



Datasheet: Zirconia Membranes

Zirconia membranes are mainly selective by pore size. The membranes have hydrophilic characteristics, meaning that the water content of the feed passes preferentially through the membrane.

Membranes:

Dimensions: 1-channel tube 250 x 10 x 7 mm, effective area 0,005 m²
 1-channel tube 500 x 10 x 7 mm, effective area 0,010 m²
 1-channel tube 1200 x 10 x 7 mm, effective area 0,025 m²

Substrate material: α -Al₂O₃
 Top layer: Zirconia
 Pore size: 6nm and 3nm
 Coating position: Inside of the tube

Limits of operation

Temperature: 400 °C
 Pressure: max. 10 bar
 pH: 1-13

Handling, storage and cleaning

Handling: Wear clean gloves in order to prevent contamination with fungi.
Warning: The membranes are brittle and cannot withstand shock, excessive vibration nor mechanical bending forces.
 Storage before use: Out of direct sunlight, room temperature, < 70% RH
 Storage after use (short) : In a solution of water and 10-15% IPA or water with 2500 ppm sodium metabisulfite
 Storage after use (long): In a solution of water with 0.7% benzalkonium
 Cleaning: The element can be cleaned by flushing with water to which a non-ionic detergent (10 ppm KOH) is added. Also enzymatic solutions dependent on the feed composition may be used. In case of food & additives processing contact us for alternatives.

Possible applications with hydrophilic membranes

- Removal of small molecules from larger organic molecule solvents like C10+, fuels, etheric oils, etc.
- Solvent recovery.
- In situ removal of small molecules like methanol, ammonia, formaldehyde, CO – CO₂ in organic syntheses in pharmaceutical production