

ABSTRACT

A shaker waterbath is one of the laboratory equipment that is used for liquid incubation process and shaking in the same time. The shaker waterbath is used with PFGE PulseNet procedure in Clostridium botulinum with incubation temperature that is $55^{\circ}\text{C}\pm 2^{\circ}\text{C}$, speed of rotation that is 70rpm, and timer setting that is 4 hours for cell lysis process in agarose plug and 15 minutes for washing agarose plug process that will be displayed on LCD Character.

The temperature that is detected by LM35 sensor is measured by a thermometer and the speed of rotation of motor is measured by a tachometer.

The data of RPM, Timer and temperature is done for 9 times. The RPM data is done when there are still twelve reaction tubes in chamber. Based on the analysis of the error calculation the percentage error of 70rpm for 4 hours is 0,33%, for 15 minutes is 0,14%. The percentage error of timer measurement when is set to 4 hours is 0,168% and when is set to 15 minutes is 0,11%. And the percentage error of temperature measurement when is set to 55°C when motor is spinning for 4 hours is -1,418% and for 15 minutes is 0,01%. Based on analysis and measurement so we can conclude that 'Shaker Waterbath' can work well and can be used properly.

Keywords: Rpm, Temperature, Timer