

MemTester

Tools enabling Innovation

Membrane Solutions for the Laboratory

Membrane Cell

The MMS MemTester is a laboratory membrane screening device for microfiltration, ultrafiltration, nanofiltration and reverse osmosis operations.

The unit is a high-pressure stainless-steel stirred cell. It is an ideal tool for rapid “what if” trials, the backbone of initial product and process development.

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

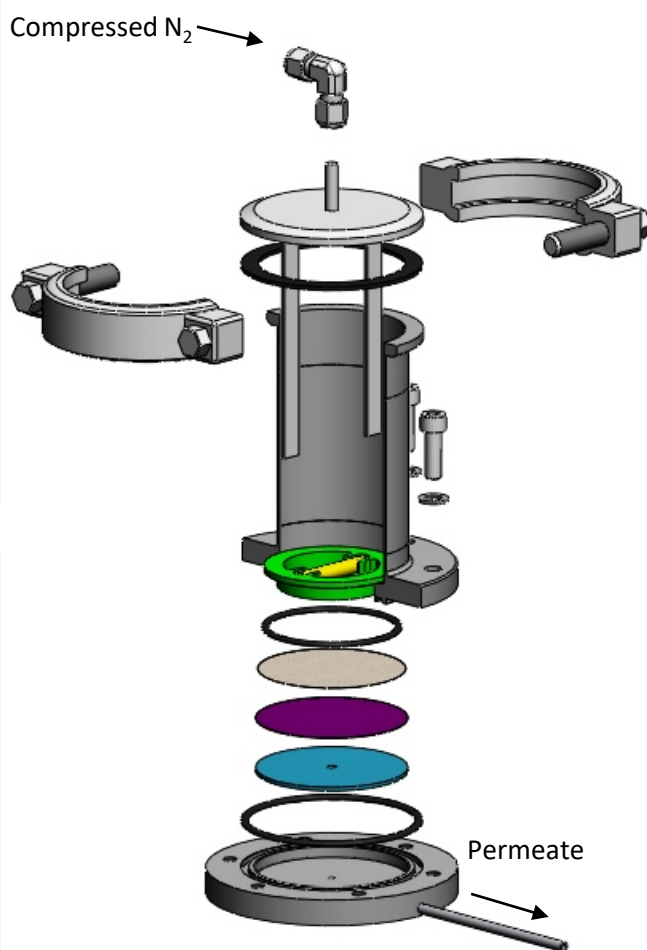
Key Features

- Batch operation
- Small volumes of feed material required
- Easy to handle and clean
- Operating pressure up to 40 bar
- Crossflow created by magnetic stirrer
- Wide range of membranes available
- Different seal materials available

Further Information

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Applications

Aromas and Colorants

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

Bio-pharma

Enzyme & protein concentration
Peptide concentration & de-salting
API or oligosaccharide purification & concentration
Solvent recovery or exchange

Natural Oils

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

Food & Extracts

Protein or extract fractionation & concentration
Hydrolysate fractionation & concentration
Sugar fractionation & concentration
De-alcoholization of beer and wine
Soy milk debittering

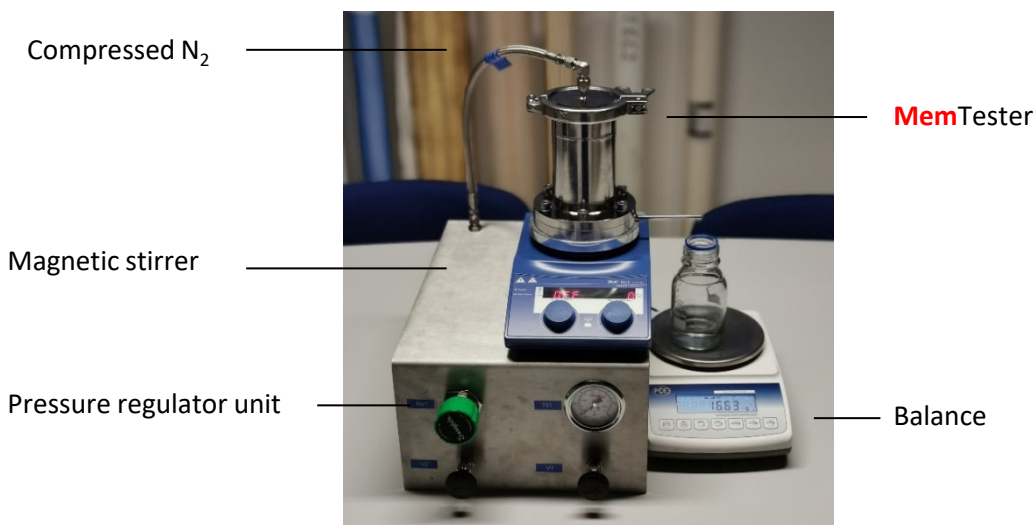
Chemical

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

Biofuels

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

For a specific application not listed above ask our specialists at info@mmsx.com

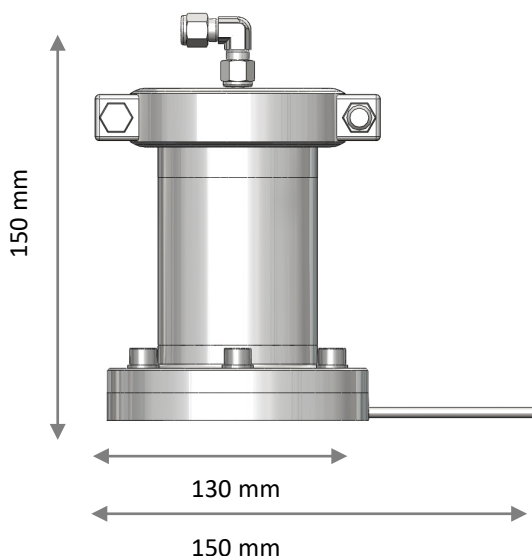


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Specifications

Operation mode	Batch, manually controlled
Intended use	Liquid food products, aqueous solutions, solvents (the liquids used must be compatible with cell and gaskets)
Membrane type	Flat sheet membrane disc (d = 7.5 cm, h = 0.1 - 0.3 mm)
Membrane area	~28 cm ² filtration area per disc
Feed requirements	Particle size < 100 µm
Cell tank volume	~300 ml
Cell dead volume	~10 ml
Working pressure	1 - 40 bar created by compressed N ₂ (provided by the customer)
Working temperature	5 - 80 °C (limitations due to membrane possible)
Crossflow	~0.5 - 1 m/s (subject to magnetic stirrer, stirrer provided by the customer)
Space requirement	MemTester cell 200 x 130 x 200 mm (L x W x H)
Weight	~3 kg
Gaskets	EPDM (FKM or FFKM are optionally available)
Tubing	All tubing and fittings of material 316L
Components	All parts in contact with product are made of 316L if not otherwise stated. PTFE coated stirrer bar.
Required equipment	N ₂ gas supply



Particularly suitable for...

- Liquid food products, aqueous solutions, solvents
- Particle size < 100 µm
- Simple applications
- Little or no experience in membrane technology
- Low budget

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Options

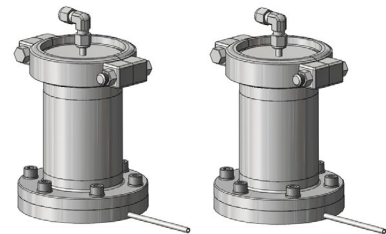
Pressure Regulator Unit

A compressed N₂ regulator unit allows for easy and safe regulation of the operating pressure for the MemTester. The regulator unit includes a safety valve, inlet and outlet valves



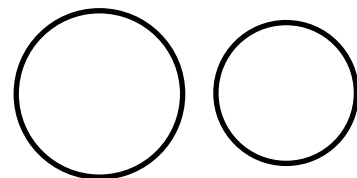
Additional MemTester Units

Additional MemTester units can be connected to the same pressure regulator.



Additional O-ring Materials

O-rings are available in EPDM, FKM or FFKM depending on the product requirements.



Membrane Cutting Tool

Circular punch of high resistance steel to cut out 75 mm disks.



Membrane Cut-offs

Wide range of pore sizes and cut-offs available:

Microfiltration (0.1 – 1.4 µm)

Ultrafiltration (1 – 250 kDa)

Nanofiltration (100 – 1000 Da)

Reverse Osmosis

