

Title (en)
APPARATUS AND METHOD FOR GENERATING HYDROGEN BY ELECTROLYSIS

Title (de)
VORRICHTUNG UND VERFAHREN ZUR ERZEUGUNG VON WASSERSTOFF DURCH ELEKTROLYSE

Title (fr)
APPAREIL ET PROCÉDÉ DE GÉNÉRATION D'HYDROGÈNE PAR ÉLECTROLYSE

Publication
EP 3548184 A4 20200506 (EN)

Application
EP 17877353 A 20171201

Priority
• US 201662429000 P 20161201
• IB 2017057583 W 20171201

Abstract (en)
[origin: WO2018100554A1] A vortex reactor (200) for generating hydrogen gas through electrolysis of water, comprising: a reactor body having a first end (204) and a second end (206); one or more inlet ports (202) disposed at or near the first end (204) and configured to direct an electrolytic fluid into the reactor body so that the fluid moves toward the second end (206), the one or more inlet ports (202) being tangentially oriented with respect to an inner surface of the reactor body so that the fluid directed into the reactor body follows a vortical path as the fluid moves toward the second end (206); an anode (242) disposed at the first end(204); and a tubular cathode (244) disposed within the reactor body between the first and second ends, the cathode (244) disposed so that the vortical path of the fluid contacts an inner surface of the cathode (244) as the fluid moves toward the second end (206), wherein power supplied to the anode (242) and cathode (244) cause hydrogen gas to form at the cathode (244) and oxygen gas to form at the anode (242), the vortical path of the moving fluid shearing the forming gases to enable collection of the gases.

IPC 8 full level
C25B 1/04 (2006.01); **C25B 9/04** (2006.01); **C25B 11/02** (2006.01)

CPC (source: EP US)
C25B 1/04 (2013.01 - EP US); **C25B 9/65** (2021.01 - EP US); **C25B 11/00** (2013.01 - US); **C25B 11/02** (2013.01 - EP); **Y02E 60/36** (2013.01 - EP)

Citation (search report)
• [XAI] RU 2346084 C2 20090210 - G OBRAZOVATEL NOE UCHREZHDENIE [RU]
• [XAI] RU 2374361 C1 20091127 - G OBRAZOVATEL NOE UCHREZHDENIE [RU]
• [XAI] US 2012222954 A1 20120906 - LOTHRING ADOLF [AT]
• [XAI] US 4105528 A 19780808 - HASEBE SHIGETA
• See references of WO 2018100554A1

Designated contracting state (EPC)
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WO 2018100554 A1 20180607; CA 3045086 A1 20180607; EP 3548184 A1 20191009; EP 3548184 A4 20200506; US 2020024756 A1 20200123

DOCDB simple family (application)
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