Tubular membrane
66.03 I8 CR

Type of filtration: Ultrafiltration
Membrane material: Polyvinylidene fluoride (PVDF)
Membrane diameter (internal): 8.0 mm

General properties
→ asymmetric membrane structure
→ inside-out filtration
→ highly efficient hydrophilic tubular membrane
→ high permeability
→ excellent anti-fouling characteristics
→ high pressure stability
→ excellent chemical resistance
→ optimised for BioPulse application
→ used in HyperFlux membrane module (Chemical Resistant)

Fields of application
→ membrane bioreactor
→ purification
→ biomass separation
→ wastewater treatment
→ prefiltration
→ enzyme separation
→ emulsion separation
→ concentration
→ filtration of fermentation effluent
→ reclamation of reusable materials

Performance characteristics

<table>
<thead>
<tr>
<th>Membrane type</th>
<th>Type 66.03 I8 CR</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean water flux [l/m²·h·100 kPa]</td>
<td>&gt; 750</td>
<td>RO water, 25 °C</td>
</tr>
<tr>
<td>Transmembrane pressure max. [kPa]*</td>
<td>-60 to +600</td>
<td>dextran mixture</td>
</tr>
<tr>
<td>Mean pore size [nm]</td>
<td>approx. 30</td>
<td></td>
</tr>
<tr>
<td>pH range of application [-]</td>
<td>2 – 12</td>
<td></td>
</tr>
<tr>
<td>Max. temperature [°C]*</td>
<td>40</td>
<td>up to 600 kPa</td>
</tr>
</tbody>
</table>

* Note: the maximum values for pressure and temperature of HyperFlux I8-CR-module should not be exceeded!

Membrane lifetime is influenced by:
→ Operating conditions under normal operation
→ Cleaning, especially regarding the combinations of maximal values of pH, concentration, pressure and temperature
**Chemical resistance**

**Process chemicals**

The chemical resistance of a membrane is strongly dependent on the process conditions. The following ratings are to be taken as general guideline only.

<table>
<thead>
<tr>
<th>Process chemicals</th>
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<tr>
<td>Acids (pH &gt; 2)</td>
<td>+++</td>
</tr>
<tr>
<td>Bases (pH ≤ 12)</td>
<td>+++</td>
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<tr>
<td>Organic esters, ether, ketones</td>
<td>+</td>
</tr>
<tr>
<td>Aliphatic alcohols</td>
<td>++++</td>
</tr>
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<td>++++</td>
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<td>Polar organic solvents</td>
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<td>Oils</td>
<td>++++</td>
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**Key:** ++++ = highly resistant / + = poorly resistant

**Cleaning chemicals**

Depending on nature and degree of contamination, membrane cleaning may be carried out using the following chemicals. The membrane lifetime may be reduced when values, placed in brackets, are exceeded.

- → chlorine, active (max. 500 ppm) → nitric acid (pH ≥ 1)
- → chlorine exposure 250,000 ppm·h (at 25 °C) → phosphoric acid (pH ≥ 1)
- → hydrogen peroxide (max. 1000 ppm) → citric acid
- → sodium hydroxide (pH ≤ 13) → oxalic acid
- → enzymes

See Berghof cleaning and preservation instruction.

**Membrane storage**

New membranes can be stored in delivered condition up to two years. Membrane must be stored dry, well packed in a cool, frost free, dark place.

Used membranes must be preserved in a clean state.

See Berghof cleaning and preservation instruction.

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Due to the fact that we have no control over the conditions under which our products are used, the information provided in the data sheets does not represent a guarantee and we are unable to accept any liability claim regarding the use of our products. Technical details and recommendations concerning our products are based on general experience and shall provide guidelines for their selection and use.

The product quality is ensured in our sales terms & conditions.

We permanently enhance our products; therefore we reserve the right to make changes to our products at any time and without prior notice.
Tubular membrane
37.03 I8 CR

**Type of filtration:** Ultrafiltration

**Membrane material:** Polyethersulfone (PES)

**Membrane diameter (internal):** 8 mm

**General properties**
- asymmetric membrane structure
- inside-out filtration
- highly efficient hydrophilic tubular membrane
- high permeability
- excellent anti-fouling characteristics
- high pressure stability
- excellent chemical resistance
- optimised for BioFlow application
- used in HyperFlux membrane module (Chemical Resistant)

**Fields of application**
- membrane bioreactor
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- biomass separation
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- concentration
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**Performance characteristics**

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<td>Molecular weight cut-off [Dalton]</td>
<td>approx. 100,000</td>
<td>at 25 °C</td>
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<td>pH range of application [-]</td>
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- citric acid
- oxalic acid
- enzymes

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