

INTISARI

Implementasi Alat Ukur pH dan Volume Berbasis Arduino Untuk Pengujian Air Mineral Isi Ulang dari Depot Air Minum

Oleh

Elisabeth Ruthma Meilani Saragih

17/410987/SV/12914

Penelitian ini dilatarbelakangi oleh maraknya pengadaan depot air minum (DAM) yang mengklaim dapat mensterilkan air di depotnya dan langsung menjualnya. Penelitian ini bertujuan untuk membuat alat ukur pH dan volume untuk mengetahui pH air dan berat air sesungguhnya. Air yang dapat diminum harus sesuai dengan Peraturan Menteri Kesehatan Nomor 492/Menkes/Per/IV/2010 tentang Persyaratan Kualitas Air Minum, salah satunya nilai pH sebesar 6.5-8.5. Selain faktor kesehatan, kemasan galon yang dipakai dan dijual oleh DAM, harus sesuai dengan Peraturan Menteri Perdagangan Republik Indonesia Nomor 26/M-DAG/Per/5/2017 Tentang Metrologi Legal yang mengatur Barang Dalam Keadaan Terbungkus (BDKT). Instrumen yang digunakan yaitu *single load cell* dan sensor pH untuk menguji sampel yang diambil dari 30 DAM di Kecamatan Telukjambe Timur, Kabupaten Karawang. Metode yang digunakan yaitu deskriptif dengan membandingkan nilai pH dan volume yang terukur dengan standar. Hasilnya berupa nilai pH air, berat galon kosong, berat galon terisi, dan volume air sesungguhnya yang akan ditampilkan pada LCD dan Thingspeak. Dari pengujian diperoleh rata-rata pH air sebesar 8, berat galon terisi 5985 gram, rata-rata berat galon kosong 129.4 gram, dan rata-rata volume air 5856.3 gram.

Kata kunci: DAM, pH, Volume, BDKT.

ABSTRACT

Implementation of Arduino Based pH and Volume Measuring Instrument for Examination of Refilled Mineral Water Drinking Water Depot

by

Elisabeth Ruthma Meilani Saragih

17/410987/SV/12914

This research is conducted by the increasing of Drinking Water Depot (hereinafter abbreviated as DAM) extensively that claims to be able to sterilize water in the depot and directly sell it. The aim of this research is to create pH and volume measuring instrument in order to identify the factual water pH and volume. Water that can be consumed has to fit the standard in the Ministry of Health of the Republic of Indonesia Regulation no. 492/Menkes/Per/IV/2010 regarding The Standard of Drinking Water Quality, which one of the standards is the water pH should range between 6.5 – 8.5 pH. Other than the health factor, the used and sold gallon packaging by DAM should fit the Ministry of Trade of the Republic of Indonesia Regulation no. 26/M-DAG/Per/5/2017 regarding Legal Metrology which regulates Goods in Wrapped Conditions (hereinafter abbreviated as BDKT). The instrument used is single load cell and pH censor, it used to test the samples that are taken from 30 different DAM in Telukjambe Timur, Karawang. The methods that are used for this research is descriptive, that is by comparing the measured pH value and volume from the DAM with the standard from Ministry of Health Regulation. The results consist of water pH value, mass of empty gallon and filled gallon, and the factual water volume which will be shown in LCD and Thingpseak. It is founded that from this research, the average value of water pH is 8, the mass of the filled gallon is 5985 gram, the average mass of the empty galloon is 129.4 gram, and the average water volume is 5856.3 gram.

Key Words: DAM, pH, Volume, BDKT