

“Amicon type” stirred cell

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www.tue.nl/mmp

Introduction

The “Amicon type” stirred cell is a simple and reliable method that allows to insert membranes of choice for membrane analysis or for the treatment of process streams. N₂ pressure drives the filtration while gently magnetic stirring just above the membrane surface minimizes the concentration polarization and the shear-stress induced denaturation.

Principle

The membrane containing dead-end pressure cell is equipped a pressure safety relieve valve that allows venting of air while filling the cell; a magnetic stirring bar to minimize concentration polarization; a porous support plate that channels the permeated liquid to the outlet where the amount is measured with a top scale.

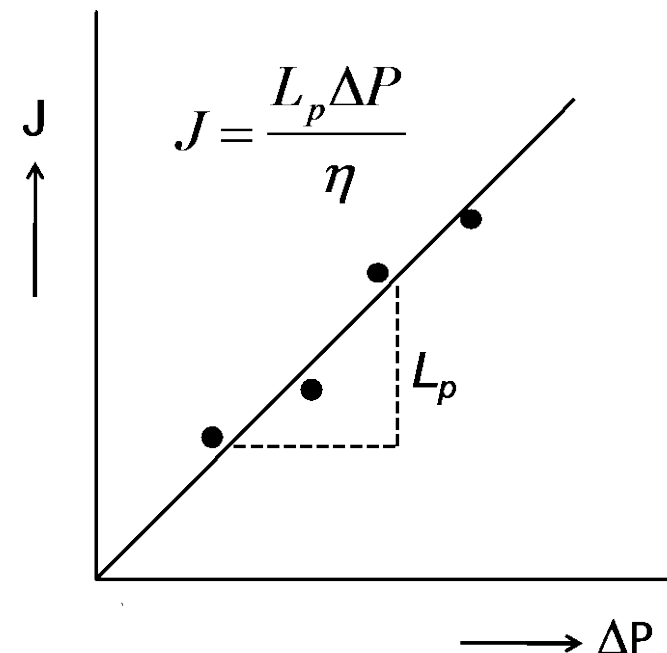
The standard volume of the cell is 600 ml that can be increased by connecting a dispensing pressure vessel (5 or 10 liter) to the stirred cell.



Dead-end stirred cell

Applications

- Determining the membrane permeability coefficient.
- Determining the membrane retention and flux.
- Buffer exchange or desalting.
- Concentrating feed solutions.



Typical pressure-flux curve to calculate the membrane permeability coefficient L_p and a picture of the set-up including the dispensing vessel.