

ELECTROSTATIC FILTER

**Thesis is presented in partial fulfilment for the award of the
Advanced Diploma in Electrical Engineering of
INSTITUT TEKNOLOGI MARA**



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DECEMBER 1995**

ABSTRACT

Diesel and petrol engine are very popular nowadays because of its efficiency, low cost and raw material availability . But it is less desirable due to the emission of fine particles that have particularly dangerous effect on human, animals, materials and vegetables .

This project describes a study on new electrostatic filter approach to fine particles collection that present from the smoke emission. The performance of the above electrostatic filter design shows that it has a good potential for further development in commercial use.

The design of the electrostatic filter and its power supply, experiments conducted, observations and data collected are described in depth in this thesis.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to my advisor, Mr. Ngah Ramzi Hamzah for his guidance and supervision in the development of this project. And also thank to laboratory assistant, technicians and friends for their helps.

Their cooperation and enthusiasm are very much appreciated.

Jaafar Kayat

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CHAPTER 1

1.0 INTRODUCTION

Pollution is defined as any atmospheric condition in which substances are present at concentration high enough above their normal ambient level to produce a measurable effect on human, animals, materials and vegetations [1].

Three basic components in air pollution are

- a) Emission sources
- b) Atmosphere
- c) Receptors

The major emission sources that create air pollution are :-

- a) Electric power generation
- b) Refuse burning
- c) Industrial and domestic fuel burning
- d) Industrial processes

Nowadays air pollution becomes one the major problems due to the development of industrial areas and transportations. Although there are many developments and improvement in electric power generation, fuel quality, fuel delivery system and combustion design, further improvement and development is still necessary in the treatment of exhaust emission .