

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

“DESIGN OF
A HYDRAULIC PRESS”

M/968

BY: KYRIACOU COSTAS

JUNE 2003

DESIGN OF A HYDRAULIC PRESS

BY

COSTAS KYRIACOU

PROJECT REPORT
SUBMITTED TO

THE DEPARTMENT OF MECHANICAL ENGINEERING
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HIGHER TECHNICAL INSTITUTE
NICOSIA-CYPRUS
MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT 2002/2003

Project Number: M/968

Title: "Design of A Hydraulic Press"

Objectives:

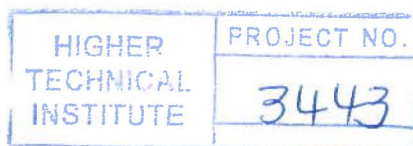
1. Study the theory Press-Metal-Working (Production Engineering/Production).
2. Carry out a survey of the various types of industrial presses available today.
3. Design a hydraulic press with load capacity 30-50 tons.
4. Carry out stress analysis on critical joints and supports of the press.
5. Produce design calculations regarding the mechanics of the press.
6. Produce detailed drawings of all the components of the press
7. Select materials and components off the shelf.

Terms and conditions:

8. Drawings must be constructed to ISO standards.

Student: Kyriacou Costas (3M)

Supervisor: Dr Lazaros Lazaris



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I would like to express my reverence to my project supervisor Dr.Lazaris for his significant advises and quittance for and through the preparation of this project.

I would also like to express my thanks to “ALCO FILTERS” and Mr.Kyrillou for all the important information, that he has given me, about the construction and working cycle of the Hydraulic Press.

**Thank you all
Costas Kyriacou**

ABSTRACT

The goal of this project is to study the Press-Metal-Working theory and to design of a Hydraulic Press. This specific type of Hydraulic Press is used for many different purposes but its main intention of use is for the manufacture of the retaining ring of the air filter (part No: 6802)

More detailed:

Chapter 1, presents the Principle of the Hydraulic Press, also, discusses the advantages and applications of the Fluid Power and the functions and properties of the Hydraulic Fluid.

Chapter 2, describes the Press-Metal-Working theory.

Chapter 3, displays the main components of the Hydraulic System.

Chapter 4, presents the component to be produce, motioning the component of a die set and the three operations that are required to produce the component.

Chapter 5, displays all the calculations that are required for the capacity of a Hydraulic Press.

Chapter 6, displays all the stress analysis on critical joins.

Chapter 7, presents the investigation of the manufacturing cost of "C" Frame Bench Hydraulic Press.

The last chapter, mentions the basic inspections for the maintenance of a Hydraulic Press.