FUEL CELL SYSTEM

Abstract

A system and method for circulating gaseous fuel. The gaseous fuel is preferably hydrogen gas. The system comprises several components, such as a fuel cell end plate, an inlet, a separator and a recirculation duct. Hydrogen gas is introduced into the fuel cell end plate via the inlet for further introduction in a fuel cell. Excess hydrogen gas is transferred from the fuel cell to the separator within a mixture, which further comprises water. Excess hydrogen gas is separated from the mixture for recirculation via the recirculation duct into the inlet for introduction into the fuel cell end plate and the fuel cell. Transfer of excess hydrogen gas from the fuel cell to the separator is controlled by a first valve and recirculation of excess hydrogen gas from the separator to the inlet is controlled by a pump. The system and method preferably enhances electricity or power generation efficiency of fuel cells.

Figure 1

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