بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصل

EXPERIMENTAL INVESTIGATION OF A TWO-STAGE INDIRECT/DIRECT EVAPORATIVE COOLING SYSTEM IN DIFFERENT CLIMATIC CONDITIONS

By

AHMED MOHAMED SHABAN MOHAMED

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the Requirements for
the Degree of

MASTER OF SCIENCE

in

MECHANICAL POWER ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:

EXPERIMENTAL INVESTIGATION OF A TWO-STAGE INDIRECT/DIRECT EVAPORATIVE COOLING SYSTEM IN DIFFERENT CLIMATIC CONDITIONS.

Key Words:
Indirect/direct evaporative cooling; Evaporative cooling; Air conditioning; Egypt; Performance analysis.

Summary:

In this work, an experimental test was done to investigate the performance analysis of a two-stage Indirect/Direct evaporative cooling system under different climatic conditions in Egypt and various inlet water temperature. Results show that the effectiveness of the whole system varies over a range of 95–120%.and the energy efficiency ratio (EER) reaches 22 so this system is a suitable alternative for traditional air conditioning system like mechanical vapor compression.

DISCLAIMER

I hereby declare that this thesis is my own original work and that no part of it has been

Submitted for a degree of qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Date:

Signature:

Acknowledgment

I would like to thank Almighty God for the gift of life, provision and protection. Without Him, I would not have come this far. I would like to express my heartfelt gratitude to my supervisors Prof. Dr. Essam E. Khalil, Dr. Gamal Abd El-Moniem El Hariry for their guidance and unremitting encouragement. I am grateful to them, and to all my respectful teachers and professors, for mentoring me throughout my under graduate and postgraduate studies.

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