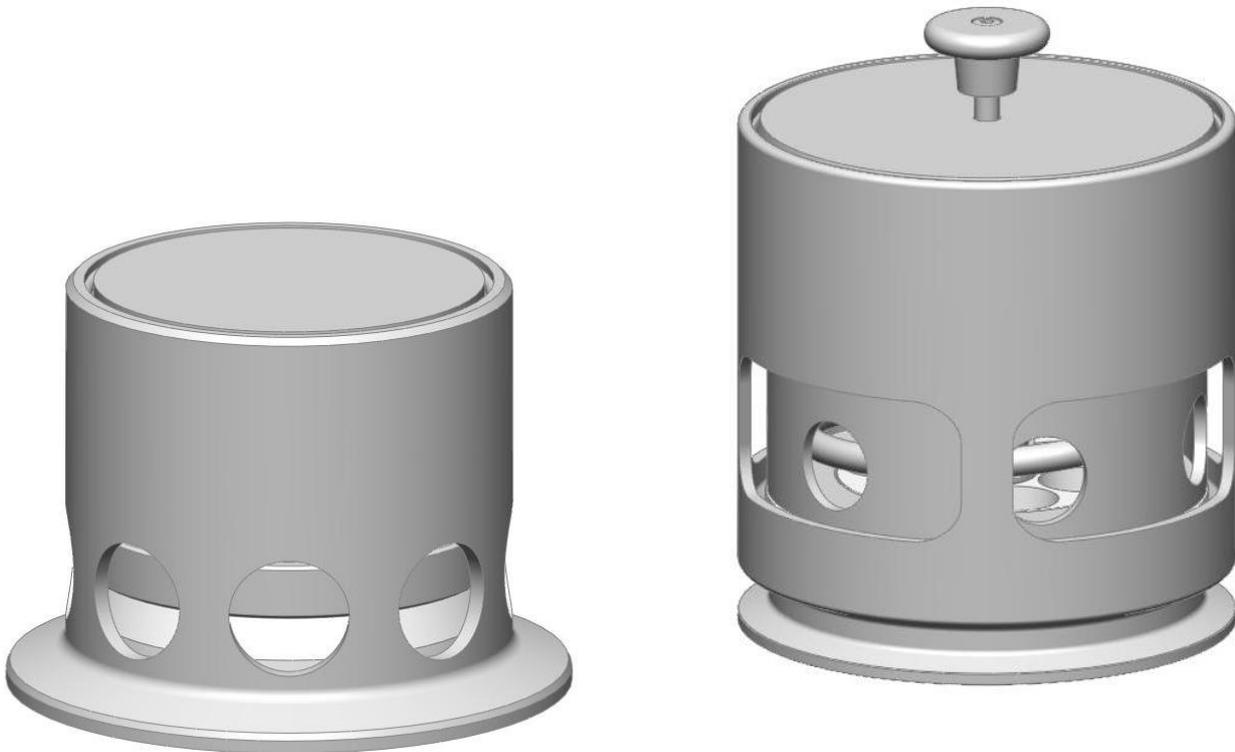


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## PRESSURE VACUUM VALVE

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**1 CHANGE MANAGEMENT**

CHANGES	INDEX	DATE	PAGE(S)	INITIALS
New version	1	September 06	/	R. GABORIT
Update	2	September 08	/	G. ANDRE
Update of snap-ring [14] for DN4"	3	September 09	14	N. CROZIER
Reference 7010887 was 7380612 (Rep 19)	4	July 2020	14	G. BEGAUD
Add of greases recommended for the actuator and the valve			4/5/10/11/15	
Add DN1"1/2	5	November 2021	/	G. BEGAUD

## 2 **SAFETY**

### 2.1 **IMPORTANT INFORMATION**

Always read the maintenance notice before manipulating the pressure vacuum valve.



Failure to observe these instructions can result in serious bodily injury or loss of life.



This can also result in less serious injuries or damage to the equipment.



Electricity can result in serious bodily injury or loss of life.



This can also result in less serious injuries or damage to the equipment.

### 2.2 **GENERAL INFORMATION**



**NOTE**

The following advice is given to ensure optimum use of the equipment.

- The tasks must be performed in the order specified.
- A range of greases for cylinder seals and valve seals has been defined for be in phase with their nature and the regulations according to the uses (See § 7.4).

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**MAINTENANCE NOTICE Pressure/vacuum valve.**

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### 3 INTRODUCTION

The disassembly process for pressure/ vacuum valves is carried out in a single step:

This operation enables access to the seals (Changing the seals, see § 7.4 for lubrication).

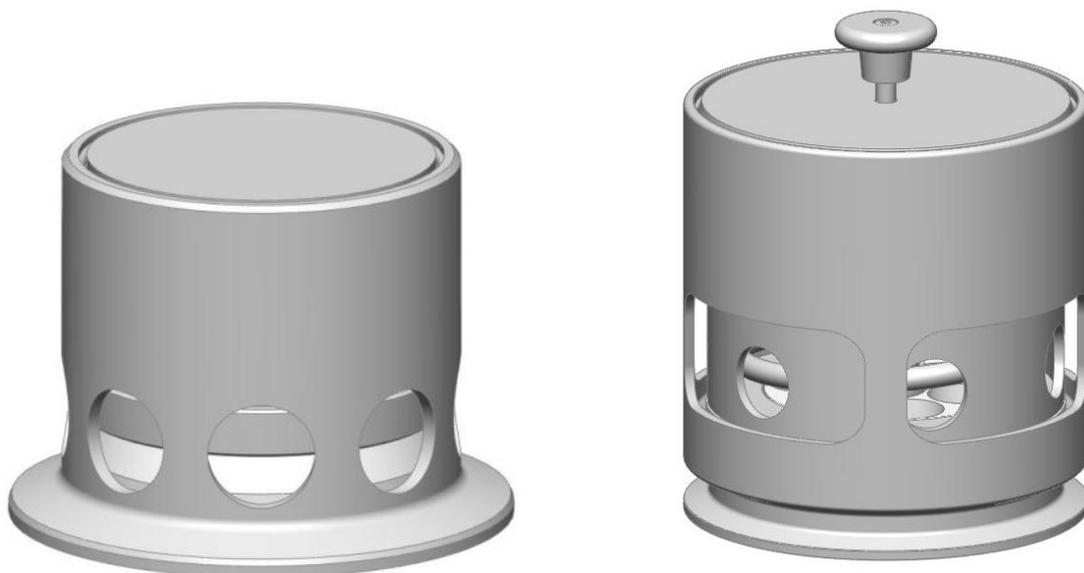
This is a straightforward procedure and can be performed on-site as it does not present any particular problems.

This is the case in the majority of maintenance operations on this type of valve.

**DANGER!****NOTE**

**CAUTION:** This operation must be performed using a special tool ensuring that the necessary precautions are taken (**STRESSED SPRING**).

**NOTE:** After carrying out any maintenance work on DEFINOX products it is essential that you check the correct function of the equipment concerned : tightness, pressure, etc...



## 4 DISMANTLING THE DN1"1/2, DN2" AND DN2"1/2 PRESSURE VACUUM VALVE

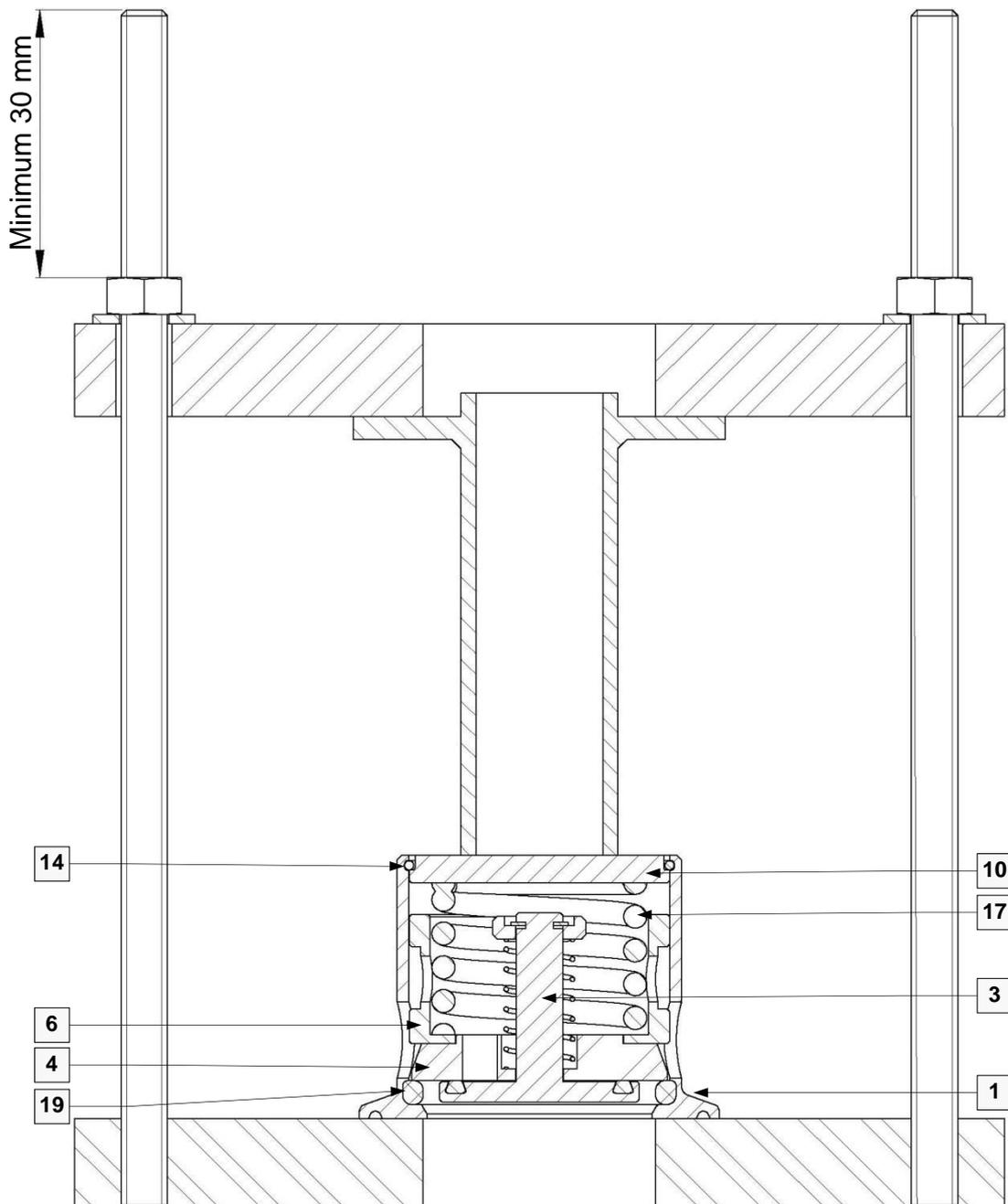
### 4.1 DISMANTLING THE DN1"1/2, DN2" AND DN2"1/2 VALVE



**CAUTION:** This is a hazardous operation if performed without using the correct tools. We recommend using a hydraulic press or a tool of the type shown in the diagram opposite (this tool must be made to accommodate a spring expansion of 60 mm).

With the valve placed vertically:

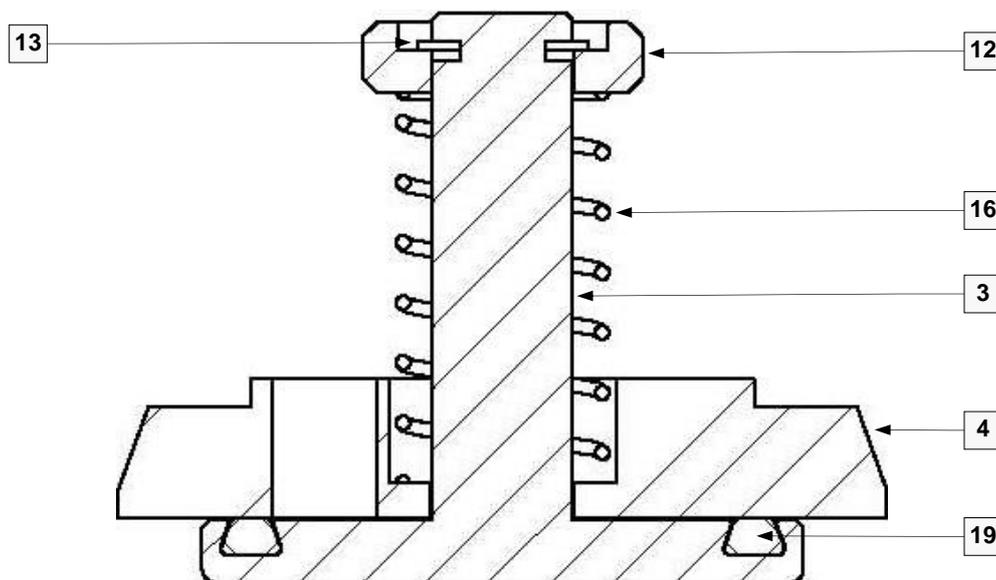
- Push down the cap [10] to remove the snap-ring.
- Remove the snap-ring [14] from its recess using a small screwdriver.
- Release the pressure to allow the cap to rise back.
- Remove the cap and the spring [17].
- Remove the valve guide [6] and the vacuum/seat valve assembly [3-4] from the valve body [1] and the O-ring [19].



#### 4.2 DISMANTLING THE VACUUM/SEAT VALVE ASSEMBLY

With the vacuum/seat valve assembly placed vertically:

- Push down the washer [12] to remove the stop washer [13] from the vacuum valve [3] using a small screwdriver.
- Release the pressure to allow the washer [12] to rise back so that the spring [16] can be removed.
- Remove the seat [4].
- Remove the body O-ring [19] from the vacuum valve [3].



## 5 DISMANTLING THE DN4" PRESSURE VACUUM VALVE

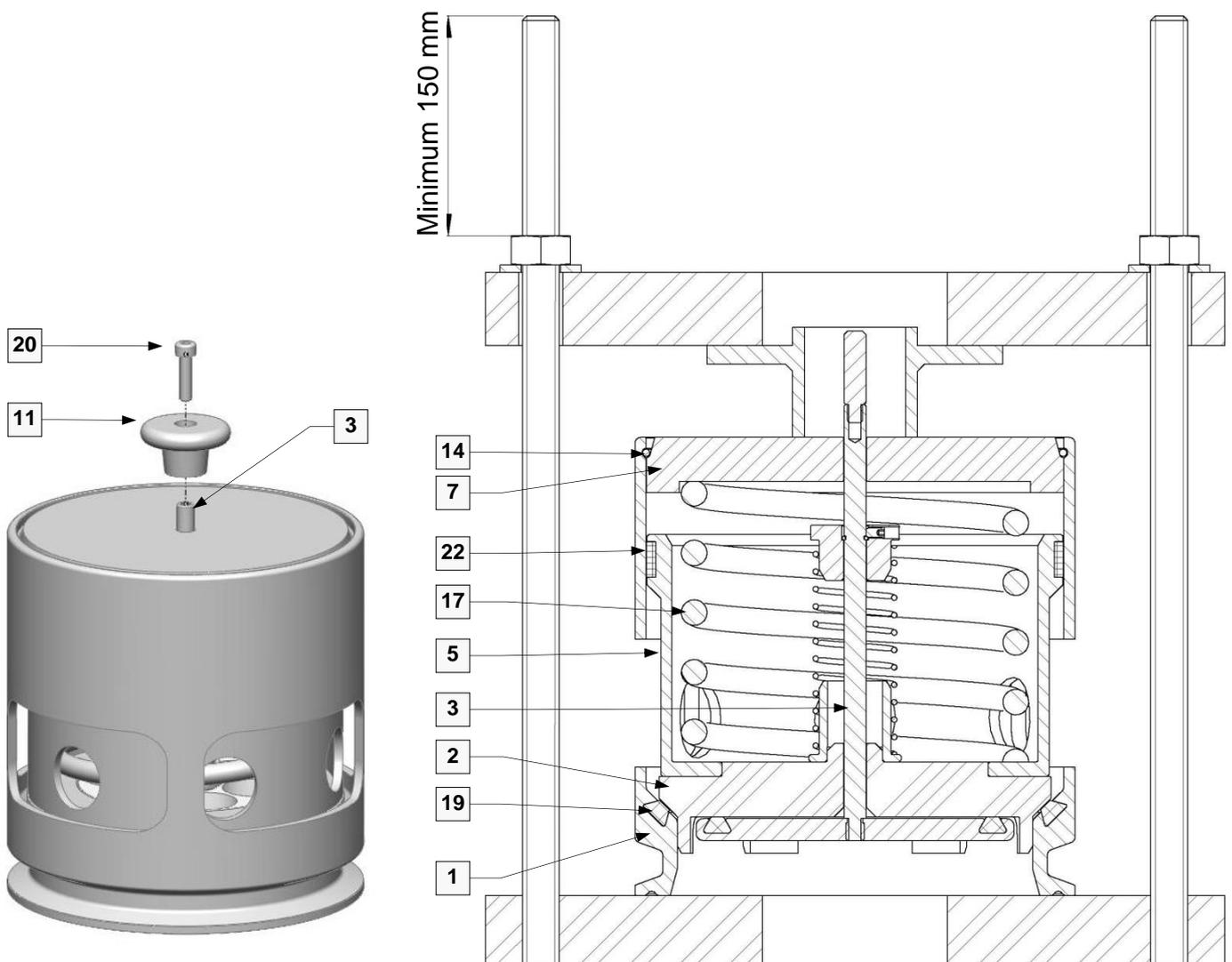
### 5.1 DISMANTLING THE DN4" VALVE



**CAUTION:** This is a hazardous operation if performed without using the correct tools. We recommend using a hydraulic press or a tool of the type shown in the diagram opposite (this tool must be made to accommodate a spring expansion of 150 mm).

With the valve placed vertically:

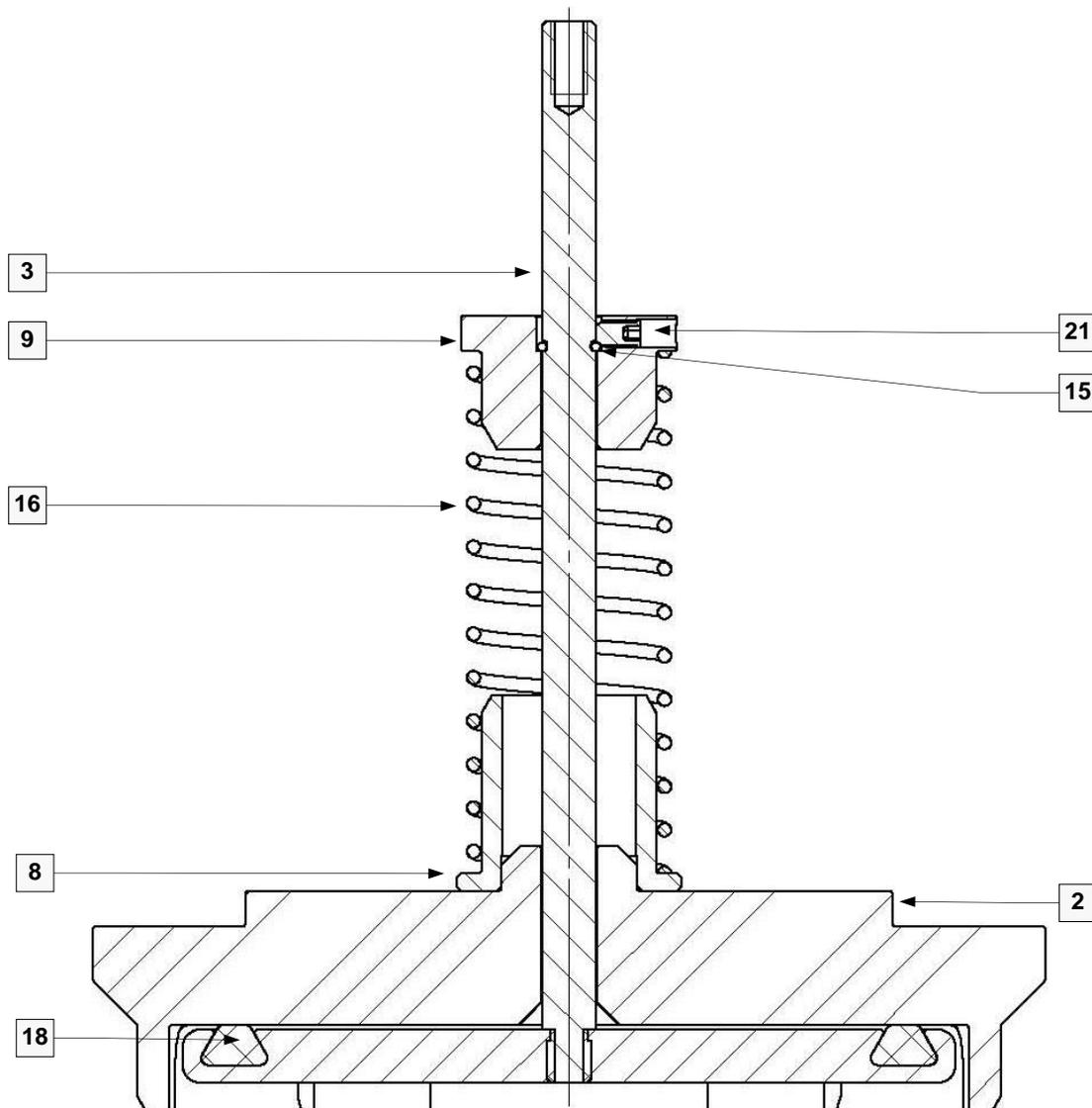
- Remove the screw [20] to extract the end of the valve [11].
- Push down the end of the pressure valve [7] to remove the snap-ring.
- Remove the snap-ring [14] from its recess using a small screwdriver.
- Release the pressure to allow the end of the pressure valve to rise back up.
- Remove the end of the pressure valve, the spring [17], the pressure valve piston [5] and the ring [22].
- Remove the vacuum/pressure valve assembly [3-2] from the valve body [1] and the O-ring [19].



## 5.2 DISMANTLING THE VACUUM/PRESSURE VALVE ASSEMBLY

With the vacuum/pressure valve assembly placed vertically:

- Release the STHC screw [21], push down the pressure valve guide [9] to remove the snap-ring [15] from the vacuum valve [3] using a small screwdriver.
- Release the pressure to allow the pressure valve guide [9] to rise back up so that the spring [16] and vacuum valve seat [8] can be removed.
- Remove the pressure valve [2].
- Remove the O-ring [18] from the vacuum valve [3].

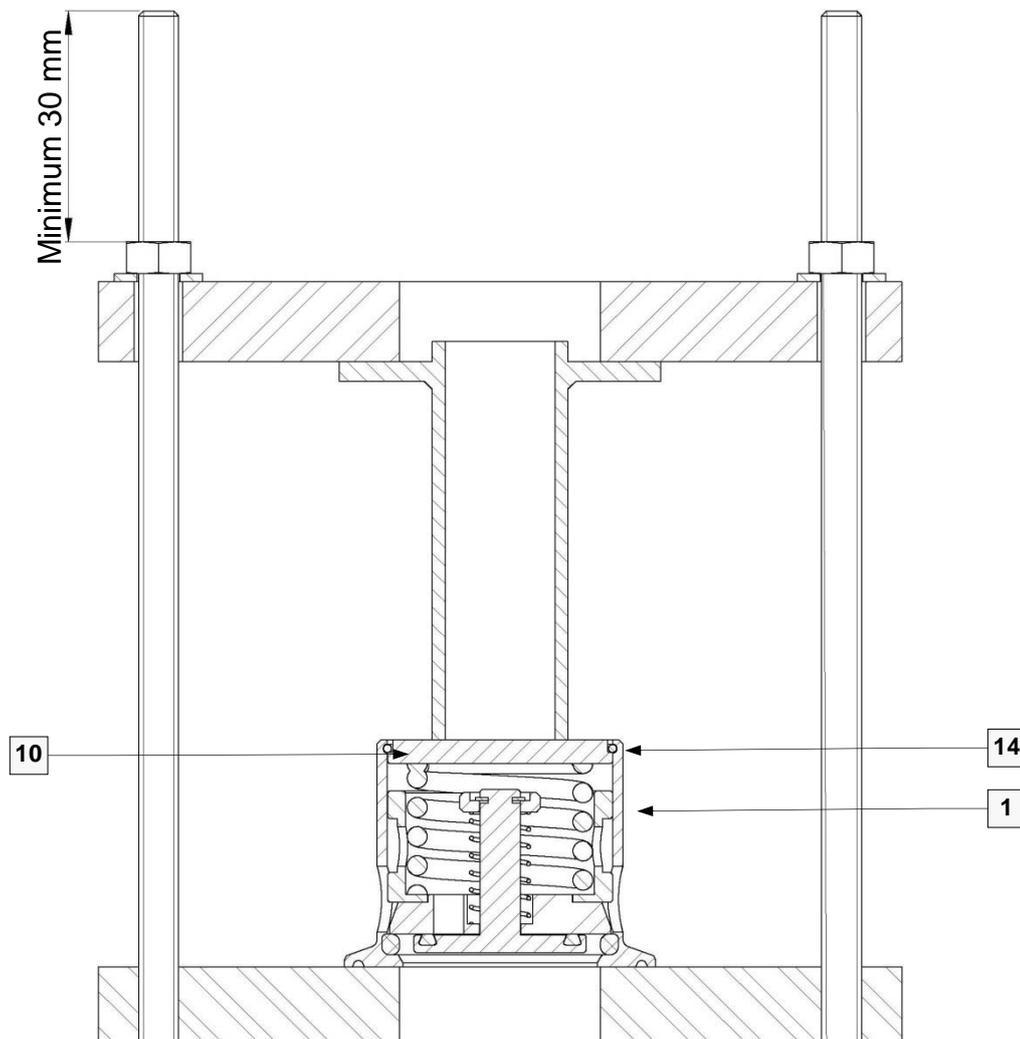


## 6 REASSEMBLING THE VALVES

### 6.1 REASSEMBLING THE DN1"1/2, DN2" AND DN2"1/2 PRESSURE VACUUM VALVE

This procedure is performed in the reverse order to dismantling. However, it is necessary to take into account the following information:

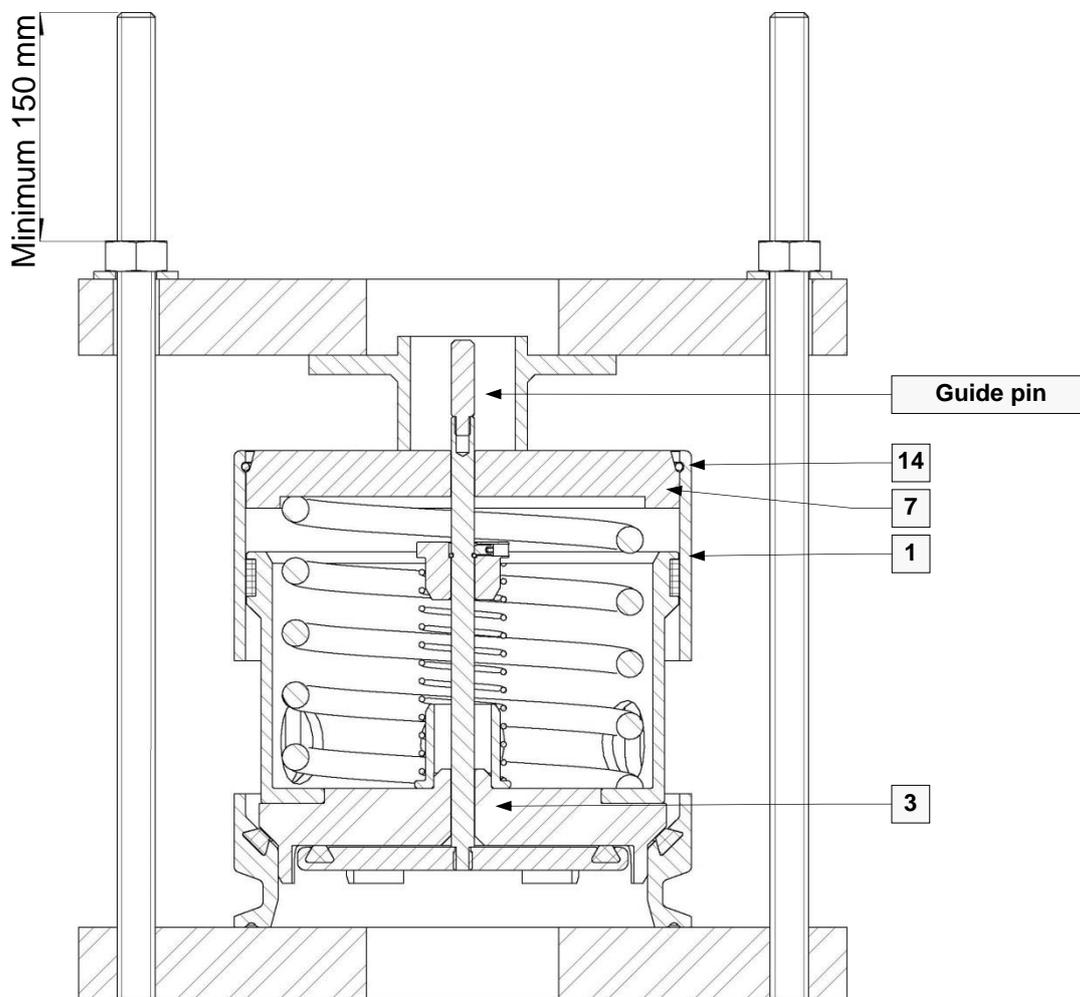
- Before reassembling the parts, ensure that the assembly is lubricated with an appropriate lubricant (water-resistant and temperature-resistant food grade grease → Example: 4025 H1 QUINPLEX by Lubrication Engineers, see §7.4). Ensure that the grease used is compatible with the elastomer seals.
- Check that the cap [10] is properly positioned in the valve body [1].
- Ensure that the snap-ring [14] is properly positioned in the recess of the valve body [1] before releasing the pressure.
- Activate the valve to check that it operates correctly.



## 6.2 REASSEMBLING THE DN4" PRESSURE VACUUM VALVE

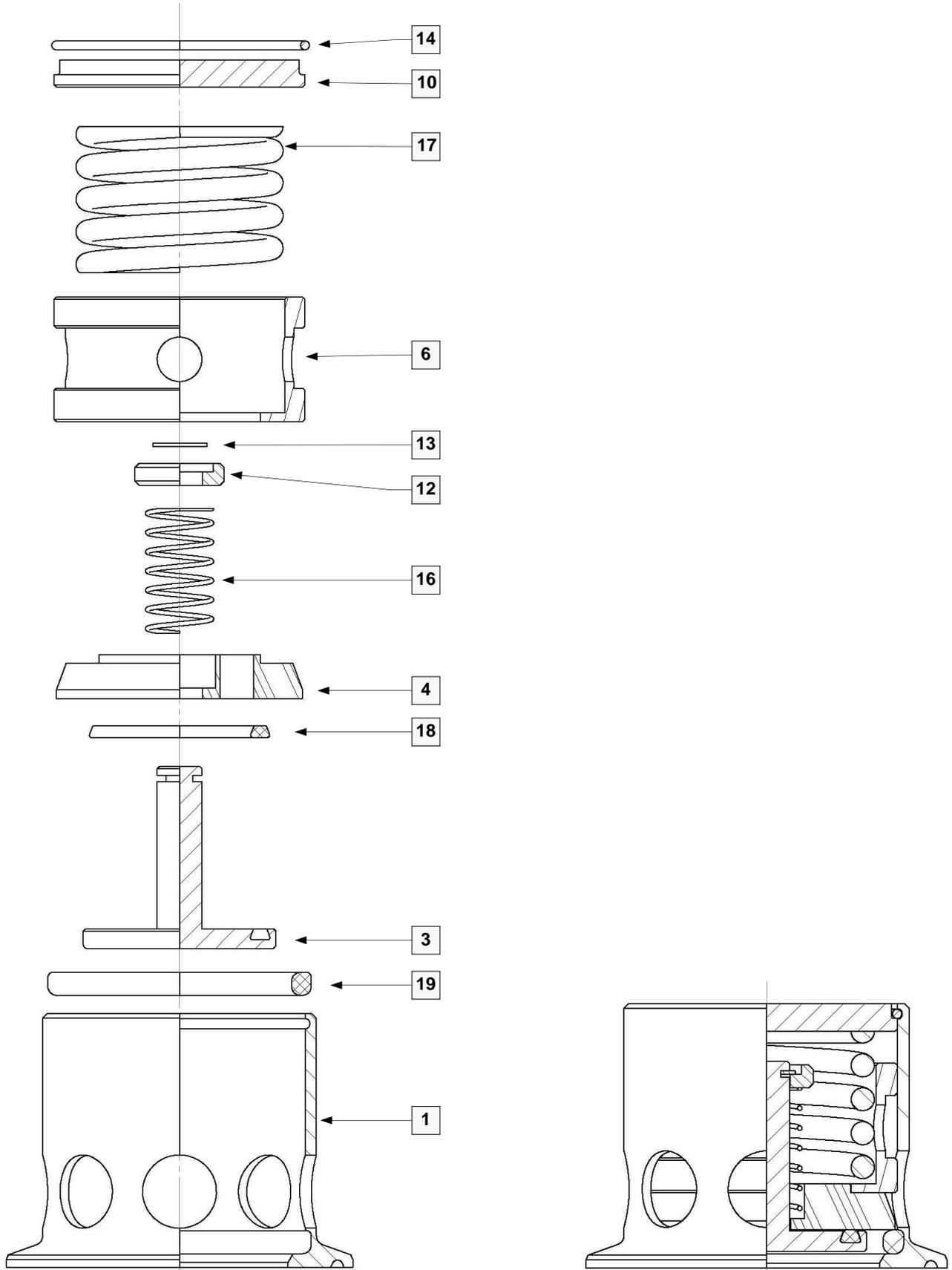
This procedure is performed in the reverse order to dismantling. However, it is necessary to take into account the following information:

- A guide pin centred on the vacuum valve stem [3] ensures that the end of the pressure valve [7] is properly centred in the body of the valve [1].
- Before reassembling the parts, ensure that the assembly is lubricated with an appropriate lubricant (water-resistant and temperature-resistant food grade grease → Example: 4025 H1 QUINPLEX by Lubrication Engineers, see §7.4). Ensure that the grease used is compatible with the elastomer seals.
- Ensure that the snap-ring [14] is properly positioned in the recess of the valve body before releasing the pressure.
- Activate the valve to check that it operates correctly.

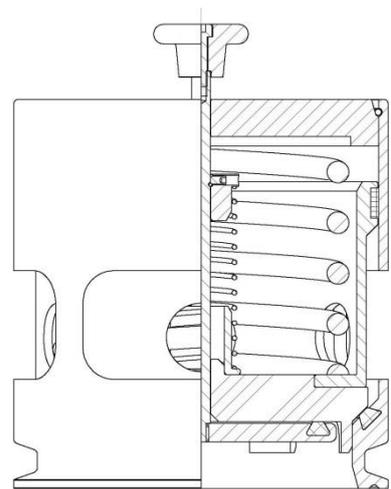
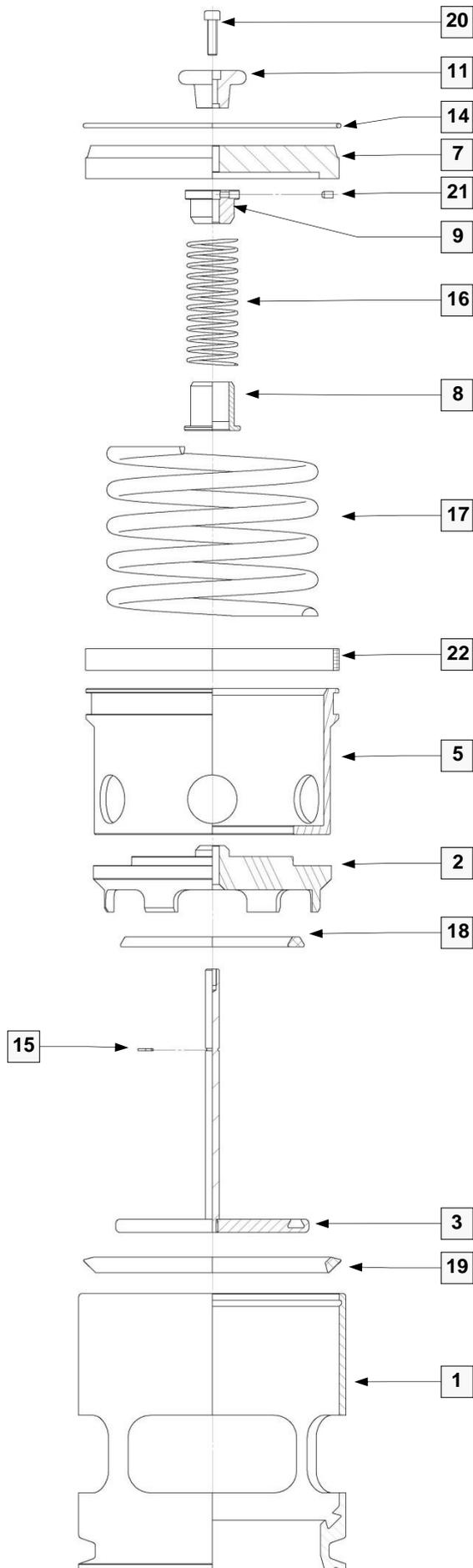


**7 PARTS**

**7.1 DN1"1/2, DN2" AND DN2"1/2 PRESSURE VACUUM VALVE**



**7.2 DN4" PRESSURE VACUUM VALVE**



**7.3 LIST OF PARTS FOR PRESSURE VACUUM VALVES**

Ref	Part name	Qty	DN 1"1/2	DN 2"	DN 2"1/2	DN 4"
01	Valve body	1	7201705	7201706	7201731	7201385
02	Pressure valve plug	1				7201389
03	Vacuum valve plug	1	7201708	7201708	7201708	7201391
04	Seat	1	7201709	7201709	7201709	
05	Pressure vacuum valve piston	1				7201390
06	Valve guide	1	7201758	7201758	7201758	
07	Pressure vacuum valve base	1				7201388
08	Vacuum valve plug seat	1				7201396
09	Guide Pressure vacuum valve	1				7201392
10	Cap	1	7201237	7201237	7201237	
11	Pressure vacuum valve end	1				7201386
12	Washer	1	7201401	7201401	7201401	
13	Stop washer	1	7503028	7503028	7503028	
14	Snap-ring	1	7007764	7007764	7007764	7007889
15	Pressure vacuum valve stem ring	1				7007788
16	Vacuum spring	1	7007729	7007866	7007866	7007814
17	Pressure spring	1	See attached table			
18	Plug seal	1	7006094	7006094	7006094	7006073
19	Body seal	1	7010887	7010887	7010887	7006095
20	Vacuum valve CHC screw	1				7380341
21	Pressure vacuum valve guide STHC screw	1				7006848
22	Pressure vacuum valve piston ring	1				7009983

Diameter			DN1"1/2	DN2"	DN2"1-2	DN4"
Ref	Part name	Qty	Reference for spring / pressure in bar			
17	Pressure spring	1	7007816	0.7	7007824	0.2
			7007817	1	7601117	0.5
			7007818	1.4	7007808	1
			7007819	1.8	7007803	1.3
			7007869	2	7007794	1.7
			7007820	2.5	7007789	2
			7020021	3	7007829	2.8

**7.4 Reference of greases**

	<i>Ref.</i>	<i>Designation</i>	
Grease for actuator seals	7010662	grease cartridge 400 g (4025 H1 QUINPLEX)	
Grease for valve seals	7030668	grease cartridge 500 g (Kluber Paraliq GTE 703, NFS H1, FDA 21 CFR § 178.3570)	

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