

Title (en)
HYDROGEN RICH GAS GENERATOR

Title (de)
GENERATOR FÜR WASSERSTOFFREICHES GAS

Title (fr)
GÉNÉRATEUR DE GAZ RICHE EN HYDROGÈNE

Publication
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Application
EP 09830900 A 20091125

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Abstract (en)
[origin: US2010133097A1] A method of improving the efficiency of continuous water electrolysis processes to produce a hydrogen rich gas. Improved efficiency is realized by minimizing and/or eliminating wasted current, current that does not convert water to a hydrogen rich gas, attaining approximately 100% Faradic efficiency. This improvement in current or Faradic efficiency is attained by electrically isolating the electrolyte solution contained in each electrolysis cell as well as electrically isolating the electrolyte solution contained in each cell from the supply of electrolyte solution. This invention also improves the efficiency of water electrolysis processes through the utilization of electrodes coated with electrode specific nanomaterials, improving voltage efficiency at current densities exceeding 100 mA/cm². Overall efficiency improvements of about 20% have been obtained with the present invention over other hydrogen rich gas generators. The hydrogen rich gas produced by this invention is comprised of hydrogen, oxygen, and water.

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