

# 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 69

### Manually Operated Floor Cleaning Machine

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#### PROJECT DESCRIPTION

This project focuses on the design and development of a manually operated floor cleaning machine as an efficient and user-friendly solution for floor maintenance. Traditional cleaning methods often involve labor-intensive scrubbing or mopping, which can be time-consuming, physically demanding, and produce inconsistent results. The hand-operated machine aims to streamline the floor cleaning process and improve overall productivity. The innovative mechanical design and ergonomic features of the floor cleaning machine optimize cleaning performance. The robust and maneuverable frame is equipped with a cleaning pad that rotates as the machine is pushed forward. The machine's effective scrubbing or mopping function can remove dirt, stains, and debris from a variety of floor surfaces. Extensive testing and validations were conducted to evaluate the floor cleaning machine's performance and ease of use. Different floor types and cleaning solutions were evaluated to assess cleaning efficiency. The successful implementation of this project will have a significant impact on various sectors, including commercial cleaning, hospitality, and facility management. The manually operated floor cleaning machine provides a timesaving, cost-effective and user-friendly solution for clean and hygienic floors, reduces physical strain, improves cleaning efficiency, and delivers consistent results

**Keywords:** *Manual, Floor, Cleaning*

#### PROTOTYPE



**DESIGN PARAMETER**

