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Performance Enhancement Of Domestic Refrigerator By Using Helical Shaped Condenser With R134a On Vapour Compression Refrigeration System

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Abstract – This project describes the analysis and design of the helical shaped condenser performance on vapor compression refrigeration system. The Machine of Vapor compression is a refrigerator in which heat has been removing from the cooling chamber by evaporation of the refrigerant. Majority of the refrigerators works on the Vapor compression refrigeration system. The system having components like compressor, condenser, expansion valve and evaporator. The system performance depends on the performance of all the components of the system. The main objective is the present work to verify the performance of a domestic refrigerator capacity using R-134a as refrigerant, experimental setup of hermetic sealed compressor, and helical shaped condenser. With these parameter experiments are conducted on a [1] domestic refrigerator by varying of pitch of the helical shaped condenser. It is observed that the helical shaped condenser installation may give optimum results. The design of condenser plays a very important role in the performance of a vapor compression refrigeration system. Hence experimental investigations are the best in terms of optimization of certain design parameters are Length, Diameter, and Pitch. In the present work an attempt is made to verify the performance of a domestic refrigerator capacity.