



## Análisis termodinámico de un chiller de absorción de 1 y 2 etapas de una planta de cogeneración [

2019

text (article)

Analítica

Thermodynamics models of a single and a non-common double stage ammonia-water absorption chiller that use waste heat (from three reciprocating engines of 8.7 MW each one) are developed to analyze the performance of the chiller for different operative conditions. A comparison of a single stage refrigeration system with the two stages proposed system is performed in this paper. The coefficient of performance (COP) obtained for both systems are the same, but the heat flux removed from the cooling media with the two-stage system increase from 1.3MW (single stage) until 1.6 MW due to the heat recovered increased with the second generator. The heat recovered used by the chiller was 3.8 MW, and the utilization factor of the cogeneration plant was 58.11%, and the cooling capacity of the equipment was 1,623 kW. Finally, the estimated economics savings for electric power due to the implementation of the absorption chiller that uses exhaust gases in place of a common refrigeration system by vapor compression with the same cooling capacity was 142,000.00 USD /year

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