

# PERFORMANCE OPTIMIZATION OF THE RESORPTION HEAT PUMP

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## ABSTRACT

In a traditional heat pump absorption cycle the use of the ammonia-water solution is limited by the high operating pressures. However, this working pair presents some advantages when employed in a resorption heat pump cycle, which operates at reasonable pressures. The technical advantage of the resorption heat pump is obtained due to the low boiling pressure inside the vapor generator. This paper investigates the performance of the resorption cycle as a function of parameter  $p_F$  (the boiling pressure). For a normal heat pumping effect, the maximum values for both the COP and the exergetic efficiency, correspond to boiling pressures between 10 and 15 bar. The effect of the thermal potential of the heat sources on the circulating factors, thermal consumption, COP and the exergetic efficiency is also investigated.

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