UNIVERSITI TEKNOLOGI MARA

AUTOMATIC WRAPPING MACHINE

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ABSTRACT

The auto wrapping machine is designed to address common inefficiencies in traditional manual wrapping processes, including human error, high labour requirements, and time consumption. By utilizing a motor-driven rotating arm mechanism, the machine automates the wrapping process, improving speed, consistency, and overall efficiency. The design was created using SolidWorks, followed by the construction and testing of a prototype with various product types. The machine significantly reduces the time required for wrapping and lowers the manpower needed for operation, while ensuring consistent material coverage across different shapes and sizes. This cost-effective solution enhances productivity and reliability, making it ideal for industries that rely on wrapping tasks. Future improvements may focus on integrating advanced control systems for further automation and optimization of the process.

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INTRODUCTION

1.1 Background of Study

In the manufacturing and logistics industries, efficient packaging is vital for maintaining operational standards and ensuring product safety during transportation. Effective packaging minimizes damage, optimizes storage, and maximizes space utilization. However, traditional packaging methods often rely on manual labour, leading to inefficiencies such as fatigue and inconsistent results, which hinder productivity and workflow.

The Automatic Wrapping Machine seeks to address these challenges by offering an efficient and cost-effective solution, particularly for small to medium-sized businesses that often face budget constraints. Unlike large-scale operations that can afford expensive automated systems, smaller businesses can benefit from a more affordable packaging solution without compromising on efficiency.

This machine is designed to meet the growing demands of e-commerce and on-the-go packaging solutions, which are becoming increasingly important in modern supply chains and logistics. Its compact design makes it ideal for mobile packing operations, enabling businesses to adapt to dynamic market conditions.

Despite the advantages, careful attention must be given to the machine's ease of use, affordability, and reliability to ensure it gains traction in the marketplace and meets the practical needs of small and medium-sized enterprises.

In conclusion, the motor-driven Automatic Wrapping Machine offers a simple, cost-effective solution to enhance packaging processes for small-scale industries. By avoiding complex components, the design improves consistency, reduces labour, and increases efficiency. This project demonstrates how basic automation can modernize traditional packaging methods, making it an accessible and practical option for resource-limited business.