

THE DESIGN AND TESTING OF A STIRLING CYCLE DOMESTIC FREEZER

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1. SUMMARY

A domestic freezer has been built and tested using a Stirling cycle cooler. The cooler is powered by a linear motor and features clearance seals and disk spring suspension. Heat is transferred to and from the Stirling cooler by means of thermosyphons. Minimum energy savings of 12% over the conventional unit have been demonstrated, and the capacity of the cooling unit can be efficiently controlled to match the cooling demand.