

Characteristics of a Wet Cell Type HHO Generator by Solar
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ABSTRACT

Electrolysis is one of the simple methods of producing hydrogen and can be combined with renewable energy sources such as solar energy to produce clean and sustainable hydrogen gas. This research designed a cylindrical electrolysis device with a 316L stainless steel electrode in the shape of a cylindrical pipe. The electrolyte solution used is potassium hydroxide with a concentration of 25% (800 ml of water:200grams of KOH). The solar module used has a capacity of 20 Wp by comparing polycrystalline and monocrystalline types as electrolysis power supplies. The test was carried out by paying attention to the peak sun hours in the jember area, which is 09.00 WIB – 14.00 WIB. The volume of hydrogen produced using polycrystalline type solar modules is 1606 ml with electrical energy production of 10.13 Wh. While the volume of hydrogen produced using monocrystalline type solar modules is 1922 ml with electrical energy production of 11.90 Wh. The magnitude of the hydrogen flow rate is greatly influenced by solar irradiation. The magnitude of the flow rate of polycrystalline type hydrogen is 0.12 ml/s with an average irradiation received of 990.9 W/m². While the monocrystalline type is 0.132 ml / s with an irradiation received of 930 W / m².

Key Words: *Hydrogen, Water Electrolysis, Solar Module.*