

# 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 78

### Development of A Silent Air Purifier and Humidifier Using Water Filter

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#### PROJECT DESCRIPTION

The current environmental situation is increasingly polluted with harmful gases such as carbon dioxide, resulting from various sources such as vehicles, open burning, and wildfires. These gases contribute to the rise in temperature and decrease the oxygen-gas ratio, leading to an unhealthy environment for people. Those with allergy-related issues and respiratory problems are particularly vulnerable to these adverse effects. To address this issue, the Air Purifier and Humidifier project aims to create a high-cool humidity environment that is beneficial for people's health. This project provides a low-cost and energy-saving solution to improve air quality and make people more comfortable and relaxed. The project is suitable for individuals over the age of six and is more affordable and power-efficient than standard air purifiers. In conclusion, the Air Purifier and Humidifier project provides a viable solution to overcome the harmful effects of the environment and improve people's comfort and health. This project can be implemented in various settings and is an effective way to create a healthier environment for everyone.

**Keywords:** *Air purifier, Humidifier, Healthy environment*

#### PROTOTYPE



**DESIGN PARAMETER**

