

# Micro-Crossflow Membrane Filtration Systems

Frings



## Crossflow Filtration Systems for a Broad Range of Applications and Requirements

### Characteristics:

- ✓ Systems for lab and industrial applications with capacities ranging from a few L/24h to several hundred m<sup>3</sup>/24h
- ✓ Cut off in a range of 0.05 µm – 0.2 µm
- ✓ Hollow fiber and tubular modules available
- ✓ SIP and CIP modules available
- ✓ Design according to strict sanitary standards for 'Biotech' applications
- ✓ High automation standard provides for easy handling and low maintenance costs

Products for Downstream Processing





# Micro-Crossflow Membrane Filtration Systems

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## Standardized Filtration Units

Industrial filtration units with flow rates from 1,000 L/h to 4,500 L/h to be combined to make large systems. The units are equipped with hollow fiber membranes (cut offs from 0.05 µm to 0.2 µm). Successfully applied for the filtration of beverages, fermentation broths, mineral and polymer slurries, and for slop from distilleries. Module concept developed in cooperation with a worldwide leading module manufacturer and adapted to our high performance filtration systems.

## Optional Equipment

### Pre-filter

- To ensure a constant filling level in the circulation tank
- Cut off = 200 µm
- Designed as a rack unit

### Filtrate Tank

- Buffer tank for filtrate
- Turbidity control with alarm signals
- Designed as a rack unit

### Circulation Tank

- Sampling of rejects
- Level controls
- Material: PP

### CIP Tank

- Storage tank for cleaning agent
- Mixing
- Determination of filtration parameter with water

### Backflush System

- Increase of average filtration performance
- Prolongation of performance time

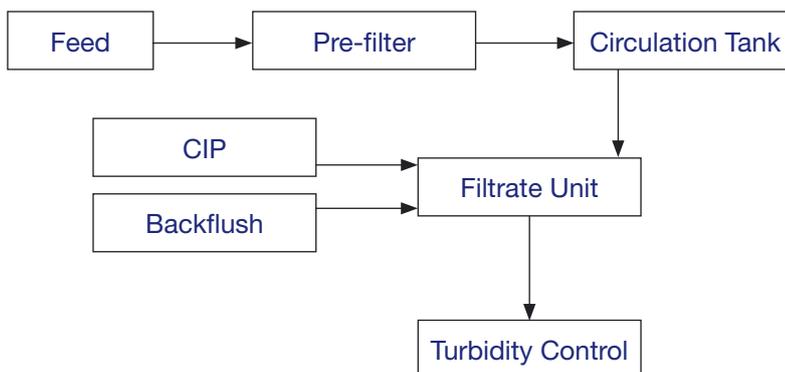


Figure 1:  
Block diagram of filtration system with optional equipment

## Automation and Controls

- Sensors and amplifiers
- Basic alarm for temperature, pressure, filtrate flow and levels
- Free selection of all setpoints
- Alarm indication
- ...

## Services, engineering and design of automated filtration units

- Laboratory and pilot tests
- Feasibility studies, including ROI calculation
- Basic engineering
- Detail engineering
- Manufacturing, delivery and installation
- Training
- Maintenance

