

Title (en)

ELECTROLYTIC CELL WITH ADVANCED OXIDATION PROCESS AND ELECTRO CATALYTIC PADDLE ELECTRODE

Title (de)

ELEKTROLYSEZELLE MIT ERWEITERTER OXIDATION UND ELEKTROKATALYTISCHER PADDLE-ELEKTRODE

Title (fr)

CELLULE ÉLECTROLYTIQUE AVEC PROCÉDÉ D'OXYDATION AVANCÉ ET ÉLECTRODE À PALETTE ÉLECTRO-CATALYTIQUE

Publication

EP 3218313 A4 20180516 (EN)

Application

EP 14905856 A 20141112

Priority

US 2014065232 W 20141112

Abstract (en)

[origin: WO2016076857A1] Electrolytically treating water through influent inlet arrangements for cavitation and one or more pairs of electrodes. The electrodes can provide continuous anodic and cathodic operation for treating water. The pressurized influent premixed with oxidant gas can be pumped into the reactor vessel through the mixing nozzles arranged radially along the circumference. The polarity of the current to the electrode can be periodically reversed at a set interval. An electro-catalytic paddle electrode can be used for the treatment of flowback and produced water. The paddle electrode can consist of alternate pentagonal flat plate electrodes separated by adjustable variable distance Teflon spacers. The paddle electrode is provided with a chemical coating capable of switching/reversing the polarity of anodes and cathodes at ultra high frequencies under very high current flowing conditions thus making it more efficient, stable and durable under demanding field conditions.

IPC 8 full level

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CPC (source: EP)

C02F 1/36 (2013.01); **C02F 1/4608** (2013.01); **C02F 1/46104** (2013.01); **C25B 11/02** (2013.01); **C02F 1/4606** (2013.01); **C02F 1/78** (2013.01); **C02F 2001/46147** (2013.01); **C02F 2101/16** (2013.01); **C02F 2201/4613** (2013.01); **C02F 2301/024** (2013.01); **C02F 2303/04** (2013.01); **C02F 2305/023** (2013.01)

Citation (search report)

- [X] US 2011186526 A1 20110804 - MCGUIRE DENNIS [US], et al
- [X] US 2014048466 A1 20140220 - MCGUIRE DENNIS [US]
- [X] US 2009242424 A1 20091001 - BEHR BERND LEOPOLD [AT]
- See references of WO 2016076857A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

WO 2016076857 A1 20160519; CA 2971084 A1 20160519; CN 107108284 A 20170829; EP 3218313 A1 20170920; EP 3218313 A4 20180516; MX 2017006309 A 20180115; SG 11201704683S A 20170728

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