



ECN

Your energy. Our passion.

Pervatool

A modeling tool for pervaporation process design

Pervaporation is the selective evaporation of one of the components of a liquid mixture using a membrane. As a unit operation, it can be used both in stand-alone and in hybrid configurations with other technologies such as distillation, thus lowering capital and operating costs. Up to now, a suitable unit operation has not been available in process simulation tools, such as Aspen Plus®. This omission might act as a barrier for the actual implementation of this innovative technology. ECN's Pervatool solves this problem and can now be added to your Aspen Plus® process library.

What can ECN do for you ?

- Offer you Pervatool so that you can perform your own simulations within an Aspen Plus® environment.
- Provide tailored consultancy and process evaluation.
- Offer you experimental pervaporation measurements, membrane characterization and Pervatool fine-tuning for your specific process and/or membranes.

Main features of Pervatool

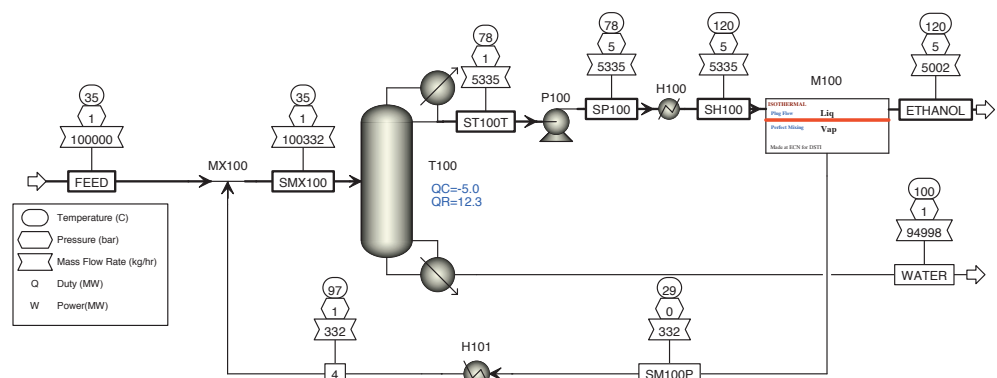
- Enabling process evaluations with pervaporation units.
- Generically applicable for any membrane system and feed mixture as the user can define the membrane performance as function of temperature and composition of any component.
- Isothermal and adiabatic operation modes.
- Perfect mixed and plug flow configurations.
- Monitor any parameter of interest along the membrane such as: driving force, composition, activity coefficient, flux etc.
- Results on membrane area, flux, separation factor, energy demands etc.

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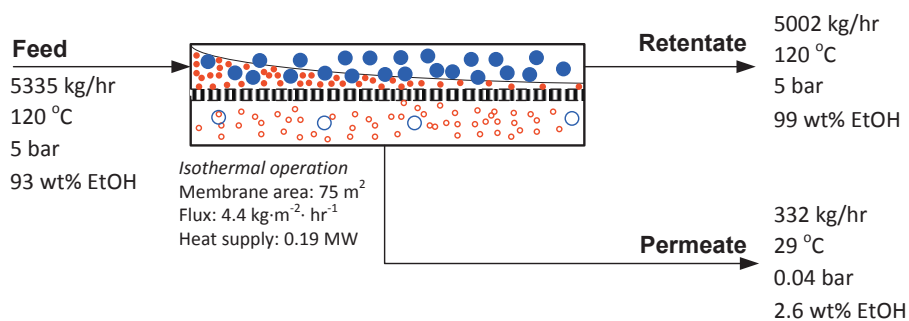
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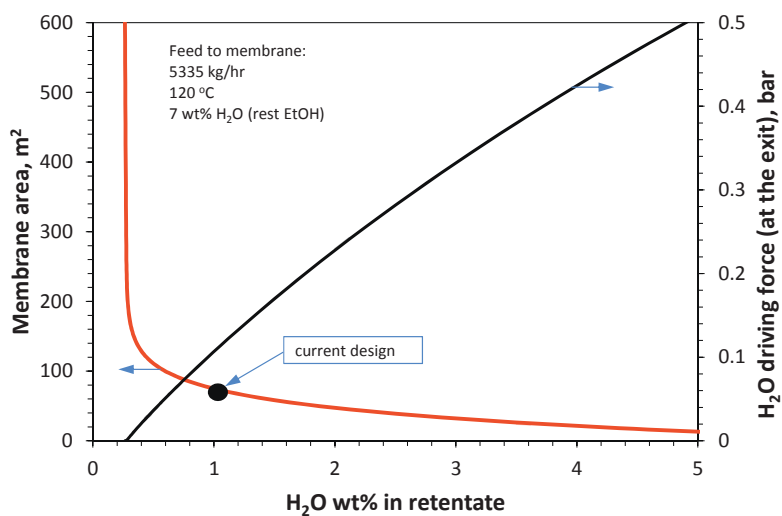
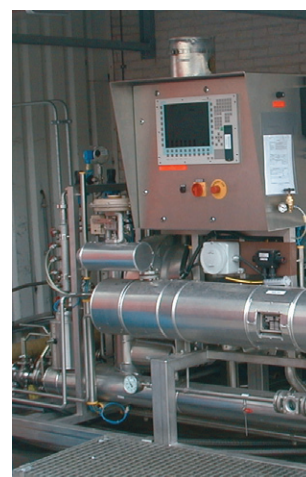
Pervatool

Pervatool is a model that comprises the main features of pervaporation technology. It allows the user to estimate the membrane area, compositions of outlet streams and energy use, depending on the membrane performances and design specifications. Pervatool is available as an executable file and can be installed and used within the Aspen Plus® model library. The installation of Pervatool is easy and straightforward.



Compatibility with Aspen Plus®

- Drag-and-drop workflow.
- Access to best in-class thermodynamic property models and physical data.
- Robust solutions for multi-component mixtures.
- Allows for sensitivity and optimization studies.



Please contact us for more information or inquiries.