

## BioPulse Pilot unit Type BF-P-4/2

The Berghof BioPulse MBR concept is an energy optimized membrane filtration process for reliable and economic treatment of medium strength wastewater.

BioPulse Technology combines standard cross flow technology with a permeate pump to control permeate flow and backwashable membranes to maintain flux.

### Applications

The BioPulse product line of membrane modules are unique in their ability to be backwashed while maintaining structural integrity with a tubular product up to 8 mm. diameter.

Recommended MLSS concentrations of 5 to 15 g/l in the following applications:

- Industrial membrane bioreactors.
- Municipal membrane bioreactors.
- Landfill leachate treatment.

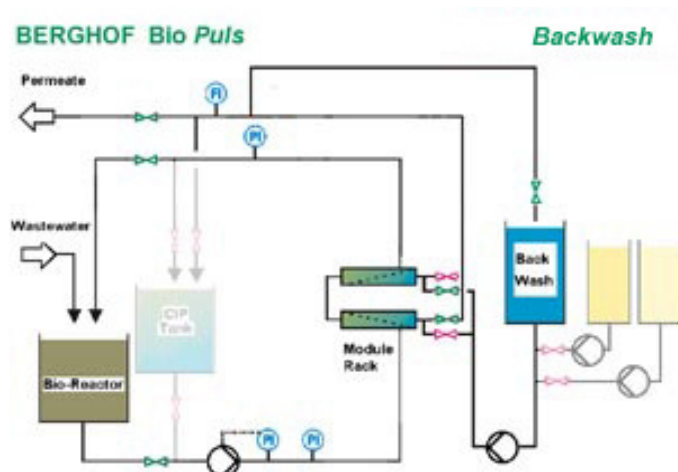
### Process principle

Activated sludge from the bioreactor is pumped, at an optimized, frequency controlled flow rate, through the externally positioned tubular 8mm LE membrane modules. An integrated automatic backwashing program controls the backwash cycle and backwash duration in order to ensure reliable operation under economic conditions. The permeate pump controls the permeate flow from the modules as well as limits trans-membrane pressure.

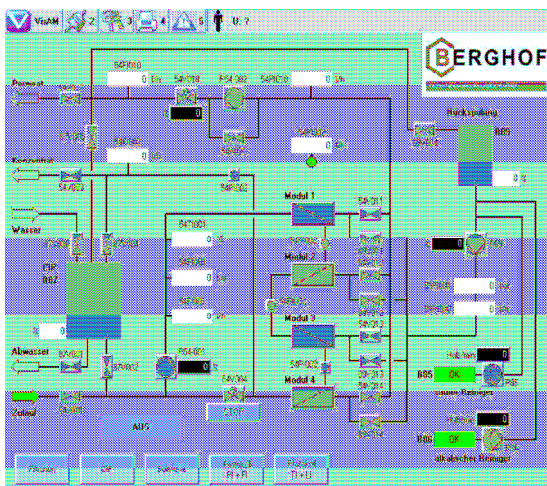
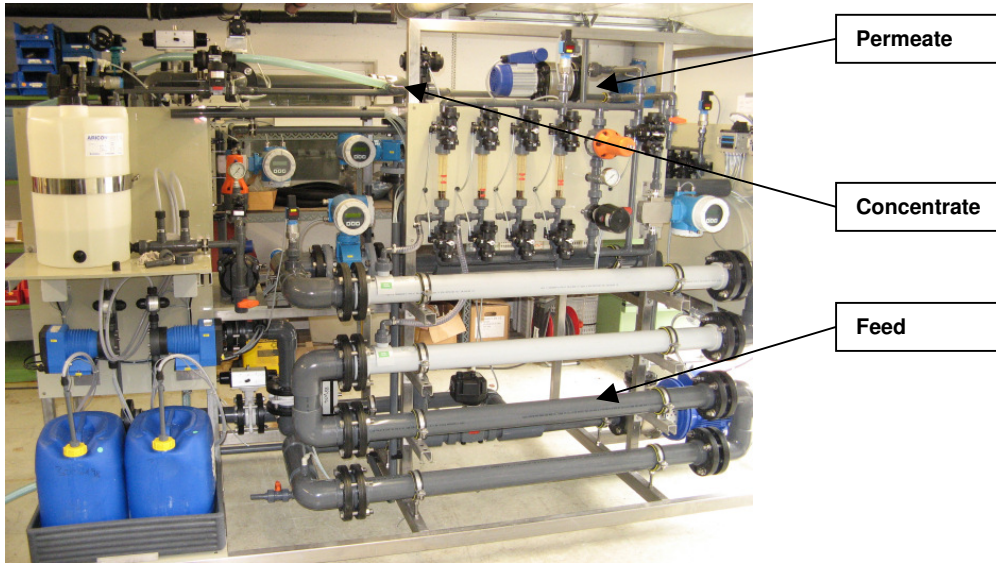
### Membrane cleaning

#### Automatic BioPulse Membrane Backwash

Backwash is controlled so that each module receives backwash at the proper flow and pressure to remove the clogging layer on the membrane surface.



- Modules are individually cleaned under optimal conditions.
- Backwash pressure is controlled by a safety pressure control.
- Backwash flow is controlled by a variable speed pump.
- Backwash frequency and duration are programmable.
- Backwash frequency 5 - 60 min.
- Backwash duration 5 - 15 sec.
- Backwash with chemicals



## Technical Data

<b>Dimensions</b>	Length	2.800	mm
	Weidth	1.200	mm
	Height	2.000	mm

**Weight** approx. 800 kg

<b>Piping connection</b>	Feed	DN 32
	Permeate	DN 25
	Concentrate	DN 25

**Piping** PVC

**Electrical Connection** Connector plug 16 A  
8,8 kW, 380 V, 50 Hz

**Data recording** complete information about the operating data  
with pressure, flow and temperature

### **Membrane- / Module data**

Module	Tubular
Module type	P55C(1,5m)-66.03-I8LE-F (Art. No. 3006778)
Module quantity	max. 4
Membrane type	66.03_I8LE
Membrane area/Module	2 m <sup>2</sup>
Membrane area	installed 4 m <sup>2</sup> (max. 8 m <sup>2</sup> )
Membrane material	PVDF
Membrane diameter	8 mm
Cut off	30 nm

### **Operating conditions**

Capacity	depends on the application approx. 100 – 960 l/h
Circulation pump	frequency controlled Velocity between 1,0 – 4,0 m/s
Temperature	max. 45 C
pH-Bereich	2 - 11
Operating pressure	max. 6 bar

### **Commercial conditions**

Please ask for commercial conditions

**Berghof Filtrations- und  
Anlagentechnik GmbH & Co KG**