

Two-dimensional modeling the concentration polarization in spiral wound membrane systems

_____,^{1,*}
; 1
(kslee@sogang.ac.kr^{*})

With the advances in membrane technologies, membrane separation has continuously replaced the traditional technologies in the field of water purification due to its advantages in the capital investment, operating cost, installation space, and range and types of contaminants it can remove. In desalination, especially, the reverse osmosis is now regarded as the standard technology. The spiral wound configuration dominates the water treatment and desalination units. Knowledge of the concentration and flow profiles developed in the flow channel in a membrane module is important in the prediction of the separation performance. In this research, spiral wound module was investigated using a steady state two-dimensional partial differential equation model.