

Microflow XL-M Brine Crossflow Microfiltration Systems Small Units for Brine Purification

Description

The Microflow XL-M Brine systems are specifically designed to meet needs and requirements of brine purification in small and medium cheese plants. Clarification is achieved without the need for filter aids or centrifuge. The small Microflow XL-M unit provides an environmentally friendly solution for longer brine life, with a reliable microbial stabilization which reduces the risk of cheese contamination from spoilage or pathogenic microorganisms during the brine salting process.

The system utilizes Pall's proven high area, hollow fiber membranes with unique mechanical strength and excellent chemical resistance, which allow high productivity and repeated exposure to aggressive cleaning regimes.

The Microflow XL-M unit, designed for manual operation with minimum assistance during process cycles, provides cost-effective and efficient brine purification. When coupled with the user friendly interface and a compact footprint, the Microflow XL-M Brine system is the easy solution for reliable brine purification.

Cost Savings 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-M Brine system incorporates unique features which enable dairies to perform clarification at low operating costs while providing constant and high brine filtrate quality.

These include:

- PVDF membranes with high mechanical strength for longer service life
- High area, high flow module 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
- On board cleaning tank, process connections and operating elements on one side of the system for easy integration and operation
- Process cycles running automatically with low attendance from operator, initiating regeneration and cleaning cycles, for reduced labor and downtime



Microflow XL-M Brine system

- Pressure and temperature monitoring, production flux rate set by operator and critical parameter values diagnosed by the PLC for enhanced reliability
- Transparent module housing to confirm filtrate quality and enhance troubleshooting capabilities
- User friendly interface for efficient operation

Microflow XL Brine Membranes

The Microflow XL Brine modules incorporate Pall's proven symmetric hollow fiber membranes. These large diameter, high flow modules feature 21.5 m² (231 ft²) of filtration area, at least double that of typical competitive hollow fiber modules.

The module components include:

Component	Description
Membranes	PVDF
Potting	Epoxy Resin
Sleeve	Polypropylene
Housing	Transparent polysulphone
Seals	Ethylene Propylene copolymer

Microflow XL-M Brine System Components

The Microflow XL-M Brine systems are operator controlled manual systems, incorporating one high capacity crossflow module. All product wetted components are constructed of 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 with inverter and 316L stainless steel cover
- Circulation pump with 316L stainless steel cover
- Filtrate reservoir
- Reverse filtration (back flush) pump
- Store programmable logic control (PLC) with operator panel
- Pressure, temperature, and concentration/ cleaning tank level controls

Microflow XL-M Brine Equipment Options

External level sensor to protect against overfilling of filtrate tank and dry run is optionally available.

Compliance

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

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



XL-M Side Views

Operating Conditions

Brine filtration	
Inlet Pressure	0.5 to 3.5 bar (7 to 50 psi)
Temperature	0 to 25 °C (32 to 77 °F) and typically 4 to 15 °C (39 to 59 °F)
Maximum temperature for cleaning	65 °C (150 °F)

Standard Filtration Skid Specifications

Model Characteristics	Microflow XL1M Brine
Number of modules	1
Filtration surface area	21.5 m ² (232 ft ²)
Length	1.76 m (5.77 ft)
Width	0.96 m (3.15 ft)
Height	1.995 m (6.55 ft)
Weight (empty)	430 kg (948 lb)
Raw brine tank	210 L (55.5 gal)
Filtrate brine tank	35 L (9.2 gal)
Connection type	DIN 11851
Raw brine inlet	DN 40
External bleed outlet	DN 40
Filtrate brine outlet	DN 40
Concentrate outlet	DN 40
Wattage	4 kW



XL-M Front View



XL-M Rear View