



FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
DESIGN AND CONSTRUCTION OF DUST EXTRACTOR IN STEEL
INDUSTRIES

BY

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ABSTRACT

Steel dust is a type of dust that's generated in steel industries during processes like grinding and welding

Steel dust extractor is an electrical powered system designed to enhance the removal of harmful steel dust particles for protection of workers against health risks, protection of equipment and ensuring good working environment conditions for workers.

The project was carried out in the workshop at Busitema University and was made by use mild steel metal due to its favorable characteristics like durability, conductivity, fair cost etc.

The system I made up of assembled parts that include chamber, base, motor, cyclone, fan, circuit board and earthing.

The main aim of this project is develop an efficient air handling system that can effectively extract steel dust work particles generated in industries. The system has inlets that let in dust; this dust is captured by

the use of the pressure from the rotating fan which is placed in the chamber. Through the duct, the dust is moved to the cyclone which contains the filters which filter out the dust and purifies the air.

The unpurified air isn't left out to the environment hence good air quality is maintained .Dust accumulation in steel industries comes with a lot of negative effects for example health risks, air pollution, poor working condition, destruction of equipments in industries.

Steel dust extractors are commonly used in workshops and factories.

DECLARATION

I **ABAKASENGA CYNTHIA**, solemnly declare to the best of my knowledge that the piece of this report is as a report is as a result of my research and effort and it has never been submitted to any university or institution for an academic award.

ABAKASENGA CYNTHIA

Date: 26/11/2025

Signature: AHC

APPROVAL

This final year project report has been submitted to the department of Electrical and computer engineering of Busitema University for examination with approval of my supervisor.

PROJECT SUPERVISOR: ENG KILAMA GEORGE

SIGNATURE: 

DATE: 

DEDICATION

This report is dedicated to my beloved mother madam Nankya Harriet and beloved sisters Leticia, Phelicia and Samantha in appreciation for their parental and financial support, care, prayers and the love given to me which has been a major reason for attaining this success.

ACKNOWLEDGEMENT

My sincere thanks go to the Almighty God for the wisdom, protection, favor and finances he has provided to me all t through.

I am very grateful to my beloved family for the prayers and financial support that has motivated me to work hard hence succeeding.

I extend my thanks to my project supervisors Eng Kilama and Dr Alunyu and my other lectures especially in my department for their time, support, guidance, advice and knowledge they invested in me because it's what has made me what I am today.

Finally I thank my friends, Okullo Gerald and Otimong Johnson for the co operation and togetherness.

MAY THE ALMIGHTY GOD BLESS YOU ALL ABUNDANTLY

LIST OF ABBREVIATIONS

Iarc – international agency for research on cancer

Epa – environmental protection agency

Esp – electrostatic precipitators

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