

Title (en)

METHOD AND DEVICE FOR REMOVING CONTAMINANTS FROM A CONTAMINATED GAS STREAM

Title (de)

VERFAHREN UND VORRICHTUNG ZUR ENTFERNUNG VON VERUNREINIGUNGEN AUS EINEM VERUNREINIGTEN ERDGASSTROM

Title (fr)

PROCÉDÉ ET DISPOSITIF POUR ÉLIMINER DES CONTAMINANTS D'UN COURANT DE GAZ CONTAMINÉ

Publication

EP 2152383 A1 20100217 (EN)

Application

EP 08759608 A 20080515

Priority

- EP 2008055931 W 20080515
- EP 07108272 A 20070515
- EP 08759608 A 20080515

Abstract (en)

[origin: WO2009140993A1] A method for removing contaminants, such as water, CO₂ and/or H₂S, from a contaminated gas stream comprises inducing the gas stream to flow through a conduit (10) having a first and a second conduit section (11,12) and optionally further conduit sections (13-15), which each comprise : a) a cyclonic fluid separation section (11A-15A) in which the gas stream is induced to swirl such that contaminants (11B-15B) flow to an outer region of the separation section and a purified gas fraction (11C-15C) flows into a central region of the separation section; b) a central purified gas outlet tube (11D-15D) for discharging the purified gas fraction; c) an outer discharge tube (11E-15E) for discharging the contaminants; and d) a venturi section (11F-15F) in which the gas stream is accelerated and the static pressure is reduced; wherein the method further comprises: connecting the central purified gas outlet tube (12D) of the second conduit section (12) to the venturi section (HF) of the first conduit section (11) such that a purified gas fraction is induced to flow from the second conduit section (12) into the first conduit section (11); injecting a contaminants absorbent (18, lean MEG) into the venturi section (HF) of the first conduit section (11); and inducing a contaminants and contaminant absorbent enriched fluid fraction to flow via a MEG recycling conduit (19) from the outer discharge tube (HE) of the first conduit section into the venturi section (12F) of the second conduit section (12) and optionally inducing a contaminants and contaminant absorbent enriched fluid fraction to flow via further MEG recycling conduits (20,21 and 22) from the outer discharge tubes (12E-14E) of the second, third and fourth conduit sections into the venturi section (13F-15F) of the third, fourth and fifth conduit section (13-15), respectively.

IPC 8 full level

B01D 45/16 (2006.01); **B01D 47/10** (2006.01); **B01D 53/14** (2006.01); **B01D 53/26** (2006.01); **B04C 3/04** (2006.01); **C10L 3/10** (2006.01)

CPC (source: EP)

B01D 45/16 (2013.01); **B01D 47/10** (2013.01); **B01D 47/12** (2013.01); **B01D 50/40** (2022.01); **B01D 53/1406** (2013.01); **B01D 53/1456** (2013.01); **B01D 53/18** (2013.01); **B01D 53/263** (2013.01); **B04C 3/04** (2013.01); **C10L 3/10** (2013.01); **B01D 2257/304** (2013.01); **B01D 2257/504** (2013.01); **B01D 2257/80** (2013.01); **Y02P 70/10** (2015.11)

Citation (search report)

See references of WO 2009140993A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

WO 2009140993 A1 20091126; AU 2008356150 A1 20100624; AU 2008356150 A8 20100715; BR PI0811596 A2 20141216; CA 2686992 A1 20091126; CN 101678259 A 20100324; EA 200901528 A1 20100430; EP 2152383 A1 20100217

DOCDB simple family (application)

EP 2008055931 W 20080515; AU 2008356150 A 20080515; BR PI0811596 A 20080515; CA 2686992 A 20080515; CN 200880021177 A 20080515; EA 200901528 A 20080515; EP 08759608 A 20080515