

**NEOTECHA SAPRO<sup>®</sup> - TANK VALVE TYPE ST FOR ASEPTIC SAMPLING WITH BOTTLES**  
 INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTION

Before installation these instructions must be fully read and understood



Valves for aseptic sampling of liquid mediums stored in tanks.

Please read this installation, operation and maintenance instruction carefully before you handle the tank valve!

**1 SAFETY**

Please read these instructions carefully.

**1.1 General danger potential**

- Not paying attention to this instruction
- Incautious use or misuse
- Unqualified personnel or staff

**1.2 Use as directed**

The Sapro tank valve is used for aseptic sampling from tanks into bottles.  
 The pressure range is between no pressure (about 0,1 bar) and 10 bar maximum.  
 All material in contact with the product is stainless steel 1.4435 (316L).  
 The soft seals are FPM (FKM).

**1.3 Restricted use**

*The valve can be used only with products when the materials used (1.4435 and FPM) are compatible.*

**1.4 Illegal technical changes**

*It is illegal to do mechanical changes of the design of the Sapro tank valve, or to use parts of other manufacturers for repairs, otherwise Neotecha can not guarantee for the safety of the valve.*

**1.5 Warning of misuse**

*The Sapro tank valve with all connection pipes and actuators can never be used to climb up or to stand on it.*

**1.6 Danger sources**

*Chemical external*

*The sleeve on the actuator should not be cleaned with solvents, Use alcohol or a mild detergent.*

*Mechanically*

*Enough space is needed to handle the tank valve, to prevent of squeezing the hands while operating the valve*

*Electrically*

*To prevent static charges, the entire tank valve is made of conductive metal.*

*Thermically*

*With a sample medium temperature range between -10°C to 160°C, the surface of the tank valve may assume the same temperature. It is therefore necessary to wear gloves to avoid injuries when operating the valve.*

*Dynamically*

*The valve is equipped with a "dead man" handle (spring return). The handle will spring back by itself when let go. This can cause injuries to the operators hand. Therefore do not let the handle go when enough sample is taken.*

**1.7 Requests for the operators**

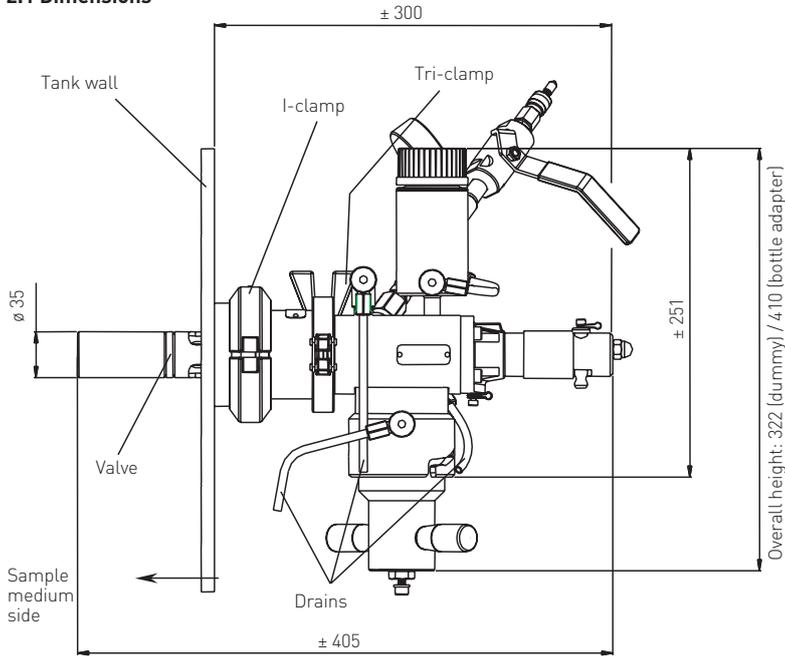
To ensure proper and consistent sample taking the operator is to be trained as per users sample taking instructions

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## INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTION

### 2 GENERAL DATA

#### 2.1 Dimensions



#### 2.2 Technical data

Pressure range:	0.1 bar to 10 bar
Temperature range:	-10°C to 160°C
Bottle connection:	ISO GL45
For use with bottles:	100 ml to 2000 ml
Size I-clamp:	3" Cherry Burrell
Size Tri-clamp:	2½"

### 3 TRANSPORTATION AND STORAGE

#### 3.1 Transportation

The Sapro tank valve is shipped in a box. Please leave the unit in this box until it is ready to be installed.

#### 3.2 Storage conditions

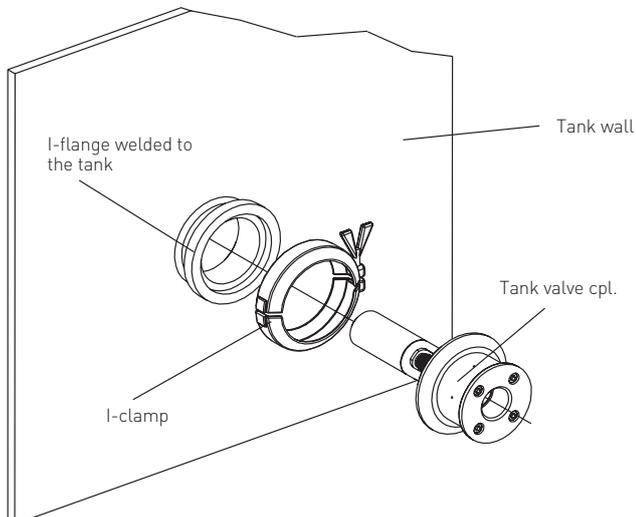
The Sapro tank valve has to be stored in a dry, dust-free place until it's installed on the tank.

### 4 INSTALLATION

**The tank has to be empty before any installation or repair of the valve can take place!**

#### Preparation

The tank needs a 3" I-Line connection flange, welded to the outer surface of the tank wall. The tank valve with the wet part is mounted with the I-clamp according following illustration:

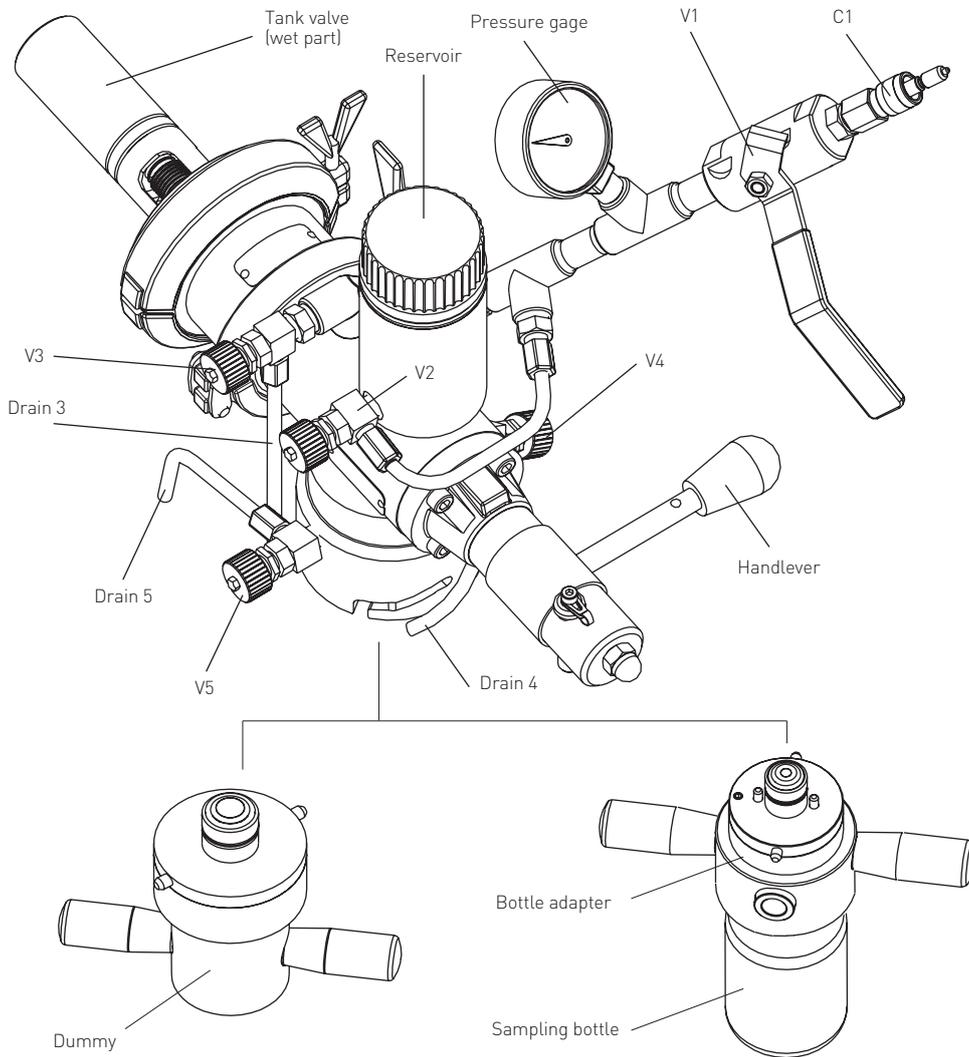


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### 5 DETAILED DESCRIPTION OF THE TANK VALVE AND ACTUATOR

#### 5.1 Illustration



#### 5.2 Connections and valves

- C1:** Customer connection (Swagelok 1/8") for:
- Steam inlet to sterilize the sample passage in the actuator and bottle adapter in pos.1.
  - Inlet for any cleaning liquids before taking samples, depending on the medium to sample.
- V1:** Ball valve to control the inlet of the customer connection C1.
- V2:** By opening this valve the alcohol from the reservoir fills the inner part of the tank valve body.
- V3:** Drain valve to control the filling of the tank valve body from the reservoir when no samples are taken. The body is only filled entirely when the alcohol flows through this valve down drain 3.
- V4:** Drain valve for stem blocking media. By taking an alcohol sample at this point the state of blocking media and the stem seal can be monitored.
- V5:** Actuator drain valve. Prior to sterilizing the sample passage this valve must be opened and closed again when sterilizing process is completed.

**Reservoir:** The purpose of the reservoir is to ensure a constant head of blocking media (alcohol) around the operator stem.

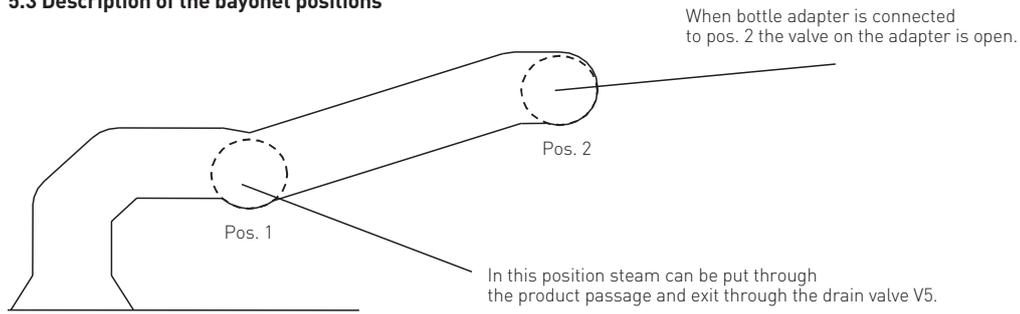
**Bottle adapter:** Aseptic sampling adapter for bottles with ISO GL45.

**Pressure gage:** Pressure gage to control the pressure coming from the customer connection C1.

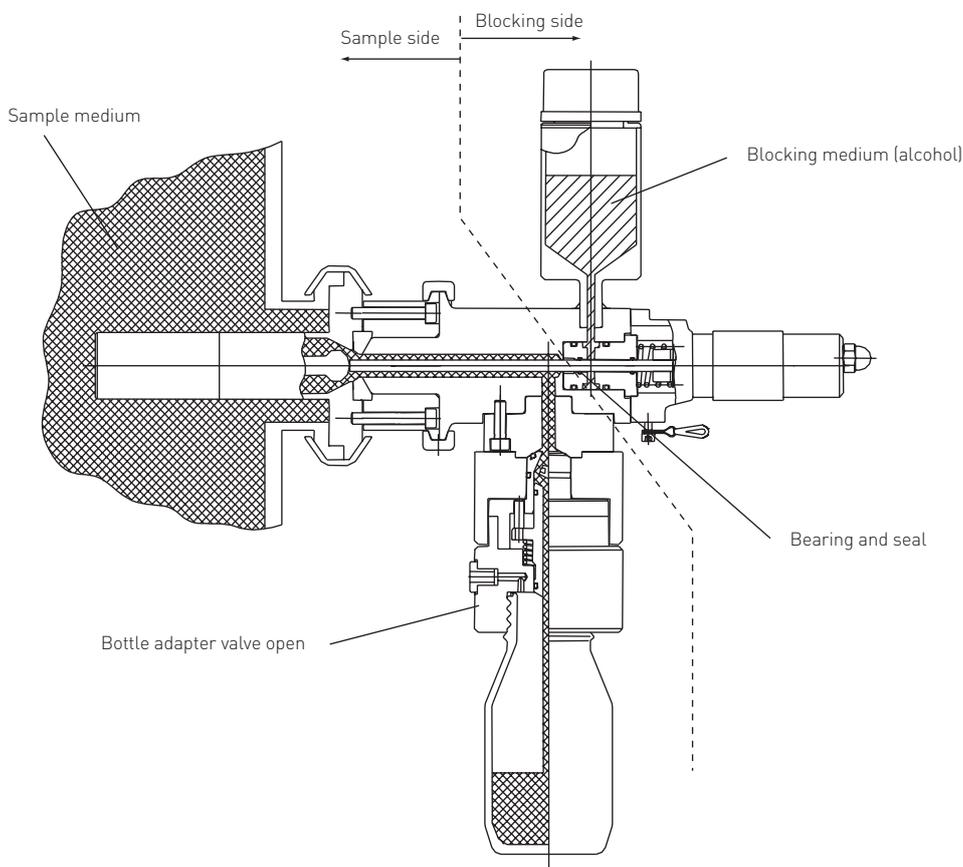
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### 5.3 Description of the bayonet positions



### 5.4 Description of the sample / blocking medium sides



## 6 MAINTENANCE

### 6.1 Cleaning

Though all parts of the Sapro tank valve are made of SS, they can be cleaned with normal cleaning liquid. The O-rings can also be cleaned with normal cleaning liquid.

### 6.2 How to check the sample / blocking medium seal

The bearing is filled with the blocking medium (alcohol) coming from the reservoir and can be checked by opening V3 to take a sample of the alcohol. If the alcohol is polluted with the sample medium, the seal needs to be exchanged.

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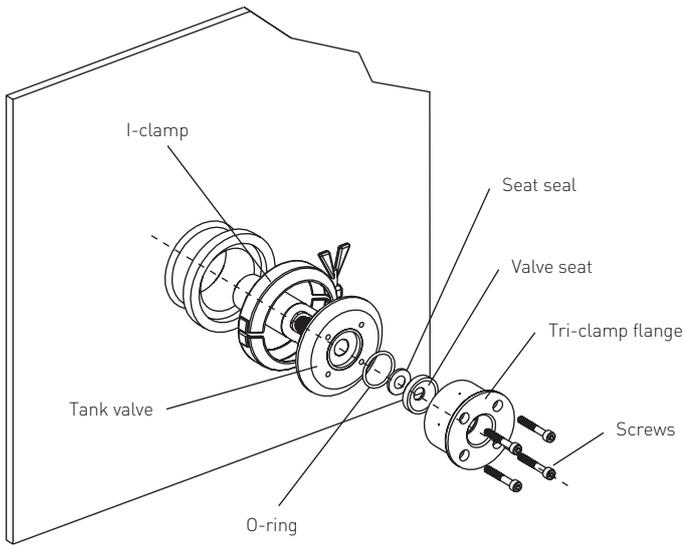
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### 6.3 Exchange of the seat seal and O-ring

The tank has to be empty before any installation or repair of the valve can take place!

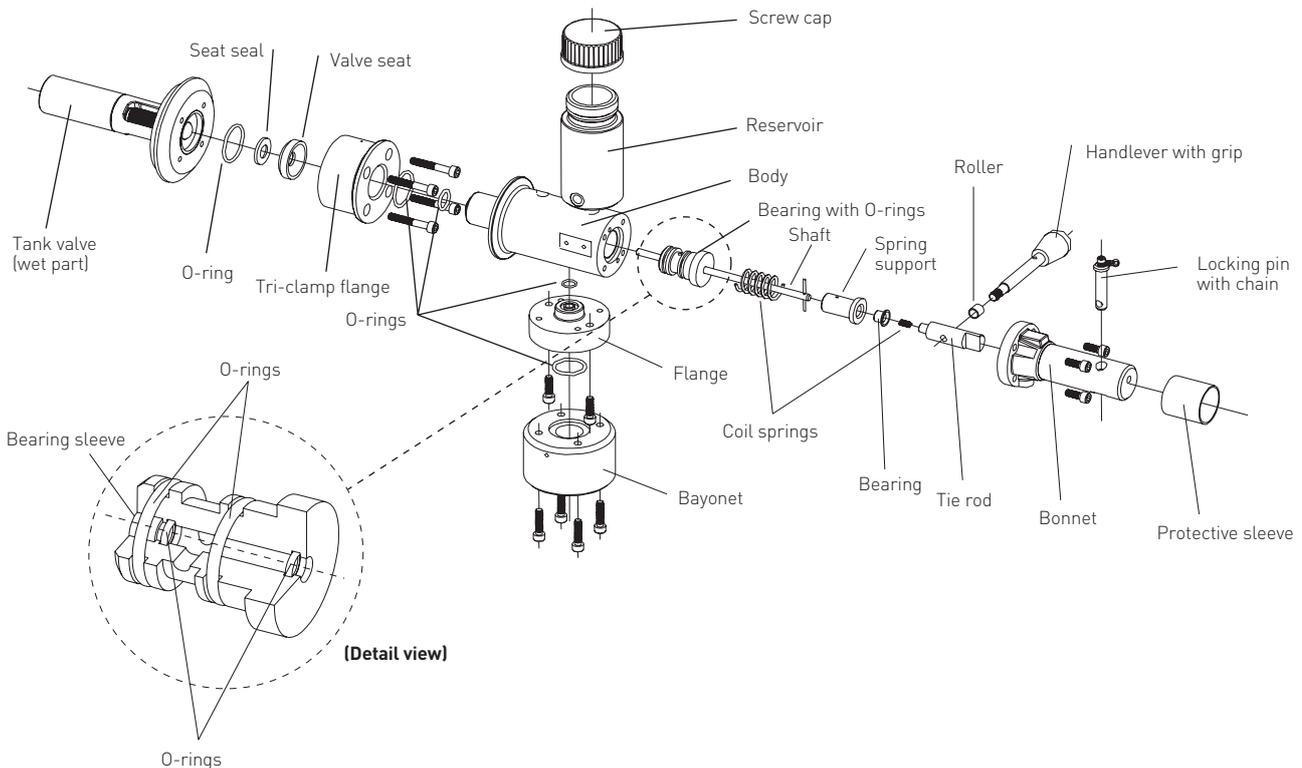
- The valve seat, seat seal and the O-ring can be dismantled by removing the four screws of the Tri-clamp flange.

- The defective parts can now be exchanged, please check all surfaces for scratches.
- When you screw on the Tri-clamp flange again, please attach importance to the gap (only about 0.3 mm) between the Tri-clamp flange and the tank valve is the same all around.



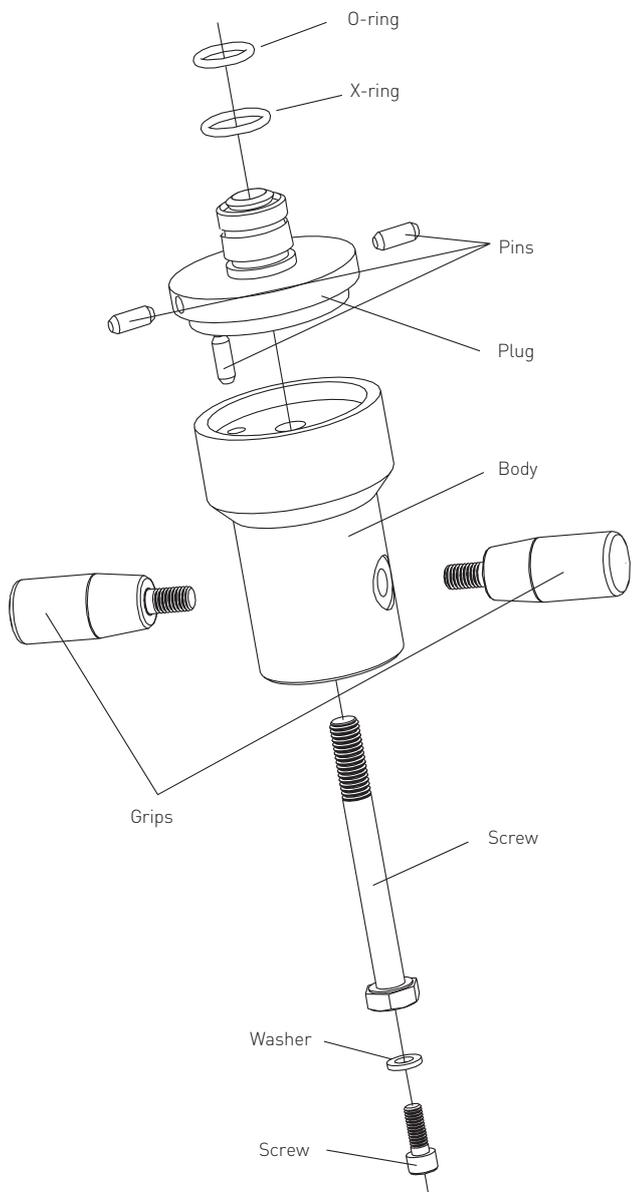
## 7 3D EXPLOSION DRAWINGS

### 7.1 Tank valve with actuator



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**7.2 Dummy**



**7.3 Bottle adapter**

