Datasheet: Hybrid Silica AR Membranes

Hybrid Silica AR membranes have hydrophilic characteristics, meaning that the water content of the feed passes preferentially through the membrane.

Membrane elements:
- Dimensions: 1-channel tube 250 x 10 x 7 mm, effective area 0.005 m²
- Dimensions: 1-channel tube 500 x 10 x 7 mm, effective area 0.01 m²
- Dimensions: 4-tube assembly 1200 x 25 mm, effective area 0.1 m²
- Dimensions: 4-tube assembly 600 x 25 mm, effective area 0.05 m²
- Substrate material: α-Al₂O₃
- Top layer: Hybrid Silica AR (Open, Standard or Dense)
- Coating position: Inside of the tube

Limits of operation
- Temperature: 150 °C
- Pressure: max. 10 bar
- pH: 0.5-8.5

Handling, storage and cleaning

Handling
Always wear clean gloves when handling the membranes in order to prevent contamination with fungi. Warning: The membranes are brittle and cannot withstand shock, excessive vibration nor mechanical bending forces.

Storage
The membranes can be stored in a dry place under ambient conditions. To prevent the risk of fungi growth on the ceramic element the relative humidity should not exceed 60%.

Cleaning
At the end of the standard dehydration process flush the element with clean solvent or demineralized water (max. 50 °C). CIP the element with appropriate means. This is either with its own solvent or typically 0.5% to 1% enzymatic neutral non-ionic detergent. In some cases special CIP procedures might be applicable. Sterilize with Formaldehyde (1%) or Sodium Azide (<0.01%) or equivalent. Please consult Pervatech for more information or consult the separate cleaning datasheet.

Possible applications with hydrophilic membranes
- Breaking of azeotrope
- Removal of water from organics e.g. alcohols, a-protic solvents, DMAc, DMSO, DMF, NMP, Phenol, THF, ACN, esters, acetates, ketones or acids
- In situ dehydration of condensation reactions
- Dehydration of essential oils
- Separation of low Mw from higher Mw solvents (purification)