KIESELMANN
FLUID PROCESS GROUP

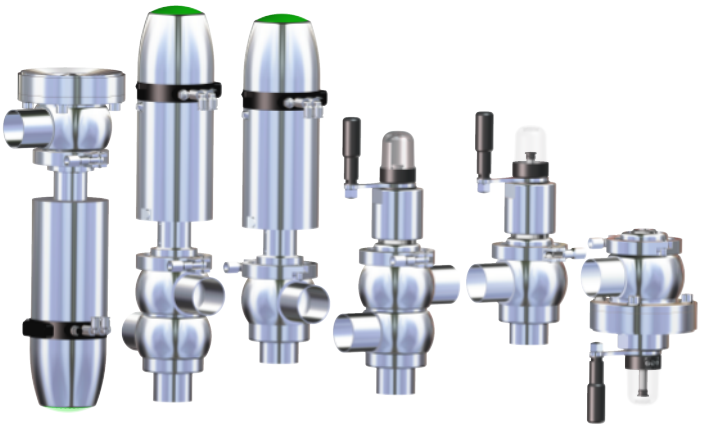
Translation of the original

# Operating instruction

## KI-DS Single seat valves

**pneumatic und manual operation**

| | |
|---|---|
| Inclined seat valve: | 5501, 5502 |
| Angle valve: | 5505, 5506 |
| T-valve: | 5507, 5508 |
| Cross valve: | 5511, 5512 |
| Two-way-changeover valve: | 5513, 5514 |
| Two-way-changeover valve: | 5515, 5516 |
| Loop valve: | 5517, 5518 |
| Tank outlet valve: | 5527, 5528 |



SKS

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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 GmbH 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 GmbH - 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 GmbH 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 Single seat valve is used in the beverage and food industry, in pharmaceutical, bio-engineering, as well as in chemical engineering.

Inclined seat valves, Angle valves, T-valves, Cross valves, Loop valves and Tank outlet valves are used as manually or pneumatically controlled Shut-off valves, Change-over valves are used as Multi-port valves in industrial installations.

## 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.
- Dismount the valve insert.
- 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 regulationsand 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.

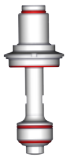
- To avoid damage to seals and bearings,
  - products up to DN 125 / OD 5 inch should be stored horizontally for maximum 6 months.
  - products larger than DN 125 / 5 inch, should be stored in the upright position with the actuator on top.
- Don't store any objects on the products.
- Protect the products 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 70% ±5%).
- Protect seals, bearings and plastic parts for UV light and ozone.

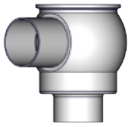
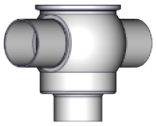
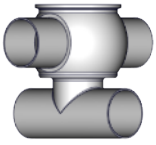
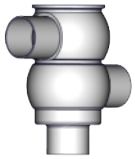
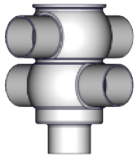
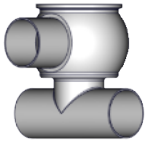
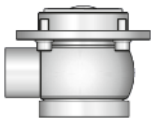
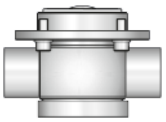
# 4 Specification

## 4.1 Modular system

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

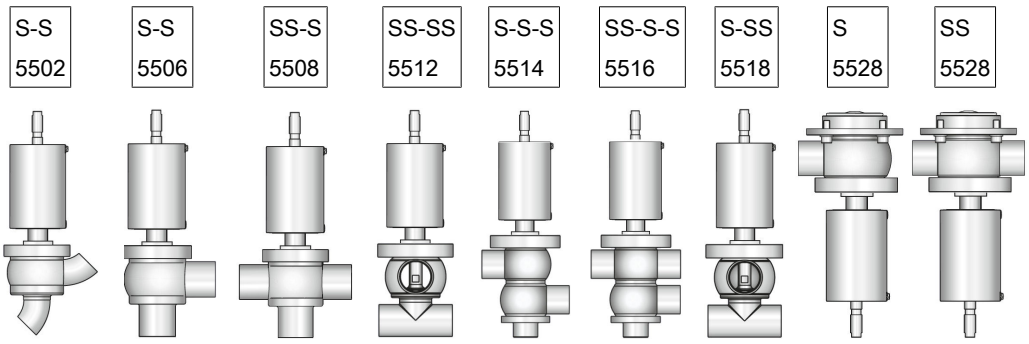
| Actuator manual | Actuator pneumatical | |
|---|---|---|
|  |  |  |
| Manual operation | ø104 | ø129 |
| |  |  |
| | ø167 | ø230 |

| Valve inserts | | |
|---|---|---|
| for Angle valves |   | for Two way valves |
| | HNBR, EPDM, FKM | |

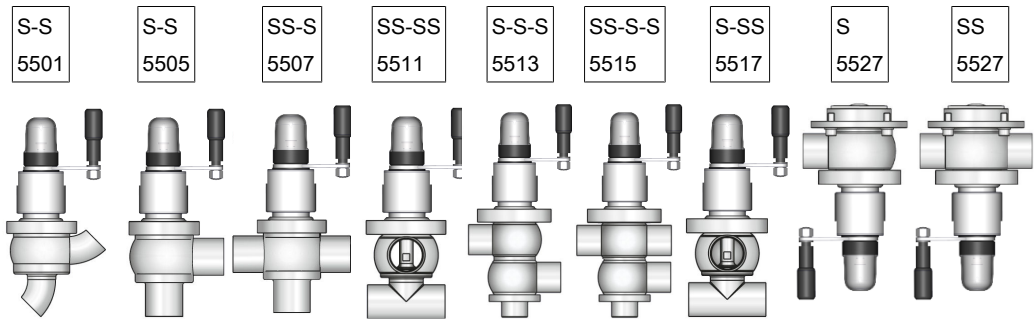
| Valve housing | | |
|---|---|---|
|  |  |  |
| Inclined seat valve | Angle valve | t-valve |
|  | S-S-S  S-S-S-S  |  |
| cross valve | Two-way-changeover valve | Loop valve |
| S  SS  | | |
| Tank outlet valve | | |

## 4.2 Valve types

**Actuator pneumatical**




**Actuator manual**



# 5 Function and operation

## 5.1 Description of function

| | |
|---|---|
| Valve function: | • Inclined seat valve, Angle valve, T-valve, Cross valve, Loop valve, Tank outlet valve<br>– Shut off fluid media in pipelines (see Fig.A and B)<br>• Changeover valve<br>– Control fluid media in pipelines (see Fig.A and B) |
| Operation: | • pneumatic operation by a lift drive (air/spring or air/air)<br>• manual operation by a crank-handle (open ↺ / close ↻) |
| Activation: | • Pneumatically over a 3/2-way solenoid valve<br>(see “Pneumatic valve activation“) |

### Description of function - Lift actuator

| **Normally closed (NC) Basic position: Valve close** | |
|---|---|
| pneum. operated | → opens the valve |
| undivided pneum. operated | → spring force closes the valve |

| **normal open (NO) Basic position: Valve open** | |
|---|---|
| pneum. operated | → valve “CLOSE“ |
| undivided pneum. operated | → spring force opens the valve |

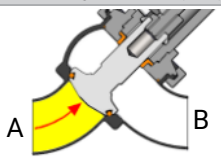
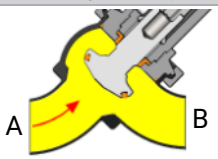
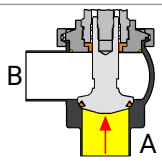
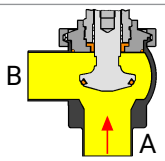
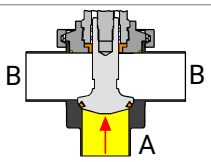
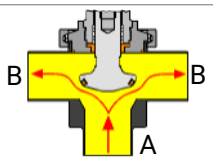
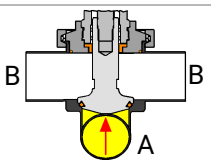
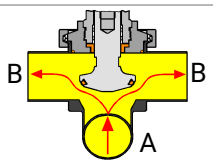
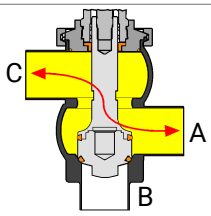
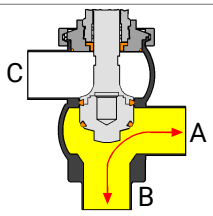
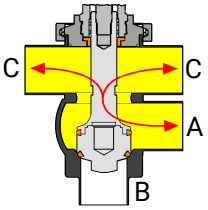
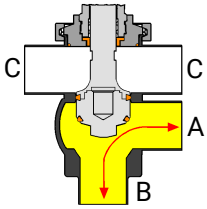
| **double acting (DA) Basic position: not defined**[1] | |
|---|---|
| pneum. operated | → opens the valve |
| undivided pneum. operated | → valve “CLOSE“ |

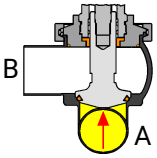
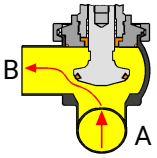
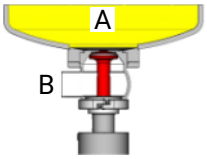
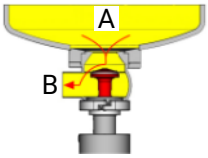
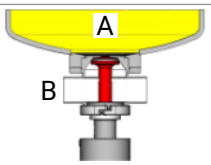
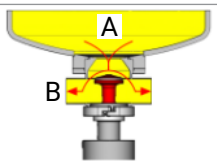
1. The valve position is not defined in case of decrease of pressure in the compressed air line.

## 5.2 Valve basic position:

**INFORMATION**

- Actuator AIR/AIR : Valve assemblies with double acting actuators will fall into an undefined stroke position.
- Actuator AIR/SPRING: The basic position of the valve is closed or opened depending on the kind of actuator.

| Basic positon:<br>Kind of actuation: | Valve closed<br>Normally closed (NC) | Valve open<br>Normally open (NO) |
|---|---|---|
| **Type: 5502**<br>**S-S**<br>Inclined seat valve |  <br>Line A - B closed |  <br>Line A - B open |
| **Type: 5506**<br>**S-S**<br>Angle valve |  <br>Line A - B closed |  <br>Line A - B open |
| **Type: 5508**<br>**SS-S**<br>t-valve |  <br>Line A - B closed |  <br>Line A - B open |
| **Type: 5512**<br>**SS-SS**<br>cross valve |  <br>Line A - B closed |  <br>Line A - B open |
| **Type: 5514**<br>**S-S-S**<br>Changeover valve |  <br>Line A - B closed<br>Line A - C open |  <br>Line A - B open<br>Line A- C closed |
| **Type: 5516**<br>**SS-S-S**<br>Changeover valve |  <br>Line A - B closed<br>Line A - C open |  <br>Line A - B open<br>Line A - C closed |

| Basic positon:<br>Kind of actuation: | Valve closed<br>Normally closed (NC) | Valve open<br>Normally open (NO) |
|---|---|---|
| **Type: 5518**<br>**S-SS**<br>Loop valve |  <br>Line U - A closed |  <br>Line U - A open |
| **Type: 5528**<br>**S**<br>Tank outlet valve |  <br>Line A - B closed |  <br>Line A - B open |
| **Type: 5528**<br>**SS**<br>Tank outlet valve |  <br>Line U - AB closed |  <br>Line U - AB 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

MV = solenoid valve

R = de-aeration, sound absorber

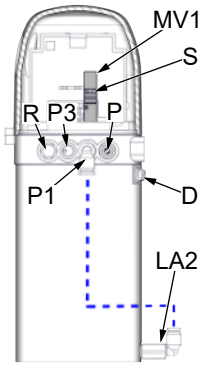
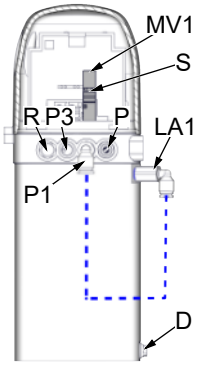
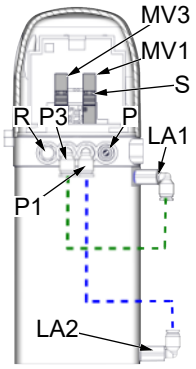
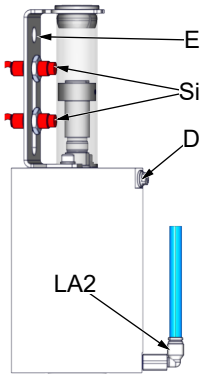
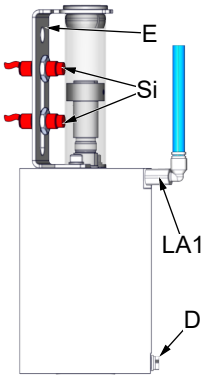
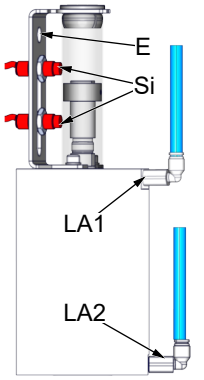
P = compressed-air inlet

LA = air supply

S = Slide switch for manual operation of the solenoid valve

Si = Sensor inductive

E = sensor mounting

| Valve function | Pneum. activation via control head with solenoid valves (MV) | Pneum. activation via external solenoid valves (MV external) |
|---|---|---|
| NC | NO | DA |
|  |  |  |
|  |  |  |

| **Antriebsart: normal closed (NC)** | | |
|---|---|---|
| **Valve OPEN**<br>by pressurised air | control air feed<br>P ➟ MV1 ➟ P1/LA2 | control air feed<br>ext. MV ➟ LA2 |
| **Valve CLOSED**<br>by spring tension | de-aeration<br>LA2/P1 ➟ MV1 ➟ R | de-aeration<br>LA2 ➟ ext. MV |

| **Kind of actuator: air open - air close (DA)** | | |
|---|---|---|
| **Valve OPEN**<br>by pressurised air | control air feed<br>P ➟ MV1 ➟ P1/LA2 | control air feed<br>ext. MV ➟ LA2 |
| **Valve CLOSED**<br>by pressurised air | control air feed<br>P ➟ MV3 ➟ P3/LA1 | control air feed<br>ext. MV ➟ LA1 |

| **Kind of actuator: normal open (NO)** | | |
|---|---|---|
| **Valve OPEN**<br>by spring tension | de-aeration<br>P1/LA1 ➟ MV1 ➟ R | de-aeration<br>LA1 ➟ ext. MV |
| **Valve CLOSED**<br>by pressurised air | control air feed<br>P ➟ MV1 ➟ P1/LA1 | control air feed<br>ext. MV ➟ LA1 |

# 6 Commissioning, service and maintenance

## 6.1 Commissioning

### 6.1.1 Installation instructions

#### Fitting position

- The installation position is without importance.

**NOTICE**

If installed horizontally, some minor residual liquids will remain in the ball-shape of the 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 ATEX - Guidelines

For valves or plants/installations that are operated in the ATEX area, sufficient bonding (grounding) must be ensured (see valid ATEX Guidelines EG).

## 6.2 Maintenance

**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; 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 of the inner housing is performed with the pipe cleaning system.

# 7 Technical data

| | | |
|---|---|---|
| **Model:** | KI-DS Single seat valves | |
| **Valve size:** | DIN: DN25 - DN100<br>Inch: 1“ - 4“ | |
| **Connections:** | weld-on end | |
| **Temperature range:** | Ambient temperature:<br>Operating temperature:<br>Sterilization temperature: | +4 to +45°C (air)<br>+0 to +95°C (medium dependent)<br>HNBR +120°C (SIP 30 min)<br>EPDM +140°C (SIP 30 min)<br>FKM +110°C (SIP 30 min) |
| **Pressure nominal (bar):** | PN16 | |
| **Leak rate:** | A (DIN EN 12266-1) | |
| **Control air:**<br>to DN 652½<br>from DN 80 / 3“ | Control air pressure:<br>5,5 - 8,0 bar<br>6,0 - 8,0 bar | Quality of control air:<br>ISO 8573-1 : 2001 quality class 3 |
| **Materials:**<br>(in product contact) | Stainless steel:<br>Surfaces:<br>Sealing material: | 1.4404 / AISI316L<br>Ra < 0,8µm metallic bright, e-polished<br>EPDM (FDA)<br>HNBR (FDA)<br>FKM (FDA) |

### Torques

| **DN**<br>**Inch** | **25**<br>**1** | **40**<br>**1½** | **50**<br>**2** | **65**<br>**2½** | **80**<br>**3** | **100**<br>**4** |
|---|---|---|---|---|---|---|
| **Clamp coupling (Nm):** | 15 | 15 | 15 | 25 | 25 | 55 |

## 7.1 Operating pressure

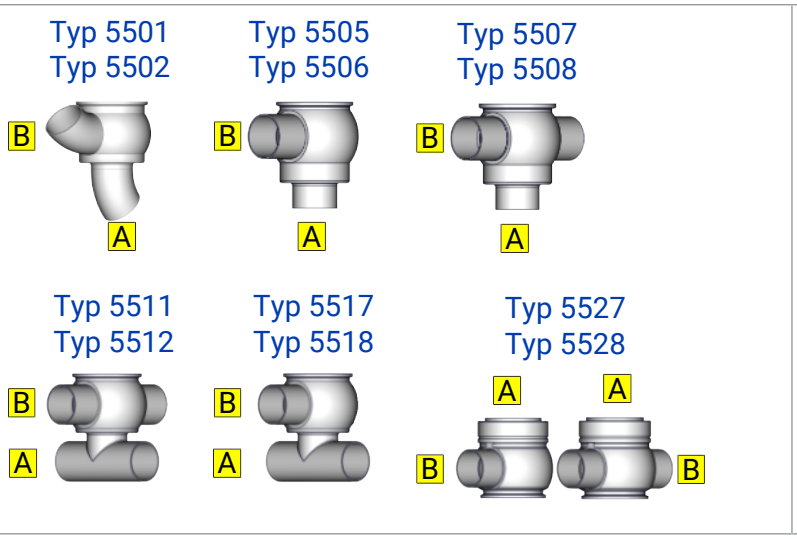
### Operating pressure for valves with manual operating

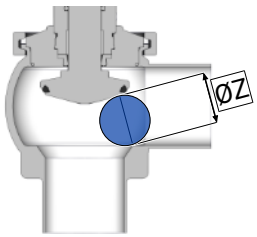
| DN<br>Inch | 25<br>1 | 40<br>1½ | 50<br>2 | 65<br>2½ | 80<br>3 | 100<br>4 |
|---|---|---|---|---|---|---|
| Kind of actuator | crank handle | crank handle | crank handle | crank handle | crank handle | crank handle |
| | A \| B \| C | A \| B \| C | A \| B \| C | A \| B \| C | A \| B \| C | A \| B \| C |
| Valves with manual operating | 10 | 10 | 10 | 10 | 10 | 10 |

### Operating pressure for valves with pneumatic operating

| Nominal diameter | stroke | ØZ | Operating direction | Opening pressures / closing pressures [bar] Size of actuator (ØA) | | | | | | | | KVS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ø104 | | ø129 | | ø167 | | ø230 | | A →B | B →A |
| | mm | mm | | A | B | A | B | A | B | A | B | m³/h | m³/h |
| DN 25 | 18 | 13 | NC ↓ | 10,5 | 10,7 | 15,3 | 16 | - | - | - | - | 21 | 24 |
| OD 1“ | 14 | 11 | NO ↑ | 8,4 | 11,3 | 13,6 | 16 | - | - | - | - | | |
| DN 40 | 30 | 24,5 | NC ↓ | 8,2 | 12,3 | 12,0 | 16 | - | - | - | - | 43 | 47 |
| OD 1½“ | 26,5 | 22 | NO ↑ | 6,0 | 14,1 | 12,1 | 16 | - | - | - | - | | |
| DN 50 | 24 | 15,8 | NC ↓ | 6,0 | 9,0 | 9,8 | 13,8 | 16 | 16 | - | - | 82 | 77 |
| OD 2“ | 21,5 | 13,6 | NO ↑ | 6,5 | 8,0 | 9,7 | 13,7 | 16 | 16 | - | - | | |
| DN 65 | 24 | 15,2 | NC ↓ | - | - | 6,0 | 8,0 | 12,5 | 12,4 | - | - | 145 | 138 |
| OD 2½“ | 18 | 10,6 | NO ↑ | - | - | 6,0 | 8,0 | 9,9 | 15,3 | - | - | | |
| DN 80 | 28,5 | 19,0 | NC ↓ | - | - | - | - | 9,0 | 8,7 | 13,5 | 16 | 200 | 212 |
| OD 3“ | 28,5 | 19 | NO ↑ | - | - | - | - | 6,3 | 11,2 | 13,6 | 16 | | |
| DN 100 | 28,5 | 18,2 | NC ↓ | - | - | - | - | 6,0 | 5,6 | 9,2 | 12,7 | 274 | 299 |
| OD 4“ | 26 | 16,2 | NO ↑ | - | - | - | - | 4,2 | 7,3 | 9,2 | 12,3 | | |

Table 1 *) Control air pressure: 5,5 bar

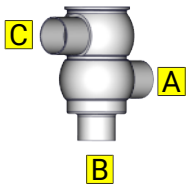


## Operating pressure for pneumatic changeover valves

| Nominal width | stroke | Operating direction | Opening pressures / closing pressures [bar] Size of actuator (ØA) | | | | | | | | | | | | KVS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ø104 | | | ø129 | | | ø167 | | | ø230 | | | A →B | A →C |
| | mm | | A | B | C | A | B | C | A | B | C | A | B | C | m³/h | m³/h |
| DN 25 | 21 | LÖ-FS ↓ | 8.0 | 8.9 | 6.8 | 13.8 | 15.5 | 10.3 | - | - | - | - | - | - | 23 | 15 |
| OD 1“ | 17 | FÖ-LS ↑ | 8.3 | 8.6 | 7.1 | 13.3 | 13.7 | 12.1 | - | - | - | - | - | - | | |
| DN 40 | 28.5 | LÖ-FS ↓ | 8.0 | 7.7 | 6.8 | 13.8 | 13.4 | 10.3 | - | - | - | - | - | - | 46 | 35 |
| OD 1½“ | 25.5 | FÖ-LS ↑ | 7.8 | 7.4 | 7.1 | 12.5 | 11.6 | 12.1 | - | - | - | - | - | - | | |
| DN 50 | 34 | LÖ-FS ↓ | 8.0 | 7.0 | 6.8 | 13.8 | 12.1 | 10.3 | - | - | - | - | - | - | 67 | 55 |
| OD 2“ | 31.5 | FÖ-LS ↑ | 7.4 | 6.6 | 7.1 | 11.9 | 10.3 | 12.1 | - | - | - | - | - | - | | |
| DN 65 | 31 | LÖ-FS ↓ | - | - | - | 8.7 | 7.1 | 6.5 | 16.1 | 15.0 | 10.2 | - | - | - | 126 | 83 |
| OD 2½“ | 25.5 | FÖ-LS ↑ | - | - | - | 8.8 | 7.2 | 6.6 | 13.6 | 10.6 | 14.1 | - | - | - | | |
| DN 80 | 31 | LÖ-FS ↓ | - | - | - | - | - | - | 7.1 | 7.5 | 5.3 | 11.1 | 12.3 | 12.0 | 194 | 140 |
| OD 3“ | 28.5 | FÖ-LS ↑ | - | - | - | - | - | - | 7.2 | 7.5 | 5.4 | 14.7 | 16.4 | 8.5 | | |
| DN 100 | 34 | LÖ-FS ↓ | - | - | - | - | - | - | 6.9 | 5.5 | 5.3 | 11.1 | 9.2 | 12.2 | 260 | 166 |
| OD 4“ | 34 | FÖ-LS ↑ | - | - | - | - | - | - | 7.0 | 5.5 | 5.4 | 13.5 | 11.4 | 9.4 | | |

Typ 5513
Typ 5514




Typ 5515
Typ 5516

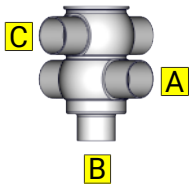



Table 2 *) Control air pressure: 5,5 bar

# 8 Disassembly and assembly

## 8.1 Valves with manual operating

### Mounting tools

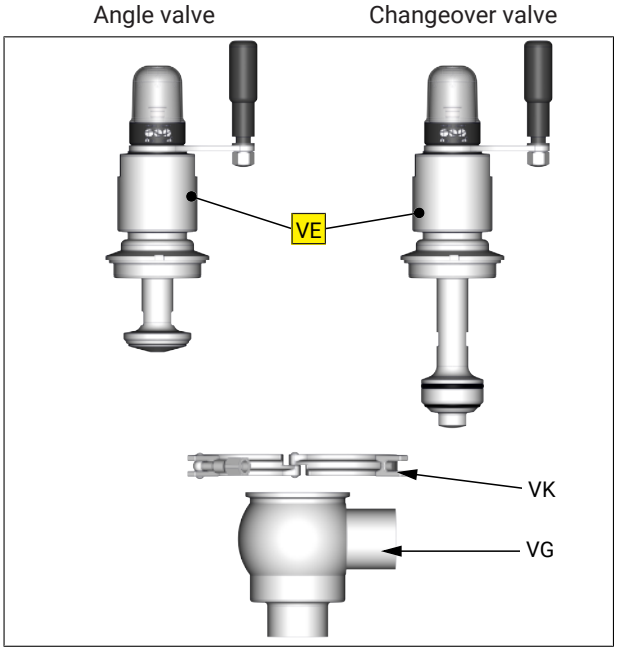
| | | | | |
|---|---|---|---|---|
| T1 |  | Combination wrench-Set | SW 8 - SW 24 | - |
| T10 |  | Joint -pin wrench | Pin Ø6 | 8027000065-000 |
| T35 |  | Pin punch | Ø 5 mm | - |

**NOTICE**

All screw connections have right-handed threads.

### Assembly valve insert

- Unscrew the clamp coupling (VK).
- Dismount the valve insert (VE) out of the housing.



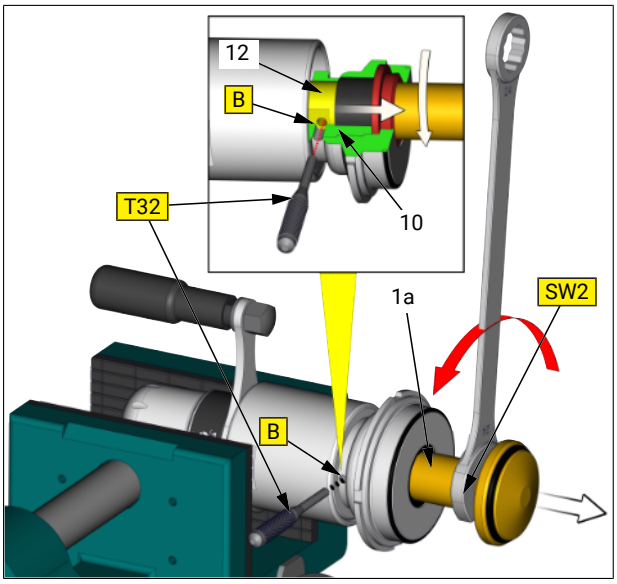
### Replacement wear parts

- Unscrew the piston (1a) from spindle (12) (SW2).

  Counter with a pin punch (T32) at the bore hole (B, Ø5mm).

- **NOTICE!**

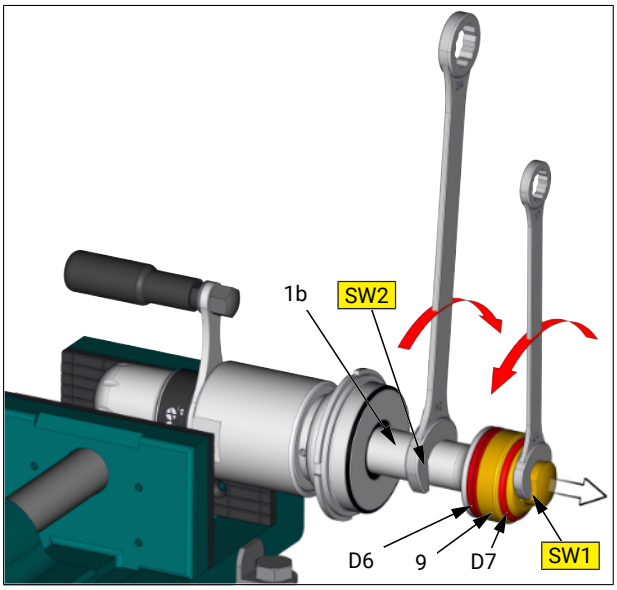
  The holes (B) in the housing (10) and the spindle (12) must be aligned so that the pin punch (T32) can be inserted into the spindle (12).




- Changeover valve:

  Unscrew the piston plate (9) from piston (1b) (SW1/SW2).

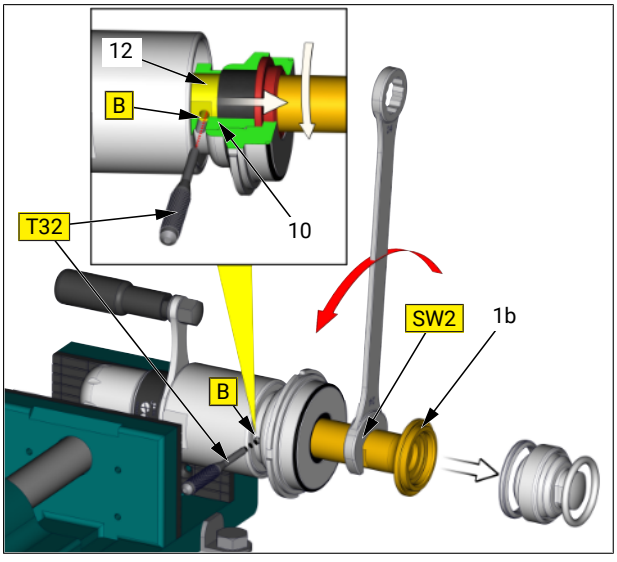
- Remove seal (D6).



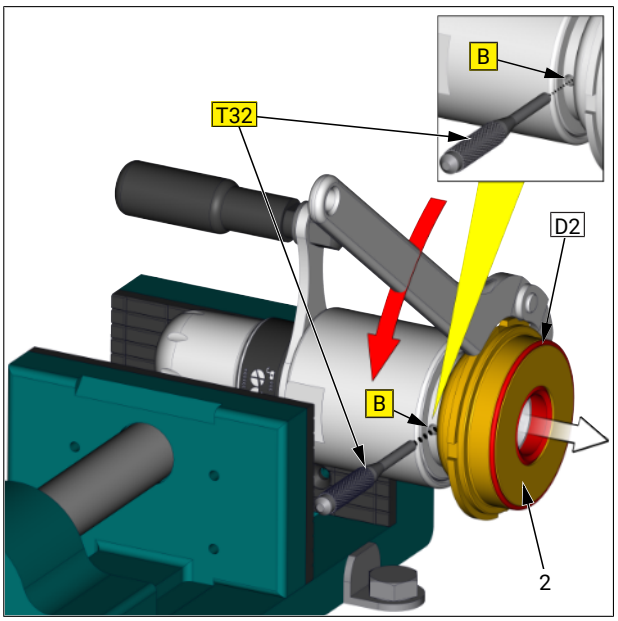

- Changeover valve:

  Unscrew the piston (1b) from spindle (12) (SW2).

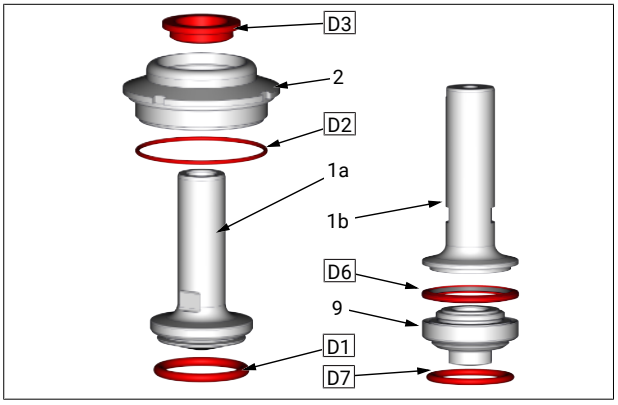
  Counter with a pin punch (T32) at the bore hole (B, Ø5mm).



- Unscrew the insert (2) from the housing (10), using a hook wrench (T10).




- Remove O-ring (D1), (D2), (D7), seal (D6) and shaft seal (D3).




**NOTICE!**

- Puncture the O-ring (D1) and (D7) with a needle and remove them carefully from the groove of piston.

## 8.2 Valves with pneumatic operation

| | | | | |
|---|---|---|---|---|
| T1 |  | Combination wrench-Set | SW 8 - SW 24 | - |
| T10 |  | Joint -pin wrench | Pin Ø6 | 8027000065-000 |
| T11 |  | Hinged hook wrench | DN25 - DN100<br>90/155 V2A | 8028025100-020 |
| T12 |  | Joint face wrench | Pin Ø6<br>40-80 MM | 8028340080-000 |

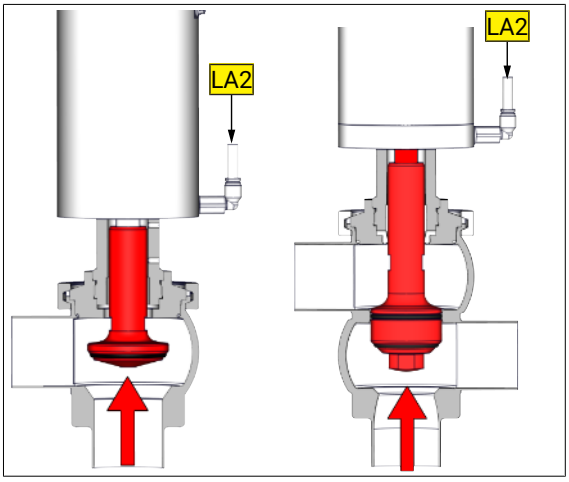
**NOTICE**

All threaded joint have right-hand thread.

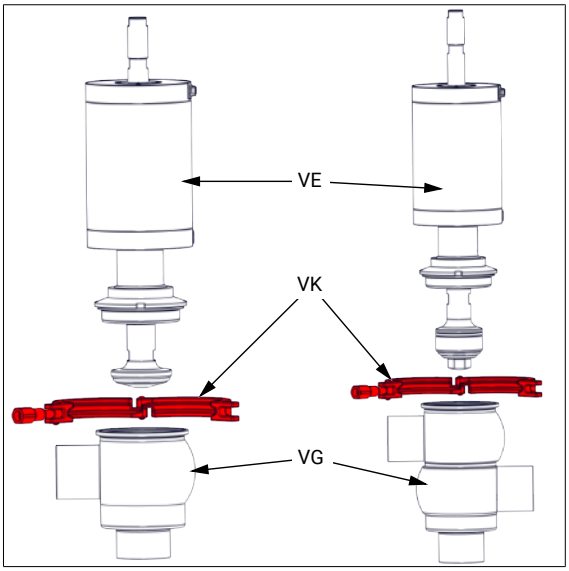
Unscrew and remove control air, steam resp. cleaning lines and electrical lines, complete feedback unit or control head.

### Assembly valve insert

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

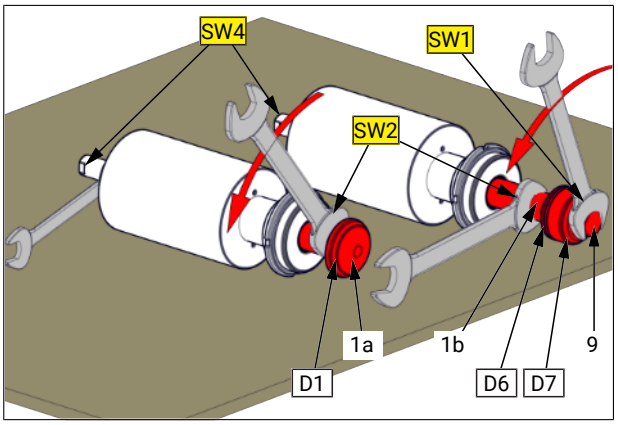



- Unscrew the clamp coupling (VK).
- Remove the complete valve insert with the upper shaft seal (D1) from the housing (VG).
- Disconnect compressed air at LA2 and depressurize the drive - The valve piston move in.
  - The valve piston returns to the basic position.

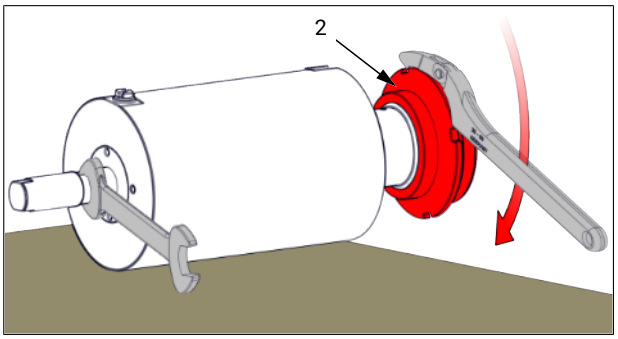


## Replacement wear parts - Valve insert (VE)

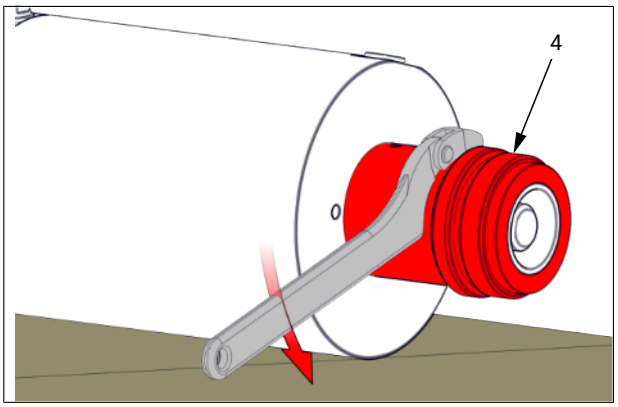
- Changeover valve: Unscrew the piston plate (9) from piston (1b) (SW1/SW2).
- Remove seal (D7) and O-ring (D6).
- Unscrew the piston (1a) resp. (1b) from spindle (6) (SW2/SW4).
- Remove O-ring (D1).



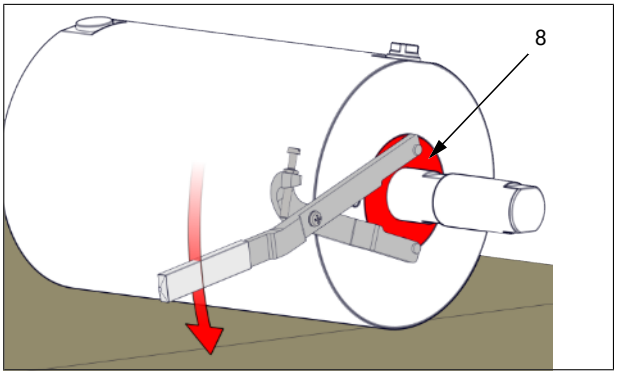

- Unscrew the insert (2) from the lantern (4) (use a hook wrench).
- Remove O-ring (2) and seal (D3).

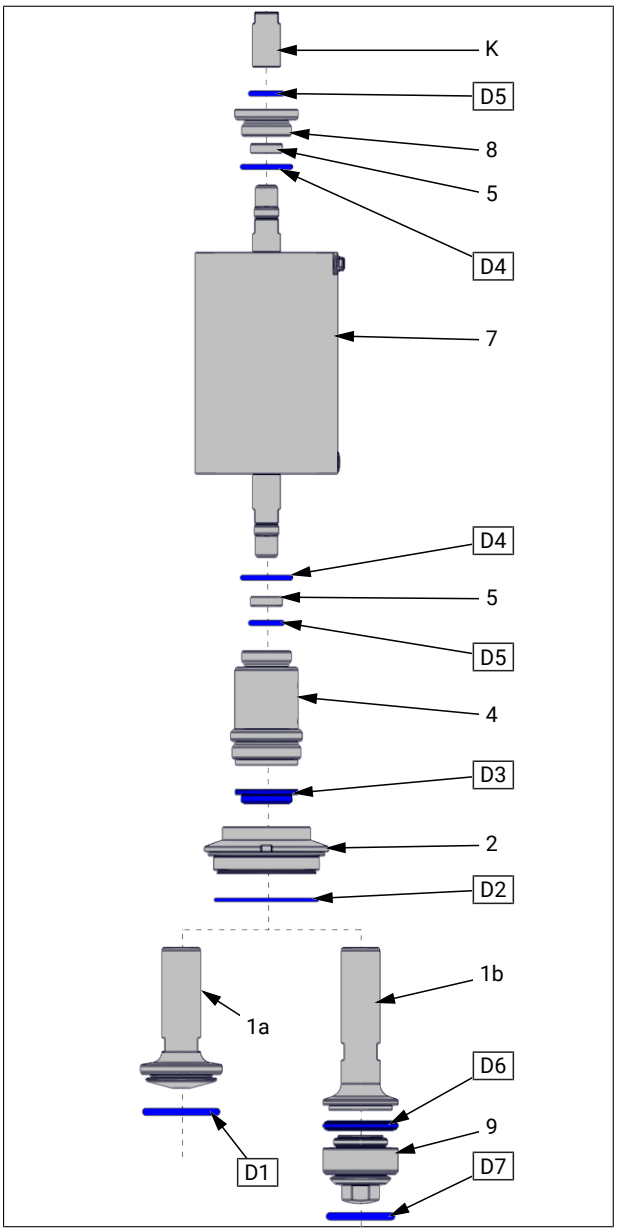



- Unscrew the lantern (4) from the actuator (7) (use a hook wrench).
- Remove the O-rings (D4) and (D5) from lantern (4).




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

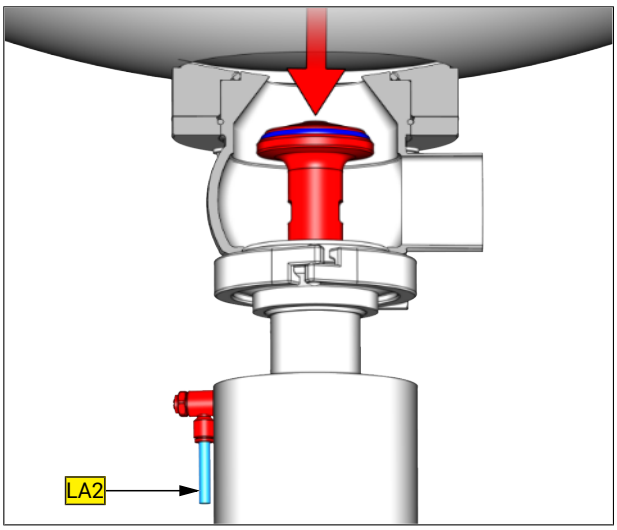



K
D5
8
5
D4
7
D4
5
D5
4
D3
2
D2
1a
1b
D6
9
D7
D1

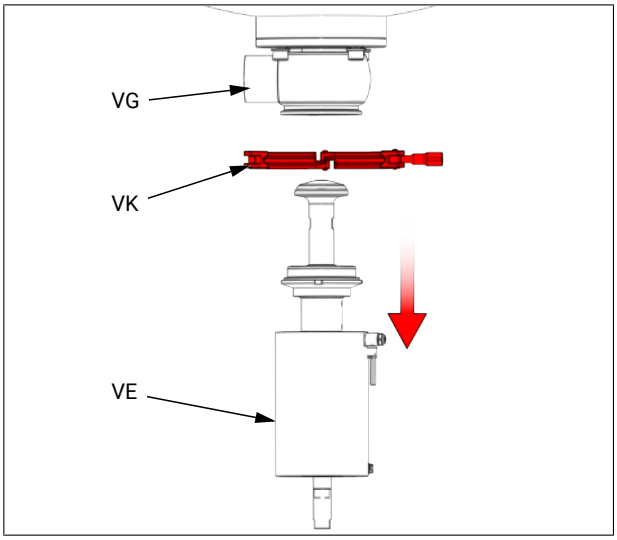
## 8.3 Tank outlet valve

### Assembly valve insert

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



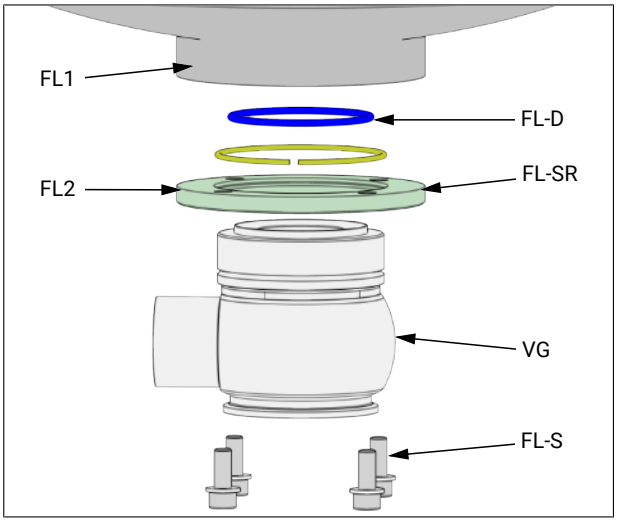

- Unscrew the clamp coupling (VK).
- Remove the complete valve insert with the upper shaft seal (D1) from the housing (VG).
- Disconnect compressed air at LA2 and depressurize the drive - The valve piston move in.
  - The valve piston returns to the basic position.




### Replacement wear parts - Valve housing (VG)

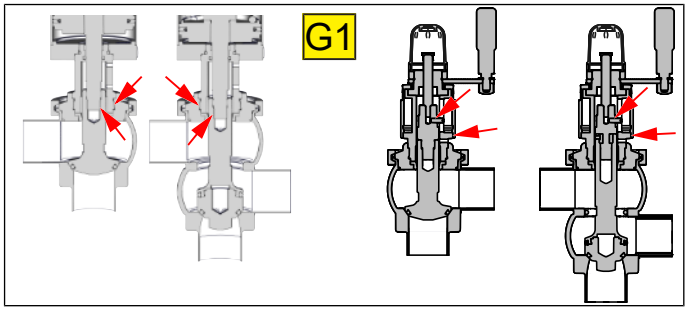
- Unscrew the screw (Fl-S).
- Remove valve housing (VG) with flange (FL2) and O-ring (Fl-D).
- Dismantling circlip ring (FL-SR) and flange (FL2) from the housing (VG).

**NOTICE! Information for the "Disassembly of the valve insert" can be found under** Tank outlet valve [▶ 26]



## 8.4 Assembly

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




- 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.

### Performance test

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

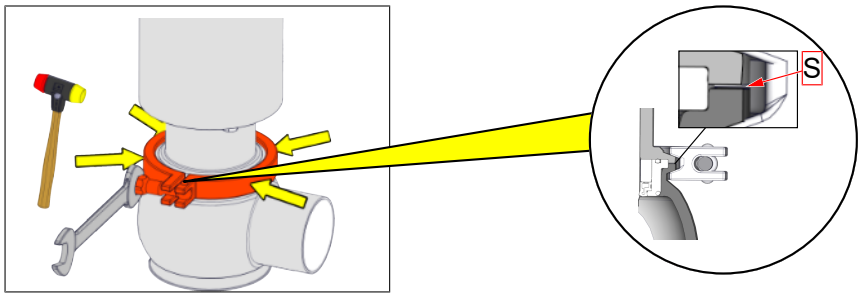
**NOTICE**

**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!



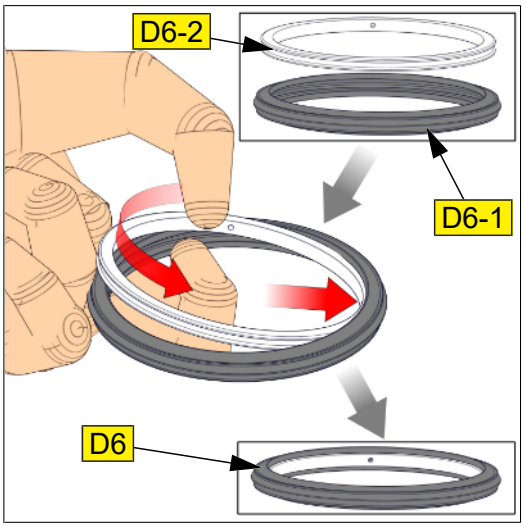

### Torques

| DN | 25 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|
| Inch | 1 | 1½ | 2 | 2½ | 3 | 4 |
| **Clamp coupling (Nm):** | 15 | 15 | 15 | 25 | 25 | 55 |

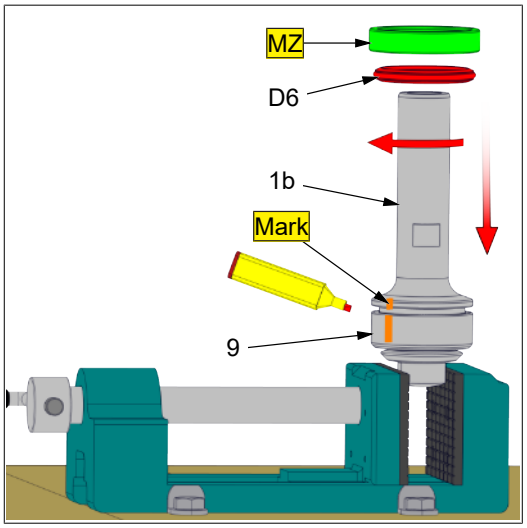
### Mounting seal (D6)

| | | |
|---|---|---|
| Centring ring MZ  | DN 25/40/50 | 5620 050 025-020 |
| | DN65 | 5620 065 025-020 |
| | DN80 | 5620 080 025-020 |
| | DN100 | 5620 100 025-020 |

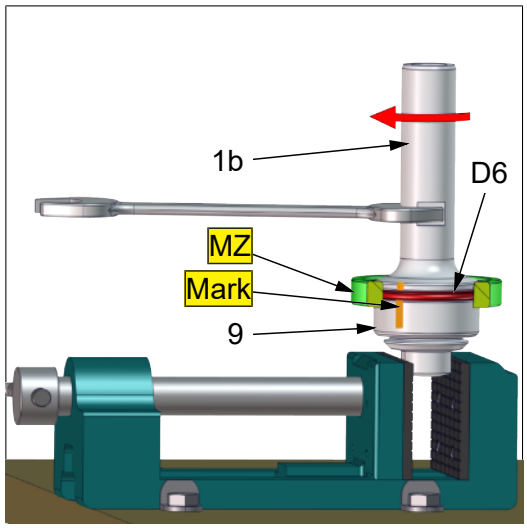
- Install the support ring (D4-2) in the seal jacket (D4-1).




- Clamp piston plate (9) in a vice. Screw together the piston (1b) and piston plate (9) to the metal limit stop by hand.
- Make a colored mark at the piston surfaces.
- After then, unscrew the piston (1b) again.




- Slide the seal (D6) onto the piston (1b).
- Screw together again the piston (1b) into the piston plate (9) by hand.
- Position the centre ring (MZ) on seal (D6).
- Screw up the piston (1b) to the final limit mark.



# 9 Drawings and dimensions

## 9.1 Drawings

K = Cap

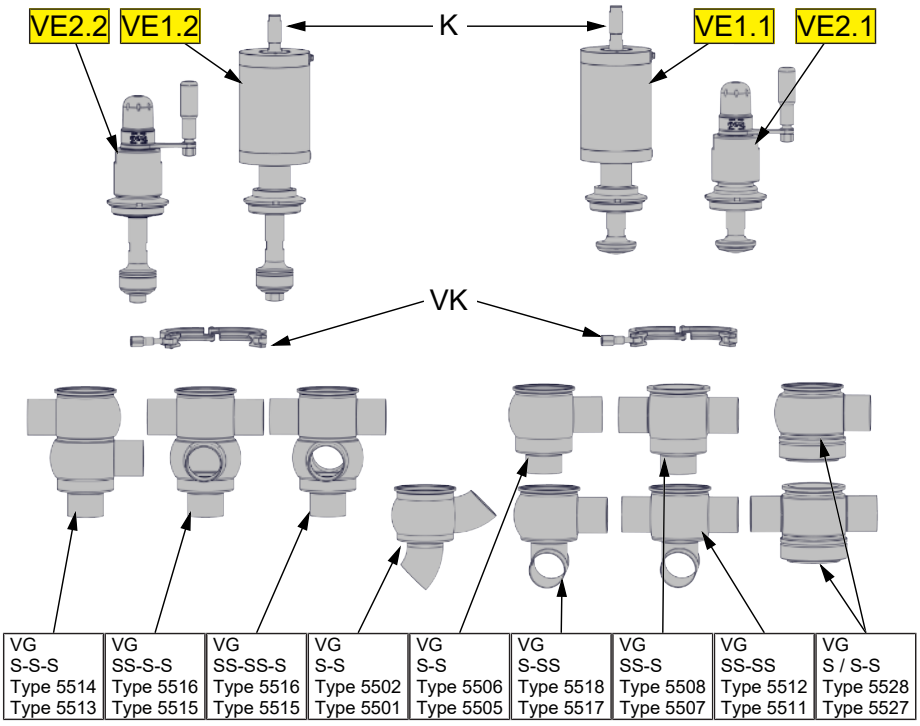
VE = Valve insert manual
- 1.1 = EckventilAngle valve
- 1.2 = Changeover valve

VE = Valve insert pneumatical
- 2.1 = Angle valve
- 2.2 = Changeover valve

VK = Clamp coupling

VG = Valve housing

Angle valves, Two way valves




FL1 = Tank flange[1]

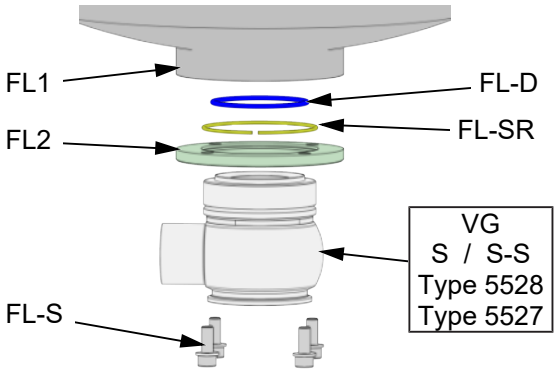
FL2 = Housing flange

FL-D = O-ring [1]

FL-S = Screw

FL-SR = Retaining ring

Tank outlet valve



## Valve inserts (VE)

manual operation DN50

- Insert for angle valves Type: 5505
- Insert for changeover valves Type: 5513

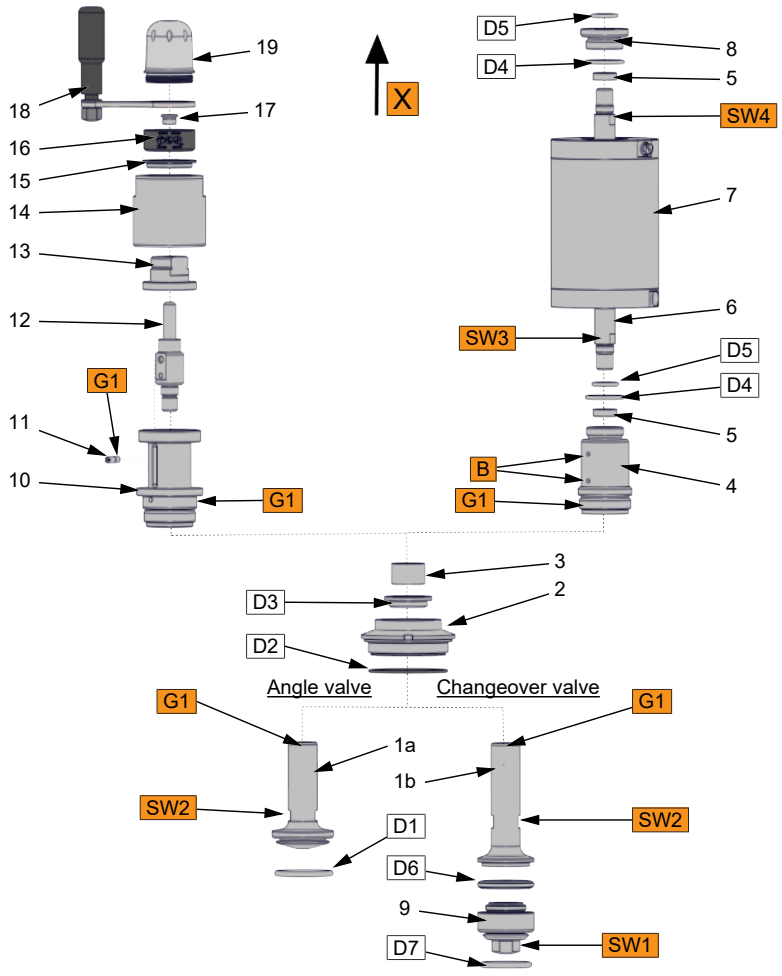
pneumatical DN50

- Insert for angle valves Type: 5506
- Insert for changeover valves Type: 5514

1 = Piston
- a = Angle valve
- b = Changeover valve

2 = Insert
3 = Bearing bush
4 = Lantern
5 = Bearing bush
6 = Spindle
7 = Actuator
8 = Insert - lantern
9 = Piston plate
10 = Housing
11 = Set screw
12 = Spindle
13 = Guide nut
14 = Housing body
15 = Plain bearing
16 = Adapter
17 = Cap
18 = Crank handle
19 = Hood

D1 = O-ring
D2 = O-ring
D3 = Shaft seal
D4 = O-rings
D5 = O-rings
D6 = Seal
D7 = O-ring




| | Wrench size | | | | | Hinged hook wrench | Joint face wrench |
|---|---|---|---|---|---|---|---|
| **Nominal width** | **SW1** | **SW2** | **SW3** | **SW4** | **SW5** | **Form A (hook)**<br>**Form B (pin)** | **D 40-80mm**<br>**Pin Ø5 / Ø6** |
| DN 25 / 1“ | 19 | 24 | 17 | 17 | 11 | Form A DN 25-100: 8028025100-020<br>Form A DN125: 8028025150-020<br>Form B (to 2015) Ø4: 8027000060-000<br>Form B (from 2015) Ø6: 8027000065-000 | Ø4 (to 2015)8028340085-000<br>Ø6 (from 2015)8028340080-000 |
| DN 40/ 1½“ | 24 | | | | | | |
| DN 50 / 2“ | 24 | | | | | | |
| DN 65 / 2½“ | 36 | | | | | | |
| DN 80 / 3“ | 27 | | | | | | |
| DN 100 / 4“ | 27 | | | | | | |
| DN 125 / 5“ | 27 | | | | | | |

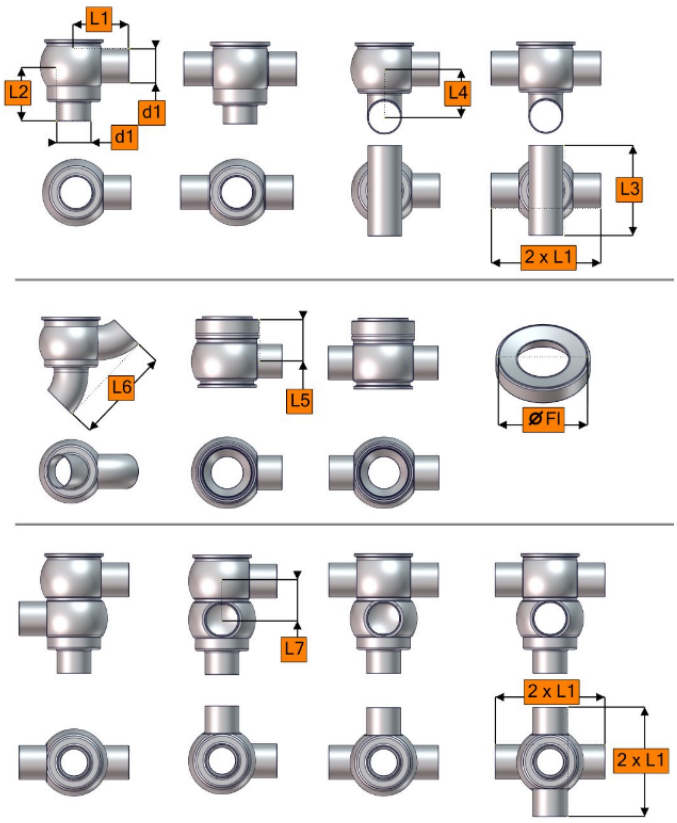
## 9.2 Dimensions

### Housing

Angle valve
t-valve
Loop valve
cross valve

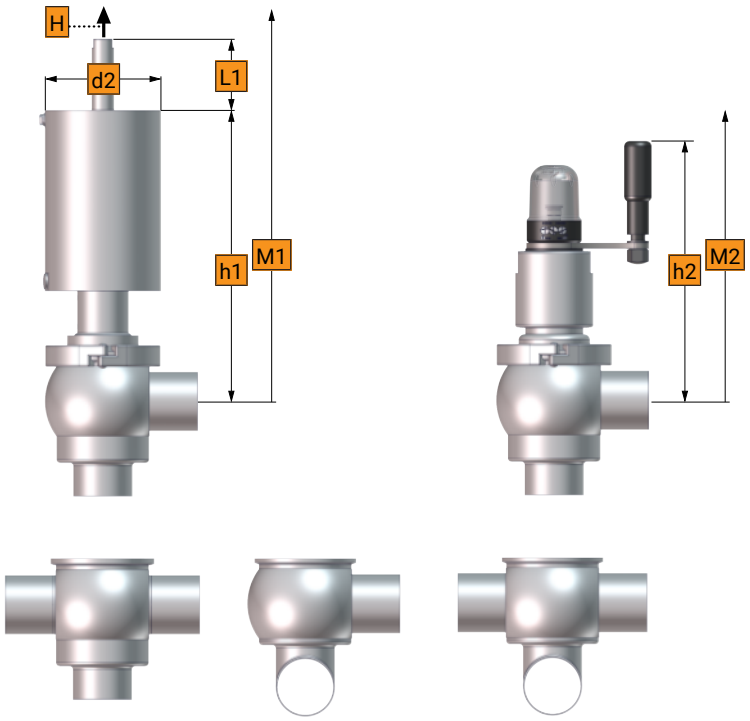
bend y-valve
Tank outlet valve
S
SS

Changeover valve
S - S - S
SS - S - S




| Nominal diameter | d1 | L1 | L2 | L3 | L4 | L5 | L6 | L7 | ø Fl |
|---|---|---|---|---|---|---|---|---|---|
| DN 25<br>1 Inch | Ø 29 x 1,5<br>Ø25.4x1.65 | 75 | 75 | 100 | 57 | 70.5 | 126 | 36<br>32 | ø 100 |
| DN 40<br>1½ Inch | Ø 41 x 1,5<br>Ø31.8x1.65 | 85 | 85 | 120 | 66 | 70.5 | 138 | 48<br>45 | ø 125 |
| DN 50<br>2 Inch | Ø 53 x 1,5<br>Ø50,8 x 1,65 | 85 | 85 | 140 | 74.5 | 69.5 | 150 | 60<br>57.5 | ø 138 |
| DN 65<br>2½ Inch | Ø 70 x 2,0<br>Ø63,5 x 1,65 | 105 | 105 | 160 | 96 | 78.5 | 185 | 76<br>70 | ø 165 |
| DN 80<br>3 Inch | Ø 85 x 2,0<br>Ø76,1 x 2,0 | 115 | 115 | 180 | 122 | 101.5 | 219 | 91<br>83 | ø 176 |
| DN 100<br>4 Inch | Ø 104 x 2,0<br>Ø101,6 x 2,0 | 130 | 130 | 200 | 144 | 120 | 247 | 110<br>108 | ø 209 |
| DN 125<br>5 Inch | Ø 129 x 2,0<br>Ø 127 x 2,0 | - | - | - | - | - | - | -<br>- | ø 238 |

### Angle valve, T-valve, Loop valve, Cross valve

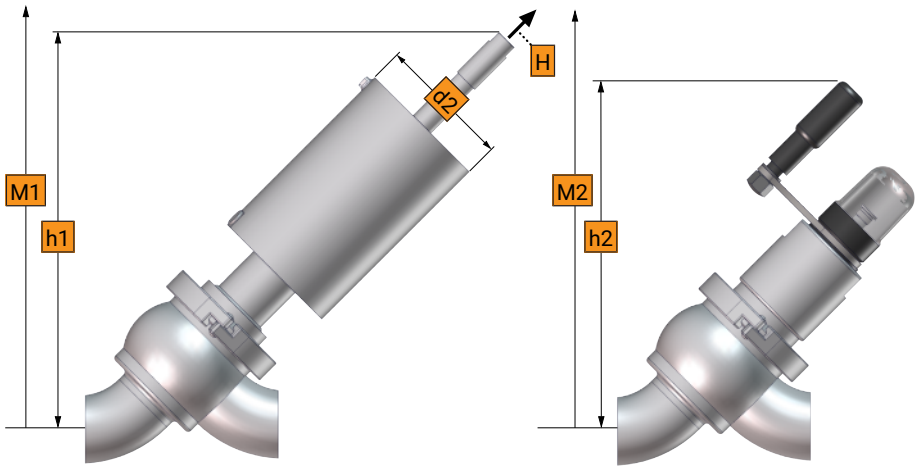



| Nominal width | d2 | h1 | h2 | M1 [1] | M2 | L1 | | H (stroke) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Size when completed | | NC | NO | pneum. | manual |
| DN 25 | ø 104 | 249 | 221 | ~ 440 | ~ 260 | 82 | 93 | 18 | 14 |
| 1 Inch | | 248 | 219 | ~ 440 | ~ 260 | 86 | 93 | 14 | 10 |
| DN 40 | ø 104 | 255 | 227 | ~ 460 | ~ 265 | 70 | 93 | 30 | 25 |
| 1½ Inch | | 253.5 | 225 | ~ 460 | ~ 265 | 73,5 | 93 | 26.5 | 22.5 |
| DN 50 | ø 104 | 261 | 233 | ~ 480 | ~ 290 | 69 | 93 | 24 | 26 |
| 2Inch | | 260.5 | 232 | ~ 480 | ~ 290 | 61.5 | 93 | 21.5 | 23.5 |
| DN 65 | ø 129 | 269 | 241 | ~ 515 | ~ 325 | 69 | 93 | 24 | 26 |
| 2½ Inch | | 266 | 238 | ~ 515 | ~ 320 | 75 | 93 | 18 | 20 |
| DN 80 | ø 167 | 276.5 | 248 | ~ 540 | ~ 340 | 64.5 | 93 | 28.5 | 30.5 |
| 3 Inch | | 272.5 | 244 | ~ 540 | ~ 330 | 64.5 | 93 | 28.5 | 21.5 |
| DN 100 | ø 167 | 286 | 258 | ~ 565 | ~ 375 | 64.5 | 93 | 28.5 | 30.5 |
| 4 Inch | | 285 | 257 | ~ 565 | ~ 370 | 67 | 93 | 26 | 28 |
| DN 125 | - | - | - | - | - | - | - | - | - |
| 5 Inch | | | | | | | | | |

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

1. Installation dimension M1 are incl. control head or feedback unit

### Inclined seat valve

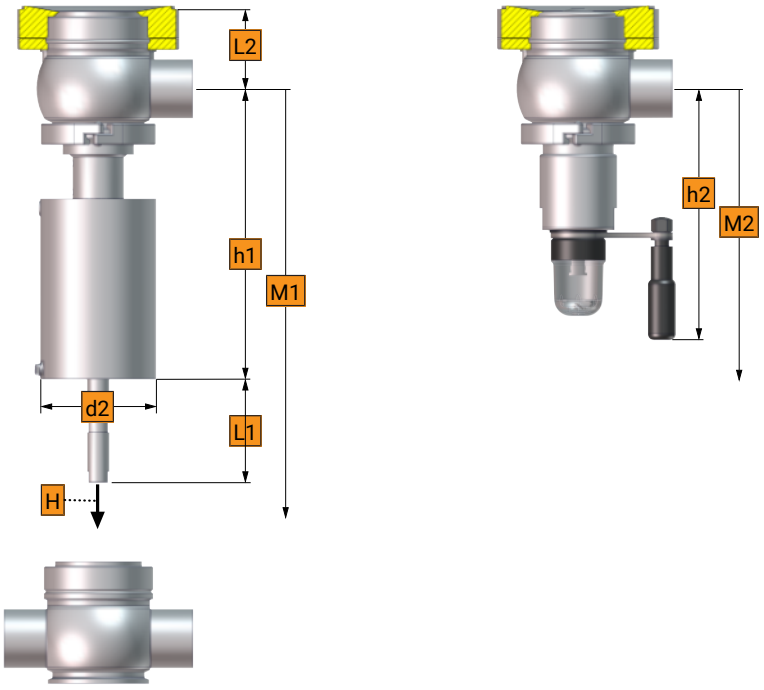



| Nominal width | d2 | h1 | | h2 | M1 [1] | M2 | H (stroke) | |
|---|---|---|---|---|---|---|---|---|
| | | NC | NO | | Size when completed | | pneum. | manual |
| DN 25 | ø 104 | 277 | 291 | 260 | ~ 330 | ~ 290 | 18 | 14 |
| 1 Inch | | 280 | 291 | 258 | ~ 330 | ~ 290 | 14 | 10 |
| DN 40 | ø 104 | 275 | 298 | 268 | ~ 370 | ~300 | 30 | 25 |
| 1½ Inch | | 278 | 298 | 266 | ~ 370 | ~ 300 | 26.5 | 22.5 |
| DN 50 | ø 104 | 282 | 305 | 277 | ~ 390 | ~ 320 | 24 | 26 |
| 2Inch | | 275 | 305 | 276 | ~ 390 | ~ 320 | 21.5 | 23.5 |
| DN 65 | ø 129 | 298 | 321 | 295 | ~ 440 | ~ 355 | 24 | 26 |
| 2½ Inch | | 304 | 321 | 292 | ~ 435 | ~ 350 | 18 | 20 |
| DN 80 | ø 167 | 311 | 338 | 315 | ~ 450 | ~ 380 | 28.5 | 30.5 |
| 3 Inch | | 311 | 338 | 311 | ~ 440 | ~ 370 | 28.5 | 21.5 |
| DN 100 | ø 167 | 330 | 357 | 325 | ~ 500 | ~ 430 | 28.5 | 30.5 |
| 4 Inch | | 332 | 357 | 324 | ~ 495 | ~ 425 | 26 | 28 |
| DN 125 | - | - | - | - | - | - | - | - |
| 5 Inch | | | | | | | | |

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

1. Installation dimension M1 are incl. control head or feedback unit.

### Tank outlet valve



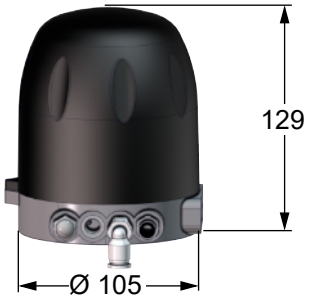
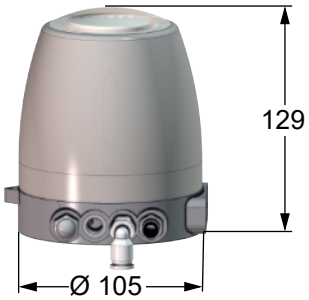

| Nominal width | d2 | h1 | h2 | M1 [1] | M2 | L1 | | H (stroke) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Size when completed | | NC | NO | pneum. | manual |
| DN 25 | ø 104 | 249 | 221 | ~ 490 | ~ 260 | 82 | 93 | 18 | 14 |
| 1 Inch | | 248 | 219 | ~ 490 | ~ 260 | 86 | 93 | 14 | 10 |
| DN 40 | ø 104 | 255 | 227 | ~ 500 | ~ 265 | 70 | 93 | 30 | 25 |
| 1½ Inch | | 253,5 | 225 | ~ 500 | ~ 265 | 73,5 | 93 | 26,5 | 22,5 |
| DN 50 | ø 104 | 261 | 233 | ~ 510 | ~ 290 | 69 | 93 | 24 | 26 |
| 2Inch | | 260,5 | 232 | ~ 510 | ~ 290 | 61,5 | 93 | 21,5 | 23,5 |
| DN 65 | ø 129 | 269 | 241 | ~ 550 | ~ 325 | 69 | 93 | 24 | 26 |
| 2½ Inch | | 266 | 238 | ~ 550 | ~ 320 | 75 | 93 | 18 | 20 |
| DN 80 | ø 167 | 276,5 | 248 | ~ 580 | ~ 340 | 64,5 | 93 | 28,5 | 30,5 |
| 3 Inch | | 272,5 | 244 | ~ 580 | ~ 330 | 64,5 | 93 | 28,5 | 21,5 |
| DN 100 | ø 167 | 286 | 258 | ~ 630 | ~ 375 | 64,5 | 93 | 28,5 | 30,5 |
| 4 Inch | | 285 | 257 | ~ 630 | ~ 370 | 67 | 93 | 26 | 28 |
| DN 125 | - | | - | - | - | - | - | - | - |
| 5 Inch | | | | | | | | | |

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

1. Installation dimension M1 are incl. control head or feedback unit.

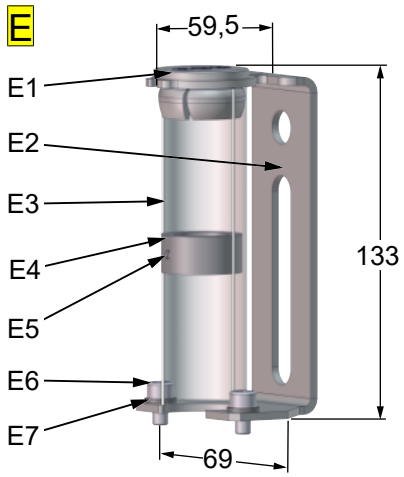
## 9.3 Control units

**Control head KI-TOP**

| with plastic hood - transparent | with stainless steel hood |
|---|---|
|  |  |

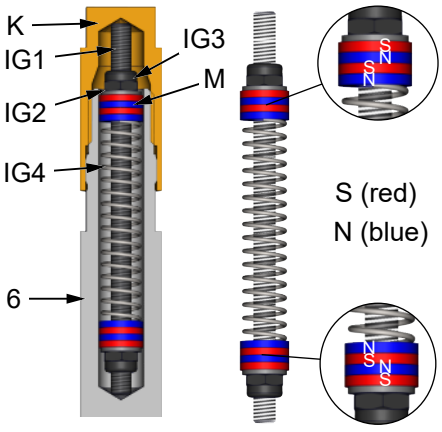
**Feedback unit with finger guard (E)**

- 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



# 10 Wearing parts

## 10.1 Wearing parts list

### DN 25 - DN 50 / 1 Inch - 2 Inch

| Pos. | Material | pce. | DN 25<br>1 Inch | DN 40<br>1½ Inch | DN 50<br>2Inch |
|---|---|---|---|---|---|
| 3 | XSM | 1x | Bearing bush 8050 028 020-156 | | |
| 5 | XSM | 1x | Bearing 8050 020 007-156 | | |
| 13 | NBR | 1x | Scraper ring 2330 028 007-055 | | |
| D1 | | | O-ring | | O-ring |
| | EPDM | 1x | 2304 041 035-159 | | 2304 044 053-159 |
| | HNBR | 1x | 2304 041 035-157 | | 2304 044 053-157 |
| | FKM | 1x | 2304 041 035-178 | | 2304 044 053-178 |
| D2 | | | O-ring | | |
| | EPDM | 1x | 2304 069 026-159 | | |
| | HNBR | 1x | 2304 069 028-050 | | |
| | FKM | 1x | 2304 069 026-251 | | |
| D3 | EPDM | 1x | Seal 5506 050 009-054 | | |
| | HNBR | 1x | Seal 5506 050 009-050 | | |
| | FKM | 1x | Seal 5506 050 009-251 | | |
| D4 | NBR | 2x | O-ring 2304 030 035-055 | | |
| D5 | HNBR | 2x | O-ring 2304 019 035-171 | | |
| D6 | EPDM | | Seal | | |
| | - complete | 1x | 5621 055 025-084 | | |
| | - Jacket | 1x | 5621 055 026-084 | | |
| | - Support ring | 1x | 5621 055 027-020 | | |
| | HNBR | | Seal | | |
| | - complete | 1x | 5621 055 025-171 | | |
| | - Jacket | 1x | 5621 055 026-171 | | |
| | - Support ring | 1x | 5621 055 027-020 | | |
| | FKM | | Seal | | |
| | - complete | 1x | 5621 055 025-251 | | |
| | - Jacket | 1x | 5621 055 026-251 | | |
| | - Support ring | 1x | 5621 055 027-020 | | |
| D7 | | | O-ring | | |
| | EPDM | 1x | 2304 038 053-170 | | |
| | HNBR | 1x | 2304 038 053-171 | | |
| | FKM | 1x | 2304 038 053-178 | | |
| FL-D | | | O-ring | O-ring | O-ring |
| | EPDM | 1x | 2304 057 035-054 | 2304 063 053-170 | 2304 075 040-054 |
| | HNBR/NBR | 1x | 2304 057 035-050 | 2304 063 053-050 | 2304 075 040-055 |

Seal (D6) = New version with support ring

### DN 65 - DN 100 / 2½ Inch - 3 Inch

| Pos. | Material | pce. | DN 65<br>2½ Inch | DN 80<br>3 Inch | DN 100<br>4Inch |
|---|---|---|---|---|---|
| 3 | XSM | 1x | Bearing bush 8050 028 020-156 | | |
| 5 | XSM | 1x | Bearing 8050 020 007-156 | | |
| 13 | NBR | 1x | Scraper ring 2330 028 007-055 | | |
| D1 | | | O-ring | O-ring | O-ring |
| | EPDM | 1x | 2304 053 053-159 | 2304 069 053-159 | 2304 088 053-159 |
| | HNBR | 1x | 2304 053 053-157 | 2304 069 053-157 | 2304 088 053-157 |
| | FKM | 1x | 2304 053 053-178 | 2304 069 053-178 | 2304 088 053-178 |
| D2 | | | O-ring | O-ring | O-ring |
| | EPDM | 1x | 2304 082 026-159 | 2304 098 035-159 | 2304 117 035-159 |
| | HNBR | 1x | 2304 082 026-050 | 2304 098 035-050 | 2304 117 035-050 |
| | FKM | 1x | 2304 082 026-051 | 2304 098 035-051 | 2304 117 035-051 |
| D3 | EPDM | 1x | Seal 5506 050 009-054 | | |
| | HNBR | 1x | Seal 5506 050 009-050 | | |
| | FKM | 1x | Seal 5506 050 009-251 | | |
| D4 | NBR | 2x | O-ring 2304 030 035-055 | | |
| D5 | HNBR | 2x | O-ring 2304 019 035-171 | | |
| D6 | EPDM | | Seal | Seal | |
| | - complete | 1x | 5621 065 025-084 | 5621 100 025-084 | |
| | - Jacket | 1x | 5621 065 026-084 | 5621 100 026-084 | |
| | - Support ring | 1x | 5621 065 027-020 | 5621 100 027-020 | |
| | HNBR | | Seal | Seal | |
| | - complete | 1x | 5621 065 025-171 | 5621 100 025-171 | |
| | - Jacket | 1x | 5621 065 026-171 | 5621 100 026-171 | |
| | - Support ring | 1x | 5621 065 027-020 | 5621 100 027-020 | |
| | FKM | | Seal | Seal | |
| | - complete | 1x | 5621 065 025-251 | 5621 100 025-251 | |
| | - Jacket | 1x | 5621 065 026-251 | 5621 100 026-251 | |
| | - Support ring | 1x | 5621 065 027-020 | 5621 100 027-020 | |
| D7 | | | O-ring | O-ring | O-ring |
| | EPDM | 1x | 2304 047 053-170 | 2304 069 053-159 | 2304 083 050-069 |
| | HNBR | 1x | 2304 047 053-171 | 2304 069 053-157 | 2304 083 050-157 |
| | FKM | 1x | 2304 047 053-178 | 2304 069 053-178 | 2304 083 050-178 |
| FL-D | | | O-ring | O-ring | O-ring |
| | EPDM | 1x | 2304 090 040-170 | 2304 102 050-159 | 2304 133 053-159 |
| | HNBR/NBR | 1x | 2304 090 040-050 | 2304 102 050-050 | 2304 133 053-050 |

Seal (D6) = New version with support ring

## 10.2 Wear parts kit

### Angle valve Type: 5505, 5506, 5507, 5508, 5511, 5512

Seals (D1), (D2), (D3)

| | DN 25<br>1 Inch | DN 40<br>1½ Inch | DN 50<br>2Inch |
|---|---|---|---|
| HNBR | 5506 025 990-050 | 5506 040 990-050 | 5506 050 990-050 |
| EPDM | 5506 025 990-054 | 5506 040 990-054 | 5506 050 990-054 |
| FKM | 5506 025 990-251 | 5506 040 990-251 | 5506 050 990-251 |

| | DN 65<br>2½ Inch | DN 80<br>3 Inch | DN 100<br>4Inch |
|---|---|---|---|
| HNBR | 5506 065 990-050 | 5506 080 990-050 | 5506 100 990-050 |
| EPDM | 5506 065 990-054 | 5506 080 990-054 | 5506 100 990-054 |
| FKM | 5506 065 990-251 | 5506 080 990-251 | 5506 100 990-251 |

### Two way valves Type: 5513, 5514, 5515, 5516

Seals (D2), (D3), (D6), (D7)

| | DN 25<br>1 Inch | DN 40<br>1½ Inch | DN 50<br>2Inch |
|---|---|---|---|
| HNBR | 5514 050 990-050 | 5514 050 990-050 | 5514 050 990-050 |
| EPDM | 5514 050 990-054 | 5514 050 990-054 | 5514 050 990-054 |
| FKM | 5514 050 990-251 | 5514 050 990-251 | 5514 050 990-251 |

| | DN 65<br>2½ Inch | DN 80<br>3 Inch | DN 100<br>4Inch |
|---|---|---|---|
| HNBR | 5514 065 990-050 | 5514 080 990-050 | 5514 100 990-050 |
| EPDM | 5514 065 990-054 | 5514 080 990-054 | 5514 100 990-054 |
| FKM | 5514 065 990-251 | 5514 080 990-251 | 5514 100 990-251 |

Seal (D6) without support ring

### Tank outlet valve Typ: 5527, 5528

Seals (D1), (D2), (D3), (D6)

| | DN 25<br>1 Inch | DN 40<br>1½ Inch | DN 50<br>2Inch |
|---|---|---|---|
| HNBR | 5528 050 990-050 | 5528 050 990-050 | 5528 050 990-050 |
| EPDM | 5528 050 990-054 | 5528 050 990-054 | 5528 050 990-054 |
| FKM | 5528 050 990-251 | 5528 050 990-251 | 5528 050 990-251 |

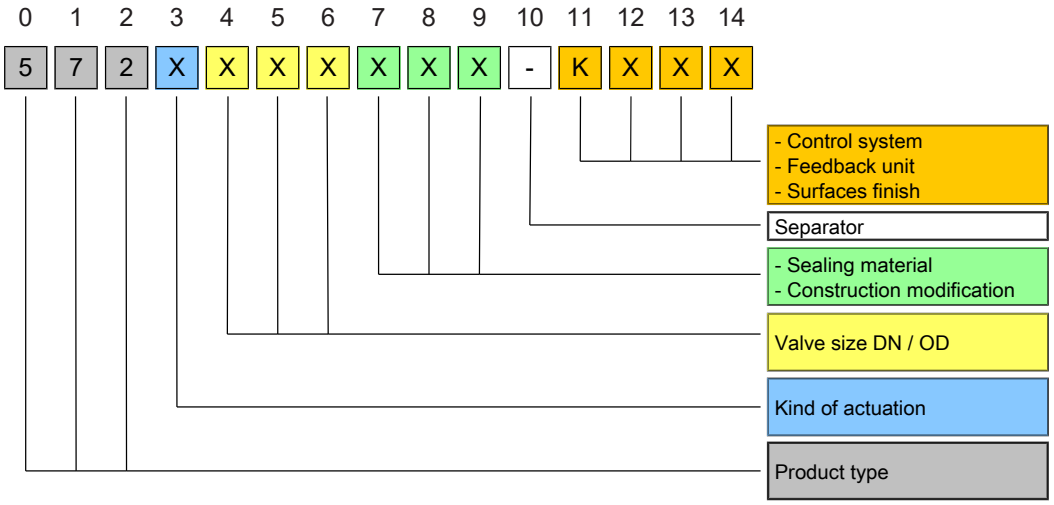
| | DN 65<br>2½ Inch | DN 80<br>3 Inch | DN 100<br>4Inch |
|---|---|---|---|
| HNBR | 5528 065 990-050 | 5528 080 990-050 | 5528 100 990-050 |
| EPDM | 5528 065 990-054 | 5528 080 990-054 | 5528 100 990-054 |
| FKM | 5528 065 990-251 | 5528 080 990-251 | 5528 100 990-251 |

| Pos. | Material | pce. | DN 25<br>1 Inch | DN 40<br>1½ Inch | DN 50<br>2Inch |
|---|---|---|---|---|---|
| FL1 | 1.4404<br>AISI316L | 1x | 5727 025 001-040 | 5727 040 001-040 | 5727 050 001-040 |
| FL-D | | | O-ring | O-ring | O-ring |
| | EPDM | 1x | 2304 057 035-054 | 2304 063 053-170 | 2304 075 040-054 |
| | HNBR/NBR | 1x | 2304 057 035-050 | 2304 063 053-050 | 2304 075 040-055 |

| Pos. | Material | pce. | DN 65<br>2½ Inch | DN 80<br>3 Inch | DN 100<br>4Inch |
|---|---|---|---|---|---|
| FL1 | 1.4404<br>AISI316L | 1x | 5727 065 001-040 | 5727 080 001-040 | 5727 100 001-040 |
| FL-D | | | O-ring | O-ring | O-ring |
| | EPDM | 1x | 2304 090 040-170 | 2304 102 050-159 | 2304 133 053-159 |
| | HNBR/NBR | 1x | 2304 090 040-050 | 2304 102 050-050 | 2304 133 053-050 |

# 11 Classification

## 11.1 Structure of Order Number




Product name 55xx xxx xxx-xxxx

Type: 55xx Single seat valves KI-DS

Housing type / Kind of actuation 55xx xxx xxx-xxxx

| Type | Housing type | Kind of actuation | 2 | 3 |
|---|---|---|---|---|
| 5501 | S-S Inclined seat valve | manual | 0 | 1 |
| 5502 | | pneumatical | 0 | 2 |
| 5505 | S-S Angle valve | manual | 0 | 5 |
| 5506 | | pneumatical | 0 | 6 |
| 5507 | SS-S T-valve | manual | 0 | 7 |
| 5508 | | pneumatical | 0 | 8 |
| 5511 | SS-SS Cross valve | manual | 1 | 1 |
| 5512 | | pneumatical | 1 | 2 |
| 5513 | S-S-S Changeover valve | manual | 1 | 3 |
| 5514 | | pneumatical | 1 | 4 |
| 5515 | SS-S-S Changeover valve | manual | 1 | 5 |
| 5516 | | pneumatical | 1 | 6 |
| 5517 | S-SS Loop valve | manual | 1 | 7 |
| 5518 | | pneumatical | 1 | 8 |
| 5527 | S Tank outlet valve | manual | 2 | 7 |
| | SS Tank outlet valve | manual | 2 | 7 |
| 5528 | S Tank outlet valve | pneumatical | 2 | 8 |
| | SS Tank outlet valve | pneumatical | 2 | 8 |

Valve size DN/OD 55xx xxx xxx-xxxx

| DN | 4 | 5 | 6 | | OD | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| DN 25 | 0 | 2 | 5 | | OD 1" | 0 | 2 | 6 |
| DN 40 | 0 | 4 | 0 | | OD 1 1/2" | 0 | 3 | 8 |
| DN 50 | 0 | 5 | 0 | | OD 2 " | 0 | 5 | 1 |
| DN 65 | 0 | 6 | 5 | | OD 2 1/2" | 0 | 6 | 4 |
| DN 80 | 0 | 8 | 0 | | OD 3 " | 0 | 7 | 6 |
| DN 100 | 1 | 0 | 0 | | OD 4 " | 1 | 0 | 1 |
| DN 125 | 1 | 2 | 5 | | OD 5" | 1 | 2 | 7 |
| DN 150 | 1 | 5 | 0 | | OD 6 " | 1 | 5 | 2 |

Material of seal & Design modification 55xx xxx xxx-xxxx

| Material of seals & Design modifica | | | | 7 | 8 | 9 |
|---|---|---|---|---|---|---|
| Type | Housing | Variations of actuation | Seal | | | |
| 5501, 5502 | S-S | Normally closed (NC) | EPDM | 0 | 3 | 0 |
| 5505, 5506 | S-S | | HNBR | 0 | 3 | 5 |
| 5507, 5508 | SS-S | | FKM | 0 | 3 | 4 |
| 5511, 5512 | SS-SS | Normally open (NO) | EPDM | 1 | 3 | 0 |
| 5513, 5514 | S-SS | | HNBR | 1 | 3 | 5 |
| 5515, 5516 | S-S-S | | FKM | 1 | 3 | 4 |
| 5517, 5518 | SS-S-S | air open - air close (DA) | EPDM | 3 | 3 | 0 |
| 5527; 5528 | S | | HNBR | 3 | 3 | 5 |
| | | | FKM | 3 | 3 | 4 |
| 5527, 5528 | SS | Normally closed (NC) | EPDM | 2 | 3 | 0 |
| | | | HNBR | 2 | 3 | 5 |
| | | | FKM | 2 | 3 | 4 |

Separator 55xx xxx xxx-xxxx

- KIESELMANN Valve

Control system and position indication , External surface 55xx xxx xxx-xxxx

| Control system and position indicator | 11 | 12 | 13 | 14 |
|---|---|---|---|---|
| Control head SPS (old version) | 5 | x | x | |
| Control head ASi-Bus (old version) | 6 | x | x | |
| Control head KI-Top SPS | K | 5 | x | x |
| Control head KI-Top ASi-Bus | K | 6 | x | x |

| Feedback unit | 11 | 12 | 13 | 14 |
|---|---|---|---|---|
| Feedback unit with finger guard (5630 005 025-000) | 7 | 5 | 0 | |

| External surface | 11 | 12 | 13 | 14 |
|---|---|---|---|---|
| Valve without control system<br>External surface: AISI304, blank | 0 | 2 | 0 | |
| Valve without control system<br>External surface AISI304, E-polished | 0 | 2 | 1 | |
| Valve without control system<br>External surface AISI316L, E-polished | 0 | 4 | 1 | |

# 12 Appendix

## 12.1 Declaration of incorporation

CE

**Declaration of incorporation**

Translation of the original

Manufacturer / authorised representative:

KIESELMANN GmbH
Paul-Kieselmann-Str. 4-10
75438 Knittlingen
Germany

Authorised representative:
(for compiling technical documents)

Achim Kauselmann
Paul-Kieselmann-Str. 4-10
75438 Knittlingen
Germany

| Product name | Function |
|---|---|
| pneum. Lift actuators | Stroke movement |
| pneum. Rotary actuators | Rotary movement |
| Ball valves | Media cutoff |
| Butterfly valves | Media cutoff |
| Single seat valves | Media cutoff |
| Flow control valves | Control of liquefied media |
| Throttle valve | Control of liquefied media |
| Overflow valve | Definition of fluid pressure |
| Double seat valve | Media separation |
| Bellow valves | Sampling of liquids |
| Sampling valves | Sampling of liquids |
| Two way valves | Media cutoff |
| Tankdome fitting | Prevention of overpressure and vacuum, Tank cleaning |
| Safety valve | Prevention of overpressure |

The manufacturer hereby states that the above product is considered as an incomplete machine in the sense defined in the Directive 2006/42/EC on Machinery. The above product is exclusively intended to be installed into a machine or an incomplete machine. The said product does not yet conform to all the relevant requirements defined in the Directive on Machinery referred to above for this reason.

The specific technical documents listed in Appendix VII, Part B, have been prepared. The Authorized Agent empowered to compile technical documents may submit the relevant documents if such a request has been properly justified.

Commissioning of an incomplete machine must not only carried out if it has been determined that the respective machine into which the incomplete machine is to be installed conforms to the regulations set out in the Directive on Machinery referred to above.

The above product conforms to the requirements of the directives and harmonized standards specified below:

- Directive 2014/68/EU
- DIN EN ISO 12100 Safety of machinery

Knittlingen, 21.07.2017

i.V. Uwe Heisswolf
Head of Development