22-12-2014

MADE IN

EFCON® water
EFFLUENT CONTROL SYSTEMS

Flow
Level
Pumps
Analytic
Samplers

Vacuum Sampler Level Switch
With Alarm Output

Level detection pins

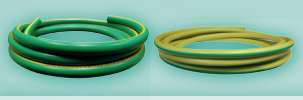
SS316

Sample chamber

Glass or Polycarbonate

Airpump

24 VDC Powered, Bi-directional



Sampling Tube

- Acc. EN ISO 5667-2/10
- 3 mm Thermo Isolation & Solar Shielded
- PA Yarn Reinforced 3 layer Section
- Ambient: -5°C to 60°C
- Tube size: Dn 16 mm / Dn 12 mm with 1 meter length indication
- Migration tested at 40°C Acc. CE 1935/2004 type A/B/C Liquid

Pincher

24 VDC Powered, Bi-directional

EFCON® Vacuum Sampler Hardware

Minimum parts keeps the sampler simple

Safe and reliable 24 VDC Power parts

EFCON® Vacuum Sampler Acc. EN 16479, EN ISO 5667-2&10, NEN 6600-1

Efcon® Vacuum Samplers are equiped with reliable basic hardware and standard electronics. The complete design is focussed on long term reliable sampling with minimum drop out.

Efcon® Vacuum Samplers are build up with 1 sampling head with a glass or non breakable polycarbonate chamber, 1 bi-directional 24 VDC airpump (in 2 different capacities), 1 bi-directional 24 VDC pincher and 1 double contact 24 VDC level detector with alarm output.

Contact level indicator functions on a minimum wastewater conductivety of 50 m/s. In case conductivety drops to deep (in case of demi or pure rain water), an optional capacity switch can be added to create a full functioning level detection system.

Note!
Vacuum Samplers need regular cleaning of the sampling head.

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Advantages

- Powerfull & Safe 24 VDC Actuators
- Above the ground mounting
- Most common used Principle
- Self protecting against solids
- Options to heigher suction levels

Conditions

- Minimum diameter of 12 or 15 mm
- Velocity in suction hose 0.5m/sec or higher
- Suction hose has to be self emptying
- Wastewater conductivety 50 mS or higher

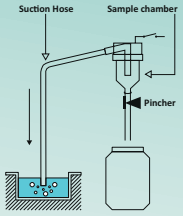
Maintenance

- Cleaning of the vacuum head
- Cleaning or replacement of the suction tube
- Replacement of wearing rotor in vacuum pump

Operation principal

1. Purge

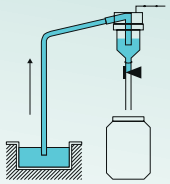
When taking a sample the sampler starts purging the suction hose during a set time. This is to remove the old medium from the suction hose trough the inlet.



1. Purge

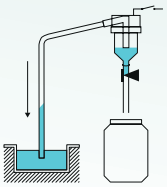
2. Suction

The sampler starts creating a vacuum on the inlet until medium reaches the medium detector. When the sampler doesn't detect medium within a set time an error sample is counted.


2. Suction

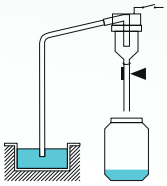
3. Dose

After the medium is detected the sampler doses the medium during a set time.


3. Dose

4. Drain

When a sample is dosed the vacuum pump creates pressure again on the inlet to drain all the excess water from the tubing inside the pump and suction hose all during a set time.

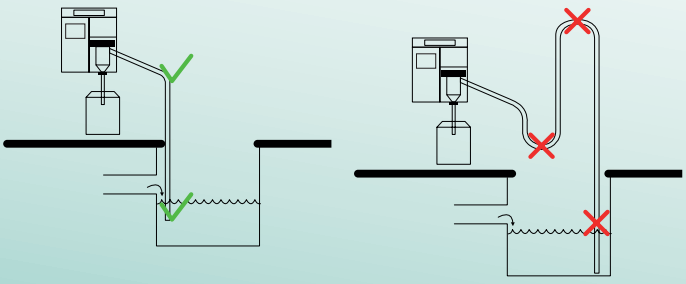

4. Drain

Installation Instructions

Mount the inlet of the suction hose on a fixed representative turbulent point to sample homogeneous, non-foaming wastewater. Ensure the suction hose is always emerged in the wastewater/medium.

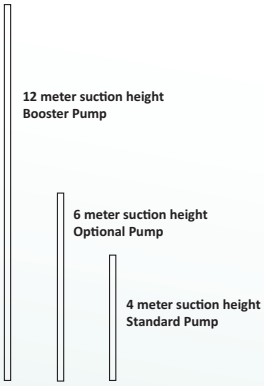
Sample Medium

- Free of solid parts
- Non foaming
- Free of air inclusion
- Temperature: +0,1°C / +50°C
- Minimal conductivity: 50µS



Suction height

- 4 meters suction height requires a Standard Pump.
- 6 meters suction height requires an Optional Pump.
- 12 meters suction height requires a Booster Pump.



Keep in mind:

- Standard 4 meter suction height at 0,5 m/s *Max 5 meter*
- Option 6 meter suction height at 0,5 m/s *Max 7 meter*
- Avoid siphons in the suction hose
- Mount the inlet from the suction hose always downward and on a lower point then the sample chamber.

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