

Title (en)  
METHOD FOR PRODUCING LIQUID AND GASEOUS NITROGEN STREAMS, A HELIUM-RICH GASEOUS STREAM, AND A DENITROGENED HYDROCARBON STREAM, AND ASSOCIATED PLANT

Title (de)  
VERFAHREN ZUR ERZEUGUNG VON FLÜSSIGEN UND GASFÖRMIGEN STICKSTOFFSTRÖMEN, HELIUMREICHER, GASFÖRMIGER STROM UND STICKSTOFFABGEREICHETER KOHLENWASSERSTOFFSTROM UND ZUGEHÖRIGE ANLAGE

Title (fr)  
PROCÉDÉ DE PRODUCTION DE COURANTS D'AZOTE LIQUIDE ET GAZEUX, D'UN COURANT GAZEUX RICHE EN HÉLIUM ET D'UN COURANT D'HYDROCARBURES DÉAZOTÉ ET INSTALLATION ASSOCIÉE

Publication  
**EP 2344821 A2 20110720 (FR)**

Application  
**EP 09755956 A 20091002**

Priority  
• FR 2009051884 W 20091002  
• FR 0856788 A 20081007

Abstract (en)  
[origin: WO2010040935A2] The method of the invention includes cooling an inlet stream (72) within an upstream heat exchanger (28). The method includes feeding the cooled inlet stream (76) into a fractioning column (50) and collecting the denitrogenated hydrocarbon stream at the bottom of the column (50). The method includes feeding a nitrogen-rich stream (106) from the head of the column (50) into a disengager (60) and collecting the gaseous head stream from the disengager (60) in order to form the helium-rich stream (20). The liquid stream (110) from the base of the first disengager (60) is separated into a liquid nitrogen stream (18) and into a first reflux stream (114) that is fed as a reflux into the head of the fractioning column (50).

IPC 8 full level  
**F25J 3/02** (2006.01); **F25J 1/02** (2006.01)

CPC (source: EP US)  
**F25J 1/0022** (2013.01 - EP US); **F25J 1/004** (2013.01 - EP US); **F25J 1/0042** (2013.01 - EP US); **F25J 1/0045** (2013.01 - EP US); **F25J 1/005** (2013.01 - EP US); **F25J 1/0072** (2013.01 - EP US); **F25J 1/0208** (2013.01 - EP US); **F25J 1/0219** (2013.01 - EP US); **F25J 1/0265** (2013.01 - EP US); **F25J 1/0267** (2013.01 - EP US); **F25J 3/0209** (2013.01 - EP US); **F25J 3/0233** (2013.01 - EP US); **F25J 3/0257** (2013.01 - EP US); **F25J 3/029** (2013.01 - EP US); **F25J 2200/02** (2013.01 - EP US); **F25J 2200/76** (2013.01 - EP US); **F25J 2215/04** (2013.01 - EP US); **F25J 2215/30** (2013.01 - US); **F25J 2220/64** (2013.01 - EP US); **F25J 2235/60** (2013.01 - EP US); **F25J 2240/30** (2013.01 - EP US); **F25J 2270/02** (2013.01 - EP US); **F25J 2270/04** (2013.01 - EP US); **F25J 2270/14** (2013.01 - EP US); **F25J 2270/42** (2013.01 - EP US)

Citation (search report)  
See references of WO 2010040935A2

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 MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)  
AL BA RS

DOCDB simple family (publication)  
**FR 2936864 A1 20100409; FR 2936864 B1 20101126**; AR 073416 A1 20101103; AU 2009300946 A1 20100415; AU 2009300946 B2 20150917; BR PI0920814 A2 20151222; BR PI0920814 B1 20200407; CA 2739696 A1 20100415; CA 2739696 C 20170124; CN 102216711 A 20111012; CN 102216711 B 20150527; EA 020215 B1 20140930; EA 201100584 A1 20111031; EP 2344821 A2 20110720; EP 2344821 B1 20180124; ES 2665719 T3 20180426; IL 212087 A0 20110630; IL 212087 A 20150430; MX 2011003757 A 20110620; MY 160839 A 20170331; NZ 592143 A 20121130; US 2011226009 A1 20110922; US 9316434 B2 20160419; WO 2010040935 A2 20100415; WO 2010040935 A3 20110603

DOCDB simple family (application)  
**FR 0856788 A 20081007**; AR P090103837 A 20091006; AU 2009300946 A 20091002; BR PI0920814 A 20091002; CA 2739696 A 20091002; CN 200980146016 A 20091002; EA 201100584 A 20091002; EP 09755956 A 20091002; ES 09755956 T 20091002; FR 2009051884 W 20091002; IL 21208711 A 20110403; MX 2011003757 A 20091002; MY PI2011001542 A 20091002; NZ 59214309 A 20091002; US 200913122765 A 20091002