

## Datasheet: PEBA Membranes

PEBA (poly(ether block amide)) membranes have hydrophobic/organophilic characteristics, in which the organic constituent of the feed passes preferentially through the membrane.

### Membranes:

Dimensions: 1-channel tube 250 x 10 x 7 mm, effective area 0,005 m<sup>2</sup>  
1-channel tube 500 x 10 x 7 mm, effective area 0,010 m<sup>2</sup>

Substrate material:  $\alpha$ -Al<sub>2</sub>O<sub>3</sub>  
Top layer: PEBA  
Coating position: Inside of the tube

### Limits of operation

Temperature: 70 °C (short-term 80 °C)  
Pressure: max. 10 bar  
pH: 3-8  
pre-filtration: 10  $\mu$  cartridge filter

### Handling, storage and cleaning

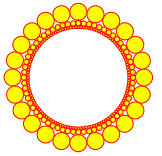
Handling: Wear clean gloves in order to prevent contamination with fungi.  
**Warning:** The membranes are brittle and cannot withstand shock, excessive vibration nor mechanical bending forces.  
Storage before use: Out of direct sunlight, room temperature, < 70% RH  
Storage after use (short) : In a solution of water and 10-15% IPA or water with 2500 ppm sodium meta bisulfite  
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 and additives processing contact us for alternatives.

### Sterilization options

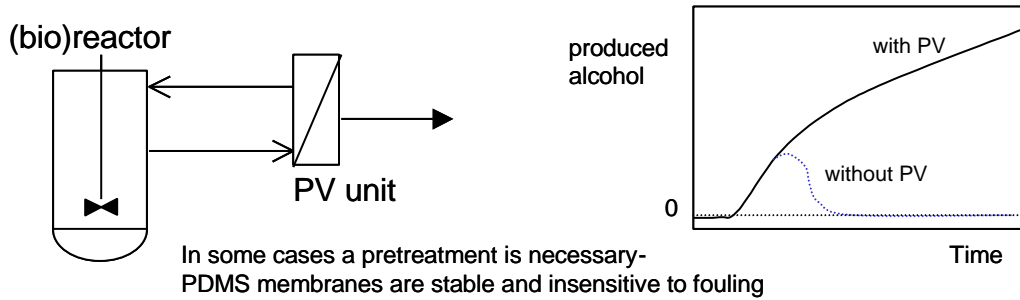
Flushing: With 100% ethanol

### Possible applications with hydrophobic/organophilic membranes

- Recovery or extraction of organics from natural feed like fruit juices, wine, beer, coco-nut oil, essential oils (carvon, limonene) and in combination with fermentation.
- Recovery of organics in biotech or biotech related food applications such as in natural feed like fruit juices, wine, beer, coco-nut oil, essential oils (carvon, limonene) and in combination with fermentation.
- Removal of ethyl alcohol (and other alcohols) from wine and beer.
- Upgrading reverse osmosis permeate in juice production.
- Combination with bioreactors in production of alcohols (ethanol, IPA, butanol), ABE (acetone, butanol, ethanol), aldehydes, flavor production as well as acid production.
- Removal of VOCs.



Typical example of PV process in combination with bioreactors:



*Principle of membrane reactor for continuous recovery of product (alcohols, aromas)  
The system with PV continues to produce alcohol while other systems stop when inhibiting amounts of alcohol (or other inhibitor) have been reached.*