

Title (en)

METHOD AND DEVICE FOR AIR SEPARATION BY CRYOGENIC DISTILLING

Title (de)

VERFAHREN UND GERÄT ZUR TRENNUNG VON LUFT DURCH KRYOGENE DESTILLATION

Title (fr)

PROCÉDÉ ET APPAREIL DE SÉPARATION D'AIR PAR DISTILLATION CRYOGÉNIQUE

Publication

**EP 3438584 A1 20190206 (FR)**

Application

**EP 18186654 A 20180731**

Priority

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- FR 1757493 A 20170803
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- FR 1757498 A 20170803

Abstract (en)

[origin: US2019041130A1] Method for separating air by cryogenic distillation, wherein air is compressed in a compressor and is subsequently sent to a heat exchanger, with the air cooled in the exchanger being sent to a check valve downstream of the heat exchanger and subsequently to a turbine, the valve being positioned so that air from a short-circuiting duct cannot return to the exchanger from the compressor.

Abstract (fr)

Procédé de séparation d'air par distillation cryogénique dans lequel de l'air est comprimé dans un compresseur (C2) et ensuite envoyé à un échangeur de chaleur (E), l'air refroidi dans l'échangeur étant envoyé à un clapet de retenue (CL3) en aval de l'échangeur de chaleur et ensuite à une turbine, le clapet étant positionné de sorte que l'air d'une conduite de court-circuitage (23) ne puisse remonter dans l'échangeur depuis le compresseur.

IPC 8 full level

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CPC (source: CN EP US)

**F25J 3/0295** (2013.01 - US); **F25J 3/04012** (2013.01 - US); **F25J 3/04018** (2013.01 - CN); **F25J 3/04024** (2013.01 - EP US);  
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**F25J 3/04109** (2013.01 - US); **F25J 3/04127** (2013.01 - US); **F25J 3/04175** (2013.01 - EP); **F25J 3/04187** (2013.01 - CN US);  
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**F25J 2290/12** (2013.01 - US)

Citation (search report)

- [AD] FR 2851330 A1 20040820 - AIR LIQUIDE [FR]
- [A] GB 1500610 A 19780208 - NUOVO PIGNONE SPA
- [A] CN 201173660 Y 20081231 - HANGZHOU FUSIDA GAS EQUIPMENT [CN]
- [A] EP 2482016 A1 20120801 - ALSTOM TECHNOLOGY LTD [CH]
- [A] WO 2015082860 A2 20150611 - AIR LIQUIDE [FR]
- [A] DE 102013002094 A1 20140807 - LINDE AG [DE]

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

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**EP 3438585 A2 20190206; EP 3438585 A3 20190417;** CN 109387031 A 20190226; CN 109387031 B 20211102; CN 109387032 A 20190226;  
CN 109387033 A 20190226; CN 109387033 B 20211214; CN 109387034 A 20190226; CN 109387034 B 20211119; EP 3438584 A1 20190206;  
EP 3438584 B1 20200311; EP 3438586 A1 20190206; EP 3438586 B1 20200408; EP 3438587 A1 20190206; EP 3438587 B1 20200408;  
PL 3438586 T3 20200907; PL 3438587 T3 20200907; US 10794630 B2 20201006; US 10866024 B2 20201215; US 2019041129 A1 20190207;  
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PL 18187381 T 20180803; US 201816054213 A 20180803; US 201816054223 A 20180803; US 201816054240 A 20180803;  
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