HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

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

M/840

CHARALAMBOS A. ATHANASIOU

JULY 1999

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by

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Project Report
Submitted to

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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.