SPXFLOW

INSTRUCTION MANUAL

APV DELTA SV1 DN25-100, 1”-4”

BUTTERFLY VALVE

SAFETY AGAINST EXPLOSION - FOR SPECIFIC ATEX-APPLICATIONS

FORM NO.: H330424 REVISION: UK-0-ATEX

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

APV®

EU Declaration of Conformity
for Valves and Valve Manifolds

SPX Flow Technology Germany GmbH
Gottlieb-Daimler-Str. 13, D-59439 Holzwickede
herewith declares that

APV butterfly valves of the series SV1 ATEX design
in the nominal diameters DN 25 – 100, 1“ – 4“

meet the requirements of:

Machinery Directive 2006/42/EC
(superseding 89/392/EEC and 98/37/EC)
Equipment and Product Safety Act GPSG - 9.GPSGV
and
Directive on the Protection against Explosion 2014/34/EU ATEX (superseding 94/9/EC)
for Equipment Category -/2GD IIB TX

For official inspections, SPX FLOW 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 comply with
the basic requirements on safety and health, incl. an analysis of the risks,
an analysis of ignition hazards as well as an instruction manual with safety instructions.

The conformity of the valves is guaranteed.

An ATEX documentation is lodged at the notified body DEKRA EXAM GmbH
in Bochum, Germany (No. 0158).

Authorised person for the documentation:
Frank Baumbach

SPX Flow Technology Germany GmbH
Gottlieb-Daimler-Str. 13, D-59439 Holzwickede, Germany

November 2017

ppa. Baumbach

Frank Baumbach
Regional Engineering Manager, F&B Components

Content

1. General Terms

This instruction manual applies for butterfly valves of the series SV1 in the nominal dimensions DN25-100, 1"-4" for use in specific ATEX applications (according to Directive 2014/34/EU).

The valve must only be assembbled, operated, disassembled, maintained and serviced by trained personnel. Please contact your local SPX FLOW representative if required.

This instruction manual must be read and observed by the responsible 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 instruction manual.

Descriptions and data given herein are subject to technical changes.

1.1. Symbols

This symbol draws your attention to important directions which have to be observed with regard to the operation in explosive areas.

This technical safety symbol draws your attention to important directions for operating safety. You will find it wherever the activities described are bearing health hazards or risks for persons or material assets.

1.2. Responsibility for ATEX certification - scope of supply

SPX FLOW will be held responsible only for the valves supplied and selected according to the operating conditions indicated by the customer or end user and as stated in the order confirmation. If in doubt, contact your SPX FLOW partner.

All other assembled equipment and devices must have a separate certification, provided by the supplier(s) of that equipment and devices, of at least the same or higher grade of protection as the valve supplied by SPX FLOW. The complete unit must be certified separately by the final assembling manufacturer and must have a separate name plate supplied by the unit manufacturer.

2. Safety Instructions

Danger!
Do not touch the open valve or the yoke!
Risk of injury due to sudden valve operation.
Risk of injury in dismantled valve state due to sudden valve operation.

- Regular maintenance including the replacement of all seals and bearing bushes must be scheduled in order to prevent leakages and discharge of liquids.

- Before any maintenance work the line system must be depressurized and drained if possible.

- Separate all electric and pneumatic connections.

- Observe the following Service Instructions to ensure safe maintenance of the valve.

Danger!
Welded actuators are preloaded by spring force.

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

Actuators which are no longer used or defective must be diposed in professional manner.

Defective actuators must be returned to your SPX FLOW representative for their professional disposal and free of charge for you.
Please address to your local SPX FLOW representative.

2. Safety Instructions

Installation, connection, start-up, maintenance and repair work must only be carried out by qualified personnel.

The following aspects must be observed:

- The instructions of this manual together with all relevant instructions for the components, equipment and installations installed.
- Warnings and installations fixed to the components.
- The specific regulations for and requirements to the system in which the valve is installed.
- The currently valid regional, national and international regulations.
- The potential equalization between disc and housing by means of the spring must generally be ensured.
- Any special requirement and national legislation relative to the use of flammable liquids or tools, e.g. the risk of ignition in case of spark formation, must be observed.

It must be ensured that the group, the category and the temperature class of the valve complies with the minimum requirements of the operating environment!

Inflammable gas mixtures or dust concentrations in connection with hot, operational and movable parts of the valve can lead to serious or fatal injury!

Before start of assembly the operator must make sure that an explosive atmosphere does not exist (detection/measurement of potential concentration of hazardous substances).

Conductive connection to the pipeline must be provided.
The integration into the internal potential equalization must be guaranteed!

The APV CU2, CU3 and CU4 Control Units are not suited for use in ATEX environments!

3. Identification of valves, Temperature classes, Responsibilities

3.1. Identification of valves for use in ATEX environment

ATEX - identification:

- Equipment group II
- Equipment category outside 2GD
  inside no equipment
- Explosion subcategroy IIB

Ambient temperature for the operation

0 °C ≤ T_{amb} ≤ 40 °C

- temperature classes TX (according to table 3.2)

3.2. Temperature classes and permissible temperatures

Media temperature	≤ 75 °C	≤ 95 °C	≤ 130 °C	up to 140 °C = Tmax.
Saftety addition	+ 5 °C	+ 5 °C	+ 5 °C	+ 5 °C
Temperature class	T6	T5	T4	T3

Under standard operating conditions the highest surface temperature will be comparably as high as the temperature of the medium plus a safety addition for local temperature increases. The valve must be completely free to the environment in order to provide for sufficient heat release.

All data (temperature classes) refer to an ambient temperature of 0°C to 40°C. If the ambient temperature is above 40°C, the temperature difference must be adjusted. In all cases, contact your responsible SPX FLOW representative!

3. Identification of valves, Temperature classes, Responsibilities

3.3 Responsibilites

It is within the operator`s responsibility to ensure that the specified product temperatures are not exceeded and that regular inspections and maintenance are carried out to provide for proper function of the valve.

4. Intended Use

The intended use as field of application of the butterfly valves is the shut-off of line sections, especially in beverage and food installations.

Its use is permissible only within the admissible pressure and temperature margins and under consideration of chemical and corrosive influences.

Any use exceeding the margins and specifications set forth, is considered to be not intended.

Any damage resulting therefrom is not within the responsibility of the manufacturer.
The user will bear the full risk.

Attention!
Improper use of the valve leads to:

- damage
- leakage
- destruction.

Failures in the production process are possible.

Warning!
The valve is suitable for use in hazardous areas as identified on the valve according to Directive 2014/34/EU.

Earthing of the valves must be guaranteed.

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

Authorizations and External Evaluations
To view the certifications for this and other innovative SPX FLOW products, visit
https://www.spxflow.com/en/apv/about-us/certifications/

5. Mode of Operation

5.1. General terms

Use of high-quality steel and seal materials to the specified requirements, the butterfly valve range DELTA SV1 is applicable in the food and beverage industries as well as in the chemical and pharmaceutical industries.

Valves of the series DELTA SV1 can either be operated manually or remote controlled via a pneumatic actuator. Manual operation and pneumatic actuator including add-on pieces are interchangeable.

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

In the standard design "NC", the pneumatic turning actuator opens the valve with compressed air.
Reset by spring force into the limit position "closed".

The butterfly valve can also be used in vacuum systems.

The valve opens and closes by turning the disc by 90°.

Smooth valve passage without diversion of line flow.
The opening diameter complies with the size of the inner line diameter.

Proximity switches to signal the final position of the valve disc can be mounted in the yoke area.

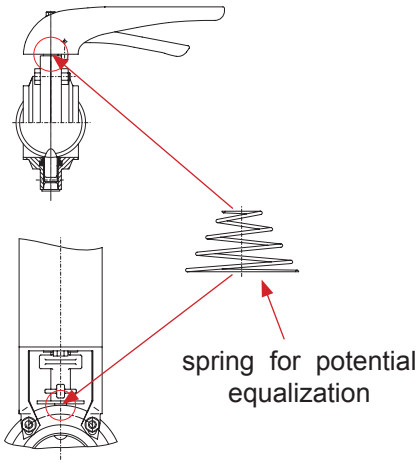
The use of valve position indicators which are approved for the application in explosive atmosphere is compulsary.

The use and operation of valve position indicators shall be evaluated by the operator of the installation!

5. Mode of Operation

5.2. Potential Equalization

A possible risk may result from a potential difference between the components. With non-conducting media or empty pipline sections, a conducting connection must be created between the valve components. With buterfly valves, this is reached by the installation of a spring.
In explosive atmospheres, we generally recommend to ensure the potential equalization between disc and housing by installation of the spring mentioned below.



DN 25–100/Inch 1"–4"	
Designation:	**Reference number:**
* pressure spring SV/SVS1F potential equalization	000-60-06-003/13 H311618

6. Cleaning

6.1. Cleaning recommendation

The valve passage is cleaned by the cleaning liquids during cleaning of the connected pipelines.

Depending on the degree and constituents of soiling, the cleaning liquids, times and processes must be scheduled for the individual application.

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

7. Installation

7.1. General terms

In normal installation position, the actuator is positioned vertically to the top. Depending on the respective application, optional installation positions can, however, also be realized.

SV1 valves with weld ends are welded direct into the product line.

Separate dismantling by a flange connection, etc. in the continuing pipeline must be provided.

7. Installation

7.2. Connections

Beside the housings with weld ends the following connections are alternatively available:

- threaded and cone port to DIN 11851,
- threaded port RJT, ISS/IDF, SMS.
- clamp connection acc. to 32676 (DN 25 - 100)
- clamp connection acc. to ISO 2852 (Inch 1” - 4”)

Attention! Observe welding instructions 7.3.

Conductive connection to the pipeline must be provided.
The integration into the internal potential equalization must be guaranteed!

7.2. Welding Instructions

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

- The welding of the mating flanges must be effected in such a way that deformation strain cannot be transfered to the valve body.

- The preparation of the weld seam up to 3 mm thickness must be carried out as a square butt joint without air.
  (Consider shrinkage!)

- TIG orbital welding is the most appropriate method.

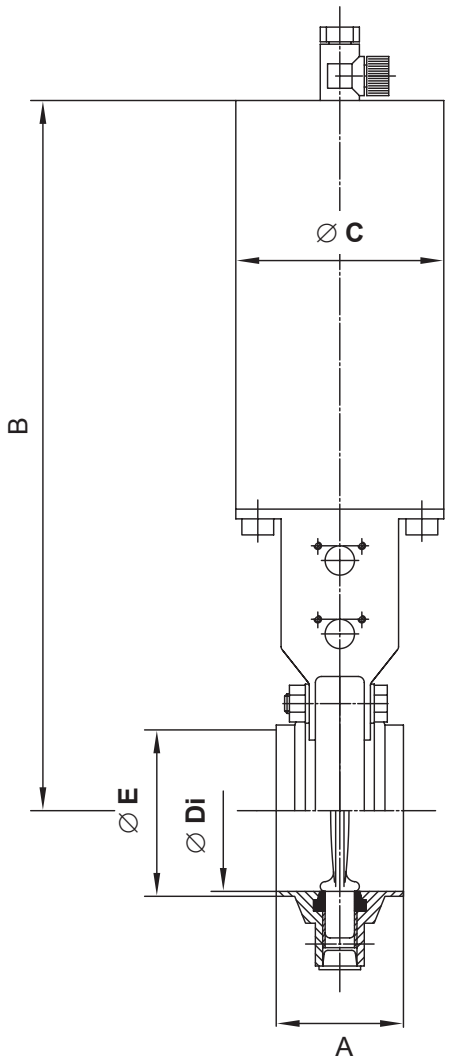
- Before welding, all heat sensitive parts (e.g. seal, bearing, disc) of the valve must be removed!

  After welding 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 or be carried over to other parts of the installation.

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

8. Dimensions / Weights

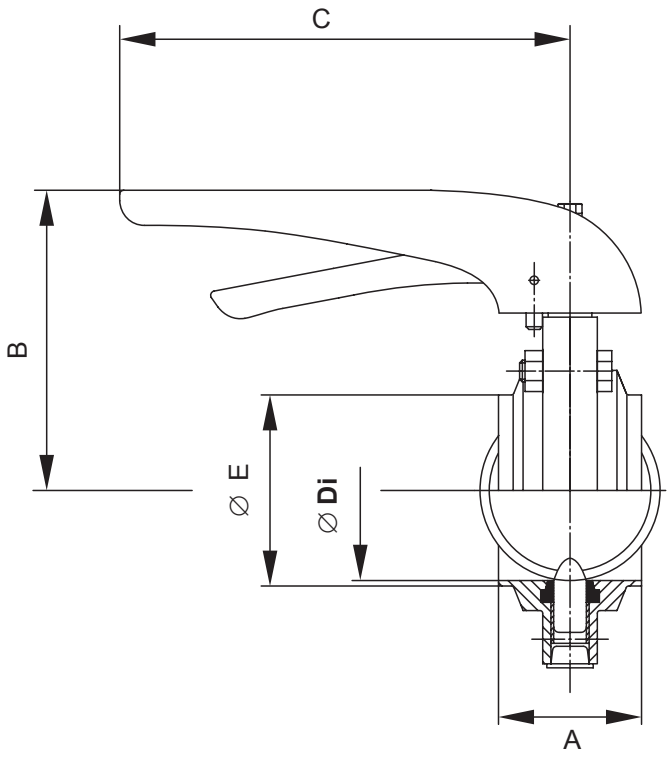
SV1 – with turning actuator



Dimensions in mm						Weight in kg
DN	**A**	**B**	**∅ C**	**∅ Di**	**∅ E**	
25	52	271,5	85	26	29	4,0
40	52	280	85	38	41	4,2
50	52	285	85	50	53	4,5
65	52,4	293,5	85	66	70	4,8
80	52,4	301	85	81	85	5,5
100	52,4	311	85	100	104	6,1
Inch						
1"	52	271,5	85	22,6	25	4,0
1,5"	52	280	85	34,9	38	4,2
2"	52	285	85	47,6	51	4,5
2,5"	52,4	293,5	85	60,3	63,5	4,8
3"	52,4	297	85	72,9	76,1	5,5
4"	52,4	311	85	97,6	101,6	6,1

8. Dimensions / Weights

SV1 – with handle



Dimensions in mm						Weight in kg
DN	**A**	**B**	**C**	**∅ Di**	**∅ E**	
25	52	88	165	26	29	1,5
40	52	96,5	165	38	41	1,6
50	52	101,5	165	50	53	1,8
65	52,4	110	165	66	70	2,0
80	52,4	117,5	165	81	85	2,2
100	52,4	127,5	165	100	104	2,6
Inch						
1"	52	88	165	22,6	25	1,5
1,5"	52	96,5	165	34,8	38	1,6
2"	52	101,5	165	47,8	41	1,8
2,5"	52,4	110	165	60,3	63,5	2,0
3"	52,4	113,5	165	72,9	76,1	2,2
4"	52,4	127,5	165	97,6	101,6	2,6

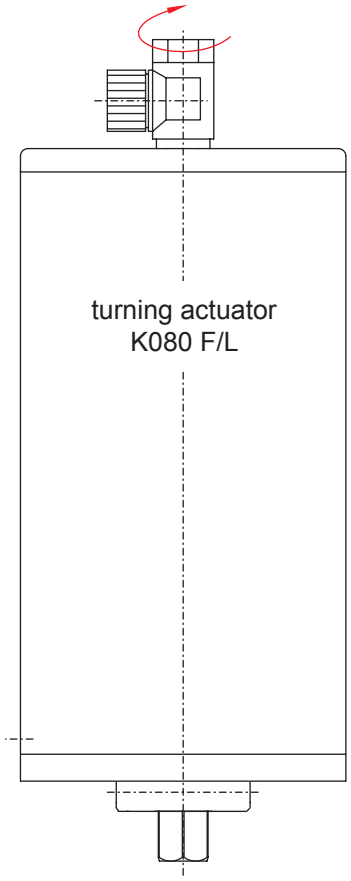
9. Technical Data

9.1. General data

- max. line pressure: 10 bar
- max. operating temperature: 135°C EPDM, HNBR
  *FPM, *VMQ
- short-term load: 140°C EPDM, HNBR
  *FPM, *VMQ
  *(no steam)
- Ambient temperature: 0 - 40 °C
- Air connection (for hose): 6 x 1mm
- max. pneumatic air pressure: 8 bar
- min. pneumatic air pressure: 6 bar

Use dry and clean pneumatic air only.

elbow union – G1/8“
slewable
Tightening torque 2 Nm



9.2. Compressed air quality

- Compressed air quality: quality class according to ISO 8573-1
- Content of solid particles: quality class 3,
  max. number of particles per m³
  10000 of 0,5 µm < d ≤ 1,0 µm
  500 of 1,0 µm < d ≤ 5,0 µm
- Content of water: quality class 4,
  max. dew point temperature - 20 °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. 0,01 mg/m³

The oil applied must be compatible with Polyurethane elastomer materials.

9. Technical Data

9.3. Opening and closing times

The actuating times depend on the length of the air line between the magnet valve to the air control and the actuator.

For air lines with a length of up to 1 m, the opening time for butterfly valves DN 25/1” to DN 100/4” at 6 bar control air pressure amounts to about 1 second. The closing time, after air shut-off, depends on the nominal dimension and amounts to 2 to 3 seconds.

If the valves are subject to strong friction, e.g. through dry seals, the actuating times extend accordingly.

9.3.1. Opening and closing times - butterfly valves

		Opening times in sec. pneumatic pressure 6 bar	Closing times in sec.
DN	**Inch**	**hose length 1 m**	
25	1"	1 sec.	1,5 sec.
40	1,5"	1 sec.	1,5 sec.
50	2"	1 sec.	1,5 sec.
65	2,5"	1 sec.	2,5 sec.
80	3"	1 sec.	3,0 sec.
100	4"	1,2 sec.	3,5 sec.

9.4. Tightening torques Md [Nm] - butterfly valves

DN	Inch	Md (Nm)
25	1"	**10**
40	1,5"	**12**
50	2"	**16**
65	2,5"	**20**
80	3"	**22**
100	4"	**24**

9.5. Pneumatic air consumption at 6 bar pneum. air pressure

actuator K080 (F/L) per stroke 1.8 (NL)

9. Technical Data

9.6. Kvs-values in m^3/h		
DN	**Inch**	
25	1"	**40**
40	1,5"	**89**
50	2"	**160**
65	2,5"	**250**
80	3"	**440**
100	4"	**630**

10. Materials

- valve disc — **1.4571/1.4404** (DIN EN 10088)
- housing flange, mating flange
  - DN 25–100 — **1.4301/1.4404** (DIN EN 10088)
  - 1"–4" — **1.4404** (DIN EN 10088)
- SV seal, flange seal
  - standard: **EPDM**
  - option: **HNBR, VMQ, FPM**
- bearing bush — **polyamide PA 12**
- handle — **polyamide PA 6.6**
- spring - potential equalization — **1.4310**

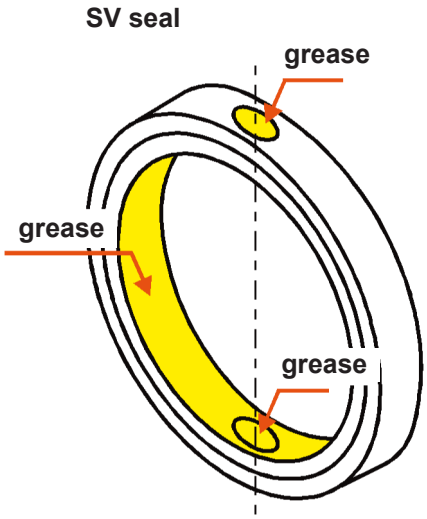
Actuator

- yoke, actuator — **1.4301** (DIN EN 10088)
- coupling — **1.4308** (DIN EN 10088)
- indicator — **PE – hart**
- piston — **polyacetal POM**
- spindle bearing — **polyamide PA 12**
- air connection — **polyamide PA 6.6**

11. Maintenance

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

Before start of maintenance and assembly the operator must make sure that an explosive atmohsphere does not exist (detection/ measurement of potential concentration of hazardous substances). Alternatively, use spark-resistant tools!



- There are a few wear parts on SV1 butterfly valves, principally the SV seal and bearings.

  Customer stock keeping of spare seals is recommended.
  For valve service actions we supply complete seal kits (see spare parts lists).

- If damaged seals are replaced, generally all seals and bearings should be changed.

- Dismantling and installation of seals according to Service Instructions.

- All seals must be slightly greased before their installation. Grease SV seal according to illustration - especially in the cross bores.

- Assembly of valve and change of valve design NC or NO by installation of the turning actuator according to Service Instructions.

- The inner parts of the actuator are maintenance free.

Attention! Use food-grade special grease being suited for the respective seal material, only.

Recommendation:
APV assembly grease for EPDM, FPM, HNBR and NBR
(0,75 kg /can - ref. No. 000 70-01-019/93; H147382)
(60 g /tube - ref. No. 000 70-01-018/93; H147381)
or
APV assembly grease for VMQ
(0,6 kg /can - ref. No. 000 70-01-017/93; H147380)
(60 g /tube - ref. No. 000 70-01-016/93; H147379)

! Do not use grease containing mineral oil for EPDM seals.

! Do not use Silicone-based grease for VMQ seals.

Less suited grease types can influence the function and life time.

11. Maintenance

Additionally required maintenance for applications in ATEX environment

SV1 valve - pneumatic and manual actuation:
Replacement of spring for potential equalization if damaged.

SV1 Valve - pneumatic actuation

Valve maintenance for actuator with spring	**Note**
Functional test, visual inspection of actuator movement (turning angle) and control of abnormal running noise of spring	1 x per year
Change interval of actuator (turning actuator)	In case of damage, incomplete actuator movement (turning angle), considerable running noise of spring as well as after 250,000 cycles* as preventive measure, however, after 10 years at the latest.

*complies with about 8 years in 1-shift-operation and 10-15 cycles per hour.

12. Service Instructions

12.1. Dismantling from the line system

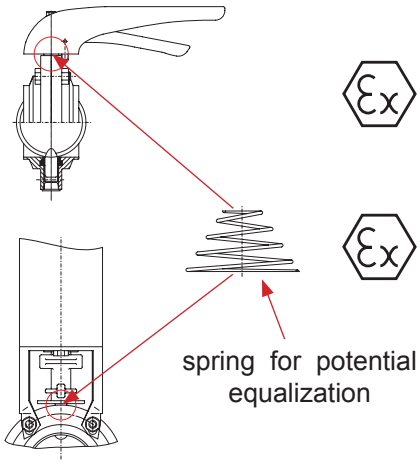
Attention! **The valve can only be dismantled via an additional separate connection in the continuing pipeline.**

Danger!

1. Shut off connecting lines, let down line pressure and drain pipeline if possible.
2. Disconnect electric and pneumatic connections.
3. Release clamp connection at support of proximity switches. Pull off proximity switch.
4. Release additional separate connection in the pipeline.

12.2. Dismantling of the actuating device

Corresponding spare parts lists are available.
Manual design RN: ATEX 037-14
Pneumatic design RN: ATEX 037.5-9



- **Manual actuation with limit switch:**
  Screw off fastening screw at the handle and lift off handle to the top. Remove spring for potential equalization.

- **Pneumatic turning actuator:**
  Remove the fastening screws at the yoke. Lift off actuator with yoke to the top. Lift off coupling, position indicator and spring for potential equalization also to the top.

Attention! If valve position indicators are installed, see to the position of the operating cam (see **12.6.** and **12.7.**).

12.3. Dismantling of the inner parts

Dismantling is only possible via an additional separate connection in the pipeline.

Seal ring, bearing bushes, valve disc

- Remove all fastening screws around the housing halves and part the housing halves.

- Remove the inner parts.

12. Service Instructions

fig. 1

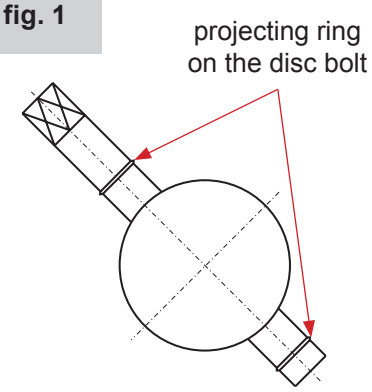


fig. 2

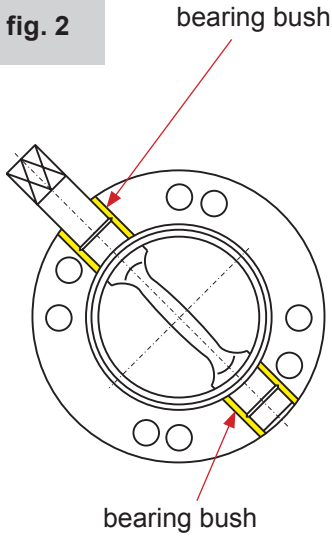
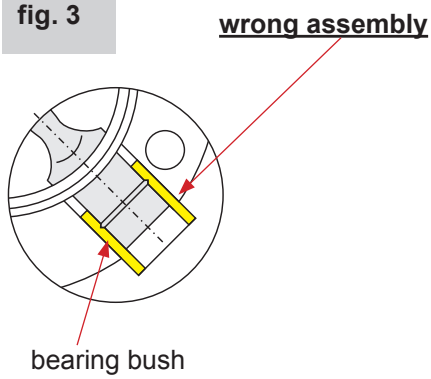


fig. 3



12.4. Replacement of seal

1. Turn the disc in the seal ring into open position.
2. Remove bearings.
3. By a slight pressing, the seal ring is deformed in its longitudinal axis, and, thus, can be pulled off via the short bearing spindle.
4. Pull the seal ring off the actuating spindle.
5. Clean the valve disc.
6. Grease the holes of the new seal ring according to chapter 11 and insert the long actuating spindle of the valve disc.
7. Turn the disc in the seal ring into open position.
8. By slight pressure the seal ring is deformed in its longitudinal axis, and, thus, can be pushed on via the short bearing spindle.

12.5. Installation of seals and bearings

The current design of the valve disc has a projected ring on the disc bolt **(fig. 1)**.
The new valve disc can also be installed in old housings.

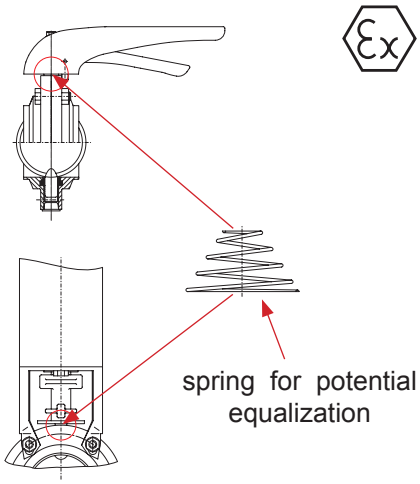
1. Place bearings on the spindle of the disc.The bearing bushes must be flush with the housing flange **(fig. 2)**.
2. Insert the disc in open position with seal ring and bearings into one housing half.
3. Assemble the housing halves with the screws alternately crosswise. During the assembly of the housing halves, the projecting ring presses into the plastic surface of the bearing bush and secures the bearing bush against longitudinal movement.

Attention! Tightening of the screws, the valve disc must be in **open** position.
Damage of valve disc seal during assembly in **closed** position is possible.
Bearings must not project the housing flange **(fig. 3)**.

12. Service Instructions

12.6. Installation of the actuating device

1. Observe the steps mentioned in 12.2. in reverse order.
2. With manual butterfly valves, the disc and the handle are in a line.
3. Place the spring for potential equalization on the square of the actuating spindle.
4. Attach the position indicator to align with the valve disc onto the square of the actuating spindle of the disc.
5. Observe the design of the valve for the installation of the coupling on butterfly valves with feedback



- **FZ** = normally closed
  Valve disc is closed, place coupling .
  The upper operating cam must be adjusted to the **upper** yoke bore.

- **FO** = normally open
  Valve disc is open, place coupling .
  The lower operating cam must be adjusted to the **lower** yoke bore.

6. Place turning actuator with yoke and fasten them with the screws.

12.7. Installation of proximity switches

- **Valve position indication OPEN:**
  Installation of the feedback unit in the **lower** yoke bore.

- **Valve position indication CLOSED:**
  Installation of the feedback unit in the **upper** yoke bore.

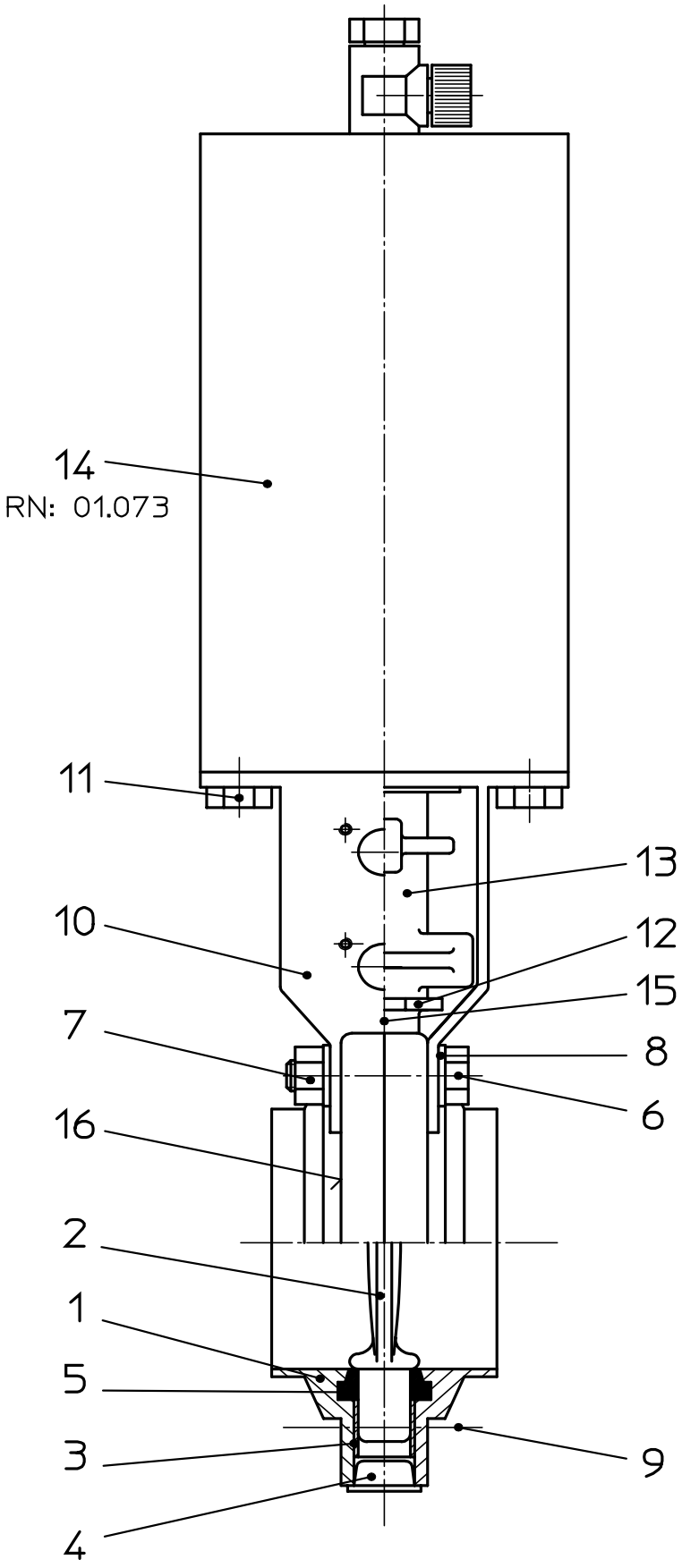
- Insert proximity switch support into the yoke bore and fasten it. Introduce the proximity switch into the support until it stops and fix it by the clamp connection.

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.



Datum:	21.11.12	07.10.14	06.07.16							
Name:	Trytko	Trytko	Trytko							
Geprüft:	Goebel									

Ersatzteilliste: spare parts list

Scheibenventil SV1-FZ DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-A DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

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Germany

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RN ATEX 037-14

Ersatzteilliste: spare parts list

Scheibenventil SV1-FZ DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-A DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	21.11.12	07.10.14	06.07.16	
Name:	Trytko	Trytko	Trytko	
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

APV SPX FLOW Germany

Blatt 2 von 5

RN ATEX 037-14

pos. item	Menge quantity	Beschreibung description	Material material	DN25 WS-Nr. ref.-no.	1" WS-Nr. ref.-no.	DN40 WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	DN50 WS-Nr. ref.-no.	2" WS-Nr. ref.-no.
1	2	Gehäusehälfte Housing half	1.4404 matt/satin fin.	09-93-277/42 H22883	09-94-319/42 H23562	09-93-377/42 H22928	09-94-419/42 H23588	09-93-427/42 H22980	09-94-469/42 H23611
	2	Gehäusehälfte Housing half	1.4301 matt/satin fin.	09-93-277/12 H22879	09-94-319/12	09-93-377/12 H22924	09-94-419/12	09-93-427/12 H22976	09-94-469/12
2	1	Klappe Disc	1.4404	08-55-276/43 H16037	08-55-318/43 H114442	08-55-376/43 H16047	08-55-418/43 H114440	08-55-426/43 H16059	08-55-468/43 H114977
3	2	Lagerbuchse Bearing	PA12 30%GF	08-01-150/93 H13832					
4	1	Verschlussstopfen Lock plug	Kunststoff	08-74-010/93 H16503					
5	1	Dichtung SV Seal SV	EPDM FDA-konform	58-33-278/93 H77435	58-33-325/93 H77451	58-33-378/93 H77459	58-33-425/93 H77477	58-33-428/93 H77484	58-33-475/93 H77502
	1	Dichtung SV Seal SV	FPM FDA-konform	58-33-278/73 H77433	58-33-325/73 H77450	58-33-378/73 H77457	58-33-425/73 H77475	58-33-428/73 H77482	58-33-475/73 H77500
	1	Dichtung SV Seal SV	HNBR FDA-konform	58-33-278/33 H168744	58-33-325/33 H168263	58-33-378/33 H168745	58-33-425/33 H168930	58-33-428/33 H168826	58-33-475/33 H168234
	1	Dichtung SV Seal SV	VMQ FDA-konform	58-33-278/13 H77432	58-33-325/13 H77449	58-33-378/13 H77456	58-33-425/13 H77474	58-33-428/13 H77481	58-33-475/13 H77499
6		Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301	65-01-095/15 2xM8x35 H78791					
7		Skt. Mutter Hex. Nut DIN EN 24032-A2	1.4301	65-50-060/15 4xM8 H79281					
8	4	Scheibe Disk I=8,4	1.4301	67-01-022/15 H79594					
9		Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301	67-01-085/15 2xM8x28 H78778					
10	1	Laterne Yoke	1.4301	15-40-030/17 H173105		15-40-816/17 H170929			
11	2	Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301	65-01-080/15 M8x12 H78770					
12	1	Zeiger Position indicator	PE-HART	08-29-021/93 H14634					

Ersatzteilliste: spare parts list

Scheibenventil SV1-FZ DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-A DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	21.11.12	07.10.14	06.07.16	
Name:	Trytko	Trytko	Trytko	
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

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Germany

Blatt 3 von 5

RN ATEX 037-14

pos. item	Menge quantity	Beschreibung description	Material material	DN25 WS-Nr. ref.-no.	1" WS-Nr. ref.-no.	DN40 WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	DN50 WS-Nr. ref.-no.	2" WS-Nr. ref.-no.
13	1	Kupplungsstück Coupling	1.4308	08-52-050/13 H15865					
14	1	Drehantrieb F/L Actuator spring/air	1.4301	15-31-055/17 H105500					
	1	Drehantrieb L/L Actuator double/air	1.4301	15-31-065/17 H135918					
15	1	Druckfeder -Potentialausgleich Pressure feather eqipotential	1.4310	60-06-003/13 H311618					
16	1	Atex-Typenschild 2GD für Scheibenventile Atex-Label 2GD for butterfly valve	Polyesterfolie	08-29-284/93 H315081					
		Pos. 3, 4, 5 nur im kompletten Dichtungssatz erhältlich **Item 3, 4, 5 available as complete seal kits only**							
	1	Dichtungssatz Seal kit	FPM	58-34-565/00 H206225	58-34-571/00 H206249	58-34-566/00 H206229	58-34-572/00 H206253	58-34-567/00 H206233	58-34-573/00 H206257
	1	Dichtungssatz Seal kit	EPDM	58-34-565/01 H206226	58-34-571/01 H206250	58-34-566/01 H206230	58-34-572/01 H206254	58-34-567/01 H206234	58-34-573/01 H206258
	1	Dichtungssatz Seal kit	VMQ	58-34-565/02 H206227	58-34-571/02 H206251	58-34-566/02 H206231	58-34-572/02 H206255	58-34-567/02 H206235	58-34-573/02 H206259
	1	Dichtungssatz Seal kit	HNBR	58-34-565/06 H206228	58-34-571/06 H206252	58-34-566/06 H206232	58-34-572/06 H206256	58-34-567/06 H206236	58-34-573/06 H206260

Ersatzteilliste: spare parts list

Scheibenventil SV1-FZ DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-A DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	21.11.12	07.10.14	06.07.16	
Name:	Trytko	Trytko	Trytko	
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

APV SPX FLOW Germany

Blatt 4 von 5

RN ATEX 037-14

pos. item	Menge quantity	Beschreibung description	Material material	DN65 WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	DN80 WS-Nr. ref.-no.	DN100 WS-Nr. ref.-no.	4" WS-Nr. ref.-no.
1	2	Gehäusehälfte Housing half	1.4404 matt/satin fin.	09-93-477/42 H23039	09-94-519/42 H23640	09-93-552/42 H23123	09-93-527/42 H23092	09-93-627/42 H23154	09-94-669/42 H23684
	2	Gehäusehälfte Housing half	1.4301 matt/satin fin.	09-93-477/12 H23035	09-94-519/12	09-93-552/12	09-93-527/12 H23088	09-93-627/12 H23150	09-94-669/12
2	1	Klappe Disc	1.4571	08-55-476/43 H16071	08-55-518/43 H114978	08-55-527/43 H16090	08-55-526/43 H16082	08-55-626/43 H16102	08-55-668/43 H114979
3	2	Lagerbuchse Bearing	PA12 30%GF	08-01-150/93 H13832				08-01-151/93 H13833	
4	1	Verschlussstopfen Lock plug	Kunststoff	08-74-010/93 H16503					
5	1	Dichtung SV Seal SV	EPDM FDA-konform	58-33-478/93 H77509	58-33-525/93 H77532	58-33-503/93 H77528	58-33-528/93 H77539	58-33-628/93 H77579	58-33-675/93 H77601
	1	Dichtung SV Seal SV	FPM FDA-konform	58-33-478/73 H77507	58-33-525/73 H77530	58-33-503/73 H77526	58-33-528/73 H77537	58-33-62478/73 H77577	58-33-675/73 H77599
	1	Dichtung SV Seal SV	HNBR FDA-konform	58-33-478/33 H168827	58-33-525/33 H169235	58-33-503/33 H169236	58-33-528/33 H168832	58-33-528/33 H166721	58-33-675/33 H166722
	1	Dichtung SV Seal SV	VMQ FDA-konform	58-33-478/13 H77506	58-33-525/13 H77529	58-33-503/13 H77525	58-33-528/13 H77536	58-33-528/13 H77576	58-33-675/13 H77598
6		Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301	65-01-095/15 2xM8x35 H78791					
7		Skt. Mutter Hex. Nut DIN EN 24032-A2	1.4301	65-50-060/15 4xM8 H79281		65-50-060/15 6xM8 H79281			
8	4	Scheibe Disk I=8,4	1.4301	67-01-022/15 H79594					
9		Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301	67-01-085/15 2xM8x28 H78778		67-01-085/15 4xM8x28 H78778			
10	1	Laterne Yoke	1.4301	15-40-025/17 H173103					
11	2	Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301	65-01-080/15 M8x12 H78770					
12	1	Zeiger Position indicator	PE-HART	08-29-021/93 H14634					

Ersatzteilliste: spare parts list

Scheibenventil SV1-FZ DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-A DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	21.11.12	07.10.14	06.07.16	
Name:	Trytko	Trytko	Trytko	
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

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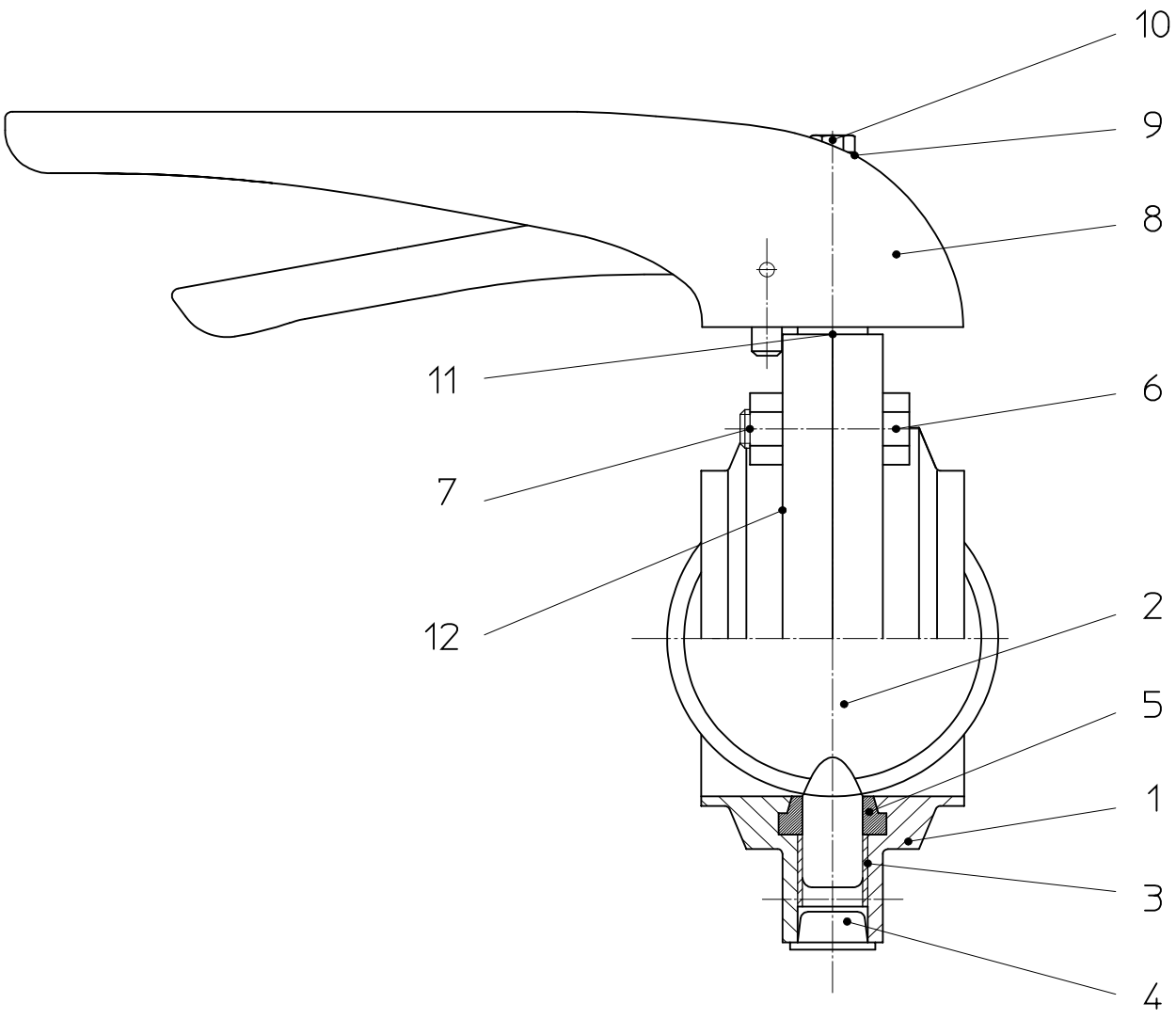
Germany

Blatt 5 von 5

RN ATEX 037-14

pos. item	Menge quantity	Beschreibung description	Material material	DN65 WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	DN80 WS-Nr. ref.-no.	DN100 WS-Nr. ref.-no.	4" WS-Nr. ref.-no.
13	1	Kupplungsstück Coupling	1.4308	08-52-050/13 H15865					
14	1	Drehantrieb F/L Actuator spring/air	1.4301	15-31-055/17 H105500					
	1	Drehantrieb L/L Actuator double/air	1.4301	15-31-065/17 H135918					
15	1	Druckfeder -Potentialausgleich Pressure feather eqipotential	1.4310	60-06-003/13 H311618					
16	1	Atex-Typenschild 2GD für Scheibenventile Atex-Label 2GD for butterfly valve	Polyesterfolie	08-29-284/93 H315081					
		Pos. 3, 4, 5 nur im kompletten Dichtungssatz erhältlich **Item 3, 4, 5 available as complete seal kits only**							
	1	Dichtungssatz Seal kit	FPM	58-34-568/00 H206237	58-34-574/00 H206261	58-34-575/00 H206265	58-34-569/00 H206241	58-34-570/00 H206245	58-34-576/00 H206269
	1	Dichtungssatz Seal kit	EPDM	58-34-568/01 H206238	58-34-574/01 H206262	58-34-575/01 H206266	58-34-569/01 H206242	58-34-570/01 H206246	58-34-576/01 H206270
	1	Dichtungssatz Seal kit	VMQ	58-34-568/02 H206239	58-34-574/02 H206263	58-34-575/02 H206267	58-34-569/02 H206243	58-34-570/02 H206247	58-34-576/02 H206271
	1	Dichtungssatz Seal kit	HNBR	58-34-568/06 H206240	58-34-574/06 H206264	58-34-575/06 H206268	58-34-569/06 H206244	58-34-570/06 H206248	58-34-576/06 H206272



Datum:	20.11.12	06.07.16								
Name:	Trytko	Trytko								
Geprüft:	Goebel									

Ersatzteilliste: spare parts list

Scheibenventil SV1-H DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-handle DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

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RN ATEX 037.5-9

Ersatzteilliste: spare parts list

Scheibenventil SV1-H DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-handle DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	20.11.12	06.07.16		
Name:	Trytko	Trytko		
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

APV
SPX FLOW
Germany

Blatt 2 von 5

RN ATEX 037.5-9

pos. item	Menge quantity	Beschreibung description	Material material	DN25 WS-Nr. ref.-no.	1" WS-Nr. ref.-no.	DN40 WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	DN50 WS-Nr. ref.-no.	2" WS-Nr. ref.-no.
1	2	Gehäusehälfte Housing half	1.4404 matt/satin fin.	09-93-277/42 H22883	09-94-319/42 H23562	09-93-377/42 H22928	09-94-419/42 H23588	09-93-427/42 H22980	09-94-469/42 H23611
	2	Gehäusehälfte Housing half	1.4301 matt/satin fin.	09-93-277/12 H22879	09-94-319/12	09-93-377/12 H22924	09-94-419/12	09-93-427/12 H22976	09-94-469/12
2	1	Klappe Disc	1.4404	08-55-276/43 H16037	08-55-318/43 H114442	08-55-376/43 H16047	08-55-418/43 H114440	08-55-426/43 H16059	08-55-468/43 H114977
3	2	Lagerbuchse Bearing	PA12 30%GF	08-01-150/93 H13832					
4	1	Verschlussstopfen Lock plug	Kunststoff	08-74-010/93 H16503					
5	1	Dichtung SV Seal SV	EPDM FDA-konform	58-33-278/93 H77435	58-33-325/93 H77451	58-33-378/93 H77459	58-33-425/93 H77477	58-33-428/93 H77484	58-33-475/93 H77502
	1	Dichtung SV Seal SV	FPM FDA-konform	58-33-278/73 H77433	58-33-325/73 H77450	58-33-378/73 H77457	58-33-425/73 H77475	58-33-428/73 H77482	58-33-475/73 H77500
	1	Dichtung SV Seal SV	HNBR FDA-konform	58-33-278/33 H168744	58-33-325/33 H168263	58-33-378/33 H168745	58-33-425/33 H168930	58-33-428/33 H168826	58-33-475/33 H168234
	1	Dichtung SV Seal SV	VMQ FDA-konform	58-33-278/13 H77432	58-33-325/13 H77449	58-33-378/13 H77456	58-33-425/13 H77474	58-33-428/13 H77481	58-33-475/13 H77499
6		Skt. Schraube DIN EN 24017-A2-70 Hex. Screw	1.4301	65-01-085/15 4xM8x28 H78778					
7		Skt. Mutter DIN EN 24032-A2 Hex. Nut	1.4301	65-50-060/15 4xM8 H79281					
8	1	Handbetätigung Handle	PA6.6 30%GF schwarz	08-41-065/93 H15059					
9	1	Sicherungsscheibe M5 Safety disk M5	1.4301	67-01-010/93 H79581					
10	1	Skt. Schraube DIN EN 24014 Hex. Screw -M5x28-A2-70	1.4301	65-01-037/15 H78740					
11	1	Druckfeder -Potentialausgleich Pressure feather eqipotential	1.4310	60-06-003/13 H311618					
12	1	Atex-Typenschild 2GD für Scheibenventile Atex-Label 2GD for butterfly valve	Polyesterfolie	08-29-284/93 H315081					

Ersatzteilliste: spare parts list

Scheibenventil SV1-H DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-handle DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	20.11.12	06.07.16		
Name:	Trytko	Trytko		
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

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Blatt 3 von 5

RN ATEX 037.5-9

pos. item	Menge quantity	Beschreibung description	Material material	DN25 WS-Nr. ref.-no.	1" WS-Nr. ref.-no.	DN40 WS-Nr. ref.-no.	1,5" WS-Nr. ref.-no.	DN50 WS-Nr. ref.-no.	2" WS-Nr. ref.-no.
		Pos. 3, 4, 5 nur im kompletten Dichtungssatz erhältlich **Item 3, 4, 5 available as complete seal kits only**							
	1	Dichtungssatz Seal kit	FPM	58-34-565/00 H206225	58-34-571/00 H206249	58-34-566/00 H206229	58-34-572/00 H206253	58-34-567/00 H206233	58-34-573/00 H206257
	1	Dichtungssatz Seal kit	EPDM	58-34-565/01 H206226	58-34-571/01 H206250	58-34-566/01 H206230	58-34-572/01 H206254	58-34-567/01 H206234	58-34-573/01 H206258
	1	Dichtungssatz Seal kit	VMQ	58-34-565/02 H206227	58-34-571/02 H206251	58-34-566/02 H206231	58-34-572/02 H206255	58-34-567/02 H206235	58-34-573/02 H206259
	1	Dichtungssatz Seal kit	HNBR	58-34-565/06 H206228	58-34-571/06 H206252	58-34-566/06 H206232	58-34-572/06 H206256	58-34-567/06 H206236	58-34-573/06 H206260

Ersatzteilliste: spare parts list

Scheibenventil SV1-H DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-handle DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	20.11.12	06.07.16		
Name:	Trytko	Trytko		
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

APV
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Germany

RN ATEX 037.5-9

pos. item	Menge quantity	Beschreibung description	Material material	DN65 WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	DN80 WS-Nr. ref.-no.	DN100 WS-Nr. ref.-no.	4" WS-Nr. ref.-no.
1	2	Gehäusehälfte Housing half	1.4404 matt/satin fin.	09-93-477/42 H23039	09-94-519/42 H23640	09-93-552/42 H23123	09-93-527/42 H23092	09-93-627/42 H23154	09-94-669/42 H23684
	2	Gehäusehälfte Housing half	1.4301 matt/satin fin.	09-93-477/12 H23035	09-94-519/12	09-93-552/12	09-93-527/12 H23088	09-93-627/12 H23150	09-94-669/12
2	1	Klappe Disc	1.4571	08-55-476/43 H16071	08-55-518/43 H114978	08-55-527/43 H16090	08-55-526/43 H16082	08-55-626/43 H16102	08-55-668/43 H114979
3	2	Lagerbuchse Bearing	PA12 30%GF	08-01-150/93 H13832				08-01-151/93 H13833	
4	1	Verschlussstopfen Lock plug	Kunststoff	08-74-010/93 H16503					
5	1	Dichtung SV Seal SV	EPDM FDA-konform	58-33-478/93 H77509	58-33-525/93 H77532	58-33-503/93 H77528	58-33-528/93 H77539	58-33-628/93 H77579	58-33-675/93 H77601
	1	Dichtung SV Seal SV	FPM FDA-konform	58-33-478/73 H77507	58-33-525/73 H77530	58-33-503/73 H77526	58-33-528/73 H77537	58-33-62478/73 H77577	58-33-675/73 H77599
	1	Dichtung SV Seal SV	HNBR FDA-konform	58-33-478/33 H168827	58-33-525/33 H169235	58-33-503/33 H169236	58-33-528/33 H168832	58-33-528/33 H166721	58-33-675/33 H166722
	1	Dichtung SV Seal SV	VMQ FDA-konform	58-33-478/13 H77506	58-33-525/13 H77529	58-33-503/13 H77525	58-33-528/13 H77536	58-33-528/13 H77576	58-33-675/13 H77598
6		Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301	65-01-085/15 4xM8x28 H78778		65-01-085/15 6xM8x28 H78778			
7		Skt. Mutter Hex. Nut DIN EN 24032-A2	1.4301	65-50-060/15 4xM8 H79281		65-50-060/15 6xM8 H79281			
8	1	Handbetätigung Handle	PA6.6 30%GF schwarz	08-41-065/93 H15059					
9	1	Sicherungsscheibe M5 Safety disk M5	1.4301	67-01-010/93 H79581					
10	1	Skt. Schraube DIN EN 24014 Hex. Screw -M5x28-A2-70	1.4301	65-01-037/15 H78740					
11	1	Druckfeder -Potentialausgleich Pressure feather eqipotential	1.4310	60-06-003/13 H311618					
12	1	Atex-Typenschild 2GD für Scheibenventile Atex-Label 2GD for butterfly valve	Polyesterfolie	08-29-284/93 H315081					

Ersatzteilliste: spare parts list

Scheibenventil SV1-H DN25-100 1-4 zoll 12S Ex II -/2GD IIB TX
Butterfly valve SV1-handle DN25-100 1-4 inch 12S Ex II -/2GD IIB TX

Datum:	20.11.12	06.07.16			
Name:	Trytko	Trytko			
Geprüft:	Goebel				

Datum:					
Name:					
Geprüft:					

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Germany

Blatt 5 von 5

RN ATEX 037.5-9

pos. item	Menge quantity	Beschreibung description	Material material	DN65 WS-Nr. ref.-no.	2,5" WS-Nr. ref.-no.	3" WS-Nr. ref.-no.	DN80 WS-Nr. ref.-no.	DN100 WS-Nr. ref.-no.	4" WS-Nr. ref.-no.
		Pos. 3, 4, 5 nur im kompletten Dichtungssatz erhältlich **Item 3, 4, 5 available as complete seal kits only**							
	1	Dichtungssatz Seal kit	FPM	58-34-568/00 H206237	58-34-574/00 H206261	58-34-575/00 H206265	58-34-569/00 H206241	58-34-570/00 H206245	58-34-576/00 H206269
	1	Dichtungssatz Seal kit	EPDM	58-34-568/01 H206238	58-34-574/01 H206262	58-34-575/01 H206266	58-34-569/01 H206242	58-34-570/01 H206246	58-34-576/01 H206270
	1	Dichtungssatz Seal kit	VMQ	58-34-568/02 H206239	58-34-574/02 H206263	58-34-575/02 H206267	58-34-569/02 H206243	58-34-570/02 H206247	58-34-576/02 H206271
	1	Dichtungssatz Seal kit	HNBR	58-34-568/06 H206240	58-34-574/06 H206264	58-34-575/06 H206268	58-34-569/06 H206244	58-34-570/06 H206248	58-34-576/06 H206272

Ersatzteilliste: spare parts list

Drehantrieb K080, K125, K180 F/L
Actuator K080, K125, K180 spring/air

Datum:	22.11.12	12.03.14		
Name:	Trytko	Trytko		
Geprüft:	Goebel			

Datum:				
Name:				
Geprüft:				

APV
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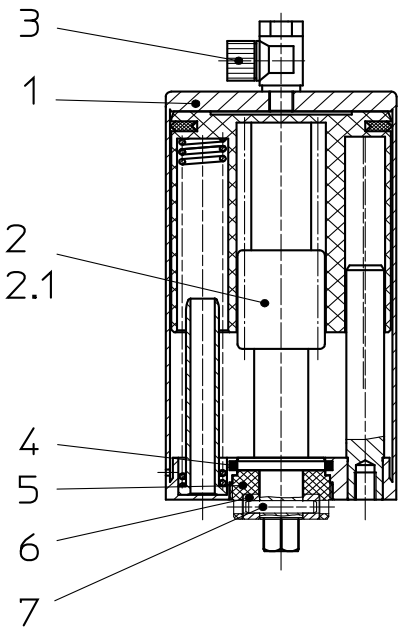
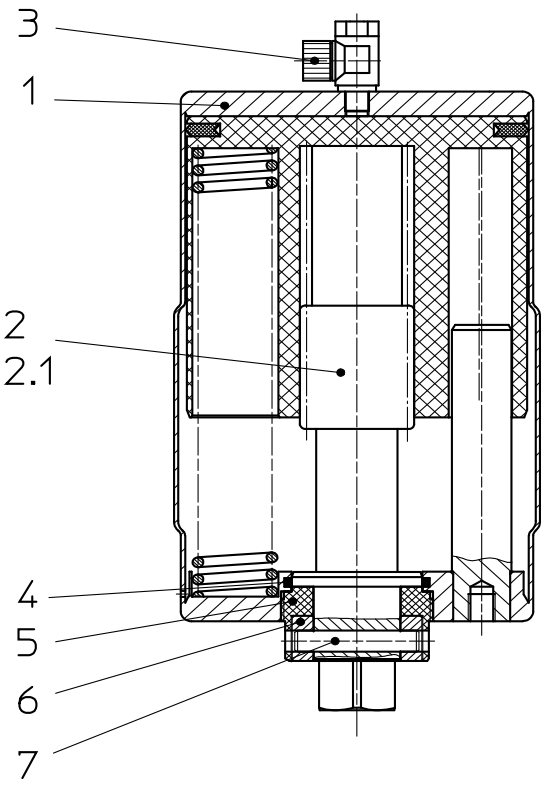
Blatt 1 von 2

RN 01.073

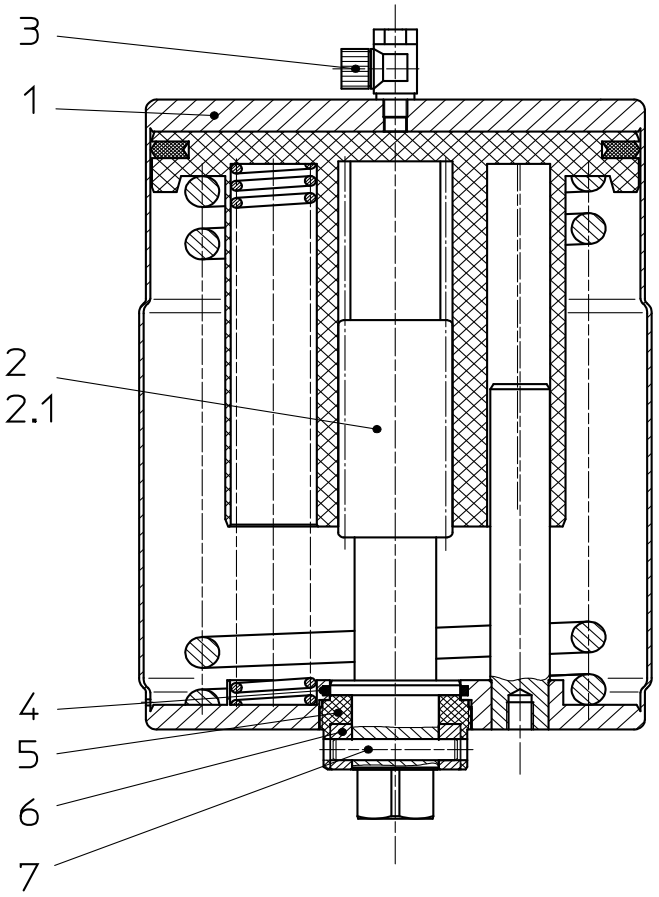
DRAT K080



DRAT K125



DRAT K180



Ersatzteilliste: spare parts list

Drehantrieb K080, K125, K180 F/L
Actuator K080, K125, K180 spring/air

Datum:	22.11.12	12.03.14		
Name:	Trytko	Trytko		
Geprüft:	Goebel			

Datum:				
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pos. item	Menge quantity	Beschreibung description	Material material	K080 WS-Nr. ref.-no.	K125 WS-Nr. ref.-no.	K180 WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
	1	Drehantrieb komplett Actuator complete	1.4301 matt-glänzend	15-31-055/17 H105500	15-31-057/17 H105502	15-31-923/17 H32589			
	1	Drehantrieb komplett Actuator complete	1.4301 poliert	15-31-055/13 H135919	15-31-057/13 H131940	15-31-923/13 H32588			
1	1	Drehantrieb Schweißteil Actuator welded	1.4301	15-31-054/17 H105499	15-31-056/17 H105501	15-31-922/17 H32587			
2	1	Spindel komplett mit Lager Shaft complete with bearing	1.4301	15-24-021/13 H31494	15-24-031/13 H31502	15-24-033/13 H31504			
2.1	1	Spindel Shaft	1.4301	15-24-020/13 H31493	15-24-030/13 H31501	15-24-032/13 H31503			
3	1	Winkelverschraubung G1/8" schwenkbar Elbow union G1/8" slewable	Polyamid/ Glasf	08-63-221/93 H16371					
4	1	O-Ring O-ring	NBR	58-06-130/83 32,2x3 H76965					
	1	O-Ring O-ring	FPM		58-06-222/73 49,5x3 H77000				
5	1	Lager für Drehantrieb Bearing for actuator	POM	15-28-002/34 H31673					
	1	Lager für Drehantrieb Bearing for actuator	PA12		15-28-009/63 H31684				
6	1	Stellring Adjust ring	1.4301	67-08-007/13 H79757	67-08-008/13 H79758				
7	1	Zyl. Kerbstift DIN EN ISO 8740-V2A Cyl. pin	1.4305	67-15-035/13 5x26 H79916	67-15-036/13 8x45 H79917				

APV DELTA SV1
DN25-100, 1”-4”

BUTTERFLY VALVE
FOR SPECIFIC ATEX-APPLICATIONS

SPXFLOW

SPX FLOW

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