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THE EFFECT OF DIFFERENT TEMPERATURES ON VARIOUS CYCLE PARAMETERS OF NH₃-H₂O ABSORPTION CHILLER FOR IMPROVING THE COP AND COOLING CAPACITY WHEN ENERGIZED FROM A LOW TEMPERATURE SOURCE

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ABSTRACT

A Simulation study, of several schematic model of water cooled and inlet temperatures effect in NH₃-H₂O absorption chillers energized by a high potential low temperature of (70 -180 °C) solar source has been carried out using IPSEpro refrigeration software package. The model an ammonia-water absorption chiller was examined and validated in charts. For water-cooled cycles, the rejected heat from the absorbers and the condensers was carried out by water, at an average fixed temperature of 25°C, pumped out from ground water. The results obtained show impact and improve of coefficient of performance (COP), the refrigeration capacity, the main cycle components heat transfer, the hot water supply energy, the cooling water mass flow.

Keywords: Solar sources, NH₃-H₂O absorption chillers.