

# CLEARFLOW FILTRATION SYSTEMS

## CROSS FLOW - FILTERS FOR ALL KINDS OF VINEGAR



STANDARD AND CUSTOMIZED SYSTEMS ACCORDING TO YOUR DEMANDS



### Characteristics:

- Systems for pilot scale and industrial applications
- Cut-off for ultra- and microfiltration
- Modules with polymer or ceramic membranes
- Integrated CIP (Cleaning in Place) system
- Optional hygienic design for sanitary operations
- Different automation standards on demand

# CLEARFLOW TECHNOLOGY

## WE SOLVE YOUR VINEGAR FILTRATION TASK

FRINGS succeeded in introducing Micro-Crossflow-Filtration (MCF), specially oriented to the requirements of vinegar production, in 1978. For the first time, it permitted a continuous 24 h operation and the avoidance of consumables such as bentonite and diatomite, and therefore clearly improved levels of safety and yield.



### CLEARFLOW for Vinegar Filtration

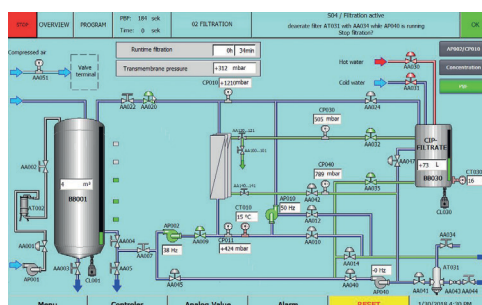
- Continuous filtration
- Design for UF- and MF-Modules
- Hollow-fiber capillaries
- Cleaning in place (CIP)
- Automation with all necessary sequences
- Control, data management and remote system

Thanks to many successfully delivered systems (several hundred are currently in use), the experience gathered so far, and the continual improvements to the MCF systems that has been the result, FRINGS is able to offer you suitable systems at all times. From the filtration of small quantities of special vinegar to very large quantities in the production of industrial vinegar.



### Services, Engineering and Design

- Laboratory and pilot scale trials
- Basic and detail engineering
- 3D-planning
- Manufacturing
- Installation
- Start-up



### Automation, Control and Visualisation

Depending on the process specification and the demand in control and monitoring we will equip the filtration units with different automation systems. Configurations from manual to fully automated systems can be delivered. The standard configuration includes sensors and amplifiers for temperature, pressure, filtrate flow and levels as well as the relevant controls and sequences for operation and cleaning.

### Available standard sizes

Type	Cut off	Active surface m <sup>2</sup>	Performance l/d
UF P01 G8	500 kDa	6.1	3,600 - 7,200
UF P02 G8	500 kDa	12.2	7,200 - 14,400
UF P04 G8	500 kDa	24.4	14,400 - 28,800
UF P06 G8	500 kDa	36.6	21,600 - 43,200
UF P08 G8	500 kDa	48.8	28,800 - 57,600
UF P10 G8	500 kDa	61.0	36,000 - 72,000
UF P12 G8	500 kDa	73.2	43,200 - 86,400
MF P01 G8	0.2 µm	9.1	5,400 - 10,800
MF P02 G8	0.2 µm	18.2	10,800 - 21,600
MF P04 G8	0.2 µm	36.4	21,600 - 43,200
MF P06 G8	0.2 µm	54.6	32,400 - 64,800
MF P08 G8	0.2 µm	72.8	43,200 - 86,400
MF P10 G8	0.2 µm	91.0	54,000 - 108,000
MF P12 G8	0.2 µm	109.2	64,800 - 129,600