HERCHER TECHNICAL INSTITUTE

MECHANICAL ENCINEERING IDEPARTMENT

DIPLOMA PROJECT

"DISIGN OF IMPROVED SOLAR HOT WATER SYSTEMS FOR DOMESTIC APPLICATIONS"

M/840

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JULY 1999

# **HIGHER TECHNICAL INSTITUTE**

## MECHANICAL ENGINEERING DEPARTMENT

## DESIGN OF IMPROVED SOLAR HOT WATER SYSTEMS FOR DOMESTIC APPLICATIONS

## **CHARALAMBOS A. ATHANASIOU**

**M / 840** 

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## DESIGN OF IMPROVED SOLAR HOT WATER SYSTEMS FOR DOMESTIC APPLICATIONS

by

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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 ENGINNERING

July 1999



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## ACKNOWLEDGEMENTS

My grateful acknowledgement and appreciation is made to my instructor and mentor Mr. Michaelides Ioannis for his supervision and inspiration throughout my attendance as a student in Higher Technical Institute and his assistance for the completion for this project.

I would also like to thank all those who directly or indirectly helped in their own way for this project to be completed.

Last but not least the most sincere and grateful express of gratitude goes to my parents for their support and guidance.

## HIGHER TECHNICAL INSTITUTE NICOSIA – CYPRUS

MECHANICAL ENGINEERING DEPARTMENT Diploma Project

## Project Number: M/ 840

Title: "Design of Improved Solar Hot Water System for Domestic Applications"

### **Objectives:**

- 1. To review the current situation in solar water heating and identify the problems in the existing systems.
- 2. To propose new design configurations for domestic solar water heating. Easy integration in the building structure and appearance is to be considered as a major factor in the design concept.
- 3. To prepare detailed drawings and outline the operating features and characteristics for each design configuration.

### SUMMARY

The main objective of the project was to redesign the Solar Hot Water Systems used in Cyprus for domestic purposes.

An introduction is given generally concerning the basics of Solar Engineering as these apply to the utilization of solar energy for domestic hot water supply.

The existing systems used are implemented in order to visualize the situation and also introduce the problems as far as aesthetics are concerned for the specific systems.

Redesigning the systems in order to produce an appearance for these which is more pleasing as far as aesthetics relative to the building and also for a relatively easy construction and integration in the building structure.