



KIESELMANN
FLUID PROCESS GROUP

Translation of the original

Operating instruction

GEMBRA-Aseptic Double seat valve
Type: 582x



KIESELMANN GmbH

Paul-Kieselmann-Str. 4-10
75438 Knittlingen

 +49(0) 7043 371-0 •  +49(0) 7043 371-125
www.kieselmann.de • info@kieselmann.de

Copyright: © KIESELMANN FLUID PROCESS GROUP

Table of contents

1	General informations	5
1.1	Informations for your safety	5
1.2	Marking of security instructions	5
1.3	General designated use	5
1.4	Personnel	5
1.5	Modifications, spare parts, accessories	6
1.6	General instructions	6
2	Safety instructions	7
2.1	Intended use	7
2.2	General notes	7
2.3	General safety instructions	7
3	Delivery, transport and storage	9
3.1	Delivery	9
3.2	Transport	9
3.3	Storage	9
4	Modular system	10
4.1	Valve design	11
5	Function and operation	12
5.1	Description of function	12
5.2	Control system and feedback unit	12
5.3	Pneumatic valve activation	13
6	Commissioning, service and maintenance	14
6.1	Commissioning	14
6.1.1	Installation instructions	14
6.1.2	General welding guidelines	14
6.1.3	ATEX - Guidelines	14
6.2	Service	14
6.3	Cleaning	15
7	Technical data	16
7.1	Gembra Aseptic-Double seat valve	16
8	Disassembly and assembly	17
8.1	Disassembly	17
8.1.1	Disassemble the pilot valves	19
8.1.2	Assembly valve insert VE	20
8.1.3	Assembly seals D5, D11, D12	21
8.1.4	Assembly seals D6, D7	24
8.1.5	Disassemble lower piston - dismount seal D1	25
8.1.6	Disassemble upper piston - dismount Membrane D2 and O-Ring D3	26
8.2	Assembly	27
8.2.1	Assembling k-flex Seal (D-1)	28
8.2.2	Mounting k-flex - seal D1	28
8.2.3	Mounting k-flex seal D2 and D3	30
8.2.4	Mounting Membrane D5	31
8.2.5	Assembling valve	31
9	Drawings and dimensions	34
9.1	Drawings	34
9.2	Dimensions	35

9.3 Control units	36
10 Wearing parts	37
10.1 Wearing parts list	37
10.2 Wear parts kit.....	38
11 Classification.....	39
11.1 Structure of order number	39
12 Appendix.....	41
12.1 Declaration of incorporation.....	41

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.

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. The valve is designed for media characteristics according to DGRL 2014/68/EG for group 2 (media condition gaseous or liquid).

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.

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



⚠ WARNING

Risk of injury by moving parts

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

- a) First pneumatically open the valve before disassembling the clamp coupling, so that upstroke the piston.
 - b) Dismantle the valve insert.
 - c) 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.

- a) Media flowing through the leakage drain outlet are to be drained off without splashing into a discharge arrangement.
- b) Carry the dismantling 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.

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

**⚠ 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**

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







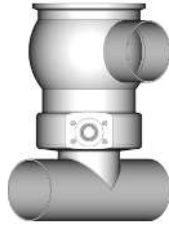
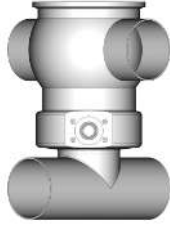
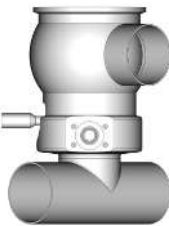
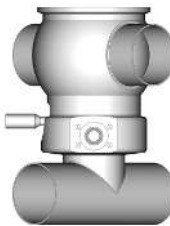
INFORMATION

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 70% ±5%).
- Protect seals, bearings and plastic parts for UV light and ozone.

4 Modular system

KI-Top control head		feedback unit
 <p>Stainless steel hood:</p>	 <p>Transparent hood</p>	 <p>Feedback unit with finger guard (E)</p>
Actuator pneumatical		
 <p>PTFE / k-flex PTFE / EPDM</p>		
Valve housing		
S - SS	SS - SS	
		
 <p>with PT100</p>	 <p>with PT100</p>	

4.1 Valve design

GEMBRA-Aseptic Double seat valve

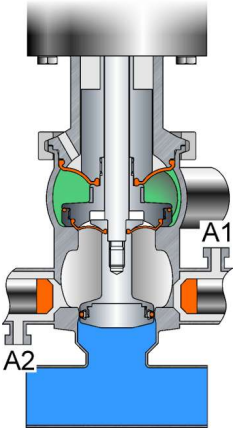
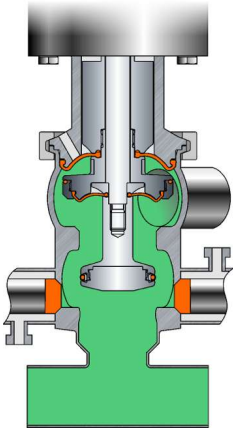
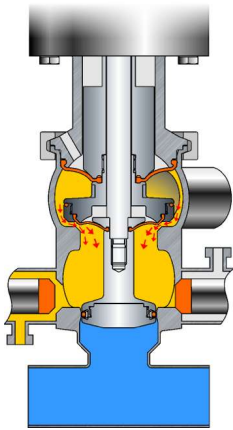
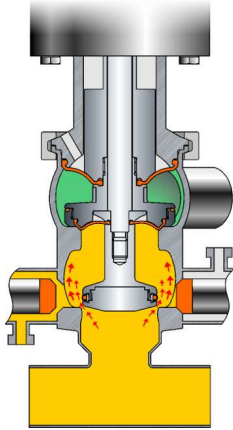
with Valve housing S - SS		
without PT100	with PT100 in the valve housing	with PT100 in the outlet valve
with Valve housing S - SS		
without PT100	with PT100 in the valve housing	with PT100 in the outlet valve

5 Function and operation

5.1 Description of function

Due to the combined diaphragm sealing at a locking and leakage space respectively, safe separation of media is reliably guaranteed.

Cleaning and sterilisation of the locking and leakage space can be carried out inline via lifting/clocking of one the valve seats.

Valve closed	Valve open	lifting upper seat	lifting lower seat
			
<ul style="list-style-type: none"> Steril barrier active Drain outlet A2 pulsed Steril supply A1 active 	<ul style="list-style-type: none"> Steril barrier inactive 	<ul style="list-style-type: none"> Steril barrier inactive Drain outlet A2 open 	<ul style="list-style-type: none"> Steril barrier inactive Drain outlet A2 open

5.2 Control system and feedback unit



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 function	Pneum. activation via control head with solenoid valves (MV)	Pneum. activation via external solenoid valves (MV external)
main lift valve "OPEN"	control air feed P → MV1 → P1/LA1 & LA3	control air feed ext. MV1 → LA1 & LA3
main lift valve "CLOSE"	de-aeration LA1/P1 & LA3 → MV1 → R valve is closing by spring	de-aeration LA1 & LA3 → ext. MV1 valve is closing by spring
lifting lower	OPEN = control air feed P → MV2 → P2/LA2	OPEN = control air feed ext. MV2 → LA2
	CLOSE = de-aeration P2/LA2 → MV2 → R valve is closing by spring	CLOSE = de-aeration LA2 → ext. MV2 valve is closing by spring
lifting upper	OPEN = control air feed P → MV3 → P3/LA4	OPEN = control air feed ext. MV3 → LA4
	CLOSE = de-aeration P3/LA4 → MV3 → R valve is closing by spring	CLOSE = de-aeration LA4 → ext. MV3 valve is closing by spring

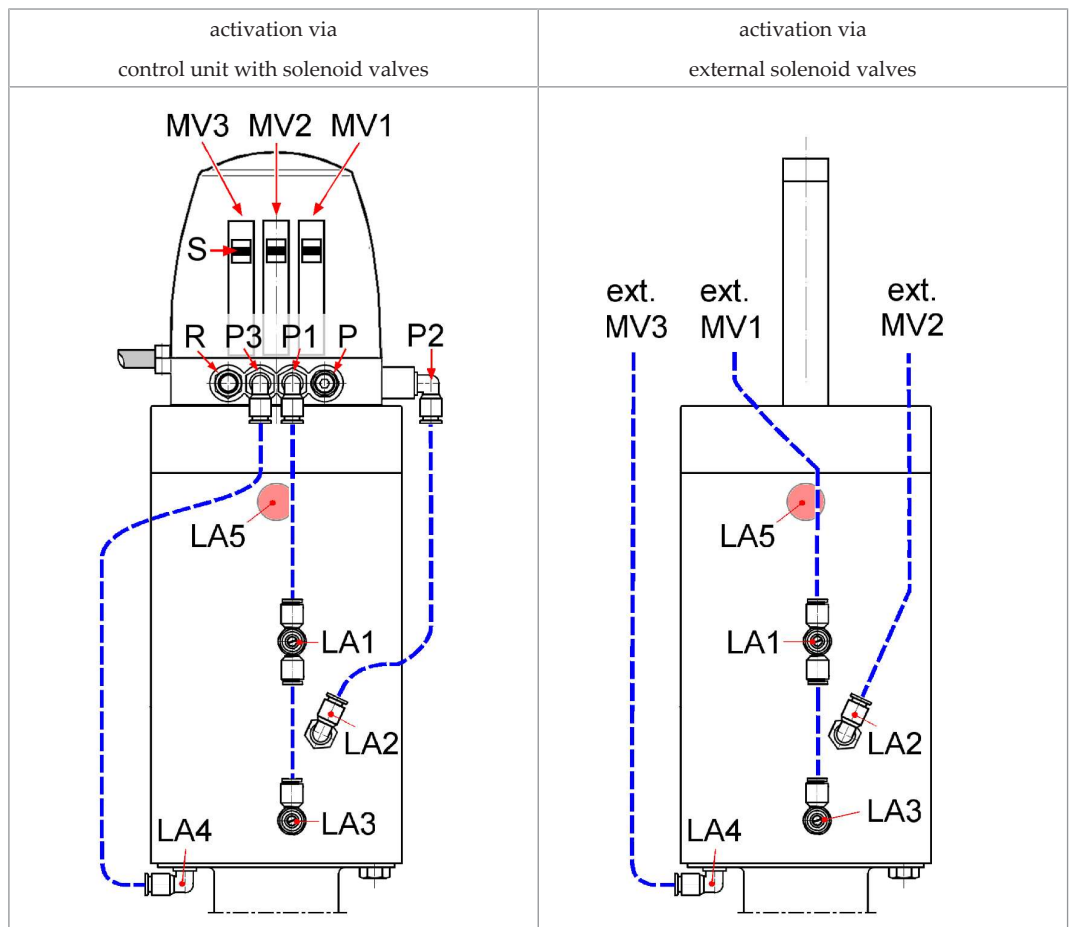
MV = solenoid valve

R = de-aeration, sound absorber

P = compressed-air inlet

LA = air supply

S = Slide switch for manual operation of the solenoid valve



6 Commissioning, service and maintenance

6.1 Commissioning

6.1.1 Installation instructions

Fitting position

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

6.1.2 General welding guidelines

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



⚠ CAUTION

Damage and injuries due to high temperature supply

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

Allow all components to cool before assembling.



NOTICE

Damage due to impurities

Impurities can cause damage to the seals and seals area.

Clean inside areas prior to assembly.

6.1.3 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 Service

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.



RECOMMENDATION

Replacement of seals

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

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

Lubricant recommendation

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

6.3 Cleaning

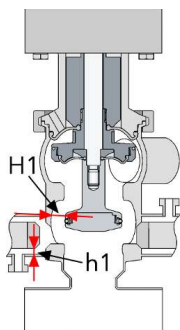
Cleaning

The upper and lower process housing is cleaned via pipeline cleaning. As part of the cleaning program, the leakage chamber and the drain pipe can be cleaned by cycling the valve discs. Cleaning via the purge valves of the sterile barrier is not recommended.

7 Technical data

7.1 Gembra Aseptic-Double seat valve

Model:	GEMBRA Aseptic-Double seat valve	
Valve size:	DN40 - DN80	
Connections:	Welding end	
Temperature range:	Ambient temperature: Operating temperature: Sterilization temperature:	+4 to +45°C (air) +0 to +95°C (medium dependent) k-flex/PTFE +140°C (SIP 30 min)
Working pressure:	DN 40 - DN65 = max.10 bar DN 80 = max. 8 bar	
Pressure resistance:	30 bar	
Leak rate:	A (DIN EN 12266-1)	
Control air:	<u>Control air pressure:</u> 5,5 - 8,0 bar	<u>Quality of control air:</u> ISO 8573-1 : 2001 quality class 3
Materials: (in product contact)	Stainless steel:	1.4404 / AISI316L
	Surfaces:	Ra < 0,8µm metallic bright, blank e-polished
	Sealing material:	k-flex / PTFE (FDA) EPDM (FDA)





	OD	40	50	65	80
	Inch	1½	2	2½	3
Torque					
Clamp coupling		15	15	25	25
main lift (mm)		26	26	28	35
narrowest flow area H1 (mm)		12	12	12.5	15
seat lift upper (mm)		2	2	2	2
seat lift lower (mm)		8	8	8	8
main lift (mm)		10	10	10	10
narrowest flow area h1 (mm)		4.5	4.5	4.5	4.5

8 Disassembly and assembly

8.1 Disassembly

Mounting tools

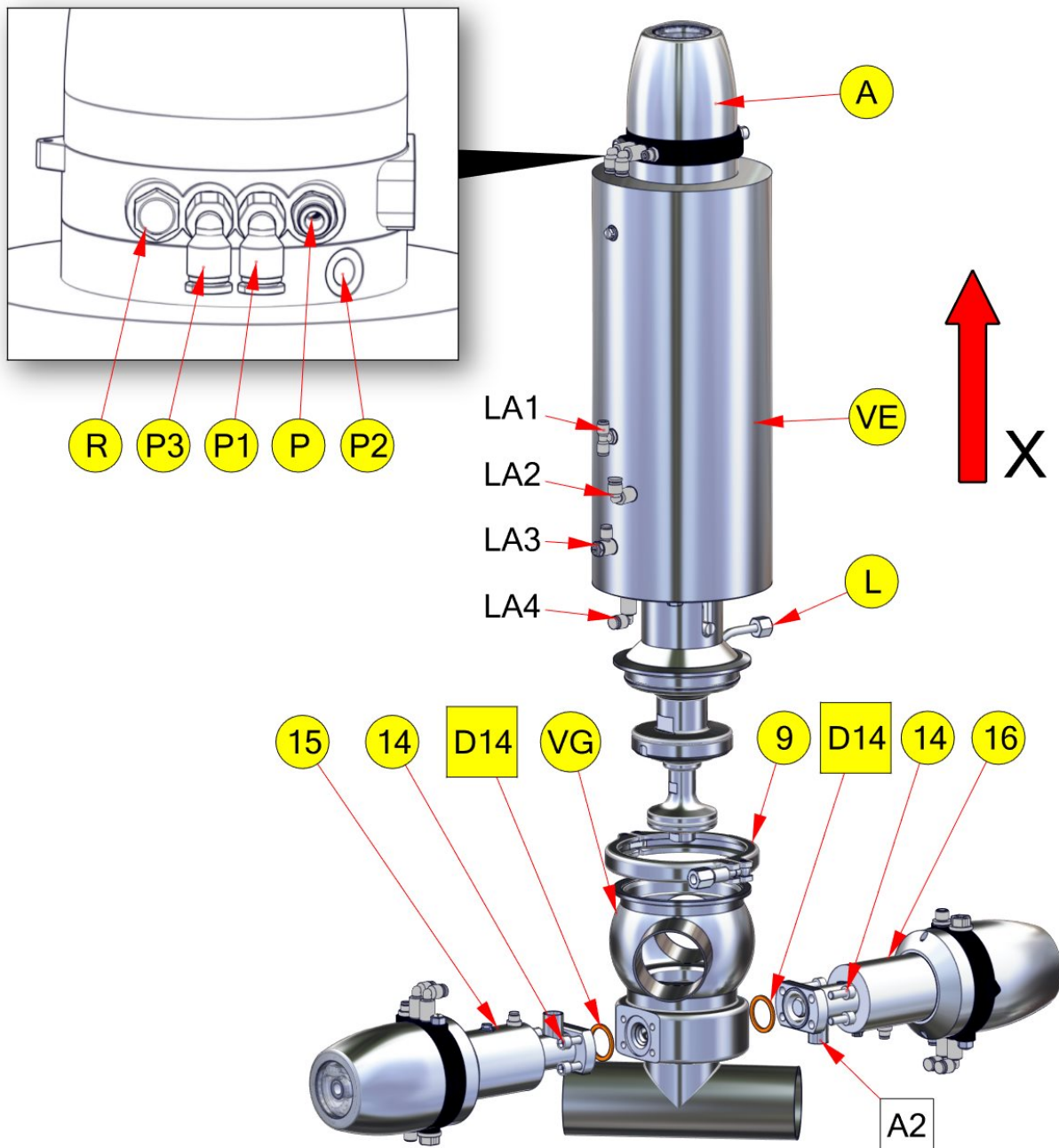
Tool kit for GEMBRA Aseptic-Double seat valve DN 40 - DN 80			ST4, ST10, ST20, ST21, ST22, T31, T10	5820000010-000
T1		Combination wrench-Set	SW 8 - SW 24	-
ST20 ST21 ST22		Spanner	SW 30 - 32 SW 41 SW 46	8618030032-000 8618041000-001 8618046000-001
T2		Allen key - Set	1.5 - 10	-
T3		Screwdriver Set	Size 2,5 - 10 PH0,PH1	-
T4		Soft-head hammer	-	-
T10		Joint -pin wrench	Pin Ø6	8027000065-000
T31		Round rod	ø8	5620065007-020
T30		Needle	-	-
ST10		Mounting wrench	-	5620000000-000
ST4		Centring ring - valve plate seal	DN40/50 DN65 DN80	5620050024-020 5620065025-020 5620080025-020



NOTICE

All threaded joint have right-hand thread.

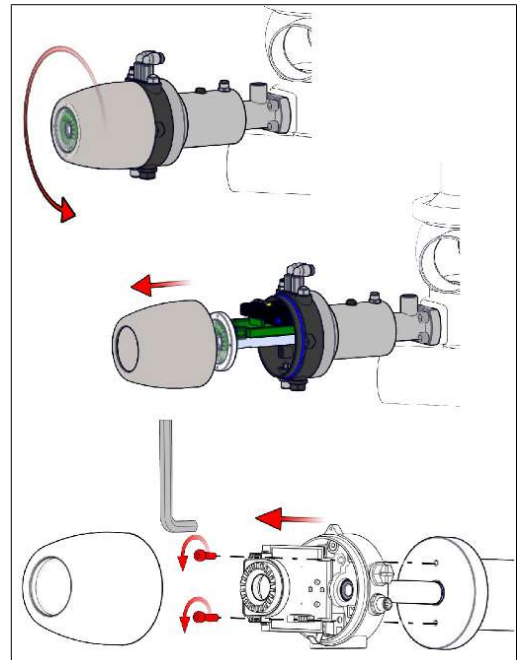
Unscrew and remove control air, steam resp. cleaning lines and electrical lines, complete feedback unit or control head.



A	Control unit	P	Control air supply
A2	Leakage drain	P1	activation main stroke
LA1	activation main stroke	P2	activation cycling down
LA2	activation cycling down	P3	activation cycling up
LA3	activation main stroke	R	de-aeration / sound absorber
LA4	activation cycling up	9	Clamp coupling
VE	Valve insert complete	14	Screws
VG	Valve housing	15	Inlet valve
		16	Outlet valve

8.1.1 Disassemble the pilot valves

- Dismount the control heads from the pilot valves (Inlet- and outlet valve).



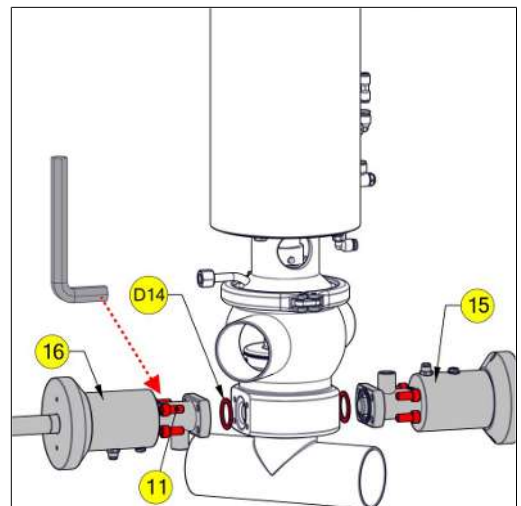
- Unscrew the screws (11).
- Dismount Inlet- and Outlet valve.
- Remove seals (D14).

11 = Screws

15 = Inlet valve

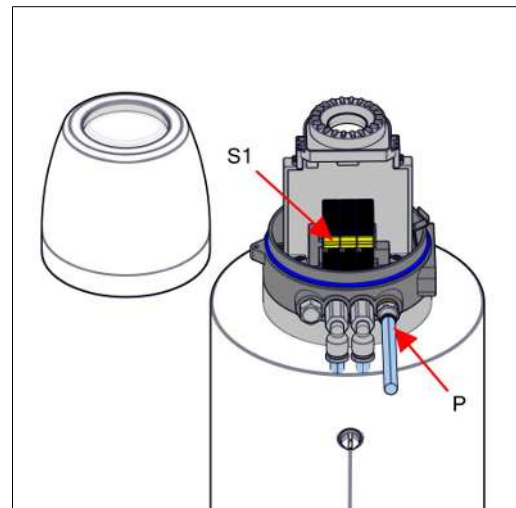
16 = Outlet valve

D14 = Seal

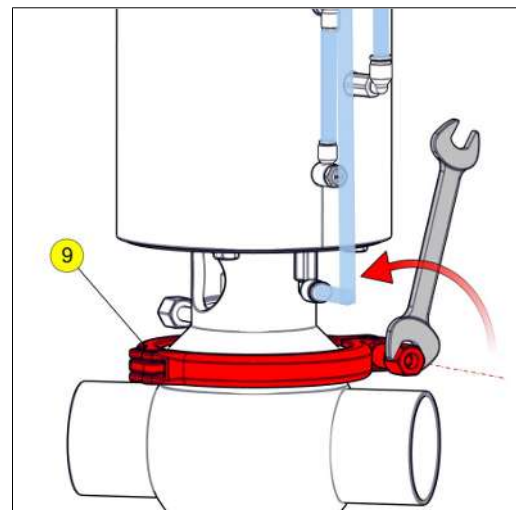


8.1.2 Assembly valve insert VE

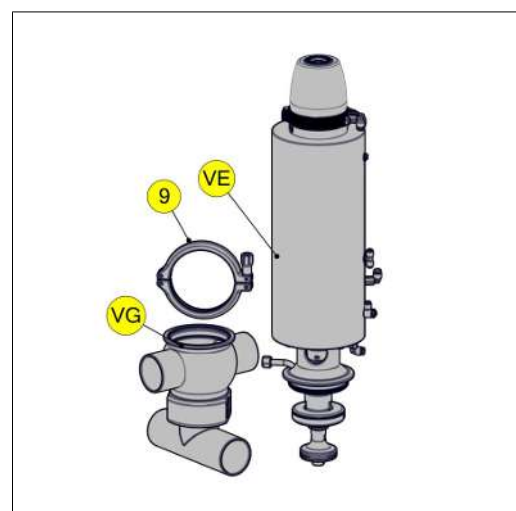
- Remove the hood from control head.
- Unscrew the upper clamp coupling (9).
- Connect control air to the air connection (P) and lift the piston by actuating the slide switch S1.



- Unscrew and remove the clamp coupling (9).

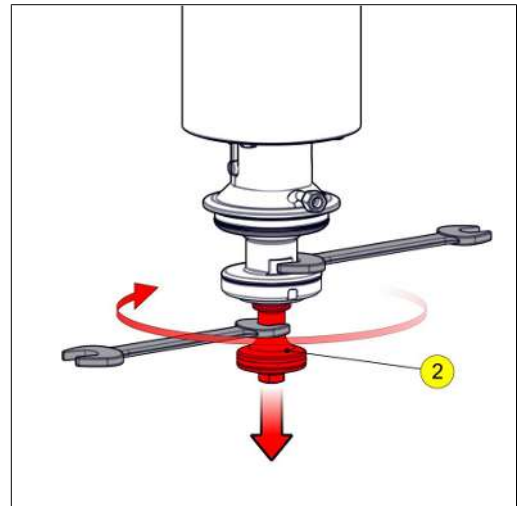


- Remove the completely valve insert (VE) from the housing (VG).
- Disconnect the air supply (P), the piston moves back to the basic position.
- Remount the hood of the control head to avoid damage at the control head.

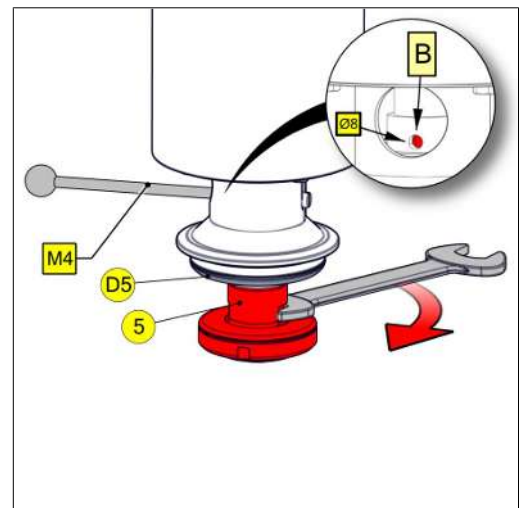


8.1.3 Assembly seals D5, D11, D12

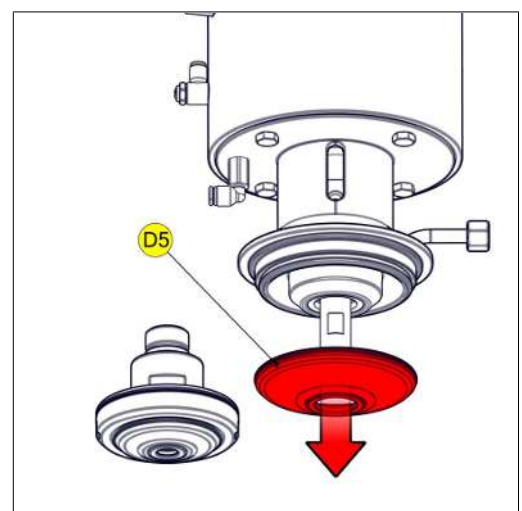
- Unscrew the lower piston (2).



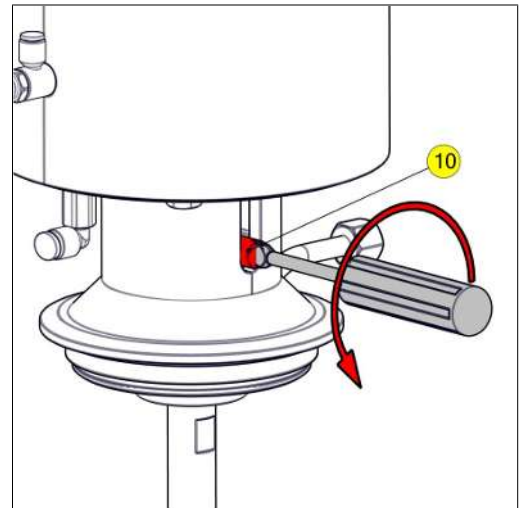
- Screw off the upper piston plate (5) and exerting counter pressure with the round rod M4 (Ø8) in the hole (B).



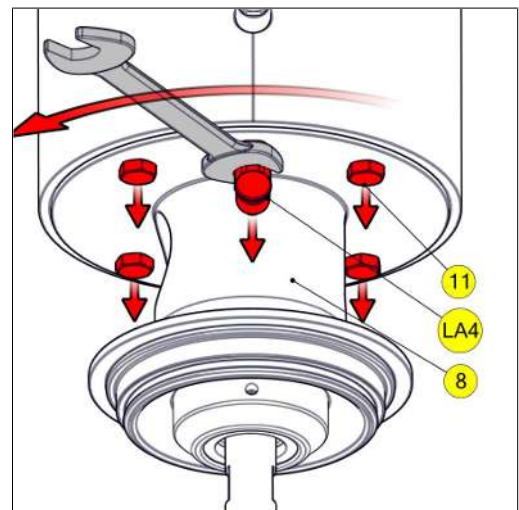
- Dismount the membrane (D2).



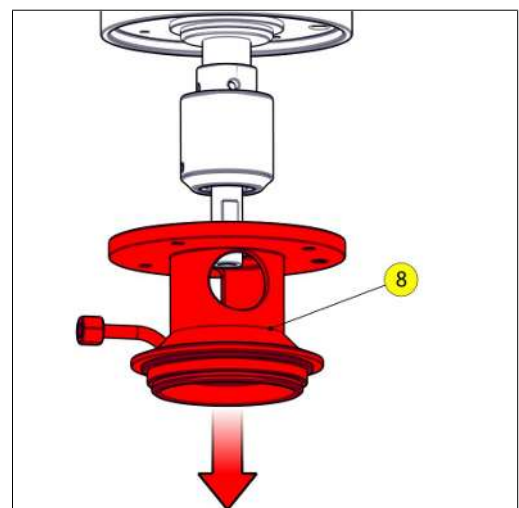
- Unscrew set screw (10).



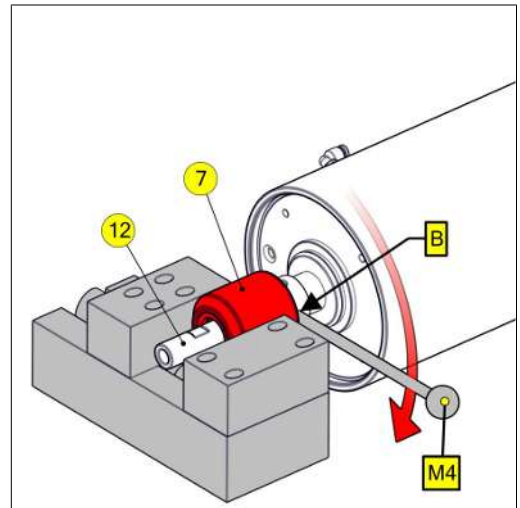
- Unscrew air supply (LA4) and screws (11).



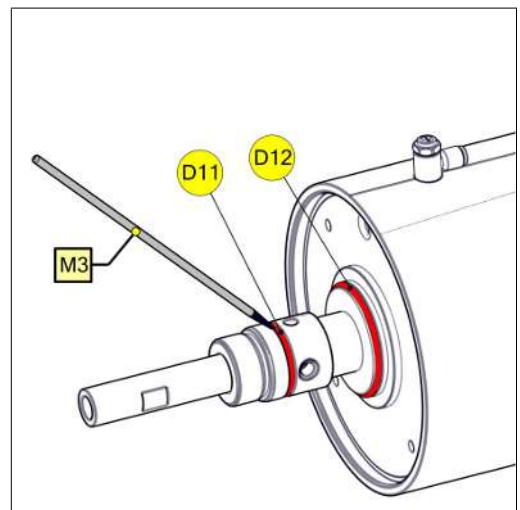
- Remove lantern (8).



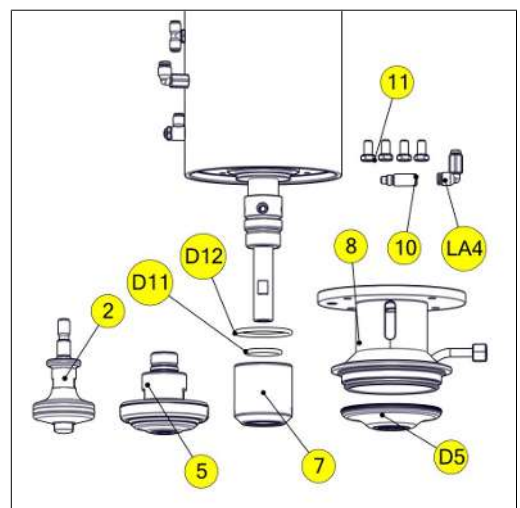
- Tighten the valve insert on the top of the piston (7) between soft jaws in a vice.
- Position the round rod in the hole (B) and loosen the threaded connection between piston (7) and piston rod (12) (Fig.14).
- Open the vise and place the valve insert on the workbench.
- Unscrew piston (7) from piston rod (12).



- Remove the O-rings (D11) and (D12).
- Thoroughly clean and slightly lubricate mounting areas.
- Replace and install O-Rings (D11) and (D12).

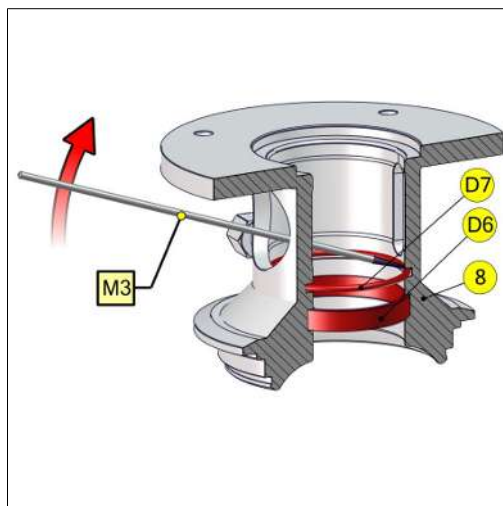


- 2 = Piston lower
- 5 = Piston upper
- 7 = Piston
- 8 = Lantern
- 10 = Set screw
- 11 = Screws
- D5 = Membrane
- D11 = O-ring
- D12 = O-ring
- LA4 = air supply

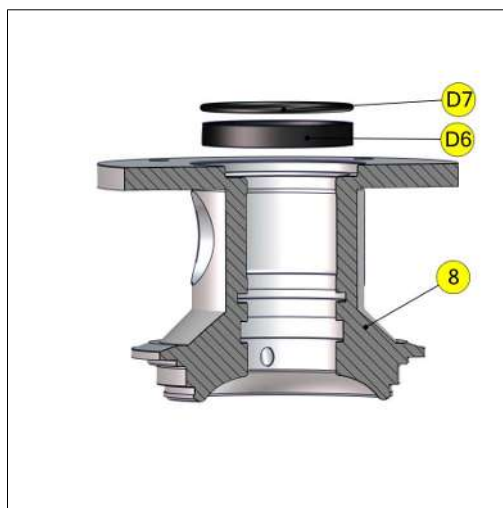


8.1.4 Assembly seals D6, D7

- Puncture the O-ring (D7) and the piston seal (D6) with a needle and remove them carefully from the groove of piston.
- Thoroughly clean and slightly lubricate mounting areas.



- Replace and install O-Ring (D7) and piston seal (D6).



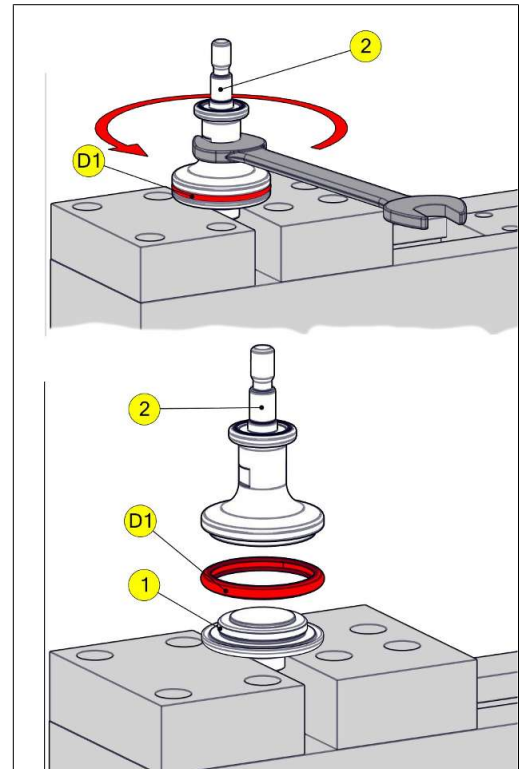
8.1.5 Disassemble lower piston - dismount seal D1

- Tighten the lower piston on the piston plate in a vice. Unscrew piston plate (1) from piston (2) and remove the seal (D1).

1 = Piston plate

2 = Piston

D1 = Seal



8.1.6 Disassemble upper piston - dismount Membrane D2 and O-Ring D3

- Tighten the mounting tool (M1) in a vice and insert the complete piston plate (5) into the mounting tool.
- Use a wrench to unscrew the piston (5) from thrust collar (4).
- Remove the membrane (D2), O-Ring (D3) and support ring (3).
- The plain bearing (D4) does not need to be removed.

3 = Backup ring

4 = Thrust collar

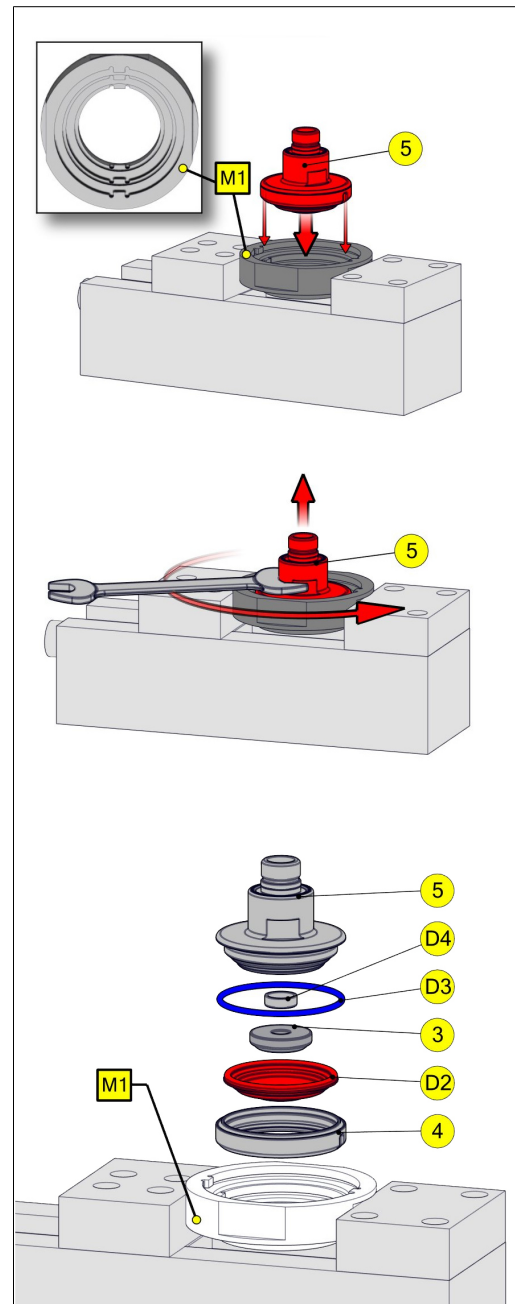
5 = Piston

D2 = Membrane

D3 = O-ring

D4 = Plain bearing

M1 = Mounting tool



8.2 Assembly

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

Functional check

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



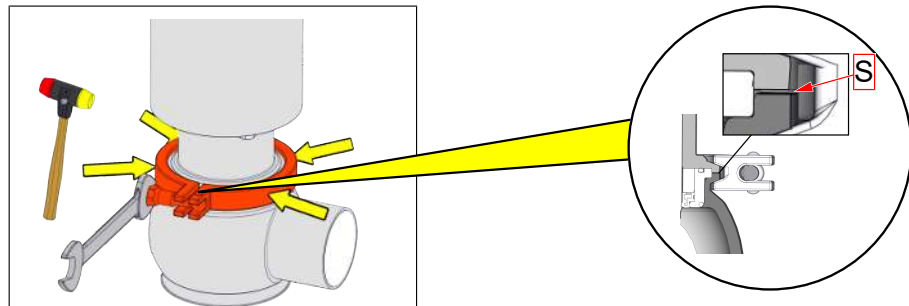
NOTICE

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' ($\leq 0,4\text{mm}$) between the components.
- Check valve functions by manually activating the 3/2-way solenoid valves after assembly!



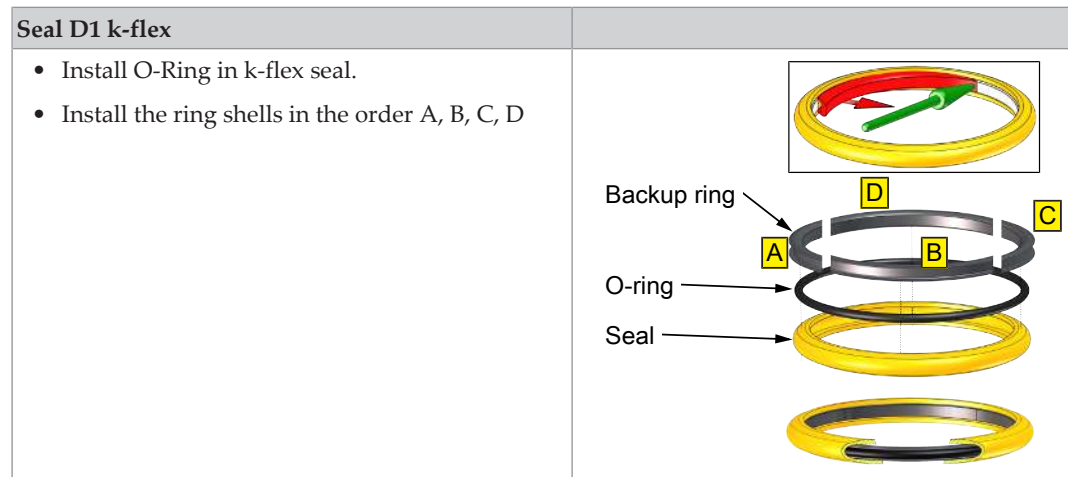
Tightening moment: (in Nm)	Nominal diameter						
	DIN	25	40	50	65	80	100
	Inch	1	1½	2	2½	3	4
Clamp coupling:	Nm	15	15	15	25	25	55

8.2.1 Assembling k-flex Seal (D-1)

Seal D1 - k-flex

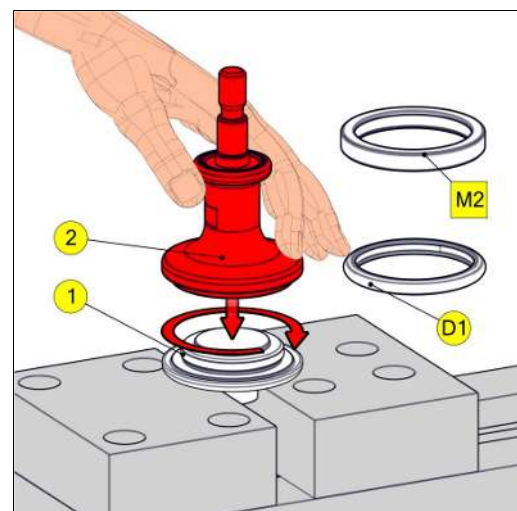
	Nominal diameter	Item number	Material:
k-flex - seal consists of	DN40-DN50	5621 050 020-114	k-flex
	DN65	5621 065 010-114	
	DN80	5621 080 010-114	
Ring quartered	DN40-DN50	5621 050 021-020	1.4301 / AISI304
	DN65	5621 065 011-020	
	DN80	5621 080 011-020	
O-ring	DN40-DN50	2304 044 030-159	EPDM
	DN65	2304 060 026-159	
	DN80	2304 076 026-159	
k-flex - seal	DN40-DN50	5621 050 022-114	k-flex
	DN65	5621 065 012-114	
	DN80	5621 080 012-114	

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



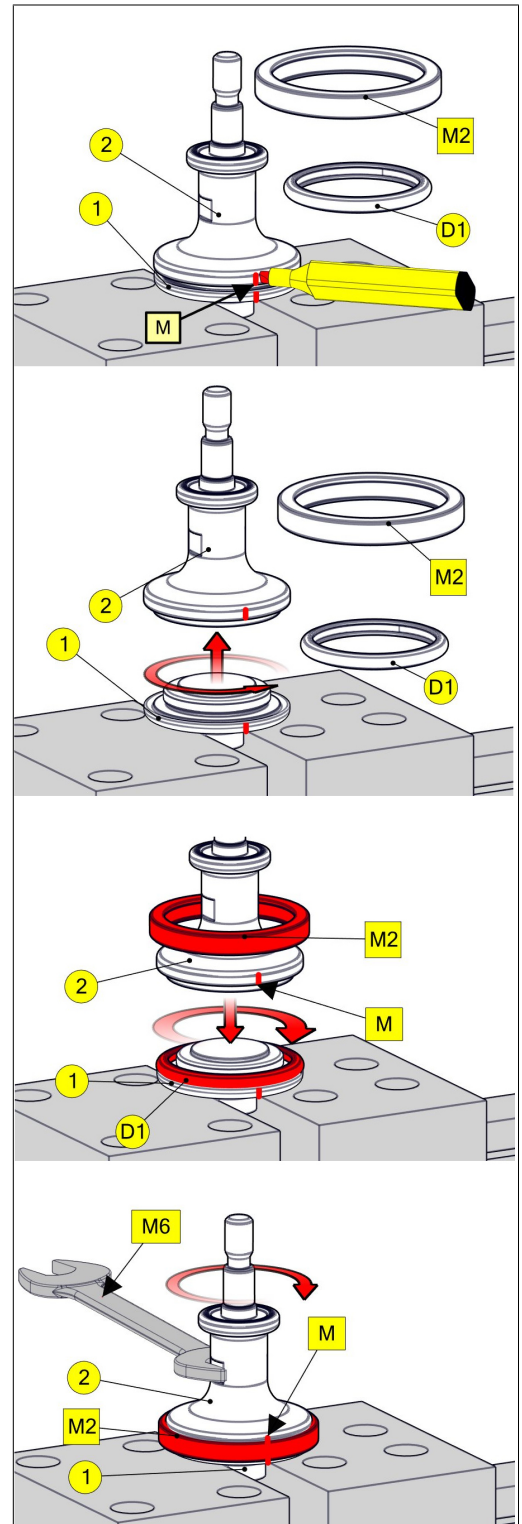
8.2.2 Mounting k-flex - seal D1

- Clamp piston plate (1) in a vice.
- Screw together the piston plate (1) and piston (2) without the seal (D1) by hand to the metallic stop position.



- Make a colored mark at the piston surfaces.
- After then, unscrew the piston plate again.
- Push the seal (D1) onto the piston plate (1) and screw the piston (2) into the piston plate (1) by hand.
- For the centring of the sealing ring (D1), the centring ring (M2) is pushed over the piston (2) and piston plate (1).
- Screw the piston (2) as far as the mark (metallic stop) into the piston, thereby ensuring that the seal is optimally pressed.

1 = Piston plate
 2 = Piston
 D1 = Seal
 M = Mark
 M2 = Centering ring
 M6 = Wrench



8.2.3 Mounting k-flex seal D2 and D3

**NOTICE****Deformation due to high clamping force**

The thrust collar (4) deforms in case of a too high radial clamping force.

- Slightly grease the thread on the piston plate (5) and the thrust collar (4).
- Tighten the mounting tool (M1) in the vise.
- Position the piston plate (5) and thrust collar (4) without membrane (D2), O-ring (D3), support ring (3) and plain bearing (D4) onto metal stop and attach a color mark (M).
- Unscrew the piston plate (5) and the thrust collar (4) again.
- Insert the plain bearing (D4) into the piston plate (5). Place the O-ring (D3), support ring (3) and membrane (D2) on the piston plate (5).

! **NOTICE!** Pay attention to the support ring (3)!

- Place the thrust collar (4) by hand and screw it together.
- Insert the component with the thrust collar (4) into the assembly tool (M1) and tighten with a wrench (M6) to the color marking (M).

3 = Backup ring

4 = Thrust collar

5 = Piston plate

D2 = Membrane

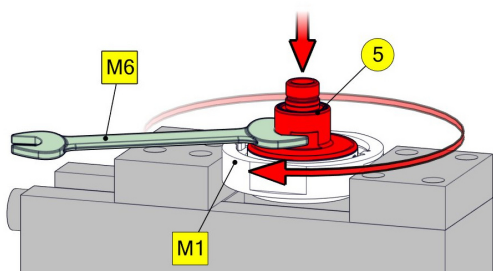
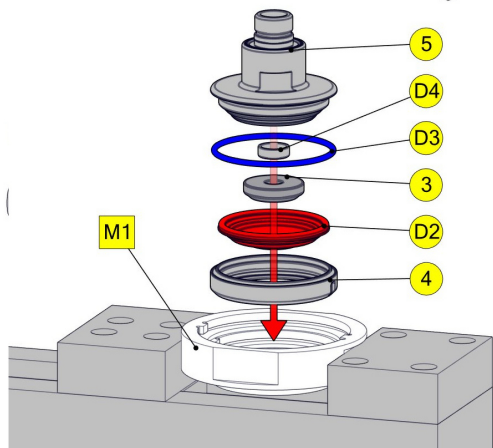
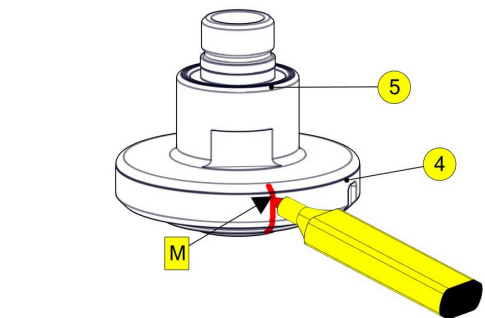
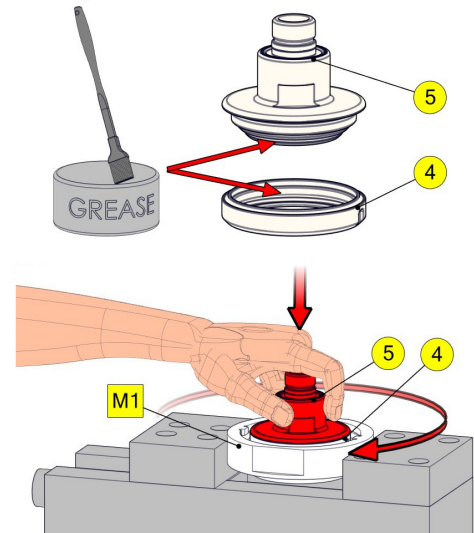
D3 = O-ring

D4 = Plain bearing

M = Mark

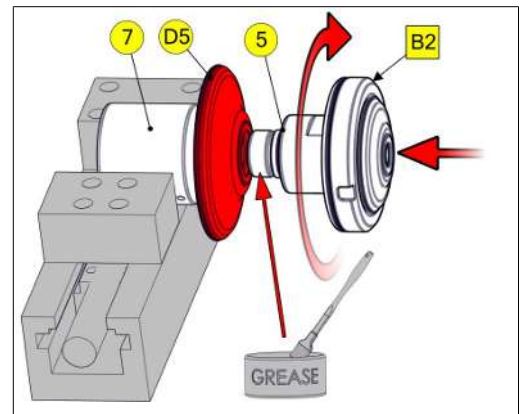
M1 = Mounting spanner GEMBRA

M6 = Wrench



8.2.4 Mounting Membrane D5

- Tighten the piston (7) between soft jaws in the vice.
- Slide the diaphragm (D5) onto the component (B2).
- Slightly grease the assembly (B2) and screw it into the piston (7).



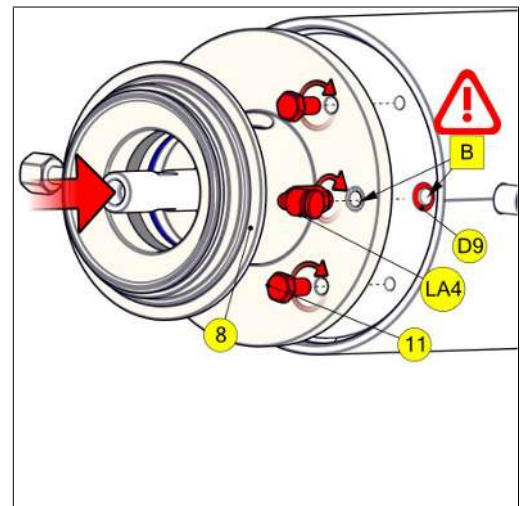
8.2.5 Assembling valve

- Place lantern (8) on the actuator.

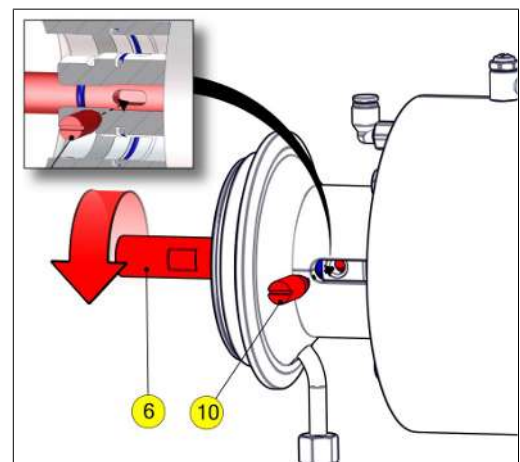
⚠ CAUTION! Observe the mounting position of the lantern!

When installing the lantern on the actuator, make sure that the through-hole (B) for the compressed air matches the tapped hole for the air connection (LA4).

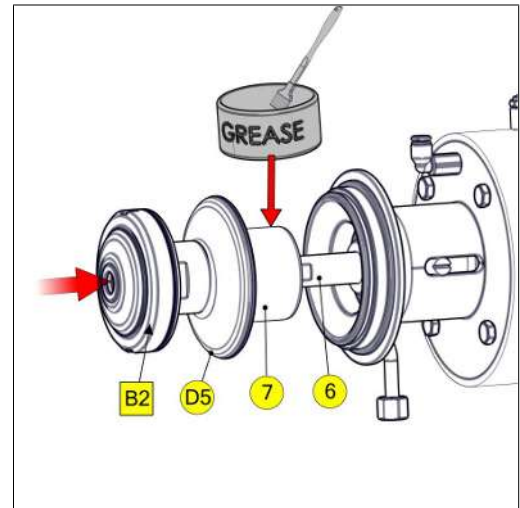
- Screw in the screws (11) but do not tighten. So that no tension results when the piston (7) is installed, the screws (11) are tightened after assembly of the piston (7).
- Mount air connection (LA4).



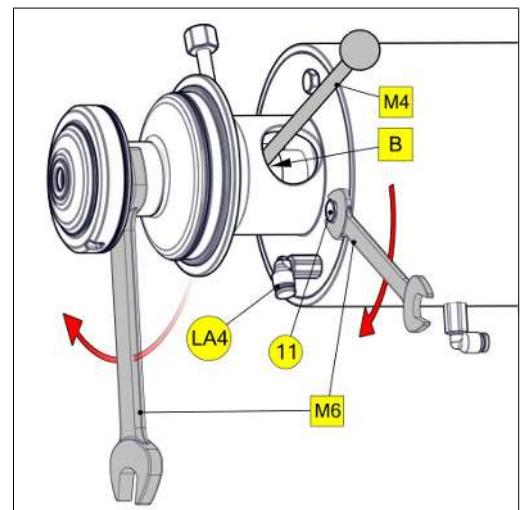
- Turn the spindle (6) until the threaded hole for the set screw (10) and the groove of the spindle (6) are aligned. Screw in the set screw (10).



- Piston (7) thoroughly clean and slightly lubricate the running surfaces.

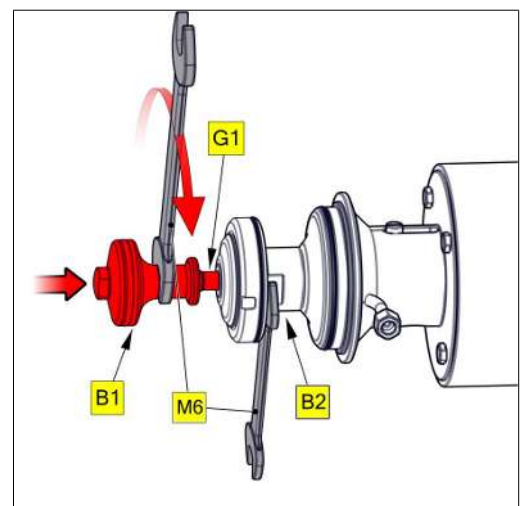


- Screw the piston (7) onto the piston rod (12). For counter pressure use a round rod in the hole (B).
- Now tighten the screws (11) on the lantern crosswise.

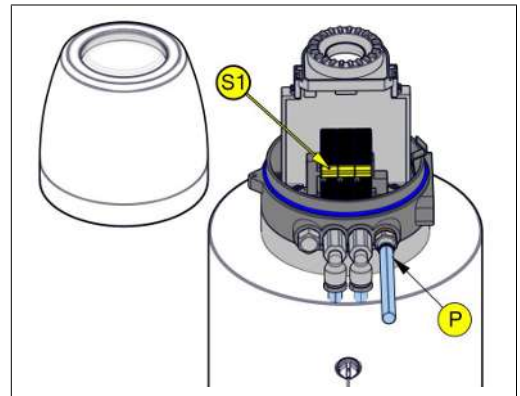


- Screw the component (B1) into the spindle (6).

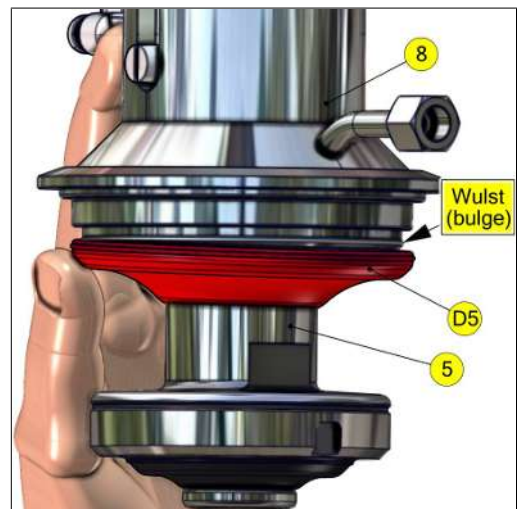
NOTICE! Secure the threaded connection G1 with Screw retention detachable (e.g. Loctite 243) .



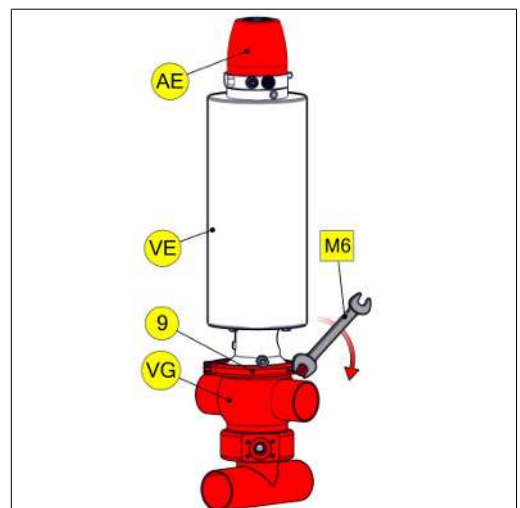
- Remove the hood from the control head.
- Connect the control air to the air connection (P) and lift the upper valve plate by actuating the sliding switch (S1).
- Thereby the Membrane (D5) can be installed more easily.



- Now string up the diaphragm (D5) carefully to the bulge on the lantern (8).



- Install the complete valve insert (VE) into the housing (VG).
- Assemble the clamp coupling (9) and tighten it while observing the torque.
- Disconnect the control air at the air connection (P), the valve moves into the basic position.
- To prevent damage to the control head, re-install the control head cover.



DN	40	50	65	80
Torque				
Clamp coupling	15	15	25	25

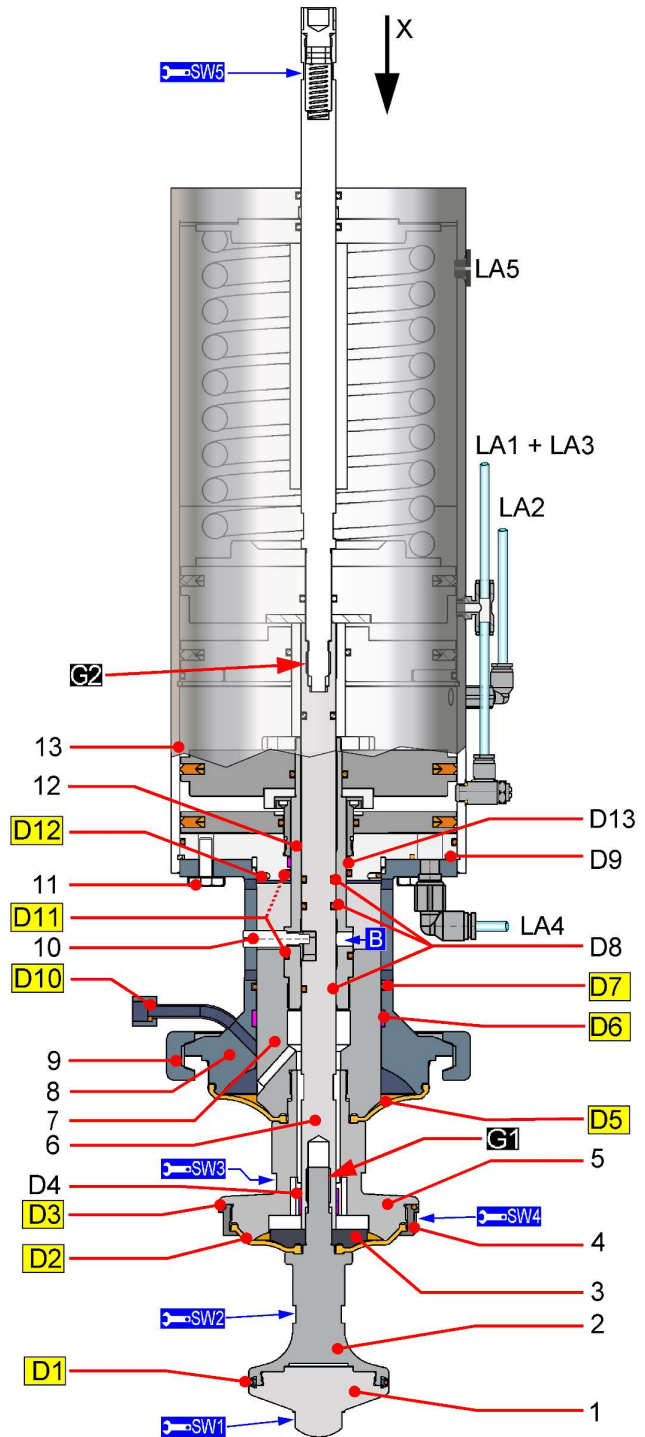
9 Drawings and dimensions

9.1 Drawings

- 1 = Piston plate
- 2 = Piston
- 3 = Backup ring
- 4 = Thrust collar
- 5 = Piston plate upper
- 6 = Spindle
- 7 = Piston upper
- 8 = Lantern
- 9 = Clamp coupling
- 10 = Set screw
- 11 = Hexagon screw
- 12 = Piston rod
- 13 = Pneum. actuator

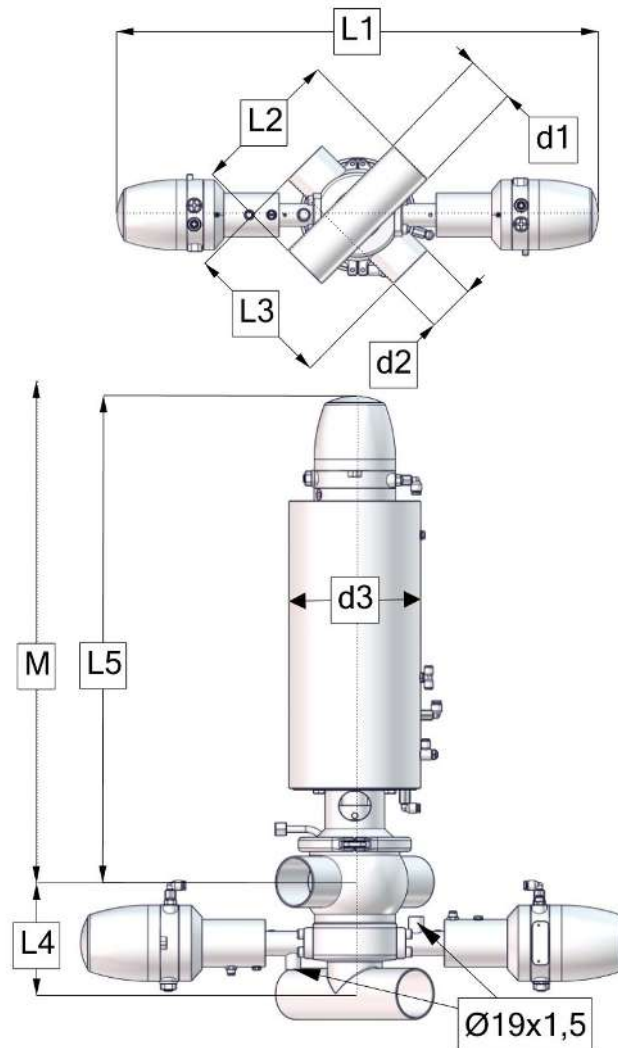
Spare parts

- D1 = Seal
- D2 = Membrane
- D3 = O-ring
- D4 = Plain bearing
- D5 = Membrane
- D6 = Piston seal
- D7 = O-ring
- D8 = O-rings
- D9 = O-ring
- D10 = O-ring
- D11 = O-rings
- D12 = O-ring
- D13 = Plain bearing
- G1 =Screw retention detachable (e.g. Loctite 243)
- G2 =Screw retention detachable (e.g. Loctite 243)
- B = Hole
- LA1 = Main lift
- LA2 = lifting lower seat
- LA3 = Main lift
- LA4 = lifting upper seat
- LA5 = De-aeration or connection for pressure locking - optional



Nominal dia- meter	SW1	SW2	SW3	SW4	SW5
DN 40 / 1½"	19	17	32	70	17
DN 50 / 2"	19	17	32	70	17
DN 65 / 2½"	19	27	42	90	17
DN 80 / 3"	27	27	46	110	17

9.2 Dimensions

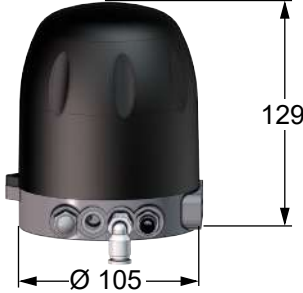

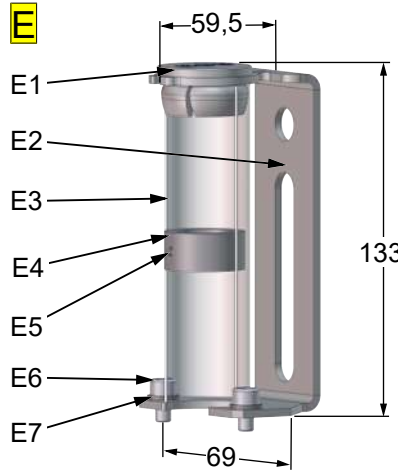


Nominal diameter	d1, d2	d3	L1	L2, L3	L4	L5	M ¹
DN 40 1½ Inch	Ø 41 x 1,5 Ø38,1 x 1,65	Ø 134	689	168	135	584	~ 730
DN 50 2 Inch	Ø 53 x 1,5 Ø50,8 x 1,65	Ø 134	689	168	135	573	~ 750
DN 65 2½ Zoll	Ø 70 x 2,0 Ø63,5 x 1,65	Ø 170	710	220	155	654	~ 860
DN 80 3 Inch	Ø 85 x 2,0 Ø76,1 x 2,0	Ø 170	733	230	190	693	~ 940

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

1. Installation dimension M are incl. control head or sensor mounting



9.3 Control units

Control head KI-TOP	
with plastic hood - transparent	with stainless steel hood
	
Feedback unit with finger guard (E)	
<ul style="list-style-type: none"> • E1 = Cap • E2 = Angle bracket • E3 = Shell transparent • E4 = Set collar • E5 = Headless pin • E6 = Allen screw • E7 = FLaT washer 	

10 Wearing parts

10.1 Wearing parts list

GEMBRA Aseptik - Double seat valve

Seal	Item number	Temperature sensor PT100	Valve insert VE	Housing VG	Wear parts kit	
k-flex PTFE	5824 DN 000-xxx	-	5820 DN 000-041	5824 DN 001-041	5820 DN 009-041	
	5824 DN 400-xxx	6213 500 001-040		5824 DN 401-041		
EPDM / PTFE	5824 DN 030-xxx	-	5820 DN 030-041	5824 DN 001-041	5820 DN 139-041	
	5824 DN 410-xxx	6213 500 001-040		5824 DN 401-041		

DN = Nominal diameter e.g. 5824 050 000-041 = DN50

xxx = Material in product contact / Exterior finish / Control system

GEMBRA Aseptik - Double seat valve




Pos.	Description	Material:	DN 40	DN 50	DN 65	DN 80
VE	Valve insert	PTFE/K-flex	5820 040 000-040	5820 050 000-040	5820 065 000-040	5820 080 000-040
		PTFE/EPDM	5820 040 030-040	5820 050 030-040	5820 065 030-040	5820 080 030-040
1	Piston plate	AISI316L	5821 050 004-040	5821 050 004-040	5821 065 004-040	5821 080 004-040
2	Piston	AISI316L	5821 040 005-040	5821 050 005-040	5821 065 005-040	5821 080 005-040
3	Backup ring	AISI303	5821 040 009-220	5821 050 009-220	5821 065 009-220	5821 080 010-040
4	Thrust collar	AISI316L	5821 050 010-040	5821 050 010-040	5821 065 010-040	5821 080 010-040
5	Piston plate upper	AISI316L	5821 040 006-040	5821 050 006-040	5821 065 006-040	5821 080 006-040
6	Spindle		5821 040 011-220	5821 040 011-220	5821 065 011-220	5821 080 011-220
7	Piston upper	AISI316L	5821 050 007-040	5821 050 007-040	5821 065 007-040	5821 080 007-040
8	Lantern	AISI304	5821 050 014-021	5821 050 014-021	5821 065 014-021	5821 080 014-021
9	Clamp coupling	AISI304	2122 065 100-020	2122 065 100-020	2122 115 100-020	2122 125 100-020
10	Set screw	AISI304	5821 050 022-020	5821 050 022-020	5821 065 022-020	5821 080 022-020
11	Hexagon screw	AISI304	8106 008 016-020	8106 008 016-020	8106 008 016-020	8106 008 016-020
12	Piston rod	AISI304	5821 050 008-220	5821 050 008-220	5821 065 008-220	5821 080 008-220
13	Pneum. actuator	----	5820 040 001-021	5820 050 001-021	5820 065 001-021	5820 080 001-021
14	Hexagon socket screws	AISI304	8095 080 020-020	8095 080 020-020	8095 080 020-020	8095 080 020-020
LA1	T-threaded connection G1/8	----	8217 000 008-000	8217 000 008-000	8217 000 008-000	8217 000 008-000
LA2	Elbow screw fitting R1/8	----	8217 000 004-000	8217 000 004-000	8217 000 004-000	8217 000 004-000
LA3	One-way restrictor	----	8218 001 020-000	8218 001 020-000	8218 001 020-000	8218 001 020-000
LA4	Elbow screw fitting R1/8	----	8217 000 004-000	8217 000 004-000	8217 000 004-000	8217 000 004-000

DN = Nominal diameter e.g. 5824 050 000-041 = DN50

xxx = Material in product contact / Exterior finish / Control system

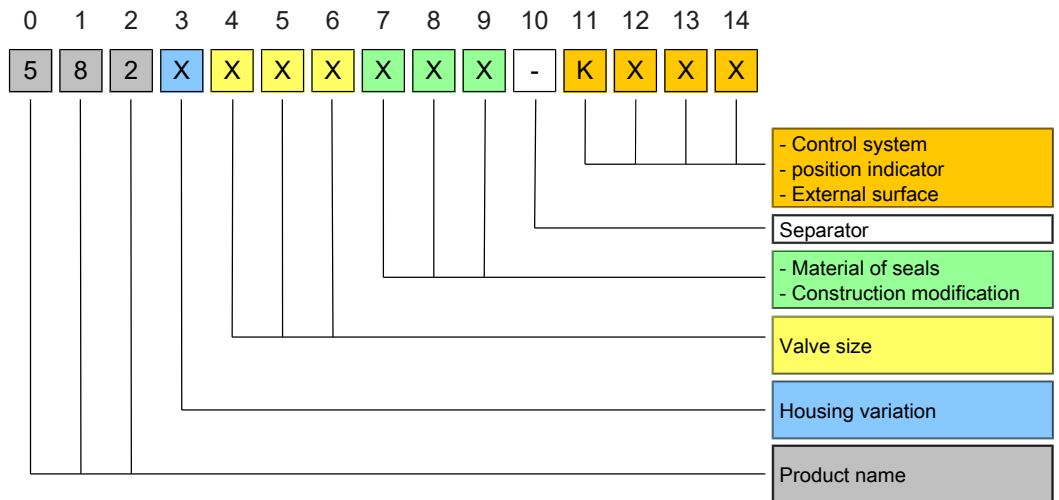
10.2 Wear parts kit

GEMBRA Aseptik - Double seat valve

Pos.	Description	Material:	DN 40	DN 50	DN 65	DN 80
	Wear parts kit D1a, D2, D3, D5, D6, D7 ,D11(1x), D12	PTFE/k-flex	5820 050 009-000	5820 050 009-000	5820 065 009-000	5820 080 009-000
	Wear parts kit D1b, D2, D3, D5, D6, D7 ,D11(1x), D12	PTFE/EPDM	5820 050 139-000	5820 050 139-000	5820 065 139-000	5820 080 139-000
	D1a Seal consists of :		5621 050 020-114	5621 050 020-114	5621 065 010-114	5621 080 010-114
	I = Seal	k-flex	5621 050 022-114	5621 050 022-114	5621 065 012-114	5621 080 012-114
	II - O-ring	EPDM	2304 044 030-159	2304 044 030-159	2304 060 026-159	2304 076 026-159
	III = Backup ring	AISI304	5621 050 021-020	5621 050 021-020	5621 065 011-020	5621 080 011-020
	(* Support ring - quartered is not included in seal kit)					
	D1b Seal	EPDM	5621 050 020-084	5621 050 020-084	5621 065 010-084	5621 080 010-084
	 D2 Membrane	PTFE	5820 050 021-194	5820 050 021-194	5820 065 021-194	5820 080 021-194
	 D3 Seal with split washer	PTFE	5821 050 010-194	5821 050 010-194	5821 065 010-194	5821 080 010-194
	D4 Plain bearing	XSM	8050 015 007-156	8050 015 007-156	8050 020 015-156	8050 020 015-156
	 D5 Membrane	PTFE	5820 050 020-194	5820 050 020-194	5820 065 020-194	5820 080 020-194
	 D6 Piston seal hxbxL	PTFE	8051 250 010-081 9,5x2,5x155,9	8051 250 010-081 9,5x2,5x155,9	8051 190 010-081 9,5x2,5x190	8051 220 010-081 9,5x2,5x230
	 D7 O-ring	EPDM 85°Sh	2304 049 035-170	2304 049 035-170	2304 063 035-170	2304 072 035-170
	D8 O-ring	EPDM 70°Sh	2304 011 025-159	2304 011 025-159	2304 013 035-159	2304 013 035-159
	D9 O-ring	EPDM 70°Sh	2304 010 025-055	2304 010 025-055	2304 010 025-055	2304 010 025-055
	D10 Seal	EPDM 70°Sh	2354 012 006-054	2354 012 006-054	2354 012 006-054	2354 012 006-054
	 D11 O-ring (2x)	EPDM 70°Sh	2304 028 035-159	2304 028 035-159	2304 032 035-159	2304 032 035-159
	 D12 O-ring	EPDM 85°Sh	2304 041 035-159	2304 041 035-159	2304 054 035-159	2304 062 035-159
	D13 Plain bearing	XSM	8050 027 005-156	8050 027 005-156	8050 032 005-156	8050 032 005-156
	D14 Seal	k-flex	5822 050 070-114	5822 050 070-114	5822 050 070-114	5822 050 070-114

11 Classification

11.1 Structure of order number



Product name 582 x xxx xxx-xxxx

Type	Product name	1	2	3
582x	GEMBRA Aseptic Double seat valve	5	8	2

Housing type 582 x xxx xxx-xxxx

Type	Housing type		4
5820	Valve insert	without housing	0
5823	Housing S - SS	with PT100	3
		without PT100	
5824	Housing SS - SS	with PT100	4
		without PT100	

Valve size 582x xxx xxx-xxxx

DN	4	5	6	OD	4	5	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

Material of seal & Design modification

582x xxx xxx -xxxx

Material of seals & Design modifications				
	Seal	7	8	9
Valve insert 5820	PTFE / k-flex	0	0	0
Valve insert 5820	PTFE / EPDM	0	3	0
Standard valve 5823, 5824 without PT100	PTFE / k-flex	0	0	0
Standard valve 5823, 5824 without PT100	PTFE / EPDM	0	3	0
Standard valve 5823, 5824 with PT100 via housing	PTFE / k-flex	4	0	0
Standard valve 5823, 5824 with PT100 via housing	PTFE / EPDM	4	1	0
Standard valve 5823, 5824 with PT100 via pilot valve	PTFE / k-flex	4	2	0
Standard valve 5823, 5824 with PT100 via pilot valve	PTFE / EPDM	4	3	0
Valve with PT100 via housing and connection DN50 / DN65	PTFE / k-flex	5	3	4
Valve with PT100 via housing and connection DN65 / DN80	PTFE / k-flex	5	4	4
Valve with PT100 via housing and connection DN50 / DN65	PTFE / EPDM	5	3	5
Valve with PT100 via housing and connection DN65 / DN80	PTFE / EPDM	5	4	5

Separator

582x xxx xxx -xxxx

- KIESELMANN Valve

Control system and position indication , External surface

582x xxx xxx -xxxx

Control system and position indicator	Feedback unit	Surface	11	12	13	14
-	-	AISI304, blank	0	2	0	
-	-	AISI304, e-polished	0	2	1	
		AISI316L, e-polished	0	4	1	
	5630 005 025-000	AISI316L, e-polished	7	5	0	
Control head SPS (old version)		AISI316L, e-polished	5	x	x	
Control head ASi-Bus (old version)		AISI316L, e-polished	6	x	x	
Control head KI-Top SPS		AISI316L, e-polished	K	5	x	x
Control head KI-Top ASi-Bus		AISI316L, e-polished	K	6	x	x

12 Appendix

12.1 Declaration of incorporation



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
Documentation / Development
KIESELMANN GmbH

Product

pneum. Lift actuators
pneum. Rotary actuators
Ball valves
Butterfly valves
Single seat valves
Flow control valves
Throttle valve
Overflow valve
Double seat valve
Bellows valves
Sampling valves
Two way valves
Tankdome fitting
Safety valve

Function

Stroke movement
Rotary movement
Media cutoff
Media cutoff
Media cutoff
Control of liquefied media
Control of liquefied media
Definition of fluid pressure
Media separation
Sampling of liquids
Sampling of liquids
Media cutoff
Prevention of overpressure and vacuum, Tank cleaning
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 be 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. 11. 2017

i.V. Uwe Heisswolf
Head of Development