

ABSTRACT

A foreign fluid that enters the patient can cause some bodily reactions including infection, air embolism and blood clot. Side effects given will be fatal to the body, one of which occurs the blockage of the capillary vessels in the heart that can cause heart attack to stroke. The purpose of this research is to design a tool that can be used to measure maximum pressure as a form of the calibration of the syringe pump and infusion pump. The contribution of this research is that the system can simulate the presence of blockages in fluid flow and detect large pressure values detected by the Under Test Unit (UUT) with a motor rotation system that opens/closes the flow of liquids. For blockages can work at stable speeds then the timing and arc degrees are given on the motor through the microcontroller program. Servo Motor MG966R simulate the presence of blockage with constant motor degree until the alarm UUT reads, then Sensor XGZP6887 detects the pressure generated by the blockage and processed by the microcontroller and displayed on the LCD display of the character. In the setting flow rate of 100ml/h, this study resulted in a maximum pressure average value of 7.12 Psi. The results showed that data retrieval had an error value of -0.12 . This research can be implemented to perform pressure measurements on the syringe pump or infusion pump.

Keyword: occlusion, xgzp6887, servo motor