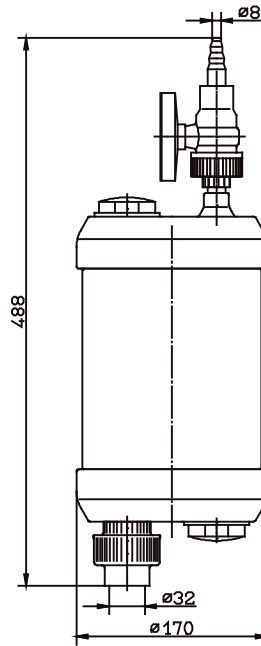


General

The new law on water resources management and concomitant regulations frequently make it impossible to tap a tank for pollutant liquids from below and to supply the metering pump with "inflow". Moreover, since the suction lift of a metering pump is also limited, it is useful to install the suction line "overboard" and thus cause the liquid to siphon. To ensure that this siphoning process actually takes place and a positive pressure builds up at the pump suction valve, it is advisable to install an accumulator for gas bubbles (siphon) at the highest point of the suction line with large nominal width. All gas bubbles in the suction line will then accumulate here, at the highest point, as long as there is liquid in this siphon and the pump operates with inflow. The liquid level in the siphon can be controlled manually or automatically.

The maximum inflow pressure of diaphragm pumps in particular must be noted and precautions taken to prevent leakages from the storage tank if the diaphragm ruptures due to wear (shut off or vent siphon line above the tank).



Siphon

Principle of operation

The upper end of the immersion pipe in the chemical tank is fitted with a flange which is connected to the suction line leading downwards outside the storage tank. The siphon is connected to the highest point of the suction line via a T-piece.

The suction line is evacuated and simultaneously filled with liquid. In simple cases, this is achieved with the aid of a hand-operated vacuum pump connected to the siphon via a suction tubing. It can also be achieved with the aid of an ejector, a chemically resistant vacuum pump or by external filling with water. If the suction line does not include a foot valve, an additional ball valve must be fitted below the siphon and a venting valve at the top in order to fill with water.

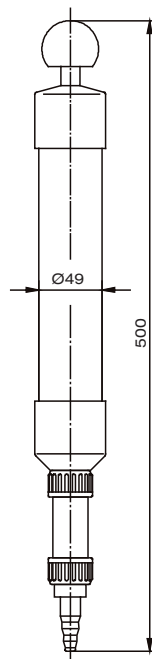
Siphon

The housing is made of transparent PVC. The screw connection is located at the bottom of the siphon housing and the venting valve with tubing connection at the top. The vacuum pump is connected here. It is protected against splashing medium by a device inserted in the tank infeed. Automatic level control in the siphon with ejector, solenoid valve, non-return valve in the vacuum line, 3-rod electrode and level relay on request.

Part No. 13333386

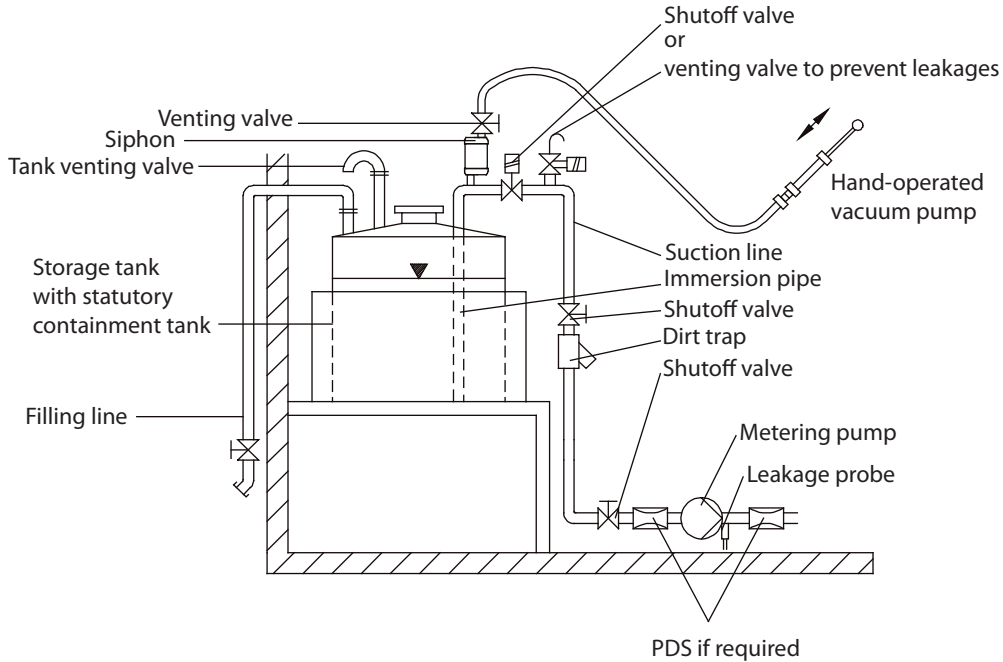
Hand-operated vacuum pump

The PVC pump is resistant to chemical vapours. The hose nozzle for fitting the suction tubing is located at the tip of the pump. A non-return valve prevents a backflow of entrained air. The tip of the pump must point downwards during evacuation. Part No. 13333387



Hand-operated vacuum pump

Installation example



1. Connect the siphon and hand-operated vacuum pump to the suction tubing.
2. Close the shutoff valve at the end of the suction line and open the venting valve on the siphon.
3. Draw air from the siphon and suction line with the aid of the vacuum pump. The medium to be metered rises in the immersion pipe and also fills the suction line.
4. Close the venting valve when the liquid has reached the required level in the siphon.
5. Open the shutoff valve in the suction line. It is now operational. Medium flows to the pump automatically.
6. Simply open the venting valve in order to stop the siphoning process. The liquid in the siphon and immersion pipe drops back into the tank as air streams in through the venting valve.
7. Siphoning can be resumed as long as the vacuum pump is able to build up the required vacuum. Tank height, vacuum pump and density of the liquid must be carefully matched ($D_p = d \times g \times D h$).
8. The suction line must be vented (venting valve) if a leakage is indicated or shut off above the tank, within the range of the containment tank (solenoid valve).