

ABSTRACT

Plastic bottle waste is one of the problems facing Indonesia at the moment, the impact of plastic bottle waste can damage the environment and disturb the habitats of living things. The use of waste chopping machines in Indonesia is generally in the industrial sector with a large capacity. A chopping machine with a large capacity and without an automatic system cannot be used in public places like a vending machine.

An automatic plastic bottle chopping machine is needed in the form of a vending machine to solve this problem. The chopping machine is powered by an electric motor to chop PET-type bottled drinks to produce chopped plastic that can be reprocessed by the factory. The system will be integrated with an ESP32 microcontroller and an infrared proximity sensor that uses IF-ELSE logic in controlling the counter motor. Bottle detection is carried out by an infrared proximity sensor at the mouth of the chopping machine. When the bottle is detected, the counter motor will turn on. The storage tank for the chopped results is monitored so that when it is full it will send it to a telegram and sound a buzzer.

The design of an automatic plastic bottle shredder machine can detect 2 types of plastic bottle sizes, namely small plastic bottles and medium-sized plastic bottles, the counting time for small plastic bottles is 40 seconds, while medium-sized plastic bottles are 1 minute. The size of the chopped results produced by chopping PET plastic bottles is approximately 10 mm in size. Monitoring the summed storage tanks in the telegram application using bots that will send notifications "Reservoirs Full" when the summed storage tanks are full.

Keyword: *Crusher, Plastic, Automatic, PET, IF-ELSE*