عنوان مقاله:

Thermodynamic optimization of Multi Effect distillation (MED) by Design of Experiments (DOE) method

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خلاصه مقاله:

In this study the thermodynamic optimization of Multi Effect Desalination (MED) plant has been investigated. The authors have reviewed and developed a modeling and simulation program by focusing on the thermodynamic analysis of the MED. The model is based on the steady-state mathematical model includes mass, salinity and energy balances equations for each effect of the MED unit to predict the performance of the unit in terms of energy requirements. The effects of some parameters such as feed water flow rate, temperature of seawater, number of effects, temperature differences of pre-heaters and the outlet pressure have been studied in the present work. Simulation tests have been designed based on the DOE method. The results show the effects of the mentioned parameters on the plant performance. In addition several contour have been introduced for which could help designer to find the suitable conditions for a plant design

کلمات کلیدی:
optimization, MED, DoE

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