

## **ABSTRACT**

*Waterbath is a laboratory equipment containing special water or liquids that can maintain the temperature under certain conditions during a predetermined interval.*

*To control temperature stabilization in waterbath, the author tried to apply fuzzy logic method using 7 labels. This module uses the DS18B20 sensor as a temperature sensor, a processor in the form of arduino UNO, thermostat as part of safety control and buoy sensor as water level, and displayed on the 16x4 LCD. The selection of temperatures between 30°C-60 C. The research design uses pre-experimental methods with one group post test design research type, by comparing modules against comparison tools in the form of digital thermometers.*

*The results of the study in the manufacture of waterbath tools were conducted in comparison of measurement results on the chamber with a digital thermometer. Obtained the highest Error value of 0.91% at 35 °C and the lowest error of 0.049% at 60 °C. While the error value based on the setting temperature obtained the highest error value at the temperature setting of 30°C of 1.38% and the lowest error at the temperature setting of 60 °C of 0.05%. The average time required to reach the shortest setting temperature in the temperature range is 27°C-30°C for 193 seconds, and the longest time in the temperature range is 27°C-60°C for 2257 seconds.*

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**Keyword : Waterbath, Fuzzy, Thermostat**