

## APV DELTA AP1/APT1

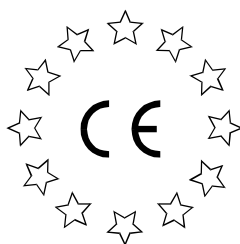
ASEPTIC PROCESS VALVE

FORM NO.: H317551 REVISION: UK-1

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







## 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*  
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Manager Research and Development



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	<b>AP1, APT1 - actuated design</b>	<b>RN 01.064.8</b>
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## 1. General Terms

This instruction manual must be read carefully by the competent operating and maintenance personnel.

We point out that we will not accept any liability for damage or malfunctions 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.
- Electric and pneumatic connections must be separated.
- Before any maintenance of the valve, the line and cleaning system must be **depressurized** and discharged if possible.
- Observe Service Instructions to ensure safe maintenance of the valve.
- Connections which are not used must be sealed by a plug.
- The safe discharge of the corresponding cleaning liquids must be ensured!
- **Do not reach into the open valve.**
- The actuator is under spring tension, do not open it by force.



- **Attention!**  
**With valve design NC (normally closed): before releasing the clamp, the valve insert must be relieved by controlling the actuator with air.**

## 3. Intended Use

The intended use as field of application of the AP valve is the shut-off of line sections.

Arbitrary, constructive changes at the valve will influence safety as well as the intended functionality of the valve and are **not permissible**.

### **Authorizations**

3-A Sanitary Standards, Inc.  
EHEDG Certificate

## 4. Mode of Operation

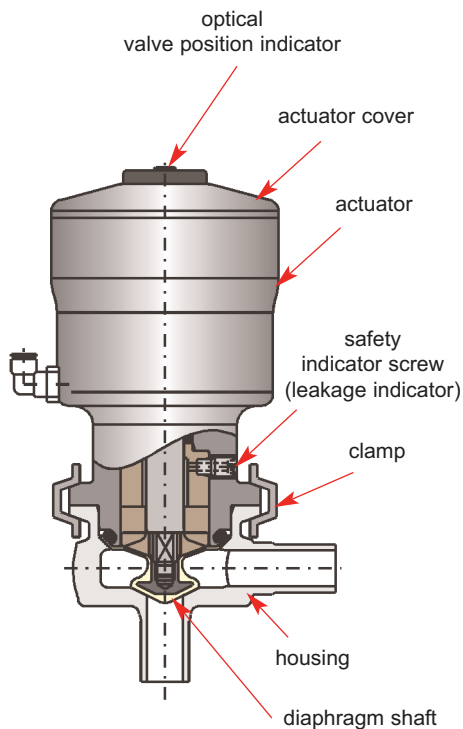
### 4.1 General terms

Due to its construction and mode of operation as well as the use of high-quality stainless steel and the corresponding seal materials, the aseptic process valve DELTA AP1 can be used in the food and beverage as well as in the pharmaceutical and chemical industries.

The function of the valve is to shut off line sections.

The diaphragm valves offer optimum protection of the product in hygienic and aseptic applications.

Product safety is provided by the hermetic separation of the product chamber from the environment (atmosphere) by a flexible diaphragm shaft.



- Different variants are available:
  - type: AP1 – NC  
(NC = normally closed ; air-to-raise, spring-to-lower)
  - type: AP1 – NO  
(NO = normally open; air-to-lower, spring-to-raise)
  - type: AP1 – AA (AA = air / air actuator)
  - type: AP1 – M (M = manual operation)
- Operation by pneumatic stroke actuator with air connection, reset by spring force.
- The cleaning of the inner area of the valve is undertaken during CIP cleaning of the line system.
- Leakages at the diaphragm are indicated via the safety indicator screw at the leakage drain.
- Maintainable actuator.
- Optical valve position indicator on the actuator cover.
- The pneumatic actuator can be equipped with an electric position switch (proximity switch) to indicate the current valve position.
- The valve diaphragm shaft consists of TFM material.
- Different housing variants (see spare parts drawings) are available.
- **Connections:**

Beside the housings with weld ends according to DIN 11850 and ISO 1127 the following connections are alternatively available:

  - clamp connection according to DIN 32676
  - clamp connection according to ISO 2852

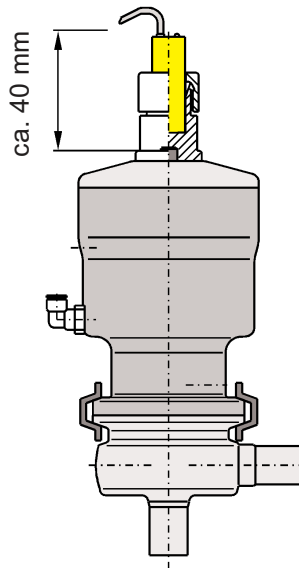


## 5. Auxiliary Equipment

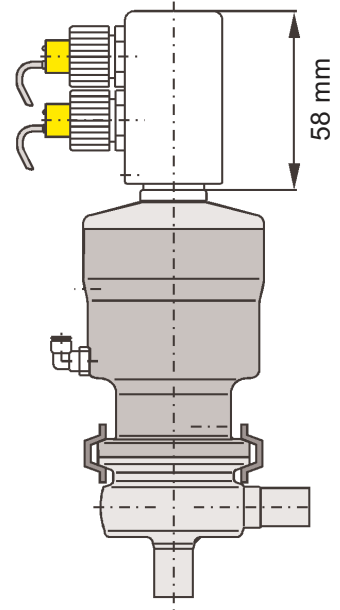
### 5.1 Valve position indication / proximity switch

- The pneumatic actuator equipped with one or two electric position switches (proximity switches) to indicate the current valve position.

feedback of valve position by one proximity switch (PSH1)



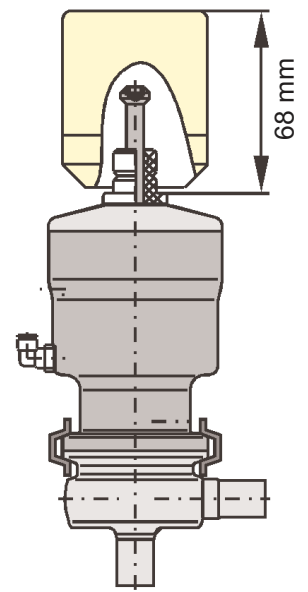
feedback of valve position by two proximity switches (PSH2)



### 5.2 Valve position indication / micro switch

- The pneumatic actuator can be equipped with an electric position switch (proximity switch) to indicate the current valve position.

feedback of valve position by 2 micro switches

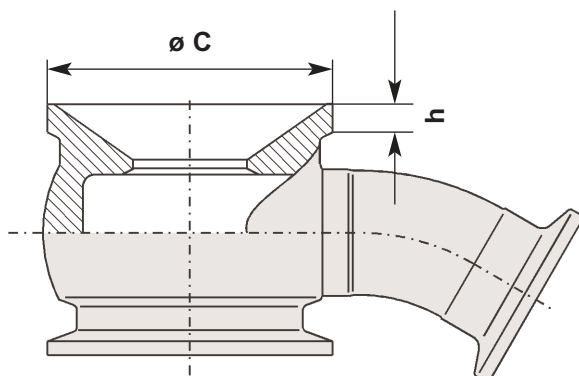


## 6. Installation

- The installation of the valve must be undertaken in such a manner that fluids can drain off the valve housing and should be provided preferably in vertical position.
- The valve housing can be welded direct into the pipeline (completely dismantable valve insert).
- **Attention:** Observe welding instructions.

### 6.1 Welding Instructions Shut-off valve AP/APT

- Before welding of the valve, the valve insert must be dismantled from the housing (see paragraph 11.1.2. - 4.). Careful handling to avoid damage to the parts is necessary.
- To weld APT valves in tanks, the corresponding dimensions for the preparation of the tank bore can be drawn from table 1.
- Welding should 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 the valve body is not deformed.
- The preparation of the weld seam must be carried out 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 damage or destroy the diaphragm shaft.
- Any damage resulting from the non-observance 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.

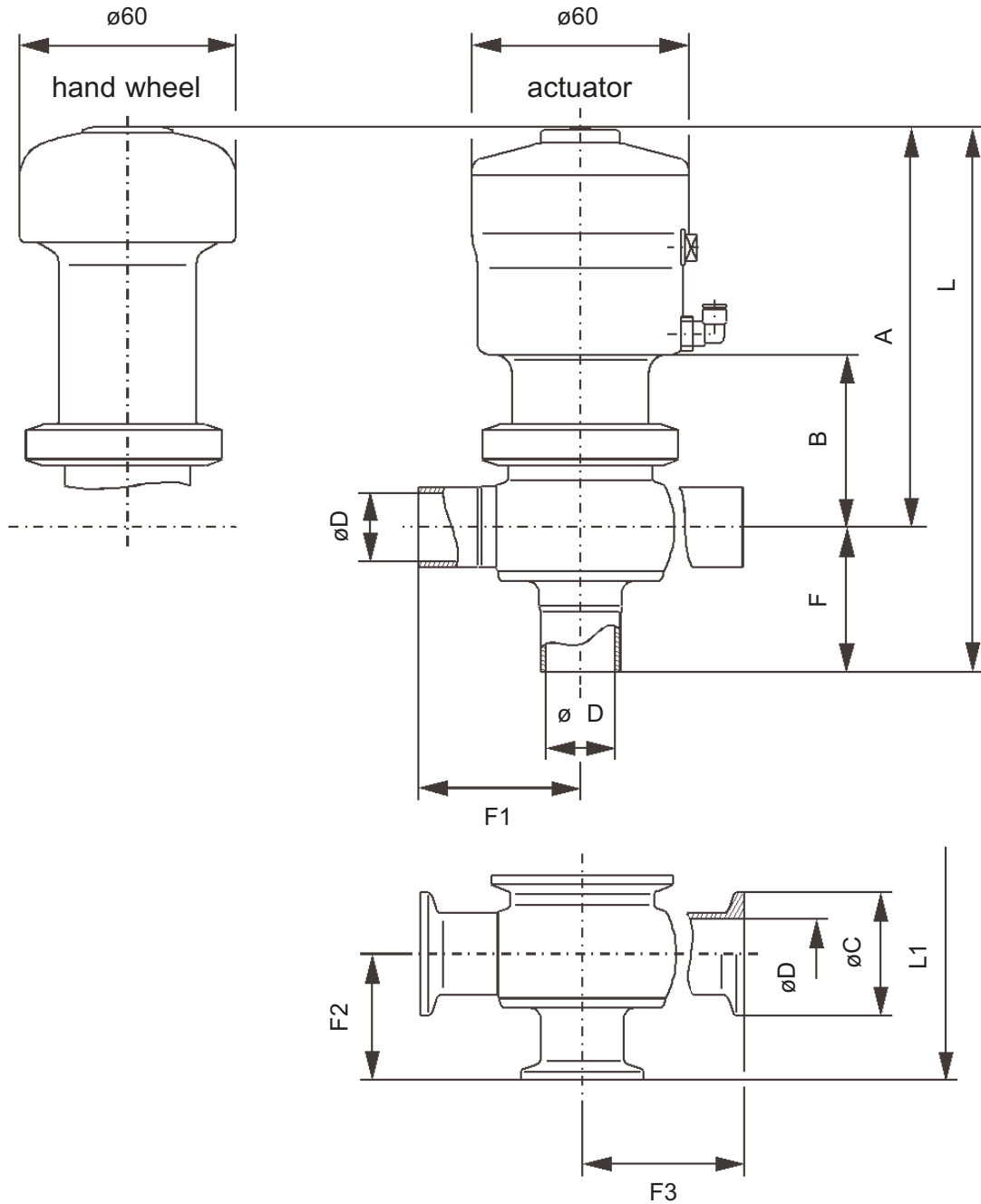


### 5.2 dimensions in mm for the tank bore

DN	Inch	ø C -0,1	h
10	1/2"	46	3
15		46	3
20		46	5

## 7. Dimensions

### 7.1 Dimensions AP1

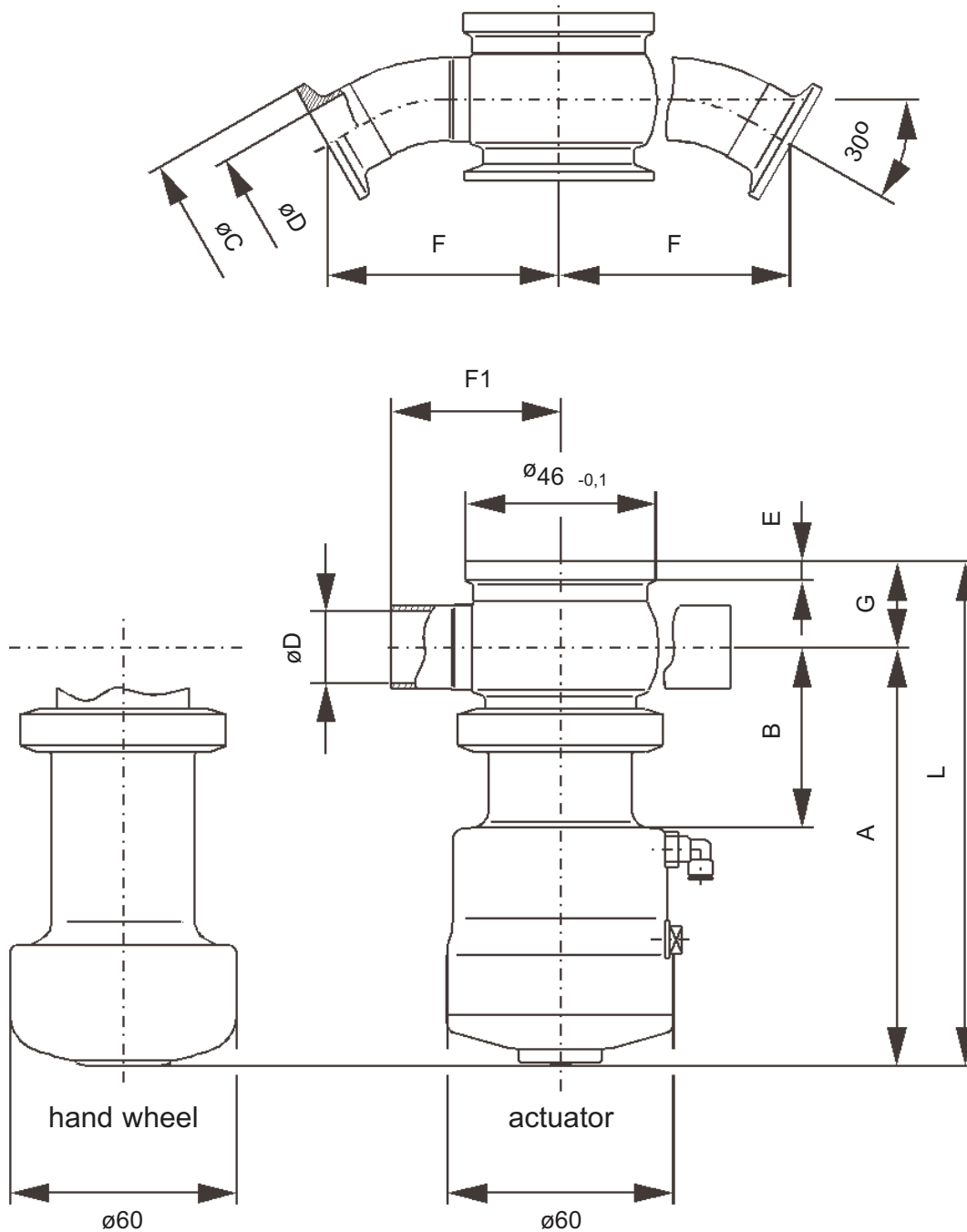


dimensions in mm

DN	$\phi D$	F	F1	F2	F3	A	B	$\phi C$	L	L1
1/2"	9,5	30	45	19,5	41	105	43	25	135	124,5
10	10	30	45	19,5	41	105	43	25	135	124,5
15	16	35	45	30	45	105	46	34	153	138
20	20	40	45	35	45	105	48	34	155	138

## 7. Dimensions

### 7.2 Dimensions APT1



Dimensions in mm

DN	øD	F	F1	A	B	øC	E	G	L
1/2"	9,5	53,5	45	105	43	25	3	17,5	122,5
10	10	53,5	45	105	43	25	3	17,5	122,5
15	16	59	45	108	46	34	3	18,7	123,7
20	20	61	45	110	48	34	5	22,8	132,8

## 7. Dimensions / Weights

### 7.3 Weights in kg

AP1-NC = (actuator operated)

AP1-M = (manual operation)

DN / Inch	AP1 - NC metal actuator	AP1 - NC
10 / 1/2"	1,5 kg	0,9 kg
15	1,6 kg	1,0 kg
20	1,65 kg	1,05 kg

DN / Inch	AP1 - M metal actuator	AP1 - M plastic actuator
10 / 1/2"	1,2 kg	0,85 kg
15	1,3 kg	0,95 kg
20	1,35 kg	1,0 kg

## 8. Technical Data

### 8.1 General

line pressure	<b>10 bar</b>
max. operating temperature	135°C
short-term load	150°C
air connection (for hose)	4x1mm standard
max. pneumatic air pressure	10 bar
min. pneumatic air pressure	6 bar

### 8.2 Specification of compressed air

<b>compressed air quality:</b>	quality class according to DIN ISO 8573-1
<b>content of solid particles:</b>	<b>Qualitätsklasse 3</b> max. size of solid particles per m <sup>3</sup> 10000 of 0,5µm < d < 1,0µm 500 of 1,0µm < d < 5,0µm
<b>content of water:</b>	<b>quality class 4</b> 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.
<b>content of oil:</b>	<b>quality class 1</b> max. 0,01mg/m <sup>3</sup>

**The oil applied must be compatible with Polyurethane elastomer materials.**

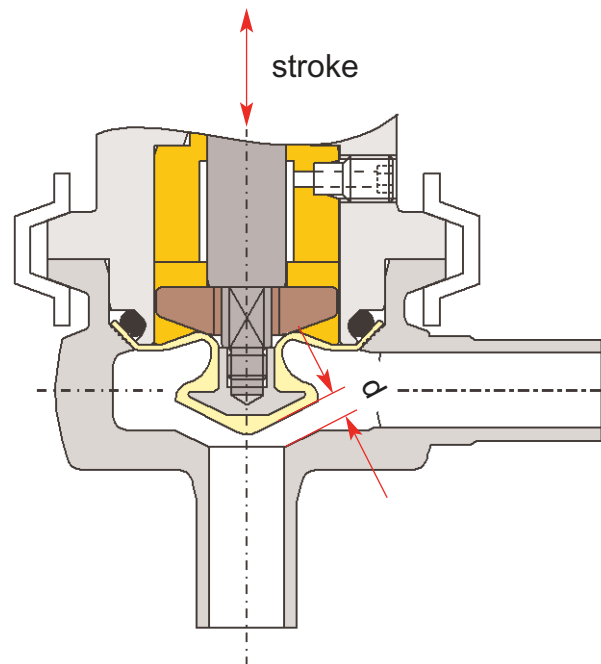
## 8. Technical Data

<b>8.3</b>	closing times in sec pneumatic pressure 6 bar	
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DN	hose length 1 m	hose length 10 m
10, 15, 20	0,1 sec.	0,4 sec.

<b>8.4</b>	shut-off valve AP1		
DN			

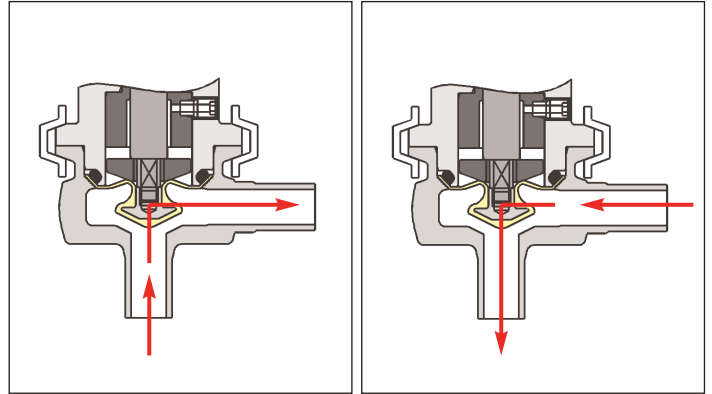
	stroke	closing pressure	opening gap (d)
10	4 mm	10 bar	ø 3,6 mm
15	4 mm	10 bar	ø 3,6 mm
20	4 mm	10 bar	ø 3,6 mm



## 8. Technical Data

### 8.5

flow valves kvs in m<sup>3</sup>/h



DN	Inch		
10	1/2"	1,5 m <sup>3</sup> /h	1,5 m <sup>3</sup> /h
15			
20		5,5 m <sup>3</sup> /h	7,0 m <sup>3</sup> /h

## 9. Materials

- **Product-wetted parts**
  - housing **1.4404 (316L)**  
(DIN EN 10088)  
**optional 1.4435**  
(DIN EN 10088)
- **Other parts**
  - actuator, actuator cover **PPS40**  
**optional 1.4301 (304L)**  
(DIN EN 10088)
  - piston rod, clamp **1.4301 (304L)**  
(DIN EN 10088)
  - proximity switch holder, plug **PA 12 black**
- **Seals**
  - diaphragm shaft **TFM**

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## 10. Maintenance

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- The maintenance intervals depend on the application and should be determined by the operator carrying out temporary checks.
  
- Tools required:
  - 1 x spanner SW8
  - 1 x spanner SW13
  - 1 x wrench SW12
  - 1 x wrench SW5
  - 1 x wrench SW3
  
- For the valve service we supply complete seal kits (pl. see spare parts lists).  
The appropriate seal grease forms part of this scope of supply.
  
- The replacement of seals is undertaken according to the Service Instructions.
  
- The disassembly and assembly of the valve is undertaken according to the Service Instructions.
  
- **All seals must be provided with a thin layer of grease before their installation!!!**

Attention!            Use only food-grade grease and special grease 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; H147382)  
(60 g /tube        - ref.-No. 000 70-01-018/93; H147381)

### **Recommendation for screw retention**

Type:                Loctite 243 semi-solid  
                          (50 ml - ref.-No. 00070-01-111/93; H206336)

### **Recommendation for piston seal**

APV pneumatic grease:  
(25 ml / tube       - ref.-No. 000-70-01-008/93; H164725)



## 11. Service Instructions

### 11.1. Dismantling from the line system AP1 / APT1

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

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

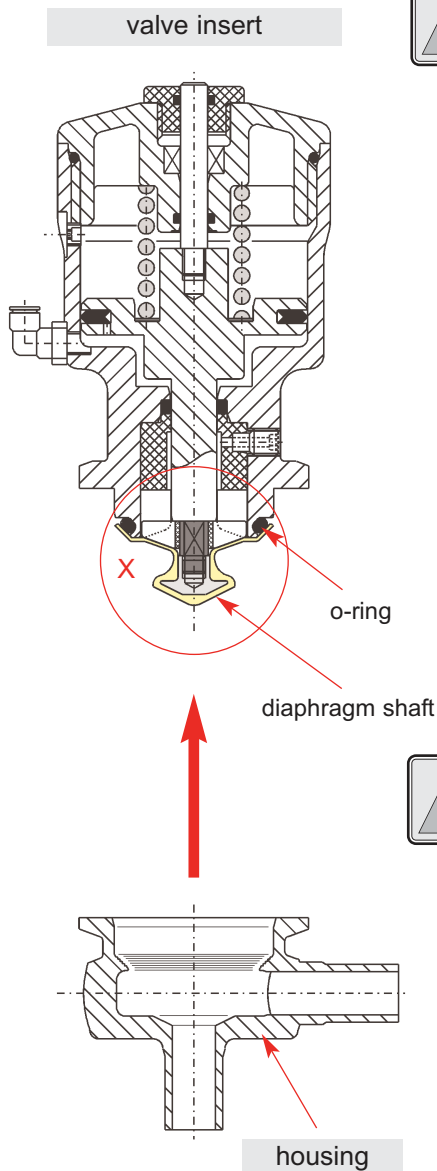


**Do not touch movable parts!**  
**Risk of injury.**

**Valve design NO:** For the disassembly from the line system compressed air is not required.

3. Remove the clamp and lift the complete valve insert including actuator out of the housing.

4. **Valve design NC:** Cut off compressed air.



### 11.2. Dismantling of product-wetted parts

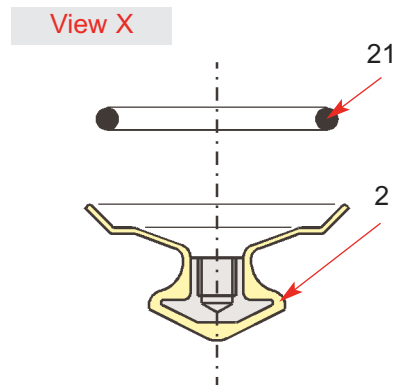
1. Pull the diaphragm shaft (2) from the piston rod (17) and remove the o-ring (21).

2. **Valve design NO:** Control the actuator with compressed air.



**Do not touch movable valve parts!**  
**Risk of injury.**

3. Remove the diaphragm shaft and o-ring.  
- Cut off compressed air.



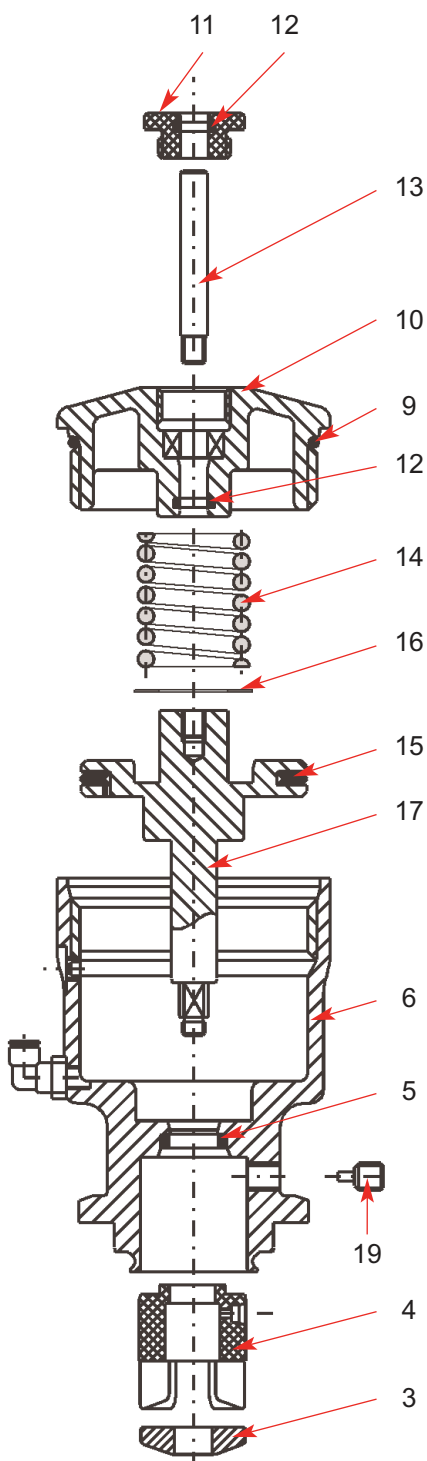
## 11. Service Instructions

### 11.3. Disassembly and maintenance of actuator unit

The item numbers refer to the spare parts drawings  
**AP1, APT1:** actuated design **RN 01.064.8**

- **Design with valve position indicator:**  
 Remove the cover of the valve position indicator (22).  
 Turn off the actuating pin (24) with the wrench SW4.  
 Remove the adaptor plug (23) from the actuator cover.
- **Design with proximity switch holder:**  
 Remove the proximity switch (26).  
 Remove the proximity switch holder (25) from the actuator cover (10). Turn off the indicator pin (13) with a nipper.  
**(Attention: Do not damage the indicator pin.)**

1. Turn off the thread pin (11) and remove the o-ring (12).
2. Turn the actuator cover (10) with the wrench SW12 off the actuator. Remove the o-ring (9) and the o-ring (12).
3. Pull the pressure spring (14), disc (16) and piston rod (17) to the top off the actuator. Remove the piston seal (15) from the piston.
4. Turn off the safety indicator screw (19) with the wrench SW3. Remove the fan (3) and diaphragm support (4) to the bottom out of the actuator. Remove the quadding (5).
5. All seals can be serviced.



## 11. Service Instructions

### 11.4. Assembly of actuator unit

The item numbers refer to the spare parts drawings  
**AP1, APT1:** actuated design **RN 01.064.8**

**! Provide all seals with a thin layer of grease.**

**! Attention only for the piston seal  
 the appropriate pneumatic grease must be used  
 (see paragraph 9).**

1. Insert the piston seal (15) in the piston rod (17).  
 Place the disc (16) in the groove of the piston rod.  
 Insert the piston rod with disc from the top into the actuator (6)  
 until it stops. Insert the pressure spring (14).

2. Insert the o-ring (12) and o-ring (9) in the housing cover.  
 Turn the housing cover manually in the lower actuator.

3. Slide the quadding (5) on the stud of the piston rod.  
 Slide the diaphragm support (4) from the bottom into the actuator.  
 During this process, the quadding is guided into the groove of  
 the actuator.

**Attention:** When introducing the diaphragm support  
 in the actuator, observe the bore position  
 for the safety indicator screw (19).

4. Provide the thread of the safety indicator screw (19) with Loctite.  
 Fasten the indicator screw in the thread of the actuator  
 (diaphragm support is fixed by stud of indicator screw).

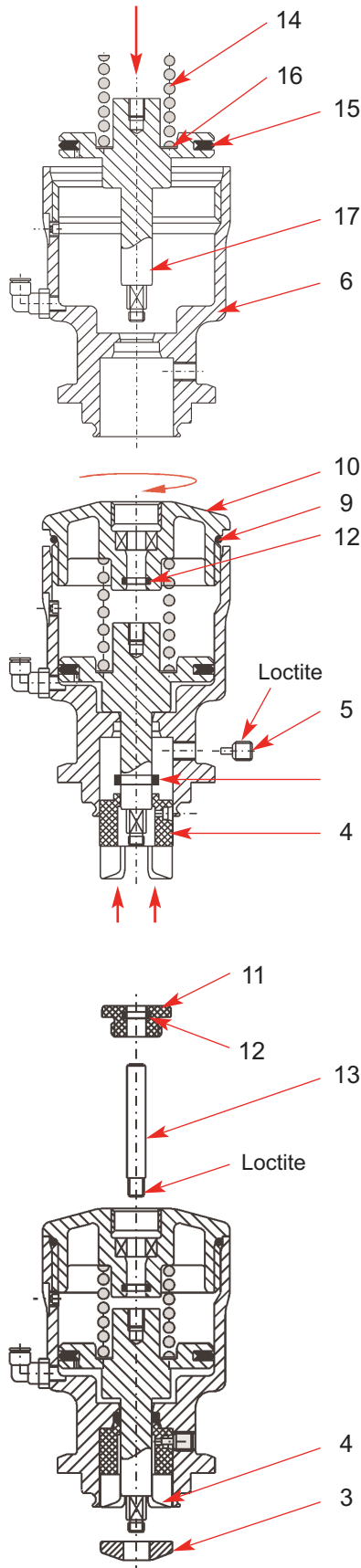
5. Insert the fan (3) in the diaphragm support (4).  
**Attention:** The fan must lock in the diaphragm support.

6. Fasten the actuator cover (10) with a wrench SW12.

7. Provide the thread of the indicator pin (13) with Loctite.  
 Turn the indicator pin manually through the actuator cover in the  
 piston rod and tighten it with a nipper.

**Attention:** The indicator pin must not be damaged.

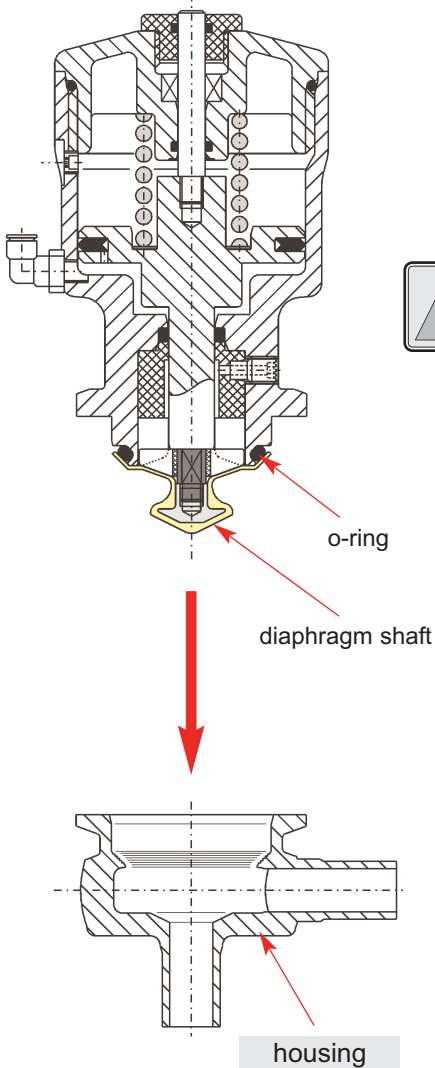
8. Insert the o-ring (12) in the thread plug.  
 Tighten the thread plug.



## 11. Service Instructions

### 11.5. Assembly of product-wetted sealing elements

1. Insert the o-ring (21) in the groove of the actuator.  
Fasten the diaphragm shaft (2) manually on the thread of the piston rod.



### 11.6. Assembly of the valve

1. **Valve design NC:** Control the actuator with compressed air.



**Do not touch movable valve parts!**  
**Risk of injury.**

2. **Attention:** Before placing the valve insert in the housing, clean the inner space of the housing (use appropriate cleaning agent).

- Place the valve insert in the housing and fasten it with the clamp.

3. **Cut off compressed air.**

**Valve design NO:** Compressed air is not required for assembly.

## 12. Trouble Shooting

<b>Failure</b>	<b>Remedy</b>
Valve does not seal up. Leakage from the safety indicator screw.	<b>Replace o-ring (21) and diaphragm shaft (2). Check line pressure: Adm. line pressure see paragraph 7.</b>
Leakage between housing and actuator in the clamp area.	<b>Replace o-ring (21) and diaphragm shaft (2).</b>
Actuator does not work, air escapes permanently in the area of the actuator cover or indicator pin.	<b>Replace piston seal (15), o-ring (9) and o-rings (12).</b>
Compressed air escapes from the safety indicator screw.	<b>Replace quading (5).</b>
Valve position indication from proximity switch is missing or is imprecise.	<b>Adjust proximity switch. Plug proximity switch in proximity switch holder until stop.</b>

**!** *If damaged seals are replaced, generally all seals should be renewed.  
For valve service actions APV supplies complete seal kits  
(see spare parts lists.)*

## 13. Spare Parts Lists

The reference numbers of the spare parts for the different valve designs and sizes are included in the attached spare parts drawings with corresponding lists.

Please indicate the following data to place an order for spare parts:

- number of parts required
- reference number
- designation.

Data are subject to change.



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Ersatzteilliste: spare parts list

**AP1, APT1-Ventil FS, FH, L/L, VSM-Microschalter, Initiatorhalter**  
**AP1, APT1-valve NC, NO, air/air, PSH-microswitch, prox.switch holder**  
**DN 1/2", 10, 15, 20-S und/and Clamp**

Datum: 07.01.13

Name: Trytko

Geprüft:

Datum:

Name:

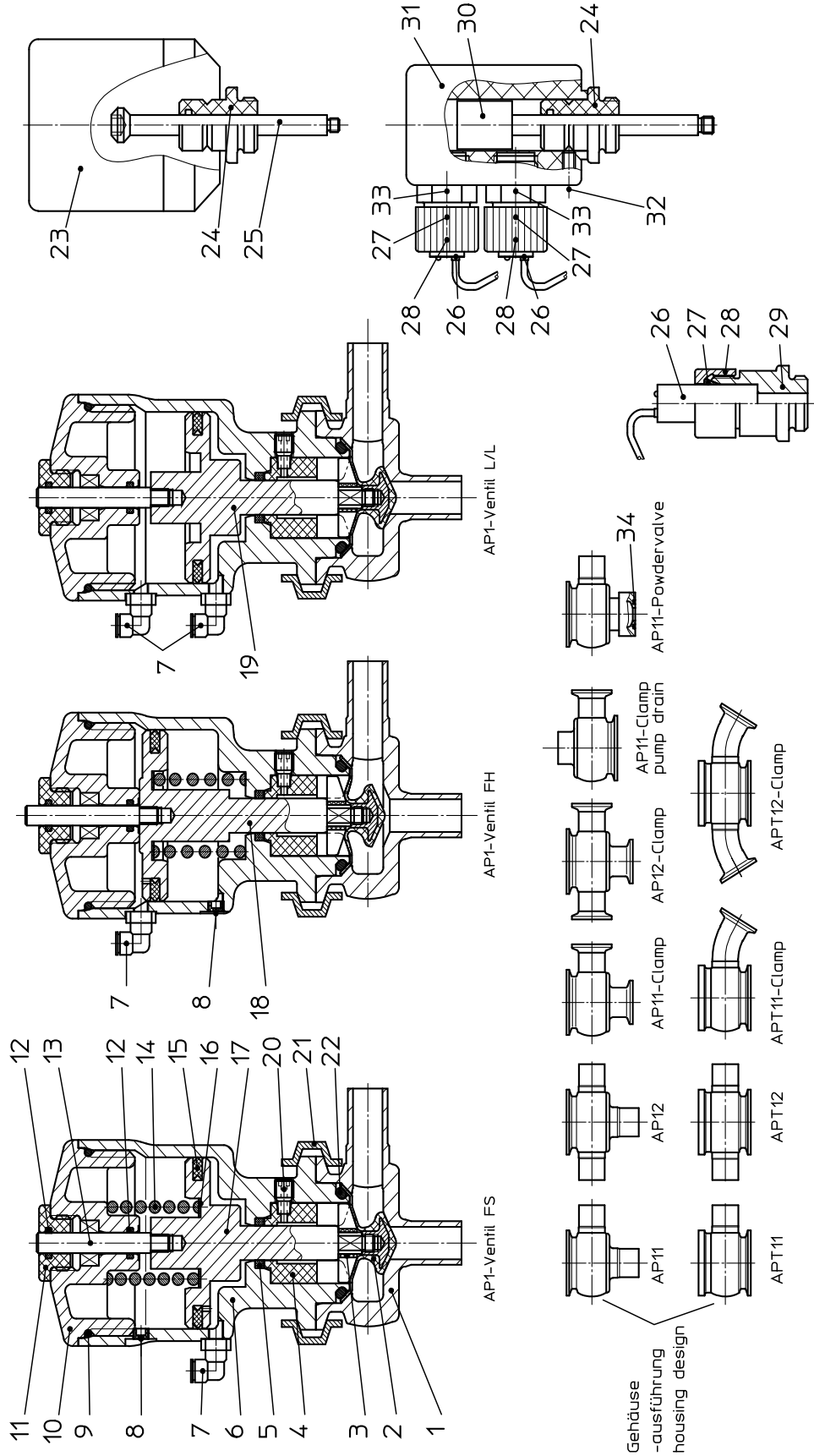
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**RN 01.064.8**



SPX Flow Technology Rosista GmbH  
D-59425 Umma Germany



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**AP1, APT1-valve NC, NO, air/air, PSH-microswitch, prox.switch holder**  
**DN 1/2", 10, 15, 20-S und/and Clamp**

Datum:	07.01.13
Name:	Trytko
Geprüft:	
Datum:	
Name:	
Geprüft:	

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RN 01.064.8	

	
SPX Flow Technology Rosista GmbH D-59425 Unna Germany	

pos.	item	Menge	Beschreibung	Material	DN1/2"	DN10	DN15	DN20	pump drain DN10	powdervolve DN10
			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.
1	Gehäuse Housing	1	AP11 1+2S metallblank/bright metal fin.	1.4404	000 39-41-223/42 H316880	000 39-41-148/42 H317691	000 39-41-198/42 H318121	000 39-41-248/42 H316882		
1	Gehäuse Housing	1	AP12 1+2+3S metallblank/bright metal fin.	1.4404	000 39-42-223/42 H316881	000 39-42-148/42 H317695	000 39-42-198/42 H318125	000 39-42-248/42 H316883		
1	Gehäuse Housing	1	AP11 1+2S handpoliert/manually polish.	1.4435	318 39-41-223/86 H316260	318 39-41-148/86 H317693	318 39-41-198/86 H318122	318 39-41-248/86 H316289		
1	Gehäuse Housing	1	AP12 1+2+3S handpoliert/manually polish.	1.4435	318 39-42-223/86 H316261	318 39-42-148/86 H317697	318 39-42-198/86 H318123	318 39-42-248/86 H316291		
1	Gehäuse Housing	1	APT11 1+2S metallblank/bright metal fin.	1.4404						
1	Gehäuse Housing	1	APT12 1+2+3S metallblank/bright metal fin.	1.4404						
1	Gehäuse Housing	1	APT11 1+2S handpoliert/manually polish.	1.4435			318 39-43-198/86 H329505			
1	Gehäuse Housing	1	APT12 1+2+3S handpoliert/manually polish.	1.4435						
1	Gehäuse Housing	1	AP11 1+2 Clamp metallblank/bright metal fin.	1.4404	000 39-41-225/42 H316884	000 39-41-150/42 H317692	000 39-41-200/42 H318126	000 39-41-250/42 H316886		
1	Gehäuse Housing	1	AP12 1+2+3 Clamp metallblank/bright metal fin.	1.4404	000 39-42-225/42 H316885	000 39-42-150/42 H317696	000 39-42-200/42 H318127	000 39-42-250/42 H316887		
1	Gehäuse Housing	1	AP11 1+2 Clamp handpoliert/manually polish.	1.4435	318 39-41-225/86 H316288	318 39-41-150/86 H317694	318 39-41-200/86 H318124	318 39-41-250/86 H316390		
1	Gehäuse Housing	1	AP12 1+2+3 Clamp handpoliert/manually polish.	1.4435	318 39-42-225/86 H316290	318 39-42-150/86 H317698	318 39-42-200/86 H318128	318 39-42-250/86 H316391		
1	Gehäuse Housing	1	APT11 1+2 Clamp metallblank/bright metal fin.	1.4404	000 39-43-225/42 H316888	000 39-43-150/42 H317723	000 39-43-200/42 H318131	000 39-43-250/42 H317396		
1	Gehäuse Housing	1	APT12 1+2+3 Clamp metallblank/bright metal fin.	1.4404	000 39-44-225/42 H316889	000 39-44-150/42 H317725	000 39-44-200/42 H318132	000 39-44-250/42 H317398		
1	Gehäuse Housing	1	APT11 1+2 Clamp handpoliert/manually polish.	1.4435	318 39-43-225/86 H316392	318 39-43-150/86 H317724	318 39-43-200/86 H318129	318 39-43-250/86 H316292		
1	Gehäuse Housing	1	APT12 1+2+3 Clamp handpoliert/manually polish.	1.4435	318 39-44-225/86 H316393	318 39-44-150/86 H317726	318 39-44-200/86 H318130	318 39-44-250/86 H316293		



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Ersatzteilliste: spare parts list

**AP1, APT1-Ventil FS, FH, L/L, VSM-Microschalter, Initiatorhalter**  
**AP1, APT1-valve NC, NO, air/air, PSH-microswitch, prox.switch holder**  
**DN 1/2", 10, 15, 20-S und/and Clamp**

Datum:	07.01.13
Name:	Trytko
Geprüft:	
Datum:	
Name:	
Geprüft:	
Blatt 3 von 6	
RN 01.064.8	

Material		DN1/2"	DN10	DN15	DN20	pump drain DN10	powdervolve DN10
		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	Gehäuse Housing	AP11 1S matt/finish	1.4404				
1	Gehäuse Housing	AP11 1S handpoliert/manually polish.	1.4435				
1	Gehäuse Housing	AP11 1Clamp metallblank/bright metal fin.	1.4404				
1	Gehäuse Housing	AP11 1Clamp handpoliert/manually polish.	1.4435				
2	Membranschacht Diaphragm shaft		TFM 1705	39-22-982/22 H318047	39-22-983/22 H316240	318 39-41-149/86 H317786	000 39-41-900/47 H320004
3	Stern AP10-20 Star AP10-20		PPS 40	08-48-501/93 H316237			
4	Membranunterstützung Membrane support		PPS 40	08-48-500/93 H316238			
5	Quadring	QRAR 4111A-V7002	FKM	58-01-796/73 H316246			
1	Steuerkopf unten Actuator lower	handpoliert / manually polished	1.4301	15-31-086/13 H316875			
1	Steuerkopf unten Actuator lower	metallblank / bright metal finish	1.4301	15-31-086/12 H316269			
1	Steuerkopf unten Actuator lower		PPS 40	15-31-086/93 H317393			
1	Luftanschluss Air-Connecting	M5		08-63-102/93 H316242			
1	Filternippel für AP10-20 kurz Filter nipple for AP 10-20 short			08-74-061/93 H316603			
1	O-Ring	ø47,6 x 2,4	FKM (FPM)	58-06-215/73 H316245			
1	Steuerkopfdeckel Actuator cover	handpoliert / manually polished	1.4301	08-43-054/13 H316874			
1	Steuerkopfdeckel Actuator cover	metallblank / bright metal finish	1.4301	08-43-054/12 H316270			



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Ersatzteilliste: spare parts list

**AP1, APT1-Ventil FS, FH, L/L, VSM-Microschalter, Initiatorhalter  
AP1, APT1-valve NC, NO, air/air, PSH-microswitch, prox.switch holder  
DN 1/2", 10, 15, 20-S und/and Clamp**

pos. item	Menge quantity	Beschreibung description	Material	DN1/2"	DN10	DN15	DN20	pump drain DN10	powdervalue DN10
				WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	
	1	Steuerkopfdeckel Actuator cover	PPS 40				08-43-054/93 H317394		
11	1	Gewindestopfen Threaded plug	PA12 schwarz				08-74-045/93 H316263		
12	2	O-Ring O-ring	EPDM WS 287				58-06-026/63 H316244		
13	1	Anzeigestift Indicator pin	1.4301				08-07-224/12 H316265		
14	1	Druckfeder Pressure feather	1.4310				60-06-401/13 H316169		
15	1	Kolbendichtung Piston seal	NBR				58-01-010/83 H76274		
16	1	Scheibe Disk	1.4310				08-58-070/12 H316264		
17	1	Kolbenstange FS Piston rod NC	1.4301				15-23-966/12 H316266		
18	1	Kolbenstange FH Piston rod NO	1.4301				15-23-967/12 H316267		
19	1	Kolbenstange L/L Piston rod air/air	1.4301				15-23-968/12 H317624		
20	1	Sicherungs-Anzeigeschraube Safety-indicator screw	1.4301				08-07-225/12 H316262		
21	1	Gelenkklemme Joint clamp	1.4301				42-40-282/13 H121708		
22	1	O-Ring O-ring	FKM grün FPM				58-06-099/73 H316243		
23	1	VSM-Microschalter 12 VSM-Microswitch 12	1.4301 PA12				08-60-450/93 H316744		
24	1	Adapterstopfen Adapter pin	PA12 schwarz				08-74-044/93 H316637		
25	1	Betätigungsstift Actuating pin	1.4301				08-07-214/12 H316720		

Datum:	07.01.13
Name:	Tryko
Geprüft:	

Datum:	
Name:	
Geprüft:	


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<b>RN 01.064.8</b>			



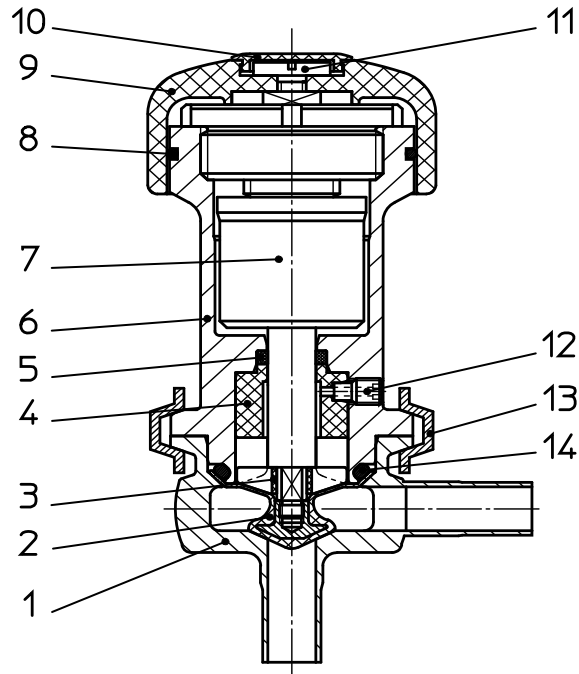
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Ersatzteilliste: spare parts list

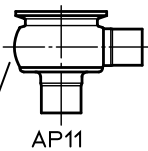
**AP1, APT1-Ventil FS, FH, L/L, VSM-Microschalter, Initiatorhalter  
AP1, APT1-valve NC, NO, air/air, PSH-microswitch, prox.switch holder  
DN 1/2", 10, 15, 20-S und/and Clamp**

		Datum: 07.01.13		Tryko		Blatt 5 von 6		 SPX Flow Technology Rosista GmbH D-59425 Umma Germany		
		Name:		Geprüft:		Name:		Geprüft:		
		Datum:		Name:		Geprüft:		RN 01.064.8		
pos.	item	Menge	Beschreibung	Material	DN1/2"	DN10	DN15	DN20	pump drain DN10	powdervolve DN10
			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.
26	1	1	Initiator Proximity switch 5m Kabel/cable				08-60-011/93 H16223			
27	1	1	Initiator Klemmring Proximity switch-clamp	PA6.6 schwarz		58--25-001/93 H152062				
28	1	1	Überwurfmutter Initiator Nut-proximity switch	PA6.6 schwarz		07-10-025/93 H152063				
29	1	1	Initiatorhülse Sleeve for proximity switch	PA12 schwarz		15-33-937/93 H316564				
30	1	1	Schaltlocke mit Betätigung AP1 Operating cam with actuating pin	1.4301		08-52-296/14 H317471				
31	1	1	Initiatorhalterung AP1 Proximity switch holder	PA12 schwarz		15-33-160/93 H317449				
32	1	1	Gewindestift mit Innenskt. Thread pin with inner hexogen	1.4301		65-15-034/13 H317477				
33	1	1	Initiatorhülse Sleeve for proximity switch	PA6.6 schwarz		16-33-100/93 H152061				
34			O-ring O-ring ø15 x 2,5	EPDM FDA-konform						58-06-052/64 H206007
<b>Pos. 2, 5, 9, 12, 15, 22, 34 nur im kompletten Dichtungssatz erhältlich Item 2, 5, 9, 12, 15, 22, 34 available as complete seal kits only</b>										
	1		Dichtungssatz Seal kit	PTFE	58-34-993/03 H317062	58-34-994/03 H317063	58-34-995/03 H317064	58-34-098/03 H324861		58-34-198/03 H323149
	1		VSM-AP1 Komplett PSH-AP1 complete Pos./item 24, 27, 28, 30, 31, 32, 33				15-33-161/93			H317450

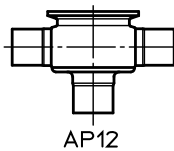




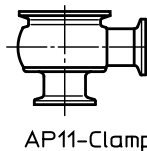
Gehäuseausführung  
housing design



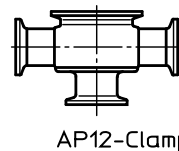
AP11



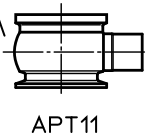
AP12



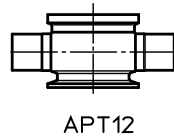
AP11-Clamp



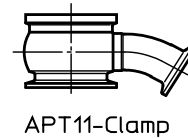
AP12-Clamp



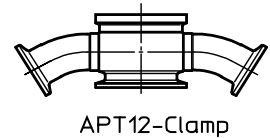
APT11



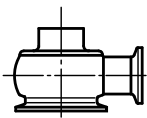
APT12



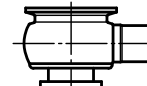
APT11-Clamp



APT12-Clamp



AP11-Clamp  
pump drain



AP11-Powder valve

15

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Datum:	15.01.13																			
Name:	Trytko																			
Geprüft:																				

Ersatzteilliste: spare parts list  
**AP1, APT1-Ventil Handantrieb**  
**AP1, APT1-valve manual handle**  
**DN 1/2", 10, 15, 20 -S und / and -Clamp**



SPX Flow Technology Rosista GmbH  
D-59425 Unna Germany

Blatt 1 von 4


**RN 01.064.8-1**

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Ersatzteilliste: spare parts list

**AP1, APT1-Ventil Handantrieb**

**AP1, APT1-valve manual handle  
DN 1/2", 10, 15, 20 -S und / and -Clamp**


		Datum: 15.01.13				Blatt 2 von 4		 SPX Flow Technology Rosista GmbH D-59425 Unna Germany		
		Name: Trytko						RN01.064.8-1		
		Geprüft:								
		Datum:								
		Name:								
		Geprüft:								
pos.	item	Menge	Beschreibung	Material	DN1/2"	DN10	DN15	DN20	pump drain DN10	powdervalve DN10
		1	Gehäuse Housing AP11 1+2S metallblank/bright metal fin.	1.4404	000 39-41-223/42 H316880	000 39-41-148/42 H317691	000 39-41-198/42 H318121	000 39-41-248/42 H316882	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing AP12 1+2+3S metallblank/bright metal fin.	1.4404	000 39-42-223/42 H316881	000 39-42-148/42 H317695	000 39-42-198/42 H318125	000 39-42-248/42 H316883	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing AP11 1+2S handpoliert/manually polish.	1.4435	318 39-41-223/86 H316260	318 39-41-148/86 H317693	318 39-41-198/86 H318122	318 39-41-248/86 H316289	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing AP12 1+2+3S handpoliert/manually polish.	1.4435	318 39-42-223/86 H316261	318 39-42-148/86 H317697	318 39-42-198/86 H318123	318 39-42-248/86 H316291	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing APT11 1+2S metallblank/bright metal fin.	1.4404						
		1	Gehäuse Housing APT12 1+2+3S metallblank/bright metal fin.	1.4404						
		1	Gehäuse Housing APT11 1+2S handpoliert/manually polish.	1.4435			318 39-43-198/86 H329505			
		1	Gehäuse Housing APT12 1+2+3S handpoliert/manually polish.	1.4435						
1		1	Gehäuse Housing AP11 1+2 Clamp metallblank/bright metal fin.	1.4404	000 39-41-225/42 H316884	000 39-41-150/42 H317692	000 39-41-200/42 H318126	000 39-41-250/42 H316886	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing AP12 1+2+3 Clamp metallblank/bright metal fin.	1.4404	000 39-42-225/42 H316885	000 39-42-150/42 H317696	000 39-42-200/42 H318127	000 39-42-250/42 H316887	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing AP11 1+2 Clamp handpoliert/manually polish.	1.4435	318 39-41-225/86 H316288	318 39-41-150/86 H317694	318 39-41-200/86 H318124	318 39-41-250/86 H316390	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing AP12 1+2+3 Clamp handpoliert/manually polish.	1.4435	318 39-42-225/86 H316290	318 39-42-150/86 H317698	318 39-42-200/86 H318128	318 39-42-250/86 H316391	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing APT11 1+2 Clamp metallblank/bright metal fin.	1.4404	000 39-43-225/42 H316888	000 39-43-150/42 H317723	000 39-43-200/42 H318131	000 39-43-250/42 H317396	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing APT12 1+2+3 Clamp metallblank/bright metal fin.	1.4404	000 39-44-225/42 H316889	000 39-44-150/42 H317725	000 39-44-200/42 H318132	000 39-44-250/42 H317398	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing APT11 1+2 Clamp handpoliert/manually polish.	1.4435	318 39-43-225/86 H316392	318 39-43-150/86 H317724	318 39-43-200/86 H318129	318 39-43-250/86 H316292	WS-Nr. ref.-no.	WS-Nr. ref.-no.
		1	Gehäuse Housing APT12 1+2+3 Clamp handpoliert/manually polish.	1.4435	318 39-44-225/86 H316393	318 39-44-150/86 H317726	318 39-44-200/86 H318130	318 39-44-250/86 H316293	WS-Nr. ref.-no.	WS-Nr. ref.-no.

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Ersatzteilliste: spare parts list

**AP1, APT1-Ventil Handantrieb**  
**AP1, APT1-valve manual handle**  
**DN 1/2", 10, 15, 20 -S und / and -Clamp**

Datum:	15.01.13	Blatt	3	von	4
Name:	Trytko				
Geprüft:					
Datum:					
Name:					
Geprüft:					

										 SPX Flow Technology Rosista GmbH D-59425 Uzna Germany	
										<b>RN01.064.8-1</b>	

pos.	item	quantity	Beschreibung	description	Material	DN1/2"	DN10	DN15	DN20	pump drain	powdervolve
						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	Gehäuse Housing	1	AP11 1S matt/finish		1.4404						
1	Gehäuse Housing	1	AP11 1S handpoliert/manually polish.		1.4435						
1	Gehäuse Housing	1	AP11 1Clamp metallblank/bright metal fin.		1.4404						
1	Gehäuse Housing	1	AP11 1Clamp handpoliert/manually polish.		1.4435						
2	Membranschaft Diaphragm shaft	1			TFM 1705	39-22-980/22 H316239	39-22-982/22 H318047	39-22-983/22 H316240	39-22-986/22 H317787		
3	Stern AP10-20 Star AP10-20	1			PPS 40		08-48-501/93 H316237				
4	Membranunterstützung Membrane support	1			PPS 40		08-48-500/93 H316238				
5	Quadring Quadring	1	QRAR 4111A-V7002		FKM		58-01-796/73 H316246				
1	Steuerkopf unten Actuator lower	1	handpoliert / manually polished		1.4301		15-31-085/13 H316873				
6	Steuerkopf unten Actuator lower	1	metallblank / bright metal finish		1.4301		15-31-085/12 H316257				
1	Steuerkopf unten Actuator lower	1			PPS 40		15-31-085/93 H317395				
7	Kolbenstange Piston rod	1			1.4301		15-23-965/12 H316254				
8	O-Ring O-ring	1	ø47,6 x 2,4		FKM (FPM)		58-06-215/73 H316245				
9	Handrad Hand wheel	1			PPS 40		08-43-050/93 H316250				
10	Abdeckstopfen Plug	1			PE-LLD		08-74-046/93 H316286				
11	Flachkopfschraube Pan head screw	1	M5 x 12		1.4301		65-04-327/13 H316805				







# APV DELTA AP1/APT1

ASEPTIC PROCESS VALVE

# SPXFLOW

## SPX FLOW

### Design Center

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D-59439 Holzwickede, Germany  
P: (+49) (0) 2301-9186-0  
F: (+49) (0) 2301-9186-300

## SPX FLOW

### Production

Stefana Rolbieskiego 2  
PL- Bydgoszcz 85-862, Poland  
P: (+48) 52 566 76 00  
F: (+48) 52 525 99 09

SPX FLOW reserves the right to incorporate the latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this manual, are provided for your information only and should not be relied upon unless confirmed in writing. Please contact your local sales representative for product availability in your region.

For more information visit [www.spxflow.com](http://www.spxflow.com).

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