

CHAPTER 55
TECHNOLOGY
MECHANICAL ENGINEERING

Doctoral Theses

456. AHLUWALIA (Ashok Kumar)
Promising Mixture of HC290 (Propane) and HC600a (Isobutane) to Replace CFC12 in domestic Refrigerator.
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Abstract

Finds out the suitability of eco-friendly refrigerant to replace CFC12 in domestic refrigerator on retrofit basis. A non azeotropic refrigerant mixture (NARM) of propane (HC290) and isobutane (HC600a) is considered to be a prominent substitute of CFC12. For this purpose, development of thermodynamic properties, p-h diagrams, transport properties, cycle analysis, designing of capillary tube have been included in the present study and HFC134a is also considered for the purpose of comparison. Finally, optimum ratio of HC290 and HC600a has been suggested on the basis of cycle analysis.

Contents

1. Introduction.
2. Literature survey, observation and aim of present work.
3. Thermodynamic properties and development of p-h diagrams.
4. Transport Properties.
5. Cycle analysis.
6. Capillary tube.
7. Concluding remarks & scope for future work.
8. References.