

Title (en)

METHOD AND RIBBED TUBE FOR THERMALLY CLEAVING HYDROCARBONS

Title (de)

VERFAHREN UND RIPPENROHR ZUM THERMISCHEN SPALTEN VON KOHLENWASSERSTOFFEN

Title (fr)

PROCEDE ET TUBE A AISETTES POUR SEPARATION THERMIQUE D'HYDROCARBURES

Publication

**EP 1525289 B1 20110928 (DE)**

Application

**EP 03725176 A 20030508**

Priority

- DE 10233961 A 20020725
- EP 0304827 W 20030508

Abstract (en)

[origin: EP2298850A1] In a process to crack crude oil in the presence steam, super-heated gases pass through pipes with helical inner ribs which twist the rising gases, progressively forming a core zone with a primarily axial flow. The helical ribs impart a twist action at their outer margins. The gas speed is faster at the tub roots than at the rib tips. The ribs are set at an angle of 22.5-32.5[deg] w.r.t the pipe axis. The temperature varies within the pipe wall by less than 12[deg]C. The notional isothermal lines in the core are circular. The flow of twisting gases advances in the pipe at a speed of 1.8-2 m/s, representing 7-8% of the free cross sectional area. The ribs and their separation are symmetrical.

IPC 8 full level

**B01J 19/00** (2006.01); **C10G 9/20** (2006.01); **C07C 4/02** (2006.01); **C10G 9/36** (2006.01); **C22C 19/05** (2006.01); **C22C 30/00** (2006.01); **C22C 38/40** (2006.01); **C22C 38/48** (2006.01); **F28F 1/40** (2006.01)

CPC (source: EP KR)

**C10G 9/20** (2013.01 - EP KR); **C10G 9/24** (2013.01 - KR); **C22C 19/05** (2013.01 - EP); **C22C 38/40** (2013.01 - EP); **C22C 38/48** (2013.01 - EP); **F28F 1/40** (2013.01 - EP); **C10G 2300/807** (2013.01 - EP)

Citation (examination)

US 5950718 A 19990914 - SUGITANI JUNICHI [JP], et al

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Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

Designated extension state (EPC)

AL LT LV MK

DOCDB simple family (publication)

**EP 2298850 A1 20110323**; AT E526385 T1 20111015; AU 2003227737 A1 20040225; BR 0312919 A 20050705; BR 0312919 B1 20140624; CA 2493463 A1 20040219; CA 2493463 C 20130115; CN 100523133 C 20090805; CN 1671824 A 20050921; DE 10233961 A1 20040212; EA 010936 B1 20081230; EA 200500258 A1 20050825; EP 1525289 A1 20050427; EP 1525289 B1 20110928; EP 1525289 B9 20120229; ES 2374568 T3 20120217; HR P20050072 A2 20050831; IL 166229 A0 20060115; IL 166229 A 20081126; JP 2005533917 A 20051110; JP 2010150553 A 20100708; JP 4536512 B2 20100901; KR 101023668 B1 20110325; KR 20050052457 A 20050602; MA 27325 A1 20050502; MX PA05001070 A 20051005; NO 20050493 L 20050317; NO 337398 B1 20160404; NZ 537827 A 20070427; PL 204769 B1 20100226; PL 373967 A1 20050919; PT 1525289 E 20120104; RS 20050060 A 20070921; UA 85044 C2 20081225; WO 2004015029 A1 20040219

DOCDB simple family (application)

**EP 10012045 A 20030508**; AT 03725176 T 20030508; AU 2003227737 A 20030508; BR 0312919 A 20030508; CA 2493463 A 20030508; CN 03817885 A 20030508; DE 10233961 A 20020725; EA 200500258 A 20030508; EP 0304827 W 20030508; EP 03725176 A 20030508; ES 03725176 T 20030508; HR P20050072 A 20050124; IL 16622905 A 20050111; JP 2004526658 A 20030508; JP 2010034129 A 20100218; KR 20057001384 A 20030508; MA 28048 A 20050118; MX PA05001070 A 20030508; NO 20050493 A 20050128; NZ 53782703 A 20030508; PL 37396703 A 20030508; PT 03725176 T 20030508; UA 2005001718 A 20030508; YU P20050060 A 20030508