

HIGHER TECHNICAL INSTITUTE

MECHANICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DESIGN OF A CHAIN CONVEYOR  
FOR GAS BOTTLES

M/977

VASILIOU DIMITRIS

JUNE 2003

# **HIGHER TECHNICAL INSTITUTE**

## **CHAIN CONVEYOR FOR GAS BOTTLES**

**By: Dimitrios Vasiliou**

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 2003

HIGHER TECHNICAL INSTITUTE	PROJECT NO. 3451
----------------------------------	---------------------

# CONTENTS

## **CHAPTER 1**

### **1.1 INTRODUCTION**

## **CHAPTER 2**

<b>2.1</b>	<b>SELECTED SYSTEM</b>	<b>3</b>
<b>2.2</b>	<b>TECHNICAL DATA</b>	<b>4</b>
<b>2.3</b>	<b>CHAIN CONVEYOR</b>	<b>19</b>
<b>2.4</b>	<b>WHEEL SELECTION</b>	<b>25</b>
<b>2.5</b>	<b>DRIVING UNIT</b>	<b>27</b>
<b>2.6</b>	<b>SHAFT DIAMETER DETERMINATION</b>	<b>34</b>
<b>2.7</b>	<b>SHAFT BEARING SUPPORT</b>	<b>36</b>
<b>2.8</b>	<b>CHAIN SUPPORT</b>	<b>42</b>
<b>2.9</b>	<b>WASHING MACHINE</b>	<b>45</b>
<b>2.10</b>	<b>AIR BLOWER</b>	<b>47</b>
<b>2.11</b>	<b>WEIGHT CHECKING SCALE</b>	<b>50</b>
<b>2.12</b>	<b>AUTOMATIC INLET DEVICE</b>	<b>51</b>
<b>2.13</b>	<b>SENSORS &amp; STOPPERS</b>	<b>52</b>
<b>2.14</b>	<b>SEALING MACHINE</b>	<b>54</b>
<b>2.15</b>	<b>LEAK DETECTOR</b>	<b>62</b>
<b>2.16</b>	<b>ELECTRONIC LPG MACHINE</b>	<b>71</b>
<b>2.17</b>	<b>ELECTRONIC FILLING CAROUSEL</b>	<b>75</b>

### **CHAPTER 3**

3.1	HOW IT WORKS	86
3.2	MAINTENANCE	87

### **CHAPTER 4**

4.1	CONCLUSIONS	89
4.2	APPENDICES	90
4.3	REFERENCES	95