



Experimental evaluation for the freshwater production characteristics according to the salinity conditions of vacuum membrane distillation module

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ABSTRACT

This study builds a lab-scale vacuum membrane distillation (VMD) system with 1 m³/d to analyze the performance characteristics of VMD module, which has a relatively high freshwater production rate and low heating energy consumption during the membrane distillation process and experimentally evaluates freshwater production characteristics of VMD module according to temperature (55, 65, and 75°C), flow rate of (2, 4, 6, and 8 m³/h), and salinity (25,000, 35,000, and 45,000 ppm) conditions of feed water to the system.

Keywords: Membrane distillation; Vacuum membrane distillation; Vacuum membrane distillation module

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