APV®

INSTRUCTION MANUAL

APV DELTA DKRH2

DOUBLE SEAT BALL VALVE WITH CLEANING CONNECTION HIGH PRESSURE DESIGN

MODELS:	**APV DELTA DKRH2**
FORM NO.:	H170760
REVISION:	03/2024 GB REV. 05

SPXFLOW®

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

SPXFLOW®

CE Declaration of Conformity
UKCA Declaration of Conformity

We,

DESIGN CENTER/MANUFACTURER: **SPX Flow Technology Germany GmbH**
Gottlieb-Daimler-Str. 13, D-59439 Holzwickede

MANUFACTURING FACILITY: **SPX Flow Technology Poland sp. z o.o.**
Rolbieskiego 2, 85-862 Bydgoszcz, Poland

AUTHORIZED REPRESENTATIVE: (for UKCA) **SPX Flow Europe Ltd.**
Building A, Compass House, Manor Royal
Crawley, RH10 9PY

declare under our sole responsibility that the

APV double seal and double seat valves of the series
SD4, SDT4, SDU4, SDMS4, SDMSU4, SDTMS4, SWcip4, DSV, DA4, DA4 DPF, D4 SL, DU4 SL, DT4 SL, DP4 SL, D4, DA3, DA3SLD, DE3, DEU3, DET3, DKR2, DKRT2, DKRH2

APV butterfly valves of the series SV1, SVS1F, SV2, SVS2F, SVL, SVSL, SVE, SVSE

APV ball valves of the series BLV1

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, UF/R4, VRA/H

and the valve manifolds installed thereof

meet the requirements of the Machinery Directive 2006/42/EC
& EN ISO 12100-2010, DIN EN ISO 14159-2008-07, DIN EN 1672-2-2009-07.

Holzwickede, November 2022

ppa. B. Ariatabar

Dr.-Ing. Behdad Ariatabar, Design Center Lead - Valves

meet the requirements of the Supply of Machinery (Safety) Regulations 2008 No. 1597
& BS harmonized standards.

Crawley, November 2022

Ewout Roozendaal, Director Global Pricing

Content

1. General Terms

This operating 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 operating manual.

Descriptions and data given herein are subject to technical changes.

2. Safety Instructions

The valve must be assembled, operated, dismantled, maintained and serviced only by competent, trained personnel.Please contact your local SPX Flow Technology site if necessary.

DANGER!

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

- ***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 leakages spirt out to the bottom.
- If the cleaning connection is not used, it must be sealed by a plug or operating leakages must be discharged.

- Regular maintenance of the valve including replacement of all seals must be scheduled in order to prevent leakages and liquid emersion..
- Remove the turning actuator before replacing seals.

- Before any maintenance work, the line and cleaning system must be depressurized and discharged if possible.
- Electric and pneumatic connections must be separated.
- Observe service instructions to ensure safe maintenance

2. Safety Instructions

DANGER!

Welded actuators are preloaded by spring force..

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

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

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

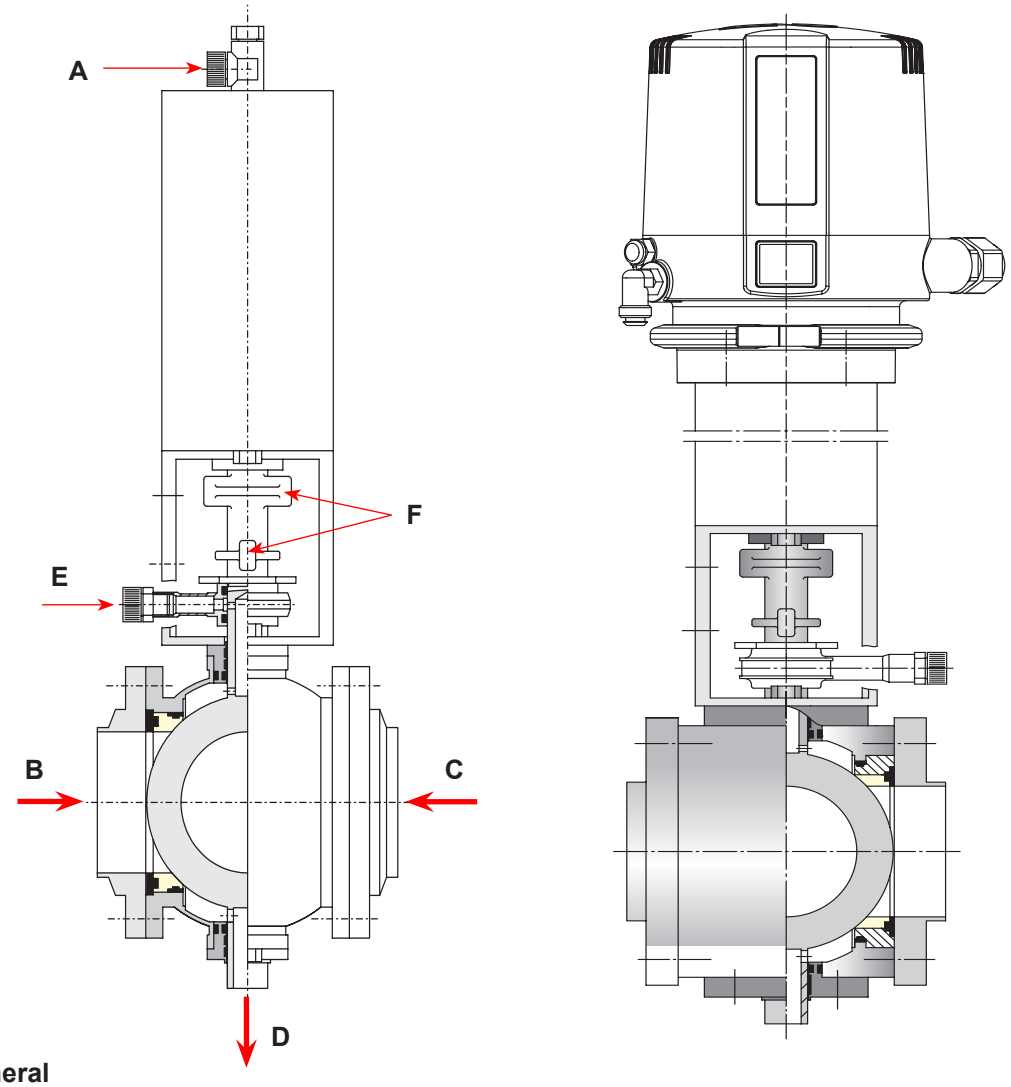
Contact your local SPX Flow Technology company.

3. Intended Use

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

Unauthorized, constructional changes at the valve
influence safety and the intended functionality of the valves and are not permissible.

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 DKRH2 is applicable in the food and beverage industries as well as in the chemical and pharmaceutical industries.

The field of application of the DELTA DKRH2 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 eakages 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.

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 a different valve position indicator, SPX FLOW cannot take over any liability for a faultless function.

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.

The following different designs are available:

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

fig. 5.2.

Control Unit CU4

Control Unit CU3

- For the assembly of a control unit on the DKRH2 valve, an adapter is required.

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

5.3. Turning actuator for control unit

- For the installation of a control unit on the double seat ball valve a special turning actuator is required. The standard actuator must be replaced.

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

5.4. Operating leakage drain

To discharge operating leakage via a pipeline, retrofit kits with weld end are available (**see page 19**).

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 parallely 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.

Attention! Observe welding instructions 7.1.

7.1. Welding Instructions

- Welding should only be carried out by certified welders (EN 287-1) (seam quality EN 25817 „B“).

- Welding of the mating flanges must be undertaken in such a way that deformation strain cannot be transferred.

- TIG orbital welding is best!

- 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!

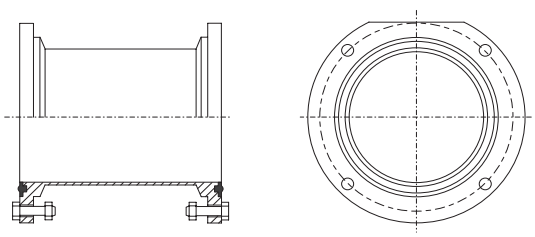
- After welding of the mating flanges and after work at the pipelines, the corresponding parts of the installation or pipelines must be cleaned from welding residues and soiling. If these cleaning instructions are not observed, welding residues and dirt particles can settle in the valve and cause damage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

- If these welding instructions are not followed, any resulting damage will not be covered by the warranty.

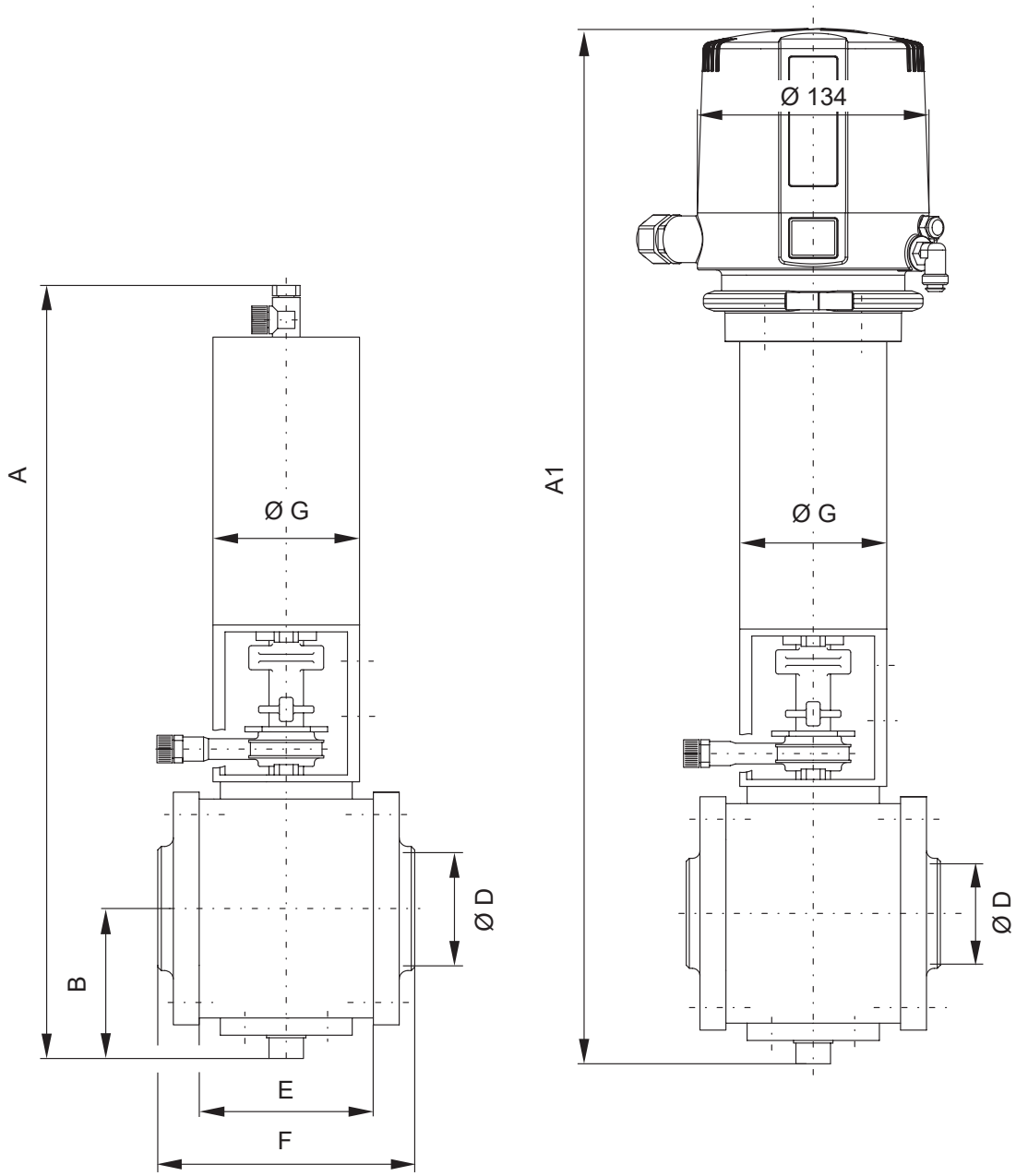
7.2. Assembly inserts for double seat ball valves as follows:

DN	Inch	ID No.
50	000 08-48-266/	H167636
80	000 08-48-268/	H168247

fig.7.2. assembly insert



8. Dimensions / Weights

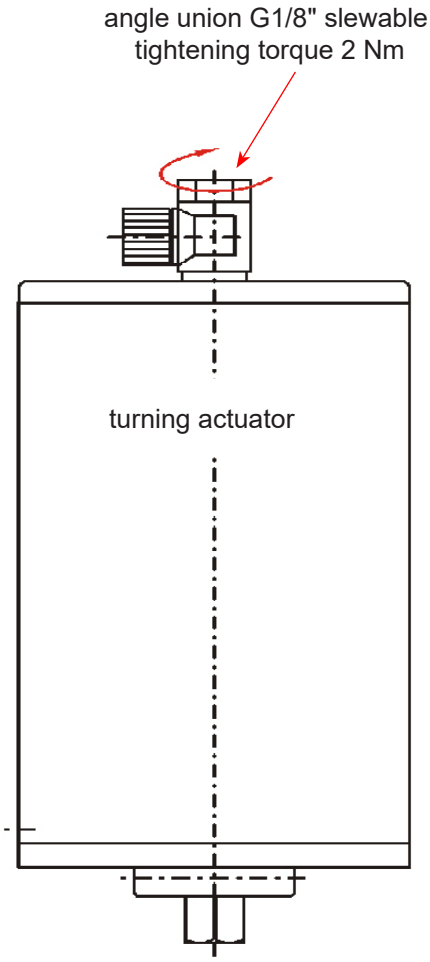


dimensions in mm								weights in kg
DN	**A**	**A1**	**B**	**Ø D**	**E**	**F**	**Ø G**	
50	447	597	86,5	50	79	127	85	13,0
80	565	717	113,5	81	123	203	135	34,0

9. Technical Data

9.1. General data

- max. line pressure static: **100 bar**
  valve is not switchable
- max. line pressure dynamic: **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 pressur: **about 5 - 10 l/min.**
- turning actuator
  min. control pressure: **6 bar**
  max. control pressure: **10 bar**
  turning angle: **90°**
- air connection (for hose) **6 x 1**
  threaded angle - G1/8“ slewable: **tightening torque 2 Nm**
- spray connection: **G1/8“**
- cleaning connection for hose: **8 x 1**



9. Technical Data

9.2. Compressed air quality **quality class according to ISO 8573-1**

Content of solid particles: quality class 3,
max. size of solid 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 3,
max. dew point temperature + 3°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/m³

(The oil applied must be compatible with Polyurethane elastomer materials.)

	DN inch	**50 2"**	**80 3"**
9.3. Max. tightening torque in Nm	(M)	22	40
9.4. Operating leakage at about 5 bar in l (opening and closing process)	(Qs)	1,4	4,0
9.5. Operating leakage at about 5 bar in l with operating leakage reducer	(Qs)	0,8	2,4
9.6. Pneumatic air consumption at 6 bar NL	(V)	1,8	5,5

10. Materials

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

11. Maintenance

- 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.

- Lightly grease all seals before their installation

- The inner parts of the turning actuator do not require maintenance.

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

Recommendation:
APV assembly grease for **EPDM, FPM, HNBR and NBR**
(750 g/ 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)
(600 g/ 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.

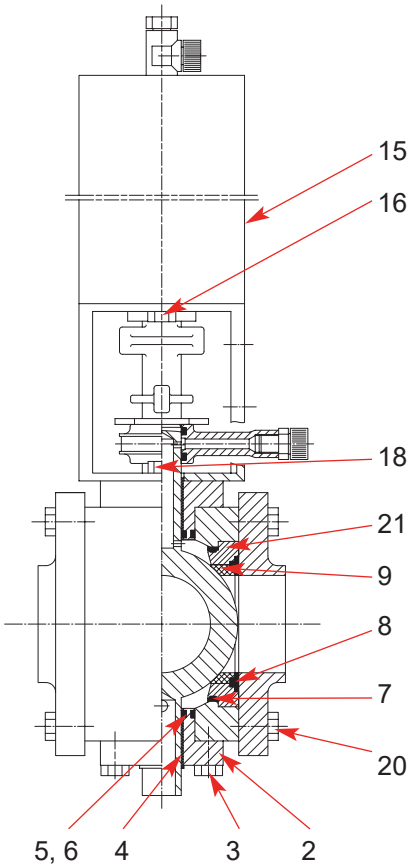
Less suited grease types can influence function and life time.

12. Service Instructions

The item numbers refer to the spare parts drawing.
DN design: RN 01.077

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).
2. Take off turning actuator (15) after removal of screws (16).
3. Release screws (18) and yoke, coupling, indicator and spray connection

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

4. Take out PTFE ball seals (9) with metal supporting ring (21) and housing seals (7)

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

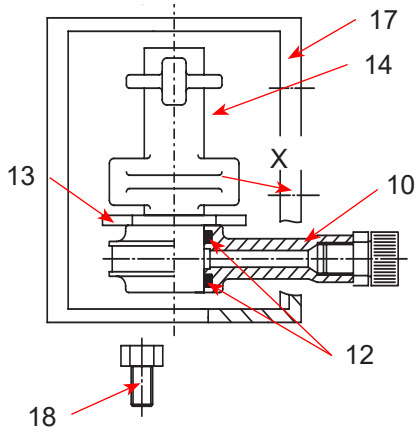
   Attention! Ball and ball seal are sensitive to mechanical damage, the surfaces must not be touched by tools.

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

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

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).
2. Slide 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) before their installation on the supporting ring for the ball seal (21).
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).

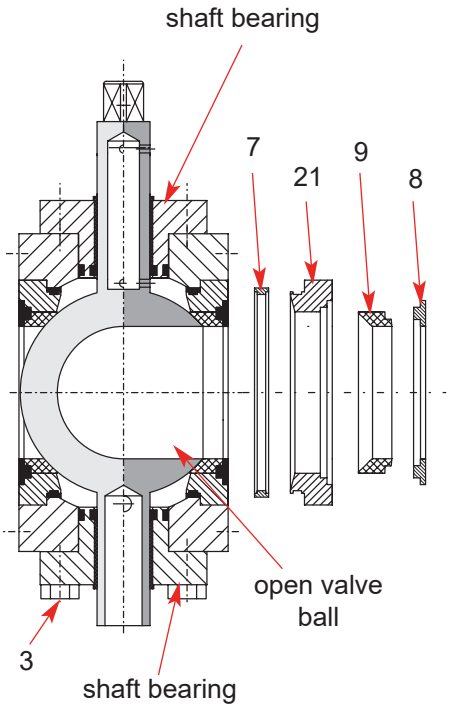


12.4. Assembly of valve

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



12.5. Adjustment of operating position

Attention! For a safe, perfect and fast adjustment of the operating position, we recommend to use two separate high-pressure flanges.

12.5.1 Adjustment of operating position with high-pressure flanges (flanges DKRH DN 50 or DN 80)

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(17).
2. Screw in screws (16), but do not fasten them.

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

3. Screw down DKRH flanges at the housing. The ball must be in its exact open position during this procedure.
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.

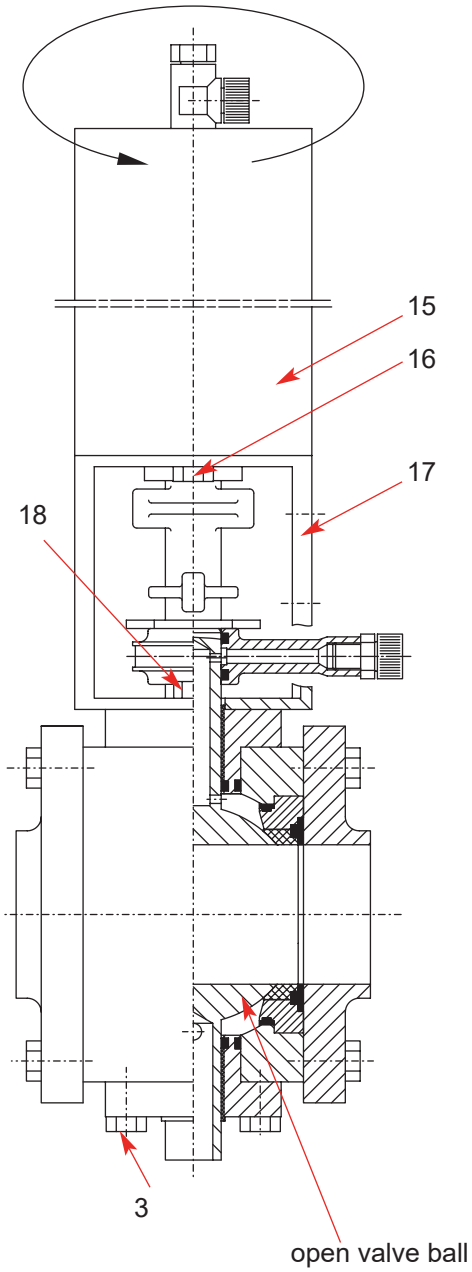
The ball must keep its its exact open position during this procedure!

Danger ! 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“.

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

7. Shut off the air supply to the turning actuator and dismantle the flanges.
8. Insert the valve in closed position between the flanges into the pipeline and fasten it with the screws.
9. Connect pneumatic air line with the turning actuator
10. Connect the cleaning line.
11. Attach valve position indicators.



12.5.2. Adjustment of operating position without high-pressure flanges

If high-pressure flanges are not available, the ball can, in exceptional cases, be adjusted as follows.
Attention! Failure of adjustement 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 tigthen them.

Danger ! 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.

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.

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

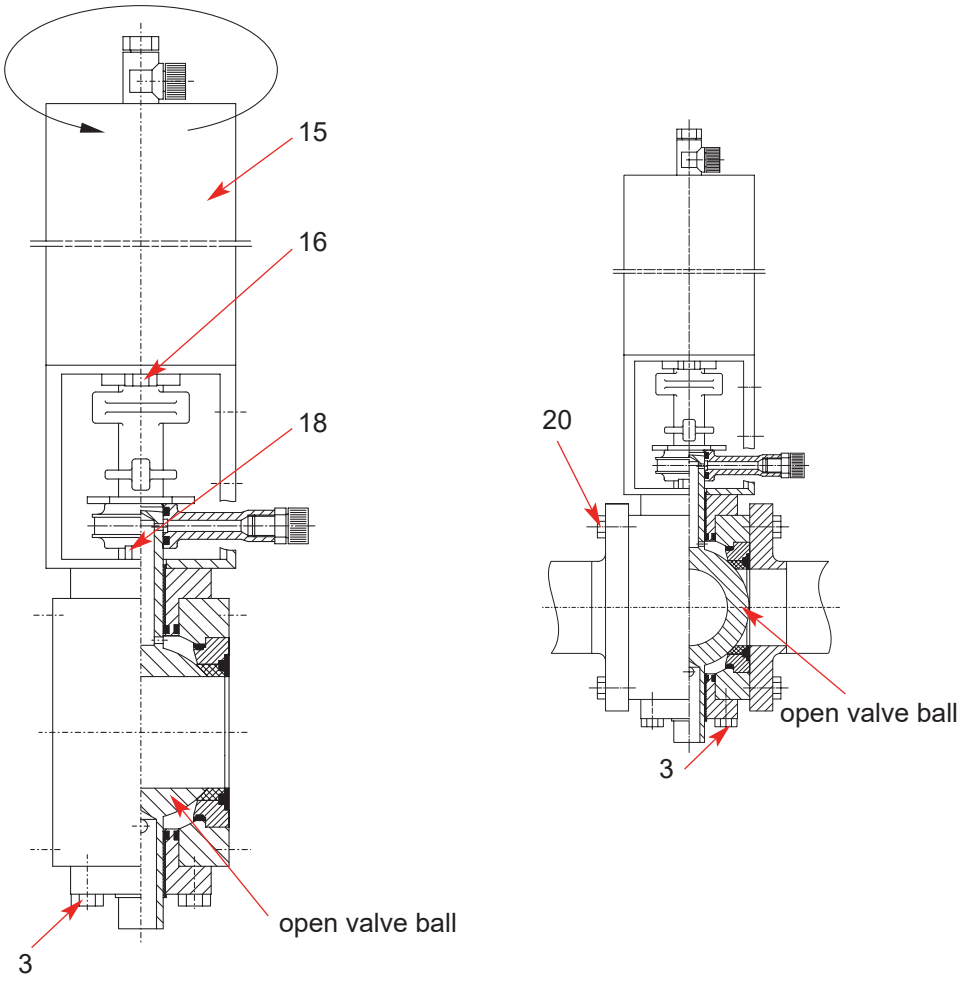
6. Tighten screw (18) and, then, screw (3).

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

7. Connect pneumatic air line with turning actuator.

8. Connect cleaning line.

10. Attach valve position indication.



12.6. Leakage reduction(drain) for DKRH 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 reducer compl.			
DN, Inch		**ref.-No.**	**ID-No.**
50		16-37-033/59	H325981
80		16-37-034/59	H325982
single parts			
		ref.-No.	**ID-No.**
DN, Inch			
50	pos. 1	16-37-020/42	H112045
80	pos. 1	16-37-024/47	H132490
50	pos. 2	65-01-089/15	H120284
80	pos. 2	65-01-136/13	H78814
50, 80	pos. 3	08-39-079/93	H14879
50, 80	pos. 4	58-06-078-83	H76943

12.6.1 Installation of the leakage drain

1. Slightly grease the o-ring (4), guide bands (3) and insert them in the leakage drain

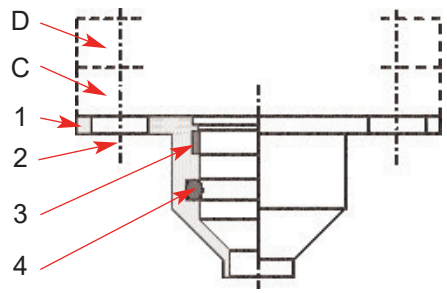
!!! Do not use grease containing mineral oil for EPDM seals!!!

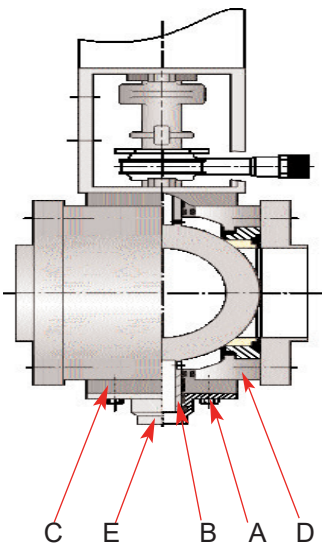
2. Remove the two hexagon screws (A) and slide the leakage drain (E) onto the shaft (B) against the shaft bearing (C).Slightly grease O-rings (1, 2) before their installation.

3. Tighten the shaft bearing (C) together with the leakage drain (E) at the housing (D).

   Use the hexagon screws (2) supplied to fasten the parts.

4. As illustrated in the fig., the leakage drain can have a weld end, optionally a round thread or other connections..





13. Detection of Seal Damage

Failure	Remedy
Valve is closed and controlled with air	
Leakage at pipeline flange	**Replace seal (8).**
Leakage from the leakage drain	**1. Check adjustment of valve ball according to Service Instructions 12.5.** **2. Replace seals (8, 9, 7).**
Valve is open	
Leakage from the leakage drain	**1. Check adjustment of valve ball according to Service Instructions 12.5.** **2. Replace seals (8, 9, 7).**
Valve is closed and leakage during cleaning via the spray connection	
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).

14. Spare Parts Lists

(see annex)

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

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

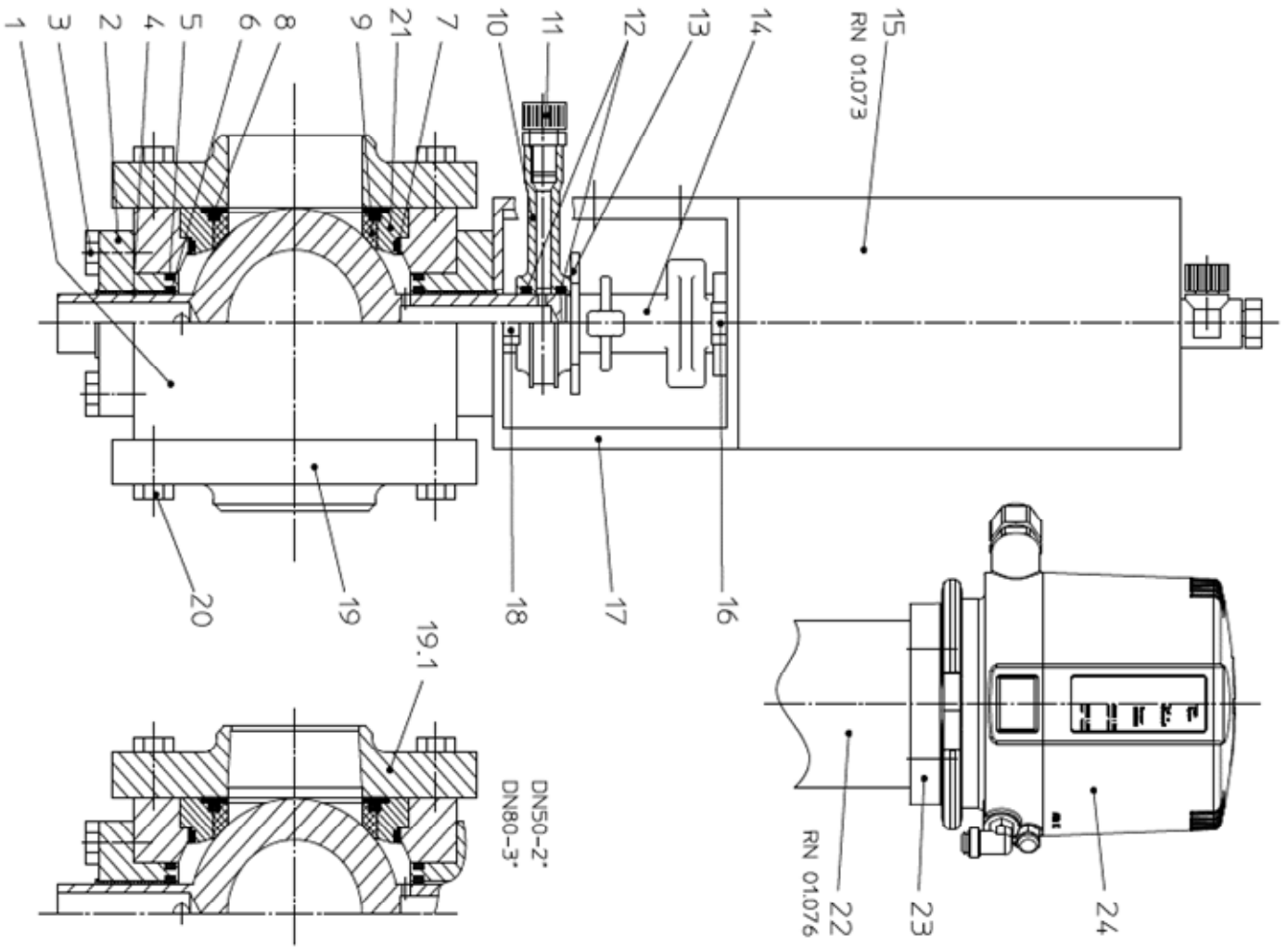
- number of required parts
- reference number / ID number
- designation

Data are subject to change

Spare parts list:

DKRH valve -high pressure design -FZ-CU 1+2S
DN50, 80

Date:	21.02.14	31.10.14	29.02.24		**SPX FLOW**
Name:	Trytko	Trytko	N.Shresht		
Approved by:					
Date:					Page 1 of 3
Name:					**RN 01.077**
Approved by:					



Spare parts list:

DKRH valve-high pressure design -FZ-CU 1+2S
DN50, 80
DN 50

Date:	21.02.14	31.10.14	29.02.24	
Name:	Trytko	Trytko	N.Shresht	
Approved by:				

SPX FLOW

Date:				
Name:				
Approved by:				

RN 01.077

Item	Quantity	Description	Material	Part no.
1	1	Valve body + + Tran. Lock	1.4404	H347864
2	2	Bearing	1.4404	H143224
3	2	Hex. Screw M8x20 DIN EN 24017-A2-70	1.4301	H78776
4	4	Bearing	Plastic	H13836
5	2	O-ring 28x3	NBR 70-75 Shore A	H76961
6	2	O-ring 20x4	NBR 70-75 Shore A	H144527
7	2	Housing seal	EPDM	H77488
			HNBR	H168714
			FPM	H77487
8	2	Seal flange	EPDM	H77303
			HNBR	H172132
			FPM	H77302
			VMQ	H77301
9	2	Ball seal	PTFE+25%GF	H147343
10	1	CIP connection	PA12	H162806
11	1	Union G1/8" 8x1	PVDF-Black	H16388
12	2	O-ring OR 20,2x3	NBR	H76943
13	1	Position indicator	PE-HART	H14634
14	1	Coupling	1.4308	H15865
15	1	Actuator spring/air with individual packaging	1.4301	H315054
16	2	Hex. Screw M8x12 DIN EN 24017-A2-70	1.4301	H78770
17	1	Yoke	1.4301	H33848
18	2	Hex. Screw M8x25 DIN EN 24017-A2-70	1.4301	H120284
19	2	Flange FG1	1.4404	H143223
19.1	2	Flange FG1H	1.4404	H206970
20	8	Hex. Screw M16x30 DIN EN 24017-A2-70	1.4301	H78860
21	2	Support for ball seal	1.4404	H147344
22	1	Actuator s/a for control-unit	1.4301	H315055
23	1	CU-T-adapter	PA6.6 GF30 BLACK	H320475
		CU-Tmax-adapter	PA6.6 GF30 BLACK	
24	1	Control-Unit	PA6.6 GF30 BLACK	see manual CU

Item 5, 6, 7, 8, 9, 12 available as complete seal kits only

1	Seal kit	EPDM	H200074
		HNBR	H206986
		FPM	H207000
		VMQ	H331145

Spare parts list:

DKRH valve-high pressure design -FZ-CU 1+2S
DN50, 80
DN 80

Date:	21.02.14	31.10.14	29.02.24	
Name:	Trytko	Trytko	N.Shresht	
Approved by:				
Date:				
Name:				
Approved by:				

SPX FLOW

RN 01.077

Item	Quantity	Description	Material	Part no.
1	1	Valve body + + Tran. Lock	1.4404	H347868
2	2	Bearing	1.4404	H143231
3	2	Hex. Screw M10x25 DIN EN 24017-A2-70	1.4301	H78811
4	4	Bearing	Plastic	H13837
5	2	O-ring 37,2x3	NBR 70-75 Shore A	H76972
6	2	O-ring 28x4	NBR 70-75 Shore A	H144528
7	2	Housing seal	EPDM	H77583
			HNBR	H170074
			FPM	H77582
8	2	Seal flange	EPDM	H77325
			HNBR	H172134
			FPM	H77324
			VMQ	H77323
9	2	Ball seal	PTFE+25%GF	H147523
10	1	CIP connection	PA12	H162806
11	1	Union G1/8" 8x1	PVDF-Black	H16388
12	2	O-ring OR 20,2x3	NBR	H76943
13	1	Position indicator	PE-HART	H14635
14	1	Coupling	1.4308	H16020
15	1	Actuator spring/air with individual packaging	1.4301	H105502
16	2	Hex. Screw M10x14 DIN EN 24017-A2-70	1.4301	H78805
17	1	Yoke	1.4301	H33850
18	2	Hex. Screw M10x30 DIN EN 24017-A2-70	1.4301	H78814
19	2	Flange FG1	1.4404	H143232
19.1	2	Flange FG1H	1.4404	H325866
20	16	Hex. Screw M16x40 DIN EN 24017-A2-70	1.4301	H78863
21	2	Support for ball seal	1.4404	H147524
22	1	Actuator s/a for control-unit	1.4301	H128942
23	1	CU-T-adapter	PA6.6 GF30 BLACK	
		CU-Tmax-adapter	PA6.6 GF30 BLACK	H321987
24	1	Control-Unit	PA6.6 GF30 BLACK	see manual CU

Item 5, 6, 7, 8, 9, 12 available as complete seal kits only

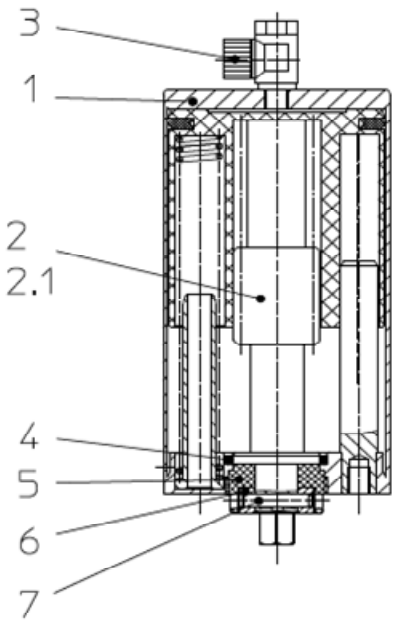
1	Seal kit	EPDM	H315701	
		HNBR		
		FPM	H329361	
		VMQ		

Spare parts list:

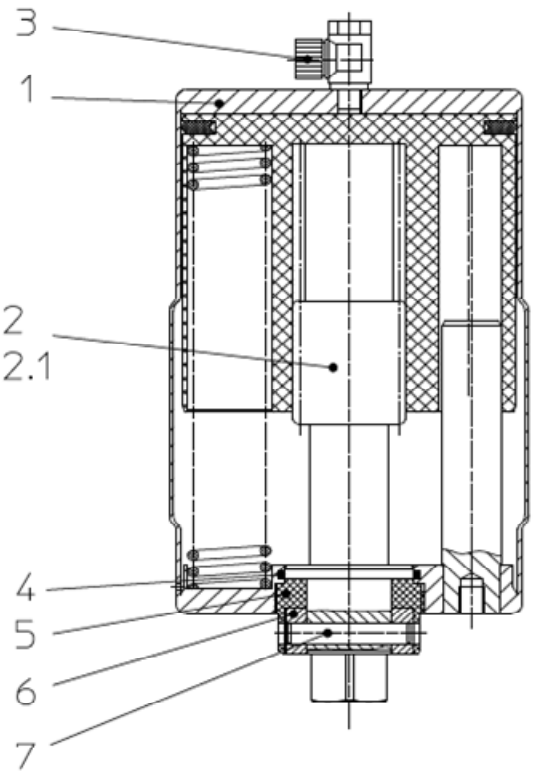
Actuator K080, K125, K180 spring/air

Date:	22.11.12	12.03.14	29.02.24		**SPX FLOW**
Name:	Trytko	Trytko	N.Shresht		
Approved by:	Goebel				
Date:					Page 1 of 2
Name:					**RN 01.073**
Approved by:					

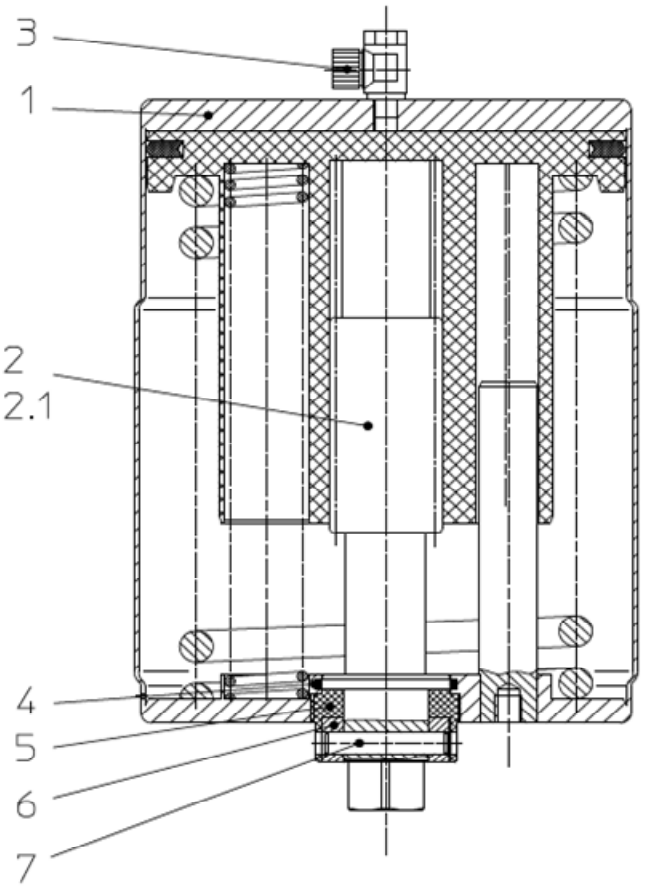
DRAT K080



DRAT K125



DRAT K180



Spare parts list:

Actuator K080, K125, K180 spring/air

Date:	22.11.12	12.03.14	29.02.24	
Name:	Trytko	Trytko	N.Shresht	
Approved by:	Goebel			

Date:				
Name:				
Approved by:				

SPX FLOW

RN 01.073

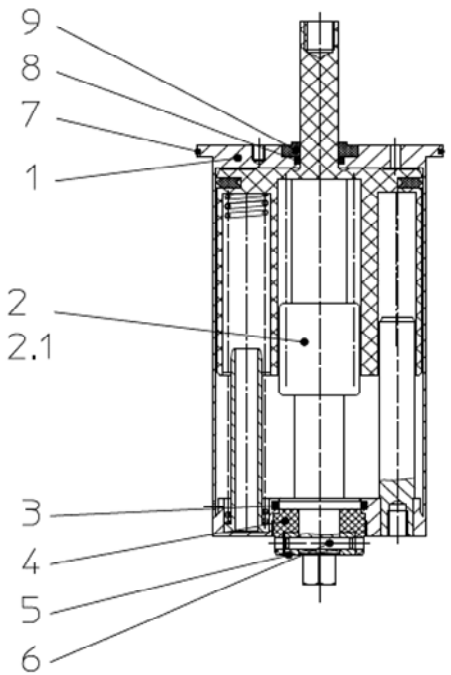
Item	Quantity	Description	Material	K080	K125	K180
	1	Actuator complete	1.4301 matt-glossy	H105500	H105502	H32589
	1	Actuator complete	1.4301 Polished	H135919	H131940	H32588
1	1	Actuator welded	1.4301	H105499	H105501	H32587
2	1	Shaft complete with bearing	1.4301	H31494	H31502	H31504
2.1	1	Shaft	1.4301	H31493	H31501	H31503
3	1	Elbow union G1/8" slewable	Polyamide/ glass fiber	H16371		
4	1	O-ring 32,2x3	NBR	H76965		
		O-ring 49,5x3	FPM		H77000	H77000
5	1	Bearing for actuator	POM	H31673		
		Bearing for actuator	PA12		H31684	H31684
6	1	Adjust ring	1.4301	H79757	H79758	H79758
7	1	Cyl. Pin DIN EN ISO 8740-V2A	1.4305	5x26 H79916	8x45 H79917	8x45 H79917

Spare parts list:

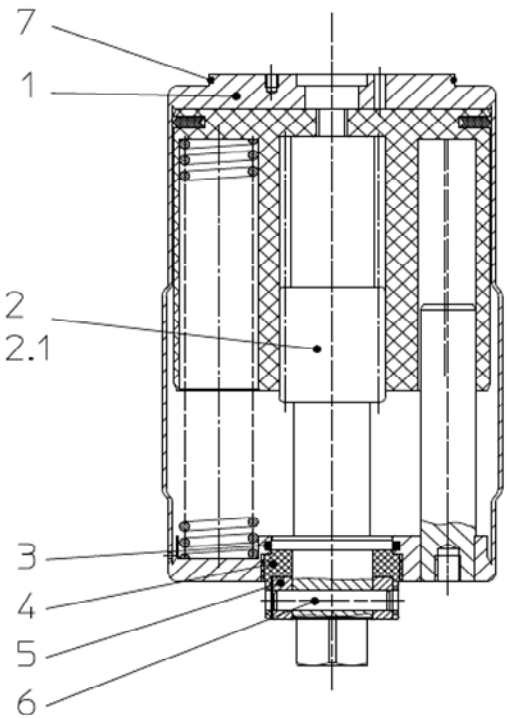
Actuator K080, K125, K180 spring/air for control unit

Date:	28.03.13	08.05.14	29.02.24		**SPX FLOW**
Name:	Trytko	Trytko	N.Shresht		
Approved by:					
Date:					Page 1 of 2
Name:					**RN 01.076**
Approved by:					

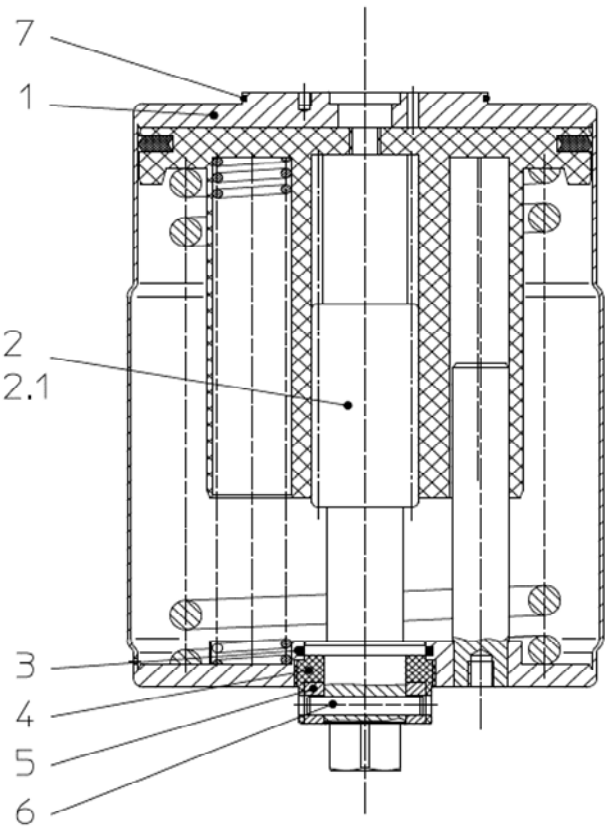
DRAT K080-RM



DRAT K125-RM



DRAT K180-RM



Spare parts list:

Actuator K080, K125, K180 spring/air for control unit

Date:	28.03.13	08.05.14	29.02.24		**SPX FLOW**
Name:	Trytko	Trytko	N.Shresht		
Approved by:					
Date:					Page 2 of 2
Name:					**RN 01.076**
Approved by:					

Item	Quantity	Description	Material	K080	K125	K180
	1	Actuator complete	1.4301 matt-glossy	H123937	H128942	H134034
	1	Actuator complete	1.4301 Polished	H316969	H327700	H328071
1	1	Actuator welded	1.4301	H123936	H128940	H134503
2	1	Shaft complete with bearing	1.4301	H31494	H31502	H31504
2.1	1	Shaft	1.4301	H31493	H31501	H31503
3	1	O-ring OR 32,2x3	NBR	H76965		
		O-ring OR 49,5x3	FPM		H77000	H77000
4	1	Bearing for actuator	POM	H31673		
			PA12		H31684	H31684
5	1	Adjust ring	1.4301	H79757	H79758	H79758
6	1	Cyl. Pin DIN EN ISO 8740-V2A	1.4305	5x26 H79916	8x45 H79917	8x45 H79917
7	1	O-ring OR 90x2	NBR	H143352		
8	1	O-ring OR 15,3x2,4	NBR	H107914		
9	1	Thrust ring turning actuator	Hostaform	H105080		

APV®

APV DELTA DKRH2

DOUBLE SEAT BALL VALVE WITH CLEANING CONNECTION HIGH PRESSURE DESIGN

SPXFLOW®

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Improvements and research are continuous at SPX FLOW, Inc. Specifications may change without notice.

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Revision: 5