

Title (en)

PLASMA REACTOR AND METHOD OF OPERATING A PLASMA REACTOR

Title (de)

PLASMAREAKTOR UND VERFAHREN ZUM BETRIEB EINES PLASMAREAKTORS

Title (fr)

RÉACTEUR À PLASMA ET PROCÉDÉ POUR FAIRE FONCTIONNER UN RÉACTEUR À PLASMA

Publication

EP 3548426 A1 20191009 (DE)

Application

EP 17818441 A 20171130

Priority

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- EP 2017081029 W 20171130

Abstract (en)

[origin: WO2018100086A1] The problem addressed by the invention is that of providing a plasma reactor for decomposition of hydrocarbons which allows stable operation over a prolonged period. This problem is solved by a plasma reactor (1) for cracking a hydrocarbon fluid which comprises a reactor chamber (2) which is surrounded by a reactor wall (3, 3a, 3b) and comprises at least one hydrocarbon inlet (5) and an outlet (15). A plasma burner (7) having at least two electrodes which comprise at a first end a base part (9) is fixed to the reactor wall. The electrodes comprise at a second end a burner part (11) which projects into the reactor chamber and a plasma zone (13) is defined between the burner parts of adjacent electrodes. In a region between the plasma zone and the outlet the hydrocarbon inlet opens into the reactor chamber and the hydrocarbon inlet is aligned with respect to the plasma zone such that hydrocarbon fluid issuing therefrom is conducted towards the plasma zone. In the plasma reactor disclosed herein primarily small C particles are formed which prevent fouling/closing-up of the reactor chamber. Furthermore some large and heavy C particles which may statistically be formed penetrate the plasma cloud and can attach to the electrodes in targeted fashion.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2018100086A1

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