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Mani Saravanan, Rajagopal Saravanan, Sankaranarayanan Renganarayanan

ENERGY AND EXERGY ANALYSIS OF COUNTER FLOW WET COOLING TOWERS

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ABSTRACT

Cooling tower is an open system direct contact heat exchanger, where it cools water by both convection and evaporation. In this paper, a mathematical model based on heat and mass transfer principle is developed to find the outlet condition of water and air. The model is solved using iterative method. Energy and exergy analysis infers that inlet air wet bulb temperature is found to be the most important parameter than inlet water temperature and also variation in dead state properties does not affect the performance of wet cooling tower.

KEYWORDS

rating, energy, exergy, cooling tower, dead state, second law

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