

Title (en)

Process and apparatus for the separation of air by cryogenic distillation

Title (de)

Verfahren und Vorrichtung zur Zerlegung von Luft durch Tieftemperaturdestillation

Title (fr)

Procédé et installation pour la séparation d'air par distillation cryogénique

Publication

EP 1338856 A3 20030910 (EN)

Application

EP 03075304 A 20030131

Priority

- US 35396702 P 20020131
- US 41615202 P 20021004
- US 41600902 P 20021004

Abstract (en)

[origin: EP1338856A2] Nitrogen and/or oxygen are produced by cryogenic distillation of air in an air separation unit comprising at least a medium pressure column (24) and a low pressure column (23) in which air (7,9) is sent to at least the medium pressure column, an oxygen enriched liquid (11) and a nitrogen enriched liquid (12) are removed from the medium pressure column, at least part of the nitrogen enriched liquid (12) is expanded to produce a two phase nitrogen enriched fluid (15), at least part of the expanded nitrogen enriched fluid containing at least 3,5 % gas, preferably at least 4 % gas is sent into the low pressure column and oxygen rich fluid (16) and nitrogen rich fluid (20) are removed from the low pressure column.
<IMAGE>

IPC 1-7

F25J 3/04

IPC 8 full level

F25J 3/04 (2006.01)

CPC (source: EP)

F25J 3/0409 (2013.01); **F25J 3/04175** (2013.01); **F25J 3/0423** (2013.01); **F25J 3/04296** (2013.01); **F25J 3/04303** (2013.01); **F25J 3/04412** (2013.01); **F25J 3/04793** (2013.01); **F25J 2235/06** (2013.01); **F25J 2245/02** (2013.01); **F25J 2245/42** (2013.01); **F25J 2290/12** (2013.01)

Citation (search report)

- [E] EP 1310753 A1 20030514 - MESSER AGS GMBH [DE]
- [X] EP 1099922 A2 20010516 - AIR PROD & CHEM [US]
- [X] US 5586451 A 19961224 - KOEBERLE YVES [FR], et al
- [X] US 5337569 A 19940816 - DARREDEAU BERNARD [FR]
- [A] EP 1094287 A2 20010425 - BOC GROUP PLC [GB]
- [A] US 5901579 A 19990511 - MAHONEY KEVIN WILLIAM [US], et al

Cited by

EP4209744A1; FR3131775A1; CN112781321A; CN112969896A

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR

DOCDB simple family (publication)

EP 1338856 A2 20030827; EP 1338856 A3 20030910

DOCDB simple family (application)

EP 03075304 A 20030131