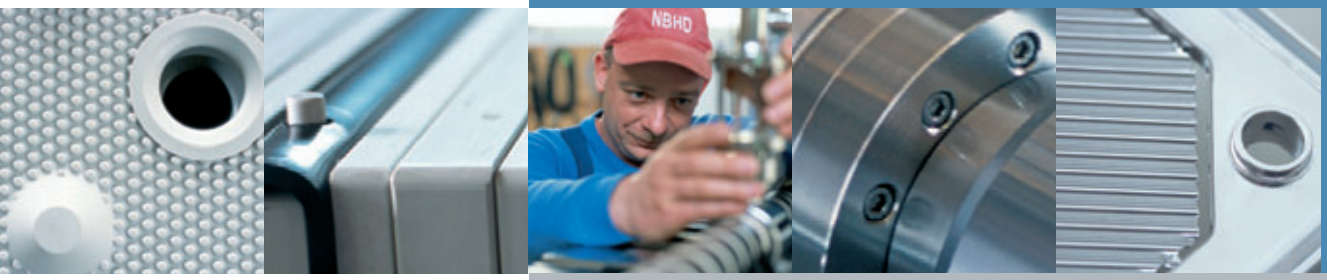


FILTERS | SYSTEMS | APPARATUS ENGINEERING | SEPARATION TECHNOLOGY | SOLID-LIQUID

MCC 4/120 C17

MicroCross®-System

www.strassburger-filter.de

STRASSBURGER FILTER

MicroCross®-System

Crossflow technology

Crossflow filtration is a crossflow filtration process and is also known as tangential flow filtration.

Here the medium to be filtered is forced under pressure through precisely defined pores of a membrane. However, a high overflow speed in the module prevents blockage of the pores which suspend the solid matter.

It is the size of the pores that determine whether micro or ultrafiltration is involved.

During the filtration process there is an increase in the concentration of the retained solid matter within the system, something that may cause blockage or obstruction of the membrane among various membrane types. Obstruction or blockage also occurs with the formation of a layer of gel (colloids).

For the filtration of wine, fruit juice or vinegar for example, a hollow fibre module made of polyether sulphone specially designed for this purpose has proved successful.

Hollow fibre module

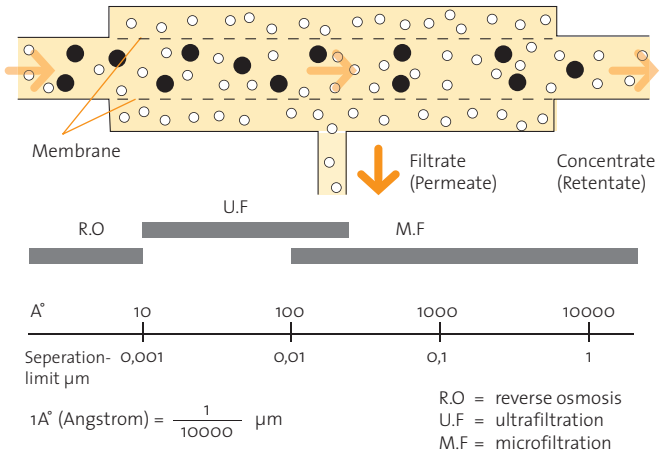


Diagram of a hollow fibre module

Filtration capacity can be improved by asymmetrical membranes. The asymmetrical membrane has pores widening on the outside and a completely smooth surface on the inside. This structure results in a very high throughput and a low susceptibility to adsorption.

Blockage is thus avoided to the greatest possible extent, and the original throughput can always be restored through backwash and cleaning.

Both hollow fibre and wrap modules are used for ultrafiltration, e.g. in the biopharmaceutical industry (e.g. concentration, fractionation of enzymes and vaccines or diafiltration) or environmental engineering (waste water purification).

Filtration sequence

A centrifugal pump ensures a continuous flow in the cycle through the hollow fibres and generates the necessary filtration pressure within the hollow fibres.

Unfiltrate is fed to the cycle automatically, according to the filtrate flow, with a small volume of retentate also being continuously discharged from the process and returned to the receiver vessel.
As a result the proportion of solid matter in the receiver vessel is reconcentrated again and again.

The filtrate capacity is maintained at a constant level through continuous backwash of the hollow fibre modules.

Key benefits

- No filter aids necessary
- Compact systems
- Capacity increased by back-wash (continuous back-wash) with hollow fibre modules
- Module inserts can be exchanged for different applications
- Simple reliable operation

When developing the **STRASSBURGER** MicroCross® system for the filtration of wine, fruit juice and vinegar we achieved the objective of preserving the maximum possible aroma, quality and characteristics of the wine.

The MicroCross® system can be used here during the different development stages, either of

- new wines directly after fermentation, sedimentation or initial tapping
- filtration of grape juice
- filtration prior to filling

MCC 2/120 C17 manual

Versions

The MicroCross® system is available with different automation levels. With the automated versions operation is via a Siemens programmable controller:

Fully automatic for 24-hr operation with automated rinsing and cleaning intervals for high capacity.

> Available from 6 modules (102 m²)

Semi-automatic with manual selection of the individual process steps (which then take place automatically).

> Available from 4 modules (68 m²)

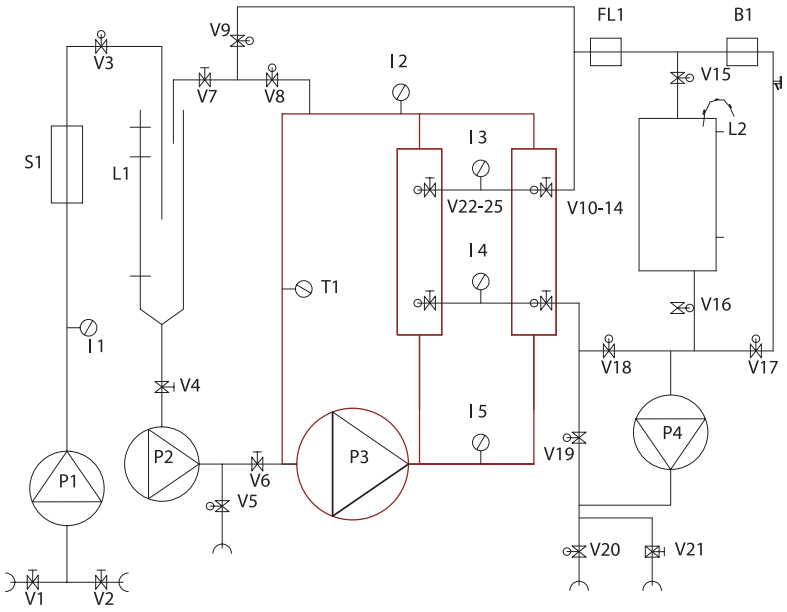
Manual for low filtration capacities with unsupervised operation, but with valves operated manually.

> Available from 2 modules (34 m²)

High-pressure version, also possible for the filtration of champagne or carbonated wines. Here filtration takes place at the pressure level of the champagne tanks.

Important for **STRASSBURGER** MicroCross® system

- No heating of wine
- Aroma preserved due to low flow speeds
- No loss of colour
- Cleaning only with hot water possible
- Complete degermination in only one filtration



P 1	Feed pump
P 2	Booster pump
P 3	Circulation pump
P 4	Back-wash pump
V 1 - 25	Control valves
L 1 u. L 2	Level control
S 1	Fine screen
I 1 - 5	Pressure indicator sensor
FL 1	Rate regulator
B 1	Back-wash control

Type MCC	Number of modules	Filter area m²	Capacity* l/h	Dimensions L x W x H in mm	Weight kg	Current consumption kW
120 / 2-C 17 manual	2	34	1500 – 2000	1500 x 1100 x 1800	350	6,0
120 / 4 C 17	4	68	4000 – 6000	2200 x 1100 x 2200	700	9,0
120 / 6 C 17	6	102	6000 – 8000	2400 x 1100 x 2200	820	11,0
120 / 8 C 17	8	136	8000 – 10000	2800 x 1500 x 2200	980	13,0
120 / 12 C 17	12	204	10000 – 15000	3300 x 1800 x 2200	1200	15,0

* The average capacity applies to wine suitable for standard filtration and depends on the type of wine, pretreatment and temperature.

Quality and service

- When selecting components manufacturers we attach great importance to tried and tested quality and thus only use well-known makes.
- The design entirely in stainless steel stands for durability and elegance.
- Years of experience in the development of filtration systems make us a competent partner.

Strassburger Filter GmbH + Co. KG
Osthofener Landstraße 14
D-67593 Westhofen
Germany
Telephone +49 (0) 62 44 / 90 800-0
Telefax +49 (0) 62 44 / 90 800-8
info@strassburger-filter.de
www.strassburger-filter.de

STRASSBURGER FILTER