

## Pall® Microflow XL

### Crossflow Microfiltration Systems

Smart Purification Systems for the Food and Dairy Industry

#### Description

The Microflow XL systems are specifically designed to meet the needs and requirements of food and dairy ingredient purification in modern production plants. Clarification is achieved without the need for filter aids, filter press or centrifuge. The fully automated Microflow system provides an environmentally friendly solution for the production of high clarity products with longer shelf life, and a reliable microbial control of spoilage or pathogenic microorganisms.

The system utilizes Pall's proven high area, hollow fiber membranes. These modules have a unique mechanical strength and excellent chemical resistance, which allow high productivity and repeated exposure to aggressive cleaning regimes. When coupled with the user friendly software complete with cycle programming and a compact footprint, the Microflow XL series is the smart solution for reliable food dairy ingredient purification.

#### Cost Saving Benefits

With Pall's extensive experience in crossflow filtration of food and dairy streams and dedication to simplified process design and control logic, the Microflow XL system incorporates unique features which enable food and dairy plants to perform clarification at low operating costs while providing constant and high filtrate quality.

These include:

- PVDF membranes with high mechanical strength for longer service life
- High area, high flow modules for more compact and more economical systems
- Backpulse capability for increased system productivity
- Hollow fiber membrane with 1.4 mm open channel for optimized cleaning
- Fully automated cycle programming for unattended operation and reduced labour and downtime
- Transparent module housing to confirm filtrate quality and enhance troubleshooting capabilities
- On board tanks, for easy cleaning, concentration and integration
- User friendly interface and automated chemical dosing for reliable operation



Pall Microflow XL Crossflow Microfiltration System

#### Microflow XL Membranes

The Microflow XL modules incorporate Pall's proven symmetric hollow fiber membranes. The larger diameter, high flow modules with 21.5 m<sup>2</sup> of filter area, have at least twice the filter area of typical competitive hollow fiber modules. The module components include:

Membrane	PVDF
Sleeve	Epoxy resin potting
Housing	Polypropylene
Seals	Transparent polysulphone
	Ethylene Propylene copolymer

#### Microflow XL System Components

The Microflow XL systems are fully automated, modular systems available with 2 up to 8 crossflow modules. Metal wetted parts can be specified in 304L or 316L stainless steel.

Piping manifold, membranes, pumps and instruments are mounted on a mobile frame, which includes the following :

- Stainless steel pre-filter screen for large particles
- On board concentration / cleaning tank
- Feed pump
- Circulation pump
- Reverse filtration (back flush) pump
- Magnetic flow meter with batch control
- CIP function with 1 µm water filter and temperature control
- Automatic chemical dosing
- Spray balls in tanks, piping and pneumatic valves for CIP
- Touch screen PLC
- Pressure, temperature and dry run protection

## Microflow XL Options

The following options are available for additional supply :

- Low Concentration Volume (LCV) feature for further reduction of concentrate volume
- Dummy modules in 304L or 316L stainless steel, for systems with more than 3 modules
- Frequency inverter on feed pump with backpressure valve
- 304L or 316L stainless steel pump covers
- Adaptation to modules with 2.6 mm open channel hollow fibers

## Compliance

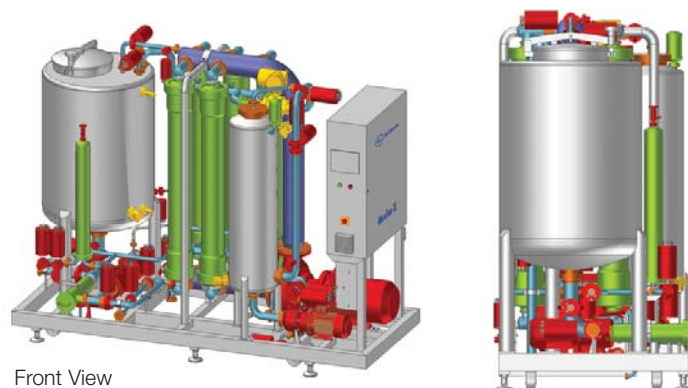
The Microflow XL systems are manufactured in accordance with European Pressure Directives and each system is supplied with a CE mark.

Various Microflow modules have been qualified for compliance to specific regulatory standards for products coming into contact with foodstuffs. Please contact Pall for details.

## Operating Conditions

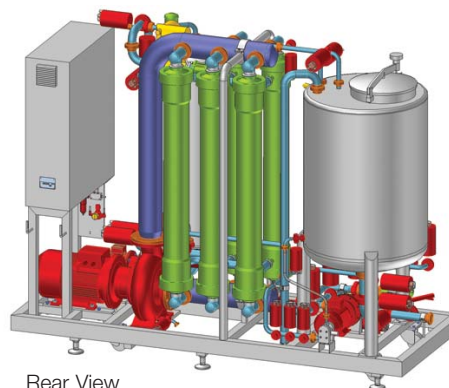
Inlet Pressure : 0.5 to 3.5 bar (7 to 50 psi)  
 Temperature : Typically 0 to 45 °C (32 to 113 °F)  
 Maximum temperature for cleaning : 65 °C (150 °F)

Please consult Pall for your specific application.



Front View

Side View



Rear View

## Standard Filtration Skid Specifications

Model Characteristics	Microflow XL						
	XL2	XL3	XL4	XL5	XL6	XL8	
# of modules	2	3	4	5	6	8	
Filtration surface area	43 m <sup>2</sup> (463 ft <sup>2</sup> )	64.5 m <sup>2</sup> (694 ft <sup>2</sup> )	86 m <sup>2</sup> (926 ft <sup>2</sup> )	107.5 m <sup>2</sup> (1157 ft <sup>2</sup> )	129 m <sup>2</sup> (1389 ft <sup>2</sup> )	172 m <sup>2</sup> (1851 ft <sup>2</sup> )	
Length	2.4 m (7.87 ft)	2.4 m (7.87 ft)	2.7 m (8.86 ft)	3.0 m (9.84 ft)	3.0 m (9.84 ft)	3.3 m (10.83 ft)	
Width	1.2 m (3.94 ft)	1.2 m (3.94 ft)	1.2 m (3.94 ft)	1.2 m (3.94 ft)	1.2 m (3.94 ft)	1.2 m (3.94 ft)	
Height	2.15 m (7.05 ft)	2.15 m (7.05 ft)	2.15 m (7.05 ft)	2.15 m (7.05 ft)	2.30 m (7.55 ft)	2.30 m (7.55 ft)	
Weight (empty)	1310 kg (3946 lb)	1420 kg (3130 lb)	1550 kg (3417 lb)	1590 kg (3505 lb)	1690 kg (3726 lb)	1790 kg (3946 lb)	
Feed tank	320 l (84.5 gal)	320 l (84.5 gal)	530 l (140 gal)	530 l (140 gal)	530 l (140 gal)	530 l (140 gal)	
Filtrate tank	60 l (15.9 gal)	60 l (15.9 gal)	110 l (29.1 gal)	110 l (29.1 gal)	120 l (31.7 gal)	120 l (31.7 gal)	
Feed inlet	DN 50	DN 50	DN 50	DN 50	DN 65	DN 65	
Filtrate outlet	DN 50	DN 50	DN 50	DN 50	DN 65	DN 65	
Concentrate outlet	DN 50	DN 50	DN 50	DN 50	DN 50	DN 50	
Water inlets	DN 25	DN 25	DN 25	DN 25	DN 25	DN 25	
Chemicals inlet	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	
Compressed air inlet (instrument quality)	Pneumatic hose 10 x 8 mm or ¼" internal thread	Pneumatic hose 10 x 8 mm or ¼" internal thread	Pneumatic hose 10 x 8 mm or ¼" internal thread	Pneumatic hose 10 x 8 mm or ¼" internal thread	Pneumatic hose 10 x 8 mm or ¼" internal thread	Pneumatic hose 10 x 8 mm or ¼" internal thread	
Wattage	9 kWh	11 kWh	13.5 kWh	16 kWh	18 kWh	18 kWh	



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