International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.11 No.07, pp 363-368, 2018

Exergetic Analysis of a LiBr-H2O Single Effect Absorption Refrigeration System

Guillermo Valencia Ochoa[1*], Jorge Duarte Forero[2], Luis Obregon Quinones[3]

[1] Efficient Energy Management Research Group, Universidad del Atlántico km 7Antigua vía Puerto, Colombia
[2]DIMER Research Group, Universidad del Atlántico, km 7 Antigua vía Puerto, Colombia
[3]Research Groupon Sustainable Chemical and Biochemical Processes, Universidad del Atlántico, km 7 Antigua vía Puerto, Colombia

Abstract : In this article, an exergetic analysis was performed to evaluate the exergetic efficiency and exergy destroyed in an single effect absorption refrigeration cycle, in order to identify the opportunities to improve the performance of this system when the lithium-water bromide solution is used as working coolant. The study was conducted by varying the ambient temperature in the range of 10 to 50 °C and evaluating the exergetic behavior of the components in this range. As a result of this study, there was a greater exergy destruction in the components where there is greater heat exchange such as the heat exchanger. The results of this article wants to help the scientific community to analyze and observe points of improvement in the performance of new refrigerants in order to increase the efficiency of absorption cooling systems.
Keywords : Exergetic analysis, absorption refrigeration system, lithium bromide-water solution.

Guillermo Valencia Ochoa *et al* /International Journal of ChemTech Research, 2018,11(07): 363-368.

DOI= http://dx.doi.org/10.20902/IJCTR.2018.110743

*****