

Instruction for use

PuraMem® Membrane Flat Sheet



GENERAL NOTES:

OSN membrane sheets are asymmetric polymeric membranes, and have a shiny yellow side (the active membrane surface) and a matte side (the support layer). The membrane should always be installed in the filtration equipment with the active membrane surface facing the process solution. Flat sheet membranes are generally provided as DIN A4 sized (210x297mm) sheets. The sheets generally lie flat, however some samples will have a tendency to curl – this is normal and special care should be taken when cutting disks from curly sheets. It is also normal for the membrane color to darken over time – colour change does not affect membrane performance. The membrane sheets should always be handled with care and not be folded.

INSTRUCTIONS FOR USE:

1. The shiny yellow side is the active surface of the membrane. Care should be taken to avoid scratching this surface where possible.
2. Cut the membrane to the correct size for the filtration test cell and insert in the filtration cell.
3. PuraMem® membranes contain a polyethylene glycol preservative that is easily washed out prior to use with a solvent such as toluene, ethanol, or THF. Permeate at least 50 L per m² (255mL for a 90mm diameter disk (51 cm²)) of solvent through the membrane at operating filtration pressure to flush the preservative from a new membrane disk, and discard the resulting permeate.

NOTE: Do not exceed the maximum working pressure of the membrane when flushing the preservative from the membrane – please refer to the table on page 1 for the maximum operating pressure of each PuraMem® membrane type.

4. Once wetted, the membrane should remain wet and not be allowed to dry out. Using membranes that have dried-out will result in poor membrane performance and rapid failure.
5. Once wetted, the membrane should not be re-used after it has been removed from the filtration cell, even if it has been kept wet. As the sealing process in the filtration cell compresses the membrane at the seal point, any misalignment when the membrane is re-used will lead to leaks and by-passing of the membrane – this is undesirable as data generated with a misaligned membrane will not be representative of the membrane type.
6. Stable membrane performance is achieved after 2 to 4 hours of filtration
7. Please store in dry condition and away from light.

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SPECIFICATIONS

PURAMEM® 280, PURAMEM® S600

General

- Membrane Material: Polyimide
- Flat Sheet: 210 x 297 mm

SOLVENT STABILITY

- PuraMem® membranes are stable in mild and non-polar solvents²:
 - e.g. Alcohols (e.g. Methanol, Ethanol, 2-Propanol)
 - Aliphatic hydrocarbons (e.g. Hexane, Heptane)
 - Aromatic hydrocarbons (e.g. Toluene, Xylene)
 - Butyl Acetate, Ethyl Acetate
 - Methyl–Ethyl–Ketone
 - Methyl–tert–Butyl–Ether,

PuraMem® membranes are not recommended for use in aqueous/water mixtures. For aqueous/organic solvent mixtures, please contact us for membrane recommendations.

USE CONDITIONS

Membrane Code	PuraMem®	PuraMem® S
MWCO (g.mol ⁻¹) ^{3,4}	280	600
Minimum Flux (L.m ⁻² .h ⁻¹) ³	18	30
Typical Operating Pressure (barg)	20–40	
Maximum Pressure (barg)	60	
Maximum Temperature (°C)	50	
Allowable pH	7	

¹ Membrane area is a nominal value and depends on the spacer dimensions used in the module.

² Data referring to membrane sheets with pure solvents. If you intend to use a solvent not listed above please contact us for further advice.

³ Performance Data are approximate and based on flat-sheet membrane. Test conditions: toluene at 30 barg and 30°C.

⁴ Based on rejection of styrene oligomers dissolved in toluene. MWCO = molecular weight cut-off which is defined as the molecular weight at which 90% rejection is obtained from a curve of rejection versus molecular weight of styrene oligomers dissolved in toluene.

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