

## APV DELTA DKR2

DOUBLE SEAT BALL VALVE WITH CLEANING CONNECTION

FORM NO.: H170755 REVISION: UK-9

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



Scan for DKR2 Valve  
Maintenance Video





## EU Declaration of Conformity for Valves and Valve Manifolds

SPX Flow Technology Germany 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,  
DA4, D4 SL, D4, 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 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.

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May 2018

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<b>Conent</b>	<b>Page</b>
<b>1. General Terms</b>	<b>2</b>
<b>2. Safety Instructions</b>	<b>2–3</b>
<b>3. Intended Use</b>	<b>3</b>
<b>4. Mode of Operation</b>	<b>4</b>
4.1. General	
<b>5. Auxiliary Equipment</b>	<b>5–6</b>
5.1. Valve position indication	
5.2. Control unit	
5.3. Turning actuator for control unit	
5.4. Operating leakage reduction	
5.5. Operating leakage drain	
<b>6. Cleaning</b>	<b>7</b>
6.1. Cleaning recommendation	
<b>7. Installation</b>	<b>7–8</b>
7.1. Welding instructions	
7.2. Assembly inserts	
<b>8. Dimensions / Weights</b>	<b>9</b>
<b>9. Technical Data</b>	<b>10–11</b>
9.1. General data	
9.2. Compressed air quality	
9.3. Tightening torque	
9.4. Operating leakage at about 5 bar in I (opening and closing process)	
9.5. Operating leakage at about 5 bar in I with operating leakage reducer	
9.6. Pneumatic air consumption	
<b>10. Materials</b>	<b>11</b>
<b>11. Maintenance</b>	<b>12</b>
<b>12. Service Instructions</b>	<b>13–16</b>
12.1. Dismantling from the line system	
12.2. Dismantling of seals and guide bands	
12.3. Installation of seals and guide bands	
12.4. Assembly of valve	
12.5. Adjustment of operating position	
12.5.1. Adjustment of operating position with FG flanges	
12.5.2. Adjustment of operating position without FG flanges	
<b>13. Service Instructions</b>	<b>17–18</b>
13.1. Leakage reduction for DKR ball valve	
13.1.1. Installation of the leakage reducer	
13.2. Leakage connection (drain) for DKR ball valve	
13.2.1. Installation of leakage drain	
<b>14. Detection of Seal Damage</b>	<b>19</b>
<b>15. Spare Parts Lists</b>	
(see annex)	
<b>DKR2 - FZ - CU DN 25 - 125, Inch 1" - 4"</b>	<b>RN 01.071</b>
<b>turning actuator K-80, K-125, K-180</b>	<b>RN 01.073</b>
<b>turning actuator F/L for feedback unit</b>	<b>RN 01.076</b>
<b>installation aid DKR complete</b>	<b>RN 268.07</b>



## 1. General Terms

This instruction manual should 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 instruction manual.

Descriptions and data given herein are subject to technical changes.

## 2. Safety Instructions

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



### Caution!

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



- **Do not reach into the open valve ball or yoke.**

Risk of injury by sudden valve operation!

In dismantled valve state, there is the risk of bruising at movable valve parts.



- During valve operation, operating leakage spurts out to the bottom.

- If the cleaning connection is not used, it must be sealed by a plug or operating leakage must be discharged.



- Regular maintenance of the valve including replacement of all seals must be scheduled in order to prevent leakage and liquid emersion.

- Remove the turning actuator before the replacement of seals.



- Before any maintenance work, the line and cleaning system must be depressurized and discharged if possible.



- Separate electric and pneumatic connections.

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

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## 2. Safety Instructions

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- **Caution!**

Welded actuators are preloaded by spring force.

**Opening of the turning actuators is strictly forbidden.  
Danger to health and life!**

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

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

Please address to your local SPX FLOW company.

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## 3. Intended Use

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The intended use as field of application of the double seat ball valve is the shut-off of pipeline sections.

Arbitrary, structural changes at the valves may affect safety as well as the intended functionality of the valves and are not permitted.

### **Authorizations and External Approvals**

To view the certifications for this and other innovative SPX FLOW products, visit

<https://www.spxflow.com/en/apv/about-us/certifications/>



## 4. Mode of Operation

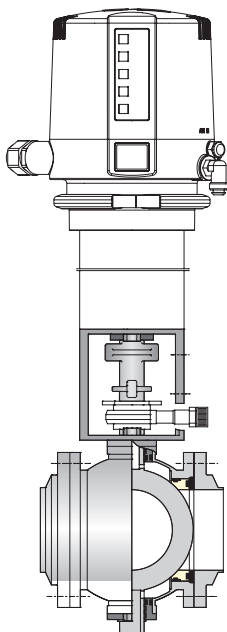
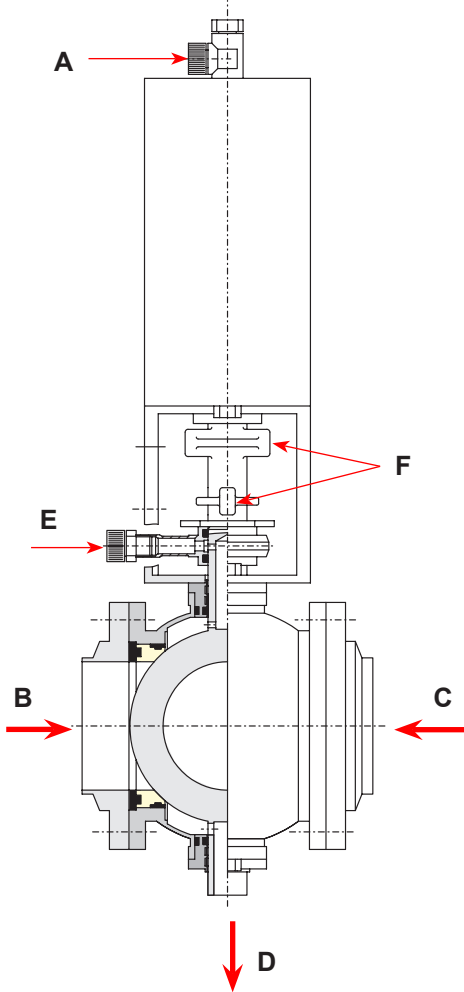
### 4.1. General

Due to the use of high-quality stainless steel and seal materials complying with the specified requirements, the double seat ball valve DELTA DKR2 is applicable in the food and beverage industries as well as in the chemical and pharmaceutical industries.

The field of application of the DELTA DKR2 valve comprises the separation of two line sections with different fluids (B and C) by two independent seals with intermediate leakage chamber and free drain (D) to the atmosphere.

Actuation by the pneumatic turning actuator with air connection at (A), reset into the limit position "closed" by spring force.

- The free opening cross section has the same dimension as the nominal diameter of the pipeline.
- Smooth valve passage without diversion of the fluid.
- Cleaning of the leakage chamber by supply of cleaning liquids via the cleaning connection (E).
- During the operating process, operating leakages drain off from the leakage drain (D). If a cleaning line is not connected, the cleaning connection (E) must be sealed by a plug or operating leakages draining from (E) must be discharged.
- The cleaning nozzle (E) can be used to flush the leakage chamber with water, or with CIP liquids and clean it with water, for fast emptying, to vent or to sterilize the leakage chamber with steam.
- DKRX special valves are available, for example for highly viscous products with extended leakage drain or for horizontal installation.



## 5. Auxiliary Equipment

### 5.1. Valve position indication

Switches to signal the limit position of the valve ball can be installed in the yoke area if requested.

We recommend using APV standard proximity switches.

Type: three-wire proximity switch (ref.-No. 08-60-011/93; H16223)

Operating distance: 5 mm / diameter : 11 mm / length: 30 mm

Feedback complete with support and proximity switch (ref.-No. 15-33-023/33; H32725) for a limit position.

If the customer decides to use valve position indicators other than those listed above, SPX FLOW cannot assume any liability for the functionality of the valve.

### 5.2. Control unit (CU, fig. 5.2.)

Units with feedback switches and solenoid valves for the pneumatic control of the valve to be assembled on the actuator are also available in fieldbus technology.

The assembly of the control unit on the prepared variant of the turning actuator is possible.

For the startup as well as assembly and disassembly of the different designs, the corresponding operating manuals must be observed.

fig. 5.2.



The following different designs are available:

<b>CU4 Direct Connect</b> ref.-No.; ID-No.	CU41 - T Direct Connect 08-45-101/93; H320461
<b>CU4 AS-interface 62 Slaves</b> ref.-No.; ID-No.	CU41 - T - AS-i extended 08-45-111/93; H320468
<b>CU4 AS-interface 31 Slaves</b> ref.-No.; ID-No.	CU41 - T - AS-i standard 08-45-251/93; H324674
<b>CU3 Profibus</b> ref.-No.; ID-No.	CU31 Profibus 08-45-001/93; H315495
<b>CU3 DeviceNet</b> ref.-No.; ID-No.	CU31 DeviceNet 16-31-240/93; H209422

- For the assembly of a control unit on the DKR2 valve, an adapter is required.

		<b>adapter</b>
<b>DN 25 - 65; 1" - 2,5"</b>	<b>designation</b> ref.-No.; ID-No.	CU4-T-adapter 08-48-601/93; H320475
<b>DN 80 - 125; 3" - 4"</b>	<b>designation</b> ref.-No.; ID-No.	CU4-Tmax-adapter 08-48-611/93; H321987
<b>DN 25 - 65; 1" - 2,5"</b>	<b>designation</b> ref.-No.; ID-No.	CU2 - adapter K080 08-48-416/93; H209431
<b>DN 80 - 125; 3" - 4"</b>	<b>designation</b> ref.-No.; ID-No.	CU2 - adapter DKR80-100 08-48-417/93; H209432

## 5. Auxiliary Equipment

### 5.3. Turning actuator for control unit

- For the installation of a control unit on the DKR2 valve a special turning actuator and an adapter are required. The standard actuator must be replaced.

turning actuator for control unit	
<b>turning actuator K080 F/L DN25 - 65; 1" - 2,5"</b>	<b>ref.-No.: 000-15 - 37-070/17 H123937</b>
<b>turning actuator K125 F/L DN80 - 100; 3" - 4"</b>	<b>ref.-No.: 000-15 - 37-106/17 H128942</b>
<b>turning actuator K180 F/L DN 125</b>	<b>ref.-No.: 000-15 - 37-103/17 H134034</b>

### 5.4. Operating leakage reduction

During the opening and closing process of the valve, a certain quantity of liquids is lost as operating leakage (see technical data). Through a reconstruction of the valve, a reduction by about 40 % can be achieved.

Complete retrofit kits to reduce the quantity of operating leakages are available (see page 17).

### 5.5. Operating leakage drain

To discharge operating leakage via a pipeline, retrofit kits with weld end are available (see page 18).

## 6. Cleaning

### 6.1. Cleaning recommendation

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

Several switching (“cycling”) of the valve during pipeline cleaning is beneficial for the cleaning of the leakage chamber.

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

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

cleaning step	CIP spraying
pre-flushing	2 x 10 sec.
caustic flushing 80 °C	3 x 10 sec.
intermediate flushing	2 x 10 sec.
acid flushing	3 x 10 sec.
final flushing	2 x 10 sec.
	(with a break of 20 sec. each)

- The flushing times refer to a cleaning pressure of  $p = 3 - 5$  bar.
- The flushing times indicated for the individual cleaning steps are reference values, only. In specific applications these times must be adjusted depending on the product, the pressure ratio and the degree of soiling.
- The flushing quantity per CIP spraying cycle amounts to about 1 litre at a cleaning pressure of 3 - 5 bar.

## 7. Installation

- The valve must be installed in vertical position. Operating leakage is freely drainable to the bottom and the leakage chamber drains off.
- For deviating installations (e.g. valve in horizontal position), special valves are available.
- If several valves are connected parallelly in one pipeline, a passage of the operating leakage to the cleaning connection of adjacent valves must be avoided. Installation of a shut-off device or a check valve in front of each cleaning connection is required.
- Cleaning connection with hose 8 x 1.



**Caution!**

Observe welding instructions 7.1.

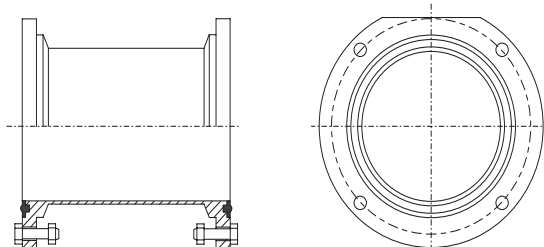
## 7. Installation

### 7.1. Welding Instructions

- Welding should only be carried out by certified welders (DIN EN ISO 9606-1) (seam quality DIN EN ISO 5817).
- Welding of the mating flanges must be undertaken in such a way that deformation strain cannot be transferred.
- TIG orbital welding is recommended.
- Before welding of the valve, all sensitive parts must be removed! Dismantle the valve ball housing with seals from the mating flanges.
- To simplify welding, fitting parts can be supplied as assembly inserts (see table).
- The preparation of the weld seam up to 3 mm thickness must be carried out as a square butt joint without air. Consider shrinkage!
- After welding the valve housing or mating flanges, and after performing any work on the piping, do not operate the valves until the corresponding areas of the installation and piping have been cleaned and welding residue has been removed. If the piping is not cleaned before operation, welding residue and dirt particles can settle in the valves and cause damage to the valves and seals.
- If these welding instructions are not followed, any resulting damage will not be covered by the warranty.

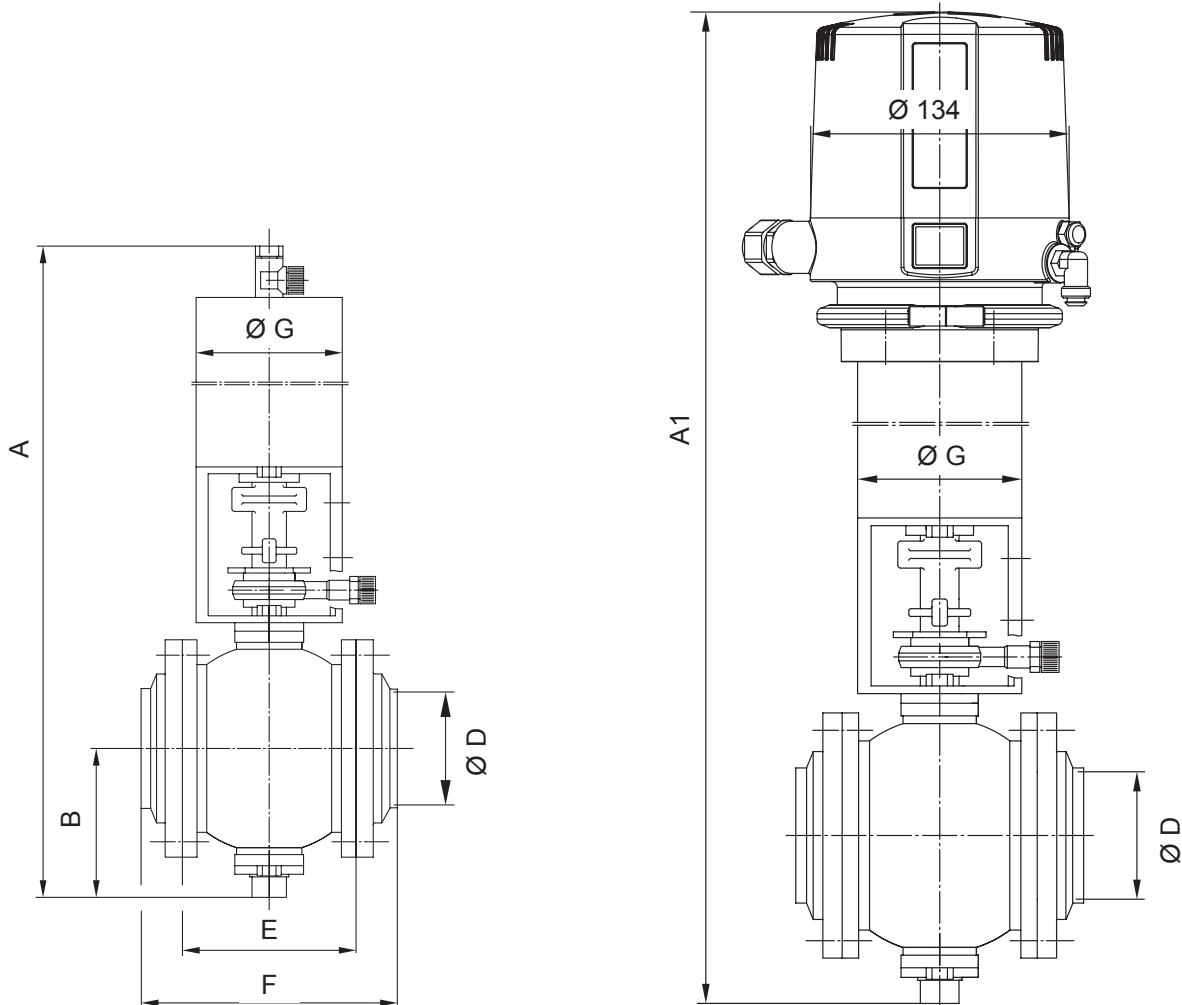
### 7.2. Assembly inserts for double seat ball valves as follows:

**fig. 7.2.** assembly insert



DN	Inch	reference No.	ID No.
25	1"	000 08-48-250/	H207954
40	1,5"	000 08-48-251/	H207955
50	2"	000 08-48-252/	H207956
65	2,5"	000 08-48-253/	H207957
80		000 08-48-254/	H207959
	3"	000 08-48-257/	H207958
100	4"	000 08-48-255/	H167623
125		000 08-48-256/	H167624

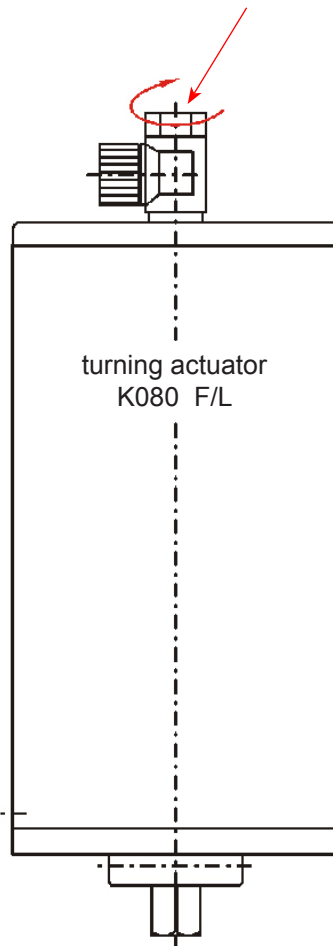
## 8. Dimensions / Weights



dimensions in mm								weights in kg
DN	A	A1	B	Ø D	E	F	Ø G	
25	384	534	55	26	60,5	109	85	5,7
40	408	558	65	38	61,0	109	85	6,5
50	425	575	75	50	79,0	127	85	7,4
65	448	599	87	66	100,3	149	85	9,2
80	543	695	103	81	123	171	135	18,0
100	572	724	117	100	150	198	135	21,5
125	663		142	125	190	244	189	40,0
Inch								
1"	384	534	55	22,6	60,5	109	85	5,7
1,5"	408	558	65	34,9	61,0	109	85	6,5
2"	425	575	75	47,6	79,0	127	85	7,4
2,5"	448	599	87	60,3	100,3	149	85	9,2
3"	543	695	103	72,9	123	171	135	18,0
4"	572	724	117	97,6	150	198	135	21,5

## 9. Technical Data

angle union G1/8" slewable,  
tightening torque 2 Nm



### 9.1. General data

- max. line pressure: **10 bar**
- max. operating temperature: **135 °C EPDM, HNBR  
\*VMQ, \*FPM**
- short-term load: **140 °C EPDM, HNBR  
\*VMQ, \*FPM  
\*(no steam)**
- throughput cleaning at 3bar admission pressure: **about 5 - 10 l/min.**
- turning actuator min. control pressure: **6 bar**
- max. control pressure: **10 bar**
- turning angle: **90°**
- air connection (for hose) threaded angle - G1/8" slewable: **6 x 1 torque 2 Nm**
- spray connection: **G1/8"**
- cleaning connection for hose: **8 x 1**

### 9.2. Compressed air quality

Quality class	acc. to DIN ISO 8573-1
Content of solid particles	quality class 3, max. size of solid particles per m <sup>3</sup> 10000 of 0,5 µm < d < 1,0 µm 500 of 1,0 µm < d < 5,0 µm
Content of water	quality class 3, max. dew point temperature -20°C For installations at lower temperatures or at higher altitudes, consider additional measures to reduce the pressure dew point accordingly.
Content of oil	quality class 1, max. 0,01 mg/m <sup>3</sup>

The oil applied must be compatible with Polyurethane elastomer materials.

## 9. Technical Data

	DN Inch	25 1"	40 1,5"	50 2"	65 2,5"	80 3"	100 4"	125
<b>9.3. max. tightening torque in Nm</b>	(M)	10	15	22	25	40	65	95
<b>9.4. operating leakage at about 5 bar in l (opening and closing process)</b>	(Qs)	0,7	1,2	1,4	2,0	4,0	4,2	6,0
<b>9.5. operating leakage at about 5 bar in l with operating leakage reducer</b>	(Qs)	0,4	0,7	0,8	1,2	2,4	2,5	3,6
<b>9.6. pneumatic air consumption at 6 bar NL</b>	(V)	1,8	1,8	1,8	2,8	5,5	5,5	5,5

## 10. Materials

- housing, valve ball, shafts		<b>1.4404 (DIN EN 10088)</b>
- ball seal		<b>PTFE</b>
- flange seal	standard:	<b>EPDM</b>
	option:	<b>HNBR, FPM, VMQ</b>
- housing seal	standard :	<b>EPDM</b>
	option:	<b>HNBR, FPM</b>
- O-rings		<b>FPM, NBR</b>
<b>actuator</b>		
- yoke, actuator		<b>1.4301 (DIN EN 10088)</b>
- coupling		<b>1.4301 / 1.4308</b>
	or	<b>1.4057 / 1.4059 (DIN EN 10088)</b>
- indicator		<b>PE-solid</b>
- piston		<b>Polyacatal POM</b>
- spindle bearing		<b>Polyamide PA 12</b>
- air connection		<b>Polyamide PA 6.6</b>



## 11. Maintenance

Scan for DKR2 Valve  
Maintenance Video



- The maintenance intervals depend on the specific application and should be determined by the user carrying out temporary checks.
- Storage of spare seals by the customer is recommended. For the valve maintenance, we supply complete set of seals (see spare parts lists).
- If damaged seals are exchanged, generally all seals should be replaced.
- Assembly and adjustment of turning actuator according to Service Instructions.
- Dismantling and installation of seals according to Service Instructions.
- Slightly grease all seals before their installation
- The inner parts of the turning actuator do not require maintenance.

**Caution!** Use food-grade special grease which is suited for the respective seal material, only.

**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)

**or**

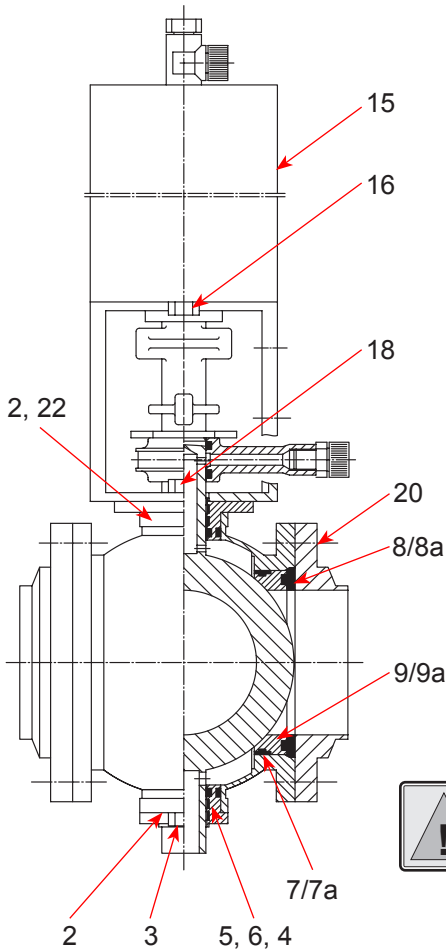
APV assembly grease for **VMQ (Silicone)**  
 (0,6 kg/ tin - ref.-No. 000 70-01-017/93; H147380)  
 (60 g/ tube - ref.-No. 000 70-01-016/93; H147379)

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

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

## 12. Service Instructions

The item numbers refer to the spare parts drawing.  
DN design: RN 01.071; Inch design: RN 01.074)



### 12.1. Dismantling from the line system

1. Shut off connecting lines, let off line pressure and discharge if possible.
2. Disconnect pneumatic and electric connections.
3. Dismantle cleaning line.
4. Screw off valve position indication.
5. Remove flange screws (20).
6. Detach ball valve from the flanges.

### 12.2. Dismantling of seals and guide bands

1. Detach flange seals (8/8a).
2. Take off turning actuator (15) after removal of screws (16).
3. Release screws (18) and yoke, coupling, indicator and spray connection



**Caution!** Do not replace seals before removal of turning actuator from the valve.

4. Pull out PTFE ball seals (9/9a) with appertaining housing seals (7/7a).

To pull the ball seals out, half open the ball by hand and grasp alternately behind the seal.



**Caution!** Ball and ball seal are sensitive to mechanical damage, the surfaces must not be touched by tools.

5. Having released the screws (3), slide both shaft bearings (2/22) out of the housing and replace O-rings (5, 6) and guide bands (4).

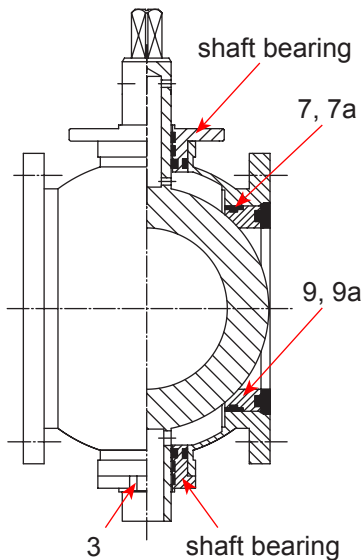
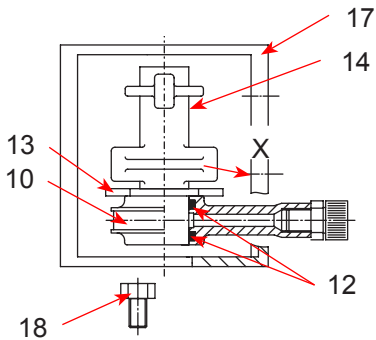


**Caution!** With dismantled shaft bearings and seals, the housing with ball must not be subject to vibrations.

## 12. Service Instructions

### 12.3. Installation of seals and guide bands

1. Slightly grease O-rings (5, 6) and guide bands (4) before their installation in the shaft bearings (2/22).
2. Push upper and lower shaft bearing (2) with a little grease in the housing, insert screws (3), but do not fasten them.
3. Slightly grease housing seals (7, 7a) before their installation on the PTFE ball seals (9, 9a).
4. Turn valve ball into open position by hand and install ball seals with some grease at both sides.
5. Slightly grease O-rings (12) and insert them in the spray connection (10).

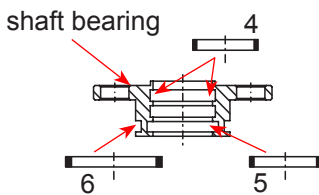


### 12.4. Assembly of valve

1. To ensure a safe handling of the valve, clamp the lower bearing flange into a vice with protective cheeks. Turn the ball into "open position".

Place yoke (17), spray connection (10), indicator (13) and coupling (14) on the ball housing. The lower coupling cam must point to the lower yoke bore (x) and the indicator must point into flow direction.

2. Screw in screws (18), but do not fasten them.



## 12. Service Instructions

### 12.5. Adjustment of operating position

**Caution!** For a safe, perfect and fast adjustment of the operating position, we recommend to use two separate FG flanges.

#### 12.5.1. Adjustment of operating position with FG flanges

Install the ball seals as described in 12.3.  
 Assemble the valve as described in 12.4.  
 Turn the ball into its exact open position.

1. Control actuator (15) with pneumatic air (min. 6 bar) and place it on the yoke.
2. Screw in screws (16), but do not fasten them.



**Caution!** Do not reach into the open valve after installation of the actuator!  
 Risk of injury by sudden operation of the valve.

3. Screw down FG flanges at the housing. The ball must be in its exact open position.
4. Release both screws (3) of the shaft bearing (ball centers between the seals) and retighten them.
5. Slightly turn the actuator in anticlockwise direction to adjust the play in the connecting parts.

**The ball must keep its exact open position!**

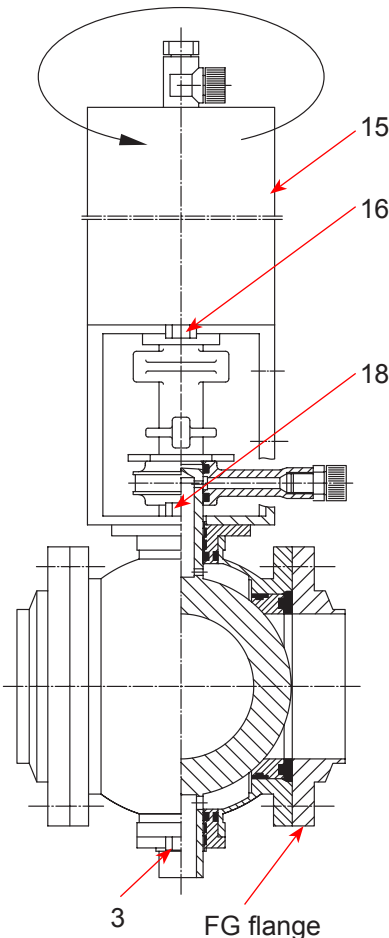


**Caution!** Do not reach into the open valve.  
 Risk of injury by sudden operation of the valve.

6. At first, tighten the screws (18) and then tighten the screws (16). Operate the turning actuator several times to check the operating accuracy of the ball in "open position".
7. Shut off the air supply to the turning actuator and dismantle the FG flanges.
8. Insert the valve in closed position between the flanges into the pipeline and fasten it with the screws (20).

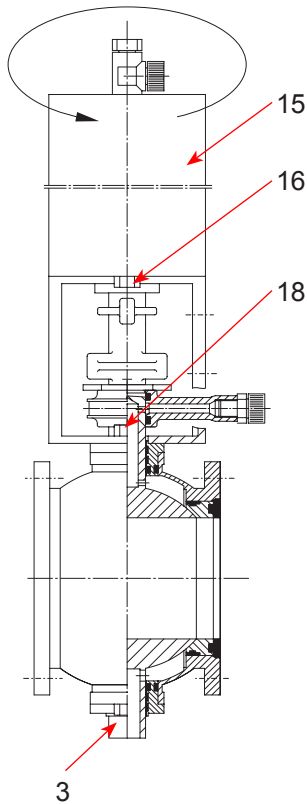
Tightening torque:    M8    Md = 16 Nm  
                                   M10   Md = 40 Nm

9. Connect pneumatic air line with the turning actuator
10. Connect the cleaning line.
11. Attach valve position indicators.



## 12. Service Instructions

### 12.5.2. Adjustment of operating position without FG flanges \*1) \*2)



If FG flanges are not available, the ball can, in exceptional cases, be adjusted as follows.

**Caution! Failure of adjustment is possible:**

Install the ball seals as described in 12.3.  
Assemble the valve as described in 12.4.  
Turn the ball into its exact open position.

1. Control actuator (15) with pneumatic air (min. 6 bar) and place it on the yoke.
2. Screw in screws (16), but do not tighten them.



**Caution!** Do not reach into the open valve after installation of the actuator!  
Risk of injury by sudden operation of the valve.

**! The ball must be in its exact open position!**

3. Slightly turn the actuator in anticlockwise direction to adjust the play in the connecting parts.

**! The ball must not move during this process!  
(exact open position)**

At first, tighten the screws (18) and then tighten the screws (16).  
Operate the turning actuator several times to check the operating accuracy of the ball.

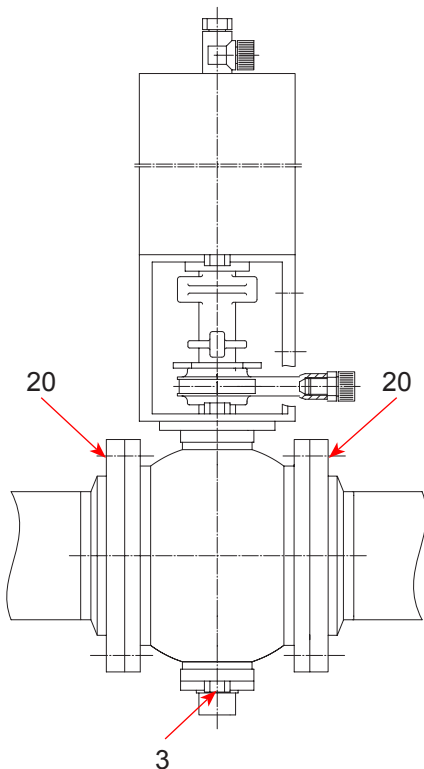
4. Shut off the air supply to the turning actuator and insert the valve in closed position into the line system. Fasten it with the screws (20).

**5. Centering of ball (absolutely necessary)**

To center the ball between the seal rings, proceed as follows:

- 1) Release screws (3) by about ¼ turn.
- 2) Release one screw (18) by about ¼ turn.
- 3) Release second screw (18) by about ¼ turn and retighten it immediately.

**Caution!** Hold the turning actuator fast during this process.  
Bring up holding moment in clockwise direction (top view of actuator).



6. Tighten screw (18) and, then, screw (3).

7. Tightening torque:  $M_d = 16 \text{ Nm}$     M8  
 $M_d = 40 \text{ Nm}$     M10

8. Connect pneumatic air line with turning actuator

9. Connect cleaning line.

10. Attach valve position indication.

\*1) We recommend the procedure according to 12.5.1.

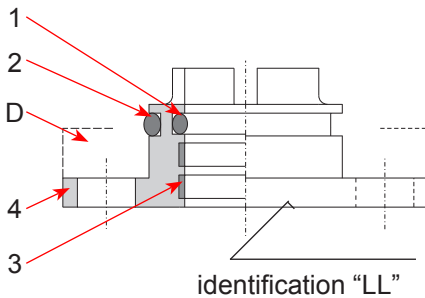
\*2) For DKRX special valves for horizontal installation, the adjustment according to 12.5.2 is not suited!

## 13. Service Instructions

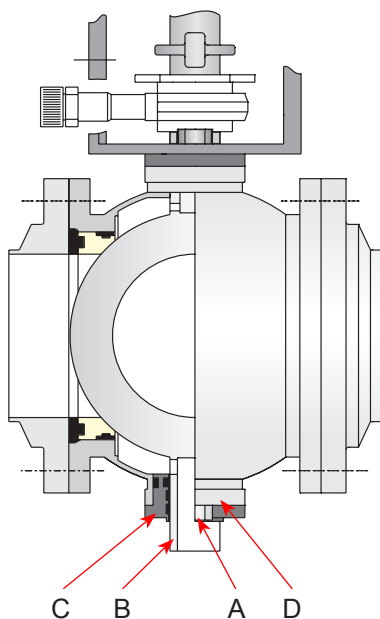
### 13.1. Leakage reduction for DKR ball valve



If the valve is not dismantled from the pipeline for the installation of the leakage reduction, it must be guaranteed that the corresponding pipeline is depressurized!



leakage reducer compl.			
DN, Inch		ref.-No.	ID-No.
25, 1"		15-28-143/59	H138695
40 - 65, 1,5" - 2,5"		15-28-144/59	H138696
80, 100, 3", 4"		15-28-145/59	H138697
125		15-28-146/59	H138698
single parts			
		ref.-No.	ID-No.
	pos. 1	58-06-078/83	H76943
	pos. 2	58-06-119/83	H76961
DN, Inch			
25 - 65; 1" - 2,5"	pos. 3 2x	08-39-079/93	H14879
80, 100; 3", 4"	pos. 3 3x	08-39-079/93	H14879
125	pos. 3 1x	08-01-160/93	H13836
25; 1"	pos. 4	15-28-143/47	H125803
40 - 65; 1,5" - 2,5"	pos. 4	15-28-144/47	H125802
80, 100; 3", 4"	pos. 4	15-28-145/47	H125804
125	Pos. 4	15-28-146/47	H131160



#### 13.1.1 Installation of the leakage reduction

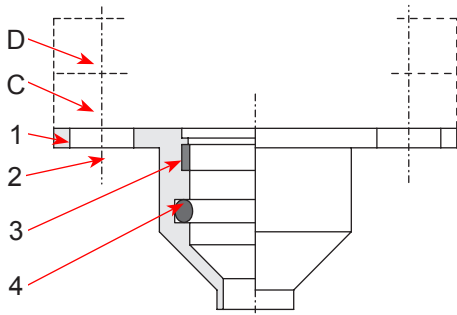
1. Remove the two hexagon screws (A) and pull out the shaft bearing (C) by careful turning.
  2. If the leakage reducer is not equipped with the guides (3) and the two O-rings (1, 2), these parts can carefully be dismantled from the shaft bearing (C) and used.
  3. Slightly grease O-rings (1, 2) before their installation.
- !!! Do not use grease containing mineral oil for EPDM seals!!!**
4. Slide the complete leakage reducer instead of the shaft bearing over the shaft pivot (B) and tighten it with the hexagon screws (A) at the housing flange (D).

## 13. Service Instructions

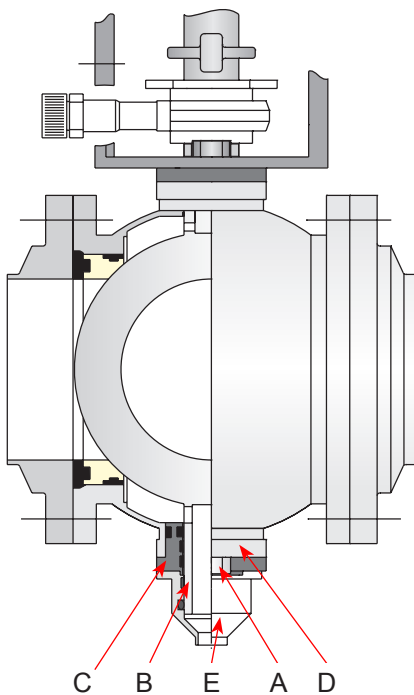
### 13.2. Leakage connection (drain) for DKR ball valve



If the valve is not dismantled from the pipeline for the installation of the leakage drain, it must be guaranteed that the corresponding pipeline is depressurized!



leakage connection compl.			
DN, Inch		ref.-No.	ID-No.
25 - 65, 1" - 2,5"		16-37-020/59	H112046
80 - 125, 3" - 4" with 2 spare screws		16-37-024/59	H132625
single parts			
DN, Inch		ref.-No.	ID-No.
25 - 65; 1" - 2,5"	pos. 1	16-37-020/47	H112045
80 - 125; 3", 4"	pos. 1	16-37-024/47	H132490
80 - 125; 3", 4"	pos. 2	65-01-132/15	H78809
25 - 125; 1" - 4"	pos. 3	08-39-079/93	H14879
25 - 125; 1" - 4"	pos. 4	58-06-078/83	H76943



#### 13.2.1. Installation of leakage drain

1. Slightly grease O-ring (4) in the leakage drain.
2. Remove the two hexagon screws (A) and push the leakage connection (E) over the shaft pivot (B) against the shaft bearing (C).

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

3. With DN 25 to 65 tighten the shaft bearing (C) together with the leakage connection at the housing flange (D) by the hexagon screws (A).
4. With DN 80 to 125 use the hexagon screws (2) supplied with the leakage connection for fastening purposes.
5. As shown in the illustration, the leakage drain can be designed with weld end, optionally with round thread or other connections.

## 14. Detection of Seal Damage

Failure	Remedy
<b>Valve is closed and pressurized</b>	
Leakage at pipeline flange	Replace seal (8).
Leakage from the leakage drain	<ol style="list-style-type: none"> <li>1. Check adjustment of valve ball according to Service Instructions 12.5.</li> <li>2. Replace seals (8, 9, 7).</li> </ol>
<b>Valve is open</b>	
Leakage from the leakage drain	<ol style="list-style-type: none"> <li>1. Check adjustment of valve ball according to Service Instructions 12.5.</li> <li>2. Replace seals (8, 9, 7).</li> </ol>
<b>Valve is closed and leakage during cleaning via the spray connection</b>	
Leakage at spray connection	Replace o-rings (12).
Leakage at shaft bearing	Replace guide bands (4) and o-rings (5, 6) according to Service Instructions 12.3.

If damaged seals are exchanged, generally replace all seals.

For valve maintenance we supply complete seal kits (see spare parts lists).

## 15. Spare Parts Lists

(see annex)

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

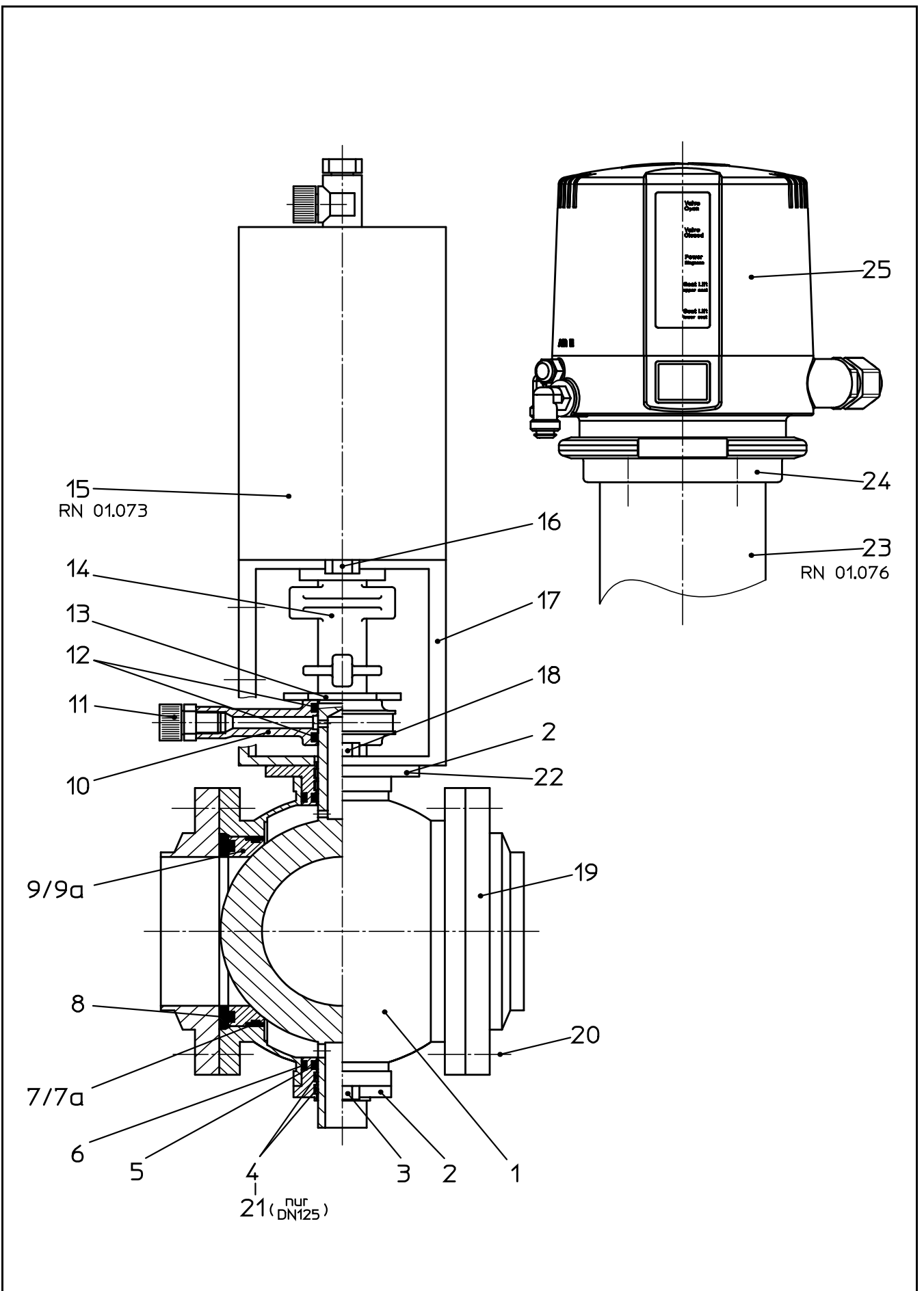
Please indicate the following data to place an order for spare parts:

- number of required parts
- reference number / ID number
- designation


subject to change



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Datum:	17.02.14	31.10.14									
Name:	Trytko	Trytko									
Geprüft:											
Ersatzteilliste: spare parts list											
<b>Ventil DKR -FZ-CU 1+2S</b> <b>Double seat ball valve 1+2S</b> <b>DN25-125; 1-4 Zoll / inch</b>											



SPX FLOW  
Germany

Blatt 1 von 10

**RN 01.071**

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Ersatzteilliste: spare parts list

## Ventil DKR -FZ -CU 1+2S Double seat ball valve 1+2S DN25-125; 1-4 Zoll / inch

pos. item		Menge quantity	Beschreibung description	Material	DN25	1"		1,5"		DN50	2"																																																												
						WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.																																																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Datum: 17.02.14</td> <td colspan="2">31.10.14</td> <td colspan="2">Trytko</td> <td colspan="2">Trytko</td> <td colspan="2">Blatt 2 von 10</td> </tr> <tr> <td colspan="2">Name:</td> <td colspan="2">Trytko</td> <td colspan="2">Trytko</td> <td colspan="2">Trytko</td> <td colspan="2">RN 01.071</td> </tr> <tr> <td colspan="2">Geprüft:</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="2">Datum:</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="2">Name:</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td colspan="2">Geprüft:</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> </table>												Datum: 17.02.14		31.10.14		Trytko		Trytko		Blatt 2 von 10		Name:		Trytko		Trytko		Trytko		RN 01.071		Geprüft:										Datum:										Name:										Geprüft:									
Datum: 17.02.14		31.10.14		Trytko		Trytko		Blatt 2 von 10																																																															
Name:		Trytko		Trytko		Trytko		RN 01.071																																																															
Geprüft:																																																																							
Datum:																																																																							
Name:																																																																							
Geprüft:																																																																							
1	1	Ventilkörper Valve body		1.4404	31-08-277/47 H67774					31-08-377/47 H67782																																																													
2		Wellenlager Bearing		1.4404	15-28-124/47 2x H31774					15-28-124/47 1x H31774																																																													
3	2	Skt. Schraube Hex. Screw	DIN EN 24017-A2-70	1.4301						65-01-080/15 M8x12 H78770																																																													
4	4	Führungsband Guide		Turcite						08-39-079/93 H14879																																																													
5	2	O-Ring	OR 20,2x3	NBR 70-75 Shore A	58-06-078/83 H76943	bei Ventilen mit Dichtungswerkstoff EPDM, HNBR und VMQ einsetzen to be used for valves with seal material EPDM, HNBR, VMQ																																																																	
	2	O-Ring	OR 20,2x3	FPM 70-75 Shore A	58-06-078/73 H125656	nur bei Ventilen mit Dichtungswerkstoff FPM verwenden to be used only for valves with seal material FPM.																																																																	
6	2	O-Ring	OR 28x3	NBR 70-75 Shore A	58-06-119/83 H76961	bei Ventilen mit Dichtungswerkstoff EPDM, HNBR und VMQ einsetzen to be used for valves with seal material EPDM, HNBR, VMQ																																																																	
	2	O-Ring	OR 28x3	FPM 70-75 Shore A	58-06-119/73 H122837	nur bei Ventilen mit Dichtungswerkstoff FPM verwenden to be used only for valves with seal material FPM.																																																																	
7	2	Gehäusedichtung Housing seal		EPDM FDA-konform	58-33-292/93 H77439	58-33-392/93 H77464																																																																	
	2	Gehäusedichtung Housing seal		HNBR FDA-konform	58-33-292/33 H170017	58-33-392/33 H170018																																																																	
8	2	Gehäusedichtung Housing seal		FPM FDA-konform	58-33-292/73 H77438	58-33-392/73 H77463																																																																	
	2	Flanschdichtung Seal flange		EPDM FDA-konform	58-32-277/93 H77280	58-32-427/93 H77303																																																																	
9	2	Flanschdichtung Seal flange		HNBR FDA-konform	58-32-277/33 H172130	58-32-427/33 H172132																																																																	
	2	Flanschdichtung Seal flange		FPM FDA-konform	58-32-277/73 H77279	58-32-427/73 H77302																																																																	
9	2	Flanschdichtung Seal flange		VMQ FDA-konform	58-32-277/13 H77278	58-32-427/13 H77301																																																																	
	2	Kugeldichtung Ball seal		PTFE	58-32-291/23 H77281	58-32-441/23 H77304																																																																	



Ersatzteilliste: spare parts list

**Ventil DKR -FZ -CU 1+2S**  
**Double seat ball valve 1+2S**  
**DN25-125; 1-4 Zoll / inch**

pos. item	Menge quantity	Beschreibung description	Material	DN25	1"	DN40	1,5"	DN50	2"	Datum:		Blatt		APV SPX FLOW Germany
										WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	
10	1	Spritzanschluß CIP connection	PA12								Trytko	Trytko		
11	1	G-Verschraubung G1/8" 8x1	PVDF-schwarz											
12	2	O-Ring OR 20,2x3	NBR											
13	1	Zeiger Position indicator	PE-HART											
14	1	Kupplung Coupling	1.4308											
15	1	Drehantrieb F/L Actuator spring/air in Einzelverpackung / with individual packaging	1.4301											
16	2	Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301											
17	1	Laterne Yoke	1.4301	15-40-164/17 H33846										15-40-166/17 H33848
18	2	Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301											
19	2	Flansch FG1 Flange FG1	1.4404	09-51-277/42 H18722	09-51-314/42 H18732	09-51-377/42 H108883	09-51-414/42 H18751	09-51-427/42 H18761	09-51-464/42 H18768					
20	8	Skt. Schraube Hex. Screw DIN EN 24017-A2-70	1.4301											
21														
22	1	Wellenlager Bearing	1.4404											
23	1	Drehantrieb F/L für RME Actuator s/a for control-unit in Einzelverpackung / with individual packaging	1.4301											
24	1	CU-T-Adapter CU-T-adapter	PA6.6 GF30 schwarz											
25	1	Control-Unit Control-Unit	PA6.6 GF30 schwarz											

siehe Betriebsanleitung CU  
see manual CU



Ersatzteilliste: spare parts list

**Ventil DKR -FZ -CU 1+2S**  
**Double seat ball valve 1+2S**  
**DN25-125; 1-4 Zoll / inch**

		Datum: 17.02.14		31.10.14		Trytko		Trytko		Blatt 5 von 10	
		Name:								RN 01.071	
		Geprüft:									
		Datum:									
		Name:									
		Geprüft:									
		3"	DN80	DN100	4"						
		WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.						
		31-08-552/47 H203406	31-08-527/47 H67803	31-08-527/47 H67803	31-08-627/47 H67811						
		15-28-124/47 H31774	15-28-125/47 H31775	15-28-125/47 H31775							
		65-01-080/15 M8x12 H78770	65-01-129/15 M10x14 H78805	65-01-129/15 M10x14 H78805							
		08-39-079/93 4x H14879	08-39-079/93 6x H14879	08-39-079/93 6x H14879							
		58-06-078/83 H76943	58-06-078/83 H76943	58-06-078/83 H76943							
		58-06-119/83 H76961	58-06-119/83 H76961	58-06-119/83 H76961							
		58-06-119/73 H122837	58-06-119/73 H122837	58-06-119/73 H122837							
		58-33-492/93 H77512	58-33-492/93 H77512	58-33-492/93 H77512							
		58-33-492/33 H168759	58-33-492/33 H168759	58-33-492/33 H168759							
		58-33-492/73 H77511	58-33-492/73 H77511	58-33-492/73 H77511							
		Gehäusedichtung VMQ nur bei DN80 einsetzen Housing seal VMQ only to be used for DN80		Gehäusedichtung VMQ nur bei DN80 einsetzen Housing seal VMQ only to be used for DN80							
		58-32-477/93 H77314	58-32-477/93 H77314	58-32-477/93 H77314							
		58-32-477/33 H172133	58-32-477/33 H172133	58-32-477/33 H172133							
		58-32-477/73 H77313	58-32-477/73 H77313	58-32-477/73 H77313							
		58-32-555/13 H77330	58-32-555/13 H77330	58-32-555/13 H77330							
		58-32-555/93 H77332	58-32-555/93 H77332	58-32-555/93 H77332							
		58-32-544/93 H176414	58-32-544/93 H176414	58-32-544/93 H176414							
		58-32-527/33 H172134	58-32-527/33 H172134	58-32-527/33 H172134							
		58-32-527/73 H77324	58-32-527/73 H77324	58-32-527/73 H77324							
		58-32-544/13 H177052	58-32-544/13 H177052	58-32-544/13 H177052							
		58-32-627/93 H77339	58-32-627/93 H77339	58-32-627/93 H77339							
		58-32-627/33 H172135	58-32-627/33 H172135	58-32-627/33 H172135							
		58-32-627/73 H77338	58-32-627/73 H77338	58-32-627/73 H77338							
		58-32-627/13 H77337	58-32-627/13 H77337	58-32-627/13 H77337							



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Ersatzteilliste: spare parts list

**Ventil DKR -FZ -CU 1+2S**  
**Double seat ball valve 1+2S**  
**DN25-125; 1-4 Zoll / inch**

		Datum:		17.02.14		31.10.14						APV SPX FLOW Germany	
		Name:		Trytko		Trytko						Blatt 6 von 10	
		Geprüft:										RN 01.071	
		Datum:											
		Name:											
		Geprüft:											
9	2	Kugeldichtung Ball seal	Material	DN65	2,5"	3"	DN80	DN100	4"				
			material	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.				
			PTFE virginal	58-32-491/23 H77315	58-32-566/23 H203407	58-32-541/23 H77326	58-32-540/23 H176929	58-32-641/23 H77340					
			PTFE virginal	Kugeldichtung nur bei DN80 in EPDM und VMQ Ventilausführung einsetzen Ball seal only to be used for DN80 in EPDM and VMQ valve design									
10	1	Spritzanschluß CIP connection	PA12	08-52-136/92 H162806									
11	1	G-Verschraubung Union	PVDF-schwarz	08-63-003/13 H16388									
12	2	O-Ring O-ring	NBR	58-06-078/83 H76943									
13	1	Zeiger Position indicator	PE-HART	08-29-021/93 H14634									
14	1	Kupplung Coupling	1.4308	08-52-050/13 H15865									
15	1	Drehantrieb F/L Actuator spring/air	1.4301	15-31-055/17 H315054									
16	2	Skt. Schraube Hex. Screw	1.4301	65-01-080/15 M8x12 H78770									
17	1	Laterne Yoke	1.4301	15-40-166/17 H33848									
18	2	Skt. Schraube Hex. Screw	1.4301	65-01-079/15 M8x14 H78768									
19	2	Flansch FG1 Flange FG1	1.4404	09-51-477/42 H18782									
20		Skt. Schraube Hex. Screw	1.4301	65-01-083/15 8xM8x20 H78776									
21				09-51-552/42 H18809									
22	1	Wellenlager Bearing	1.4404	09-51-514/42 H18791									
				65-01-083/15 16xM8x20 H78776									
				09-51-627/42 H18824									
				09-51-664/42 H18831									
				15-28-210/42 H207855									
				15-28-211/42 H207856									




Ersatzteilliste: spare parts list

# Ventil DKR -FZ -CU 1+2S

## Double seat ball valve 1+2S

### DN25-125; 1-4 Zoll / inch

Datum:	17.02.14	31.10.14
Name:	Trytko	Trytko
Geprüft:		
Datum:		
Name:		
Geprüft:		
Blatt		8 von 10
<b>RN 01.071</b>		

		
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pos. item	Menge quantity	Beschreibung description	Material	DN125	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
1	1	Ventilkörper Valve body	1.4404	31-08-677/47 H130796					
2	1	Wellenlager Bearing	1.4404	15-28-180/47 H130778					
3	2	Skt. Schraube Hex. Screw	1.4301	65-01-130/15 M10x16 H78806					
4									
5	2	O-Ring O-ring	NBR 70-75 Shore A	58-06-078/83 H76943					
	2	O-Ring O-ring	FPM 70-75 Shore A	58-06-078/73 H125656					
6	2	O-Ring O-ring	NBR 70-75 Shore A	58-06-119/83 H76961					
	2	O-Ring O-ring	FPM 70-75 Shore A	58-06-119/73 H122837					
7	2	Gehäusedichtung Housing seal	EPDM FDA-konform	58-33-692/93 H77608					
	2	Gehäusedichtung Housing seal	HNBR FDA-konform	58-33-692/33 H172125					
	2	Gehäusedichtung Housing seal	FPM FDA-konform	58-33-692/73 H77607					
8	2	Flanshdichtung Seal flange	EPDM FDA-konform	58-32-677/93 H77351					
	2	Flanshdichtung Seal flange	HNBR FDA-konform	58-32-677/33 H172136					
	2	Flanshdichtung Seal flange	FPM FDA-konform	58-32-677/73 H77350					
	2	Flanshdichtung Seal flange	VMQ FDA-konform	58-32-677/13 H77349					
9	2	Kugeldichtung Ball seal	PTFE	58-32-691/23 H130779					

bei Ventilen mit Dichtungswerkstoff EPDM, HNBR und VMQ einsetzen  
to be used for valves with seal material EPDM, HNBR, VMQ

nur bei Ventilen mit Dichtungswerkstoff FPM verwenden  
to be used only for valves with seal material FPM.

bei Ventilen mit Dichtungswerkstoff EPDM, HNBR und VMQ einsetzen  
to be used for valves with seal material EPDM, HNBR, VMQ

nur bei Ventilen mit Dichtungswerkstoff FPM verwenden  
to be used only for valves with seal material FPM.




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### Ersatzteilliste: spare parts list

## Ventil DKR -FZ -CU 1+2S Double seat ball valve 1+2S DN25-125; 1-4 Zoll / inch

Datum:		17.02.14	31.10.14
Name:		Trytko	Trytko
Geprüft:			
Datum:			
Name:			
Geprüft:			
Blatt		9	von 10
		<b>RN 01.071</b>	

			
		SPX FLOW Germany	

pos.	Menge quantity	Beschreibung description	Material	DN125	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.
10	1	Spritzanschluß CIP connection	PA12	08-52-136/92 H162806					
11	1	G-Verschraubung Union	PVDF-schwarz	65-01-132/15 H78809					
12	2	O-Ring O-ring	NBR	58-06-078/83 H76943					
13	1	Zeiger Position indicator	PE-HART	08-29-022/93 H14635					
14	1	Kupplung Coupling	1.4308	08-52-247/17 H163814					
15	1	Drehantrieb F/L Actuator spring/air	1.4301	15-31-923/17 H32589					
16	2	Skt. Schraube Hex. Screw	1.4301	65-01-129/15 M10x14 H78805					
17	1	Laternen Yoke	1.4301	15-40-168/17 H33850					
18	2	Skt. Schraube Hex. Screw	1.4301	65-01-132/15 M10x20 H78809					
19	2	Flansch FG1 Flange FG1	1.4404	09-51-677/42 H18839					
20	16	Skt. Schraube Hex. Screw	1.4301	65-01-133/15 H78811					
21	2	Lagerbuchse Bearing	Kunststoff	08-01-160/93 H13836					
22	1	Wellenlager Bearing	1.4404	15-28-212/42 H207857					
23	1	Drehantrieb F/L für RME Actuator spring/air for control-unit	1.4301	15-37-103/17 H134034					
24	1	CU-Tmax-Adapter CU-Tmax-adapter	PA6.6 GF30 schwarz	08-48-611/93 H321987					
25	1	Control-Unit Control-Unit	PA6.6 GF30 schwarz	siehe Betriebsanleitung CU see manual CU					



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Ersatzteilliste: spare parts list

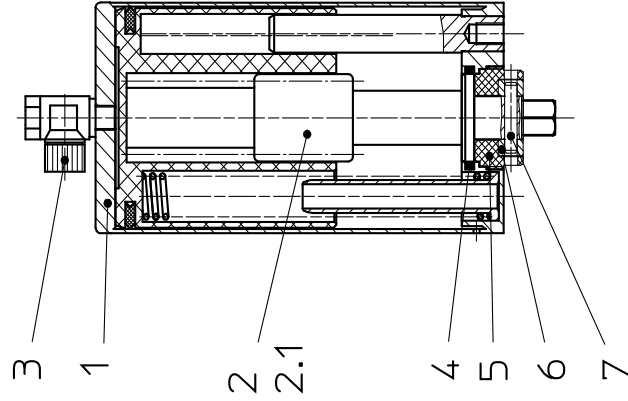
**Drehantrieb K080, K125, K180 F/L**  
**Actuator K080, K125, K180 spring/air**

Datum:	22.11.12	12.03.14
Name:	Trytko	Trytko
Geprüft:	Goebel	

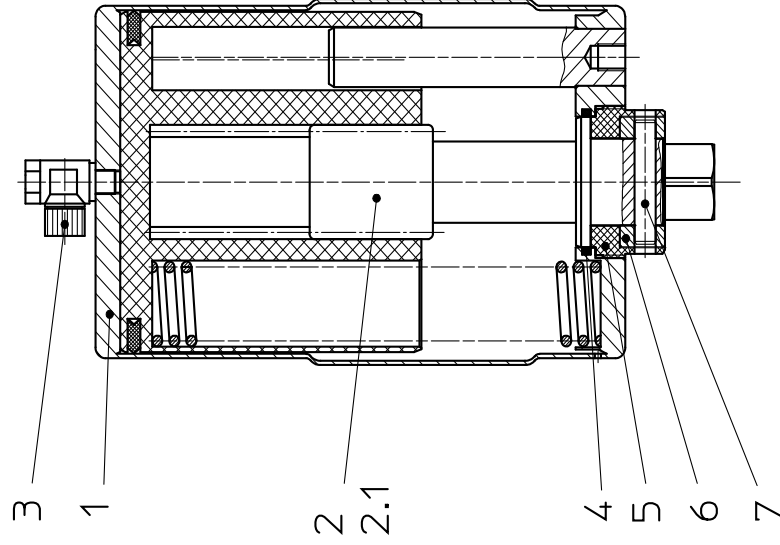



Blatt	1	von	2
RN 01.073			

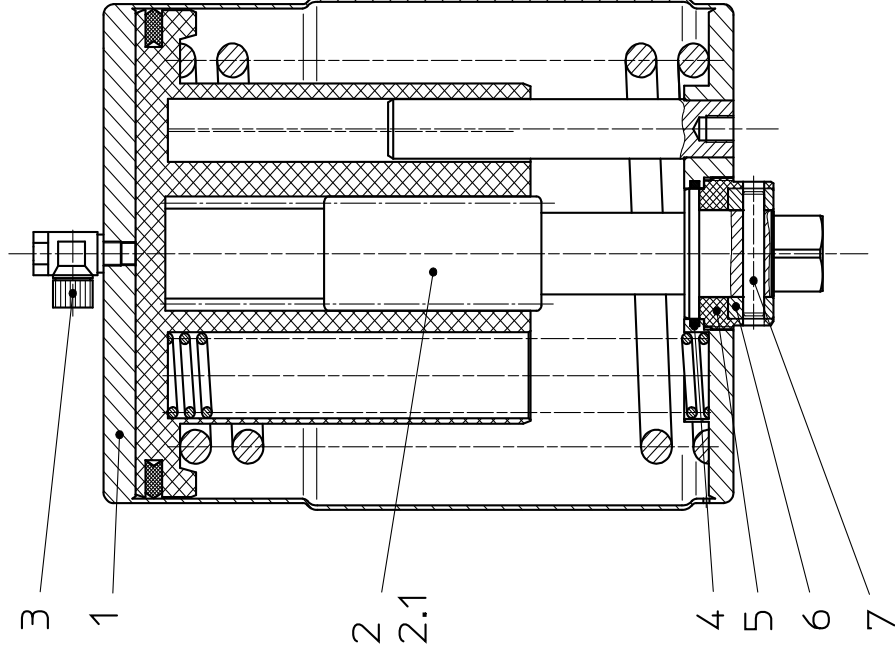
DRAT K080



DRAT K125



DRAT K180



Ersatzteilliste: spare parts list

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

pos. item		Menge quantity	Beschreibung description	Material	K080		K125		K180		Date		Blatt 2 von 2	RN 01.073
					WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	WS-Nr. ref.-no.	Datum: Name: Geprüft:	Datum: Name: Geprüft:	22.11.12 Trytko Goebel	12.03.14 Trytko		
	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/ Glas	08-63-221/93 H16371										
	1	O-Ring	NBR	58-06-130/83 32,2x3 H76965										
4	1	O-Ring	FPM		58-06-222/73 49,5x3 H77000									
	1	Lager für Drehantrieb Bearing for actuator	POM	15-28-002/34 H31673										
5	1	Lager für Drehantrieb Bearing for actuator	PA12		15-28-009/63 H31684									
6	1	Stelling Adjust ring	1.4301	67-08-007/13 H79757	67-08-008/13 H79758									
7	1	Zyl. Kerbstift Cyl. pin	1.4305	67-15-035/13 5x26 H79916	67-15-036/13 8x45 H79917									



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Ersatzteilliste: spare parts list

**Drehantrieb K080, K125, K180 F/L für Rückmeldeeinheit**  
**Actuator K080, K125, K180 spring/air for control unit**

Datum: 28.03.13 08.05.14

Name: Trytko Trytko

Geprüft:

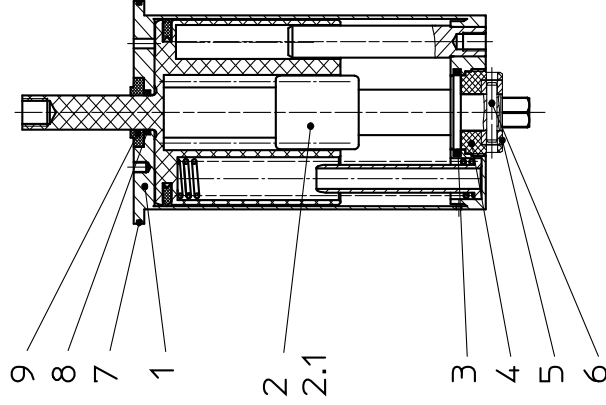
Blatt 1 von 2

**RN 01.076**

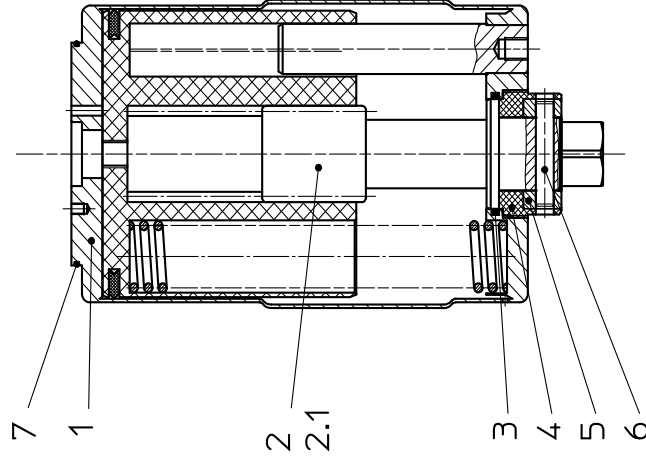
Datum:	28.03.13	08.05.14
Name:	Trytko	Trytko
Geprüft:		
Datum:		
Name:		
Geprüft:		



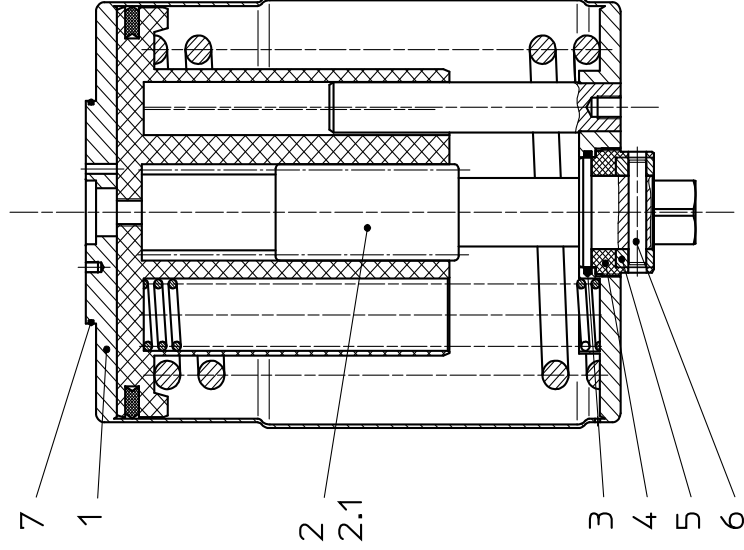
DRAT K080-RM



DRAT K125-RM



DRAT K180-RM



Ersatzteilliste: spare parts list

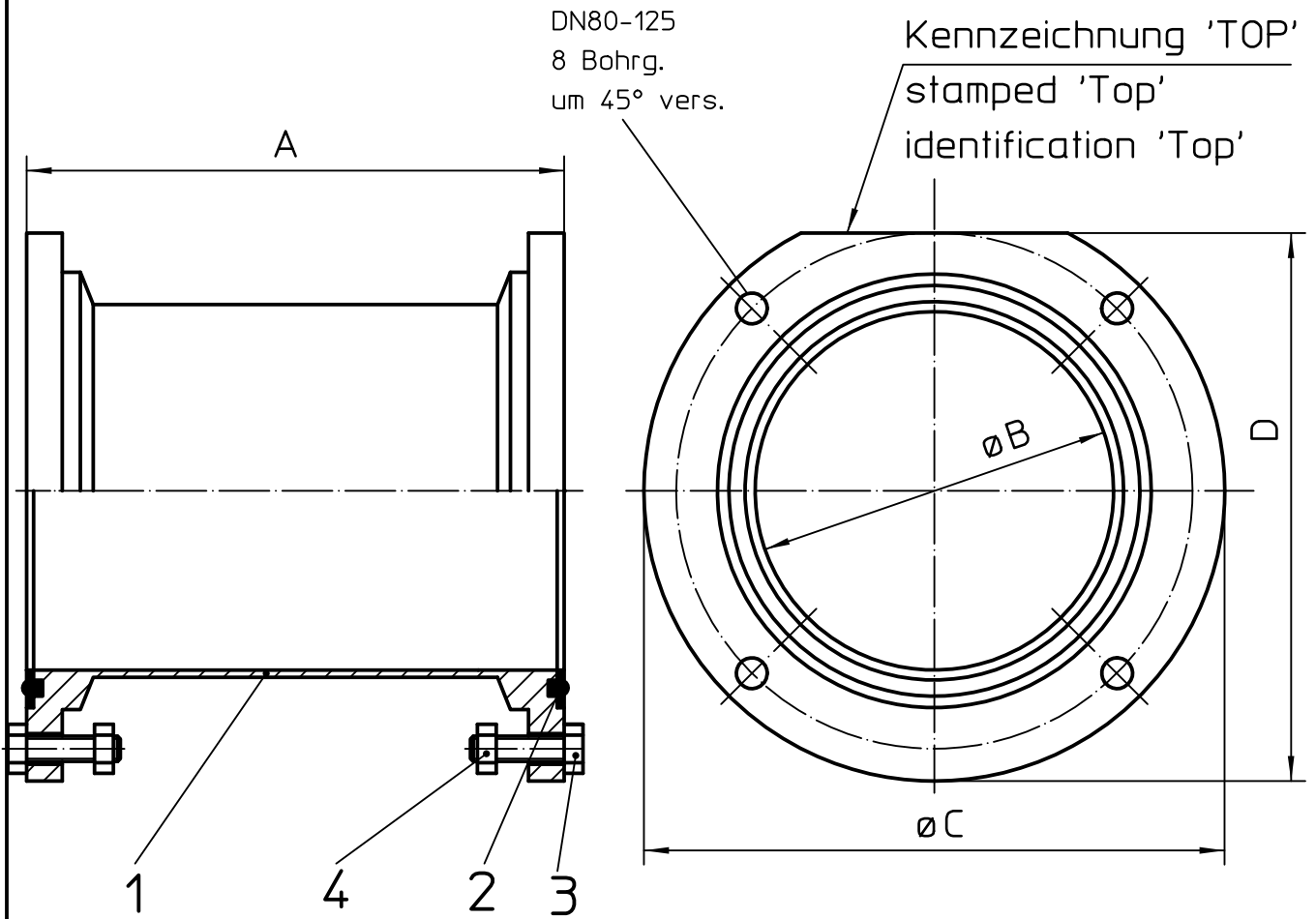
**Drehantrieb K080, K125, K180 F/L für Rückmeldeeinheit  
Actuator K080, K125, K180 spring/air for control unit**

Datum:	28.03.13	08.05.14
Name:	Trytko	Trytko
Geprüft:		
Datum:		
Name:		
Geprüft:		

Blatt 2 von 2		
RN 01.076		



pos. item	Menge quantity	Beschreibung description	Material	K080		K125		K180	
				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	Drehantrieb komplett Actuator complete	1.4301 matt-glänzend	15-37-070/17 H123937	15-37-106/17 H128942	15-37-103/17 H134034			
1	1	Drehantrieb komplett Actuator complete	1.4301 poliert	15-37-070/13 H316969	15-37-106/13 H327700	15-37-103/13 H328071			
1	1	Drehantrieb Schweißteil Actuator welded	1.4301	15-37-071/17 H123936	15-37-105/17 H128940	15-37-104/17 H134503			
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	O-Ring O-ring	NBR	58-06-130/83 H76965					
3	1	O-Ring O-ring	FPM		58-06-222/73 H77000				
4	1	Lager für Drehantrieb Bearing for actuator	POM	15-28-002/34 H31673					
4	1	Lager für Drehantrieb Bearing for actuator	PA12		15-28-009/63 H31684				
5	1	Stelling Adjust ring	1.4301	67-08-007/13 H79757	67-08-008/13 H79758				
6	1	Zyl. Kerbstift Cyl. pin	1.4305	DIN EN ISO 8740-V2A 5x26 H79916	67-15-035/13 8x45 H79917				
7	1	O-Ring O-ring	NBR		58-06-426/83 H143352				
8	1	O-Ring O-ring	NBR	58-06-052/83 H107914					
9	1	Druckstück Drehantrieb Thrust ring turning actuator	Hostaform	08-48-117/53 H105080					



DN	WS-Nr.	A	B	C	D
25/1"	08-48-250/..	61,5	26	83	74
40/1,5"	08-48-251/..	61,5	38	100	91
50/2"	08-48-252/..	79,5	50	110	101
65/2,5"	08-48-253/..	100,8	66	127	118
3"	08-48-257/..	123,5	72,9	134	125
80	08-48-254/..	123,5	81	142	133
100/4"	08-48-255/..	150,5	100	162	153
125	08-48-256/..	190,5	125	190	177

../59 = EP-1.4404 matt-glänzend  
EP-1.4404 satin-finish  
EP-1.4404-mat

Created by	Date	Modified by	C.Keil	Date	07.03.2019	Released by	Date
<b>SPX</b>		Descr. Montageeinsatz DKR kpl Installation Aid DKR/Insert de montage DKR cpl.				SPX Flow Technology Germany GmbH Gottlieb Daimler Straße 13, D-59439 Holzwickede, Germany	
Sheet 1 / 1						Rev. 4	
RN268_07							

# APV DELTA DKR2

DOUBLE SEAT BALL VALVE  
WITH CLEANING CONNECTION

# SPXFLOW

## SPX FLOW

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Maintenance Video

