

Title (en)

ELECTROCHEMICAL PRODUCTION OF WATER USING MIXED IONICALLY AND ELECTRONICALLY CONDUCTIVE MEMBRANES

Title (de)

ELEKTROCHEMISCHE HERSTELLUNG VON WASSER UNTER VERWENDUNG VON GEMISCHTEN, IONISCH UND ELEKTRONISCH LEITFÄHIGEN MEMBRANEN

Title (fr)

PRODUCTION ÉLECTROCHIMIQUE D'EAU À L'AIDE DE MEMBRANES MIXTES À CONDUCTION IONIQUE ET ÉLECTRONIQUE

Publication

**EP 3642164 A2 20200429 (EN)**

Application

**EP 18820990 A 20180620**

Priority

- US 201762522414 P 20170620
- US 2018038555 W 20180620

Abstract (en)

[origin: US2018363150A1] Mixed ionically and electronically conductive membranes may be employed in electrochemical systems that are capable of producing water from air or molecular oxygen with high energy efficiency. The systems may comprise at least one electrochemical cell comprising: a first electrode and a second electrode, optionally in electrical communication via an external circuit; a mixed ionically and electronically conductive membrane interposed between and in contact with the first electrode and the second electrode; a hydrogen-containing gas supply in fluid communication with one of the first electrode and the second electrode; a molecular oxygen-containing gas supply in fluid communication with the other of the first electrode and the second electrode; and a first gas outlet extending from the first electrode and a second gas outlet extending from the second electrode.

IPC 8 full level

**C02F 1/461** (2006.01); **C25B 9/23** (2021.01)

CPC (source: EP US)

**C25B 1/00** (2013.01 - US); **C25B 9/23** (2021.01 - US); **C25B 13/04** (2013.01 - US); **H01M 8/1246** (2013.01 - EP US); **C25B 15/08** (2013.01 - US); **H01M 2008/1293** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP); **Y02P 20/129** (2015.11 - EP); **Y02P 70/50** (2015.11 - EP)

Citation (search report)

See references of WO 2018237042A2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**US 2018363150 A1 20181220**; EP 3642164 A2 20200429; JP 2020524745 A 20200820; WO 2018237042 A2 20181227; WO 2018237042 A3 20190214

DOCDB simple family (application)

**US 201816013462 A 20180620**; EP 18820990 A 20180620; JP 2019570800 A 20180620; US 2018038555 W 20180620