

ABSTRACT

Groundwater in urban areas has been contaminated by chemical and non-chemical waste, groundwater at home has an average pH of 6.9-7.1 and turbidity levels of 1-3, this water is very risky if consumed by humans because water is an important element for humans, the water consumed by humans must be clear and clean, the pH level of ordinary drinking water ranges from 7-7.4, these levels are the normal levels of drinking water consumed by humans, turbidity levels are also an indication of water to be used as drinking water. drinking water, the turbidity level of ordinary drinking water ranges from 0-1 NTU. Water is an important element for humans, the water consumed by humans must be clear and clean, the pH level of ordinary drinking water ranges from 7-7.4, this level is the normal level of drinking water consumed by humans, turbidity levels are also an indication of water for used as drinking water, the turbidity level of ordinary drinking water ranges from 0-1 NTU.

To meet drinking water standards, filtration is needed, filtration is filtering water from microorganism particles or dirt that pollutes water, this filtration has 3 factors, the first is the flow of water flowing in the filtration, then the turbidity level of the water that enters the filtration and the media that flows through it. used for filtering itself, then to increase the pH level so that the pH of the water becomes alkaline water a water ionizer is needed, a water ionizer is a tool that can increase the pH levels of existing water, and produce alkaline water, alkaline water or alkaline water having a pH above 8, This alkaline water is believed to stabilize the body's pH levels, as well as help treat several diseases in humans.

To meet technological developments and innovations in water purification devices and water ionizers that will be designed with a turbidity sensor to measure the turbidity level of water before and after filtration, the user will know the turbidity level of the water that will be processed into the water ionizer, then there is a pH sensor to measure pH levels before and after being processed by the water ionizer, so that users can use alkaline water with a pH above 8, in this design also uses an on/off control system, which functions as a control system for the system itself.

Keywords: control system, water purifier, water, pH sensor, turbidity sensor, water ionizer, on/off control system