

Title (en)
ENERGY STORE AND METHOD FOR CHARGING OR DISCHARGING AN ENERGY STORE

Title (de)
ENERGIESPEICHER UND VERFAHREN ZUM LADEN ODER ENTLADEN EINES ENERGIESPEICHERS

Title (fr)
ACCUMULATEUR D'ÉNERGIE ET PROCÉDÉ POUR CHARGER OU DÉCHARGER UN ACCUMULATEUR D'ÉNERGIE

Publication
EP 2705562 A1 20140312 (DE)

Application
EP 12727850 A 20120613

Priority
• DE 102011078116 A 20110627
• EP 2012061177 W 20120613

Abstract (en)
[origin: WO2013000706A1] The invention relates to an energy store, comprising a first electrode (12) that is arranged such that a process fluid can be guided along said electrode and comprising a material that can generate anions from a component of the process fluid by transferring electrons to said component or that can consume anions by accepting electrons from anions of the same, thus neutralizing the charge thereof and transferring said component to the process fluid, a second electrode (14) comprising a material that can generate anions by transferring electrons or that can consume anions by accepting electrons, an electrolyte (16) that is arranged between the first electrode (12) and the second electrode (14) and conducts anions, a first redox pair (18) comprising a first oxidation educt and a first oxidation product, and a housing (6) that is sealed against entry of the medium surrounding the housing but allows the supply of the process fluid to the first electrode (12), wherein a fluidic redox pair is present in the interior of the housing (6) between the second electrode (14) and the first redox pair (18) and comprises a fluidic oxidation educt and a fluidic oxidation product, the fluidic oxidation product being reduced to the fluidic oxidation educt therein at the first oxidation educt and generating the first oxidation product when the energy store is discharged, the fluidic oxidation educt being oxidized to the fluidic oxidation product at the second electrode (14) by means of the anions and transferring electrons to the second electrode (14) and, when the energy store is charged, the fluidic oxidation educt being oxidized to the fluidic oxidation product at the first oxidation product and generating the first oxidation educt, and the fluidic oxidation product being reduced to the fluidic oxidation educt at the second electrode (14), wherein anions are generated at the second electrode (14) by accepting electrons from the second electrode (14).

IPC 8 full level
H01M 8/04 (2006.01); **H01M 8/12** (2006.01); **H01M 8/20** (2006.01); **H01M 12/08** (2006.01)

CPC (source: EP US)
H01M 8/04014 (2013.01 - EP US); **H01M 8/12** (2013.01 - EP US); **H01M 8/18** (2013.01 - EP US); **H01M 8/184** (2013.01 - EP US); **H01M 8/186** (2013.01 - EP US); **H01M 8/188** (2013.01 - EP US); **H01M 8/20** (2013.01 - EP US); **H01M 10/44** (2013.01 - US); **H01M 12/08** (2013.01 - EP US); **H01M 2008/1293** (2013.01 - EP US); **Y02E 60/10** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP US)

Citation (search report)
See references of WO 2013000706A1

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

DOCDB simple family (publication)
DE 102011078116 A1 20121227; EP 2705562 A1 20140312; US 2014125288 A1 20140508; US 9515354 B2 20161206; WO 2013000706 A1 20130103

DOCDB simple family (application)
DE 102011078116 A 20110627; EP 12727850 A 20120613; EP 2012061177 W 20120613; US 201214128597 A 20120613