TÉCNICO LISBOA

UNIVERSIDADE DE LISBOA
INSTITUTO SUPERIOR TÉCNICO

Thesis Title that describes the subject studied.

Optional Subtitle

Full Name

Supervisor : **Doctor** Full Name
Co-Supervisor : **Doctor** Full Name

Thesis specifically prepared to obtain the PhD Degree in
Mechanical Engineering

Draft

November 2017

Abstract

The Objective of this Work ... (English)

Keywords

Keywords (English)

Resumo

O objectivo deste trabalho ... (Português)

Palavras Chave

Palavras-Chave (Português)

Acknowledgments

I would like to thank the Academy, bla bla bla..

Anyone who has never made a mistake has never tried anything new.

Albert Einstein

Contents

List of Figures

List of Tables

Acronyms

COP Coefficient of Performance. 4

COP_{HP} Heat Pump Coefficient of Performance. 4

Notation

Latin Letters

A Cross-sectional area [m^2]. 4

a Total surface area per unit length [m]. 4

C_D Drag coefficient [ ]. 4

Greek Letters

γ Adiabatic index $\frac{c_p}{c_V}$ [$J\,kg^{-1}\,K^{-1}$/($J\,kg^{-1}\,K^{-1}$)]. 4

Subscripts

$_p$ Related to the pump. 4

$_v$ Vapour. 4

Rates and Ratios

Eu Euler number $\Delta P/(\rho_v u_v^2)$, where ΔP is the pressure difference between the absorber and the evaporator. 4

$\dot{m}$ Mass flow rate [$kg\,s^{-1}$]. 4

$u_{v/s}$ Slip ratio $\frac{u_v}{u_s}$. 4

1

Introduction

Contents

1.1 Motivation

Motivation Section.

1.2 State of The Art

State of The Art Section.

1.2.1 Dummy Subsection A

State of Art Subsection A

1.2.2 Dummy Subsection B

State of Art Subsection B

1.3 Original Contributions

Contributions Section.

1.4 Thesis Outline

Outline Section.

2

A Chapter

Contents

Present the chapter content.

2.1 Section A

2.1.1 Subsection A

This would be a citation [**?**].

The Coefficient of Performance (COP) defines the performance of the machine.

Heat Pump's performance is given by the Heat Pump Coefficient of Performance (COP_{HP}), a COP for heat pumps.

Now, an example on notation: Eu and $u_{v/s}$. Also C_D.

As seen in [**?**]. *Enfatizar*

2.1.2 Subsection B

Figure 2.1: Dummy Figure Caption.

Remember you can change the reference style. Another dummy citation [**?**].

2.2 Section B

2.2.1 Subsection A

The model described can also be represented as

$$\dot{\mathbf{x}}(t) = \mathbf{T}\mathbf{z}(y),\ \mathbf{y}(0) = \mathbf{y}_0,\ z \geq 0 \tag{2.1}$$

where

$$\mathbf{A} = \begin{bmatrix} -(a_{12} + a_{10}) & a_{21} \\ a_{12} & -(a_{21} + a_{20}) \end{bmatrix},\ \mathbf{x} = \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} \tag{2.2}$$

Also, using glossaries in the math environment, you can write

$$A = \frac{\dot{m}_v}{\rho u} \tag{2.3}$$

Note that A is not a.

2.2.2 Subsection B

Another example for the notation section: think about γ. And γ_p with a subscript.

Table 2.1: Dummy Table.

Vendor Name	Short Name	Commercial Name	Manufacturer
Text in Multiple Row	ABC	ABC®	ABC SA
	DEF	DEF®	DEF SA
	GHF	GHF®	GHF SA
Text in Single Row	IJK	IJK®	IJK SA
Frescos SA	LMN	LMN®	LMN SA
Carros Lda.	Text in Multiple Column		

3

Conclusions and Future Work

Conclusions Chapter

Title of AppendixA