Title (en)

OIL-DERIVED HYDROCARBON CONVERTER HAVING AN INTEGRATED COMBUSTION INSTALLATION COMPRISING CARBON DIOXIDE CAPTURE

Title (de)

VORRICHTUNG ZUR UMWANDLUNG VON AUS ÖL GEWONNENEN KOHLENWASSERSTOFFEN MIT INGETRIERTER VERBRENNUNGSANLAGE MIT ABFANGUNG VON KOHLENDIOXID

Title (fr)

INSTALLATION DE CONVERSION D'HYDROCARBURES PETROLIERS A INSTALLATION DE COMBUSTION INTEGREE COMPRENANT UNE CAPTURE DU DIOXYDE DE CARBONE

Publication

EP 1969092 A1 20080917 (FR)

Application

EP 06847204 A 20061222

Priority

- FR 2006051415 W 20061222
- FR 0554103 A 20051227

Abstract (en)

[origin: FR2895413A1] An installation for hydrocarbon oil conversion comprises an enclosure in which catalytic cracking of hydrocarbon takes place in the presence of catalyst particles in a fluidized phase, and a regenerator for regenerating the particles by the combustion of coke. The catalyst is circulated between the enclosure and the regenerator. The regenerator is a reactor integrated in a combustion installation for the production of carbon dioxide vapor, and reduction reactor (2) of an oxygen support fed out of solid fuel having the particles equipped with solid cyclone separators and exchangers. The installation for hydrocarbon oil conversion comprises an enclosure in which a catalytic cracking of hydrocarbon takes place in the presence of catalyst particles in a fluidized phase, and a regenerator for regenerating the particles by the combustion of coke. The catalyst is circulated between the enclosure and the regenerator. The regenerator is a reactor integrated in a combustion installation for the production of carbon dioxide vapor, and a reduction reactor (2) of an oxygen support fed out of solid fuel having the particles equipped with solid cyclone separators and exchangers. The reduction reactor of the oxygen support is associated with an oxidation reactor (3) of the oxygen support. The oxygen support is circulated between two reactors, steam fluidized bed, recycled carbon dioxide and/or sulfur dioxide. The oxygen support is made of catalyst particles. The oxygen support has metal oxide particles of average diameter different from the catalyst particles. Cyclone exit of the reduction reactor has a siphon (5) that separates the metallic oxide- and the catalyst particles directed towards the oxidation reactor and the enclosure. A granulometric sorter (6) is present between the cyclone exit of the reduction reactor and the enclosure in which the sorter is reinjecting the metallic oxide- and the catalyst particles in the reduction reactor and the enclosure. The granulometric sorter has a circulating fluidized bed equipped with the cyclone separator. The catalyst particles are reinjected in the enclosure by a control unit at height whose pressure loss compensates the difference in pressure between the enclosure and the granulometric sorter. The solid fuel has oil residues. The average diameter of the metallic oxides particles and the catalyst particles are higher than two.

IPC 8 full level

C10G 11/18 (2006.01); **B01J 29/90** (2006.01); **F23C 10/10** (2006.01)

CPC (source: EP KR US)

B01J 29/90 (2013.01 - EP KR US); **C10G 11/18** (2013.01 - KR); **C10G 11/182** (2013.01 - EP US); **F23C 10/005** (2013.01 - EP US); **F23C 10/01** (2013.01 - EP US); **F23C 10/10** (2013.01 - KR); C10G 2300/708 (2013.01 - EP US); C10G 2300/807 (2013.01 - EP US); F23C 2900/99008 (2013.01 - EP US); Y02E 20/34 (2013.01 - EP US); Y02P 30/40 (2015.11 - EP US)

Citation (search report)

See references of WO 2007074304A1

Designated contracting state (EPC)

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