REPAIRING AND IMPROVING WATER BOTTLE CAPPING AND PACKAGING MACHINES TO BE USED FOR EDUCATIONAL PURPOSE IN THE LABORATORY

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STATEMENT OF THE AUTHORS

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgment is made in thesis.

Samuel Ade Setiawan Date

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Dr. Ir. Tutuko Prajogo, MSMfgE Date

Chairman of the Examination Steering Committee Date

ABSTRACT

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This thesis work is a continuation of the two previous ones which are “Designing and Developing a Capping Machine for an Automated and Flexible Water Bottling Machine” and “Designing and Developing Bottled Mineral Water Packaging System". This thesis aims at providing capping and packaging machines which can be used as learning aids in the laboratory.

Capping station is one of the process stations in an automatic bottled water production system whose objective is to put the cap on the lip of the bottle and then tight it. Packaging station is also one of the process stations of this system which is able to pick capped bottle from previous station and then put it at the desired position.

Both of them are the last two of total four stations of an automation water bottling system which consist of rinsing station, filling station, capping station, and packaging station. The systems are designed to be flexible with different bottle sizes and safe enough to be operated by students.

As the result, productivity and efficiency of both machines are improved. Moreover, mobility and modularity system are also added in both machines. Several improvements are recommended, such as implement fix coupling for capping machine and Z-axis mechanism for packaging machine.

Keywords:

Bottling Machine, Capping Machine, Packaging Machine, Flexible System

DEDICATION

I dedicate this thesis to SGU Mechatronics Department to be used for educational learning tools.

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