KIESELMANN
FLUID PROCESS GROUP

Translation of the original

Operating Instructions

KI-DS Single seat valves

double-sealing single seat valve

Type: 5521
Type: 5522
Type: 5523
Type: 5524



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1 General informations

1.1 Informations for your safety

We are pleased that you have decided for a high-class KIESELMANN product. With correct application and adequate maintenance, our products provide long time and reliable operation.

Before installation and initiation, please carefully read this instruction manual and the security advices contained in it. This guarantees reliable and safe operation of this product and your plant respectively. Please note that an incorrect application of the process components may lead to great material damages and personal injury.

In case of damages caused by non observance of this instruction manual, incorrect initiation, handling or external interference, guarantee and warranty will lapse!

Our products are produced, mounted and tested with high diligence. However, if there is still a reason for complaint, we will naturally try to give you entire satisfaction within the scope of our warranty. We will be at your disposal also after expiration of the warranty. In addition, you will also find all necessary instructions and spare part data for maintenance in this instruction manual. If you don't want to carry out the maintenance by yourself, our KIESELMANN - service team will naturally be at your disposal.

1.2 Marking of security instructions

Hints are available in the chapter "safety instructions" or directly before the respective operation instruction. The hints are highlighted with a danger symbol and a signal word. Texts beside these symbols have to be read and adhered to by all means. Please continue with the text and with the handling at the valve only afterwards.

Symbol	Signal word	Meaning
	DANGER	Imminent danger which will result severe personal injury or death.
	WARNING	Imminent danger which may result severe personal injury or death.
	CAUTION	Dangerous situation which may cause slight personal injury or material damages.
	NOTICE	An harmful situation which may result in damages of the product itself or of adjacent vicinity.
	INFORMATION	Marks application hints and other information which is particularly useful.

1.3 General designated use

The fitting is designed exclusively for the purposes described below. Using the fitting for purposes other than those mentioned is considered contrary to its designated use. KIESELMANN cannot be held liable for any damage resulting from such use. The risk of such misuse lies entirely with the user. The prerequisite for the reliable and safe operation of the fitting is proper transportation and storage as well as competent installation and assembly. Operating the fitting within the limits of its designated use also involves observing the operating, inspection and maintenance instructions.

1.4 Personnel

Personnel entrusted with the operation and maintenance of the tank safety system must have the suitable qualification to carry out their tasks. They must be informed about possible dangers and must understand and observe the safety instructions given in the relevant manual. Only allow qualified personnel to make electrical connections.

1.5 Modifications, spare parts, accessories

Unauthorized modifications, additions or conversions which affect the safety of the fitting are not permitted. Safety devices must not be bypassed, removed or made inactive. Only use original spare parts and accessories recommended by the manufacturer.

1.6 General instructions

The user is obliged to operate the fitting only when it is in good working order. In addition to the instructions given in the operating manual, please observe the relevant accident prevention regulations, generally accepted safety regulations, regulations effective in the country of installation, working and safety instructions effective in the user's plant.

2 Safety instructions

2.1 Intended use

The double sealing single seat valve is used as a pneumatically controlled shut-off valve in the beverage and food industry, in pharmaceutical, bio-engineering, as well as in chemical engineering.

2.2 General notes



NOTICE - observe the operating instructions

To avoid danger and damage, the fitting must be used in accordance with the safety instructions and technical data contained in the operating instructions.



NOTICE

All data are in line with the current state of development. Subject to change as a result of technical progress.

2.3 General safety instructions



⚠ WARNING

Risk of injury by moving parts

Do not grab into the valve when the actuator is pressurized. Limbs can be crushing or amputating.

- Remove the control air line before dismantling.
- Ensure that the actuator is unpressurized.



⚠ WARNING

Risk of injury by moving parts

When dismount the clamp coupling, the spring preloaded valve insert (air open - spring close) may incur serious injuries by jumping out of the housing.

- First pneumatically open the valve before disassembling the clamp coupling, so that upstroke the piston.
- Remove the valve core.
- Remove the control air line at valve insert.

⇨ Ensure that the actuator is unpressurized.



⚠ WARNING

Risk of injury by outflowing medium

Dismantling the valve or valve assemblies from the plant can cause injuries.

- Medias flowing through the leakage drain outlet are to be drained off without splashing into a discharge arrangement.
- Carry the disassembling only if when the plant has been rendered pressure-less and free of liquid and gas.



⚠ WARNING

ATEX - Guidelines

If the valve or the plant is operated in a potentially explosive atmosphere, the valid ATEX directive of the EC and the installation instructions in this operating manual must be observed.



⚠ CAUTION

When mounting the clamps, the max. torque must not be exceeded.

(see technical data)



⚠ CAUTION

To avoid air leaking, only use pneumatic connection parts that have an O-ring seal facing the even surface.



⚠ CAUTION

Before starting the system, the entire pipeline system must be thoroughly cleaned.



⚠ CAUTION

Steps should be taken to ensure that no external forces are exerted on the fitting.

3 Delivery, transport and storage

3.1 Delivery

- Immediately after receipt check the delivery for completeness and transport damages.
- Remove the packaging from the product.
- Retain packaging material, or expose of according to local regulations.

3.2 Transport



⚠ CAUTION

Risk of injury and damage to the product

During the transport the generally acknowledged rules of technology, the national accident prevention regulations and company internal work and safety regulations must be observed.

3.3 Storage



NOTICE

Damage to the product due to improper storage!

Observe storage instructions

avoid a prolonged storage



INFORMATION

Recommendation for longer storage

We recommend regularly checking the product and the prevailing storage conditions during long storage times.

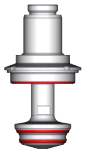
- To avoid damage to seals and bearings,
  - products up to DN 125 / OD 5 inch should be stored horizontally for maximum 6 months.
  - products larger than DN 125 / 5 inch, should be stored in the upright position with the actuator on top.
- Don't store any objects on the products.
- Protect the products for wetness, dust and dirt.
- The product should be stored in a dry and well ventilated room at a constant temperature (optimal indoor temperature: 25 C ±5 ; indoor humidity data 60% ±5%).
- Protect seals, bearings and plastic parts for UV light and ozone.

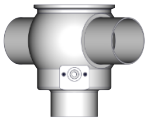
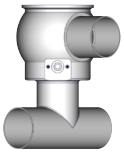
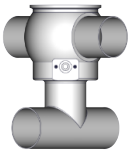
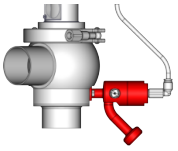
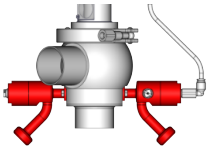
4 Specification

4.1 Modular system

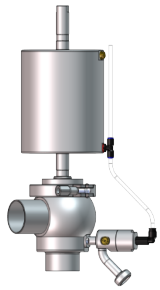
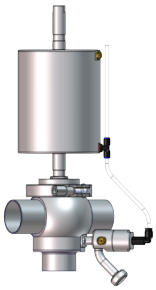
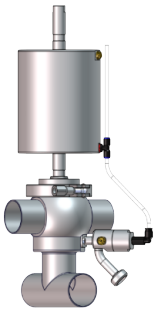
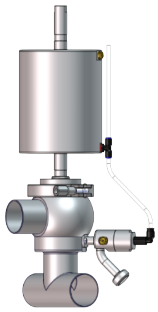
KI-Top control head		feedback unit
		
Stainless steel hood	Transparent hood	Feedback unit with finger guard (E)

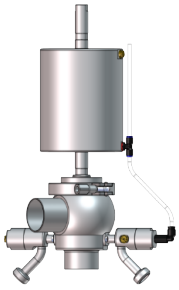
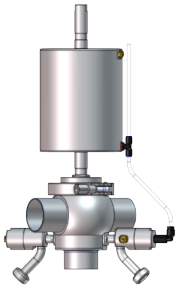
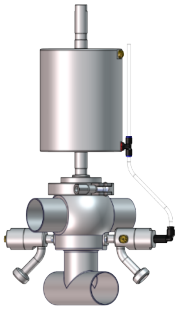
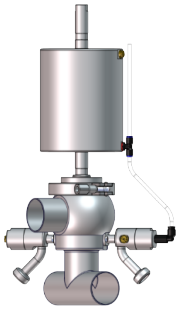
Linear actuator pneumatic				
				
Ø104	Ø129	Ø167	Ø190	Ø230

Valve insert

HNBR, EPDM, FKM

Valve housing			
			
S - S	SS - S	S - SS	SS - SS
			
1x outlet valve		1x outlet valve 1x inlet valve	

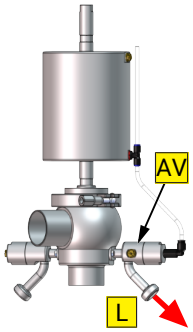
4.2 Valve types

1x Pilot valve (1x Outlet valve)			
Angle valve Type 5521	**T-valve Type 5522**	**Cross valve Type 5523**	**Loop valve Type 5524**
			
S - S	SS - S	SS - SS	S - SS

2x Pilot valves (1x Outlet valve, 1x Inlet valve)			
Angle valve Type 5521	**T-valve Type 5522**	**Cross valve Type 5523**	**Loop valve Type 5524**
			
S - S	SS - S	SS - SS	S - SS

5 Function and operation

5.1 Description of function

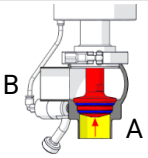
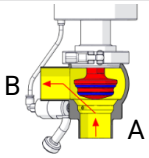
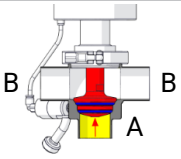
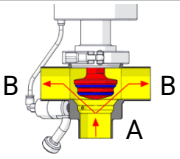
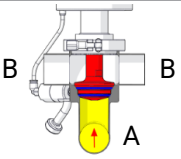
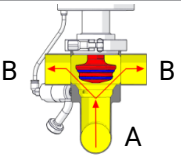
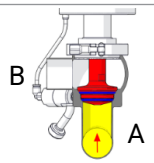
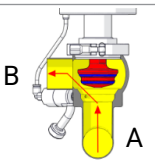


Valve function:	• The sealing function in the closed position is performed statically. Any leaks occurring due to damaged valve plate seals are drained to the exterior without pressure via the leakage discharge (L) at the outlet valve (AV).
Operation:	• pneumatic operation by a lift drive (air/spring)
Activation:	• Pneumatically over a 3/2-way solenoid valve (see Pneumatic valve activation [▶ 12])

Description of function - Lift actuator

Safety position closed [Fail-closed (FC)]	
pneum. operated	→opens the valve
not pneum. operated	→spring force closes the valve
pneum. operated	→valve “CLOSE“
not pneum. operated	→spring force opens the valve

5.2 Valve basic position:

Basic positon: **Kind of actuation:**	**Valve closed** **Normally closed (NC)**	**Valve open** **Normally open (NO)**
Angle valve Type: 5521 S-S	 Line A - B closed	 Line A - B open
t-valve Type: 5522 SS-S	 Line A - B closed	 Line A - B open
cross valve Type: 5523 SS-SS	 Line A - B closed	 Line A - B open
Loop valve Type: 5524 S-SS	 Line A - B closed	 Line A - B open

5.3 Control system and position indicator



Feedback unit -optional-

Optionally, modular valve control head systems can be installed to the actuator for reading and actuating valve positions. The standard version is a closed system with SPS or ASI-bus switch-on electronics, and integrated 3/2-way solenoid valves. For tough operating conditions we recommend employing a high-grade steel cover.



Feedback unit with finger guard -optional-

For the acquisition of the valve positions over inductive initiators (Sensors), a feedback unit is mounted on the actuation. The enquiry takes place over the position of the piston rod.

5.4 Pneumatic valve activation

Kind of actuator: normally closed (NC)		
Valve OPEN by pressurised air	control air feed P → MV1 → P1/LA2	control air feed ext. MV → LA2
Valve CLOSED by spring tension	de-aeration LA2/P1 → MV1 → R	de-aeration LA2 → ext. MV

Kind of actuator: normally open (NO)		
Valve OPEN by spring tension	de-aeration P1/LA1 → MV1 → R	de-aeration LA1 → ext. MV
Valve CLOSED by pressurised air	control air feed P → MV1 → P1/LA1	control air feed ext. MV → LA1

D = De-aeration

E = sensor mounting

LA = Air connection

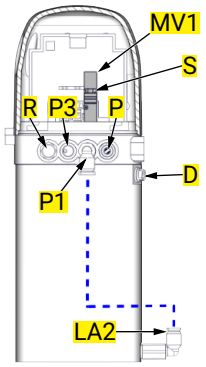
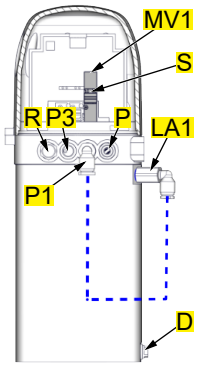
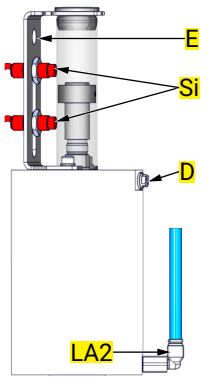
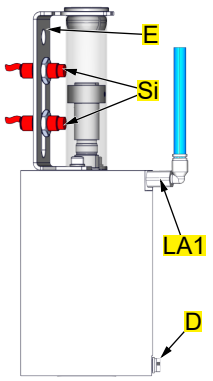
MV = Solenoid valve

P = Supply air connection

R = Ventilation silencer

S = Slide switch for manual operation of the solenoid valve

Si = Sensor inductive

NC	NO
	
	

6 Commissioning, service and maintenance

6.1 Commissioning

6.1.1 Installation instructions

Fitting position

The valve must be installed vertically with the actuator at the upwards. Liquid must be able to flow freely from the valve housing.

6.1.2 General welding guidelines

Sealing elements integrated in weld components must generally be removed prior to welding. To prevent damage, welding should be undertaken by certified personnel (EN ISO 9606-1). Use the TIG (Tungsten Inert Gas) welding process.



⚠ CAUTION

Damage and injuries due to high temperature supply

To avoid a distortion of the components, all welding parts must be welded to stress-relieved.

Allow all components to cool before assembling.



NOTICE

Damage due to impurities

Impurities can cause damage to the seals and seals area.

Clean inside areas prior to assembly.

6.1.3 Use in EX area

For valves or plants/installations that are operated in the ATEX area, sufficient bonding (grounding) must be ensured. (see e.g. ATEX Directives EC; UKSI 696:2019-Schedule 25)

6.2 Service

RECOMMENDATION

Replacement of seals

To achieve optimal maintenance cycles, the following points must be observed!

- When replacement of seals, all product-contacting seals should be replaced.
- Only original spare parts may be installed.

Maintenance interval

The maintenance intervals depend on the operating conditions "temperature, temperature-intervals, medium, cleaning medium, pressure and opening frequency". We recommend replacing the seals 1-year cycle. The user, however should establish appropriate maintenance intervals according to the condition of the seals.

Lubricant recommendation

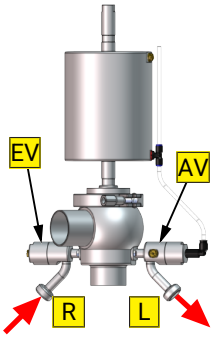
	EPDM; HNBR; NBR; PTFE; FKM; k-flex	-	Klüber Paraliq GTE703*
	Silicone	-	Klüber Sintheso pro AA2*
	Thread	-	Interflon Food*

*) It is only permitted to use approved lubricants, if the respective fitting is used for the production of food or drink. Please observe the relevant safety data sheets of the manufacturers of lubricants.

Maintenance - Lift actuator

The actuator is maintenance-free and non-removable.

6.3 Cleaning



Cleaning

Ideally, cleaning is carried out with pipe system cleaning when the valve is open.

Through the inlet valve (EV), the leakage area between the piston seals can be cleaned or steam-cleaned in observance of the technical data.

7 Technical data

Model	KIDS Double-sealing single seat valve • Pneumatic actuation	
Size	DIN: DN 25 - DN 100 Inch : OD 1“ - OD 4“	
Connection type	• Weld-on end DIN EN 10357	
Pressure nominal (bar)	PN 16	
Temperature range	Ambient temperature: (air) Operating temperature: (depends on medium) Sterilisation temperature: (SIP 30 min)	+4° to +45°C +0° to +95°C HNBR +120°C EPDM +140°C FKM +110°C
Leakage rate	A (EN 12266-1)	
Control air ≤ DN 65 / 2½“ ≥ DN 80 / 3“	Control air pressure: 5,5 - 8,0 bar 6,0 - 8,0 bar	Control air quality: ISO 8573-1:2010 [3:(≤5 µm):4:4]
Material (in contact with product)	Stainless steel: Surface: Sealing material:	1.4404 / AISI 316L Ra ≤ 0,8µm metallic bright; e-polished • HNBR • EPDM • FKM

Torque: clamp coupling

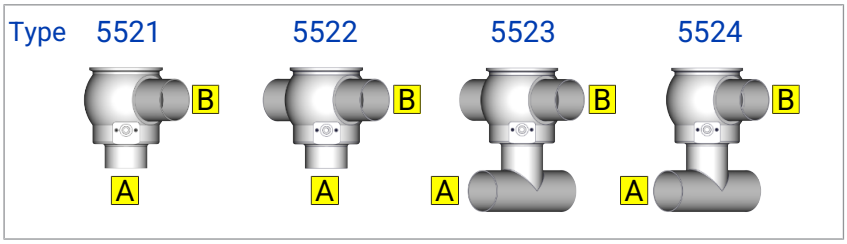
DN	25	40	50	65	80	100
Inch	1	1½	2	2½	3	4
Torque [Nm]	15	15	15	25	25	55

7.1 Operating pressure

Operating pressure for valves with pneumatic operating

Nominal size	Stroke	Operating direction	Opening- / Closing pressure difference* [bar] per Actuator size (ØA)								KVS	
			Ø104		Ø129		Ø167		Ø230		A →B	B →A
	mm		A	B	A	B	A	B	A	B	[m³/h]	[m³/h]
DN 25	12,0	LÖ-FS ↓	16,0	16,0	-	-	-	-	-	-	18,2	16,3
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
DN 40	24	LÖ-FS ↓	9,5	12,0	12,4	16,0	15,0	16,0	-	-	35,7	32,7
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
DN 50	24,5	LÖ-FS ↓	-	-	8,0	8,0	16,0	16,0	-	-	77,8	71,2
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
DN 65	24,0	LÖ-FS ↓	-	-	4,5	8,0	11,7	12,4	16,0	16,0	130	124
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
DN 80	28,5	LÖ-FS ↓	-	-	5,5	5,3	9,0	8,7	11,0	16,0	180	190
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
DN 100	28,5	LÖ-FS ↓	-	-	-	-	4,5	5,6	6,8	12,7	246	269
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
OD 1“	8,0	LÖ-FS ↓	16,0	16,0	-	-	-	-	-	-	18,2	16,3
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
OD 1½“	20,5	LÖ-FS ↓	9,5	12,0	12,4	16,0	15,0	16,0	-	-	35,7	32,7
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
OD 2“	21,5	LÖ-FS ↓	-	-	8,0	8,0	16,0	16,0	-	-	77,8	71,2
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
OD 2½“	18,0	LÖ-FS ↓	-	-	4,5	8,0	11,7	12,4	16,0	16,0	130	124
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
OD 3“	28,5	LÖ-FS ↓	-	-	5,5	5,3	9,0	8,7	11,0	16,0	180	190
		FÖ-LS ↑	-	-	-	-	-	-	-	-		
OD 4“	26,0	LÖ-FS ↓	-	-	-	-	4,5	5,6	6,8	12,7	246	269
		FÖ-LS ↑	-	-	-	-	-	-	-	-		

Table 1 *) Steuerluftdruck 5,5 bar



8 Disassembly and assembly

8.1 Disassembly

T1		Combination wrench-Set	SW 8 - SW 24	-
T10		Joint -pin wrench	Pin Ø6	8027000065-000
T11		Hinged hook wrench	DN25 - DN100 90/155 V2A	8028025100-020
T12a		Articulated face wrench	40-80mm, Ø5 40-80mm, Ø6 80-125mm, Ø8	8028340085-000 8028340080-000 8028380125-000
T35		Pin punch	ø5	-

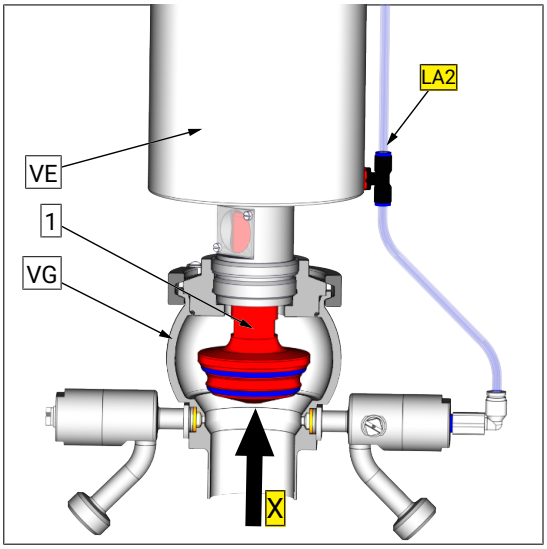
NOTICE

All threaded joint have right-hand thread.

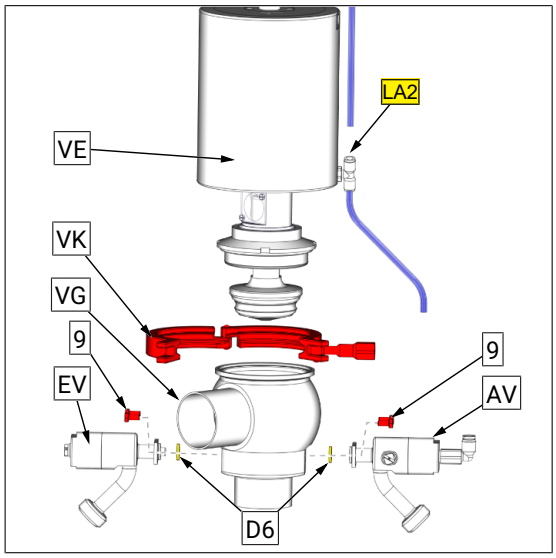
Unscrew and remove control air, steam resp. cleaning lines and electrical lines, complete feedback unit or control head.

Assembly valve insert

- Connect compressed air to LA2 and pressurize the actuator with air.
  - The piston retracts.

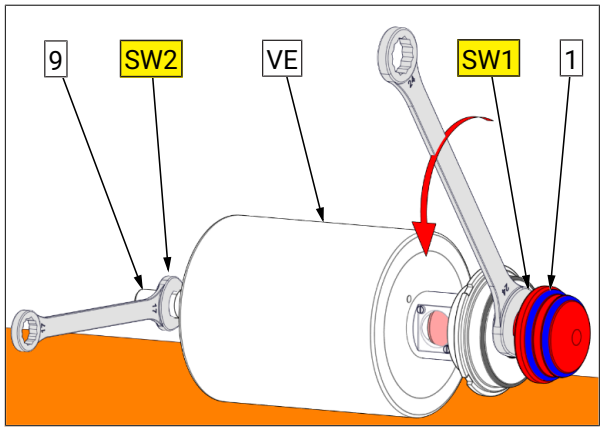


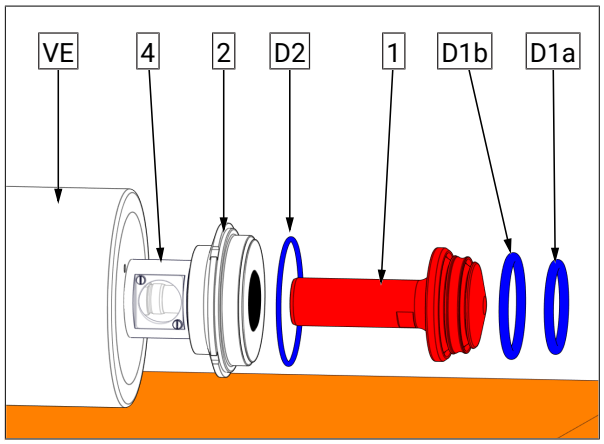
- Unscrew the clamp coupling (VK).
- Remove the complete valve insert with the upper shaft seal (D1) from the housing (VG).
- Disconnect compressed air at LA2 and depressurize the drive - The valve piston move in.
  - The valve piston returns to the basic position.
- Unscrew the screws (9) and remove the pilot valves EV and AV. Dismount seal (D6).



Replacement wear parts - Valve insert (VE)

- Unscrew the piston (1) from spindle (6) (SW1/SW2).
- Remove the O-ring (D2), (D1a) and (D1b).

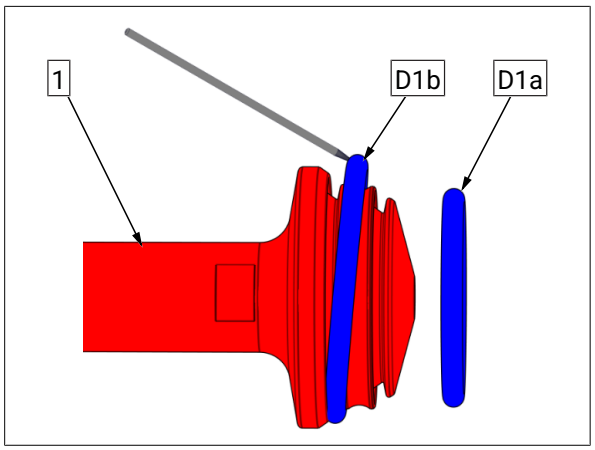




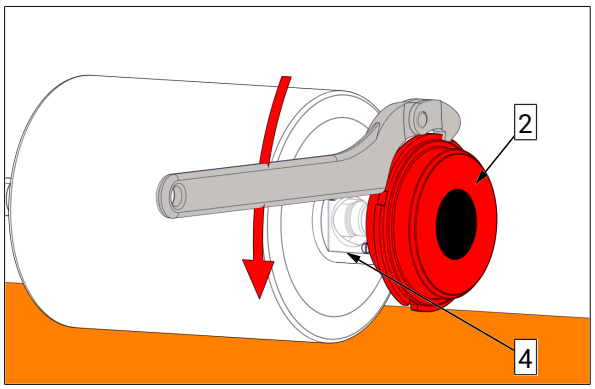
INFORMATION

Dismount O-ring

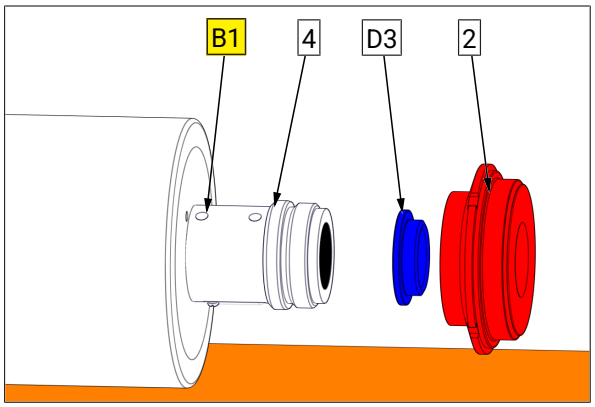
– Puncture the O-rings with a needle and remove them carefully from the groove.



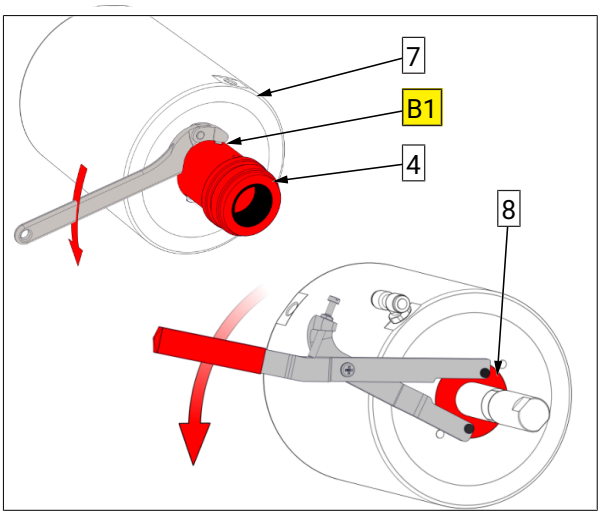
- Unscrew the insert (2) from the lantern (4) (use a hook wrench).

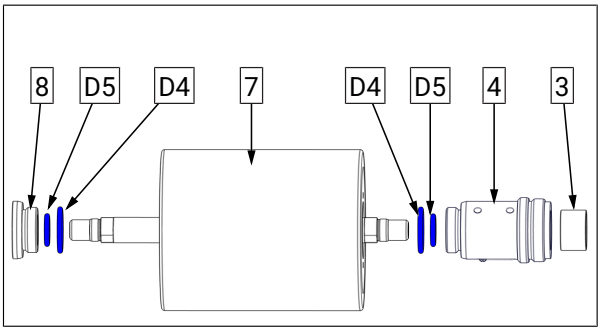


- Remove seal (D3).



- Unscrew the lantern (4) from the actuator (7) (use a hook wrench).
- Unscrew the insert (8) from the actuator (7) (use a hook wrench).
- Remove the O-rings (D4) and (D5).



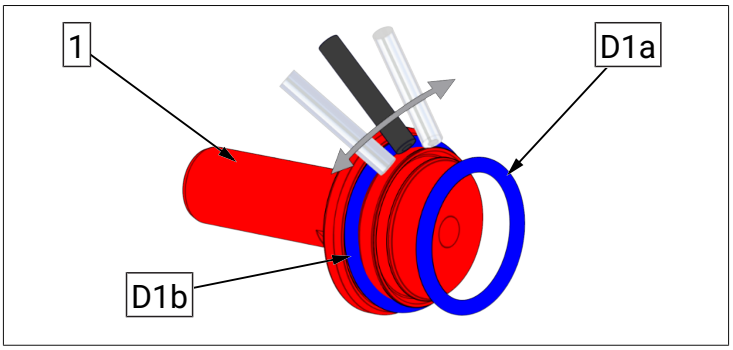


8.2 Assembly

- Before installation, thoroughly clean and slightly lubricate mounting areas and running surfaces.
- Assemble in reverse order.

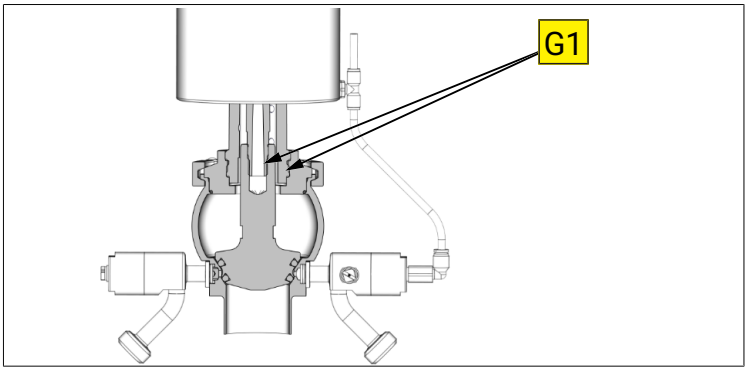
NOTICE

Alternately press and roll the O-rings into the groove with round body.



NOTICE

Mount the threaded connection (G1) with Screw retention detachable (e.g. Loctite 243) assembly.



Performance test

- Check the function according to the specified performance data in the operating state.

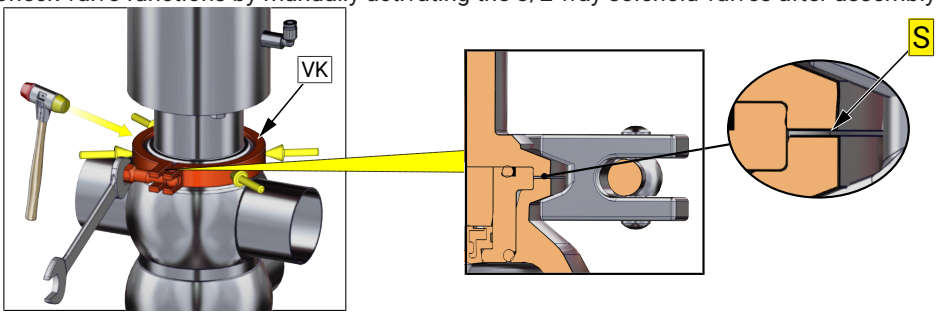
NOTICE

During assembly, the following points must be observed!

Carefully fit in the complete valve insert into the casing. When fitting the valve insert and running surfaces onto the piston, do not damage.

➢ **Mounting clamp coupling**

- For mounting the clamp coupling, please note that it continuously fits form locking to the inclinations of the casing and the lantern/casing bottom.
- The centring of the retaining clamp during tightening can be accomplished with a slight beat (please use a soft-head hammer) on the extent of the retaining clamp.
- When tightening the clamp coupling, please pay attention to the turning moment and the gap size 'S' (≤ 0,4mm) between the components.
- Check valve functions by manually activating the 3/2-way solenoid valves after assembly!



Torque: clamp coupling

DN	25	40	50	65	80	100
Inch	1	1½	2	2½	3	4
Torque [Nm]	15	15	15	25	25	55

9 Drawings and dimensions

9.1 Drawings

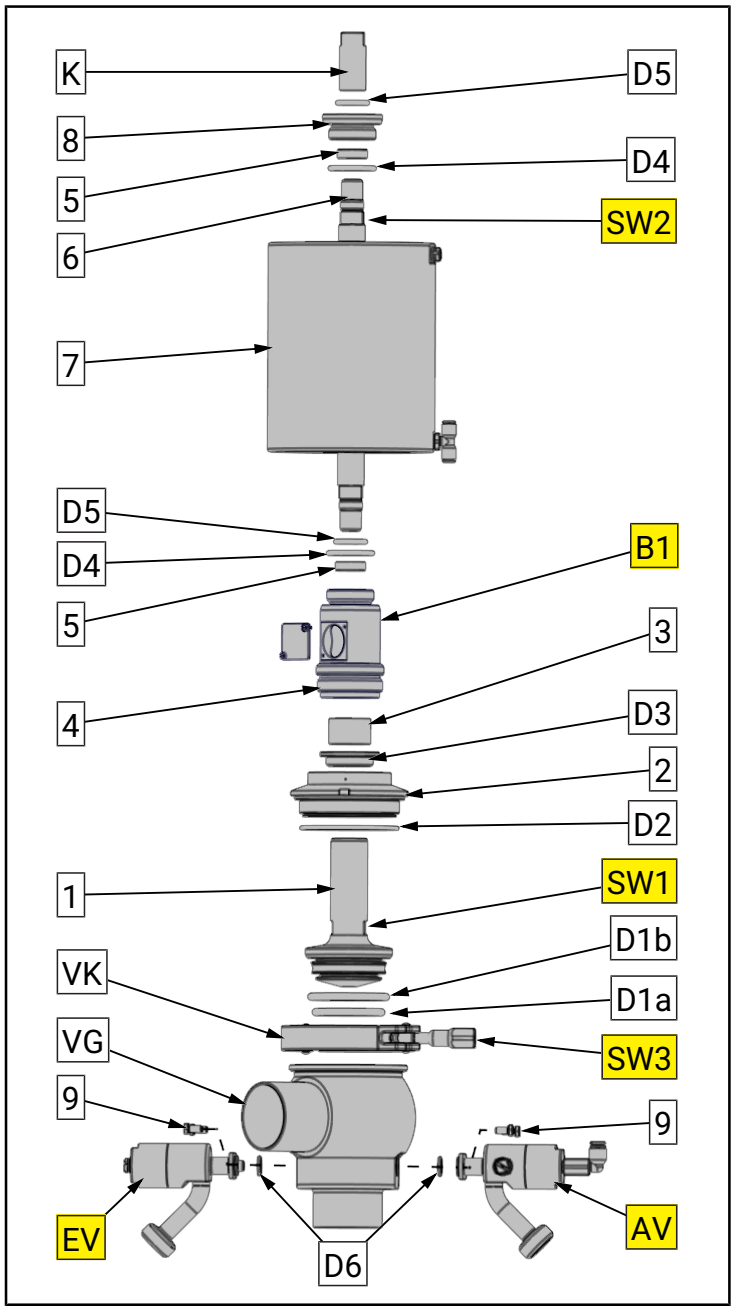
9.1.1 Double-sealing single seat valve

1 = Piston
2 = Insert
3 = Bearing bush
4 = Lantern
5 = Bearing bush
6 = Spindle
7 = Pneum. actuator
8 = Insert - Lantern
9 = Set screw

11 = Spindle
12 = Bearing bush
13 = Scraper ring
14 = housing cover

D1a = O-ring
D1b = O-ring
D2 = O-ring
D3 = Shaft seal
D4 = O-rings
D5 = O-rings
D6 = Seal

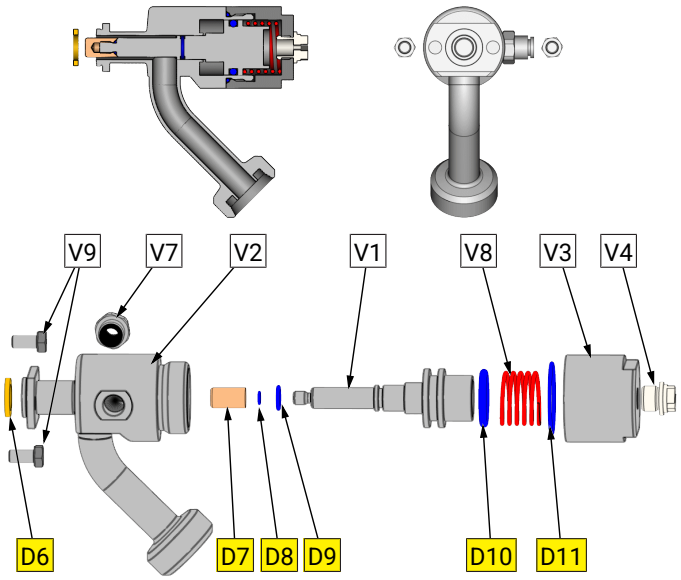
B = Bore
K = Cap
AV = Outlet valve
EV = Inlet valve
VG = Valve housing
VK = Clamp coupling



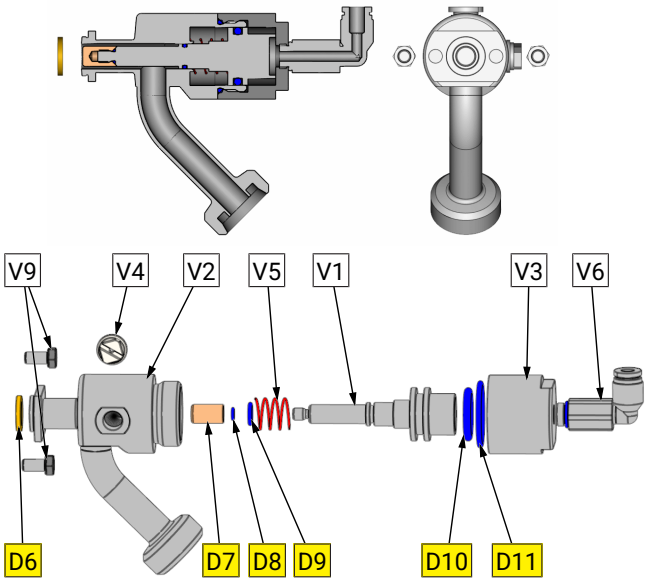
	Wrench size		
Nominal diameter	**SW1**	**SW2**	**SW3**
DN 25 / 1“ - DN 100 / 4“	24	17	16

9.1.2 Pilot valves (Inlet- and outlet valve)

Inlet valve (EV)



Outlet valve (AV)

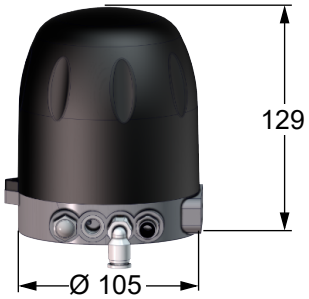
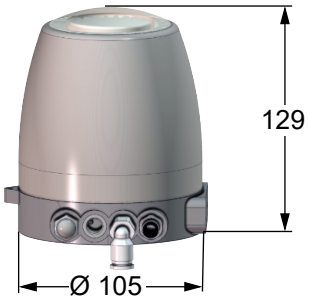


V1	Piston	V2	Housing	V3	housing cover
V4	screw plug	V5	Spring	V6	Push-in connector elbow
V7	Push-in connector straight	V8	Spring	V9	Screw

D6	Seal	D7	Piston	D8	O-ring
D9	O-ring	D10	O-ring	D11	O-ring

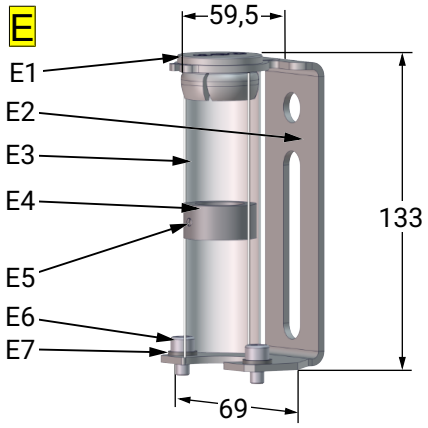
9.2 Control units

Control head KI-TOP

with plastic hood - transparent	with stainless steel hood
	

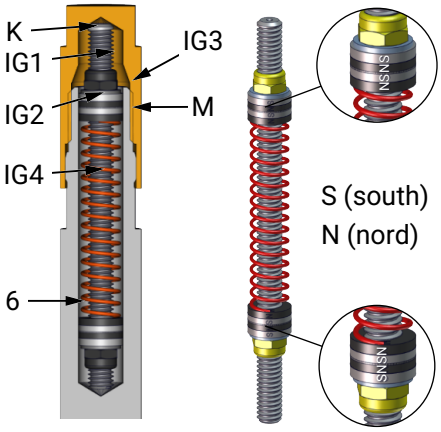
Feedback unit with finger guard (E)

- E1 = Cap
- E2 = Angle bracket
- E3 = Shell transparent
- E4 = Set collar
- E5 = Headless pin
- E6 = Allen screw
- E7 = FLat washer

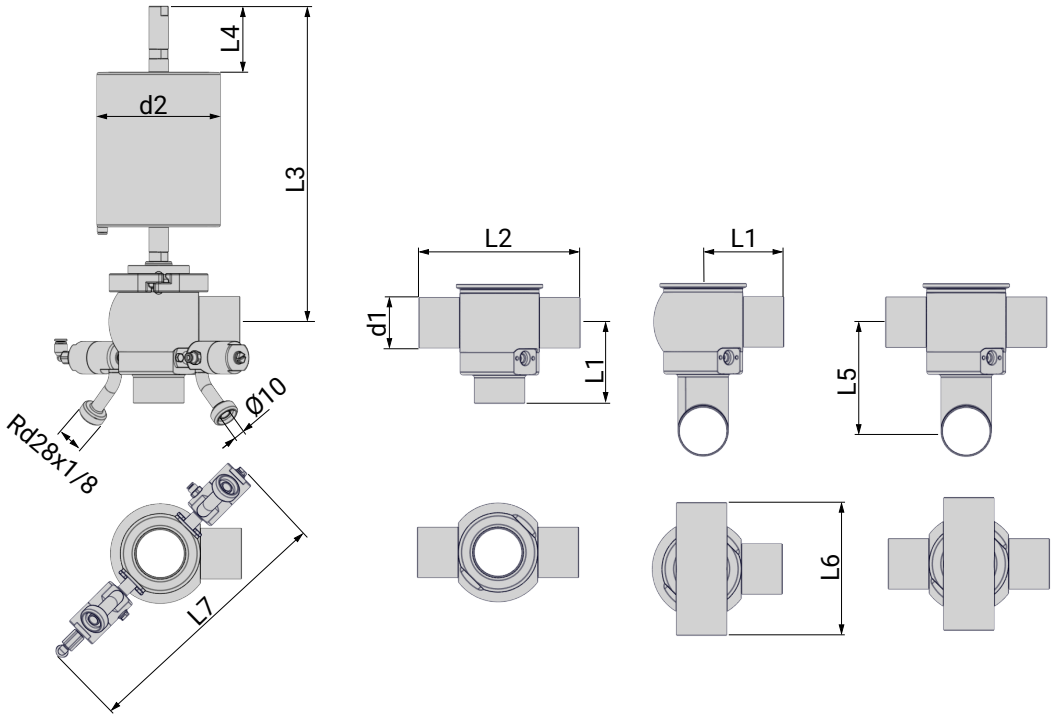


Pulse generator (IG)

- IG1 = Rod
- IG2 = Disc
- IG3 =Nut
- IG4 = Spring
- K = Cap
- M = Magnet
- 6 = Spindle



9.3 Dimensions



Nominal size	Dimension [mm]								
	d1	d2*	L1	L2	L3	L4	L5	L6	L7
DN 25	29 x 1,5	Ø 104 Ø 129 Ø 167 Ø 190 Ø 230	75	150	330	81	91	100	275
DN 40	41 x 1,5		85	170	324	69	108	120	275
DN 50	53 x 1,5		85	170	330	69	115	140	268
DN 65	70 x 2,0		105	210	338	69	145	160	300
DN 80	85 x 2,0		115	230	341	64,5	162	180	318
DN 100	104 x 2,0		130	260	351	64,5	167	200	342
DN 125	-		-	-	-	-	-	-	-
OD 1“	25,4 x 1,65	Ø 104 Ø 129 Ø 167 Ø 190 Ø 230	75	150	334	85	89	100	275
OD 1½“	38,1 x 1,65		85	170	326	72,5	105	120	275
OD 2“	50,8 x 1,65		85	170	322	71,5	112,5	140	268
OD 2½“	63,5 x 1,65		105	210	341	75	141	160	300
OD 3“	76,2 x 1,65		115	230	337	64,5	159	180	318
OD 4“	101,6 x 2,0		130	260	357	67	186	200	342
OD 5”	-		-	-	-	-	-	-	-

Valves, that do not meet the catalogue standards, can lead to dimensional deviations.

*) The size of the actuator is determined by the operating pressure.

10 Wearing parts

10.1 Valve insert (VE)

DN 25 - DN 50 / 1 Inch - 2 Inch

Item	Material	Pcs.	DN 25 1 Inch	DN 40 1½ Inch	DN 50 2Inch
3	XMS	(1x)	Bearing bush 8050 028 020-156		
5	XMS	(2x)	Bearing bush 8500 020 007-156		
D1a		(1x)	O-ring	O-ring	O-ring
	EPDM		2304 022 035-159	2304 032 035-159	2304 044 053-159
	HNBR		2304 022 035-157	2304 032 035-157	2304 044 053-157
	FKM		2304 022 035-051	2304 032 035-251	2304 044 053-178
		(1x)	O-ring	O-ring	O-ring
D1b	EPDM		2304 036 035-159	2304 041 035-159	2304 050 053-170
	HNBR		2304 036 035-157	2304 041 035-157	2304 050 053-157
	FKM		2304 036 035-051	2304 041 035-178	2304 050 053-051
D2		(1x)	O-ring	O-ring	O-ring
	EPDM		2304 069 026-159	2304 069 026-159	2304 069 026-159
	HNBR		2304 069 028-050	2304 069 028-050	2304 069 028-050
	FKM		2304 069 026-251	2304 069 026-251	2304 069 026-251
D3		(1x)	Shaft seal	Shaft seal	Shaft seal
	EPDM		5506 050 009-254	5506 050 009-254	5506 050 009-254
	HNBR		5506 050 009-050	5506 050 009-050	5506 050 009-050
	FKM		5506 050 009-251	5506 050 009-251	5506 050 009-251
D4	NBR	(2x)	O-ring2304 030 035-055		
D5	HNBR	(2x)	O-ring2304 019 035-171		
D6	k-flex	(2x)	Seal ring 2353 015 010-114		

DN 65 - DN 100 / 2½ Inch – 4 Zoll

Item	Material	Pcs.	DN 65 2½ Inch	DN 80 3 Inch	DN 100 4Inch
3	XMS	(1x)	Bearing bush 8050 028 020-156		
5	XMS	(2x)	Bearing bush 8500 020 007-156		
D1a		(1x)	O-ring	O-ring	O-ring
	EPDM		2304 053 053-159	2304 069 053-159	2304 088 053-159
	HNBR		2304 053 053-157	2304 069 053-157	2304 088 053-157
	FKM		2304 085 053-178	2304 069 053-178	2304 088 053-178
		(1x)	O-ring	O-ring	O-ring
D1b	EPDM		2304 069 053-159	2304 079 053-170	2304 098 053-170
	HNBR		2304 069 053-157	2304 079 053-157	2304 098 053-157
	FKM		2304 069 053-178	2304 079 053-251	2304 098 053-251
D2		(1x)	O-ring	O-ring	O-ring
	EPDM		2304 082 026-159	2304 098 035-159	2304 117 035-159
	HNBR		2304 082 026-050	2304 098 035-050	2304 117 035-050
	FKM		2304 082 026-051	2304 098 035-051	2304 117 035-051
D3		(1x)	Shaft seal	Shaft seal	Shaft seal
	EPDM		5506 050 009-254	5506 050 009-254	5506 050 009-254

Item	Material	Pcs.	DN 65 2½ Inch	DN 80 3 Inch	DN 100 4Inch
	HNBR		5506 050 009-050	5506 050 009-050	5506 050 009-050
	FKM		5506 050 009-251	5506 050 009-251	5506 050 009-251
D4	NBR	(2x)	O-ring2304 030 035-055		
D5	HNBR	(2x)	O-ring2304 019 035-171		
D6	k-flex	(2x)	Seal ring 2353 015 010-114		

10.2 Pilot valves (EV and AV)

Item	Material	Qty.	Inlet valve (EV) 5522 150 050-041		Outlet valve (AV) 5522 150 060-041
D7	k-flex	(1x)	Piston 5522 150 055-114		Piston 5522 150 055-114
D8	EPDM	(1x)	O-ring 2304 004 010-054		O-ring 2304 004 010-054
D9	EPDM	(1x)	O-ring 2304 007 015-159		O-ring 2304 007 015-159
D10	NBR	(1x)	O-ring 2304 017 030-055		O-ring 2304 017 030-055
D11	NBR	(1x)	O-ring 2304 024 020-055		O-ring 2304 024 020-055

10.3 Seal kit - in product contact

Seal (D1a), (D1b), (D2), (D3)

Material	DN 25 1 Inch	DN 40 1½ Inch	DN 50 2 Inch
HNBR	5522 025 990-050	5522 040 990-050	5522 050 990-050
EPDM	5522 025 990-054	5522 040 990-054	5522 050 990-054
FKM	5522 025 990-051	5522 040 990-051	5522 050 990-051

Material	DN 65 2½ Inch	DN 80 3 Inch	DN 100 4 Inch
HNBR	5522 065 990-050	5522 080 990-050	5522 100 990-050
EPDM	5522 065 990-054	5522 080 990-054	5522 100 990-054
FKM	5522 065 990-051	5522 080 990-051	5522 100 990-051

10.4 Seal kit complete

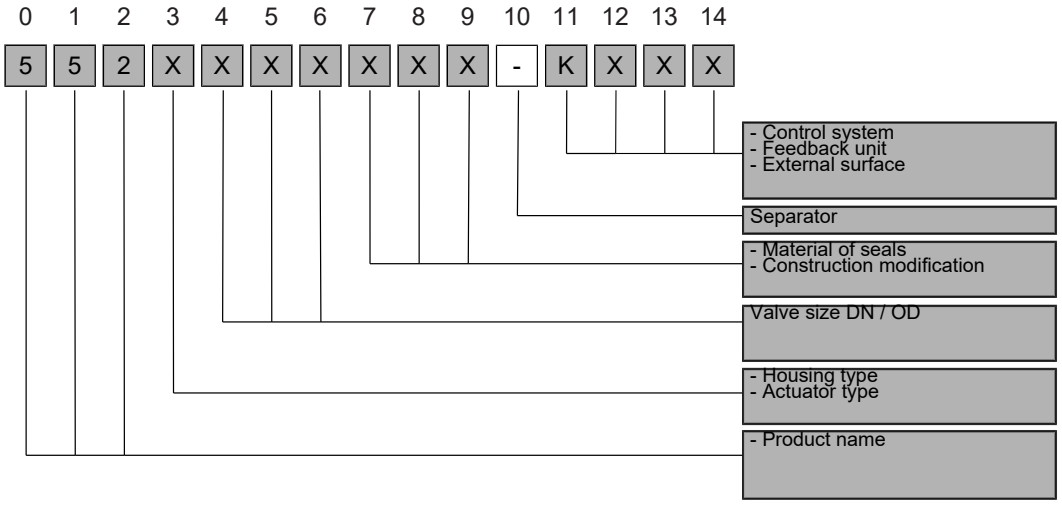
Seal (D1a), (D1b), (D2), (D3), (D6), (D7), (D8), (D9), (D10), (D11)

Material	DN 25 1 Inch	DN 40 1½ Inch	DN 50 2 Inch
HNBR	5524 025 990-050	5524 040 990-050	5524 050 990-050
EPDM	5524 025 990-054	5524 040 990-054	5524 050 990-054
FKM	5524 025 990-051	5524 040 990-051	5524 050 990-051

Material	DN 65 2½ Inch	DN 80 3 Inch	DN 100 4 Inch
HNBR	5524 065 990-050	5524 080 990-050	5524 100 990-050
EPDM	5524 065 990-054	5524 080 990-054	5524 100 990-054
FKM	5524 065 990-051	5524 080 990-051	5524 100 990-051

11 Classification

11.1 Structure of Order Number



Product name

552 x xxx xxx-xxxx	Pos. 0	Pos. 1	Pos. 2
Double-sealing single seat valve KI-DS	5	5	2

Housing type

xxx X xxx xxx-xxxx	Pos. 3
Angle valve - housing S - S	1
T-valve - housing SS - S	2
Cross valve - housing SS - SS	3
Loop valve - housing S - S - S	4

Valve size

xxxx XXX xxx-xxxx								
Nominal size	Pos. 4	Pos. 5	Pos. 6		Nominal size	Pos. 4	Pos. 5	Pos. 6
DN 25	0	2	5		DN 80	0	8	0
DN 40	0	4	0		DN 100	1	0	0
DN 50	0	5	0		DN 125	1	2	5
DN 65	0	6	5		DN 150	1	5	0
OD 1"	0	2	6		OD 3 "	0	7	6
OD 1 1/2"	0	3	8		OD 4 "	1	0	1
OD 2 "	0	5	1		OD 5"	1	2	7
OD 2 1/2"	0	6	4		OD 6 "	1	5	2

Sealing material & Design modification

xxxx xxx XXX-xxxx			Item		
Actuator type	**Pilot valve**	**Sealing material**	**7**	**8**	**9**
air open - spring closing	Pilot valve [1x] (Leakage drain)	EPDM	0	3	0
		FKM	0	3	4
		HNBR	0	3	5
	Pilot valve [2x]	EPDM	1	3	0
		FKM	1	3	4
		HNBR	1	3	5

Separator

xxxx xxx xxx - xxxx	Pos. 10
- Standard	-

Control system, position indicator, surfaces

xxxx xxx xxx-XXXX	Pos.11	Pos.12	Pos.13	Pos.14
Valve without control system, External surface AISI304 E-polished	0	2	1	
Valve without control system, External surface AISI316L E-polished	0	4	1	
Valve with feedback (5630 005 025-000)	7	5	0	
Valve with control head, KI-Top SPS for double seat valves	K	5	X	X
Valve with control head, KI-Top ASi-Bus for double seat valves	K	6	X	X

12 Appendix

12.1 Declaration of incorporation

Declaration of Incorporation

according to Directive 2006/42/EC of the European Parliament and the Council of 17 May 2006

Manufacturer:
KIESELMANN GmbH
Paul-Kieselmann-Str. 4-10
D-75438 Knittlingen

We declare that the following pressure equipment

Designation	Function
Pneumatic Linear actuator	pneumatically operation of valves
Pneumatic Quarter-turn actuator	pneumatically operation of valves
Butterfly Valve (pneumatically operated)	Separation of medium flow
Ball Valve (pneumatically operated)	Separation of medium flow
Single seat Valve (pneumatically operated)	Separation of medium flow
Changeover Valve (pneumatically operated)	Separation of medium flow
Double-Seat mixproof Valve (pneumatically operated)	Separation of medium flow
Control Valve (pneumatically operated)	Regulation of medium flow
Throttling Valve (pneumatically operated)	Regulation of medium flow
Tank Outlet Valve (pneumatically operated)	Separation of medium flow
Sampling Valve (pneumatically operated)	Separation of medium flow

complies with the definition of an „incomplete machine“ according to Article 2 of the European Machinery Directive 2006/42/EG, when fitted in or merged with other machines or incomplete machines which also comply with the provision of the Directive.

Applied harmonized standards:

Directive 2014/68/EU
EN ISO 12100

Person responsible for documentation:

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Documentation / Development
KIESELMANN GmbH

Knittlingen, 10.10.2020

i.V. Uwe Heisswolf
Head of Development

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Notes

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