

SW18 System

Tools enabling Innovation

Laboratory Membrane Solutions

Bench Membrane System

The MMS SW18 System is an easy to use batch laboratory membrane device for microfiltration, ultrafiltration, nanofiltration and reverse osmosis operations.

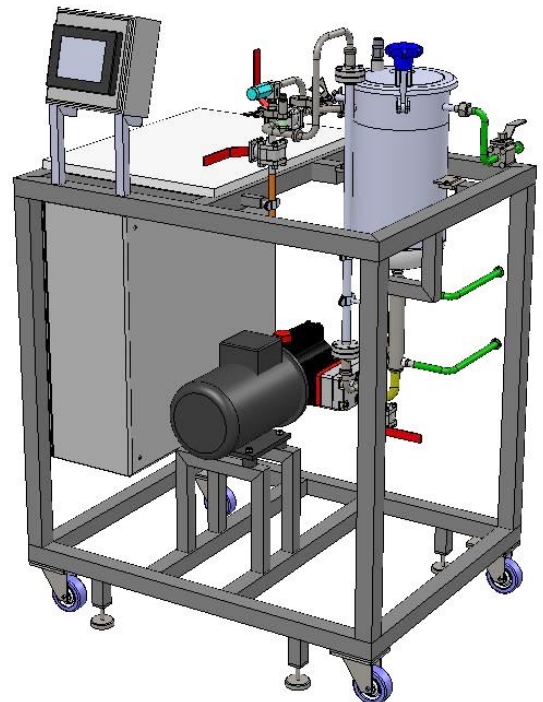
Applications such as fractionation, purification and concentration of molecules can be tested.

The Bench System SW18 can be equipped with different types of modules for test applications up to 40 bar.



Key Features

- Speed control of pressure & circulation pump for variable membrane crossflow velocity
- High operating pressures
- Testing of spiral wound, ceramic, hollow fibre and tubular elements (wide range of membranes available)
- Multitube heat exchanger for temperature regulation
- HMI interface with data logging



Further Information

MMS AG Membrane Systems
Im Grossherweg 11
8902 Urdorf
Switzerland

T: +41 44 735 59 00
F: +41 44 735 59 01
info@mmsx.com
www.mmsx.com

SW18 System

Tools enabling Innovation

Applications

Food & Extract Sector

- Protein fractionation & concentration
- Extract fractionation & concentration
- Hydrolysate fractionation & concentration
- Sugar fractionation & concentration
- De-alcoholization of beer and wine
- Soya milk de-bittering

Bio-Pharmaceutical Sector

- Fermentation broth clarification
- Enzyme & protein concentration
- Peptide concentration & de-salting
- API purification & concentration
- Oligosaccharide purification & concentration
- Solvent recovery or exchange

Natural Oils Sector

- De-waxing
- De-colourization
- Purification
- Concentration
- Oil/water separation

Aroma and Colorant Sector

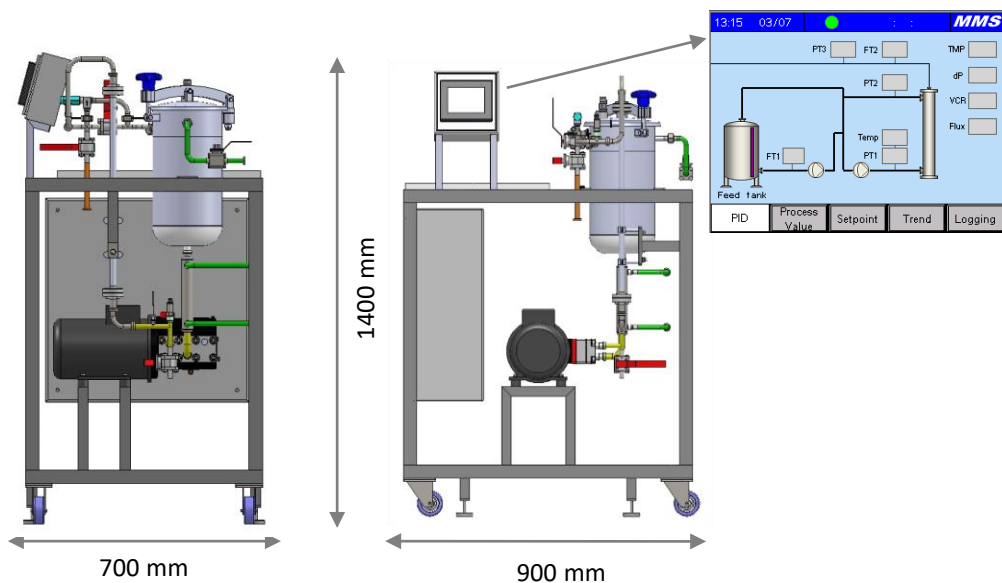
- Herbal extract fractionation & concentration
- Natural colour purification & concentration
- Aroma sterilization
- Aroma concentration
- Evaporator condensate treatment

Chemical Sector

- Acid/caustic recovery
- Catalyst separation
- Solvent exchange & recovery
- Polymer purification & concentration
- Condensate water purification

Biofuels Sector

- Organic acid clarification & purification
- Organic acid concentration
- Sugar clarification & concentration
- Ethanol purification
- Condensate water recovery

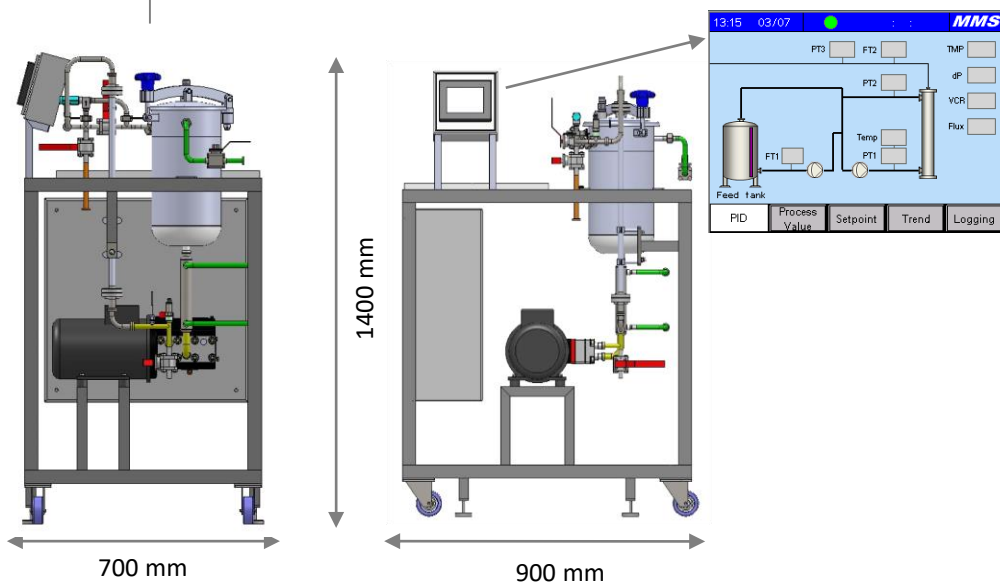


SW18 System

Tools enabling Innovation

Specifications

Dimensions (L x W x H)	1020 x 600 x 850 (mm)
Weight	100 kg
Installed power requirement	1.5 kW (220/110V)
Membrane type	Spiral wound 1812 module (other membrane types available)
Membrane area	0.3 m ² (spiral wound)
Pressure/Circulation pump	High pressure pump (speed control), with CIP and SIP capability
Permeate flow rate	Permeate flow 1 – 5 l/h (flow rate is dependent on the feed characteristics)
Flow rate	450 L/h
Tubing	All tubing and fittings Mat. 316 L
Feed tank	Stainless steel 316L, Volume 10 L
System hold up volume	500 – 800 mL (dependent on module used)
Instruments	2 x Pressure transducers (0 – 50 bar) 1 x Temperature transducer (0 – 100 °C) 1 x Balance (0 – 15 kg, 1 g resolution)
Gaskets, Seals & O-rings	EPDM (others on request)
Pressure rating	PN40
Temperature rating	5 – 80 °C (polystat required)
HMI	Touch panel for process control, indication of parameters and data logging



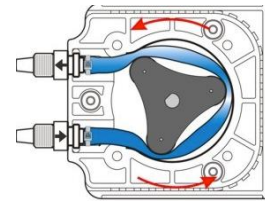
SW18 System

Tools enabling Innovation

Options

Diafiltration Kit

A peristaltic pump, integrated into the control unit, can be used for continuous diafiltration process.



Solvent Module Kit

A housing suitable for the solvent stable module is available. The seals, O-rings and membranes for pump will be delivered in solvent stable polymer.



Purged Tank Kit

The process tank is modified to allow for nitrogen purging operations.



Different Modules

SW	Spiral wound modules
HF	Hollow fibre modules
Ceram	Ceramic 10 mm elements
Tub	Tubular modules (on request)



Membrane Cut-Offs

SW Microfiltration	0.3 µm
SW Ultrafiltration	2.5, 3.5, 5, 10, 50 kDa
SW Nanofiltration	150 Da, 300 Da, 1000 Da
SW Reverse Osmosis	93% & 99% NaCl rejection
HF Microfiltration	0.2 & 0.5 µm
HF Ultrafiltration	10, 30, 50 & 150 kDa
Ceramic - Microfiltration	0.1, 0.2, 0.45, 0.8, 1.4 µm
Ceramic - Ultrafiltration	15, 50, 150, 300 kDa
Ceramic - Nanofiltration	500 Da, 700 Da, 1000 Da

