

Experimental Analysis of Hybrid FO, Crystallization and RO Desalination Process

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Reverse osmosis (RO) process has become most popular seawater desalination for the last decades. However RO process requires high applied pressure, leading to high operational cost. FO-Crystallization-RO process makes up for the weakness of RO process. The proposed process utilizes solubility changed as varying temperature resulting in osmotic pressure change. A specific draw solution in high temperature FO process can draw water from seawater and then the draw solution flows to crystallization process and is cooled down. The solute in cooled draw solution is precipitated and filtered out, consequently, concentration of draw solution become lower. Then, it goes to the RO process and fresh water is finally produced as much lower energy due to much lower concentration. In this study, a hybrid FO-Crystallization-RO process is analysed for experimental.