Ultrafiltration membranes operating instructions

Operating Cautions

- Before sterilizing used membranes with formalin, make sure all residual protein is removed.
- Membrane discs can be used in a cold room (although the flow rates are reduced). Specified maximum operating temperatures are for aqueous solutions only.
- Before introducing solvents to the ultrafiltration cell, check chemical compatibility.
- Reduced recoveries and/or lower filtration rates may signal the need for membrane replacement.
- When separating macrosolutes using membranes with NMWL ≥ 100,000 kDa, keep the protein concentration at < 0.5% to achieve maximum resolution.
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Operating Pressure

Maximum recommended operating pressure is 70 psi (4.7atm). For membranes with NMWL ≥ 100,000, the maximum recommended pressure is 10 psi (0.7 atm). Use the discs at the lowest pressure consistent with the desired ultrafiltrate flow. While higher operating pressure initially improves the flow rate, it also promotes increased concentration polarization and membrane compaction, which ultimately limit flow. With very low NMWL membranes, lower operating pressure may also reduce the retention of salts and very low molecular weight species.

Operating Procedure

1- Carefully remove white membrane disc from protective package. Handle the membrane disc by its edge only; avoid scratching the glossy surface. The membrane has an inert substrate that improves handling qualities.

2- All membrane discs are pretreated with glycerin to prevent drying. Sodiumazide may be added as a preservative when appropriate.

3- Place the membrane disc into the ultrafiltration device with the skin (glossy) side toward solution.

4- Store discs in a 10% ethanol/water solution and refrigerate.