

## Ultrafiltration unit

### UF PILOT1 300-600 l/h



#### Advantages

- Very short payback period, usually <1 year through the use of alternative surface water
- Ultrafiltrate as an ideal supply for subsequent membrane technologies (RO or nanofiltration) or other treatment methods (for process water, drinking water, etc.)
- Consistently high quality of the ultrafiltrate water, independent of variations of the raw water quality
- 90 - 95% recovery yield of the raw water and low energy consumption (low operating costs)
- Use of water with high dirt content possible by appropriate pre-treatment (flocculation / precipitation plus sand or disc filter system)

Stand-type unit for the filtration of prefiltered or settled surface- or well water. Ultrafiltration unit for pilot-tests and for the operation of UF-processes at small capacities.

Ultrafiltration allows in many cases the utilization of alternative raw water instead of precious tap water. The use of surface or well water is therefore cost saving and protects the environment.

With the pilot installation UF PILOT 1 you will gain the experience for being on the safe side in feasibility and process lay-out.



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## Ultrafiltration unit UP PILOT 1

300 – 600 l/h

**Unit design** Stainless steel main frame housing the instruments and controls.

**Raw water** input at min. 2,5 bars needed to feed the system

**System design** consists of strainer 0,5mm, pressure regulator, inlet solenoid valve

**Ultrafiltration module**, vertical mode, housing multibore PES-fibres as membranes – 6m<sup>2</sup> membrane area

**Special backwash booster tank** for backwash and optional CEB-operation driven by optional available dosing pump for the introduction of CEB-chemicals (CEB = Chemical enhanced backwash).

**Electrically operated solenoid valves** for fully automated filtration and backwash-cycles, optional CEB-cycles.

**Pressure monitoring gauges** for inlet and outlet pressure of the ultrafiltration module for indication of high trans membrane pressure.

**Flow meter** for indication of filtrate flow rate.

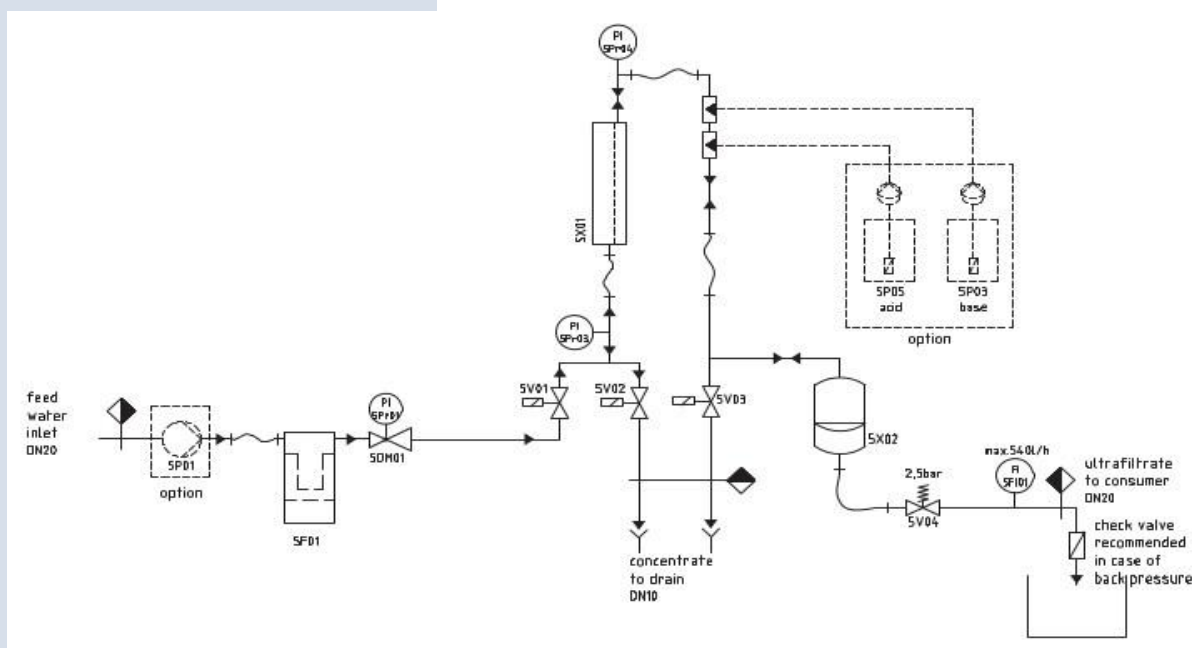
**Control cabinet** with lockable main switch, electrical switch gear controlling the system, programmable controller for automation of filtration, backwash- and optional CEB procedures. Free adjustable times for frequency backwash, CEB-cycles and duration of consecutive steps.

**Output** for collective malfunction on volffree contact. Malfunction display by LED indication.

Unit completely wired, pre-assembled and ready for installation. Electrical equipment in accordance with VDE 0100 part 600, VDE 0113 part 1.

Technical Data		UF PILOT 1
Permeate flow rate (83 l/mh)*	l/h	500
Filtrate production daily approx	M <sup>3</sup>	10
Filtrate recovery approx.	%	90-95
Operating temperature	°C	5 - 35
Raw water pressure min.	bar	2,5
Raw water connection	DN	15
Filtrate connection	DN	15
Waste water connection	DN	13
Power requirement	Low – only solenoids	
Voltage	V/Hz	230/50
Height	mm	1600
Width	mm	600
Depth	mm	500
Weight	kg	60

\*Filtrate-flux depends on the quality of raw water. The system is designed for free outlet on filtrate/wash water connection. For effective pre-treatment we recommend the use of automatic backwash filters to protect the UF-system against rough dirt particles; we recommend as well inorganic coagulants (FeCl<sub>3</sub>) against organic foulants (COD-values >2 mg/l) and small colloids. Fully automatic operation of CEB-procedures will be enabled using CEB-dosing pumps (optional available). Requirements referring to the treatment of waste water have to be checked on site.



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