KIESELMANN
FLUID PROCESS GROUP

Translation of the original

# Operating Instructions

## Double seat valves

### Type 564x

DN 40- DN 100
OD 1½ Inch - OD 4 Inch
Seal material: k-flex



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# Table of contents

**1 General informations ..... 4**
1.1 Informations for your safety ..... 4
1.2 Marking of security instructions ..... 4
1.3 General designated use ..... 4
1.4 Personnel ..... 4
1.5 Modifications, spare parts, accessories ..... 5
1.6 General instructions ..... 5
**2 Safety instructions ..... 6**
2.1 Intended use ..... 6
2.2 General notes ..... 6
2.3 General safety instructions ..... 6
**3 Delivery, transport and storage ..... 8**
3.1 Delivery ..... 8
3.2 Transport ..... 8
3.3 Storage ..... 8
**4 Specification ..... 9**
4.1 Modular system ..... 9
**5 Function and operation ..... 10**
5.1 Description of function ..... 10
5.2 Control system and position indicator ..... 10
5.3 Pneumatic valve activation ..... 11
**6 Commissioning, service and maintenance ..... 12**
6.1 Commissioning ..... 12
6.1.1 Installation instructions ..... 12
6.1.2 General welding guidelines ..... 12
6.1.3 Use in EX area ..... 12
6.2 Service ..... 13
6.2.1 Maintenance table ..... 13
6.3 Cleaning ..... 13
**7 Technical data ..... 14**
7.1 Double seat valve Type 564x ..... 14
7.2 KV - value ..... 14
7.3 Torques ..... 15
7.4 Cleaning flow rate ..... 15
**8 Disassembly and assembly ..... 16**
8.1 Disassembly ..... 16
8.1.1 Assembly valve insert VE ..... 17
8.1.2 Replacement wear parts ..... 17
8.2 Assembly ..... 20
8.2.1 Seals (D4) ..... 22
8.2.2 Shaft sealing ..... 23
**9 Drawings and dimensions ..... 25**
9.1 Double seat valve ..... 25
9.1.1 Lantern with rinsing connection ..... 28
9.1.2 Control units ..... 28
9.1.3 Dimensions ..... 29
**10 Wearing parts ..... 30**
10.1 Double seat valve Type 564x ..... 30
**11 Classification ..... 36**
11.1 Structure of Order Number ..... 36
**12 Appendix ..... 38**
12.1 Declaration of incorporation ..... 38

# 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

Based upon its functions, the double seat valve is suitable for use in the food and beverages, in pharmaceutical, biotechnological and chemical industries. It is used mainly in combinations with several other double seat valves for the purpose of emptying and filling containers with the possibility of connecting several pipes to one tank.

## 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 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**

**Risk of injury by pre-stressed pressure spring.**

The actuator is spring-loaded. When disassembling the actuator, components that jump out may cause injuries.

- For dismantling please observe the separate assembly instructions.
- We recommend having the manufacturer do the maintenance work required for the actuation.



**⚠ WARNING**

**Use in EX areas**

If the valve or the plant is operated in a potentially explosive atmosphere, the valid directive 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.

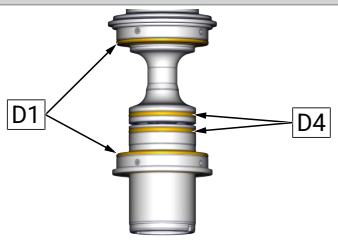
# 4 Specification

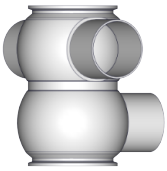
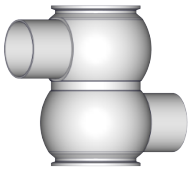
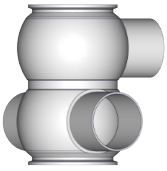
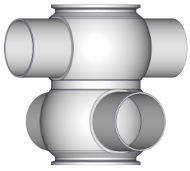
## 4.1 Modular system

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

| pneum. Linear actuator | |
|---|---|
|  |  |
| Ø109 | Ø135 |

| Valve insert |
|---|
|  |

| Sealing material | | |
|---|---|---|
| Shaft seal D1<br>- k-flex<br>- EPDM<br>- HNBR<br>- FKM |  | Valve disc<br>Sealing ring D4<br>- k-flex |

| Valve housing | |
|---|---|
|  |  |
| Type 56x1 (T-L) | Type 56x2 (L-L) |
|  |  |
| Type 56x3 (L-T) | Type 56x4 (T-T) |

# 5 Function and operation

## 5.1 Description of function

The valve is opened in direction 'X' by means of control air, and is closed from top to bottom by means of spring power without any leakage. Different media fed from the tank or the piping system ar separated in a leakage–free fashion by means of two, independently acting valve discs with double seal function. Any leaks occurring due to damaged valve plate seals are drained to the exterior without pressure via the leakage discharge (L).

The valve opens from the top down by means of control air and closes bottom to top by means of spring tension without loss of product. In the closed setting, mix-proof separation of the media flowing in the upper and lower valve chambers is ensured by two independently closed valve plates. Any leaks occurring due to damaged valve plate seals are drained to the exterior without pressure via the leakage discharge (L).

## 5.2 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.

## 5.3 Pneumatic valve activation

| Valve functions | Pneum. activation via control head with solenoid valves (MV) | Pneum. activation via external Solenoid valves (MV external) |
|---|---|---|
| main lift<br>valve “OPEN“ | Control supply air<br>P - MV1 - P1/LA1 | Control supply air<br>ext.MV1 - LA1 |
| main lift<br>valve “CLOSE“ | Ventilation<br>P1/LA1 - MV1 - R<br>valve is closing by spring | Ventilation<br>LA1 - ext.MV1<br>valve is closing by spring |
| lifting lower seat | OPEN = control air feed<br>P - MV2 - P2/LA2 | OPEN = control air feed<br>ext.MV2 – P - LA2 |
| | CLOSE = de-aeration<br>P2/LA2 - MV2 - R<br>valve is closing by spring | CLOSE = de-aeration<br>LA2 - P - ext.MV2<br>valve is closing by spring |
| Lifting upper seat | OPEN = control air feed<br>P - MV3 - P3/LA3 | OPEN = control air feed<br>ext.MV3 - LA3 |
| | CLOSE = de-aeration<br>P3/LA3 - MV3 - R<br>valve is closing by spring | CLOSE = de-aeration<br>LA3 - ext.MV3<br>valve is closing by spring |

| | control unit and solenoid valves | external pneum. activation |
|---|---|---|
| MV = Solenoid valve<br>MV1 = main stroke valve open<br>MV2 = lifting lower seat<br>MV3 = lifting upper seat<br>R = Ventilation silencer<br>P = Supply air connection<br>LA = Air connection<br>S = Slide switch for manual operation of the solenoid valves<br>Si = Sensors M12x1<br>E = mounting kit for feedback unit | | |

# 6 Commissioning, service and maintenance

## 6.1 Commissioning



**NOTICE**

**Checking the solenoid valves in the control head**

Before using the valve for the first time, the function of the solenoid valves in the control head must be checked.

- Remove the hood on control head.
- Connect the supply air to the control head
- Check the valve functions using the slide switches on the solenoid valve

⇨ Please also read the *documentation for control heads!*

### 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.

### 6.2.1 Maintenance table

| | | Annually | Additional information |
|---|---|---|---|
| 6.2 | Service | 1 | |

1 - Maintenance personnel

## 6.3 Cleaning

Cleaning of the housing is performed with the pipe cleaning system. As part of the cleaning program, the leakage chamber and the drain pipe can be cleaned by cycling the valve discs. The valve disc shaft is also cleaned when the upper valve disc is cycled.

Alternatively, the leakage chamber and the shaft of the upper valve disc can be cleaned by means of the external rinsing connection. For cleaning the shaft, the upper valve disc has to be lifted.

# 7 Technical data

## 7.1 Double seat valve Type 564x

| | | |
|---|---|---|
| Model | Double seat valve | |
| Size | DIN: DN40 - DN100<br>Inch: OD1¼ - OD4 | |
| Connection type | Weld-on end EN 10357 | |
| Temperature range | Ambient temperature:<br>(air) | +4°C to +45°C |
| | Operating temperature:<br>(depends on medium) | -5°C to +100°C |
| | Sterilisation temperature:<br>(SIP 30 min) | EPDM +140°C<br>HNBR +100°C<br>k-flex +140°C<br>FKM +100°C |
| Operating pressure | 10 bar | |
| Leakage rate | A (EN 12266-1) | |
| Control air | Control air pressure:<br>Control air quality: | 5,5 - 8,0 bar<br>ISO 8573-1:2010 [3:(≤5 µm):4:4] |
| Material<br>(in contact with product) | Stainless steel: | 1.4404 / AISI 316L |
| | Surface: | Ra ≤ 0,8µm, e-polished |
| | Sealing material: | EPDM<br>HNBR<br>k-flex<br>FKM |

## 7.2 KV - value

| **ND**<br>**Inch** | **25**<br>**1** | **40**<br>**1½** | **50**<br>**2** | **65**<br>**2½** | **80**<br>**3** | **100**<br>**4** | **125**<br>**5** | **150**<br>**6** |
|---|---|---|---|---|---|---|---|---|
| flow direction: | [m³/h] | | | | | | | |
| transition-flow at top↔ | 26 | 50 | 95 | 150 | 240 | 380 | 580 | 940 |
| transition-flow at bottom ↔ | 26 | 55 | 100 | 155 | 250 | 390 | 590 | 940 |
| from bottom to top ↑ | 16 | 26 | 45 | 72 | 98 | 155 | 245 | 370 |
| from top to bottom ↓ | 16 | 24 | 43 | 67 | 93 | 150 | 240 | 330 |

## 7.3 Torques

### 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 |

## 7.4 Cleaning flow rate

### Cleaning parameters for the leakage chamber

| Cleaning step | valve disc lifting | DIN | 25 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Inch | 1 | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 |
| Pre-Rinse | - | lifting upper seat | 1,73 | 1,55 | 1,63 | 2,19 | 2,55 | 3,20 | 3,85 | 3,68 |
| Lye 80°C | 3 x 5 sec. | | | | | | | | | |
| Intermediate rinse | 2 x 5 sec. | | (l/s bei 3bar) | | | | | | | |
| Acid | 3 x 5 sec. | lifting lower seat | 1,28 | 1,10 | 1,12 | 1,27 | 1,68 | 2,16 | 2,41 | 2,50 |
| Final rinse | 2 x 5 sec. | | | | | | | | | |

# 8 Disassembly and assembly

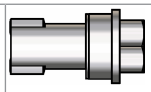
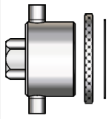
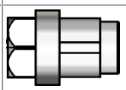
## 8.1 Disassembly

**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.

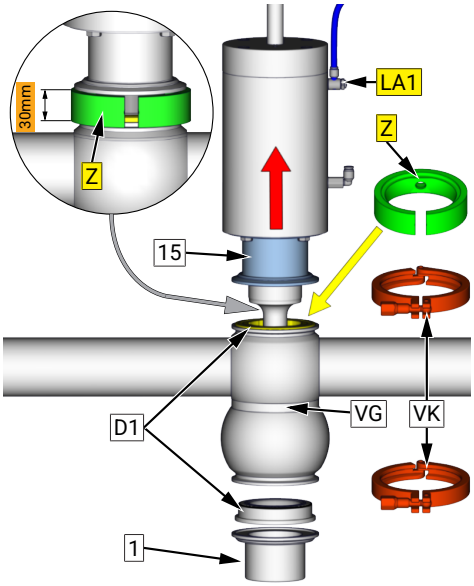
### Assembly Tools

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mounting toos sets: | | | DN40 - DN65<br>DN80 - DN100<br>DN125 - DN150 | 5670 065 100-000<br>5670 100 100-000<br>5670 150 100-000 | ●<br><br> | <br>●<br> | <br><br>● |
| ST1 |  | Socket | DN40 - DN65<br>DN80 - DN150 | 5620 065 131-130<br>5620 100 131-130 | ●<br> | <br>● | <br>● |
| ST2 |  | Socket<br>+ guide bush (POM)<br>+ O-rings | DN40 - DN65<br>DN80 - DN100<br>DN125 - DN150 | 5670 080 105-000<br>5670 100 105-000<br>5670 150 105-000 | ●<br><br> | ●<br>●<br> | <br><br>● |
| ST3 |  | Eccentric socket | DN40 - DN65<br>DN80 - DN150 | 5620 065 134-130<br>5620 100 134-130 | ●<br> | <br>● | <br>● |
| ST4 |  | Centring ring | DN40/50<br>DN65<br>DN80<br>DN100<br>DN125<br>DN150 | 5620 050 025-020<br>5620 065 025-020<br>5620 080 025-020<br>5620 100 025-020<br>5620 125 025-020<br>5620 150 025-020 | ●<br>●<br><br><br><br> | <br><br>●<br>●<br><br> | <br><br><br><br>●<br>● |
| T10 |  | Joint -pin wrench | DN40 - DN65<br>DN80 - DN150 | 5620 065 015-000<br>5620 150 015-000 | ●<br> | <br>● | <br>● |
| ST15 |  | Mounting plate | DN40 - DN65<br>DN80 - DN100<br>DN125 - DN150 | 5620 065 121-020<br>5620 100 121-020<br>5620 150 121-020 | ●<br><br> | <br>●<br> | <br><br>● |

| Pos. | Figure | Designation | | Article number |
|---|---|---|---|---|
| T1 |  | Combination wrench-Set | SW 8 - SW 24 | - |
| T4 |  | Soft-head hammer | - | - |
| T40 |  | Socket box | SW8 - SW36 | - |

### 8.1.1 Assembly valve insert VE

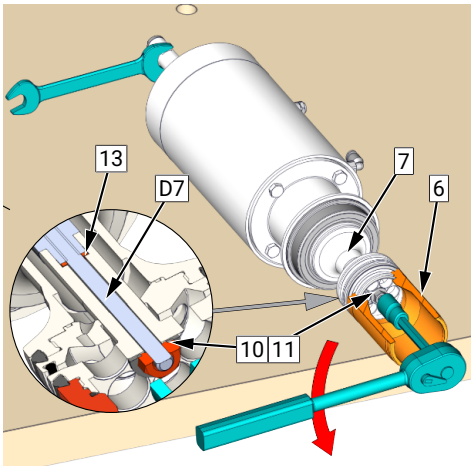
- Unscrew the upper retaining clamp (VK).
- Connect compressed air to LA1 and pressurize the actuator with air.
  - The valve insert lift up of the valve housing (VG).
- Pinch a rubber (Z) between the Lantern (15) and the housing (VG).
- Disconnect compressed air at LA1 and depressurize the drive. - The valve piston move in.
- Remove the complete valve insert with the upper shaft seal (D1) from the housing (VG).
- Unscrew the lower retaining clamp (VK).
- Remove the housing bottom (1) with the lower shaft seal (D1) from the housing (VG).



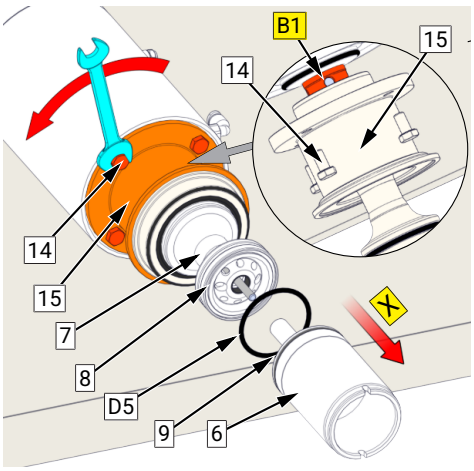

### 8.1.2 Replacement wear parts

#### Disassembly

- Unscrew nut (11) and remove disc (10).
- Dismount the upper piston (6) from the upper piston (7) in direction X.
- Remove the split washer (13).

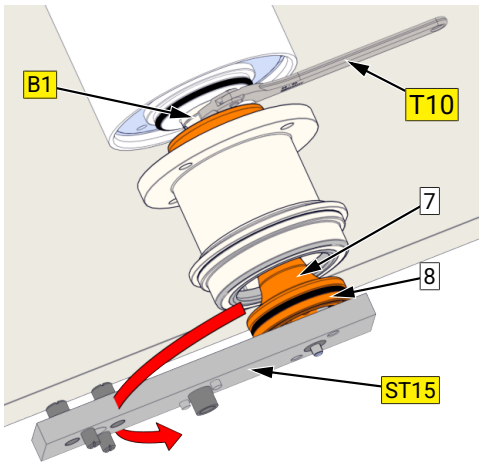



- Remove the O-ring (D5).
- Unscrew the hexagon screws (14).
- Push the lantern (15) in direction 'X' until the hole (B1) is freely visible.

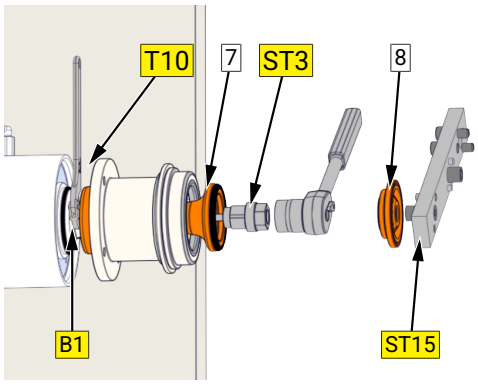


- Unscrew the upper piston (7) with the mounting plate ST15 from piston rod (3).

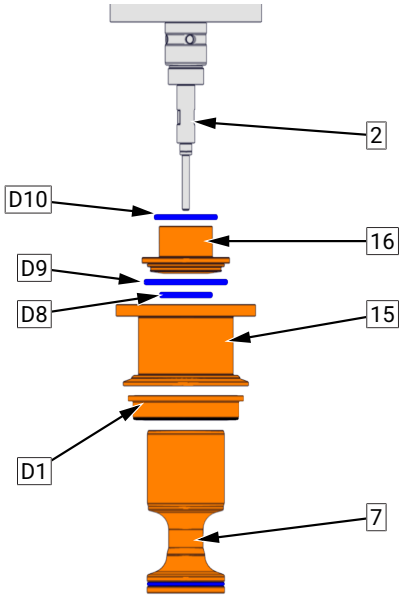
  Counter with the pin wrench T10 at the hole (B1).




- ≥ 40 / 1½ (valves with divided pistons): Should be untighten the piston plate (8) before piston (7), then unscrew the piston (7) with the eccentric ST3 and a ratchet.

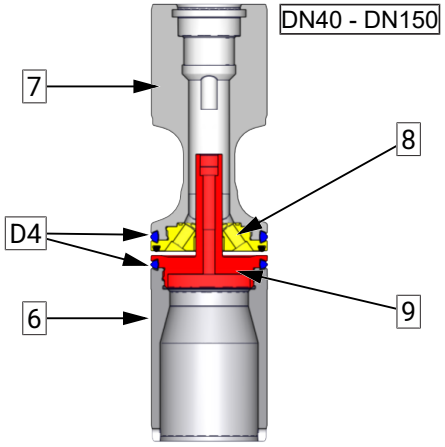



- Push the lantern (15) and the upper shaft seal (D1) from the piston (7).
- Dismount the valve lift stop (16).
- Remove seals: Pos. (D1); (D8); (D9); (D10).

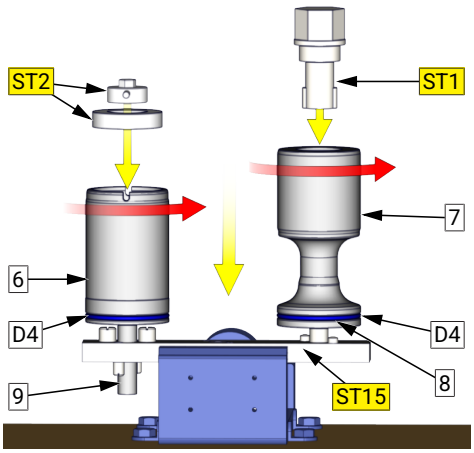


### 8.1.2.1 Assembly seal (D4)

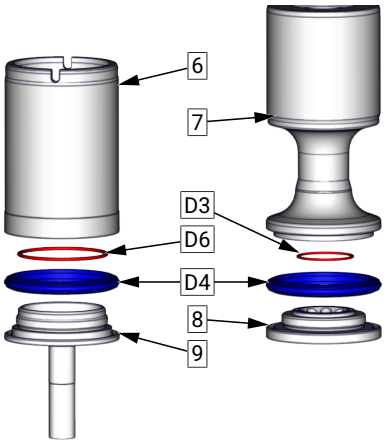
Remove seals (D4) from pair of piston (7) / (8) and pair of piston (6) / (9).




- Clamp the mounting plate ST15 into the vice.
- Put the piston (6) resp. (7) on the mounting plate in the fittingly pins.
- Unscrew the piston (6) from the lower piston plate (9) with the socket ST2 and the mating reducing bush.
- Unscrew the piston (7) from the lower piston plate (8) with the socket ST1.




- Remove seals (D4).



## 8.2 Assembly

Assemble in reverse order.

Thoroughly clean and slightly lubricate mounting areas and running surfaces.

**NOTICE**

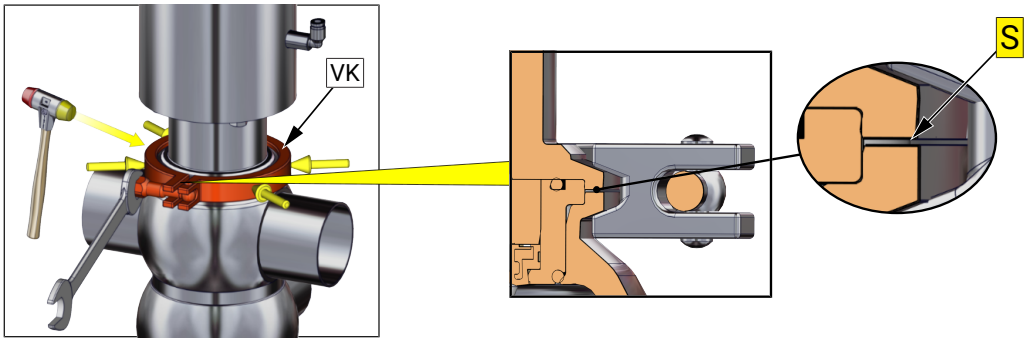
**During assembly, the following points must be observed!**

Folgen

- Always replace the hexagon lock nut (11) by a new one after unscrewing.
- Carefully fit in the complete valve insert into the casing. When fitting the valve insert and running surfaces onto the piston, do not damage.
- - Check valve functions by manually activating the 3/2-way solenoid valves after assembly!

**Mounting clamp coupling (VK)**

- For mounting the clamp coupling (VK), 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 (VK) during tightening can be accomplished with a slight beat (please use a soft-head hammer) on the extent of the retaining clamp (VK).
- Beim Anziehen der Verschlussklammer (VK) muss das Drehmoment und die Spaltgröße 'S' ( When tightening the clamp coupling (VK), please pay attention to the turning moment and the gap size 'S' (≤0,4mm) between casing and lantern/casing bottom.

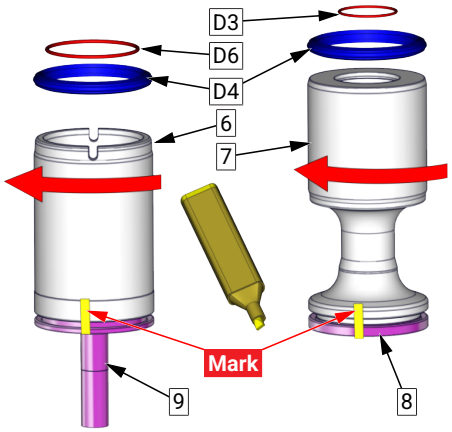


### Mounting seal (D4) for divided piston

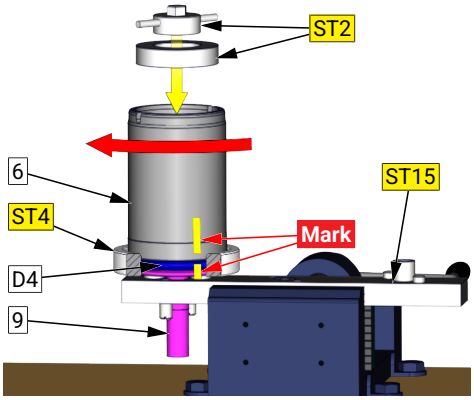
Pair of piston lower = Piston (6) and piston plate (9)

Pair of piston upper = Piston (7) and piston plate (8)

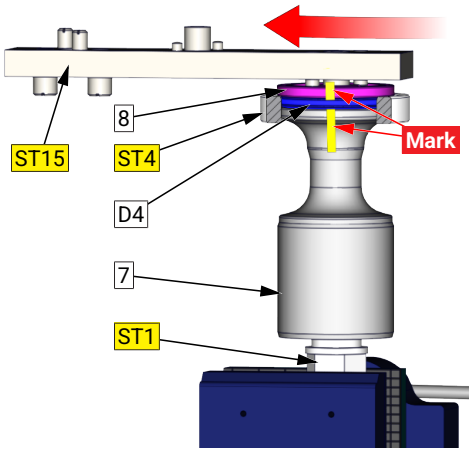
- Remove O-rings (D3) and (D6).
- Screw together the pair of piston (7) / (8) and (6) / (9) without the seal (D4) to the metal limit stop by hand.
- Make a colored mark at the piston surfaces.
- After then, unscrew the pairs of piston again.




- Slide the seal (D4) onto the pistons.
- Screw together the pair of piston by hand again.
- Clamp the mounting plate ST15 into the vice.
- Fix the lower pair of piston (6) / (9) with the piston plate (9) on the mounting plate M6.
- Position the eccentric ring ST4 on seal (D4).
- Screw up the piston (6) with the socket ST2 and a ratchet to the final limit mark.




- Clamp the socket ST1 into the vice at the hexagon flat.
- Fix the upper pair of piston (7) / (8) with the piston (7) of the socket ST1.
- Position the eccentric ring ST4 on seal (D4).
- Screw up the piston plate (8) to the final limit mark. Use the mounting plate ST15.



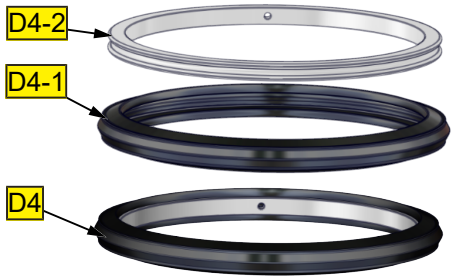
### 8.2.1 Seals (D4)

#### Seal D4 - Elastomer

| Model<br>Seal (D4) | Piston (6) and (7) | Pair of piston upper (7) and (8)<br>Pair of piston lower (6) and (9) | |
|---|---|---|---|
| | DN 25 / OD 1 | DN 40-125 / OD 1½-5 | DN 150 / OD 6 |
| | Piston not divided[1] | Piston divided | Piston divided |
| O-ring EPDM | x | x[2] | x |
| O-ring HNBR | x | x[2] | x |
| c) Seal with support ring EPDM | - | x | - |
| d) Seal with support ring HNBR | - | x | - |

1. According their construction from valve size DN 25/1“, the pistons (6) and (7) are not divided.

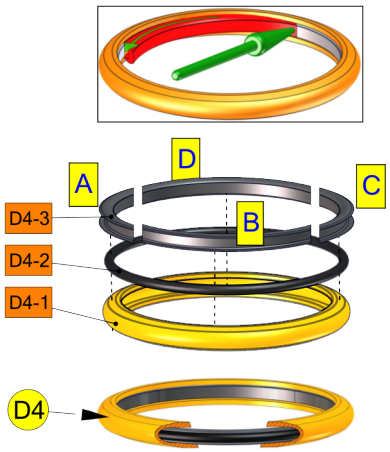
2. O-ring version till 05/2016 thereafter seal EPDM (D4)c / HNBR (D4)d

| Seal - Model | |
|---|---|
| D4 = Seal<br>D4-1 = Seal jacket (seal material)<br>D4-2 = Backup ring |  |

#### Seal D4 - k-flex

| | Nominal size | Article number | Material |
|---|---|---|---|
| k-flex - Seal (D4)<br>consists of | DN40-DN50<br>DN65-DN100 | 5621 050 010-114<br>5621 xxx 010-114 | k-flex |
| Ring quartered (D4-3) | DN40-DN50<br>DN65-DN100 | 5621 050 011-020<br>5621 xxx 011-020 | 1.4301 / AISI304 |
| O-ring (D4-2) | DN40-DN50<br>DN65<br>DN80<br>DN100 | 2304 050 026-159<br>2304 060 026-159<br>2304 076 026-159<br>2304 095 026-159 | EPDM |
| k-flex Seal (D4-1) | DN40-DN50<br>DN65-DN100 | 5621 050 012-114<br>5621 xxx 012-114 | k-flex |

(xxx = nominal diameter e.g. 050 for nominal diameter DN50)

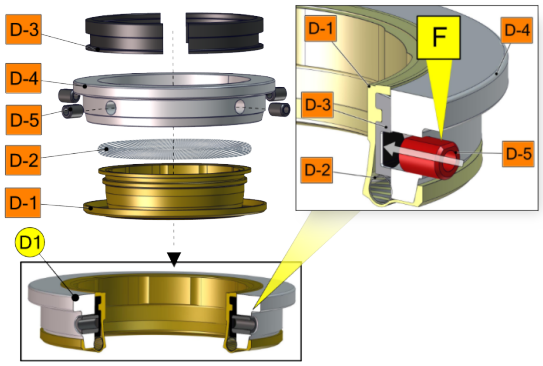
| Seal D4 k-flex | |
|---|---|
| consists of<br><br>D4-1 = Seal<br>D4-2 = O-ring<br>D4-3 = Ring quartered |  |

### 8.2.2 Shaft sealing

#### Shaft sealing - k-flex

| Shaft sealing<br>k-flex - Shaft seal (D1)<br>consists of | Nominal width<br>DN25-DN100 | Article number<br>5622 xxx 010-114 | Material<br>k-flex |
|---|---|---|---|
| k-flex Seal (D-1) | DN50-DN100 | 5622 xxx 025-114 | k-flex |
| Circlip (D-2) | DN50-DN100 | 5622 xxx 029-031 | 1.4310 / AISI301 |
| Half-shell (D-3) | DN50-DN100 | 5622 xxx 027-020 | 1.4301 / AISI304 |
| Insert (D-4) | DN25; DN50-DN100 | 5622 xxx 026-020 | 1.4301 / AISI304 |
| Sleeves (D-5) | - | 5622 100 028-020 | 1.4301 / AISI304 |

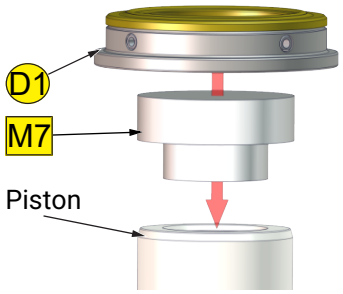
(xxx = nominal diameter e.g. 050 for nominal diameter DN50 ; DN25 only Double seat valves)

| Seal D1 k-flex | |
|---|---|
| consists of<br><br>D-1 = Seal<br>D-2 = Circlip<br>D-3 = Half-shell<br>D-4 = Insert<br>D-5 = Sleeves |  |

#### Assembly shaft seal k-flex D1

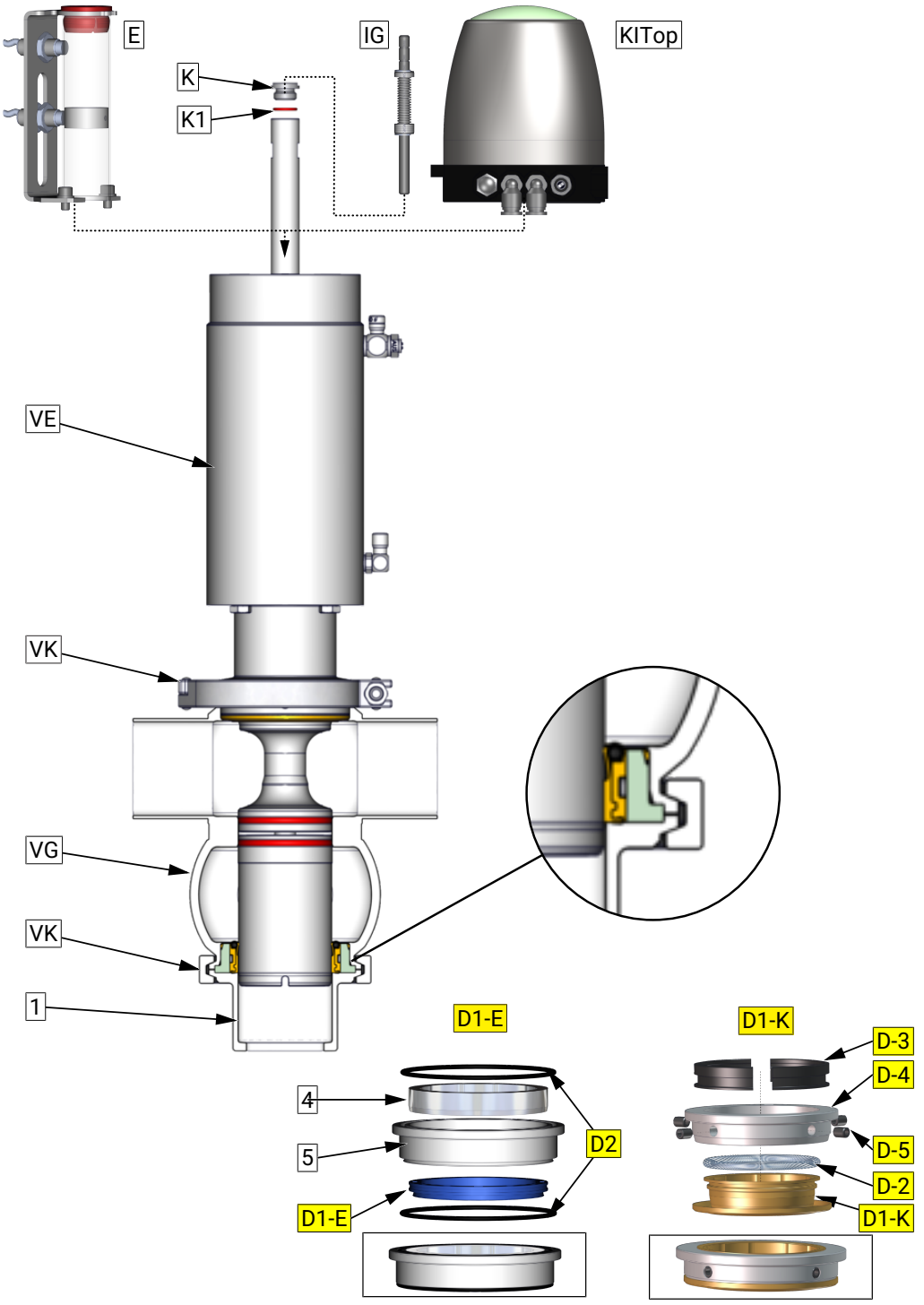
- Install the annular spring into the k-flex seal.
- NOTE The joining edges of the half shells need to be installed in an offset position to the bore-holes in the insert.
- Place both half-shells around the k-flex seal and then install the into the insert.
- The sleeves should be mounted in the insert.
- NOTE The ground surface of the sleeves need to be mounted parallel to the edge (F) of the half-shell.
- Push the shaft seal onto the assembly mandrill.
- Place the assembly mandrel and the shaft seal onto the piston.
- Push the shaft seal toward onto the piston.

- NOTE To dismantle the sleeves, an M4 screw is screwed into the sleeves and then used to pull the sleeves from the insert.

| Mandril M7 | 5620 xxx 027-062 |
| --- | --- |
| We recommend using the assembly mandrill for the assembly.<br><br>(xxx = nominal diameter e.g. 050 for nominal diameter DN50) |  |

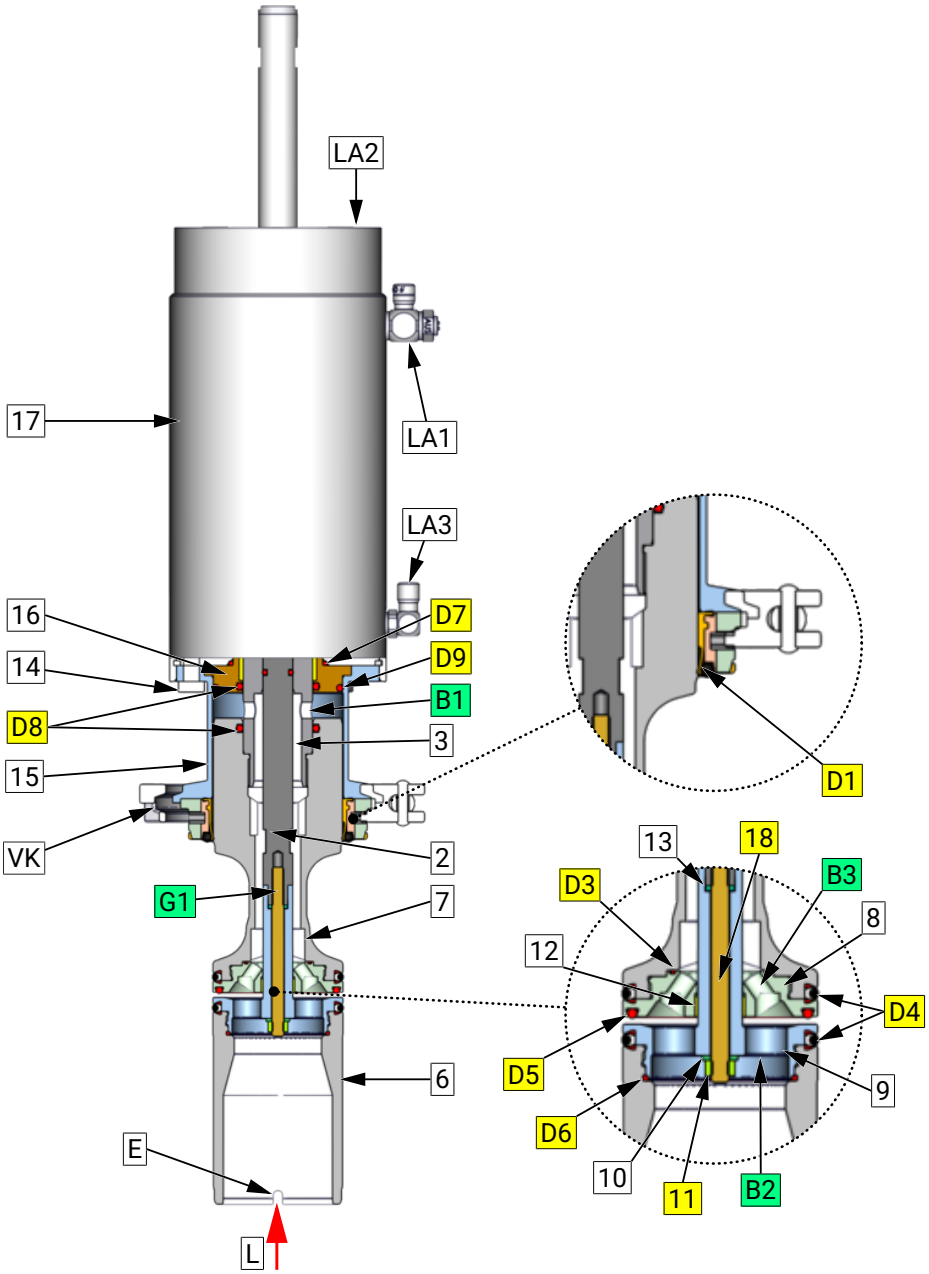
# 9 Drawings and dimensions

## 9.1 Double seat valve



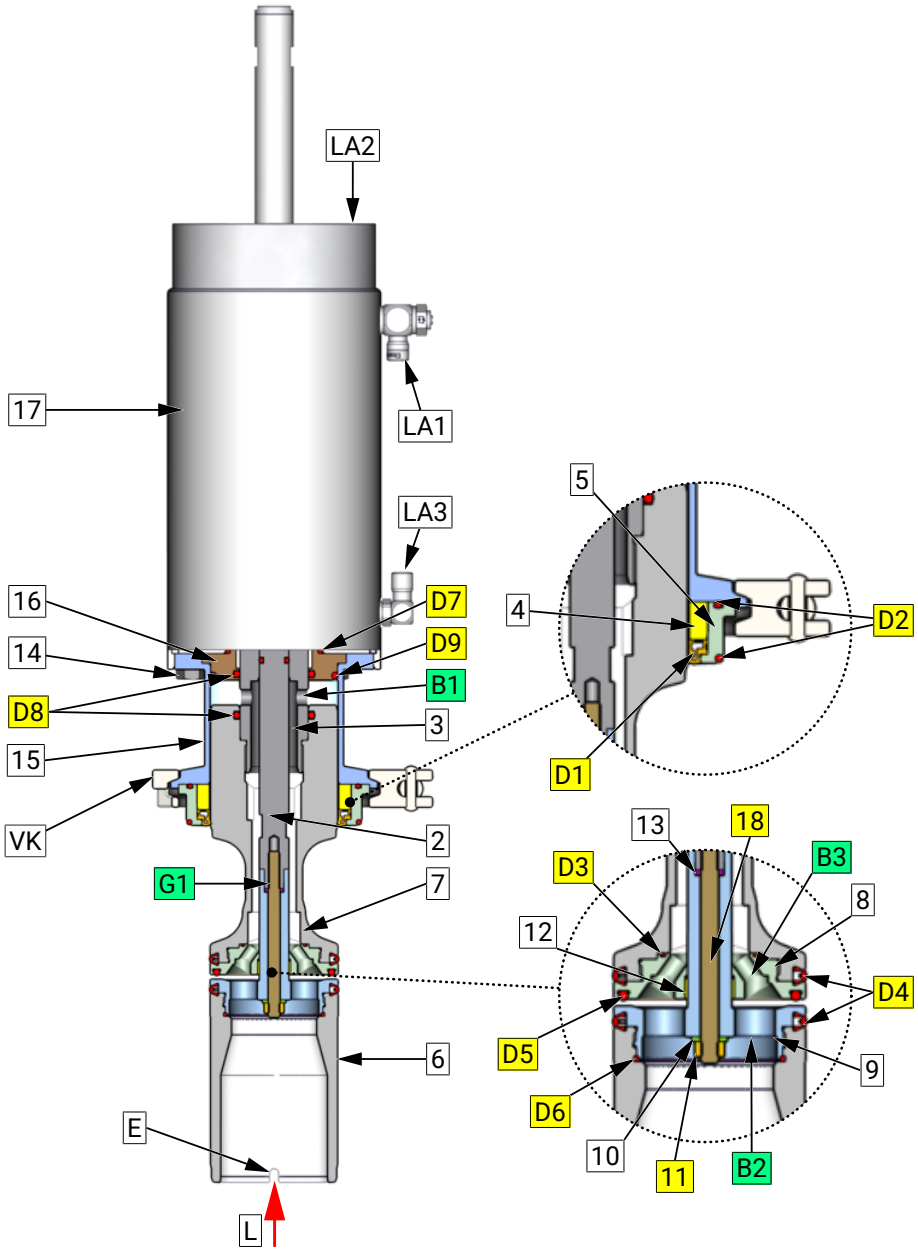

| | | | |
|---|---|---|---|
| 1 | Housing bottom | 4 | Bearing bush |
| 5 | Housing insert | D1-E | Shaft seal Elastomer |
| D1-K | Shaft seal k-flex | D2 | O-ring |
| E | feedback unit | IG | Pulse generator |
| K | Cap | K1 | O-ring |
| KITop | Control Head | VE | Valve insert |
| VG | Valve housing | VK | Locking clip |
| D-3 | Half-shell | D-2 | Shaft seal k-flex |
| D-4 | Insert | D-5 | Sleeves |

**Valve insert VE - k-flex**



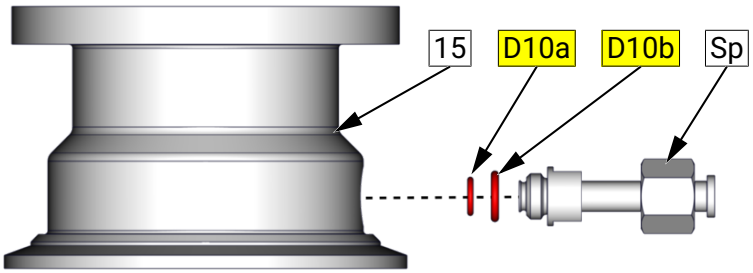

| | | | |
|---|---|---|---|
| 1 | - | 2 | Spindle |
| 3 | Piston rod | 4 | - |
| 5 | - | 6 | Piston lower |
| 7 | Piston upper | 8 | Piston plate upper |
| 9 | Piston plate lower | 10 | Washer |
| 11 | Hexagon nut | 12 | Slide bearing |
| 13 | Split washer | 14 | Screw |
| 15 | Lantern | 16 | Valve lift stop |
| 17 | pneum. Drive | 18 | Headless pin |
| B1 | Thread connection | B2 | Mounting hole |
| B3 | Mounting hole | D1 | Shaft seal |
| D2 | - | D3 | O-ring |
| D4 | Seal | D5 | O-ring |
| D6 | O-ring | D7 | O-ring |
| D8 | O-ring | D9 | O-ring |
| E | Groove | G1 | Thread connection |
| LA1 | Air connection | LA2 | Air connection |
| LA3 | Air connection | L | Leakage drain |

## Valve insert VE - Elastomer / k-flex




| | | | |
|---|---|---|---|
| 2 | Spindle | 3 | Piston rod |
| 4 | Bearing bush | 5 | Housing insert |
| 6 | Piston lower | 7 | Piston upper |
| 8 | Piston plate upper | 9 | Piston plate lower |
| 10 | Washer | 11 | Hexagon nut |
| 12 | Slide bearing | 13 | Split washer |
| 14 | Screw | 15 | Lantern |
| 16 | Valve lift stop | 17 | pneum. Drive |
| 18 | Headless pin | B1 | Mounting hole |
| B2 | Mounting hole | B3 | Mounting hole |
| D1 | Shaft seal | D2 | O-ring |
| D3 | O-ring | D4 | Sealing ring |
| D5 | O-ring | D6 | O-ring |
| D7 | O-ring | D8 | O-ring |
| D9 | O-ring | E | Groove |
| G1 | Thread connection | LA1 | Air connection |
| LA2 | Air connection | LA3 | Air connection |
| L | Leakage drain | | |

### 9.1.1 Lantern with rinsing connection

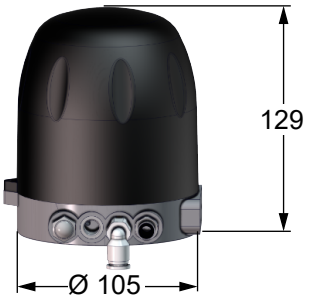



| | | | |
|---|---|---|---|
| 15 | Lantern | D10a | O-ring |
| D10b | O-ring | Sp | Rinsing connection |

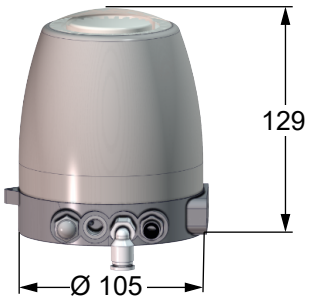
### 9.1.2 Control units

**Control head KI-TOP**

**with plastic hood - transparent**

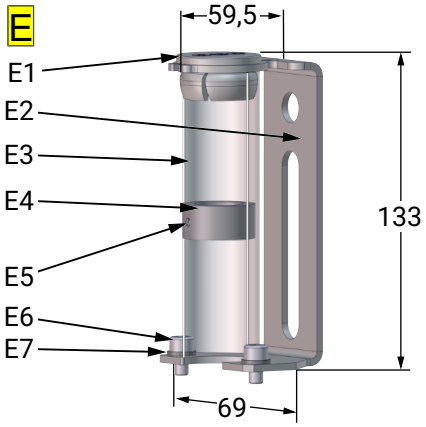



**with stainless steel hood**



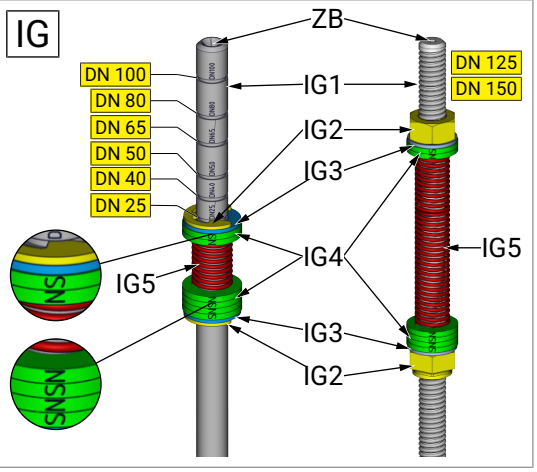

**Feedback unit with finger guard (E)**

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




**Pulse generator (IG) - Double seat mixproof valve**

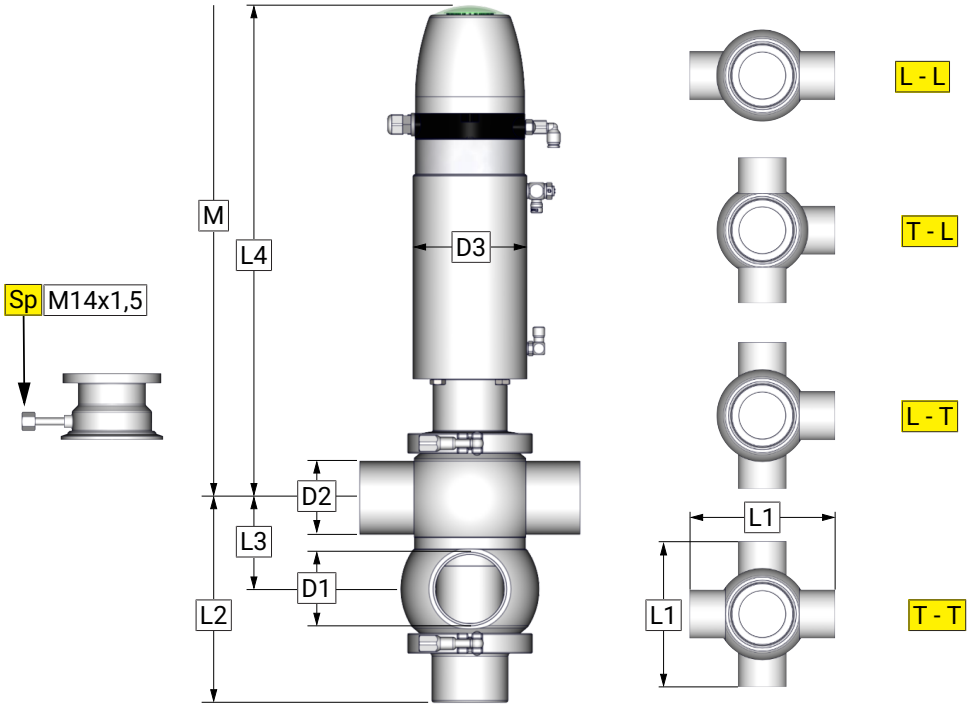
- IG1 = Threaded rod
- IG2 = Locking ring / Nut
- IG3 =Washer
- IG4 = Magnet
- IG5 = Spring
- ZB = Center hole (Mounting position = TOP)



### 9.1.3 Dimensions

| | DIN<br>Inch | 25<br>1 | 40<br>1½ | 50<br>2 | 65<br>2½ | 80<br>3 | 100<br>4 |
|---|---|---|---|---|---|---|---|
| D1 / D2 | DIN<br>Inch | Ø29x1,5<br>Ø25.4x1.65 | Ø41x1,5<br>Ø38,1x1,65 | Ø53x1,5<br>Ø50,8x1,65 | Ø70x2<br>Ø63,5x1,65 | Ø85x2<br>Ø76.2x1.65 | Ø104x2<br>Ø101,6x2 |
| D3 | - | Ø 109 | Ø 109 | Ø 109 | Ø 109 | Ø 135 | Ø 135 |
| L1 | - | 150 | 170 | 170 | 210 | 230 | 260 |
| L2 | DIN<br>Inch | 112<br>112 | 132<br>127.5 | 155<br>152 | 193<br>189 | 228<br>220 | 269<br>260 |
| L3 | DIN<br>Inch | 46<br>42 | 59<br>56 | 71<br>69 | 87<br>81 | 106<br>98 | 125<br>122 |
| L4 | - | 448 | 447 | 446 | 464 | 531 | 560 |
| Sp | - | - Rinsing connection with cutting ring union M12x1 / G1/4 | | | | | |
| Size when completed | | | | | | | |
| M (Valve + KI-Top) | - | 580 | 600 | 625 | 680 | 785 | 850 |

Table 1 Measurement schedule



# 10 Wearing parts

## 10.1 Double seat valve Type 564x

| Seal material: k-flex | | | | | |
|---|---|---|---|---|---|
| **Valve characteristic**<br>1. Seal material<br>2. Actuator type<br>3. Rinsing connection (SP) | | **Housing VG** | **Article number** | **Valve insert VE** | **Wear parts kit VTS** |
| 1. k-flex<br>2. Ø109, Ø135, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 580-xxx<br>5642 DN 580-xxx<br>5643 DN 580-xxx<br>5644 DN 580-xxx | 5640 DN 580-041 | 5640 DN 509-000<br>[without support rings for (D4)] |
| 1. k-flex<br>2. Ø109, Ø135, Ø230<br>3. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN ???-xxx<br>5642 DN ???-xxx<br>5643 DN ???-xxx<br>5644 DN ???-xxx | 5640 DN ???-041 | 5640 DN ???-000<br>[without support rings for (D4)] |
| 1. k-flex<br>2. Ø128, Ø160, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 500-xxx<br>5642 DN 500-xxx<br>5643 DN 500-xxx<br>5644 DN 500-xxx | 5640 DN 500-041 | 5640 DN 509-000<br>[without support rings for (D4)] |
| 1. k-flex<br>2. Ø128, Ø160, Ø230<br>3. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN ???-xxx<br>5642 DN ???-xxx<br>5643 DN ???-xxx<br>5644 DN ???-xxx | 5640 DN ???-041 | 5640 DN ???-000<br>[without support rings for (D4)] |

| Seal material: HNBR / k-flex | | | | | |
|---|---|---|---|---|---|
| **Valve characteristic**<br>1. Seal material<br>2. Actuator type<br>3. Rinsing connection (SP) | | **Housing VG** | **Article number** | **Valve insert VE** | **Wear parts kit VTS** |
| 1. HNBR / k-flex<br>2. Ø109, Ø135, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 582-xxx<br>5642 DN 582-xxx<br>5643 DN 582-xxx<br>5644 DN 582-xxx | 5640 DN 582-041 | 5640 DN 529-000<br>[without support rings for (D4)] |
| 1. HNBR / k-flex<br>2. Ø109, Ø135, Ø230<br>3. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN ???-xxx<br>5642 DN ???-xxx<br>5643 DN ???-xxx<br>5644 DN ???-xxx | 5640 DN ???-041 | 5640 DN 579-000<br>[without support rings for (D4)] |
| 1. HNBR / k-flex<br>2. Ø128, Ø160, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 520-xxx<br>5642 DN 520-xxx<br>5643 DN 520-xxx<br>5644 DN 520-xxx | 5640 DN 520-041 | 5640 DN 529-000<br>[without support rings for (D4)] |
| 1. HNBR / k-flex<br>2. Ø128, Ø160, Ø230<br>3. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 570-xxx<br>5642 DN 570-xxx<br>5643 DN 570-xxx<br>5644 DN 570-xxx | 5640 DN 570-041 | 5640 DN ???-000<br>[without support rings for (D4)] |

| Seal material: EPDM / k-flex | | | | | |
|---|---|---|---|---|---|
| **Valve characteristic**<br>1. Seal material<br>2. Actuator type<br>3. Rinsing connection (SP) | | **Housing VG** | **Article number** | **Valve insert VE** | **Wear parts kit VTS** |
| 1. EPDM / k-flex<br>2. Ø109, Ø135, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 583-xxx<br>5642 DN 583-xxx<br>5643 DN 583-xxx<br>5644 DN 583-xxx | 5640 DN 583-041 | 5640 DN 539-000<br>[without support rings for (D4)] |
| 1. EPDM / k-flex<br>2. Ø109, Ø135, Ø230<br>3. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN ???-xxx<br>5642 DN ???-xxx<br>5643 DN ???-xxx<br>5644 DN ???-xxx | 5640 DN ???-041 | 5640 DN 569-000<br>[without support rings for (D4)] |
| 1. EPDM / k-flex<br>2. Ø128, Ø160, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 530-xxx<br>5642 DN 530-xxx<br>5643 DN 530-xxx<br>5644 DN 530-xxx | 5640 DN 530-041 | 5640 DN 539-000<br>[without support rings for (D4)] |
| 1. EPDM / k-flex<br>2. Ø128, Ø160, Ø230<br>3. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 560-xxx<br>5642 DN 560-xxx<br>5643 DN 560-xxx<br>5644 DN 560-xxx | 5640 DN 560-041 | 5640 DN ???-000<br>[without support rings for (D4)] |

| Seal material: FKM / k-flex | | | | | |
|---|---|---|---|---|---|
| **Valve characteristic**<br>1. Seal material<br>2. Actuator type<br>3. Rinsing connection (SP) | | **Housing VG** | **Article number** | **Valve insert VE** | **Wear parts kit VTS** |
| 1. FKM / k-flex<br>2. Ø109, Ø135, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 584-xxx<br>5642 DN 584-xxx<br>5643 DN 584-xxx<br>5644 DN 584-xxx | 5640 DN 584-041 | 5640 DN 549-000<br>[without support rings for (D4)] |
| 1. FKM / k-flex<br>2. Ø109, Ø135, Ø230<br>3. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN ???-xxx<br>5642 DN ???-xxx<br>5643 DN ???-xxx<br>5644 DN ???-xxx | 5640 DN ???-041 | 5640 DN ???-000<br>[without support rings for (D4)] |
| 1. FKM / k-flex<br>2. Ø128, Ø160, Ø230<br>3. - | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN 540-xxx<br>5642 DN 540-xxx<br>5643 DN 540-xxx<br>5644 DN 540-xxx | 5640 DN 540-041 | 5640 DN 549-000<br>[without support rings for (D4)] |
| 1. FKM / k-flex<br>2. Ø128, Ø160, Ø230<br>3.<br>4.<br>5. SP upper | | SS - S<br>S - S<br>S - SS<br>SS - SS | 5641 DN ???-xxx<br>5642 DN ???-xxx<br>5643 DN ???-xxx<br>5644 DN ???-xxx | 5640 DN ???-041 | 5640 DN ???-000<br>[without support rings for (D4)] |

DN / OD = Nominal diameter e.g. 5643 050 130-041 = DN50 , 5643 051 130-041 = 2Inch

xxx = Material in product contact / Exterior finish / Control system (Structure of order number)

S = Welded end

### Wearing parts kits (VTS) k-flex

Double seat valve Type 564x, DN 40 - 100 / 1½- 4 Inch

| Pos | Designation | Material | DN40<br>1½Inch | DN50<br>2Inch | DN65<br>2½Inch | DN80<br>3Inch | DN100<br>4Inch | VTS | |
|---|---|---|---|---|---|---|---|---|---|
| Wear parts kit (VTS) k-flex - Standard | | | | | | | | | |
| | D4 without support ring | k-flex | 5640 040<br>509-000 | 5640 050<br>509-000 | 5640 065<br>509-000 | 5640 080<br>509-000 | 5640 100<br>509-000 | ● | |
| Wear parts kit (VTS) k-flex - rinsing connection upper | | | | | | | | | |
| | D4 without support ring | k-flex | 5680 040<br>???-000 | 5680 065<br>???-000 | 5680 050<br>???-000 | 5680 080<br>???-000 | 5680 100<br>???-000 | | ● |
| | | | | | | | | | |
| 11 | Hexagon nut | AISI304 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 008<br>000-020 | 8113 008<br>000-020 | ● | ● |
| 18 | Headless pin | AISI316L | 8112 006<br>050-040 | 8112 006<br>060-040 | 8112 006<br>085-040 | 8112 008<br>050-040 | 8112 008<br>085-040 | ● | ● |
| D1 | Shaft seal (2x)<br>complete | k-flex | 5622 050<br>010-114 | 5622 050<br>010-114 | 5622 065<br>010-114 | 5622 080<br>010-114 | 5622 100<br>010-114 | ● | ● |
| D2 | - | - | - | - | - | - | - | - | - |
| D3 | O-ring | EPDM | 2304 026<br>015-170 | 2304 026<br>015-170 | 2304 029<br>015-170 | 2304 042<br>020-170 | 2304 036<br>020-170 | ● | ● |
| D4 | Seal (2x) two-parts<br>complete with support ring | k-flex | 5621 055<br>010-114 | 5621 055<br>010-114 | 5621 065<br>010-114 | 5621 080<br>010-114 | 5621 100<br>010-114 | - | - |
| | - Support ring | AISI304L | 5621 055<br>011-020 | 5621 055<br>011-020 | 5621 065<br>011-020 | 5621 080<br>011-020 | 5621 100<br>011-020 | - | - |
| | - O-ring | EPDM | 5621 050<br>026-159 | 5621 050<br>026-159 | 5621 060<br>026-159 | 5621 076<br>026-159 | 5621 095<br>026-159 | ● | ● |
| | - Form Seal | k-flex | 5621 055<br>012-114 | 5621 055<br>012-114 | 5621 065<br>012-114 | 5621 080<br>012-114 | 5621 100<br>100-114 | ● | ● |
| D5 | O-ring | EPDM | 2304 041<br>035-159 | 2304 041<br>035-159 | 2304 050<br>035-159 | 2304 066<br>035-159 | 2304 085<br>035-159 | ● | ● |
| D6 | O-ring | EPDM | 2304 038<br>018-170 | 2304 038<br>018-170 | 2304 048<br>020-170 | 2304 057<br>020-170 | 2304 076<br>020-170 | ● | ● |
| D7 | O-ring | NBR | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 046<br>025-055 | 2304 046<br>025-055 | ● | ● |
| D8 | O-ring (2x) | EPDM | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 041<br>035-159 | 2304 041<br>035-159 | ● | ● |
| D9 | O-ring | EPDM | 2304 047<br>035-159 | 2304 047<br>035-159 | 2304 057<br>035-159 | 2304 069<br>035-159 | 2304 092<br>035-159 | ● | ● |
| D10a | O-ring | EPDM | 2304 007 015-159 | | | | | - | ● |
| D10b | O-ring | NBR | 2304 009 020-055 | | | | | - | ● |

1) not included in seal kit

### Wear parts kits (VTS) HNBR / k-flex

Double seat valve Type 564x, DN 40 - 100 / 1½- 4 Inch

| Pos | Designation | Material | DN40<br>1½Inch | DN50<br>2Inch | DN65<br>2½Inch | DN80<br>3Inch | DN100<br>4Inch | VTS | |
|---|---|---|---|---|---|---|---|---|---|
| Wear parts kit (VTS) HNBR / k-flex - Standard | | | | | | | | | |
| | D4 without support ring | HNBR<br>/k-flex | 5640 040<br>529-000 | 5640 050<br>529-000 | 5640 065<br>529-000 | 5640 080<br>529-000 | 5640 100<br>529-000 | ● | |
| Wear parts kit (VTS) HNBR / k-flex - rinsing connection upper | | | | | | | | | |
| | D4 without support ring | HNBR<br>/k-flex | 5640 040<br>579-000 | 5640 065<br>579-000 | 5640 050<br>579-000 | 5640 080<br>579-000 | 5640 100<br>579-000 | | ● |
| | | | | | | | | | |
| 11 | Hexagon nut | AISI304 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 008<br>000-020 | 8113 008<br>000-020 | ● | ● |
| 18 | Headless pin | AISI316L | 8112 006<br>050-040 | 8112 006<br>060-040 | 8112 006<br>085-040 | 8112 008<br>050-040 | 8112 008<br>085-040 | ● | ● |
| D1 | Shaft seal (2x) | HNBR | 5622 050<br>010-050 | 5622 050<br>010-050 | 5622 065<br>010-050 | 5622 080<br>010-050 | 5622 100<br>010-050 | ● | ● |
| D2 | O-ring (4x) | HNBR | 2304 069<br>026-050 | 2304 069<br>026-050 | 2304 082<br>026-050 | 2304 098<br>035-050 | 2304 117<br>035-050 | ● | ● |
| D3 | O-ring | EPDM | 2304 026<br>015-170 | 2304 026<br>015-170 | 2304 029<br>015-170 | 2304 042<br>020-170 | 2304 036<br>020-170 | ● | ● |
| D4 | Seal (2x) two-parts<br>complete with support ring | k-flex | 5621 055<br>010-114 | 5621 055<br>010-114 | 5621 065<br>010-114 | 5621 080<br>010-114 | 5621 100<br>010-114 | - | - |
| | - Support ring | AISI304L | 5621 055<br>011-020 | 5621 055<br>011-020 | 5621 065<br>011-020 | 5621 080<br>011-020 | 5621 100<br>011-020 | ● | ● |
| | - O-ring | EPDM | 5621 050<br>026-159 | 5621 050<br>026-159 | 5621 060<br>026-159 | 5621 076<br>026-159 | 5621 095<br>026-159 | - | - |
| | - Form Seal | k-flex | 5621 055<br>012-114 | 5621 055<br>012-114 | 5621 065<br>012-114 | 5621 080<br>012-114 | 5621 100<br>100-114 | - | - |
| D5 | O-ring | HNBR | 2304 041<br>035-157 | 2304 041<br>035-157 | 2304 050<br>035-157 | 2304 066<br>035-157 | 2304 085<br>035-157 | ● | ● |
| D6 | O-ring | EPDM | 2304 038<br>018-170 | 2304 038<br>018-170 | 2304 048<br>020-170 | 2304 057<br>020-170 | 2304 076<br>020-170 | ● | ● |
| D7 | O-ring | NBR | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 046<br>025-055 | 2304 046<br>025-055 | ● | ● |
| D8 | O-ring (2x) | EPDM | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 041<br>035-159 | 2304 041<br>035-159 | ● | ● |
| D9 | O-ring | EPDM | 2304 047<br>035-159 | 2304 047<br>035-159 | 2304 057<br>035-159 | 2304 069<br>035-159 | 2304 092<br>035-159 | ● | ● |
| D10a | O-ring | EPDM | 2304 007 015-159 | | | | | - | ● |
| D10b | O-ring | NBR | 2304 009 020-055 | | | | | - | ● |

1) not included in seal kit

### Wear part sets (VTS) EPDM / k-flex

Double seat valve Type 564x, DN 40 - 100 / 1½- 4 Inch

| Pos | Designation | Material | DN40<br>1½Inch | DN50<br>2Inch | DN65<br>2½Inch | DN80<br>3Inch | DN100<br>4Inch | VTS | |
|---|---|---|---|---|---|---|---|---|---|
| Wear parts kit (VTS) EPDM / k-flex - Standard | | | | | | | | | |
| | D4 without support ring | EPDM<br>/k-flex | 5640 040<br>539-000 | 5640 050<br>539-000 | 5640 065<br>539-000 | 5640 080<br>539-000 | 5640 100<br>539-000 | ● | |
| Wear parts kit (VTS) EPDM / k-flex - rinsing connection upper | | | | | | | | | |
| | D4 without support ring | EPDM<br>/k-flex | 5640 040<br>569-000 | 5640 050<br>569-000 | 5640 065<br>569-000 | 5640 080<br>569-000 | 5640 100<br>769-000 | | ● |
| | | | | | | | | | |
| 11 | Hexagon nut | AISI304 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 008<br>000-020 | 8113 008<br>000-020 | ● | ● |
| 18 | Headless pin | AISI316L | 8112 006<br>050-040 | 8112 006<br>060-040 | 8112 006<br>085-040 | 8112 008<br>050-040 | 8112 008<br>085-040 | ● | ● |
| D1 | Shaft seal (2x) | EPDM | 5622 050<br>010-069 | 5622 050<br>010-069 | 5622 065<br>010-069 | 5622 080<br>010-069 | 5622 100<br>010-069 | ● | ● |
| D2 | O-ring (4x) | EPDM | 2304 069<br>026-159 | 2304 069<br>026-159 | 2304 082<br>026-159 | 2304 098<br>035-159 | 2304 117<br>035-159 | ● | ● |
| D3 | O-ring | EPDM | 2304 026<br>015-170 | 2304 026<br>015-170 | 2304 029<br>015-170 | 2304 042<br>020-170 | 2304 036<br>020-170 | ● | ● |
| D4 | Seal (2x) two-parts<br>complete with support ring | k-flex | 5621 055<br>010-114 | 5621 055<br>010-114 | 5621 065<br>010-114 | 5621 080<br>010-114 | 5621 100<br>010-114 | - | - |
| | - Support ring | AISI304L | 5621 055<br>011-020 | 5621 055<br>011-020 | 5621 065<br>011-020 | 5621 080<br>011-020 | 5621 100<br>011-020 | ● | ● |
| | - O-ring | EPDM | 5621 050<br>026-159 | 5621 050<br>026-159 | 5621 060<br>026-159 | 5621 076<br>026-159 | 5621 095<br>026-159 | - | - |
| | - Form Seal | k-flex | 5621 055<br>012-114 | 5621 055<br>012-114 | 5621 065<br>012-114 | 5621 080<br>012-114 | 5621 100<br>100-114 | - | - |
| D5 | O-ring | EPDM | 2304 041<br>035-159 | 2304 041<br>035-159 | 2304 050<br>035-159 | 2304 066<br>035-159 | 2304 085<br>035-159 | ● | ● |
| D6 | O-ring | EPDM | 2304 038<br>018-170 | 2304 038<br>018-170 | 2304 048<br>020-170 | 2304 057<br>020-170 | 2304 076<br>020-170 | ● | ● |
| D7 | O-ring | NBR | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 046<br>025-055 | 2304 046<br>025-055 | ● | ● |
| D8 | O-ring (2x) | EPDM | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 041<br>035-159 | 2304 041<br>035-159 | ● | ● |
| D9 | O-ring | EPDM | 2304 047<br>035-159 | 2304 047<br>035-159 | 2304 057<br>035-159 | 2304 069<br>035-159 | 2304 092<br>035-159 | ● | ● |
| D10a | O-ring | EPDM | 2304 007 015-159 | | | | | - | ● |
| D10b | O-ring | NBR | 2304 009 020-055 | | | | | - | ● |

1) not included in seal kit

### Wear parts kits (VTS) FKM / k-flex

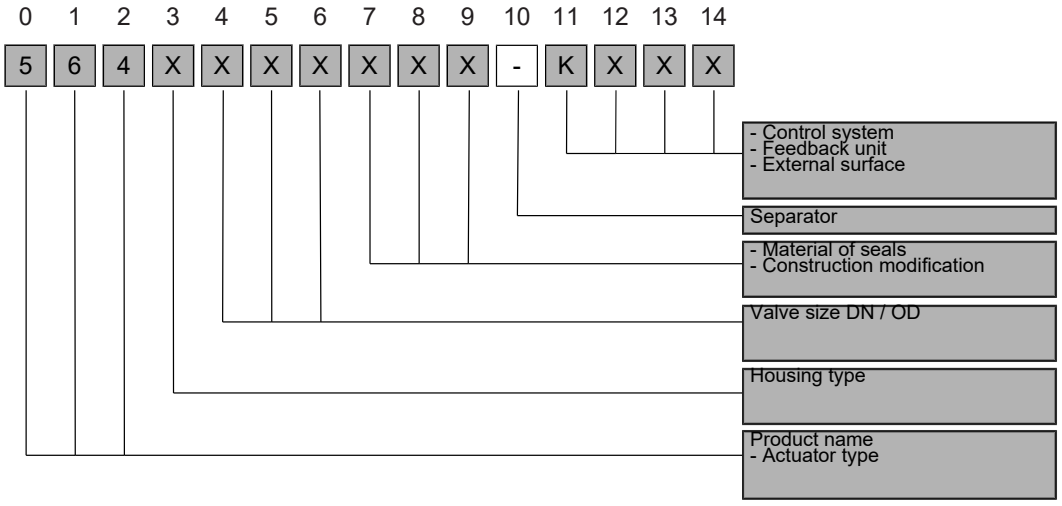
Double seat valve Type 564x, DN 40 - 100 / 1½- 4 Inch

| Pos | Designation | Material | DN40<br>1½Inch | DN50<br>2Inch | DN65<br>2½Inch | DN80<br>3Inch | DN100<br>4Inch | VTS | |
|---|---|---|---|---|---|---|---|---|---|
| Wear parts kit (VTS) FKM / k-flex - Standard | | | | | | | | | |
| | D4 without support ring | FKM<br>/k-flex | 5640 040<br>549-000 | 5640 050<br>549-000 | 5640 065<br>549-000 | 5640 080<br>549-000 | 5640 100<br>549-000 | ● | |
| Wear parts kit (VTS) FKM / k-flex - rinsing connection upper | | | | | | | | | |
| | D4 without support ring | FKM<br>/k-flex | 5640<br>040 ???-000 | 5640<br>065 ???-000 | 5640<br>050 ???-000 | 5640<br>080 ???-000 | 5640<br>100 ???-000 | | ● |
| | | | | | | | | | |
| 11 | Hexagon nut | AISI304 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 006<br>000-020 | 8113 008<br>000-020 | 8113 008<br>000-020 | ● | ● |
| 18 | Headless pin | AISI316L | 8112 006<br>050-040 | 8112 006<br>060-040 | 8112 006<br>085-040 | 8112 008<br>050-040 | 8112 008<br>085-040 | ● | ● |
| D1 | Shaft seal (2x) | FKM | 5622 050<br>010-051 | 5622 050<br>010-051 | 5622 065<br>010-051 | 5622 080<br>010-051 | 5622 100<br>010-051 | ● | ● |
| D2 | O-ring (4x) | FKM | 2304 069<br>026-051 | 2304 069<br>026-051 | 2304 082<br>026-051 | 2304 098<br>035-051 | 2304 117<br>035-051 | ● | ● |
| D3 | O-ring | EPDM | 2304 026<br>015-170 | 2304 026<br>015-170 | 2304 029<br>015-170 | 2304 042<br>020-170 | 2304 036<br>020-170 | ● | ● |
| D4 | Seal (2x) two-parts<br>complete with support ring | k-flex | 5621 055<br>010-114 | 5621 055<br>010-114 | 5621 065<br>010-114 | 5621 080<br>010-114 | 5621 100<br>010-114 | - | - |
| | - Support ring | AISI304L | 5621 055<br>011-020 | 5621 055<br>011-020 | 5621 065<br>011-020 | 5621 080<br>011-020 | 5621 100<br>011-020 | ● | ● |
| | - O-ring | EPDM | 5621 050<br>026-159 | 5621 050<br>026-159 | 5621 060<br>026-159 | 5621 076<br>026-159 | 5621 095<br>026-159 | - | - |
| | - Form Seal | k-flex | 5621 055<br>012-114 | 5621 055<br>012-114 | 5621 065<br>012-114 | 5621 080<br>012-114 | 5621 100<br>100-114 | - | - |
| D5 | O-ring | FKM | 2304 041<br>035-178 | 2304 041<br>035-178 | 2304 050<br>035-178 | 2304 066<br>035-178 | 2304 085<br>035-178 | ● | ● |
| D6 | O-ring | EPDM | 2304 038<br>018-170 | 2304 038<br>018-170 | 2304 048<br>020-170 | 2304 057<br>020-170 | 2304 076<br>020-170 | ● | ● |
| D7 | O-ring | NBR | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 042<br>025-055 | 2304 046<br>025-055 | 2304 046<br>025-055 | ● | ● |
| D8 | O-ring (2x) | EPDM | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 036<br>035-159 | 2304 041<br>035-159 | 2304 041<br>035-159 | ● | ● |
| D9 | O-ring | EPDM | 2304 047<br>035-159 | 2304 047<br>035-159 | 2304 057<br>035-159 | 2304 069<br>035-159 | 2304 092<br>035-159 | ● | ● |
| D10a | O-ring | EPDM | 2304 007 015-159 | | | | | - | ● |
| D10b | O-ring | NBR | 2304 009 020-055 | | | | | - | ● |

1) not included in seal kit

# 11 Classification

## 11.1 Structure of Order Number




### Product name

| 564 x xxx xxx-xxxx | Pos. 0 | Pos. 1 | Pos. 2 |
|---|---|---|---|
| Double seat valve k-flex | 5 | 6 | 4 |

### Housing type

| xxx X xxx xxx-xxxx | Pos. 3 |
|---|---|
| Housing SS - S | 1 |
| Housing S - S | 2 |
| Housing S - SS | 3 |
| Housing SS - SS | 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 |

### Material of seal / Design modification

| xxxx xxx XXX-xxxx | | | | |
|---|---|---|---|---|
| D4 Seal valve disc | D1 Shaft seal | Pos. 7 | Pos. 8 | Pos. 9 |
| k-flex | k-flex | 5 | 0 | 0 |
| k-flex | HNBR | 5 | 2 | 0 |
| k-flex | EPDM | 5 | 3 | 0 |
| k-flex | FKM | 5 | 4 | 0 |
| k-flex | k-flex | 8 | 0 | 0 |
| k-flex | HNBR | 8 | 2 | 0 |
| k-flex | EPDM | 8 | 3 | 0 |
| k-flex | FKM | 8 | 4 | 0 |

### 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:

Achim Kauselmann
Documentation / Development
KIESELMANN GmbH

Knittlingen, 10.10.2020

i.V. Uwe Heisswolf
Head of Development

KIESELMANN
FLUID PROCESS GROUP

# Notes

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