

Absorption chiller refrigeration system with hydroxide ion filtration

양시엽, 정영수, 이치섭¹, 한중훈*
서울대학교; ¹한국전력기술
(chhan@snu.ac.kr*)

Absorption chiller system is a technology which is efficient when waste heat is abundant, since heat is used to operate refrigeration cycle instead of electricity powered compressor. For that reason, power plant is a good place to apply this absorption chiller system, specifically carbon dioxide capture process followed by the liquefaction. Ammonia/water system is chosen and for the energy reduction, 5wt% of sodium hydroxide is used. For the basic design, property has been fitted over the experimental results. Rich aqueous ammonia solution is separated with addition of hydroxide to reduce reboiler temperature and duty so that waste heat is able to be used. This research was supported by a grant from the LNG Plant R&D Center funded by the Ministry of Land, Transportation and Maritime Affairs (MLTM) of the Korean government.