ABSTRACT

Clean water is one type of natural resource that is widely used by humans to use or carry out daily activities. Approved clean water is suitable for consumption, if it meets the air quality requirements needed: physical requirements, chemical requirements and microbiological requirements. However, many Indonesians are less concerned about the quality of water they consume, most of the people who live on the banks of rivers that have been polluted by garbage or factory waste.

The design of this automatic water purification system has detected water samples with a Nephelometric Turbidity Unit (NTU) that can measure the level of turbidity of the water. The turbidity sensor will be controlled by Arduino Uno to measure the level of turbidity of the water and will be filtered into clean water. Detection results from the sensor make 3 conditions, namely: if the turbidity level is greater than 25 NTU then it goes to turbid water filters, if it is smaller than 25 NTU and greater than 5 NTU then it goes to clear water filter, and if it is smaller than 5 NTU then towards the clean water filter.

Based on the results of the trial and analysis of the system by measuring samples taken from areas in Bandung, the automatic air filtration system is able to distinguish cloudy air, clear water and clean water. The highest turbidity value was 7.366 NTU and was successfully filtered into clean water with a value of 2.012 NTU. The application of an automatic air filter system can change the air with a large NTU value to a smaller NTU value.

Keywords: Turbidity Sensor, Water Filter, Nephelometric