

THERMODYNAMIC ANALYSIS OF NATURAL REFRIGERANT USE IN CASCADE SYSTEM

M Tech Dissertation

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April 2019

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Abstract

As a result of environmental problems related to global warming and depletion of the ozone layer caused by the use of synthetic refrigerants (CFC's, HCFC's and HFC's) experienced over the last decades, the return to the use of natural substances for refrigeration purposes, appears to be the best long-term alternative. In this project, compare different refrigeration pairs for high output. And best pair to optimize design and operating parameter of the system study operating parameter evaporator temperature effect, condensing temperature effect, temp difference in cascade lower temperature cycle and higher temperature cycle, effect of sub cooling, effect of superheating. Analysis Exergetic efficiency and COP effect of Evaporating Temperature, Condenser Temperature, Temperature Difference effect, Mass flow ratio. It is calculated by computer simulation with the calculation software EES (Engineering Equation Solver).

Keywords: Eco-friendly, Global Warming, Ozone Depletion layer, Cascade system