DESIGN AND CONSTRUCTION OF A REFRIGERATION WITH NO MOVING PARTS

by Christakis Constantinides

Project Report
Submitted to
the Department of Mechanical Engineering
of the Higher Technical Institute

Nicosia Cyprus

in partial fulfillment of the requirements

for the diploma of

TECHNICIAN ENGINEER

in

MECHANICAL ENGINEERING

June 1994



ACKNOWLEDGEMENTS

First of all I wish to express my gratitude to Mr P. Eleftheriou for his encouragements and assistance on the design and construction of this project.

I would like to express my thanks to my mother who helped me morally and financially on this endeavour.

Also I owe my thanks to the one technician of New Lontos Firm.

SUMMARY

This project is a design and construction of a refrigeration with no moving parts.

In chapter 1 I give a description of the four main system of refrigeration.

In chapter 2 I descripe the refrigeration cycles.

In chapter 3 I choose one of the four systems of refrigeration.

In chapter 4 I give description of the thermoelectric refrigeration.

In chapter 5, drawings of 3d-view, cross-section of the refrigerator and various development for main parts.

In chapter 6 selection of constractural material.

In chapter 7 selection of the insulation.

In chapter 8 contains all the calculations for heat load.

In chapter 9 includes the economics of the project.

In chapter 10 as a conclusions give some ideas about various modification.

Final construction of the project.