

ABSTRACT

Biological Safety Cabinet (BSC) is a laboratory work area that is conditioned to secure workers who work with material samples, the environment and material samples from the possible danger of contamination or causing the spread of pathogenic bacteria or viruses. The number of particles with sizes of 0.3 μm , 0.5 μm , and 5 μm are the parameters measured in the BSC test and calibration. BSC takes time to reach the condition of no particles in the BSC space. In testing the number of particles, the BSC space is divided into 3 parts, each of which is measured using a particle counter. The purpose of this study is to analyze the stability of the time required for the BSC to reach the condition of no particles in the BSC space. This is done by making a module using 3 (three) counter PMS7003 particle sensors, each of which can detect particles with sizes of 0.3 μm , 0.5 μm , and 5 μm . This study uses the Arduino Mega system for data processing and then displays it in the form of numbers and graphs. In the condition of the number of particles of 162,965, the time required for the BSC is 29 seconds, while in the condition of the number of particles of 186,408, the time required is 38 seconds. So it is known that the more particles in the BSC space, the longer it takes the BSC to reach the no-particle condition. From this research, it is known that the BSC that uses a single fan blower cannot achieve a stable number of particles at the same time.