

Title (en)

HYDROGEN SUPPLEMENTAL SYSTEM FOR ON-DEMAND HYDROGEN GENERATION FOR INTERNAL COMBUSTION ENGINES

Title (de)

WASSERSTOFFHILFSSYSTEM ZUR WASSERSTOFFERZEUGUNG AUF ANFRAGE FÜR BRENNKRAFTMASCHINEN

Title (fr)

SYSTÈME DE PRODUCTION D'HYDROGÈNE SUPPLÉMENTAIRE POUR LA PRODUCTION D'HYDROGÈNE À LA DEMANDE POUR DES MOTEURS À COMBUSTION INTERNE

Publication

EP 2751417 A1 20140709 (EN)

Application

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Abstract (en)

[origin: WO2013032496A1] A portable, on-demand hydrogen generation system (1) is provided for producing hydrogen and injecting the hydrogen as a fuel supplement into the air intake of internal combustion engines (32), more particularly to vehicles (31). Hydrogen and oxygen is produced with a fuel cell (5) at low temperatures and pressure from water in a supply tank (6). The hydrogen and oxygen is passed back through the supply tank (6) for distribution and water preservation. The gases are kept separate by a divider (17) in the tank (6) and the water level in the tank (6). In the case of gasoline engines (32), the hydrogen is directed to the air intake (38) of the engine (32) while the oxygen is vented to the atmosphere. The device (1) is optionally powered by the vehicle battery (33), a stand alone battery, waste heat of the internal combustion engine (32) or solar energy. The system (1) utilizes a vacuum switch (35) or other engine sensor that permits power to the device (1) and therefore hydrogen production only when the engine (32) is in operation. Therefore, as the hydrogen is produced it is immediately consumed by the engine (32). No hydrogen is stored on, in or around the vehicle (31).

IPC 8 full level

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CPC (source: EP)

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