

Title (en)
METHOD AND DEVICE FOR THE LIQUEFACTION OF A GASEOUS CO₂ STREAM

Title (de)
VERFAHREN UND VORRICHTUNG ZUR VERFLÜSSIGUNG EINES GASFÖRMIGEN CO₂-STROMS

Title (fr)
PROCÉDÉ ET APPAREIL DE LIQUÉFACTION D'UN COURANT DE CO₂ GAZEUX

Publication
EP 3092453 A2 20161116 (FR)

Application
EP 15701557 A 20150109

Priority
• FR 1450201 A 20140110
• FR 2015050049 W 20150109

Abstract (en)
[origin: WO2015104510A2] The invention relates to a device for the liquefaction of a gas flow containing at least 95 mol-% carbon dioxide, comprising at least a first compression stage (C3, C4) in which the feed gas flow (1) is compressed; means for condensing the compressed flow, formed by two in-series phase separators, in order to partially condense said flow and produce a liquid flow; a first heat exchanger (7); a second heat exchanger (9) which is a shell and tube heat exchanger; means for conveying at least part of the liquid flow into the tubes of the first heat exchanger; means for discharging, as a liquid product (11), a first part of the liquid cooled in the second exchanger, said part being subsequently expanded; a valve (V4); means for conveying a second part of the liquid cooled in the second exchanger, said second part being expanded in the valve and vaporised in the shell of the first exchanger in order to form a vaporised flow (15); and means (3A, 3B) for compressing at least part of the vaporised flow and mixing same with the feed gas flow.

IPC 8 full level
F25J 1/00 (2006.01); **F25J 1/02** (2006.01)

CPC (source: CN EP US)
F25J 1/0027 (2013.01 - CN EP US); **F25J 1/004** (2013.01 - CN EP US); **F25J 1/0045** (2013.01 - CN EP US); **F25J 1/0202** (2013.01 - CN EP US); **F25J 1/0208** (2013.01 - CN EP US); **F25J 1/0262** (2013.01 - CN EP US); **F25J 1/0264** (2013.01 - CN EP US); **F25J 1/0292** (2013.01 - CN EP US); **F25J 1/0294** (2013.01 - CN EP US); **F25J 2210/06** (2013.01 - CN EP US); **F25J 2220/82** (2013.01 - CN EP US); **F25J 2240/40** (2013.01 - US); **F25J 2245/02** (2013.01 - CN EP US); **F25J 2270/90** (2013.01 - CN EP US); **F25J 2290/34** (2013.01 - CN EP US)

Citation (search report)
See references of WO 2015104510A2

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
WO 2015104510 A2 20150716; WO 2015104510 A3 20151210; CN 106415173 A 20170215; CN 106415173 B 20190927; EP 3092453 A2 20161116; EP 3092453 B1 20180613; FR 3016436 A1 20150717; FR 3016436 B1 20190510; US 2016327333 A1 20161110

DOCDB simple family (application)
FR 2015050049 W 20150109; CN 201580004108 A 20150109; EP 15701557 A 20150109; FR 1450201 A 20140110; US 201515110458 A 20150109