MemTester

Membrane solutions for the laboratory

Membrane Test Cell

The MemTester unit allows for quick and simple testing of all membrane processes such as Microfiltration, Ultrafiltration, Nanofiltration and Reverse Osmosis applications.

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

The MemTester is an ideal laboratory tool for screening membranes from low to high pressure applications.

Key Features

- Crossflow is created by magnetic stirrer
- Unique stirrer design for low volume operation
- High operating pressures
- Wide range of membranes available
- Allows for testing of ceramic membranes

Further Information

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### MemTester

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## 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

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**Diagram:**
- **MemTester**
- Compressed N2
- Magnetic stirrer
- Balance
- Pressure regulator unit
MemTester

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Specifications

Dimensions (L x W x H) | 130 x 130 x 145 (mm)
Weight | ~1 kg
Membrane area | 28 cm²
Channel diameter | 2 mm equivalent
Crossflow velocity | 0.5 – 1 m/s, equivalent
Cell body | Stainless steel 316L
Cell hold up volume | 10 ml
Permeate spacer | Stainless steel 316L
O-rings | EPDM (others on request)
Pressure rating | PN40, (PN64 on request)
Temperature rating | 90°C
Options

Balance
A balance with a range of 0-1000 g and resolution of 0.1 g can be added as an option for permeate flow measurement.

Magnetic Stirrer
A magnetic stirrer with 100 W power can be added as an option.

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.

Membrane Sheets

<table>
<thead>
<tr>
<th>Membrane Type</th>
<th>Size Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microfiltration</td>
<td>0.05, 0.1, 0.2, 0.45 µm</td>
</tr>
<tr>
<td>Ultrafiltration</td>
<td>2.5 kDa, 3.5 kDa, 5 kDa, 10 kDa, 20 kDa, 50 kDa, 100kDa</td>
</tr>
<tr>
<td>Nanofiltration</td>
<td>150 Da, 300 Da, 1000 Da</td>
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<tr>
<td>Reverse Osmosis</td>
<td>90%, 93% and 99% NaCl rejection</td>
</tr>
<tr>
<td>Ceramic - Membrane Solution</td>
<td>150 Da, 200 Da, 300 Da</td>
</tr>
<tr>
<td>Ceramic - Microfiltration</td>
<td>0.1, 0.2, 0.45, 0.8, 1.4 µm</td>
</tr>
<tr>
<td>Ceramic - Ultrafiltration</td>
<td>15 kDa, 50kDa</td>
</tr>
<tr>
<td>Ceramic - Nanofiltration</td>
<td>1000 Da, 700Da, 500 Da</td>
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</tbody>
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