

Title (en)

METHOD AND APPARATUS FOR LIQUEFYING A GAS OR COOLING A FEED GAS AT SUPERCRITICAL PRESSURE

Title (de)

VERFAHREN UND VORRICHTUNG ZUR VERFLÜSSIGUNG EINES GASES ODER ZUM KÜHLEN EINES EINSATZGASES BEI ÜBERKRITISCHEN DRUCK

Title (fr)

PROCEDE ET APPAREIL DE LIQUEFACTION D'UN GAZ OU REFROIDISSEMENT D'UN GAZ D'ALIMENTATION A PRESSION SUPERCRITIQUE

Publication

**EP 2697583 A2 20140219 (FR)**

Application

**EP 12722405 A 20120412**

Priority

- FR 1153245 A 20110414
- FR 2012050797 W 20120412

Abstract (en)

[origin: WO2012140369A2] The invention relates to a method for liquefying a feed gas or cooling a feed gas at supercritical pressure, in which the feed gas mixed with a cycle gas is condensed or cooled in order to form a supercritical gas or liquid at the first pressure, the liquid at the first pressure is cooled in a first heat exchanger (E2), the cooled liquid is removed from the first exchanger and expanded up to a second pressure that is lower than the first pressure in order to form an expanded flow, at least one portion of the expanded flow is cooled in a second heat exchanger, the expanded flow is removed from the second heat exchanger (E2), said flow is split into at least two portions, including a first portion and a second portion, the first portion of the expanded flow constituting the liquefied product, the second portion and preferably a third portion being vaporised in the second heat exchanger and the thus-formed at least one cycle gas is then mixed with the feed gas and compressed in a compressor, before or after being mixed with the feed gas.

IPC 8 full level

**F25J 1/02** (2006.01); **F25J 1/00** (2006.01); **F25J 3/06** (2006.01)

CPC (source: EP US)

**F25J 1/00** (2013.01 - US); **F25J 1/0027** (2013.01 - EP US); **F25J 1/004** (2013.01 - EP US); **F25J 1/0042** (2013.01 - US);  
**F25J 1/0045** (2013.01 - EP US); **F25J 1/0202** (2013.01 - EP US); **F25J 1/0262** (2013.01 - US); **F25J 1/0263** (2013.01 - EP US);  
**F25J 1/0264** (2013.01 - EP US); **F25J 3/067** (2013.01 - EP US); **F25J 2210/70** (2013.01 - EP US); **F25J 2220/82** (2013.01 - EP US);  
**F25J 2230/30** (2013.01 - EP US); **F25J 2230/42** (2013.01 - EP US); **F25J 2240/40** (2013.01 - EP); **F25J 2245/02** (2013.01 - EP US);  
**F25J 2270/02** (2013.01 - EP US); **F25J 2270/80** (2013.01 - EP US); **Y02C 20/40** (2020.08 - EP US)

Citation (search report)

See references of WO 2012140369A2

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 2012140369 A2 20121018**; **WO 2012140369 A3 20150129**; AU 2012241641 A1 20131031; AU 2012241641 B2 20161208;  
CA 2831203 A1 20121018; CN 104067078 A 20140924; CN 104067078 B 20160907; EP 2697583 A2 20140219; FR 2974167 A1 20121019;  
FR 2974167 B1 20151106; US 2014026611 A1 20140130; US 9435582 B2 20160906

DOCDB simple family (application)

**FR 2012050797 W 20120412**; AU 2012241641 A 20120412; CA 2831203 A 20120412; CN 201280018398 A 20120412;  
EP 12722405 A 20120412; FR 1153245 A 20110414; US 201214111349 A 20120412