ABSTRACT

Energy is a necessity that has an important role for human survival. The use of energy is still largely derived from fossil energy. In production, the energy from the fossil material decreases. However, this is accompanied by renewable energy growth that continues to increase. Oxyhydrogen gas is one of the solution to participate in increasing the growth of renewable energy. This oxyhydrogen gas can be generated by electrolysis process on dry cell type generator. In an effort to increase the optimization of gas production, a study was conducted by adding a magnetic field external on the generator. In this study, the magnetic field is added to 8 positions on the generator. The magnitude of the magnetic field given is 0,0209 – 0,0481 T with a current of the generator of 5 A and voltage 3,62 V. The average flow rate generated in the direction of the magnetic field toward to the generator when the magnetic position is on the right side of the generator of 0,07011 l/m. And at a current of 1,401 A for all postions yields an average flow rate of 0,06671 l/m. In the direction on the magnetic field out of the generator that is when the position of the magnet is on the left side of the generator produce an average flow rate of 0,06931 l/m. And at a current of 1,302 A for all positions yields an average flow rate of 0,06920 l/m. Thus, when the lorentz force given perpendicular to the direction of the electron has an effect in obtaining a more effective oxyhydrogen gas production.

Keywords: electrolysis, oxyhydrogen gas, dry cell type generator, magnetic field