# Air gap membrane distillation on the different types of membrane

하가, 황호중, 박보배, 문일식*
순천대학교
(ismoon@sunchon.ac.kr*)

Sixtypes of commercially available membane werw used for AGMD system to investigate the efect of membrane material, membrane pore size difference on the permeation flux and conductivity. The mass transfer coefficient was also calculated by the experiment results. The PTFE material membranes shown much more efficient than PDVF membranes on permeate flux and salt rejection under the same conditions: hot side 80°C, flow rate 250ml/min, NaCl concentration 3.5%, and cold side 15°C, flow rate 100ml/min, 1mm air gap thickness, horizontal count-current. Different membrane pore size did not effect on permeate flux but effect the conductivity. The pore size 0.22 membrane keep the conductivity value under 7us/cm sult for produce pure water. Mass transfer coefficient increased dliahtly with the increasing of hot side flow rate but decreased with the increasing of hot side temperature. The conductivity refection and concentration rejection of simulate seawater ions were in the range of 99.27 ~ 99.99%.