

ABSTRACT

In the interest of fostering water conservation the authors conceptualized an idea of developing a “Commercial Automatic Flush Water Saver” which resembles a modified time based water closet and is administered by a dual flush mechanism: the system executes a full flush for 6L which is considerably under the defecating activity and 4.2L for reduced flush for urinating activity. The device is triggered by the photoelectric sensor which determines the presence/absence of a person and the system itself is operated by a solenoid valve which is the main controller of the water being dispensed. The said activity is dependent particularly on the observed time during peak hours at SM Dasmariñas to be specific since the application of the study is for commercial places. The device has undergone series of testing which complies with the standards being stated on the reports researched. The reference volume or weight of the Medias also complies with the process observed during interviews and plant visit. To be efficient the water closet should flush the specimen according to the standards set: for stool media it must flush the threshold weight of 250g as the average weight of stool for both men and women. While for urine media the average volume is 300mL. The flushing mechanism and the amount of water being dispensed were tested in order to determine if the study is reliable and if it conserves water.

The tested “Commercial Automatic Flush Water Saver” successfully flushed the stool media at 6L for 5secs and the urine media at 4.2L for 3 seconds. The test was done in open space wherein the source has 1 in. in diameter to comply with the solenoid valve with a pressure of 20 psi.

The study generated a savings in water usage of 29.656% compared to the conventional flush valve water closet which has a fixed amount of 6L.

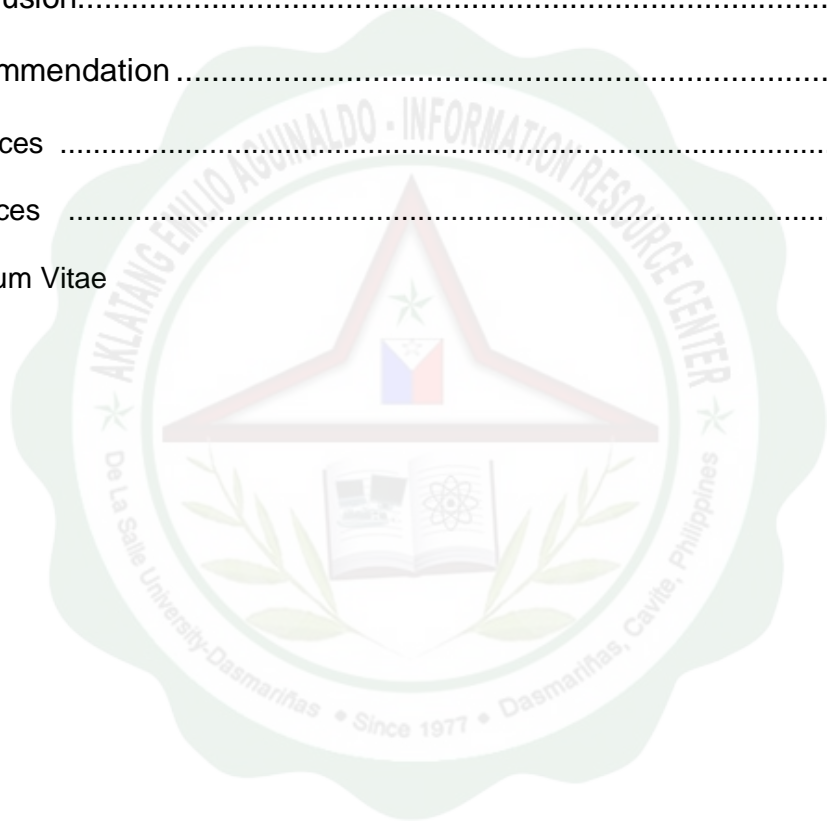


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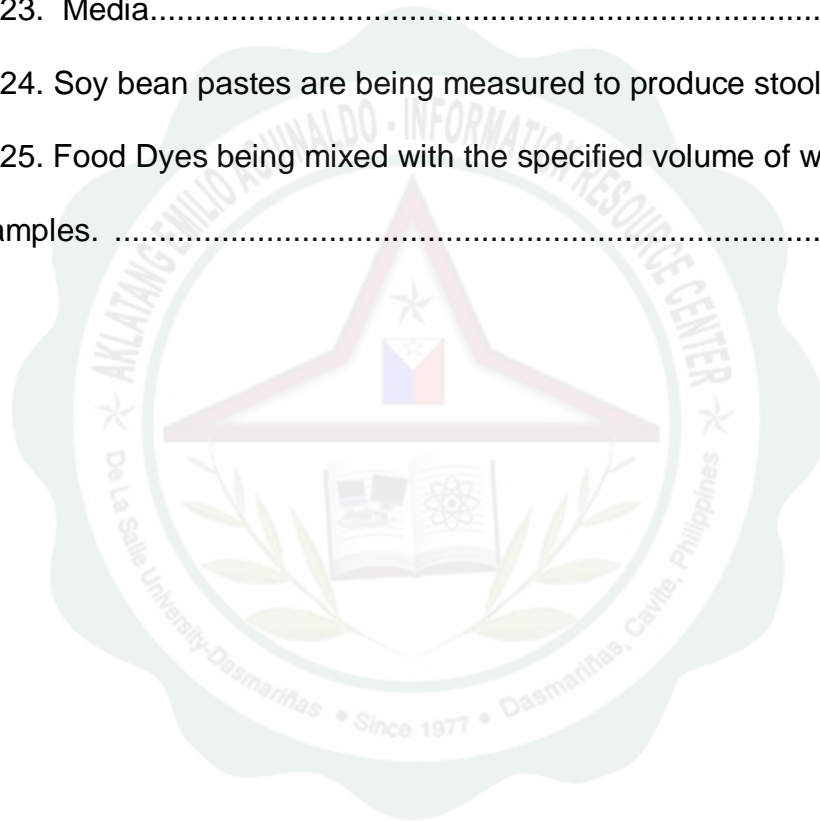
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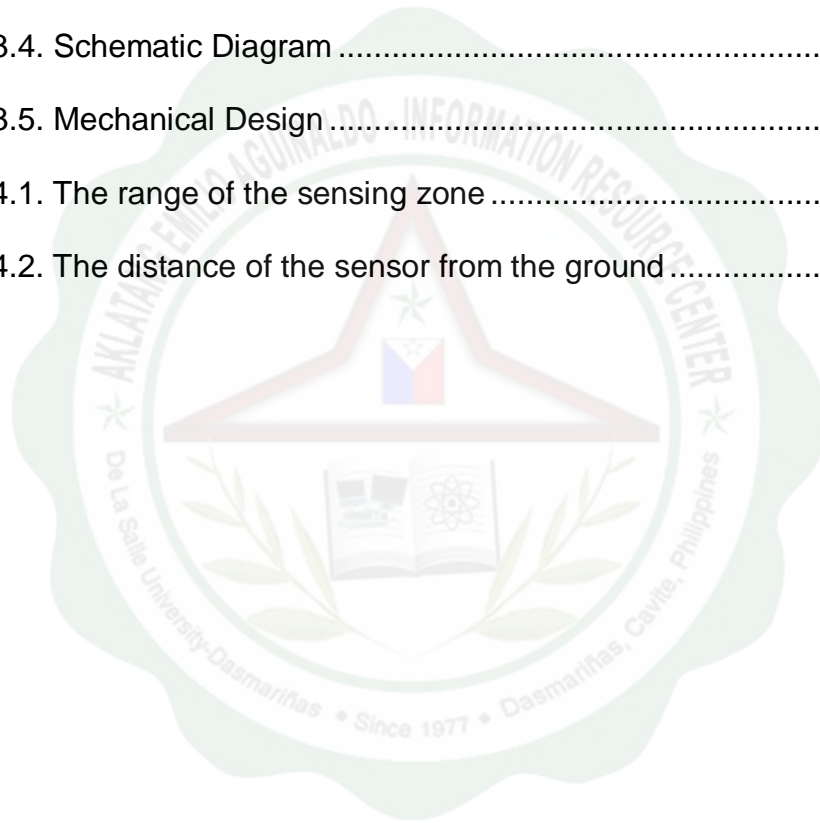
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