

# Permporometer

Poroperm™, Porometer

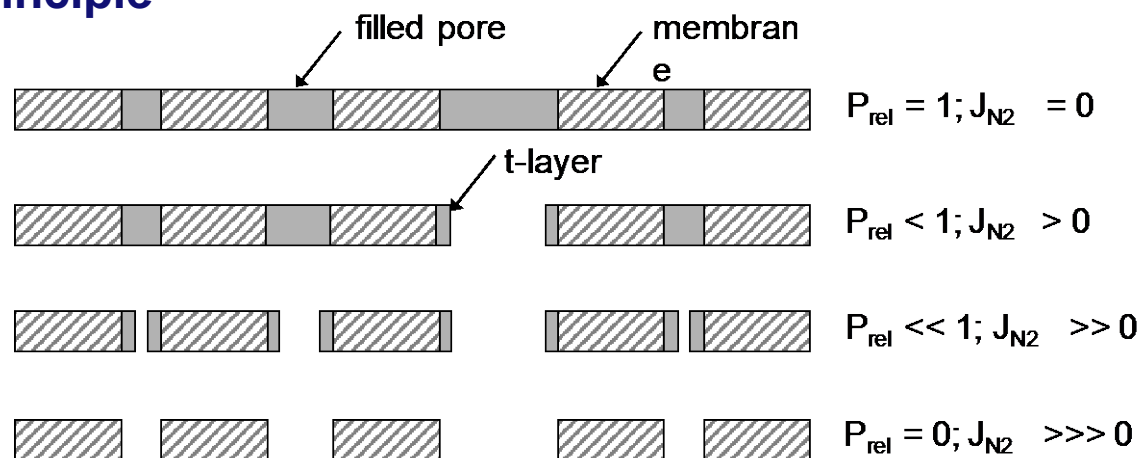


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## Introduction

The permporometer is an instrument that allows to measure the through pore size distribution in UF membranes. It is based on the controlled pore opening by evaporating condensed liquid by stepwise decreasing the vapor activity in the gas stream over a membrane surface.

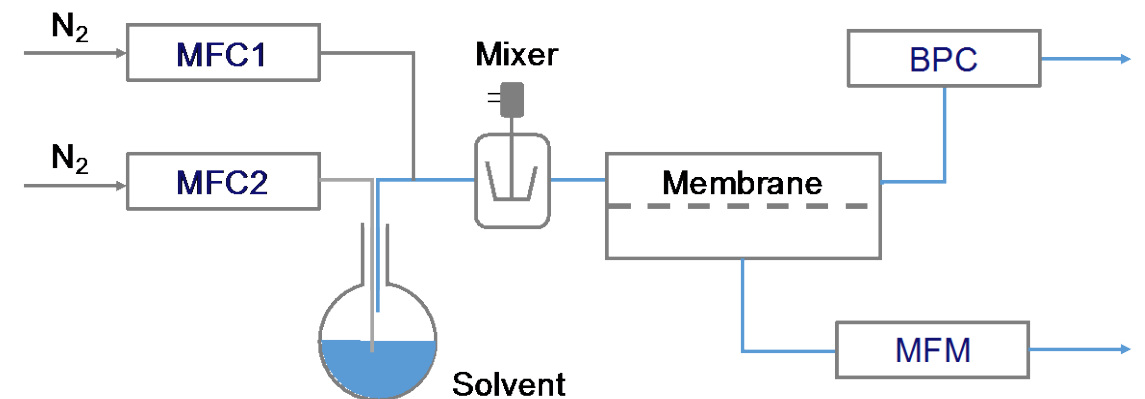
## Principle



Pore opening and gas flux as function of the vapor pressure.

Pores that are not of the same size will open at different values of partial pressures, with the biggest ones opening first, inverse capillary condensation.

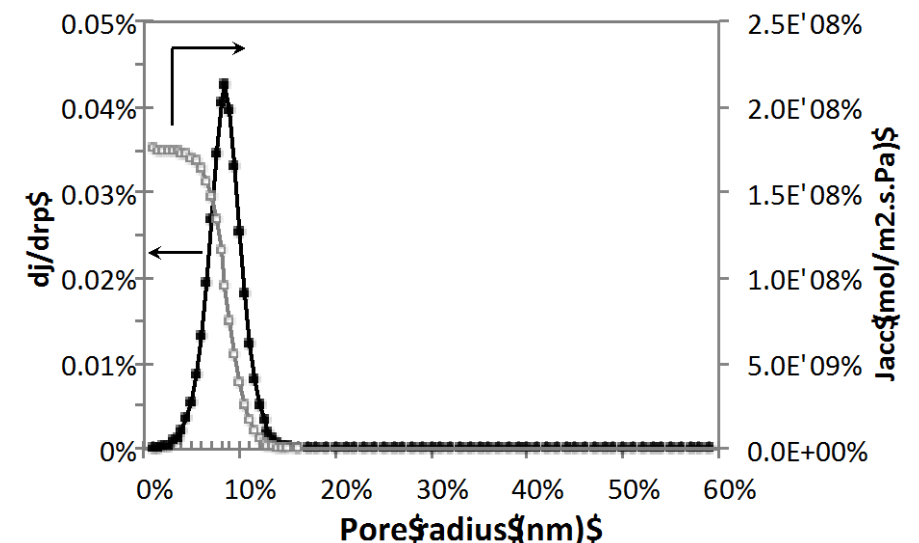
$$\ln P_r = -\frac{\gamma V}{RT} \cos \theta * \left( \frac{1}{r_{k_1} + r_{k_2}} \right) \quad \text{Kelvin equation.}$$



Simplified layout of a permporometer flow scheme.

## Applications

Determination of active pore size distribution in ultra-filtration membranes between 1.5 – 60 nm.



Pore size distribution as measured by porometry.