

Efcon Vacuum Samplers are equipped 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 constructed with 1 sampling head with a glass or non breakable polycarbonate chamber.

Contact level indicator functions on a minimum wastewater conductivity of 50 µS.

8m pump unit

- Maximum suction height 8 meter
- Suction height 8 meter acc. EN 16749
- 3 x Membrane pump 24 VDC
- 1 x SS Air valve 24 VDC
- Volume 17 L/min



Vacuum Sampler Level Switch
With Alarm Output



Sampling Tube

Level detection pins
SS316



Sample chamber
Glass or Polycarbonate



Pincher
24 VDC Powered, Bi-directional



Enclosure type:	Carrybox	Economy	Efcon Industrial
Power supply:	110/230VAC /1A	230VAC / 2,5A	230VAC / 2,5A
Enclosure:	>30% recycled LDPE green marble For wall mounting	>30% recycled LDPE white/green marble Efcon patented dual wall PUR isolated	>30% recycled LDPE white/green marble Efcon patented dual wall PUR isolated
Dimensions (HxWxD):	±412 × 340 × 302 mm	±1100 × 600 × 600 mm	±1500 × 750 × 750 mm
Weight:	±9kg	±65 kg	±75 kg
Protection class:	IP41	IP54 / 23	IP54 / 23
Ambient temperature:	0... +40°C	-20...+40°C	-20...+40°C
Refrigerated zone:	-	2...5°C (acc. EN16479, ISO5667-3 and NEN6600-1)	2...5°C (acc. EN16479, ISO5667-3 and NEN6600-1)
Electrical connections:	Connectors on left side	Terminal strip inside IP54 compartment	Terminal strip inside IP54 compartment
Container configurations:	None included	24×1l, 12×2l, 8×5l, 4×15l & 2×25l, 1×25l, 1×60l	1×60l, 2×55l, 4×30l, 6×18l, 8×15l
Zone:	Not in explosion hazardous environment	Not in explosion hazardous environment	Not in explosion hazardous environment
Warranty on enclosure:	4 years	4 years	4 years

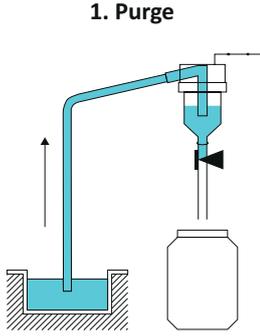
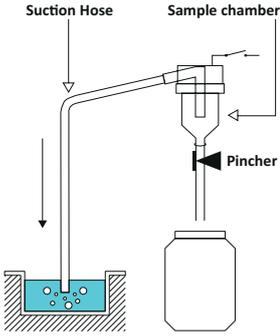
Vision controller:

Display:	8 lines, 128x64 2,4" display, 20 keys
Settings:	Basic functions almost the same as the Jazz with extra options. Better HMI and used in customized applications
Sample settings:	Interval by day of the week
Distributor settings:	Selectable day of the week
Pump controller:	Optional (for ILS samplers only) 4-20mA level sensor input 1 or 2 pump controller with alternating function High/low level & overflow setting
Logging:	2000 log lines for daily/cycle totalizer 2000 log lines for time interval logging Data logging to micro SD-card Optional: Extra analytical values
Calendar sampling:	Program sampler to sample Full 1 year on specified calendar days.
Open channel flow measurement:	Optional: Bubbler or ultrasonic open channel flow measurement: Straight weir Venturi Formula 1: $Q=C \times (R)h^3 \times 3600$ Formula 2: $Q=C \times h_e \times 3600$ Data table over 24 points
Communication:	Optional: Ethernet, modbus & profibus
Software:	Free supporting software from Unitronics

Jazz controller:

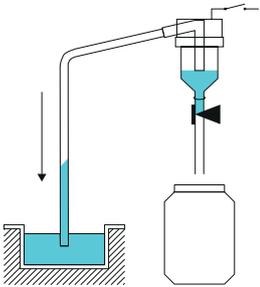
Display:	2 lines, 16 characters, 16 keys Totalizer 3000000,0 maz (auto reset)
I/O hardware:	8 digital inputs, 4 analog inputs
Quick buttons:	Manual sample, next container, reset
Inputs:	Flow Pulse, flow current 4-20mA, 2x programmable digital input
Outputs:	2x programmable relay output
Sample interval:	Volume, Time or Batch
Interval range:	0,1...2500,0 m3/sample 2...2500 minutes/sample
Max Error samples:	0...999
Sample volume:	20...250ml
Vacuum settings:	Purge, Suction & dose time 1...99 sec.
Turn time:	Clock time (RTC) or time interval
Container config:	1...24 containers, 0,1...99 liter
Password settings:	Yes
Flow signal:	Pulse / Current / pulse + current
Pulse range:	0,1...1000m3
Current range:	1...3600 m3/h
Input options:	PRG on/off, Start PRG, Stop PRG, take sample, next container & start cool unit
Output options:	General alarm, sample alarm, sampling active, sample OK, sample error, 1m3 pulse, 0,1m3 pulse, containers full
Communication:	Modbus RTU optional

Operational principle:



1. Purge:

The air pump starts and generates pressure in the sample chamber. Air bubbles will escape from the end (inlet) of the suction hose. This is a sign that the 'old' wastewater has left the suction hose.

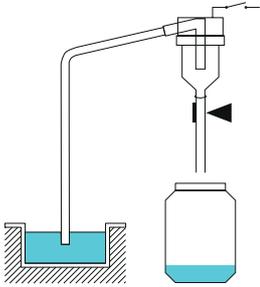


3. Dose:

The level pins detect the medium. After this, the pump creates pressure and doses the volume into the flask. The excess medium is blown back through the suction hose.

2. Suction:

Suction: the air pump creates a vacuum in the sample chamber. The medium is sucked up through the suction hose until it reaches the level pin again.



4. Drain:

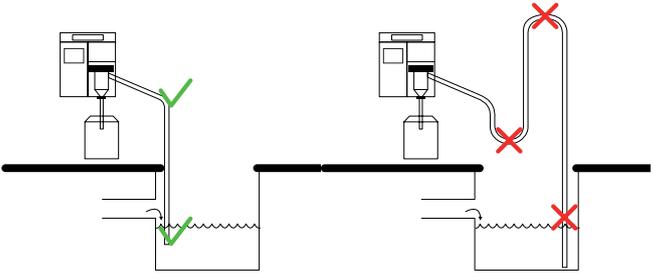
The pinch opens and the sample falls into the container. After a few seconds, the air pump stops and the cycle is complete.

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
- Minimal conductivity: 50µS
- Temperature: +0,1°C / +40°C
- Free of air inclusion
- Non foaming



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