

Abstract

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Theoretical Study of vapour absorption refrigeration systems

Vapor absorption air conditioning systems based on water/lithium bromide are assuming greater importance due to their environmentally friendly operation. In order to assess the viability of these systems economically the user needs to assess the effect of operational parameters on system performance as represented by the COP. The main objective of this study is to develop a friendly usable thermodynamic model to analyze the performance of the vapor absorption system through the study of parameters like condenser's temperature, generator's temperature and absorber's temperature on the COP of the system. This study presents the development of an absorption cycle model. Only single-effect configuration is investigated. The model solves the governing equations for the system's components and incorporates the chemical and thermodynamic properties of the water/lithium bromide solution.