



M&S Armaturen GmbH

PARTNER STATT LIEFERANT.

Operating Instructions

- original -

PharmCom Sampling Valve

M&S Article No. 10953



TYPE EL - CLASS I

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2 Safety advice

2.1 Marking of safety instructions in operating instructions



Danger warnings

Danger warnings are denoted by the danger symbol which appears on the left and are framed.



Information

Descriptions to which particular attention must be paid are denoted by this symbol which appears on the left and are also framed.

2.2 Intended use

The PharmCom sampling valves are only intended for the described purpose. Any use beyond that is considered to be improper use. M&S is not liable for any resulting damages, the risk is solely with the operator. Requirement for proper, safe operation of the valves are proper transport and storage as well as proper installation and assembly. Proper use also includes adherence to the requirements for operation, maintenance and repair. Unauthorised reconstruction or modification that impair the safety of the valves are not permitted. Only use original spare parts and accessories approved by the manufacturer.

2.3 Personnel

The operating and maintenance personnel must be qualified for the work involved. They must receive special instruction about occurring dangers and must know and observe the safety instructions listed in the operating instructions.

2.4 General instructions

The user is obliged to operate the valve in perfect condition only. Apart from the operating instructions, the following apply

- pertinent regulations on the prevention of accidents
- generally accepted safety-related rules
- internal work and safety regulations



3 Use and operating principle

The PharmCom sampling valve is used for sampling liquids from containers and pipelines in beverage and food industry, pharmaceutical industry and chemical industry.

In the manual version (see figure 1) the valve is opened by actuating the handwheel (5) counter-clockwise and closed by turning it clockwise. In the pneumatic version (see figure 2), the valve opens by turning the handwheel (5) counter-clockwise and closes by turning the handwheel (5) clockwise until it runs freely. The valve then closes by spring force. An additional pneumatic connection (11) enables pneumatic triggering the valve for cleaning or for automatic sampling. The pneumatic valve can optionally be equipped with a proximity switch (21) for positional queries. In addition, the pneumatic variant of the sampling valve can be delivered with a pneumatically triggered flushing valve (20) for automatic cleaning. These options are illustrated in figure 3.

The PharmCom sampling valve is available in different connection variants. By default, the valve is equipped with weld connection DN25 and sampling socket (1.2) DN10.

4 Illustration of PharmCom sampling valve (sectional drawings)

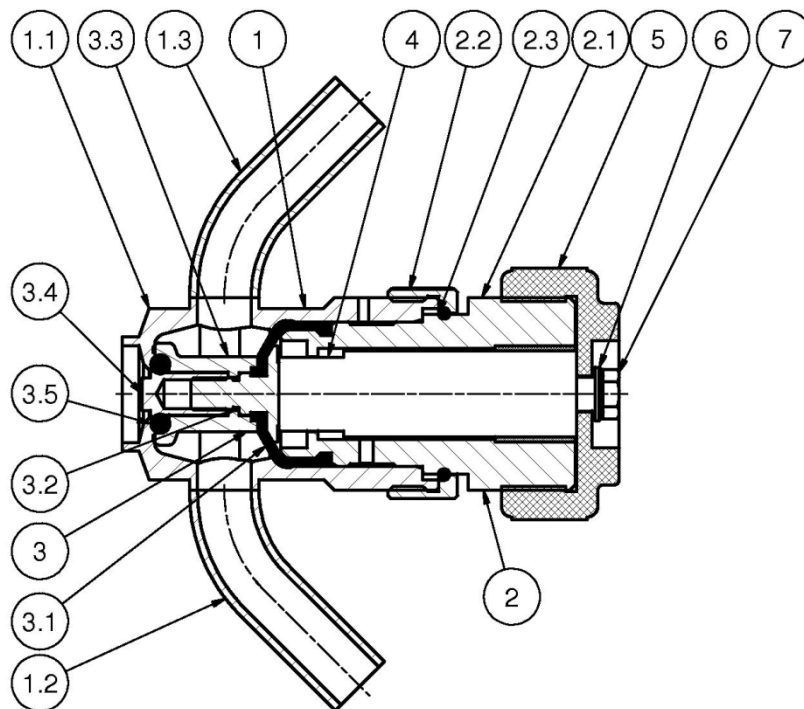


Figure 1 – Sectional view of PharmCom sampling valve manual with flush connection

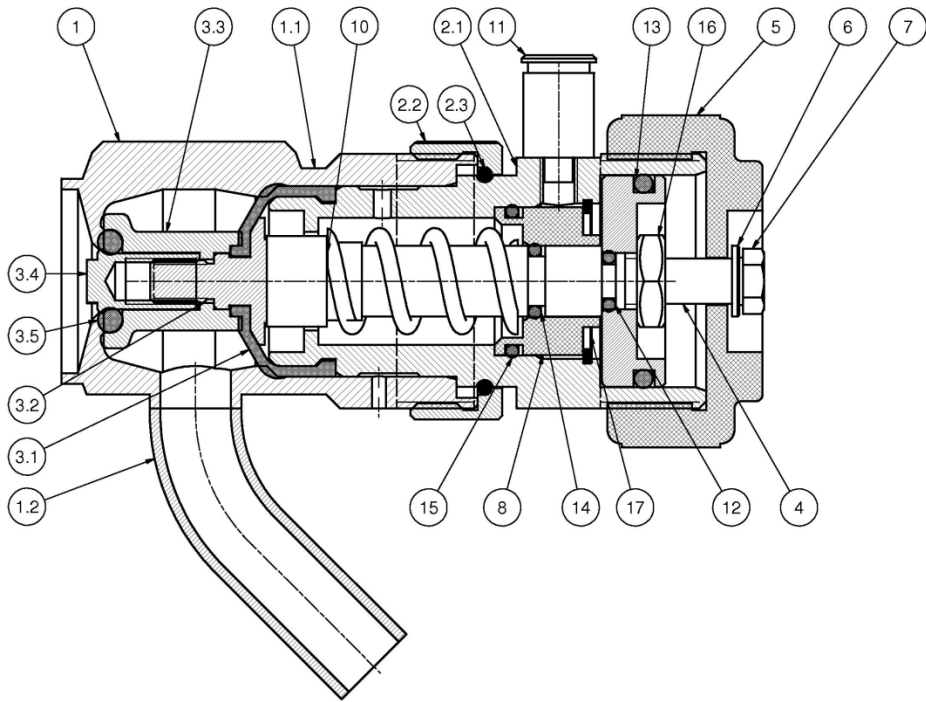


Figure 2 – Sectional view of PharmCom sampling valve manual / pneumatic without flush connection

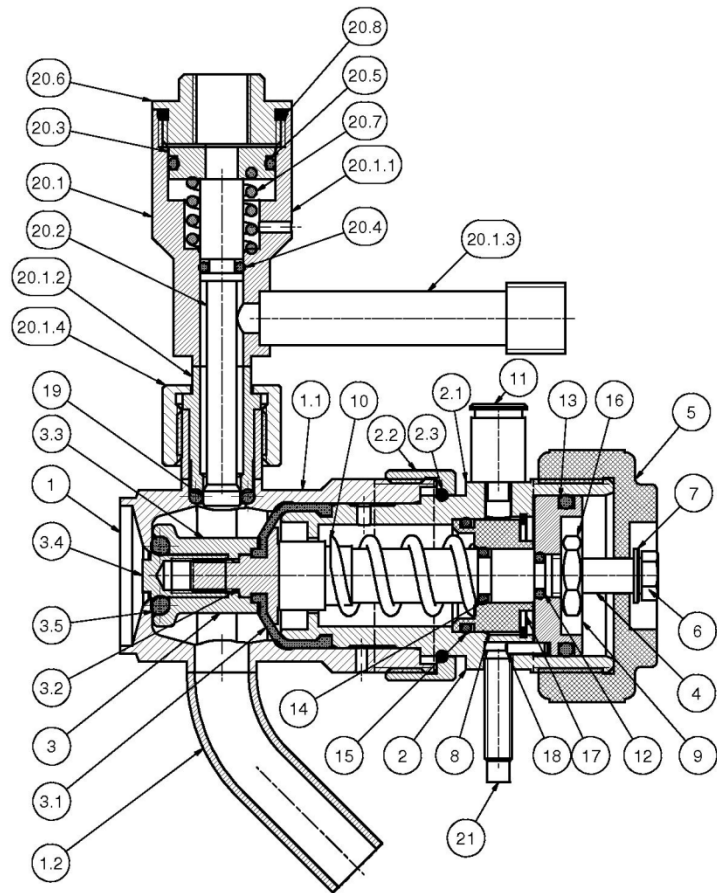


Figure 3 – Sectional view PharmCom sampling valve manual / pneumatic with flush valve and proximity switch



Table 1 – Bill of material PharmCom sampling valve (see figure 1-3)

Item	Quantity	Designation	
1	1	Housing	
1.1	1	Housing base body	
1.2	1	Sampling socket	
1.3	1	Flush socket	(optional)
2	1	Valve insert	
2.1	1	Insert	
2.2	1	Cap nut	
2.3	1	Retaining ring	
3	1	Valve cone	
3.1	1	Diaphragm	
3.2	1	Screw-in part	
3.3	1	Cone	
3.4	1	Clamping part	
3.5	1	O-ring	
4	1	Pole	
5	1	Handwheel	
6	1	Hexagon screw DIN 933	
7	1	Washer	
8	1	Sleeve	
9	1	Piston	
10	1	Compression spring	
11	1	Air connection	
12	1	O-ring	
13	1	O-ring	
14	1	O-ring	
15	1	O-ring	
16	1	Hexagon nut ISO 4035	
17	1	Retaining ring	
18	1	Cylinder pin	
19	1	O-ring	
20	1	Flush valve (optional)	(optional)
20.1	1	Flush valve housing	(optional)
20.1.1	1	Flush valve base body	(optional)
20.1.2	1	Collar socket, flush valve	(optional)
20.1.3	1	Nipple of flush valve	(optional)
20.1.4	1	Cap nut for flush valve	(optional)
20.2	1	Pole for flush valve	(optional)
20.3	1	Piston for flush valve	(optional)
20.4	1	O-ring for flush valve	(optional)
20.5	1	O-ring for flush valve	(optional)
20.6	1	Spring cover, flush valve	(optional)
20.7	1	Pressure spring, flush valve	(optional)
20.8	1	O-ring for flush valve	(optional)
21	1	Proximity switch (optional)	(optional)

5 Transportation and storage

5.1 Checking the delivery contents



- When you receive the valve, check the information on order and delivery papers to make sure they correspond.
- Check that the delivery is complete, and check its condition.

If there are visible signs of transit damage and/or packing units are missing notify the forwarding agent immediately in the consignment note. You (the recipient) should take recourse against the forwarding agent immediately in writing, and M&S Armaturen GmbH must be informed of this action.

Complaints regarding transit damage that is not immediately evident must be made to the forwarding agent within 6 days. The recipient must bear the costs for claims made after this period.

5.2 Transport



- The packing units must only be transported using suitable lifting equipment and slinging gear.
- Pay attention to the graphic symbols on the packaging.
- Transport the drive carefully to prevent damage from sudden impacts; exercise due care when loading/unloading.

6 Installation / disassembly / assembly

6.1 Installation



- Observe the relevant national guidelines and regulations.
- Install the valve without tension into the pipeline system.
- The valve may only be installed when depressurised.
- Only assemble the device in cooled down and cleaned condition.

- In case of sampling valve with weld connection, you must dismount the valve insert (2) from the housing (1) prior to welding work [see chapter 6.2].
- Sampling valves with screw or thread connection are delivered in a condition ready for assembly.
- The sampling valve must be installed in such a way that liquids can drain completely from the sampling socket (1.2).



6.2 Disassembly of valve cone



- The valve may only be disassembled when depressurised.

- Open the valve slightly by turning the handwheel (5) counter-clockwise.
- Carefully loosen the cap nut (2.2) of the valve insert (2) by turning it counter-clockwise, manually or with spanner (size 9).
- Pull out the valve insert (2) from the housing (1) (see figure 4).

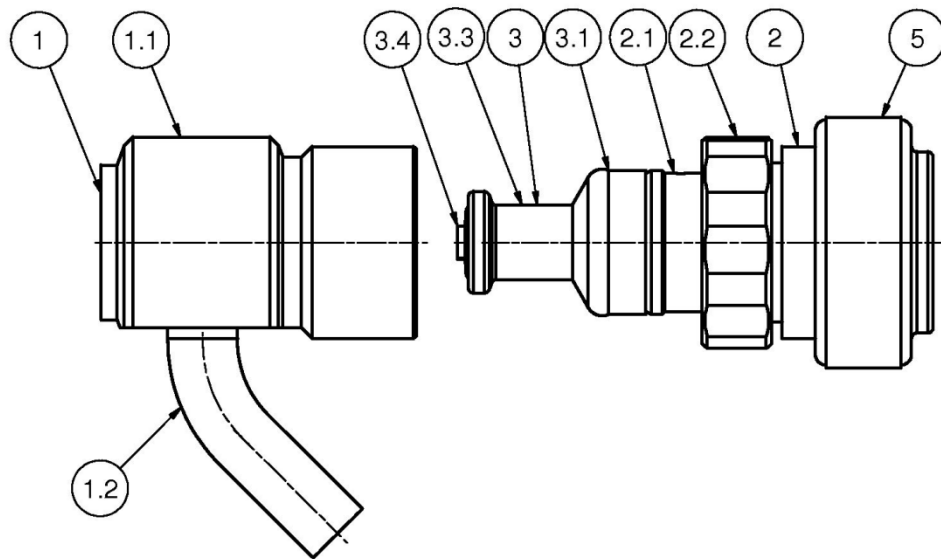


Figure 4 – Housing (1) and valve insert (2), disassembled

- Loosen the diaphragm (3.1) from the holder and invert it completely (see figure 5 and 6).

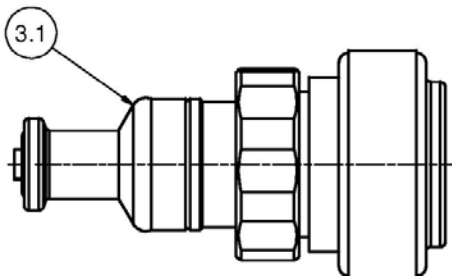


Figure 5 – Valve insert with diaphragm (3.1)

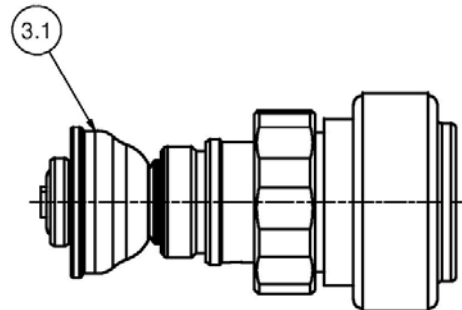


Figure 6 – Valve insert with inverted diaphragm (3.1)

- Screw out the valve cone (3) manually counter-clockwise (see figure 7).

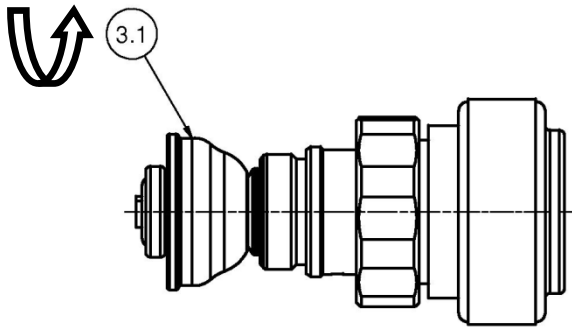


Figure 7 – Valve insert with inverted diaphragm (3.1)

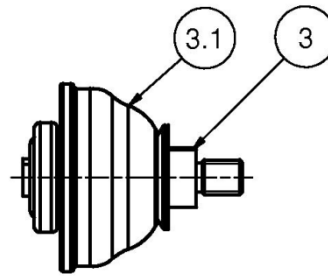


Figure 8 – Valve cone (3) with inverted diaphragm (3.1)

- Disassemble valve cone (3) using spanner size 10 and 6. Use the corresponding spanner surfaces at the clamping part (3.4) and the screw-in part (3.2). Remove diaphragm (3.1) and O-ring (3.5) (see figure 9).

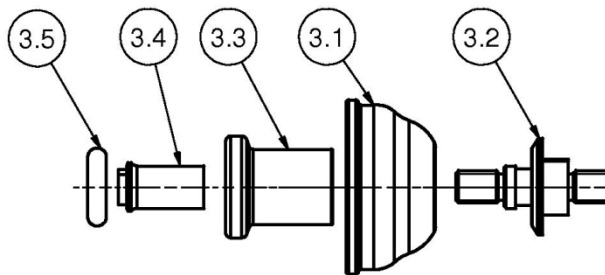


Figure 9 – Valve cone, individual parts

6.3 Assembly of valve cone

- Prior to valve cone (3) installation, clean installation space and running surfaces.
- Assemble the valve cone (3) in reverse order (see figure 10).

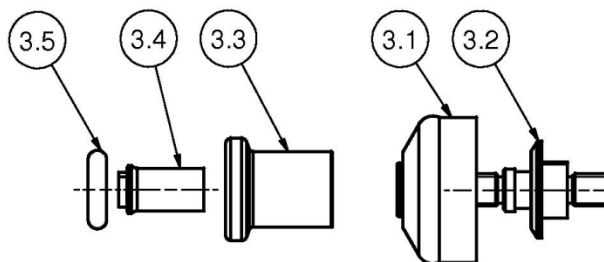


Figure 10 – Valve cone, individual parts

- Invert the diaphragm (3.1) (see figure 11).

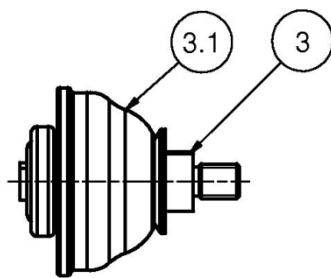


Figure 11 – Valve cone (3) with inverted diaphragm (3.1)

- Screw in the valve cone (3) with inverted diaphragm (3.1) by screwing it clockwise into the valve insert (see figure 12).

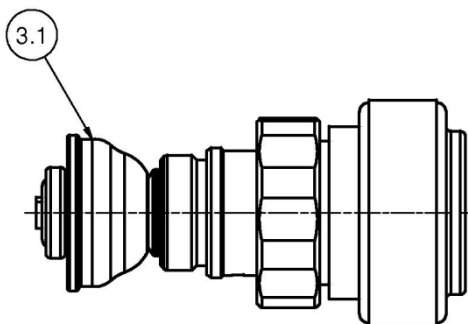


Figure 12 – Valve insert with inverted diaphragm (3.1)

- Flip the diaphragm (3.1) back (see figure 13).

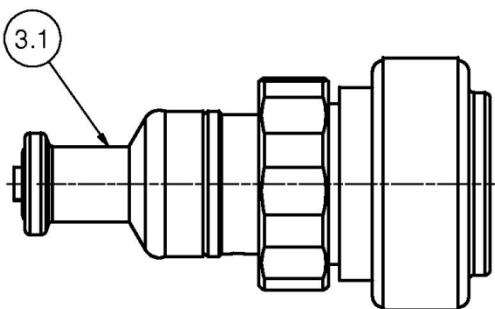


Figure 13 – Valve insert with re-inverted diaphragm (3.1)

- Install the valve insert 2) in the housing (1).

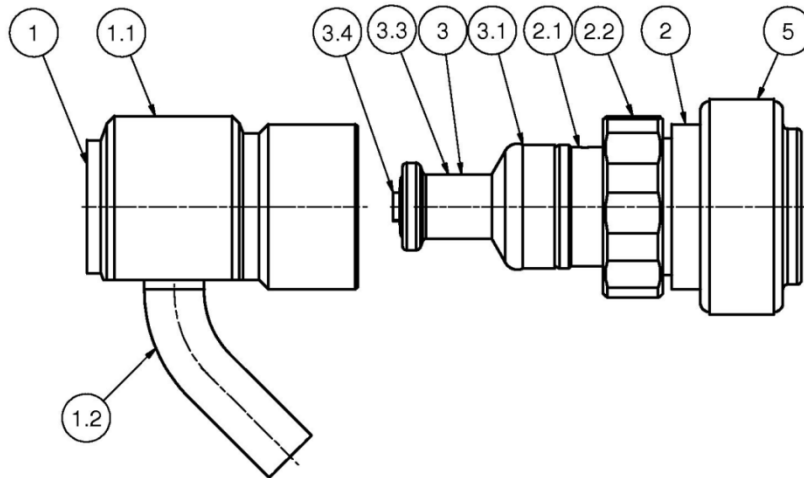


Figure 14 – Housing (1) with valve insert (2)

- Close the valve by turning the cap nut (2.2) of the valve insert (2) clockwise, manually or carefully with a spanner (size 9).
- Check the valve function.

6.4 Replacing the O-rings at the housing insert

- Loosen hexagon screw (7) and remove it and its washer (6).
- Loosen the handwheel (5) by turning it counter-clockwise.
- Loosen the hexagon nut (16) by turning it counter-clockwise.
- Remove the pole (4) and the piston (9) from the housing insert (2).
- Replace O-rings (12,13,14,15) and grease them slightly. Recommended: Paraliq GTE 703 by Klüber Lubrication
- Assemble again in reverse order.

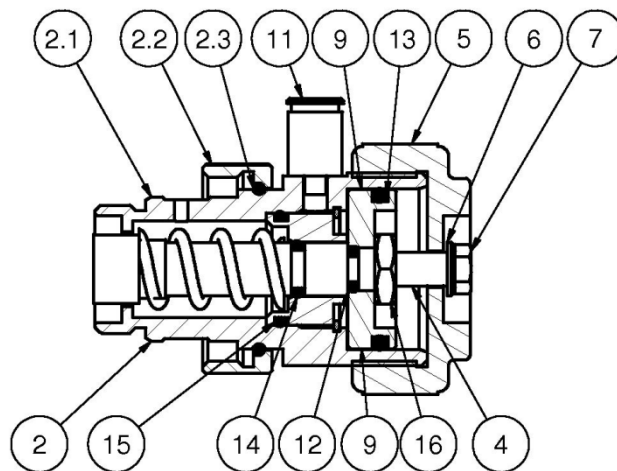


Figure 15 – Valve insert without valve cone

7 Repairs/Maintenance



- The maintenance intervals differ from case to case, the operator should define them by himself basing on sporadic checks.
- To replace the gaskets refer to the installation instructions (chap. 6).



- M&S Armaturen GmbH cannot accept liability for claims made as a result of nonobservance of these Operating Instructions or constructional changes to the valve.
- Any other use or use outside the defined scope is considered to be improper use. M&S Armaturen GmbH will not accept liability for losses incurred as a result of improper use.

8 Cleaning



- Observe the safety data sheets by the cleaning agent manufacturers!

- Clean individual parts carefully.
- Prior to sampling, rinse and sterilise the valve interior and the sampling socket (1.2) through the flush socket (1.3).

9 Technical Data

9.1 Max. operating pressure and operating temperature

- Max. operating pressure: 10 bar
- Max. operating temperature: depending on the gasket material



9.2 Dimensions

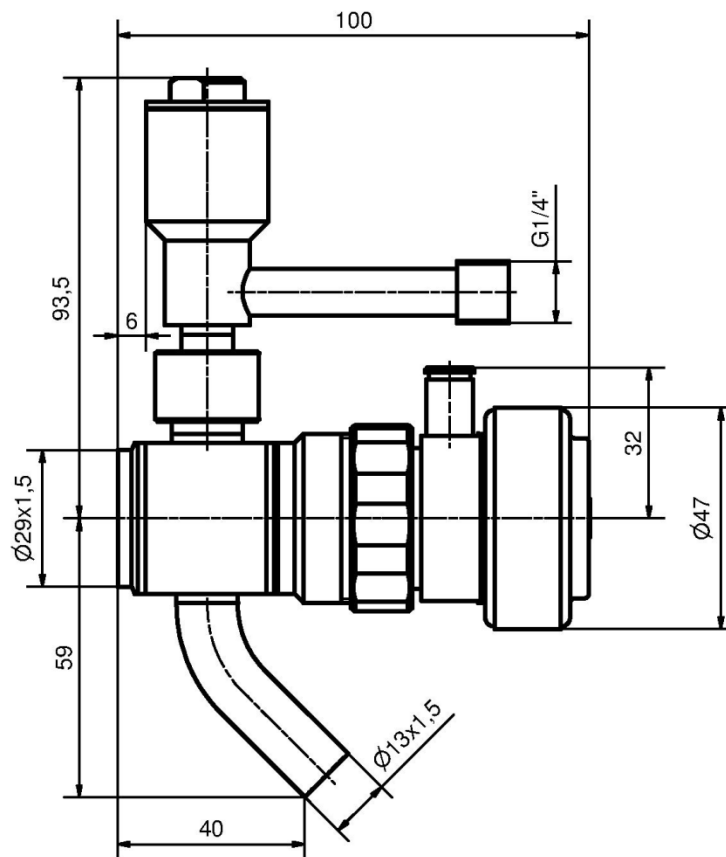


Figure 16 – Dimensions of PharmCom sampling valve

9.3 Material and surfaces

In contact with product:	1.4435/AISI 316L
Valve cone:	EPDM / HNBR / FKM
Inner surface:	acc. to customer specification
Outer surface:	acc. to customer specification



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