

## **ABSTRACT**

*A Bottle Warmer is a tool used by breastfeeding mothers to warm Milk for Dairy Mothers (ASIP), which must be given exclusively at the age of 0-6 months. The device has a heating system that can be set at a temperature of 37<sup>0</sup>C. However, most of these tools are not equipped with a system controller to maintain temperature stability so that it is maintained according to the setpoint. From these problems, a bottle warmer tool uses a control system to maintain temperature stability. With the Proportional Integral Derivative (PID) control method with the Cohen Coon tuning method, a system is able to maintain temperature stability and speed up the response given by the system. The results obtained show that the control method applied to the device has a more stable system response compared to conventional systems. While the control parameters obtained by the Cohen Coon method with K<sub>p</sub> values of 11.5549, K<sub>i</sub> 0.0213, and K<sub>d</sub> 7.12 have a better system response. This is because the system response has a small steady state error value of 0.270% and quickly reaches the setpoint without any overshoot which exceeds the settling time limit of 2%.*

**Keywords:** *Bottle Warmer, Proportional, Integral, Derivative, Cohen Coon.*