

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF
SELF-CLEANING EATER FISH
TANK FILTER**

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ABSTRACT

This project is about the design and fabrication of self-cleaning water fish tank filter that can be used for pet owners. The problem with the existing pumps on the market is that there is no self-cleaning system inside the filter. So, it is hard to clean it. Consumers tend to spend a lot of time for cleaning the filter system. Because of that, the idea of fabricating the self-cleaning water fish tank filter that can easier the work and reduce the time for cleaning it. The objective of this project is to create a system to clean the filter automatically. DC motor is used to rotate the filter container that attached with brushes. So, when the container is rotating, the brush will brush all the dirt inside the filter.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Nowadays, there are many types of water fish tank filter at market that function to filter all the dirt inside the tank or aquarium. The function of the filter system is to filter the dirt inside the tank and to keep the water clean. However, this product needs to be clean at least once a month to make sure the system working well [1]. The reason of this project is to design and fabricate the self-cleaning water fish tank filter system using DC motor. An innovation will be added which is DC motor that helps to clean the filter automatically [2]. The DC motor will attach with the filter casing which can help to rotate the container and clean inside the filter system. This improvement will help the consumers to clean the filter part just by switch on the motor. They also can reduce the time taken for cleaning compare to the existing filter. Other than that, consumers also can keep the aquarium clean if they do not have time to clean it.

1.2 Problem Statement

Existing literature related to the project of the self-cleaning water fish tank filter has demonstrate designer seeking to improve the existing pump filter either added extra function by modifying the structure of filter system or other mechanical parts. Since the pet owners (focus on aquatic animal) especially who has small outdoor aquarium have troubles to clean the filter due to lot of filter layers [2]. Despite, there are a lot of compartments with different type of filter mechanism which need to be clean. The ignorance by the busy people towards their pump filter has caused the build-up of toxins in the tank and it could eventually poison the fish. It also led to general decline in water quality.