

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 21

Hydrogen Flame Generator from Water

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PROJECT DESCRIPTION

As we are aware of, liquefied petroleum, natural gas primarily methane and gas such as butane, propane or a mixture of both gases are commonly used to make a fire for processes including brazing and welding in engineering works. Unfortunately, the price for this type of fuel is considerably expensive and unpractical for using it repeatedly in a process that did not need a lot of fire power. This project is being made to to have a prototype that can generated fire from a resource that can be found easily and cheaper but manage to produce power that can compete with the old fuels. This project is build based on means of separating the 2 particles from the water that is hydrogen and oxygen to using the electrolysis method to create a gas that can form a fire once it is lit. The outcome of this project is to make the product function properly and can be used to weld and brazing.

Keywords: *Hydrogen flame, Brazing*

PROTOTYPE



DESIGN PARAMETER

