

**ACCURACY OPTIMIZATION OF LIQUID INK AUTOMATIC
FILLING MACHINE USING FUZZY CONTROL**

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my 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 acknowledgement is made in the thesis.

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ABSTRACT

ACCURACY OPTIMIZATION OF LIQUID INK AUTOMATIC FILLING MACHINE USING FUZZY CONTROL

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The one process of the packaging phase in ink manufacturing is filling liquid into storage. The process of filling has to consider some factors such as accuracy, speed, cleanest and the machine itself which can be applied in hazardous areas. This research came out with a proposed model of filling liquid by considering these factors.

The low cost of the pneumatic-based system, combined with a valve filling valve which is easy to clean, was developed in this research. Implementation of the filling control system was studied and compared between on/off, PID and fuzzy logic control. Pros and cons of the control methods are present in this research.

Keywords: Liquid filling system, Ink, Pneumatic-based control, On/Off, PID, Fuzzy Logic Control.

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DEDICATION

My lovely wife, Fitri Maryam,
and My Daughters, Zhafira Yasmin and Adiva Almahyra.

My Mother: Wirdah

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