ABSTRACT

The availability of fossil fuels is dwindling over time as human needs increase over fuel. Therefore, alternative energy is needed as a replacement solution for fossil fuels. Hydrogen is one of environmentally friendly alternative energy. Hydrogen gas can be generated by dry type cell HHO generator by using electrolysis principle. Electrolytes used in the process of electrolysis in the form of organic solvents are ethanol and methanol. Previously there has been a lot of research done on electrolysis on ethanol and methanol, but the generators used require large power and additional components. In this study, the generator used consisted of two cylindrical electrodes with the addition of KOH as a catalyst. Measurements were made using bubble flow meter and gas chromatograph. In this study, the catalyst concentration used, the generator workflow, and the addition of the solvent were varied to obtain optimum results. From this research, it can be concluded that methanol can produce the highest hydrogen content of 95.03% with a voltage of 2.6360 V. While the hydrogen content in ethanol is 52.43% with a voltage of 2.5883 V.

Keyword : Renewable Energy, Hydrogen, HHO generator, Electrolysis.