



**UNIVERSITI TEKNOLOGI MARA
CAWANGAN TERENGGANU**

MEC 299

PORTABLE MIST MAKER FOR FAN

MOHAMAD ARIF BIN AZMI

2020818246

SUPERVISOR:

MADAM AMALINA AZNAM

SEM MARCH AUGUST 2022

A. PROPOSED PROJECT

ABSTRACT

Nowadays, the climate change has made the temperature going up drastically. Cooling system such as mist system is one of the alternative methods to make sure our surrounding temperature keep cool and did not harm our nature. In this study, a feasibility study was conducted to determine how to fabricate a portable mist maker for fan, as well as to investigate the efficiency of portable mist maker when cooling the room. The literature is reviewed to understand how the portable mist maker for fan works, its mechanism on how the mist were produced and how mist system can keep the temperature cool.

TABLE OF CONTENTS

1.0 Introduction

- 1.1 Background of Study
- 1.2 Problem Statement
- 1.3 Objectives
- 1.4 Scope of Work
- 1.5 Expected Results

2.0 Literature Review

- 2.1 Types of mist fan
 - 2.1.1 Floor Standing
 - 2.1.2 Wall Mounted Misting Fan
 - 2.1.3 Compact Misting Fan
 - 2.1.4 Misting Kit
- 2.2 Misting Fan Mechanism
 - 2.2.1 Mist Produced
 - 2.2.2 Water Pressure
- 2.3 Ways of Mist Fan keep Temperatures cool
 - 2.3.1 Conduction, Evaporation, and Convection
 - 2.3.2 Misting Fan in high humidity
- 2.4 System Design Considerations
 - 2.4.1 Water source
 - 2.4.2 Misting Nozzles

3.0 Methodology

- 3.1 Flowchart
- 3.2 Preliminary Results
- 3.3 Gantt Chart

CHAPTER 1

INTRODUCTION

1.0 Introduction

1.1 Background of Study

Misting fans are a popular choice for indoor and outdoor applications where huge expanses and people need to be cooled. A misting fan, like air coolers, will require a water supply. It draws water from the supply and discharges it through the fan's little vents. The rotation of the blade disperses the water droplets into a fine mist. The mist then evaporates, lowering the temperature of the surrounding air. Water particles may be felt a few inches away from the product since the mist produced by the fans takes a few seconds to evaporate. The particles, on the other hand, are so minuscule that they won't harm the water.

For my research, I would like to find out how does the portable mist fan maker works at the collage. A few things that I know is, this system depends on a few factors that can increase its efficiency such as the fan speed to disperses the water droplets, the pressure of water and the quality of misting nozzles. This factor will be discussed and elaborated more on the next topic. Thus, a case study was conducted in college residence Tun Abdul Rahman 1 in Bukit Besi, Malaysia which is in Terengganu Malaysia which normally has temperatures at 29-31° Celsius in evening.

1.2 Problem Statement

Constant increase in the temperature of the earth's atmosphere, which involves an increase in carbon dioxide, chlorofluorocarbons, and other pollutants, resulting in an increase in global temperature. To overcome with this situation where you can cool the temperature in your room without resulting thinning the ozone layer by using the mist fan. The aim of this project is to build best cooling system and suitable for use of college students' environment. Therefore, this research should be done to obtain the best possible result to find what is the best design for indoor room.

1.3 Objectives

The main objectives of this project are:

- To determine the best design of portable mist maker for fan that suitable for indoor environments.
- To build and test the functionality of portable mist maker for fan.

1.4 Scope of Work

- The scope of work is about the design and fabrication of portable mist maker that can be used on table fan, stand fan etc. with the capacity of water tank 3 litre.