

ABSTRACT

One effort to neutralize acidity in the body is to consume alkaline water, alkaline water is water that is alkaline or has a pH above 7. Ionized alkaline water (AAT) is water that has a high redox potential value, to be able to produce alkaline water artificially, a device called a water ionizer generator is needed

In research that has been done previously designed water ionizer tool has some disadvantages such as ionization process that takes a long time, the process of filling the water is fairly manual, and the absence of indicators of the use of the amount of electrical energy when the tool works. Therefore, in this latest study the authors tried to re-design a water ionizer equipped with some of the latest features and add upgrade system to cover the shortcomings in previous research. Improvements made include speeding up the process of ionization of water by using a larger voltage source and the addition of the number of membrane bulkheads that are expected to accelerate the ionization process. Next is the addition of an ultrasonic sensor module that is used as a trigger for charging water automatically when the container is empty, then the current sensor module is used to calculate the power consumption used when the tool is working.

From the design, this water ionizer is able to change the pH from 7.32 to 7.95 with a working time of 60 Minutes and only consumes electrical energy of 138.20 watts/hour or equivalent to 0.138 kWh at a cost of approximately Rp 200.00 /hour.

Keywords: alkaline water, electrolysis, pH, water ionizer.