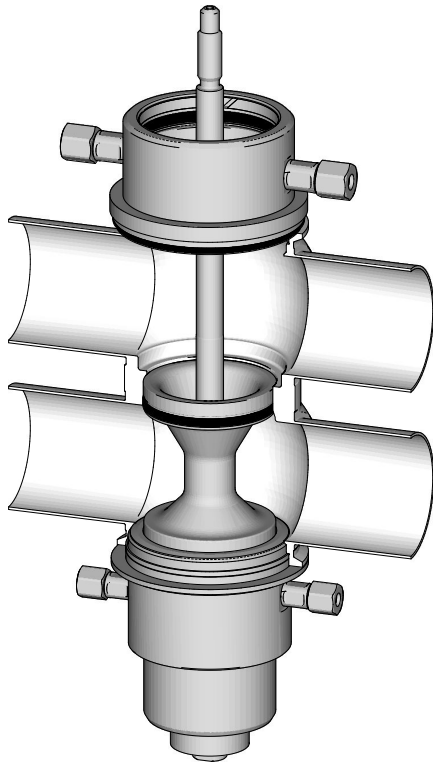


ASSEMBLING INSTRUCTION

Translation from the original language



Hygienic valves

**Accessory - steam lock for GEA VARIVENT® 24/7
PMO valve M/2.0, type M/2.0**

GEA Tuchenhausen GmbH
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1 Overview use steam lock - valve types

Designation	Use in VARIVENT valve	Nominal widths
Steam lock BO/M2.0 (steam lock double-disk)	GEA VARIVENT 24/7 PMO valve 2.0, type M/2.0	1.5" OD to 4" OD
Steam lock RU/M2.0 (steam lock valve disk)	GEA VARIVENT 24/7 PMO valve 2.0, type M/2.0	1.5" OD to 4" OD

Application

The steam lock M/2.0 can be used for the GEA VARIVENT 24/7 PMO valves 2.0, type M/2.0 and is intended to be used when a short-term steam sterilisation during the valve main stroke is to be carried out. The steam lock is divided into two individual and independently usable steam locks BO/M2.0 (steam lock double-disk) as well as RU/M2.0 (steam lock valve disk). The steam locks can be pressurised with steam in series in addition to independent or parallel steam pressurisation.

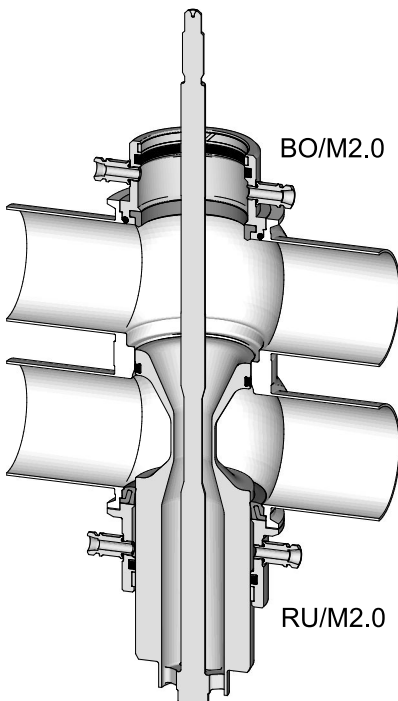


Fig.1

Technical data

Steam resistance EPDM	up to 135 °C (275°F)
Steam pressure/temperature	applicable up to max. 1 bar (14.5 psi) or max. 120 °C (248 °F)

Warning!

Hot surfaces

Risk of burns

► Do not touch the steam locks BO/2.0 and RU/2.0 during operation.



Fig.2

Only applicable until:

- max. 1 bar (14.5 psi)
- 120 °C (248 °F)



Hint!

During maintenance, regularly check warning labels for legibility.

If necessary, new tables can be ordered from GEA Tuchenhagen GmbH stating part number 700-171.

2 Assembly instructions steam lock

These assembly instructions apply only in connection with the current operating instructions for VARIVENT valves and describes the subsequent installation of the steam locks. Assembly analogously to these assembly instructions for the initial installation.

Observe the safety instructions in the operating instructions.

Notice

The edges at the double disk (16.2) are sensitive components.

The edges at the double disk can get damaged.

- ▶ Handle the edges carefully.

Notice

Sensitive parts

The surfaces of the balancers are sealing surfaces and must not be damaged.

- ▶ When removing the valve from the pipe take care not to hit the balancer against the housing. Carefully disassemble the valve.

Carry out the following steps:

1. Carefully remove the valve insert out of the housing (4).
Pay attention to the safety and disassembly instructions in the operating instructions for GEA VARIVENT 24/7 PMO valve 2.0, type M/2.0
2. Remove the valve disk and double-disk.
 - See operating instructions for GEA VARIVENT 24/7 PMO valve 2.0, type M/2.0, section "Remove valve".
3. Remove the seal disk (3) incl. bearing (2), O-ring (5) and seal ring (1) as well as the seal ring (65), guide ring (66) and balancer plug (92) and the double-disk (15).
 - These components are no longer needed or replaced by new components.

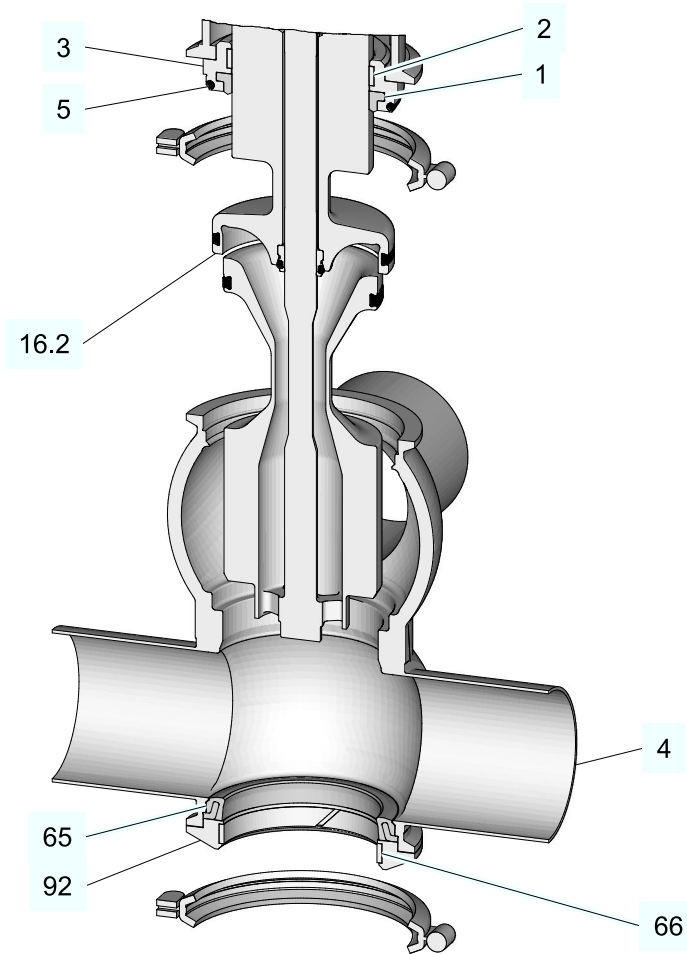


Fig.3

4. Push the steam lock BO/M2.0 without threaded nipple, but including all O-rings, guide rings and seal ring over the double-disk.

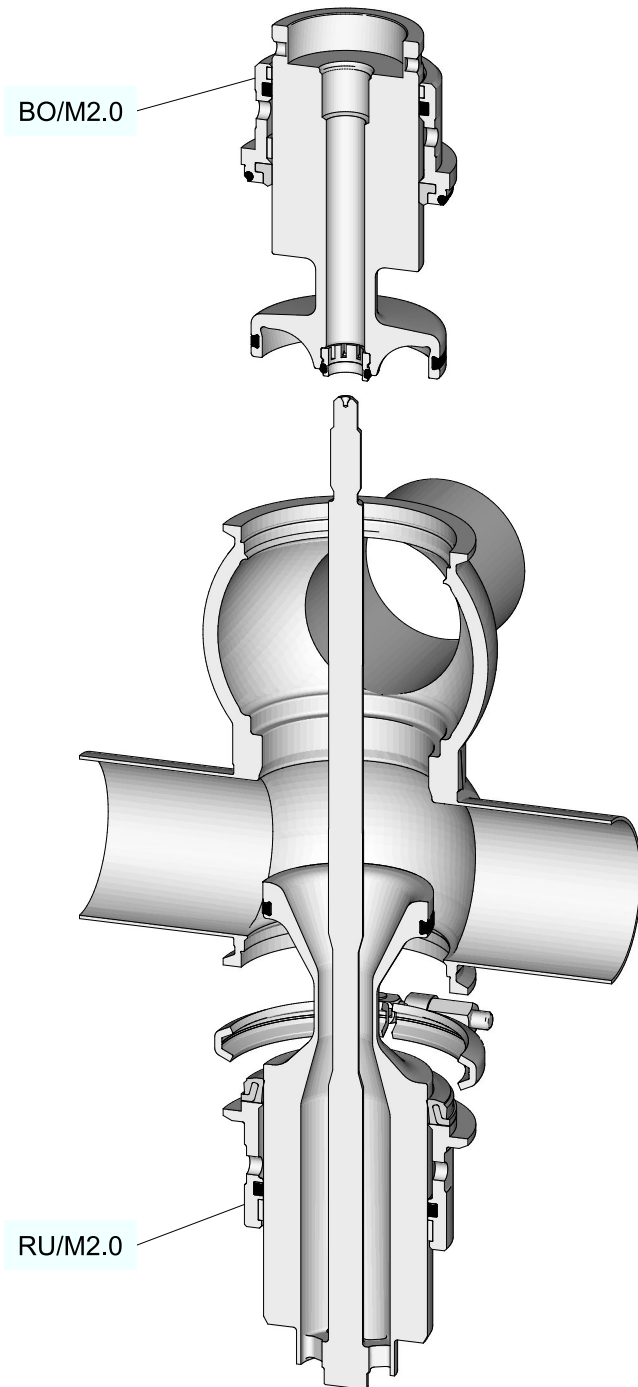


Fig.4

5. Mount the steam lock RU/M2.0 in the lower housing.
Then mounting the clamp connection pay attention to the torques, see table "torques"
Page 13.

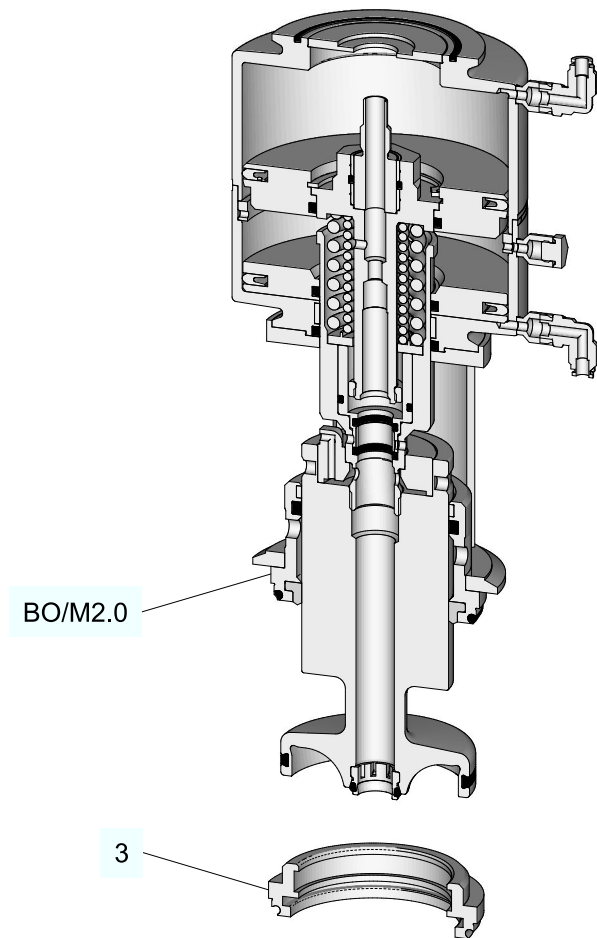


Fig.5

6. Mount the valve, see operating instructions for GEA VARIVENT® 24/7 PMO valve 2.0, type M/ 2.0, chapter “Mount lifting actuator”.
The seal disk (3) including all gaskets and conveyor belts are replaced with the steam lock BO/ M2.0.
! Pay attention that threaded nipples or steam connections are not yet mounted.

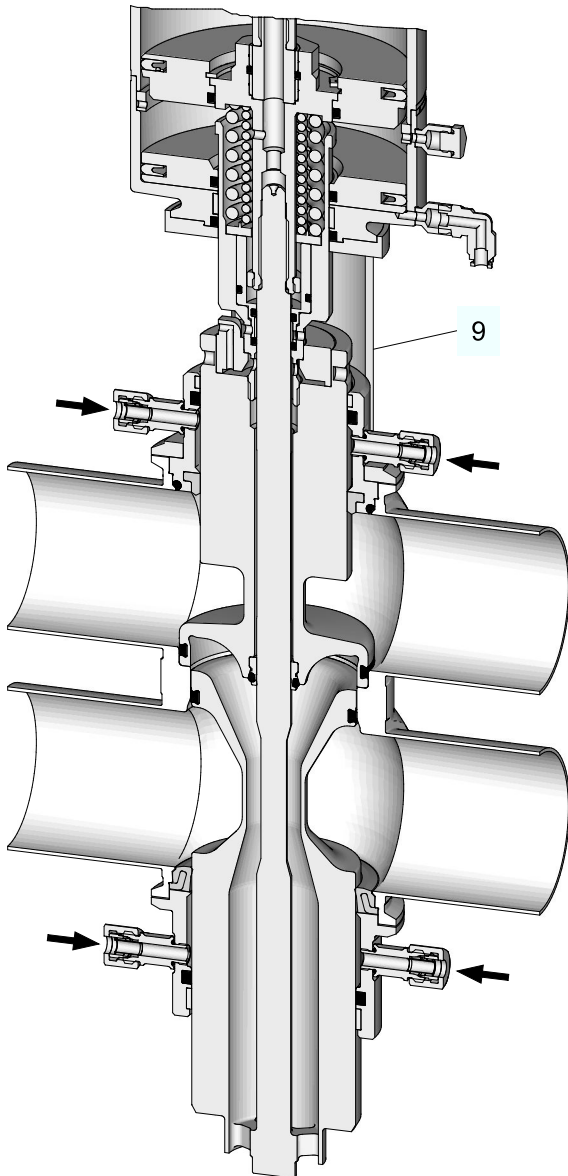


Fig.6

7. Align the thread connections of the steam lock BO/M2.0 in the lantern (9) in such a way that the threaded nipple or steam lock can be assembled.
8. Mount the threaded nipple or steam connections including O-rings with a jaw wrench (AF 13), torque 15 Nm (22.7 lbft)

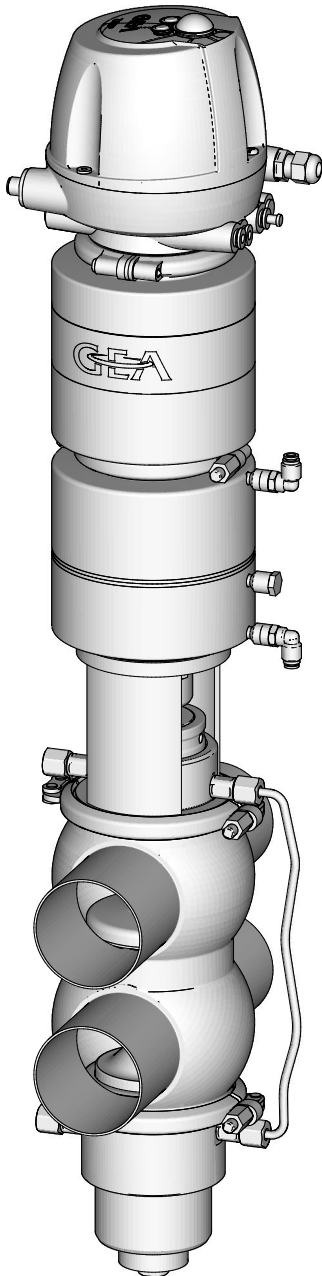


Fig.7

9. Mount the control top, see operating instructions for GEA VARIVENT® 24/7 PMO valve 2.0, type M/2.0, chapter “install switch bar and control top”.
 10. Install the valve in the housing, see operating instructions for GEA VARIVENT® 24/7 PMO valve 2.0, type M/2.0, chapter “Install valve in housing”.
- The steam lock is mounted.

Torques

Torques			
Torques		[Nm]	[lbft]
Clamps on the control top		1	0.7
Clamp connection cast half rings	M6	9	6.6
Clamp connection cast half rings	M8	22	16.2
Cast clamps	M10	45	33

Steam connection

The threaded nipples or steam connections are designed as cutting ring screw connection for a rigid steam conduit or a plastic hose connection. The cutting ring or the support sleeves as well as the union nuts (M14x1.5) are not part of the steam locks and must be procured separately according to the requirements.

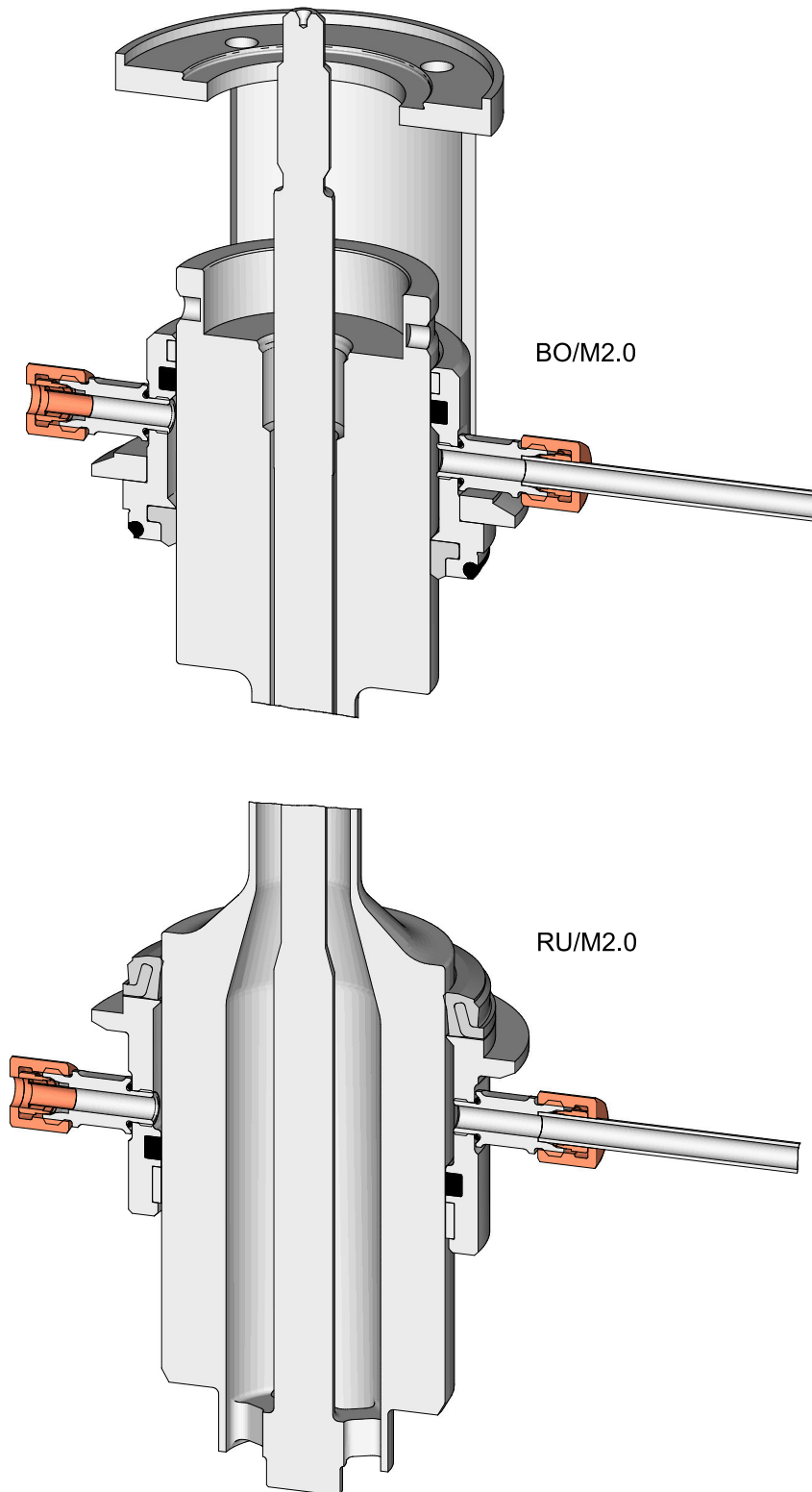


Fig.8



Hint!

The cutting ring, support sleeves as well as the union nuts (M14x1.5) are not part of the steam locks and must be provided accordingly.

3 Spare parts list - steam lock BO/2.0 and RU/2.0 with valve disk M/2.0/SP

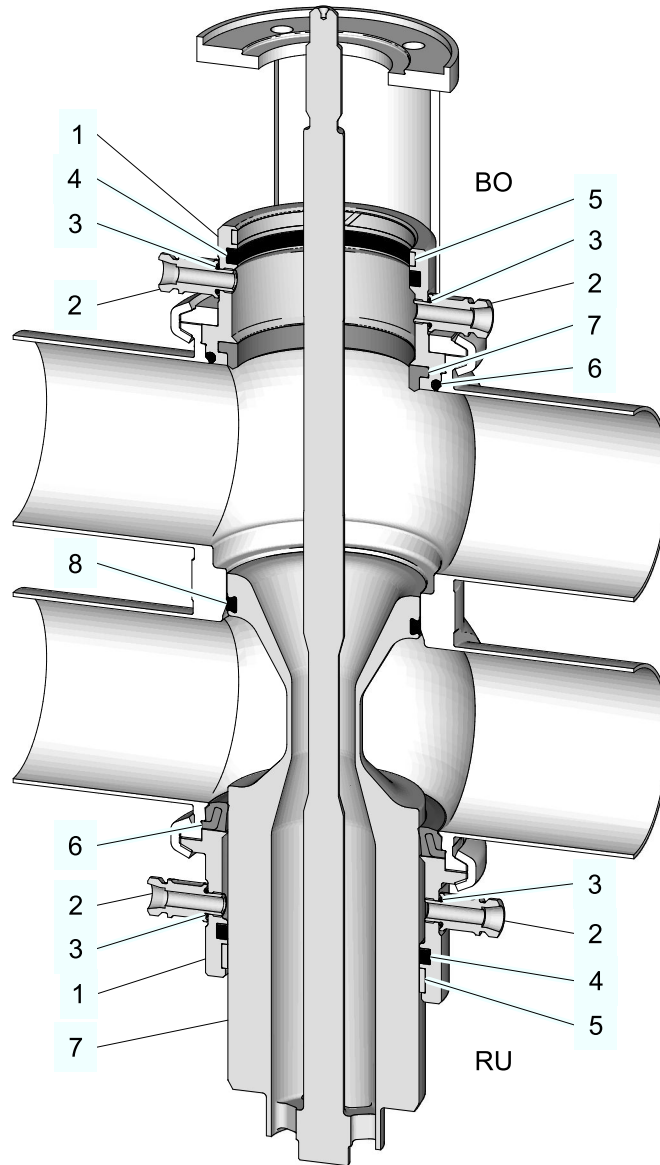


Fig.9

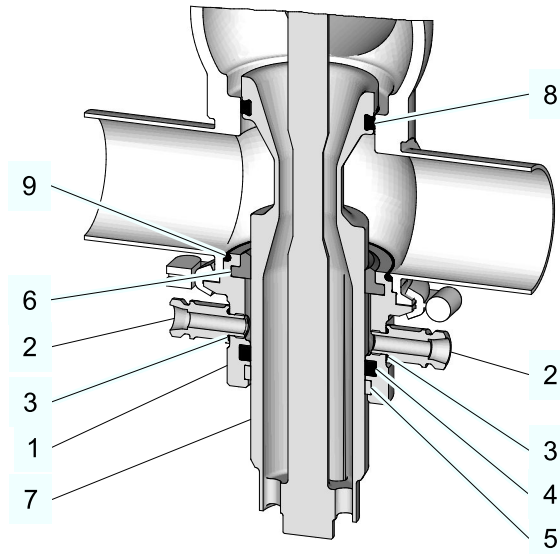


Fig.10: Version RU/M2.0 1.5" OD and 2" OD

Spare parts list - steam lock BO/2.0 and RU/2.0 with valve disk M/2.0/SP

		Rod diameter	D 46		D 69		D 97
Item	Designation	Material	1.5" OD	2" OD	2.5" OD	3" OD	4" OD
	Steam lock BO/M2.0 cpl.	1.4404/EPDM	221-007424	221-007424	221-007425	221-007425	221-007426
	Sealing set BO/M2.0	EPDM	221-007463	221-007463	221-007464	221-007464	221-007465
1	Steam lock BO/M2.0	1.4404	221-771.02	221-771.02	221-771.01	221-771.01	221-771.03
2	Threaded nipple	1.4301	221-007168	221-007168	221-007168	221-007168	221-007168
3	O-ring	E7502	930-961	930-961	930-961	930-961	930-961
4	O-ring	EPDM	930-546	930-546	930-620	930-620	930-451
5	Guide ring	MF6	935-154	935-154	935-147	935-147	935-156
6	O-ring	E7502	930-144	930-144	930-150	930-150	930-156
7	Seal ring	EJF-80	924-305	924-305	924-296	924-296	924-254
Attention! Steam pressure max. 1 bar							

		Rod diameter	D 46		D 77		D 105
Item	Designation	Material	1.5" OD	2" OD	2.5" OD	3" OD	4" OD
	Steam lock RU/M2.0 cpl.	1.4404/EPDM	221-007428	221-007429	221-007430	221-007431	221-007432
	Sealing set RU/M2.0	EPDM	221-007467	221-007467	221-007468	221-007468	221-007469
1	Steam lock RU/M2.0	1.4404	221-772.02	221-772.02	221-772.01	221-772.01	221-772.03
2	Threaded nipple	1.4301	221-007168	221-007168	221-007168	221-007168	221-007168
3	O-ring	E7502	930-961	930-961	930-961	930-961	930-961
4	O-ring	EPDM	930-546	930-546	930-563	930-563	930-154
5	Guide ring	MF6	935-154	935-154	935-120	935-120	935-119
6	Sealing ring RA	EJF-80	924-305	924-305	221-367.03	221-367.03	221-367.04
7	Valve disk M/2.0/Sp	1.4404	221-722.36	221-722.37	221-722.31	221-722.38	221-722.39
8	V-ring RA	EJF-80	221-365.07	221-365.07	221-365.08	221-365.08	221-365.09
9	O-ring	EPDM	930-144	930-144	--	--	--
Attention! Steam pressure max. 1 bar							



Hint!

The cutting ring or the support sleeves as well as the union nuts (M14 x 1.5) are not part of the steam locks and must be procured separately according to the requirements.

4 Dimension sheet - steam lock BO/2.0 and MU/2.0

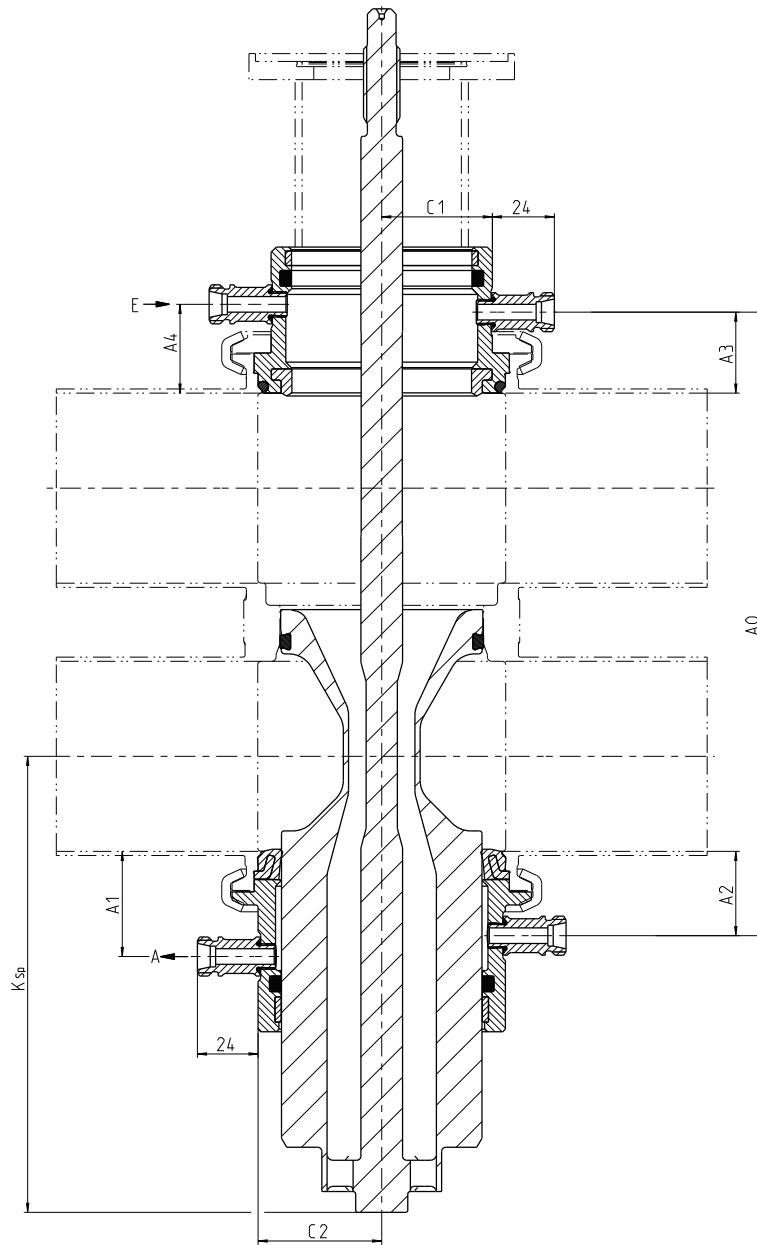


Fig.11

Nominal width	Pipe Ø [mm]	A 0 [mm]	A 1 [mm]	A 2 [mm]	A 3 [mm]	A 4 [mm]	C 1 [mm]	C 2 [mm]	Ksp [mm]
OD 1.5"	38.1 × 1.65	150.5	28.5	28.5	28	28	30	31	129.5
OD 2"	50.8 × 1.65	175.5	28.5	28.5	28	28	30	31	143.5
OD 2.5"	63.5 × 1.65	213	40	32	31	34	42	46.5	169
OD 3"	76.2 × 1.65	239	40	32	31	34	42	46.5	175.5
OD 4"	101.6 × 2.11	288	40	32	31	34	56	60.5	187.5

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