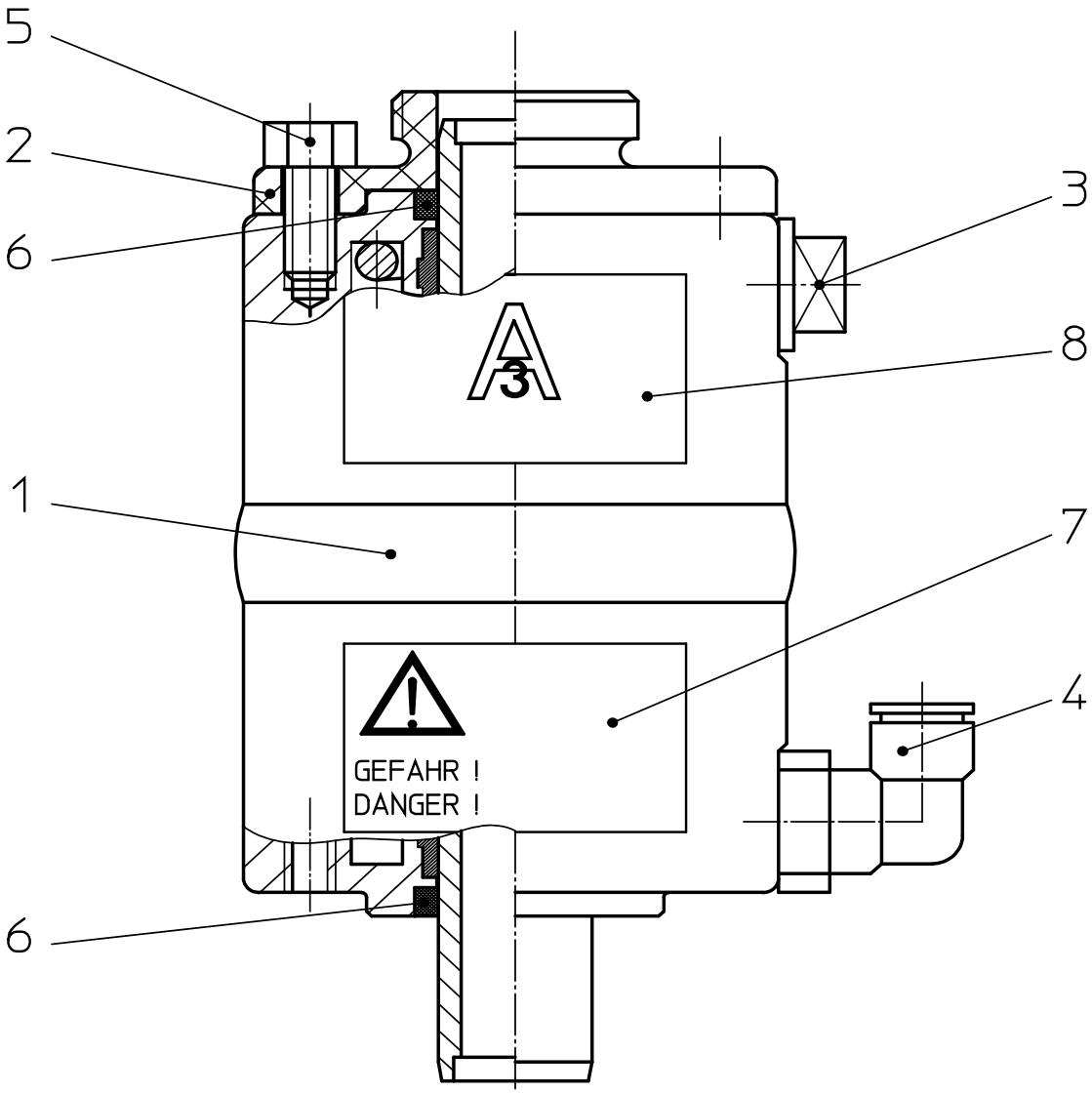
RN 01.054.815-1

pos. item	Menge quantity	Beschreibung description	Material material	DN10 WS-Nr. ref.-no.	DN15 WS-Nr. ref.-no.	DN20 WS-Nr. ref.-no.	1/2" WS-Nr. ref.-no.	3/4" WS-Nr. ref.-no.	1" WS-Nr. ref.-no.
		Dichtungssatz / seal kit SWmini43 + 44 Pos. 4, 6, 7, 8, 9 nur im kompletten Dichtungssatz erhältlich / item 4, 6, 7, 8, 9 available as complete seal kits only							
	1	Dichtungssatz Seat kit	FPM	58-36-889/00	58-36-890/00	58-36-891/00	58-36-889/00	58-36-890/00	58-36-891/00
	1	Dichtungssatz Seat kit	EPDM	58-36-889/01	58-36-890/01	58-36-891/01	58-36-889/01	58-36-890/01	58-36-891/01
	1	Dichtungssatz Seat kit	VMQ	58-36-889/02	58-36-890/02	58-36-891/02	58-36-889/02	58-36-890/02	58-36-891/02
	1	Dichtungssatz Seat kit	HNBR	58-36-889/06	58-36-890/06	58-36-891/06	58-36-889/06	58-36-890/06	58-36-891/06
		Dichtungssatz / seal kit SWEmini41 - 44 Pos. 4, 6, 7, 8, 9 nur im kompletten Dichtungssatz erhältlich / item 4, 6, 7, 8, 9 available as complete seal kits only							
	1	Dichtungssatz Seat kit	FPM						
	1	Dichtungssatz Seat kit	EPDM						
	1	Dichtungssatz Seat kit	VMQ						
	1	Dichtungssatz Seat kit	HNBR						



Datum:	04.11.13									
Name:	Trytko									
Geprüft:										

Ersatzteilliste: spare parts list

Steuerkopf SWmini4 ø50 / Actuator SWmini4 ø50
Luftanschluss / air connection: 6mm und / and 1/4" OD

SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

Blatt 1 von 2

RN 01.054.88

Ersatzteilliste: spare parts list

Steuerkopf SWmini4 ø50 / Actuator SWmini4 ø50
Luftanschluss / air connection: 6mm und / and 1/4" OD

Datum:	04.11.13	19.04.17		
Name:	Trytko	Sunder		
Geprüft:				

Datum:				
Name:				
Geprüft:				

APV
SPX Flow Technology Rosista GmbH
D-59425 Unna Germany

Blatt 2 von 2

RN 01.054.88

pos. item	Menge quantity	Beschreibung description	Material material	Luftanschluss 6mm WS-Nr. ref.-no.	Luftanschluss 1/4" OD WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		Steuerkopf FS Actuator FS	1.4301	3A0 15-32-079/13 H207492	3A0 15-32-080/13 H208025				
		Steuerkopf FH Actuator FH	1.4301	3A0 15-32-081/13 H311418	3A0 15-32-082/13 H311419				
		Steuerkopf L/L Actuator air/air	1.4301	3A0 15-32-078/13 H208662	3A0 15-32-076/13 H325605				
1	1	Steuerkopf Schweißteil Actuator welded	1.4301	15-32-079/12 H207546					
	1	Steuerkopf Schweißteil L/L Actuator welded air/air	1.4301	15-32-078/12 H208663					
2	1	Deckel Cover	PA6-schwarz	15-02-173/93 H207544					
3	1	Entlüftungsstopfen Venting plug	PE-Hard yellow	08-60-005/93 H16218					
4	1	W-Verschraubung schwenkbar Angular union, slewable	PA-1.4301	08-60-750/93 H208825	08-60-811/93 H312732				
	2	W-Verschraubung schwenk.-Steuerkopf L/L Angular union, slewable-actuator air/air	PA-1.4301	08-60-750/93 H208825	08-60-811/93 H312732				
5	4	Skt. Schraube DIN EN 24014-A2-70 Hex. Screw	1.4301	65-01-033/15 M5x12 H78737					
6	2	Quadring QRAR 4114 A Quadring	NBR	58-01-003/83 H207521					
7	1	Warnhinweis für Steuerkopf SW4mini Warning hint for actuator SWmini4	Klebefolie	08-29-295/93 H208072					
8	1	Aufkleber 3A-Symbol SW4 und SWmini4 Adhesive 3A-symbol SW4 and SWmini4	Klebefolie transparent	08-29-001/93 H207960					

APV DELTA SWmini4

SINGLE SEAT VALVE DN 10, 15, 20

SPXFLOW

SPX FLOW

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