

IMPROVING COEFFICIENT OF PERFORMANCE & ENERGY CONSUMPTION USING REFRIGERANTS R134A&R410A IN THE DOMESTIC REFRIGERATOR

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Abstract

The main objective in present dissertation has been focused on alternative refrigerant to conventional CFC refrigerant, CFC like R12, R22, R134a, etc... are not eco friendly. The emission of these refrigerants causes the depletion of ozone layer etc... . Hence to avoid above difficulty the alternative of refrigerant in the form of R 410a refrigerant is mixture of RR32+R125 consist of Hydro chlorofluorocarbons hence been choosing. In the present work, the performance of the domestic refrigerator is determined using R410a and comparison with R134a. As the part of project work the refrigerator setup consists of evaporator, compressor, condenser and expansion valve are chosen with suitable specification. In the present work an attempt has been made to improve the coefficient of performance (cop) of the system, by incorporating a heat exchanger before admitting refrigerant into the compressor. Thus the compressor work reduces and it may results increase the performance of the refrigeration system.

Keywords : Heat exchanger, normal refrigerator, coefficient of performance, energy meter, temperature sensor, pressure gauge energy consumption.

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