APV
AN SPX BRAND

Operating Manual

DELTA S2 - DN10-20

Single Seat and Change - Over Valve

Read and understand this manual prior to operating or servicing this product.

SPX

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CE

Declaration of Conformity for Valves and Valve Manifolds

SPX APV, Zechenstr. 49, D-59425 Unna-Königsborn
herewith declares that the

double seat valves of the series D2, SD4, SDT4, SDM4, SWcip4, DSV, DA3, DE3, DEU3, DET3, DKR2, DKRT2, DKRH2
in the nominal diameters DN 25 - 150, 1" – 6" and 1 Sh5 - 6 Sh5

butterfly valves of the series SV1 and SVS 1 F
in the nominal diameters DN 25 - 100, DN 125 - 250 and 1" – 4"

ball cocks of the series KH, KHV
in the nominal diameters DN 15 - 100

single seat, diaphragm and spring loaded valves of the series S2, SW4, SWmini4, SWT4, M3, MF3, M4, MF4, MP4, MS4, AP1, APT1, CPV, RG4, RGM4, RGE4, RGEM4, PR2, PR3, PR4, SI2, UF3, VRA,VRAH
in the nominal diameters DN 10 - 150, 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 GPSG - 9.GPSGV.

For official inspections, APV 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 APV, Frank Baumbach, Zechenstr. 49, D-59425 Unna

December 01, 2009

ppa. Baumbach

Manager Research and Development

UK

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1. General Terms

This operating 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 resulting from the non-compliance with this operating manual.

Descriptions and data given herein are subject to technical changes.

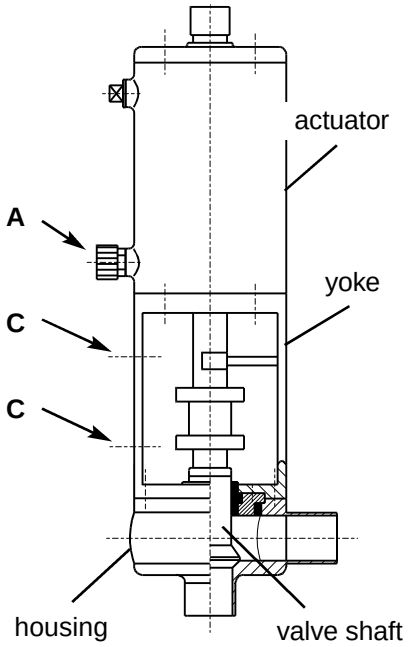
2. Safety Instructions

- **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.
- Depressurize the line system before any maintenance of the valve.
- Separate electric and pneumatic connections.
- **Do not reach into the open valve.**

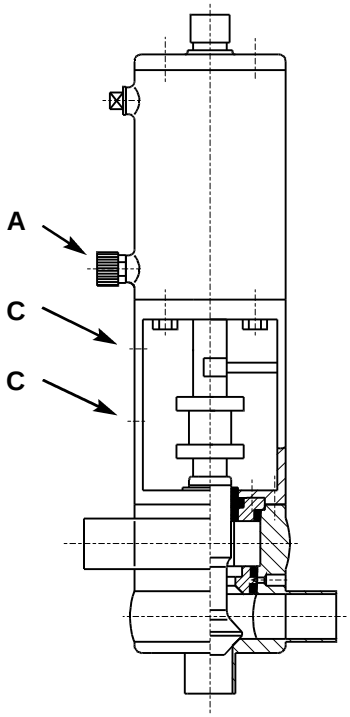
- Risk of injury by sudden valve operation.
  In dismantled state there is the risk of bruising at movable parts of the valve.
- Observe service instructions to ensure safe maintenance of the valve.
- Valve design NC: Relieve the shaft via the control air connection before releasing the housing screws.
- The welded actuator is under spring load, do not open it.

3. Mode of Operation

single seat valve



change-over valve



Single seat and change-over valves DELTA S2 (DN 10 - 20) have been developed for the use in the brewing and beverage industries, dairy and food applications as well as for the chemical and pharmaceutical industries.

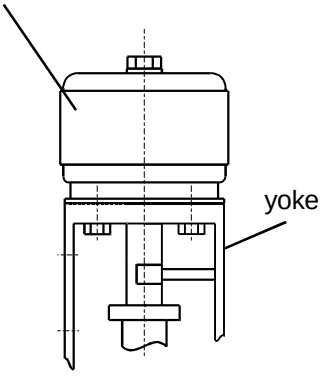
The valves are designed for universal applications and stand out for their increased mechanical reliability and absolute ease of handling.

The function of the DELTA S2 (DN 10-20) valve is to shut off and to change over line sections.

- Operation by pneumatic actuator with air connection at **(A)**, reset by spring force.
- By different assembly of the actuator, the following designs can be realized:

  NC (FS): actuator spring-to-close / "fail-down": air-to-raise, spring-to-lower
  NO (FH): actuator spring-to-open / "fail-up": air-to-lower, spring-to-raise
  (illustration shows design **NC**)
- The inner parts of the actuator are service-free.
- If the valve is equipped with manual actuation, operation is effected by turning of the handle.
- For the valve feedback, proximity switches with luminous diodes can be installed in the yoke area **(C)**.
- The cleaning of the inner area of the valve is carried out during cleaning of the line system.

handle



4. Auxiliary Equipment

Valve position indication

- Proximity switches to signal the limit position NC or NO of the valve shaft can be installed in the yoke area if required.

We recommend to use our APV standard proximity switches.
Type: three-wire proximity switch (ref.-No. 08-60-011/93)
Operating distance: 4 mm / Diameter: 11 mm / Length: 30 mm
Feedback complete with holder and proximity switch
(ref.-No. 15-33-023/93) for a limit position.

If the customer decides to use valve position indicators other than APV type, we cannot take over the liability for any malfunctions.

5. Installation

- The installation of the valve must be effected in such a manner that liquids can drain off the valve housing and should preferably be undertaken in vertical position.

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

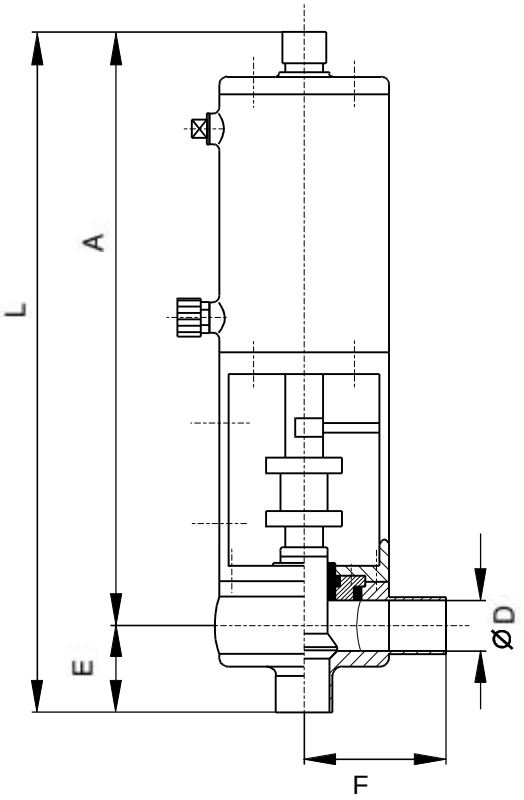
- **Attention:** Observe welding instructions.

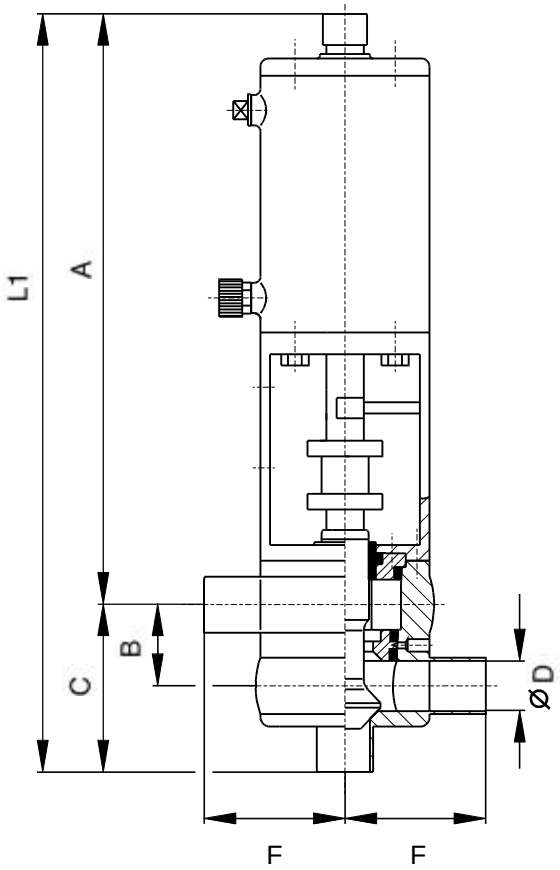
5.1 Welding Instructions

S2 - DN 10-20

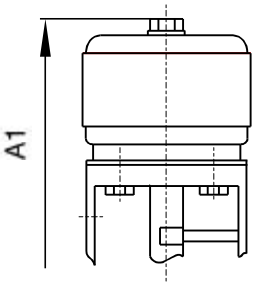
- Before welding of the valve, dismantle the valve insert from the housing. Careful handling to avoid damage to the parts is necessary.
- Welding should only be carried out by certified welders (EN 287-1). (seam quality EN 25817 "B")
- The welding of the valve housing must be undertaken in such a way that the valve body is not deformed.
- The preparation of the weld seam up to 3 mm thickness should 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 housing 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 non-observance of these welding instructions is not subject of our guarantee.

6. Dimensions





manual actuation



dimensions in mm

DN	A	A1	B	C	Ø D	E	F	L	L1
10	179	129	20	45	10	25	45	204	224
15	182	132	26	53,5	16	27,5	45	209,5	235,5
20	184	134	30	60	20	30	45	214	244

7. Technical Data

Line pressure 5 bar with standard actuator,
max. line pressure on request.

Max. operating temperature :	**135°C EPDM** ***FPM, *VMQ**
Sterilization temperature: **(short-term)**	**140°C EPDM** ***FPM, *VMQ,** ***(no steam)**
Air connection (for hose) **:**	**6x1mm**
Max. control air pressure : **Min. control air pressure :**	**10 bar** **6 bar**

(Use dry and clean control air, only.)

	stroke in mm for single seat valve S21, S22	**stroke in mm for change-over valve S23, S24**
DN		
10	6	5
15	7	6
20	8	7

8. Materials

Housing, housing cover, valve seat:		**1.4404**
Actuator, yoke, operating cam, spring plug, screws:		**1.4301**
Valve shaft:		**1.4301 / PTFE**
O-ring:	**standard** option	**EPDM** VMQ, FPM
Shaft seal:	**standard** option	**EPDM** VMQ, FPM
Manual actuation:		**PA 6 / 1.4301**

9. Maintenance

- The maintenance intervals depend on the application of the valve and should be determined by the user carrying out regular checks.

- Replacement of seals according to service instructions.

- Assembly of the valve and change of the valve design NC or NO according to service instructions.

- **Slightly grease all seals before their installation!!!**

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

10. Service Instructions

The item numbers refer to the spare parts lists

Single seat valves:	S21, S22 - NC-NO	**RN 01.054.007.0**
	S21, S22 - H (M)	**RN 01.054.007.3**
Change-over valves:	S23, S24 - NC-NO	**RN 01.054.007.1**
	S21, S22 - H (M)	**RN 01.054.007.4**

I. Dismantling from the line system

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

b. Valve design NC: control actuator with air.

Do not reach for movable parts!
Risk of injury by suddenly actuating valve.

c. Release housing flange screws **(7)** and withdraw the insert from the housing **(1)**.

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

e. Release proximity switches and pull them off.

10. Service Instructions

II. Replacement of wear parts
Single seat valve S21, S22
The item numbers refer to the spare parts lists
RN 01.054.007.0 / RN 01.054.007.3

a. Remove the housing seal **(2)**.

b. Remove the spring plug **(9)** and pull out the shaft **(5)**.
If the PTFE shaft is worn out, draw it off the metal core.
The PTFE shaft is destroyed and must be replaced.

c. Screw off the hexagon screw **(6)** and pull off the housing cover **(3)**.

d. Take off the shaft seal **(4)**.

e. Screw off the hexagon screws **(7)** and separate the yoke **(10)** from the actuator or from the manual actuation.

- Service damaged O-rings at the actuator.
(see 11. Service Instructions Actuator)

III. Installation of seals and assembly of valve
Compare spare parts list **RN 01.054.007.0 / RN 01.054.007.3**

a. Mount the yoke **(10)** with hexagon screws **(7)** at the actuator or manual actuation.

Attention: Observe the required valve design **NC or NO**.
(see 11. Service Instructions Actuator)

b. Slightly grease the inside of the shaft seal **(4)** and place it in the housing cover **(3)**. Press the housing cover **(3)** against the yoke flange and turn the hexagon screw **(6)** manually.

c. Lock the PTFE shaft on the metal shaft **(5)**.

d. Slide the shaft (compl.) through the shaft seal **(4)** and then through the operating cam **(8)** into the actuator rod.

e. Fix the shaft **(5)** with the spring plug **(9)**.

f. Slightly grease the housing seal **(2)** and place it in the groove of the housing cover.

10. Service Instructions

IV. Installation of the valve
Compare spare parts list **RN 01.054.007.0 / RN 01.054.007.3**

a. Valve design NC: control actuator with air.

Do not reach for movable parts of the valve!
Risk of injury by suddenly actuating valve.

b. Carefully place the valve insert into the housing **(1)** and tighten it with the hexagon screws **(7)**.

c. Tighten the hexagon screw **(6)**.

d. Plug in the proximity switches and fasten them.

e. Basic adjustment of the valve feedback:
Place the proximity switches into the base until they stop.

Fine adjustment:
By slight withdrawal of the proximity switches and observation of the luminous diode the shift point can be adjusted more accurately if necessary.

11. Service Instructions

I. Actuator

The item numbers refer to the spare parts list **RN 01.054.007.9.**

a. Dismantle the screws **(5)** and the cover **(2)**.
Remove the O-rings **(3)**.

II. Installation of seals and assembly of actuator

compare spare parts list **RN 01.054.007.9**

a. Slightly grease the O-rings **(3)**.
- Place the O-rings via the piston rod into the groove on the face.

b. Screw the venting plug **(6)** on the spring side (short projection of the piston rod) in the actuator.

c. Screw the air connection **(7)** at the air side (larger projection of the piston rod) in the actuator.

d. Fasten the cover **(2)** with screws **(5)**.

Attention: Consider the required valve design **NC or NO** during the installation of the cover **(2)**.

NC (FS) = short projection of piston rod
NO (FH) = large projection of piston rod

12. Service Instructions

The item numbers refer to the spare parts lists

Change-over valve:	**S23, S24 - NC-NO**	**RN 01.054.007.1**
	S23, S24 - H (M)	**RN 01.054.007.4**

I. Dismantling from the line system
(see 10. Service Instructions I. a. - e.)

II. Dismantling of wear parts

a. Remove the housing seals **(2)**.

b. Control the actuator with air!

c. Remove the spring plug **(9)** and pull out the shaft **(5)**.

d. Screw off the screw **(6)** and pull off the valve seat **(3)**.

e. Take off the shaft seal **(4)**.

f. Screw off the hexagon screws **(7)** and separate the yoke **(10)** from the actuator or from the manual actuation.

- Service damaged O-rings at the actuator.
(see 11. Service Instructions Actuator)

III. Installation of seals and assembly of valve
Compare spare parts list **RN 01.054.007.1 / RN 01.054.007.4**

a. Mount the yoke **(10)** with hexagon screws **(7)** at the actuator or manual actuation.

Attention: Observe the required valve design **NC or NO.** (see 11. Service Instructions Actuator)

b. Slightly grease the inside of the shaft seal (4) and place it in the valve seat **(3)**. Press the valve seat **(3)** against the yoke flange and turn the hexagon screw **(6)** manually.

c. Slide the shaft (compl.) through the shaft seal **(4)** and then through the operating cam **(8)** into the actuator rod.

d. Control the actuator with air and fix the shaft **(5)** with the spring plug **(9)**.

e. Slightly grease the housing seals **(2)** and place them in the groove of the valve seat.

12. Service Instructions

IV. Installation of the valve

a. Valve design NC: control actuator with air.

Do not reach for movable parts of the valve!
Risk of injury by suddenly actuating valve.

b. Carefully place the valve seat into the housing **(1)** and tighten it with the screws **(7)**.

c. Tighten the hexagon screw **(6)**.

d. Plug in the proximity switches and fasten them.

e. Basic adjustment of the valve feedback:
Place the proximity switches into the base until they stop.

Fine adjustment:
By slight withdrawal of the proximity switches and observation of the luminous diode the shift point can be adjusted more accurately if necessary.

13. Spare Parts Lists

(see annex)

BA S2 1020 0002
ID-No.: H 1 7 0 7 6 9

UK

Translation of original manual

rev. 2

WHERE IDEAS MEET INDUSTRY

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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.apv.com.

Ersatzteilliste: spare parts list:

Ventil S21, S22-FS-FH und L/L DN 10,15,20

Valve S21, S22-FS-FH and L/L DN 10,15,20

Besteht aus 2 Blatt Blatt 1

	Datum	Name
Gezeichnet	20.11.90	Trytko
Geprüft	29.11.90	Schulz/WB
Normgepr.		

Datum	11/90	7/97	7/00							
Name	Trytko	Trytko	Trytko							

APV Rosista GmbH
D-59425 Unna
Germany

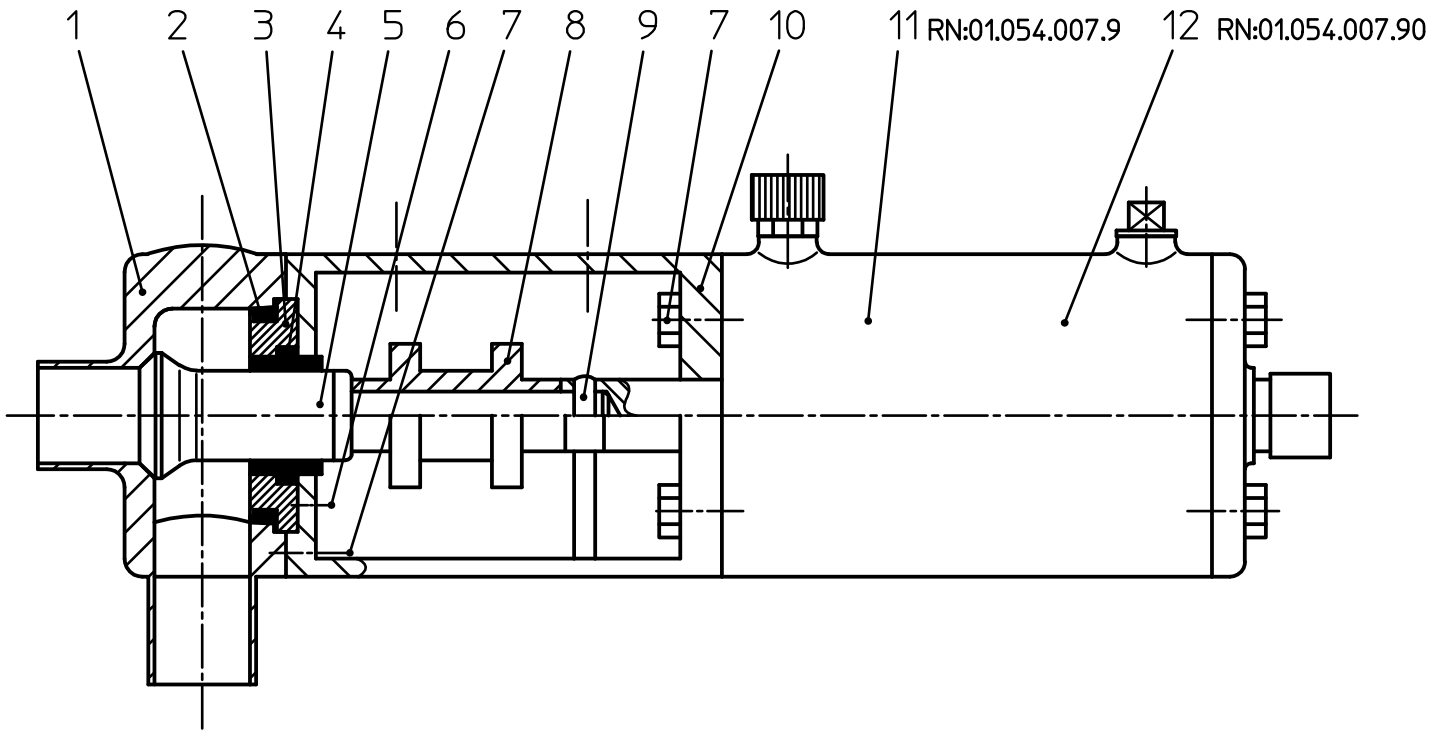
RN 01.054.007.0

Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff: material seals:
../13-Silikon/Silicone
../73-FPM
../93-EPDM

O-Ring:
../53-Silikon/Silicone
../64-EPDM
../73-FPM



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Ersatzteilliste: spare parts list:

Ventil S21, S22-FS-FH und L/L DN 10,15,20

Valve S21, S22-FS-FH and L/L DN 10,15,20

Blatt 2

	Datum	Name
Gezeichnet	20.11.90	Trytko
Geprüft	29.11.90	Schulz/WB
Normgepr.		

Datum	11/90	7/97	7/00							
Name	Trytko	Trytko	Trytko							

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.054.007.0

Pos. item	Menge quantity	Benennung description	DN 10 WS-Nr. ref.-no.	15 WS-Nr. ref.-no.	20 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
1	1	Gehäuse Housing S21	15-41-126/47	15-41-176/47	15-41-226/47					
	1	Gehäuse Housing S22	15-42-126/47	15-42-176/47	15-42-226/47					
2	1	O-Ring O-ring 28-3 *	58-06-119/	=	=					
3	1	Gehäusedeckel Housing cover	15-00-057/42	=	=					
4	1	Schaftdichtung Shaft seal *	58-33-014/	=	=					
5	1	Schaft -komplett Shaft -complete	15-22-134/19	15-22-209/19	15-22-259/19					
6	1	Skt. Schraube Hex. screw DIN933 M4x5	65-01-016/13	=	=					
7	4	Skt. Schraube Hex. screw DIN933 M5x10	65-01-031/13	=	=					
8	1	Schaltnocke Operating cam	08-60-161/12	=	=					
9	1	Federstecker für Schaft Plug for shaft	67-03-020/12	=	=					
10	1	Laterne Yoke	16-40-022/17	=	=					
11	1	Steuerkopf -kpl Actuator complete S50-FS	16-31-318/17	=	=					
12	1	Steuerkopf -kpl Actuator complete S50-L/L	16-31-337/17	=	=					

Ersatzteilliste: spare parts list:

Ventil S21, S22-H DN 10,15,20

Valve S21, S22-H DN 10,15,20

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Geprüft	5.11.91	Schulz
Normgepr.		

Datum	11/90	7/97	7/00							
Name	Trytko	Trytko	Trytko							

APV Rosista GmbH
D-59425 Unna
Germany

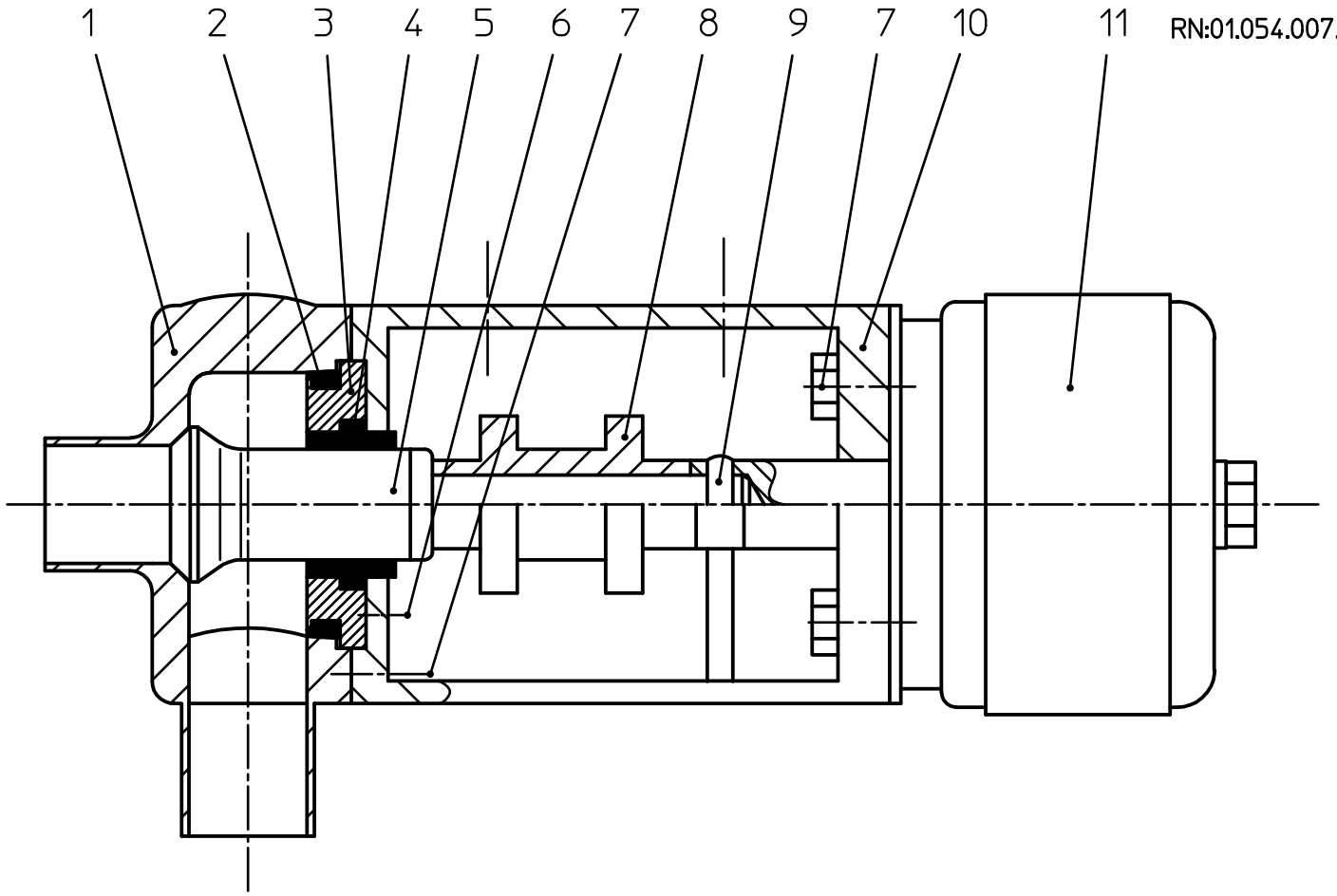
RN 01.054.007.3

Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff: material seals:
../13-Silikon/Silicone
../73-FPM
../93-EPDM

O-Ring:
../53-Silikon/Silicone
../64-EPDM
../73-FPM



Ersatzteilliste: spare parts list:

Ventil S21, S22-H DN 10,15,20

Valve S21, S22-H DN 10,15,20

Blatt 2

	Datum	Name
Gezeichnet	20.11.90	Trytko
Geprüft	5.11.91	Schulz
Normgepr.		

Datum	11/90	7/97	7/00						
Name	Trytko	Trytko	Trytko						

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.054.007.3

Pos. item	Menge quantity	Benennung description	DN 10 WS-Nr. ref.-no.	15 WS-Nr. ref.-no.	20 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
1	1	Gehäuse Housing S21	15-41-126/47	15-41-176/47	15-41-226/47					
	1	Gehäuse Housing S22	15-42-126/47	15-42-176/47	15-42-226/47					
2	1	O-Ring O-ring 28-3 *	58-06-119/	=	=					
3	1	Gehäusedeckel Housing cover	15-00-057/42	=	=					
4	1	Schaftdichtung Shaft seal *	58-33-014/	=	=					
5	1	Schaft -komplett Shaft -complete	15-22-134/19	15-22-209/19	15-22-259/19					
6	1	Skt. Schraube Hex. screw DIN933 M4x5	65-01-016/13	=	=					
7	4	Skt. Schraube Hex. screw DIN933 M5x10	65-01-031/13	=	=					
8	1	Schaltnocke Operating cam	08-60-161/12	=	=					
9	1	Federstecker für Schaft Plug for shaft	67-03-020/12	=	=					
10	1	Laterne Yoke	16-40-022/17	=	=					
11	1	Handbetätigung Handle	15-27-068/93	=	=					

Ersatzteilliste: spare parts list:

Ventil S23, S24-FS-FH DN 10,15,20

Valve S23, S24-FS-FH DN 10,15,20

Besteht aus 2 Blatt Blatt 1

	Datum	Name
Gezeichnet	20.11.90	Trytko
Geprüft	29.11.90	Schulz/WB
Normgepr.		

Datum	11/90	7/97	7/00							
Name	Trytko	Trytko	Trytko							

APV Rosista GmbH
D-59425 Unna
Germany

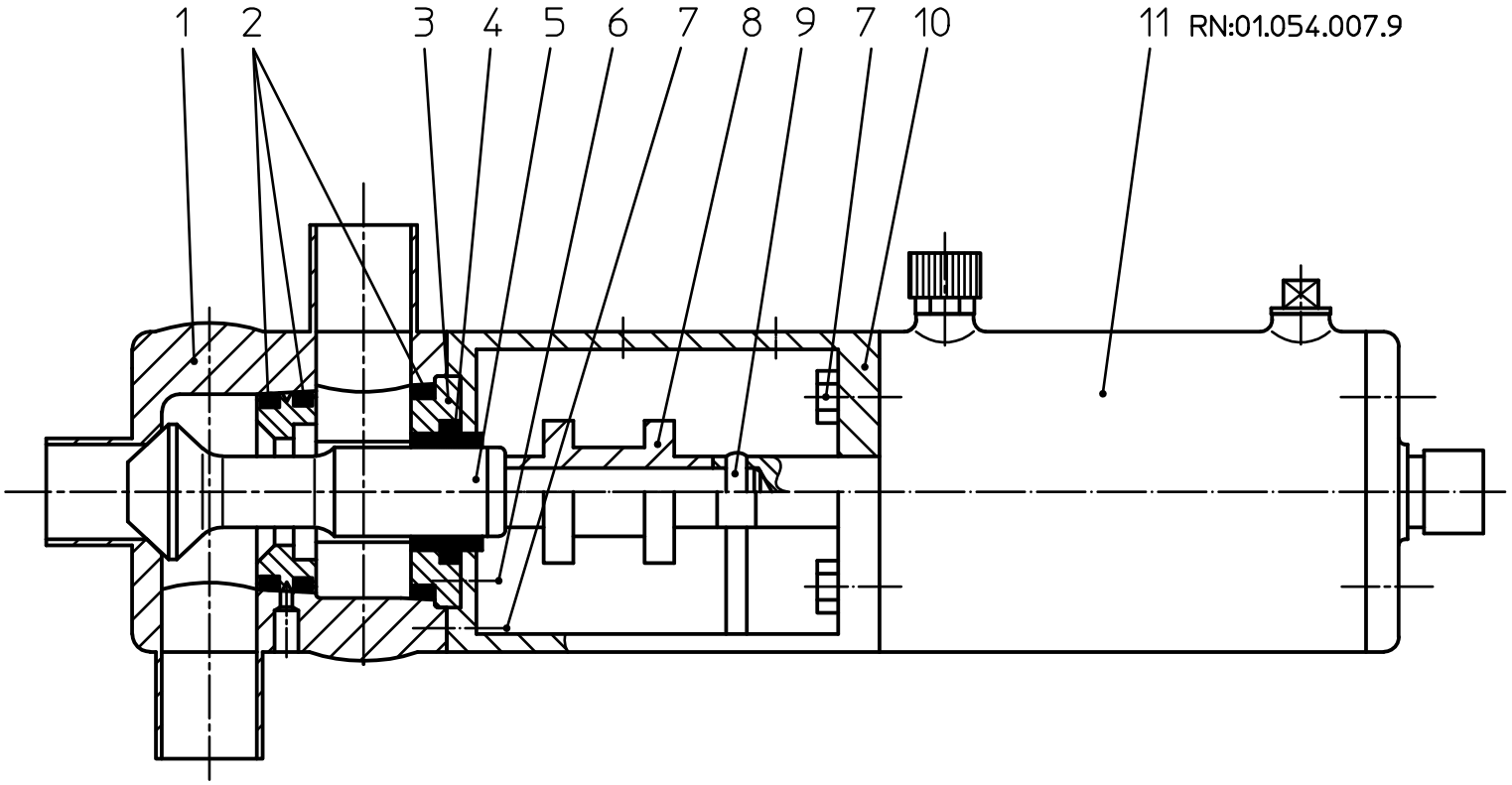
RN 01.054.007.1

Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff: material seals:
../13-Silikon/Silicone
../73-FPM
../93-EPDM

O-Ring:
../53-Silikon/Silicone
../64-EPDM
../73-FPM



Ersatzteilliste: spare parts list:

Ventil S23, S24-FS-FH DN 10,15,20

Valve S23, S24-FS-FH DN 10,15,20

Blatt 2

	Datum	Name
Gezeichnet	20.11.90	Trytko
Geprüft	29.11.90	Schulz
Normgepr.		

Datum	11/90	7/97	7/00							
Name	Trytko	Trytko	Trytko							

APV Rosista GmbH
D-59425 Unna
Germany

RN 01.054.007.1

Pos. item	Menge quantity	Benennung description	DN 10 WS-Nr. ref.-no.	15 WS-Nr. ref.-no.	20 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
1	1	Gehäuse S23 Housing	15-43-126/47	15-43-176/47	15-43-226/47					
	1	Gehäuse S24 Housing	15-44-126/47	15-44-176/47	15-44-226/47					
2	3	O-Ring 28-3 * O-ring	58-06-119/	=	=					
3	1	Ventilsitz Valve seat	16-36-126/43	16-36-176/43	16-36-226/43					
4	1	Schaftdichtung * Shaft seal	58-33-014/	=	=					
5	1	Schaft -komplett Shaft -complete	15-22-135/19	15-22-184/19	15-22-260/19					
6	1	Skt. Schraube DIN933 M4x5 Hex. screw	65-01-016/13	=	=					
7	4	Skt. Schraube DIN933 M5x10 Hex. screw	65-01-031/13	=	=					
8	1	Schaltnocke Operating cam	08-60-161/12	=	=					
9	1	Federstecker für Schaft Plug for shaft	67-03-020/12	=	=					
10	1	Laterne Yoke	16-40-022/17	=	=					
11	1	Steuerkopf -kpl S50-FS Actuator complete	16-31-318/17	=	=					

02/94

Ersatzteilliste: spare parts list:

Ventil S23, S24-H DN 10,15,20

Valve S23, S24-H DN 10,15,20

Besteht aus 2 Blatt Blatt 1

	Datum	Name
Gezeichnet	20.11.90	Trytko
Geprüft	5.11.91	Schulz
Normgepr.		

Datum	11/90	7/97	7/00							
Name	Trytko	Trytko	Trytko							

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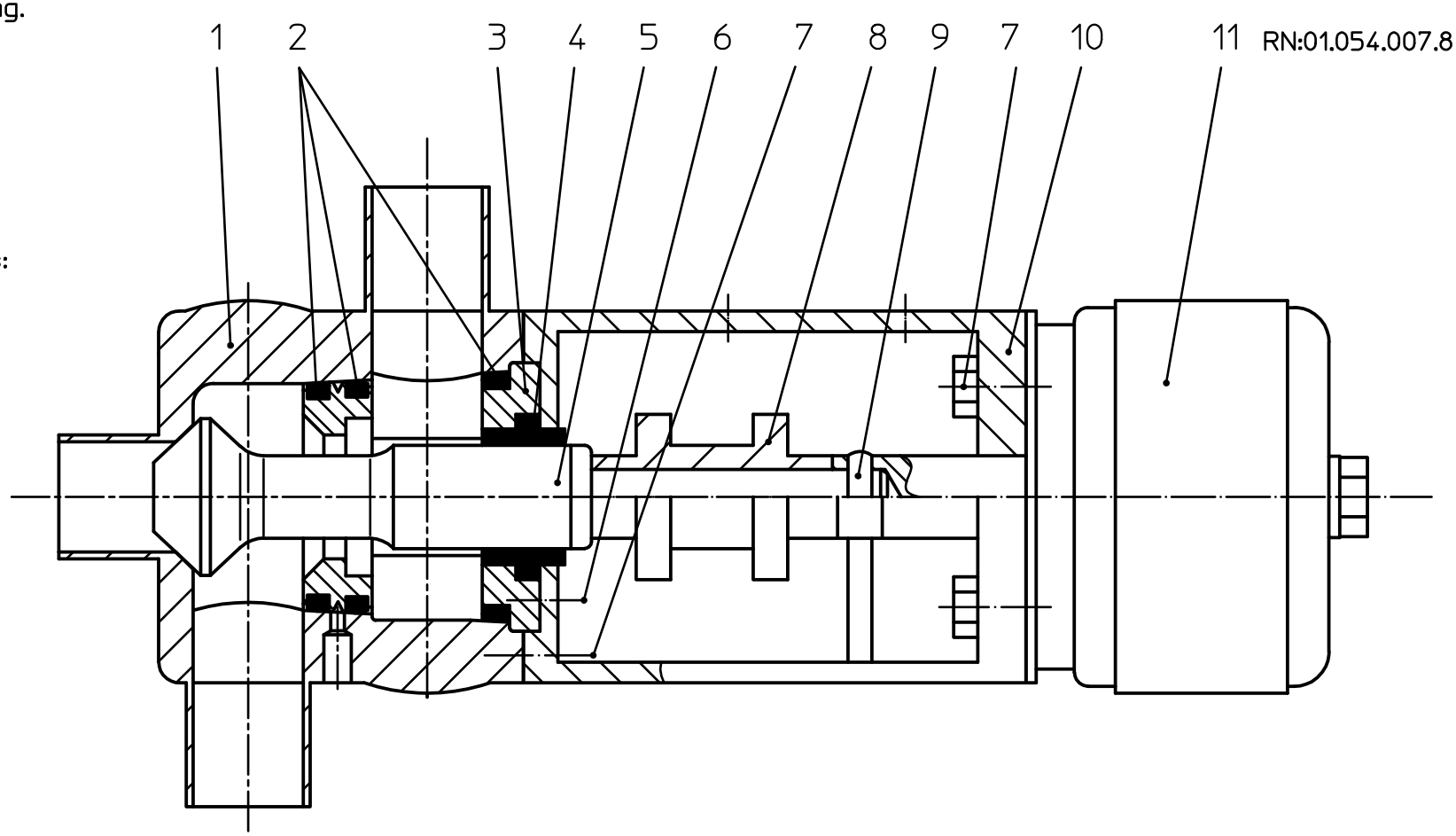
RN 01.054.007.4

Es stehen verschiedene Dichtungswerkstoffe zur Verfügung. Bitte WS-Nr. ergänzen

The following seal materials are available (fill in last two digits of ref.-no.)

* Dichtungswerkstoff: material seals:
../13-Silikon/Silicone
../73-FPM
../93-EPDM

O-Ring:
../53-Silikon/Silicone
../64-EPDM
../73-FPM



Ersatzteilliste: spare parts list:

Ventil S23, S24-H DN 10,15,20

Valve S23, S24-H DN 10,15,20

Blatt 2

	Datum	Name
Gezeichnet	20.11.90	Trytko
Geprüft	29.11.90	Schulz
Normgepr.		

Datum	11/90	7/97	7/00						
Name	Trytko	Trytko	Trytko						

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Pos. item	Menge quantity	Benennung description	DN 10 WS-Nr. ref.-no.	15 WS-Nr. ref.-no.	20 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
1	1	Gehäuse S23 Housing	15-43-126/47	15-43-176/47	15-43-226/47					
	1	Gehäuse S24 Housing	15-44-126/47	15-44-176/47	15-44-226/47					
2	3	O-Ring 28-3 * O-ring	58-06-119/	=	=					
3	1	Ventilsitz Valve seat	16-36-126/43	16-36-176/43	16-36-226/43					
4	1	Schaftdichtung * Shaft seal	58-33-014/	=	=					
5	1	Schaft -komplett Shaft -complete	15-22-135/19	15-22-184/19	15-22-260/19					
6	1	Skt. Schraube DIN933 M4x5 Hex. screw	65-01-016/13	=	=					
7	4	Skt. Schraube DIN933 M5x10 Hex. screw	65-01-031/13	=	=					
8	1	Schaltnocke Operating cam	08-60-161/12	=	=					
9	1	Federstecker für Schaft Plug for shaft	67-03-020/12	=	=					
10	1	Laterne Yoke	16-40-022/17	=	=					
11	1	Handbetätigung Handle	15-27-068/93	=	=					

Ersatzteilliste: Spare Parts List:

Steuerkopf-komplett. Ausführung S50 für S2
Actuator complete. Design S50 for S2

Besteht aus 1 Blatt Blatt 1

	Datum	Name
Gezeichnet	22.11.90	Trapp
Geprüft	23.11.90	Schulz
Normgeprüft		

11/90 | 1/95 | 3/96

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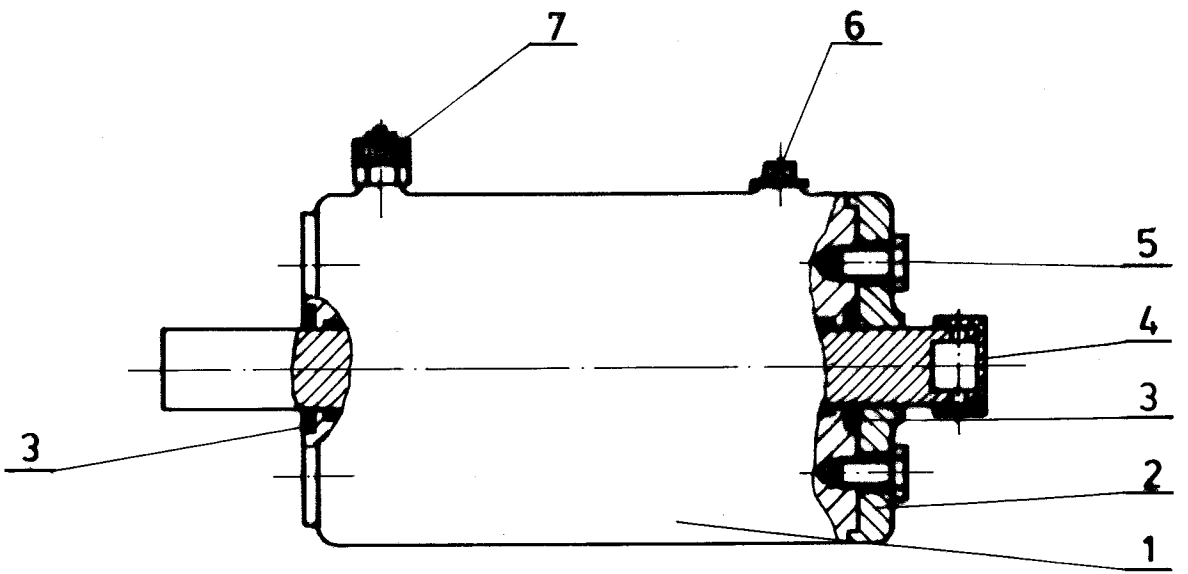
RN: 01.054.007.9



Pos. Item	Menge quantity	Ausführung / Design	S50 - 21 16-31-318/17							
		Benennung / Description	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr/ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.
1	1	Steuerkopf - Schweißteil Welding part of actuator	16-31-**319/17**							
2	1	Deckel Cover	16-00-160/93							
3	2	O-Ring OR 12,3-2,4 O-ring	58-06-042/83							
4	1	Verschlußkappe Z 12×10 Cap	08-60-152/93							
5	2	Skt. Schraube DIN 933 M 5×10 Hex. screw	65-01-031/13							
6	1	Entlüftungsstopfen R 1/8" Venting plug	08 63 010/93							
7	1	Verschraubung EG 6×1 R 1/8" Union	08-60-005/93							

Ersatzteilliste: Spare parts list:

Steuerkopf S 50 - L / L für S2 DN 10 - 20

Actuator S50 - double air for S2 DN 10 - 20

Besteht aus 1 Blatt Blatt 1

	Datum	Name
Gezeichnet	16.9.92	
Geprüft	16.9.92	
Normgeprüft		

9/92	3/96								
Name	Name	Name	Name	Name	Name	Name	Name	Name	Name

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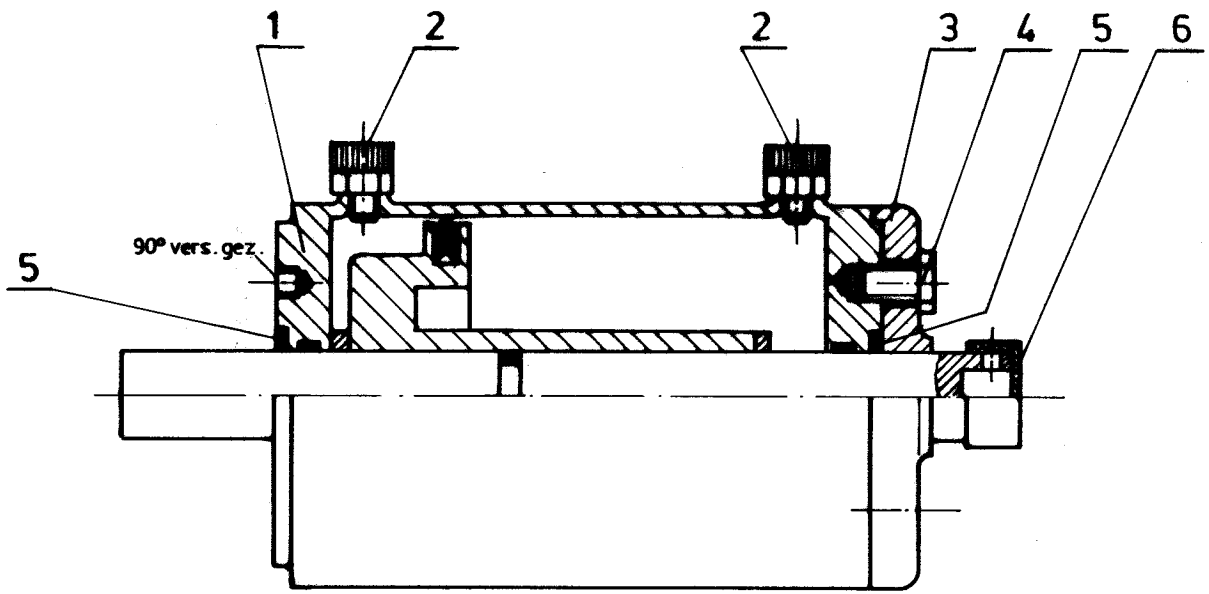
RN: 01.054.007.90



Pos. Item	Menge Quantity	Ausführung / Design	S50 16-31-337/17							
		Benennung / Description	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.	WS-Nr./ref.-no.
1	1	Steuerkopf - Schweißteil Welding part of actuator	16-31-388/17							
2	2	Verschraubung EG 6×1 - R 1/8" Union	08-63-010/93							
3	1	Deckel Cover	16-00-160/93							
4	2	Skt. Schraube DIN 933 M5×10 Hex. screw	65-01-031/13							
5	2	O-Ring 12,3 × 2,4 O-ring	58-06-042/83							
6	1	Verschlußkappe Z 12 ×10 Cap	08-60-152/93							

Ersatzteilliste: Spare Parts List:

Handbetätigung S2 DN 10 - 20
Handle S2 DN 10 - 20

(PA 6 - 1.4301)

Besteht aus 1 Blatt Blatt 1

11/90

	Datum	Name
Gezeichnet	30.11.90	Trylla
Geprüft	5.11.91	SW2
Normgeprüft		

APV

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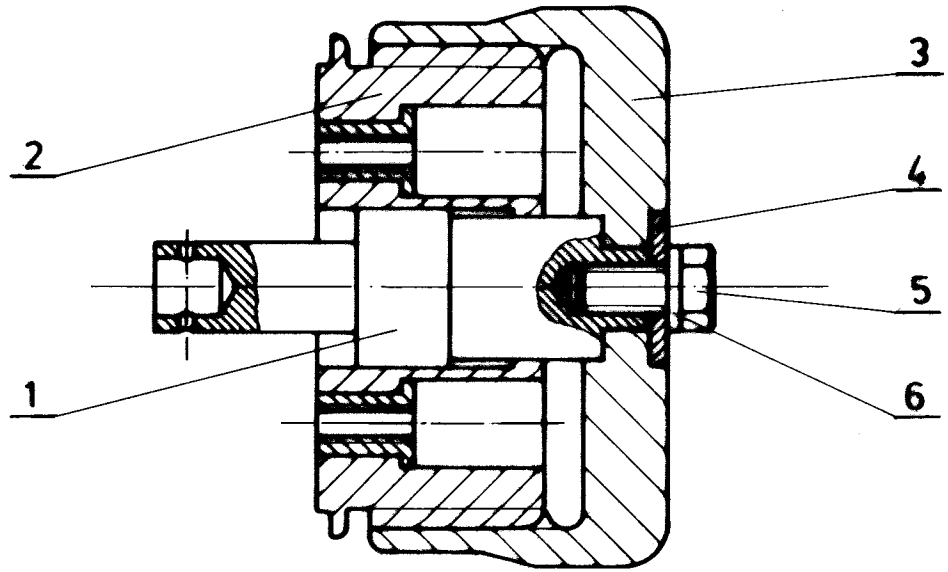
West Germany

RN: 01.054.007.8



Pos. Item	Menge	Benennung Deskription	DN 10 WS-Nr./ref.-no	DN 15 WS-Nr./ref.-no	DN 20 WS-Nr./ref.-no	DN WS-Nr./ref.-no.	DN WS Nr./ref.-no	DN WS-Nr./ref.-no	DN WS-Nr./ref.-no.	DN WS-Nr./ref.-no
1	1	Schaft Shaft	15-22-023/12	=	=					
2	1	Gewinde-Sockel komplett Threaded base complete	15-24-091/93	=	=					
3	1	Gewindemutter Threaded nut	15-24-090/93	=	=					
4	1	Anlaufscheibe Washer	67-01-176/17	=	=					
5	1	Skt. Schraube DIN 933 M6 x 10 Hex. screw	65-01-053/13	=	=					
6	1	Federring DIN 127 B6 Spring ring	67-09-150/13	=	=					
	1	Handbetätigung - komplett Handle - complete	15-27-068/93	=	=					