عنوان مقاله:

Crystallization Analysis of Series-Flow Double-Effect Absorption Refrigeration System Using LiCl-H2O Working Pair

محل انتشار:

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خلاصه مقاله:

Producing cold without electricity consuming and only by means of heat sources is awarded by absorption system. Despite numerous operational and environmental benefits, absorption systems are at the danger of crystallization. The LiCl aqueous solution has somepromising characteristics over conventional working pairs like LiBr aqueous solution. Notwithstanding these advantages, LiCl is less soluble in the water and this causes much more crystallization risk. Hence, a detailed study and careful control strategies is demanding. In the present paper, a computer program has been developed to determine operational conditions of the LiCl-H2O seriesflowdouble-effect absorption cycle. It is indicated that the solution entering the absorber has the maximum risk of slush formation. Through the results of these computations, possibility of crystallization at the absorber entry point is analyzed over a variation of evaporator,condenser/absorber and high pressure generator temperatures. The analysis showed that crystallization risk forces the system to operate over a narrow range of high pressure generator temperature especially at high condenser/absorber and low evaporator temperatures

کلمات کلیدی:

crystallization, series-flow, double-effect, absorption, lithium-chloride