



PERVATECH[®]

Datasheet

TUBULAR HYBRID SILICA HybSi[®] ACID RESISTANT MEMBRANE

Tubular Hybrid Silica HybSi[®] Acid Resistant membranes have hydrophilic characteristics, which means that the water content of the feed passes preferentially through the membrane.

MEMBRANE ELEMENT

Geometry	Tubular
Dimensions	1-channel tube 250 x 10 x 7 mm, effective membrane surface area 0.005 m ² 1-channel tube 500 x 10 x 7 mm, effective membrane surface area 0.01 m ² 1-channel tube 1000 x 12 x 8 mm, effective membrane surface area 0.025 m ²
External diameter tolerance	+/- 0.5 mm
Substrate material	α -Al ₂ O ₃
Top layer	Hybrid Silica AR Standard
Coating position	Inside of the tube
Tube ends	Tube ends are glazed

OPERATIONAL WINDOW

Temperature	Maximum 150 °C; max. gradient 10°C/min
Pressure	Maximum 10 bar; max. gradient 0,5 bar/min
Burst pressure	> 20 bar
pH	0.5-8.0
Chemical resistance	No reactive (e.g.) secondary amines, no solids

HybSi[®]
Pervaporation Membranes

 **PERVATECH[®]**

HANDLING, CLEANING AND STORAGE

Please note: the membranes are brittle and cannot withstand shock, excessive vibration nor mechanical bending forces.

Handling

- Always wear clean gloves when handling the membranes to prevent contamination with fungi.
- Hybrid silica HybSi® Acid Resistant membranes are sensitive towards sudden strong mechanical shocks, incl. temperature and pressure shocks. These fluctuations should be within the specified limits.
- Do not expose wetted membranes to freezing temperatures.

Cleaning

At the end of standard dewatering processes:

- 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 equivalent.
- **Warning: Do NOT use reactive amines or alkaline cleaning agents as they may damage the membrane.**

Please consult Pervatech for more information or consult the separate cleaning datasheet.

Storage

- Store the membranes in a dry place under ambient conditions.
- Make sure that the relative humidity does not exceed 60 %, to prevent the risk of fungi growth on the ceramic element.

EXAMPLES OF APPLICATIONS WITH TUBULAR HYDROPHILIC HYBRID SILICA HYBSI® ACID RESISTANT MEMBRANES

- Breaking of azeotropes
- Removal of water from organics such as alcohols, aprotic solvents, DMAc, DMSO, DMF, NMP, phenol, THF, ACN, esters, acetates, ketones or acids and alike
- Dewatering of organic acids
- Dewatering of food products (e.g. natural vinegar, whiskey), without loss of flavor and fragrance components and therefore retention of taste and smell.
- In-situ dewatering of condensation reactions
- Dewatering of essential oils
- Separation of low molecular weight solvents (e.g. MeOH) from higher molecular weight solvents (purification)

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