

PROTOTYPE DESIGN COLLECTION

SERIES 2



Prototype Design Collection

Series 2



AHMAD NAJMIE RUSLI

UNIVERSITI TEKNOLOGI MARA CAWANGAN JOHOR
KAMPUS PASIR GUDANG

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FOREWORD

This digital book on Prototype Design Collection Series 2 (PDC Series 2) is published as a reference design for mechanical engineering students. The designs presented experience a few phases of analysis before fabrication of prototype. Each project summarises the project description, prototype, figures, and design parameter. The design products vary in tools or equipment for household, workshop, entrepreneur, etc. Suggested material and detail of prototype dimension are also mentioned in this book.

It is hoped that this book will assist the students to have more ideas on innovation design products in the future.

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CHAPTER 104

Design and Fabrication of Vegetables Dicer

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PROJECT DESCRIPTION

This project aims to address the challenges posed by time-consuming and potentially contaminating manual vegetable slicing tasks by proposing the development of an automated vegetable cutting system. By leveraging advanced technology and equipment, the system aims to minimize the need for human effort and time while ensuring precise and efficient vegetable cutting. The primary focus is on maintaining high standards of hygiene and safety, reducing the risks of contamination and foodborne illnesses. The project involves comprehensive research and development to identify the most suitable technology, machinery, and equipment for the automated cutting process. Through thorough testing and optimization, the final product is designed and fabricated to deliver efficiency, effectiveness, and safety, specifically tailored to the requirements of hostels and restaurants. The introduction of this automated vegetable cutting system promises to significantly enhance the quality and efficiency of food preparation in the hospitality industry, streamlining operations, reducing human effort, and ensuring strict adherence to hygiene and safety standards.

Keywords: *Automation, Vegetable cutting, Hygiene*

PROTOTYPE



DESIGN PARAMETER

PUSAT PENGAJIAN KEJURUTERAAN MEKANIKA UITM CAWANGAN JOHOR, KAMPUS PASIR GUDANG				
Course Name		MEC300 - FINAL YEAR PROJECT 2 SESSION: OCTOBER 2022 - JANUARY 2023		
Group		J4EM1105H		
Approved	Checked	Drawn LUQMAN		
Drawing Title ASSEMBLY COMPONENTS				
Part Name VEGETABLES DICER				
Part No.				
Rev.	Scale	Projection	Weight	Sheet
0				

BILL OF MATERIALS (BOM)			
Part No.	Part Name	Description	Qty.
1	Motor	DC motor	1
2	Vegetable holder	Stainless steel	1
3	Body frame	Stainless steel	1
4	Circular blade	Stainless steel	1
5	Tray	Aluminium sheet	1
6			
7			
8			
9			

PUSAT PENGAJIAN KEJURUTERAAN MEKANIKA UITM CAWANGAN JOHOR, KAMPUS PASIR GUDANG				
Course Name		MEC300 - FINAL YEAR PROJECT 2 SESSION: OCTOBER 2022 - JANUARY 2023		
Group		J4EM1105H		
Approved	Checked	Drawn LUQMAN		
Drawing Title EXPLODED VIEW				
Part Name VEGETABLES DICER				
Part No.				
Rev.	Scale	Projection	Weight	Sheet
0				