

ONE-D PERVAPORATION PILOT

Laboratory Pervaporation Pilot

One-D Pilot is a Laboratory Pervaporation Pilot with small HybSi® or Zeolite-A ceramic membranes

OneD-Pervaporation Pilot is a compact, user-friendly and pervaporation pilot designed for chemical laboratories. The system is equipped with small multichannel membranes, and instruments for measuring critical process parameters such as temperature, cross-flow velocity and vacuum pressure. The system is ideal for dehydration of batch sizes in the area of 2 - 5 liters.

Applications: Solvent dehydration >99% (Ethanol, IsoPropanol, Butanol, Acetone...), Solvent recovery, Aroma concentration, Esterification reaction coupling.

Example of OneD Pervaporation Pilot performance:

Dehydration of 1.6 kg of feed mixture containing 85% n-butanol & 15 wt.% water to 0,25 wt.% water after 2 hours.

Technical data



OneD-Pervaporation Pilot

- Feed tank volume: 2 liters (optional: 5 liters)
- Dead volume: 10 ml (undrainable)
- Maximum permeate extraction capacity: 0,55 kg/h
- Maximum feed temperature: +80°C
- Minimum condensation temperature: -20°C
- Minimum permeate pressure: 11 mbar
- Membrane material: HybSi® or Zeolite-A
- Membrane type: short multichannel, inside → outside
- Membrane area: 500 cm² (optional: mono-channel membrane)
- Condensation mode: continuous (optional: N₂ liquid trap)
- Wetted surfaces: SS316L, SS304L, PP, PTFE, FFKM, FKM
- Foot-print (Length x Width x Height): 500 x 700 x 1000 mm
- Weight: 65 kg
- Utility: 1 electrical plug 230 VAC mono, 1,4kW
- Cooling by air
- Instruments: electronic thermometers, flowmeter, manometers, level detector with process security protection

Unique Features

- A compact pilot with low feed volume
- Strong permeation capacity with compact multichannel membrane
- Robust ceramic HybSi® and Zeolite-A membrane, long lifetime
- Easy-to-use, user-friendly, even for beginner in pervaporation
- Only 1 electrical plug
- Tabletop pervaporation pilot

More information, contact us: orelis@alsys-group.com

System Operation

